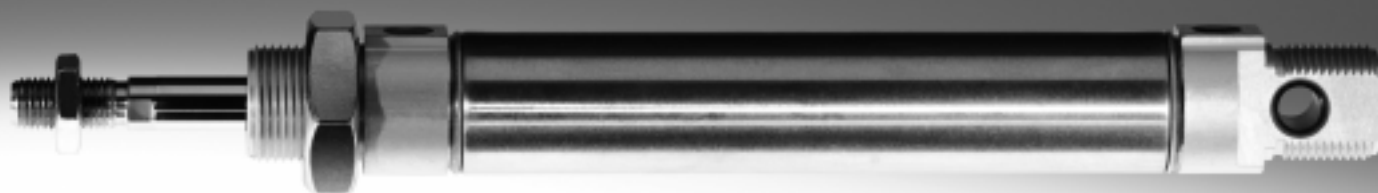


Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

**FESTO**



# - 1 - Type discontinued DSNUP/DSN/ESN Available up until 2017

FESTO

## Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Key features

### At a glance

#### DSNU-8 ... 63

- Stainless steel piston rod
- Good running performance and long service
- Piston rod with external and internal thread

- An extensive range of accessories makes it possible to install the cylinder virtually anywhere

#### DSNU-8 ... 25



ISO 6432

- Corresponds to standard design in accordance with ISO 6432. Variants are based on these standards

### Wide choice of variants

#### DSNU/ESNU-...

- Piston Ø 8 ... 63
- Cylinder barrel made of stainless steel
- Bearing and end caps made of wrought aluminium alloy



#### DSNUP-...

- Piston Ø 16 ... 25
- Cylinder barrel made of wrought aluminium alloy
- Bearing and end caps made of polyamide
- Cost optimised



#### DSNU/ESNU-...-MA

- Piston Ø 8 ... 63
- Cylinder barrel made of stainless steel
- Bearing cap with flange thread
- Short end cap with axial supply port



#### DSNU-...-MQ

- Piston Ø 8 ... 63
- Cylinder barrel made of stainless steel
- Bearing cap with flange thread
- Short end cap with lateral supply port



#### DSNU-...-MH

- Piston Ø 8 ... 63
- Cylinder barrel made of stainless steel
- Direct mounting on bearing cap
- Short end cap with lateral supply port



#### DSNU-...-KP

- Piston Ø 8 ... 63
- Cylinder barrel made of stainless steel
- With clamping unit



#### DSNU-...-Q

- Piston Ø 12 ... 63
- Cylinder barrel made of stainless steel
- With square piston rod



#### DSN/ESN-...

- Piston Ø 8 ... 25
- Cylinder barrel made of stainless steel
- Without position sensing



### Cushioning types

#### Cushioning P

#### Mode of operation

- The drive is fitted with flexible polymer end position cushioning

#### Application

- Small loads
- Low speeds
- Low impact energy

#### Advantages

- No adjustment required
- Time-saving

#### Cushioning PPS

- The drive is fitted with self-adjusting end position cushioning

- Small to medium loads
- Low to medium speeds
- Medium impact energy

- No adjustment required
- Time-saving
- Powerful

#### Cushioning PPV

- The drive is fitted with adjustable end position cushioning

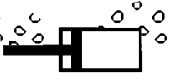
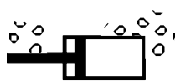
- Medium to large loads
- High speeds
- High impact energy

- Very powerful

## Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

FESTO

Key features

| Additional variants                                                                 |                                                          |                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Symbol                                                                              | Key features                                             | Description                                                                                                                                                                                                       |
|    | S2 Through piston rod                                    | For working at both ends with the same force in the advance and return stroke, for attaching external stops                                                                                                       |
|    | S6 Heat resistant seals                                  | Temperature resistance up to max. 120 °C                                                                                                                                                                          |
|    | S10 Constant (slow speed) operation at low piston speeds | Suitable for slow stroke movements at a constant, stick-slip-free speed over the full stroke of the cylinder.<br>Seal contains silicone grease (not free of paint-wetting impairment substances)                  |
|    | S11 Low friction                                         | The special seals considerably reduce system wear. This corresponds to a considerably lower response pressure.<br>Seal contains silicone grease (not free of paint-wetting impairment substances)                 |
|    | K2 Extended male piston rod thread                       | –                                                                                                                                                                                                                 |
|    | K3 Female piston rod thread                              | –                                                                                                                                                                                                                 |
|    | K5 Special thread on piston rod                          | Metric standard thread to ISO                                                                                                                                                                                     |
|    | K6 Shortened male piston rod thread                      | –                                                                                                                                                                                                                 |
|   | K8 Extended piston rod                                   | –                                                                                                                                                                                                                 |
|  | R3 High corrosion protection                             | All external cylinder surfaces comply with corrosion resistance class 3 to Festo standard 940070. The piston rod is made from corrosion and acid resistant steel                                                  |
|  | R8 Dust protection (wiper seal)<br>(32 ... 63 mm)        | The cylinder is equipped with a hard-chrome plated piston rod and a rigid wiper seal, which protects against dry, dusty media                                                                                     |
|  | A6 Metal wiper seal<br>(32 ... 63 mm)                    | The cylinder is fitted with a hard-chrome plated piston rod and metal wiper seal which scrapes off hard particles (e.g. welding spatter) that stick to the piston rod.<br>For use in welding systems, for example |

### Longer service life with bellows kit DADB



The bellows kit is a leak-free system. To prevent unwanted media from being drawn in, the supply and exhaust air of the kit must be ducted via a pressure compensation hole in the connection section **1**.

The kit protects the piston rod, seal and bearing against a wide variety of media, for example:

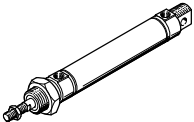
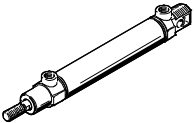
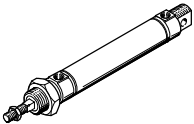
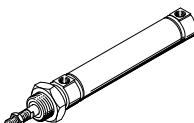
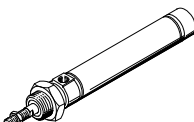
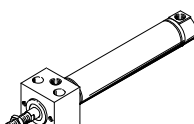
- dust
- chippings
- oil
- grease
- fuel

**- 1 - Type discontinued DSNUP**  
Available up until 2017

## Round cylinders DSNU/DSNUP

Product range overview

**FESTO**

| Version                                                                             | Version                                                                             | Piston Ø       | Stroke                       | Variable stroke <sup>1)</sup> | Piston rod |          |             |           |                    |                    |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------|------------------------------|-------------------------------|------------|----------|-------------|-----------|--------------------|--------------------|
|                                                                                     |                                                                                     |                |                              |                               | Through    | Extended | Male thread |           |                    | Female thread      |
|                                                                                     |                                                                                     |                |                              |                               |            |          | Extended    | Shortened | Special thread     |                    |
|                                                                                     |                                                                                     | [mm]           | [mm]                         | [mm]                          | S2         | K8       | K2          | K6        | K5                 | K3                 |
| Double-acting                                                                       | DSNU-... – Cylinder barrel made of stainless steel                                  |                |                              |                               |            |          |             |           |                    |                    |
|                                                                                     |    | 8, 10          | 10, 15, 20, 25,              | 1 ... 100                     | ■          | ■        | ■           | ■         | ■<br>above<br>Ø 25 | ■<br>above<br>Ø 20 |
|                                                                                     |                                                                                     | 12, 16         | 30, 35, 40, 50,              | 1 ... 200                     |            |          |             |           |                    |                    |
|                                                                                     |                                                                                     | 20             | 60, 70, 80, 100,             | 1 ... 320                     |            |          |             |           |                    |                    |
|                                                                                     |                                                                                     | 25             | 125, 150, 160,               | 1 ... 500                     |            |          |             |           |                    |                    |
|                                                                                     |                                                                                     | 32, 40, 50, 63 | 200, 250, 300, 320, 400, 500 | 1 ... 500                     |            |          |             |           |                    |                    |
|                                                                                     | DSNUP-... – Cylinder barrel made of aluminium                                       |                |                              |                               |            |          |             |           |                    |                    |
|                                                                                     |   | 16             | 25, 50, 100                  | 2)                            | -          | -        | -           | -         | -                  | -                  |
|                                                                                     |                                                                                     | 20             |                              |                               |            |          |             |           |                    |                    |
|                                                                                     |                                                                                     | 25             |                              |                               |            |          |             |           |                    |                    |
|                                                                                     | DSNU-Q... – Protected against rotation                                              |                |                              |                               |            |          |             |           |                    |                    |
|                                                                                     |  | 12, 16         | -                            | 5 ... 160                     | ■          | ■        | ■           | ■         | ■<br>above<br>Ø 25 | ■<br>above<br>Ø 20 |
| 20                                                                                  |                                                                                     | -              | 5 ... 200                    |                               |            |          |             |           |                    |                    |
| 25                                                                                  |                                                                                     | -              | 5 ... 250                    |                               |            |          |             |           |                    |                    |
| 32                                                                                  |                                                                                     | -              | 5 ... 300                    |                               |            |          |             |           |                    |                    |
| 40, 50                                                                              |                                                                                     | -              | 5 ... 400                    |                               |            |          |             |           |                    |                    |
| 63                                                                                  |                                                                                     | -              | 5 ... 500                    |                               |            |          |             |           |                    |                    |
| DSNU-MQ... – Lateral air connection                                                 |                                                                                     |                |                              |                               |            |          |             |           |                    |                    |
|  | 8, 10                                                                               | -              | 1 ... 100                    | -                             | ■          | ■        | ■           | ■         | ■                  |                    |
|                                                                                     | 12, 16                                                                              | -              | 1 ... 200                    |                               |            |          |             |           |                    |                    |
|                                                                                     | 20                                                                                  | -              | 1 ... 320                    |                               |            |          |             |           |                    |                    |
|                                                                                     | 25                                                                                  | -              | 1 ... 500                    |                               |            |          |             |           |                    |                    |
|                                                                                     | 32, 40, 50, 63                                                                      | -              | 1 ... 500                    |                               |            |          |             |           |                    |                    |
| DSNU-MA... – Axial air connection                                                   |                                                                                     |                |                              |                               |            |          |             |           |                    |                    |
|  | 8, 10                                                                               | -              | 1 ... 100                    | -                             | ■          | ■        | ■           | ■         | ■                  |                    |
|                                                                                     | 12, 16                                                                              | -              | 1 ... 200                    |                               |            |          |             |           |                    |                    |
|                                                                                     | 20                                                                                  | -              | 1 ... 320                    |                               |            |          |             |           |                    |                    |
|                                                                                     | 25                                                                                  | -              | 1 ... 500                    |                               |            |          |             |           |                    |                    |
|                                                                                     | 32, 40, 50, 63                                                                      | -              | 1 ... 500                    |                               |            |          |             |           |                    |                    |
| DSNU-MH... – Direct mounting                                                        |                                                                                     |                |                              |                               |            |          |             |           |                    |                    |
|  | 8, 10                                                                               | -              | 1 ... 100                    | ■                             | ■          | ■        | ■           | ■         | ■                  |                    |
|                                                                                     | 12, 16                                                                              | -              | 1 ... 200                    |                               |            |          |             |           |                    |                    |
|                                                                                     | 20                                                                                  | -              | 1 ... 320                    |                               |            |          |             |           |                    |                    |
|                                                                                     | 25                                                                                  | -              | 1 ... 500                    |                               |            |          |             |           |                    |                    |
|                                                                                     | 32, 40, 50, 63                                                                      | -              | 1 ... 500                    |                               |            |          |             |           |                    |                    |

1) Cylinders with position sensing require a minimum stroke of 10 mm to ensure reliable sensing

2) Variable stroke on request

## Round cylinders DSNU/DSNUP

Product range overview

**FESTO**

| Piston rod                                                | Cushioning                        |                    |                    | Position sensing | Clamping unit | Heat-resistant seal | Slow speed (constant motion operation) | Low friction       | Corrosion protection | Dust protection (wiper seal) | Metal wiper seal   | → Page/Internet |
|-----------------------------------------------------------|-----------------------------------|--------------------|--------------------|------------------|---------------|---------------------|----------------------------------------|--------------------|----------------------|------------------------------|--------------------|-----------------|
|                                                           | Fixed                             | Adjustable         | Self-adjusting     |                  |               |                     |                                        |                    |                      |                              |                    |                 |
|                                                           | P                                 | PPV <sup>3)</sup>  | PPS                |                  |               |                     |                                        |                    |                      |                              |                    |                 |
|                                                           |                                   |                    |                    | A                | KP            | S6                  | S10                                    | S11                | R3                   | R8                           | A6                 |                 |
| <b>DSNU-... – Cylinder barrel made of stainless steel</b> |                                   |                    |                    |                  |               |                     |                                        |                    |                      |                              |                    |                 |
| 8 ... 63                                                  | ■                                 | ■<br>above<br>Ø 16 | ■<br>above<br>Ø 16 | ■                | ■             | ■                   | ■<br>above<br>Ø 12                     | ■<br>above<br>Ø 12 | ■<br>above<br>Ø 12   | ■<br>above<br>Ø 32           | ■<br>above<br>Ø 32 | 12              |
| <b>DSNUP-... – Cylinder barrel made of aluminium</b>      |                                   |                    |                    |                  |               |                     |                                        |                    |                      |                              |                    |                 |
| 16 ... 25                                                 | ■                                 | –                  | –                  | ■                | –             | –                   | –                                      | –                  | –                    | –                            | –                  | 46              |
| <b>DSNU-Q... – Protected against rotation</b>             |                                   |                    |                    |                  |               |                     |                                        |                    |                      |                              |                    |                 |
| 12 ... 63                                                 | ■<br>Ø 12<br>and<br>above<br>Ø 32 | ■<br>above<br>Ø 16 | –                  | ■                | ■             | ■<br>above<br>Ø 32  | –                                      | –                  | ■<br>above<br>Ø 16   | –                            | –                  | 50              |
| <b>DSNU-MQ... – Lateral air connection</b>                |                                   |                    |                    |                  |               |                     |                                        |                    |                      |                              |                    |                 |
| 8 ... 63                                                  | ■                                 | ■<br>above<br>Ø 16 | ■<br>above<br>Ø 16 | ■                | ■             | ■                   | –                                      | –                  | ■                    | ■<br>above<br>Ø 32           | ■<br>above<br>Ø 32 | 12              |
| <b>DSNU-MA... – Axial air connection</b>                  |                                   |                    |                    |                  |               |                     |                                        |                    |                      |                              |                    |                 |
| 8 ... 63                                                  | ■<br>above<br>Ø 32                | –                  | –                  | ■                | ■             | ■                   | –                                      | –                  | ■                    | –                            | ■                  | 12              |
| <b>DSNU-MH... – Direct mounting</b>                       |                                   |                    |                    |                  |               |                     |                                        |                    |                      |                              |                    |                 |
| 8 ... 63                                                  | ■                                 | ■<br>above<br>Ø 32 | –                  | ■                | –             | ■                   | –                                      | –                  | ■                    | –                            | –                  | 12              |

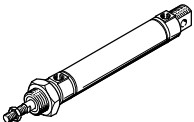
3) In the modular product system from Ø 12 mm

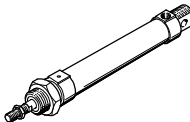
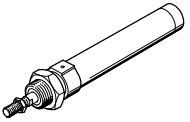
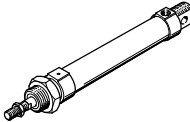
- 1 - Type discontinued DSN/ESN  
Available up until 2017

## Round cylinders DSN/ESNU/ESN

Product range overview

FESTO

| Function      | Version                                                                           | Piston Ø | Stroke          | Variable stroke <sup>1)</sup> | Piston rod |         |          |             |           |                |               |
|---------------|-----------------------------------------------------------------------------------|----------|-----------------|-------------------------------|------------|---------|----------|-------------|-----------|----------------|---------------|
|               |                                                                                   | [mm]     | [mm]            |                               | [mm]       | Through | Extended | Male thread |           |                | Female thread |
|               |                                                                                   |          |                 |                               |            |         |          | Extended    | Shortened | Special thread |               |
|               |                                                                                   | [mm]     | [mm]            | [mm]                          | S2         | K8      | K2       | K6          | K5        | K3             |               |
| Double-acting | DSN-... – without position sensing                                                |          |                 |                               |            |         |          |             |           |                |               |
|               |  | 8, 10    | 10, 25, 40, 50, | 1 ... 100                     | –          | –       | –        | –           | –         | –              |               |
|               |                                                                                   | 12, 16   | 80, 100, 125,   | 1 ... 200                     |            |         |          |             |           |                |               |
|               |                                                                                   | 20       | 160, 200, 250,  | 1 ... 320                     |            |         |          |             |           |                |               |
|               |                                                                                   | 25       | 300, 320, 400,  | 1 ... 500                     |            |         |          |             |           |                |               |
|               |                                                                                   |          | 500             |                               |            |         |          |             |           |                |               |

| Function          | Version                                                                             | Piston Ø | Stroke     | Variable stroke <sup>1)</sup> | Cushioning<br>Fixed | Position<br>sensing |
|-------------------|-------------------------------------------------------------------------------------|----------|------------|-------------------------------|---------------------|---------------------|
|                   |                                                                                     | [mm]     | [mm]       | [mm]                          | P                   | A                   |
| Single-<br>acting | ESNU-... – with position sensing                                                    |          |            |                               |                     |                     |
|                   |   | 8 ... 63 | 10, 25, 50 | 1 ... 50                      | ■                   | ■                   |
|                   | ESNU-MA-... – Axial air connection                                                  |          |            |                               |                     |                     |
|                   |  | 8 ... 63 | –          | 1 ... 50                      | ■                   | ■                   |
|                   | ESN-... – without position sensing                                                  |          |            |                               |                     |                     |
|                   |  | 8 ... 25 | 10, 25, 50 | 1 ... 50                      | ■                   | –                   |

1) Cylinders with position sensing require a minimum stroke of 10 mm to ensure reliable sensing

- 2 - Type discontinued DSN/ESN  
Available up until 2017

## Round cylinders DSN/ESNU/ESN

Product range overview

FESTO

| Piston Ø                           | Cushioning |                    |                | Position sensing | Clamping unit | Heat-resistant seal | Slow speed (constant motion operation) | Low friction | Corrosion protection | Dust protection (wiper seal) | ➔ Page/ Internet |
|------------------------------------|------------|--------------------|----------------|------------------|---------------|---------------------|----------------------------------------|--------------|----------------------|------------------------------|------------------|
|                                    | Fixed      | Adjustable         | Self-adjusting |                  |               |                     |                                        |              |                      |                              |                  |
|                                    | P          | PPV <sup>2)</sup>  | PPS            |                  |               |                     |                                        |              |                      |                              |                  |
| DSN-... – without position sensing |            |                    |                |                  |               |                     |                                        |              |                      |                              |                  |
| 8 ... 25                           | ■          | ■<br>above<br>Ø 16 | –              | –                | –             | –                   | –                                      | –            | –                    | –                            | 70               |

| Piston Ø                           | Piston rod                                                                          |                                                                                     |                                                                                     |                                                                                       |                                                                                       | → Page/<br>Internet |
|------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------|
|                                    | Extended<br><br>K8                                                                  | Male thread                                                                         |                                                                                     |                                                                                       | Female thread<br><br>K3                                                               |                     |
|                                    |                                                                                     | Extended<br>K2                                                                      | Shortened<br>K6                                                                     | Special thread<br>K5                                                                  |                                                                                       |                     |
| ESNU-... – with position sensing   |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                     |
| 8 ... 63                           |    |    |    |    |    | 58                  |
| ESNU-MA-... – Axial air connection |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                     |
| 8 ... 63                           |  |  |  |  |  | 58                  |
| ESN-... – without position sensing |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                     |
| 8 ... 25                           | -                                                                                   | -                                                                                   | -                                                                                   | -                                                                                     | -                                                                                     | 76                  |

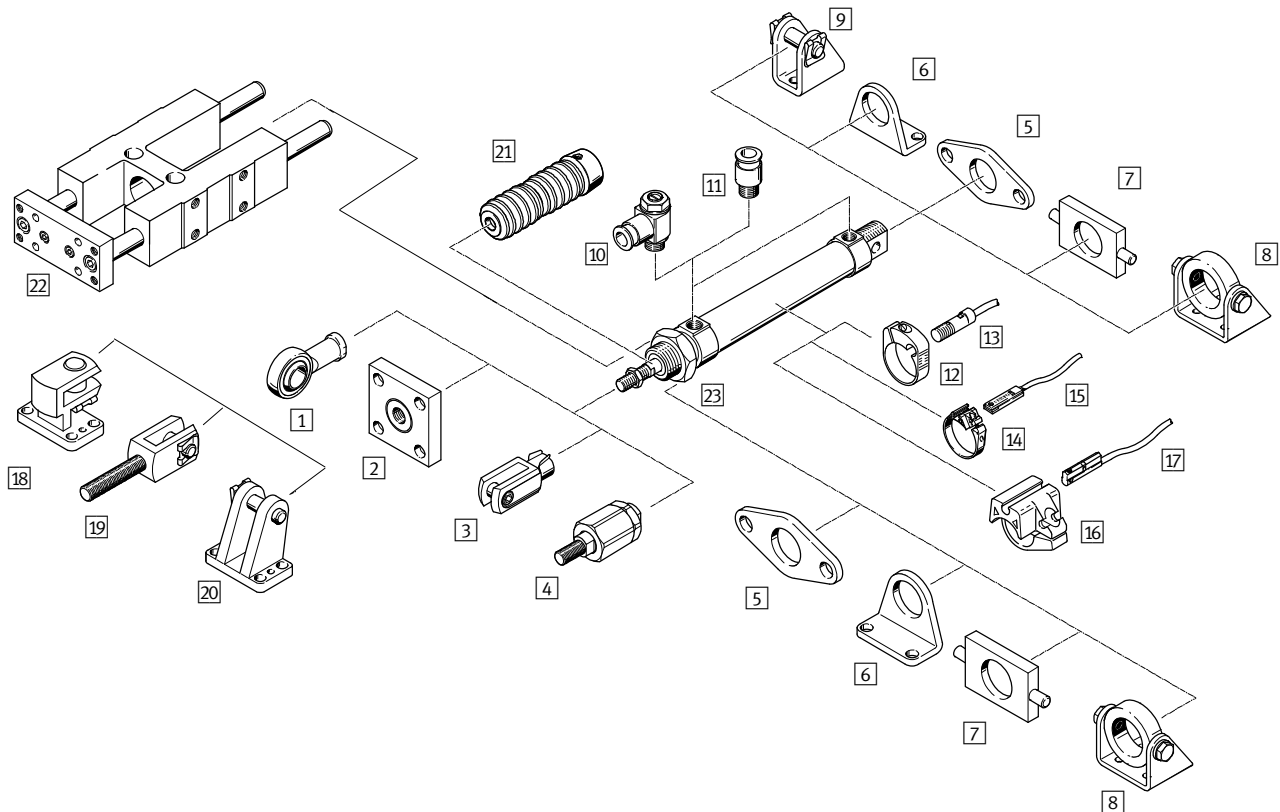
2) In the modular product system from Ø 12 mm

- 1 - Type discontinued DSNUP/DSN/ESN  
Available up until 2017

## Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Peripherals overview

FESTO

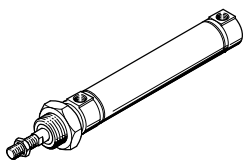


### Variants

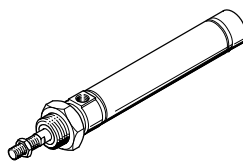
DSNU-MQ

DSNU-MA

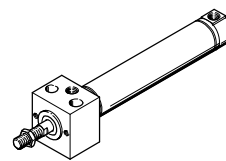
DSNU-MH



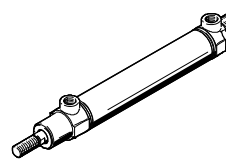
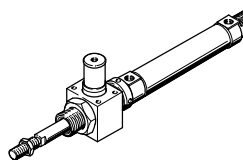
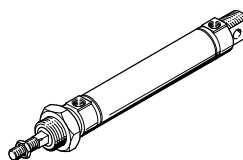
DSNU-Q



DSNU-KP



DSNUP

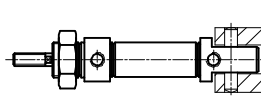
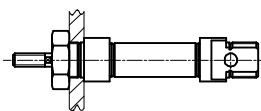
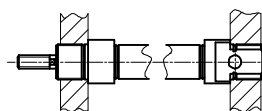


### Mounting options

Mounting front and rear

Mounting with hex nut

Swivel mounting



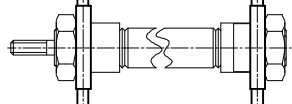
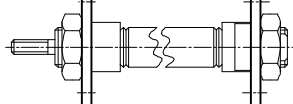
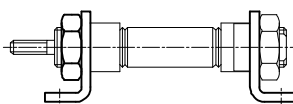
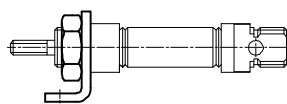
### Installation variants with mounting attachments

Foot mounting (for short strokes)

Foot mounting

Flange mounting

Swivel mounting



## Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Peripherals overview

FESTO

| Mounting attachments and accessories |                                                              |               |       |               |      |    |    |        |         |                     |        |
|--------------------------------------|--------------------------------------------------------------|---------------|-------|---------------|------|----|----|--------|---------|---------------------|--------|
|                                      | Piston Ø                                                     | DSNU/<br>ESNU | DSNUP | DSNU/<br>ESNU | DSNU |    |    | DSNU-Q | DSN/ESN | ➔ Page/<br>Internet |        |
|                                      |                                                              |               |       | MA            | MQ   | MH | KP |        |         |                     |        |
| 1                                    | Rod eye<br>SGS/CRSGS                                         | 8 ... 63      | ■     | ■             | ■    | ■  | ■  | ■      | ■       | ■                   | 86, 87 |
| 2                                    | Coupling piece<br>KSG/KSZ                                    | 12 ... 63     | ■     | ■             | ■    | ■  | ■  | ■      | ■       | ■                   | 86     |
| 3                                    | Rod clevis<br>SG/CRSG                                        | 8 ... 63      | ■     | ■             | ■    | ■  | ■  | ■      | ■       | ■                   | 86, 87 |
| 4                                    | Self-aligning rod coupler<br>FK/CRFK                         | 8 ... 63      | ■     | ■             | ■    | ■  | ■  | ■      | ■       | ■                   | 86, 87 |
| 5                                    | Flange mounting<br>FBN/CRFBN/CRFV                            | 8 ... 63      | ■     | ■             | ■    | ■  | –  | ■      | ■       | ■                   | 82, 83 |
| 6                                    | Foot mounting<br>HBN/CRHBN/CRH                               | 8 ... 63      | ■     | ■             | ■    | ■  | –  | ■      | ■       | ■                   | 80, 81 |
| 7                                    | Swivel mounting <sup>1)</sup><br>WBN                         | 8 ... 63      | ■     | ■             | ■    | ■  | –  | ■      | ■       | ■                   | 84     |
| 8                                    | Swivel mounting <sup>1)</sup><br>SBN                         | 20 ... 63     | ■     | –             | ■    | ■  | –  | ■      | ■       | ■                   | 84     |
| 9                                    | Clevis foot<br>LBN/CRLBN                                     | 8 ... 63      | ■     | ■             | –    | –  | –  | ■      | ■       | ■                   | 85     |
| 10                                   | One-way flow control valve <sup>2)</sup><br>GRLA/GRLZ/CRGRLA | 8 ... 63      | ■     | ■             | ■    | ■  | ■  | ■      | ■       | ■                   | 97     |
| 11                                   | Push-in fitting <sup>2)</sup><br>QS                          | 8 ... 63      | ■     | ■             | ■    | ■  | ■  | ■      | ■       | ■                   | qs     |
| 12                                   | Mounting kit<br>SMBR/CRSMBR                                  | 8 ... 63      | ■     | –             | ■    | ■  | ■  | ■      | ■       | –                   | 94     |
| 13                                   | Proximity sensor<br>SMEO/SMTO/CRSMEO-4                       | 8 ... 63      | ■     | –             | ■    | ■  | ■  | ■      | ■       | –                   | 94     |
| 14                                   | Mounting kit<br>SMBR-8                                       | 12 ... 63     | ■     | ■             | ■    | ■  | ■  | ■      | ■       | –                   | 95     |
| 15                                   | Proximity sensor<br>SME/SMT-8                                | 8 ... 63      | ■     | ■             | ■    | ■  | ■  | ■      | ■       | –                   | 95     |
| 16                                   | Mounting kit<br>SMBR-10                                      | 12 ... 63     | ■     | –             | ■    | ■  | ■  | ■      | ■       | –                   | 96     |
| 17                                   | Proximity sensor<br>SME/SMT-10                               | 8 ... 63      | ■     | –             | ■    | ■  | ■  | ■      | ■       | –                   | 96     |
| 18                                   | Right-angle clevis foot<br>LQG                               | 32 ... 63     | ■     | –             | ■    | ■  | ■  | ■      | ■       | –                   | 87     |
| 19                                   | Rod clevis<br>SGA                                            | 32 ... 63     | ■     | –             | ■    | ■  | ■  | ■      | ■       | –                   | 86     |
| 20                                   | Clevis foot<br>LBG                                           | 32 ... 63     | ■     | –             | ■    | ■  | ■  | ■      | ■       | –                   | 87     |
| 21                                   | Bellows kit <sup>3)</sup><br>DADB                            | 12 ... 63     | ■     | –             | ■    | ■  | –  | –      | –       | –                   | 88     |
| 22                                   | Guide unit<br>FEN                                            | 8 ... 25      | ■     | –             | ■    | ■  | –  | –      | –       | ■                   | 87     |
| 23                                   | Hex nut<br>MSK                                               | 16 ... 25     | ■     | –             | ■    | ■  | ■  | ■      | ■       | ■                   | 86     |

-  - Note

1) Cannot be used on the bearing cap in combination with bellows kit DADB.

2) Only push-in fittings or one-way flow control valves with cylindrical connecting thread (M or G thread) may be used for the compressed air ports in conjunction with the DSNUP.

3) The bellows kit protects the cylinder (piston rod, seal and bearings) against a wide range of media and thus prevents premature wear.

It can only be used in combination with an extended piston rod (K8).

## - 1 - Type discontinued DSNUP/DSN/ESN Available up until 2017

**FESTO**

### Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Type codes

|                         |                                                   |      |   |    |   |    |   |     |   |   |   |    |
|-------------------------|---------------------------------------------------|------|---|----|---|----|---|-----|---|---|---|----|
|                         |                                                   | DSNU | – | 25 | – | 80 | – | PPV | – | A | – | MQ |
|                         |                                                   |      |   |    |   |    |   |     |   |   |   |    |
| <b>Type</b>             |                                                   |      |   |    |   |    |   |     |   |   |   |    |
| Double-acting           |                                                   |      |   |    |   |    |   |     |   |   |   |    |
| DSNU/DSN                | Round cylinder                                    |      |   |    |   |    |   |     |   |   |   |    |
| Single-acting           |                                                   |      |   |    |   |    |   |     |   |   |   |    |
| ESNU/ESN                | Round cylinder                                    |      |   |    |   |    |   |     |   |   |   |    |
| <b>Piston Ø [mm]</b>    |                                                   |      |   |    |   |    |   |     |   |   |   |    |
| <b>Stroke [mm]</b>      |                                                   |      |   |    |   |    |   |     |   |   |   |    |
| <b>Cushioning</b>       |                                                   |      |   |    |   |    |   |     |   |   |   |    |
| P                       | Flexible cushioning rings/pads at both ends       |      |   |    |   |    |   |     |   |   |   |    |
| PPV                     | Pneumatic cushioning, adjustable at both ends     |      |   |    |   |    |   |     |   |   |   |    |
| PPS                     | Pneumatic cushioning, self-adjusting at both ends |      |   |    |   |    |   |     |   |   |   |    |
| <b>Position sensing</b> |                                                   |      |   |    |   |    |   |     |   |   |   |    |
| A                       | Via proximity sensor                              |      |   |    |   |    |   |     |   |   |   |    |
| <b>Variant</b>          |                                                   |      |   |    |   |    |   |     |   |   |   |    |
| MQ                      | Lateral air connection                            |      |   |    |   |    |   |     |   |   |   |    |
| MA                      | Axial air connection                              |      |   |    |   |    |   |     |   |   |   |    |
| MH                      | With mounting flange on bearing cap               |      |   |    |   |    |   |     |   |   |   |    |

#### Modular product system

Individually configurable

DSNU → 28

ESNU → 66

- Q – Square piston rod (protection against rotation)
- S2 – Through piston rod (piston rod type)
- K2 – Extended male piston rod thread
- K6 – Male piston rod thread, shortened at one end
- K3 – Female piston rod thread (female thread)
- K5 – Special piston rod thread (special thread)
- K8 – Extended piston rod at front
- KP – Clamping unit on the piston rod
- S6 – Heat-resistant seals for temperatures up to 120 °C (temperature resistance)
- S10 – Slow speed (constant motion at low piston rod speeds)
- S11 – Low friction
- EX4 – ATEX certification II 2GD
- R3 – All external cylinder surfaces conform to corrosion resistance class CRC 3 (corrosion protection)
- R8 – Dust protection (wiper seal) 32 ... 63 mm
- A6 – Metal wiper seal 32 ... 63 mm

## Standard cylinders DSNU/DSNUP/DSN/ESNU/ESN

FESTO

Type codes

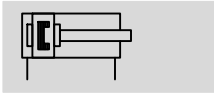
|                         |                                             |       |   |    |   |    |   |   |   |   |
|-------------------------|---------------------------------------------|-------|---|----|---|----|---|---|---|---|
|                         |                                             | DSNUP | – | 20 | – | 50 | – | P | – | A |
| <b>Type</b>             |                                             |       |   |    |   |    |   |   |   |   |
| Double-acting           |                                             |       |   |    |   |    |   |   |   |   |
| DSNUP                   | Round cylinder                              |       |   |    |   |    |   |   |   |   |
| <b>Piston Ø [mm]</b>    |                                             |       |   |    |   |    |   |   |   |   |
| <b>Stroke [mm]</b>      |                                             |       |   |    |   |    |   |   |   |   |
| <b>Cushioning</b>       |                                             |       |   |    |   |    |   |   |   |   |
| P                       | Flexible cushioning rings/pads at both ends |       |   |    |   |    |   |   |   |   |
| <b>Position sensing</b> |                                             |       |   |    |   |    |   |   |   |   |
| A                       | Via proximity sensor                        |       |   |    |   |    |   |   |   |   |

# Round cylinders DSNU

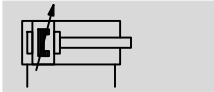
Technical data

FESTO

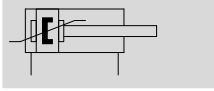
Function  
P cushioning



PPV cushioning



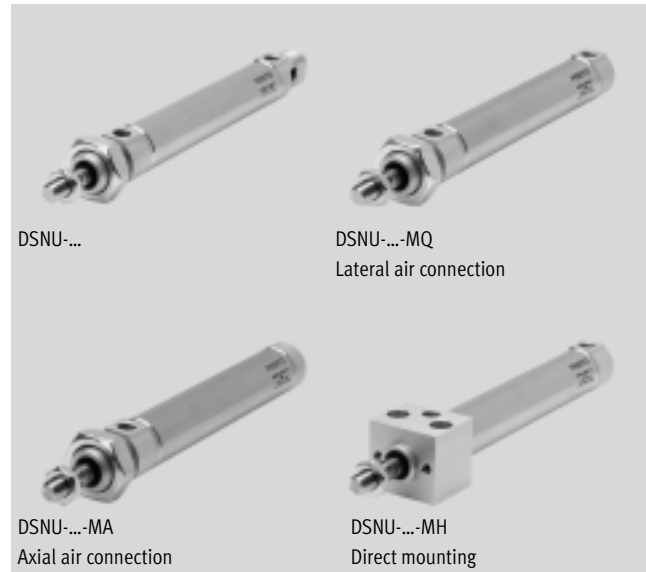
PPS cushioning



Ø - Diameter  
8 ... 25 mm  
ISO 6432

Ø - Diameter  
32 ... 63 mm

└ - Stroke length  
1 ... 500 mm



| General technical data               |                                             |    |                                    |                                        |           |           |          |          |         |         |
|--------------------------------------|---------------------------------------------|----|------------------------------------|----------------------------------------|-----------|-----------|----------|----------|---------|---------|
| Piston Ø                             | 8                                           | 10 | 12                                 | 16                                     | 20        | 25        | 32       | 40       | 50      | 63      |
| Conforms                             | ISO 6432                                    |    |                                    |                                        |           |           | –        |          |         |         |
| Pneumatic connection                 | M5                                          | M5 | M5                                 | M5                                     | G1/8      | G1/8      | G1/8     | G¼       | G¼      | G¾      |
| Piston rod thread                    | M4                                          | M4 | M6                                 | M6                                     | M8        | M10x1.25  | M10x1,25 | M12x1,25 | M16x1,5 | M16x1,5 |
| Stroke <sup>1)</sup> <div>[mm]</div> | 1 ... 100                                   |    | 1 ... 200                          |                                        | 1 ... 320 | 1 ... 500 |          |          |         |         |
| Constructional design                | Piston / Piston rod / Cylinder barrel       |    |                                    |                                        |           |           |          |          |         |         |
| Cushioning                           |                                             |    |                                    |                                        |           |           |          |          |         |         |
| DSNU-...-P                           | Flexible cushioning rings/pads at both ends |    |                                    |                                        |           |           |          |          |         |         |
| DSNU-...-PPV                         | –                                           |    | Adjustable cushioning at both ends |                                        |           |           |          |          |         |         |
| DSNU-...-PPS                         | –                                           |    |                                    | Self-adjusting cushioning at both ends |           |           |          |          |         |         |
| Cushioning length                    |                                             |    |                                    |                                        |           |           |          |          |         |         |
| DSNU-...-PPV <div>[mm]</div>         | –                                           |    | 9                                  | 12                                     | 15        | 17        | 14       | 18       | 20      | 21      |
| DSNU-...-PPS <div>[mm]</div>         | –                                           |    |                                    | 12                                     | 15        | 17        | 14       | 18       | 20      | 21      |
| Position sensing                     | Via proximity sensor                        |    |                                    |                                        |           |           |          |          |         |         |
| Type of mounting                     | Direct mounting (MH variant only)           |    |                                    |                                        |           |           |          |          |         |         |
|                                      | Via accessories                             |    |                                    |                                        |           |           |          |          |         |         |
| Mounting position                    | Any                                         |    |                                    |                                        |           |           |          |          |         |         |

1) Cylinders with position sensing require a minimum stroke of 10 mm to ensure reliable sensing  
Longer strokes on request.

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

# Round cylinders DSNU

Technical data

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| Operating and environmental conditions |                                                                                                        |                          |    |             |          |            |    |              |    |            |
|----------------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------|----|-------------|----------|------------|----|--------------|----|------------|
| Piston Ø                               | 8                                                                                                      | 10                       | 12 | 16          | 20       | 25         | 32 | 40           | 50 | 63         |
| Operating medium                       | Compressed air in accordance with ISO 8573-1:2010 [7:4:4]                                              |                          |    |             |          |            |    |              |    |            |
| Note on operating/pilot medium         | Operation with lubricated medium possible (in which case lubricated operation will always be required) |                          |    |             |          |            |    |              |    |            |
| Operating pressure                     |                                                                                                        |                          |    |             |          |            |    |              |    |            |
| DSNU-...-                              | [bar]                                                                                                  | 1.5 ... 10 <sup>1)</sup> |    |             | 1 ... 10 |            |    |              |    |            |
| DSNU-...-S10                           | [bar]                                                                                                  | –                        |    | 1.5 ... 10  |          | 1 ... 10   |    | 0.5 ... 10   |    | 0.4 ... 10 |
| DSNU-...-S11                           | [bar]                                                                                                  | –                        |    | 0.45 ... 10 |          | 0.3 ... 10 |    | 0.2 ... 10   |    |            |
| Ambient temperature <sup>2)</sup>      |                                                                                                        |                          |    |             |          |            |    |              |    |            |
| DSNU-...                               | [°C]                                                                                                   | –20 ... +80              |    |             |          |            |    |              |    |            |
| DSNU-...-S6                            | [°C]                                                                                                   | 0 ... +120               |    |             |          |            |    |              |    |            |
| DSNU-...-S10                           | [°C]                                                                                                   | +5 ... +80               |    |             |          |            |    |              |    |            |
| DSNU-...-S11                           | [°C]                                                                                                   | +5 ... +80               |    |             |          |            |    |              |    |            |
| DSNU-...-R3                            | [°C]                                                                                                   | –20 ... +80              |    |             |          |            |    |              |    |            |
| DSNU-...-A6                            | [°C]                                                                                                   | –                        |    |             |          |            |    | –40 ... +150 |    |            |

1) With DSNU-12- ... -PPV (pneumatic cushioning adjustable at both ends): 2 ... 10 bar

2) Note operating range of proximity sensors.

| Operating and environmental conditions       |                    |    |    |    |    |    |    |    |    |    |
|----------------------------------------------|--------------------|----|----|----|----|----|----|----|----|----|
| Piston Ø                                     | 8                  | 10 | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
| Corrosion resistance class CRC <sup>1)</sup> |                    |    |    |    |    |    |    |    |    |    |
| DSNU-...                                     | [°C]               | 2  |    |    |    |    |    |    |    |    |
| DSNU-...-R3                                  | [°C]               | 3  |    |    |    |    |    |    |    |    |
| Certification                                |                    |    |    |    |    |    |    |    |    |    |
| DSNU-...-P                                   | Germanischer Lloyd |    |    |    |    |    | –  |    |    |    |
| DSNU-...-PPV                                 | Germanischer Lloyd |    |    |    |    |    | –  |    |    |    |

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.

Corrosion resistance class CRC 3 to Festo standard FN 940070

High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

| ATEX <sup>1)</sup>                            |                                             |
|-----------------------------------------------|---------------------------------------------|
| ATEX category for gas                         | II 2G                                       |
| Explosion ignition protection type for gas    | c T4                                        |
| ATEX category for dust                        | II 2D                                       |
| Explosion ignition protection type for dust   | c 120°C                                     |
| Explosion-proof temperature rating            | –20°C ≤ Ta ≤ +60°C                          |
| CE marking<br>(see declaration of conformity) | To EU Explosion Protection Directive (ATEX) |

1) Make sure that the accessories are suited for ATEX application.

# Round cylinders DSNU

Technical data

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| Speed [mm/s]                                                             |     |            |     |                  |           |    |    |           |
|--------------------------------------------------------------------------|-----|------------|-----|------------------|-----------|----|----|-----------|
| Piston Ø                                                                 |     | 16         | 20  | 25               | 32        | 40 | 50 | 63        |
| Speed with stick-slip-free operation, horizontal, without load, at 6 bar | S10 | 10 ... 100 |     |                  | 8 ... 100 |    |    | 5 ... 100 |
| Minimum speed, advancing                                                 | S11 | 2.7        | 5.3 | <1 <sup>1)</sup> |           |    |    |           |
| Minimum speed, retracting                                                | S11 | 3.2        | 4.7 | <1 <sup>1)</sup> |           |    |    |           |

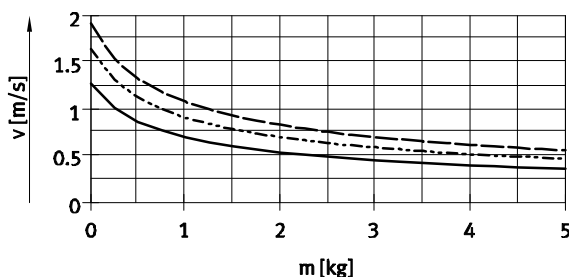
1) Measurements of less than 1 mm/s were not conducted

| Force [N] and impact energy [J]                                                        |  | 8    | 10   | 12   | 16   | 20   | 25   | 32   | 40   | 50   | 63   |
|----------------------------------------------------------------------------------------|--|------|------|------|------|------|------|------|------|------|------|
| Piston Ø                                                                               |  |      |      |      |      |      |      |      |      |      |      |
| Theoretical force at 6 bar, advancing                                                  |  | 30   | 47   | 68   | 121  | 189  | 295  | 483  | 753  | 1178 | 1870 |
| Theoretical force at 6 bar, retracting                                                 |  | 23   | 40   | 51   | 104  | 158  | 247  | 415  | 633  | 990  | 1682 |
| Max. impact energy at the end positions for flexible cushioning elements <sup>1)</sup> |  | 0.03 | 0.05 | 0.07 | 0.15 | 0.20 | 0.30 | 0.40 | 0.70 | 1.00 | 1.30 |

1) The values are reduced by approx. 50% at an ambient temperature of 80 °C

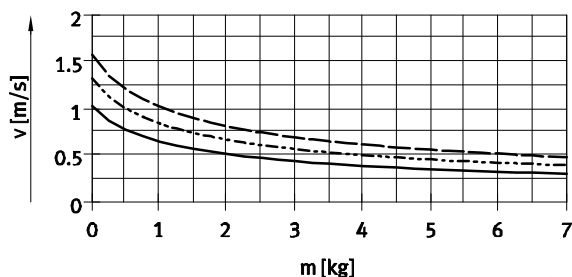
## Average piston speed $v$ as a function of payload $m$ in combination with PPS cushionings

Piston Ø 16



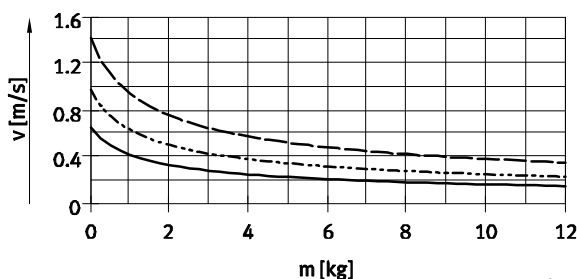
— DSNU-16-50  
 - - - DSNU-16-100  
 - · - DSNU-16-200

Piston Ø 20



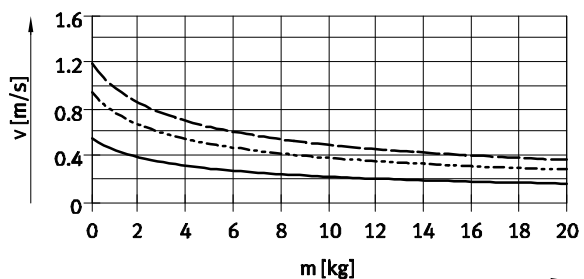
— DSNU-20-50  
 - - - DSNU-20-100  
 - · - DSNU-20-200

Piston Ø 25



— DSNU-25-50  
 - - - DSNU-25-100  
 - · - DSNU-25-200

Piston Ø 32



— DSNU-32-50  
 - - - DSNU-32-100  
 - · - DSNU-32-200

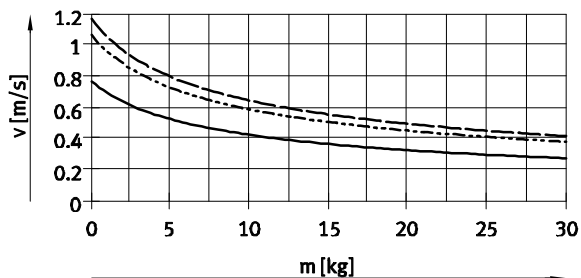
# Round cylinders DSNU

Technical data

FESTO

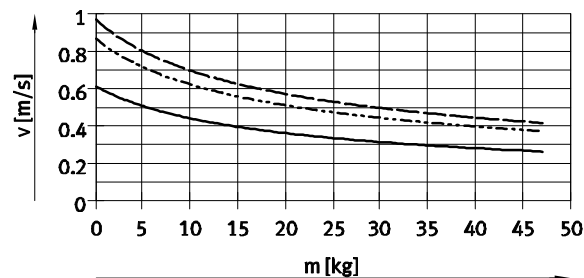
## Average piston speed $v$ as a function of payload $m$ in combination with PPS cushionings

Piston  $\varnothing$  40



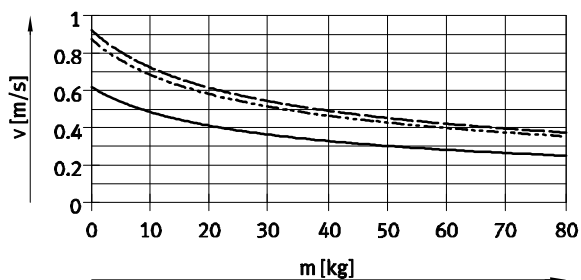
— DSNU-40-50  
 - - - DSNU-40-100  
 - · - DSNU-40-200

Piston  $\varnothing$  50



— DSNU-50-50  
 - - - DSNU-50-100  
 - · - DSNU-50-200

Piston  $\varnothing$  63



— DSNU-63-50  
 - - - DSNU-63-100  
 - · - DSNU-63-200



Note

Design software  
 for flexible cushioning elements  
 for PPV cushioning  
 → ProDrive

Additional graphs  
 for PPS cushioning  
 → [www.festo.com](http://www.festo.com)



Note

Average piston speed  
 = stroke/movement time

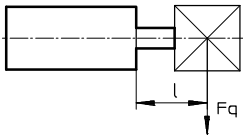
# Round cylinders DSNU

Technical data

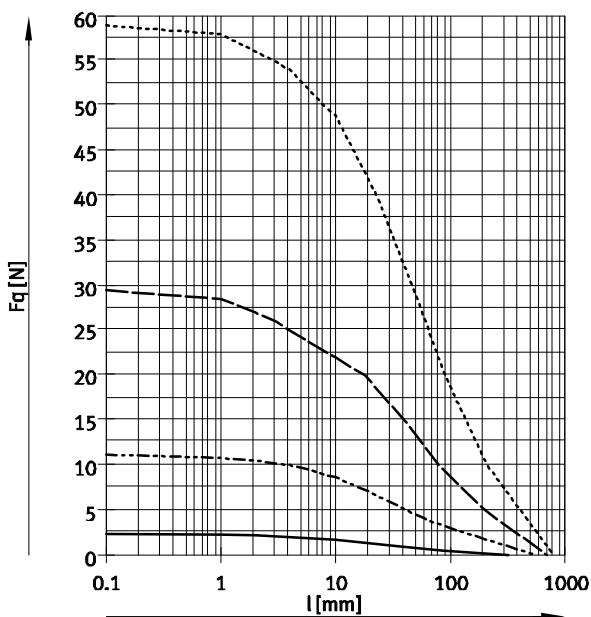
FESTO

| Weight [g]                         |      |      |      |      |       |     |       |     |      |      |
|------------------------------------|------|------|------|------|-------|-----|-------|-----|------|------|
| Piston Ø                           | 8    | 10   | 12   | 16   | 20    | 25  | 32    | 40  | 50   | 63   |
| Product weight with 0 mm stroke    | 34.6 | 37.3 | 75   | 89.9 | 186.8 | 238 | 370.5 | 661 | 1087 | 1445 |
| Additional weight per 10 mm stroke | 2.4  | 2.7  | 4    | 4.6  | 7.2   | 11  | 15.5  | 24  | 40   | 44   |
| Moving load with 0 mm stroke       | 7.5  | 8.5  | 18.5 | 23   | 44    | 71  | 121   | 230 | 413  | 459  |
| Moving load per 10 mm stroke       | 1    | 1    | 2    | 2    | 4     | 6   | 9     | 16  | 25   | 25   |

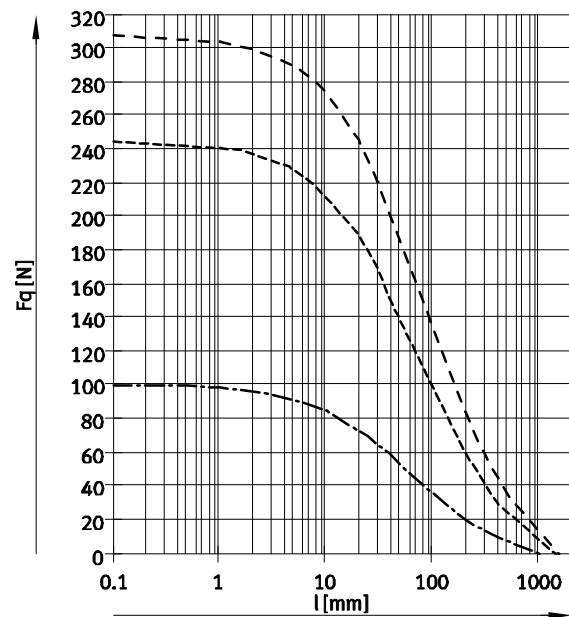
## Max. lateral force $F_q$ as a function of stroke length $l$



DSNU-...



— Ø 8/10  
 - - - - - Ø 12/16  
 - - - - - Ø 20  
 - - - - - Ø 25



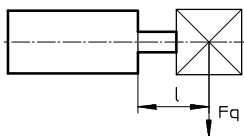
- - - - - Ø 32  
 - - - - - Ø 40  
 - - - - - Ø 50/63

# Round cylinders DSNU

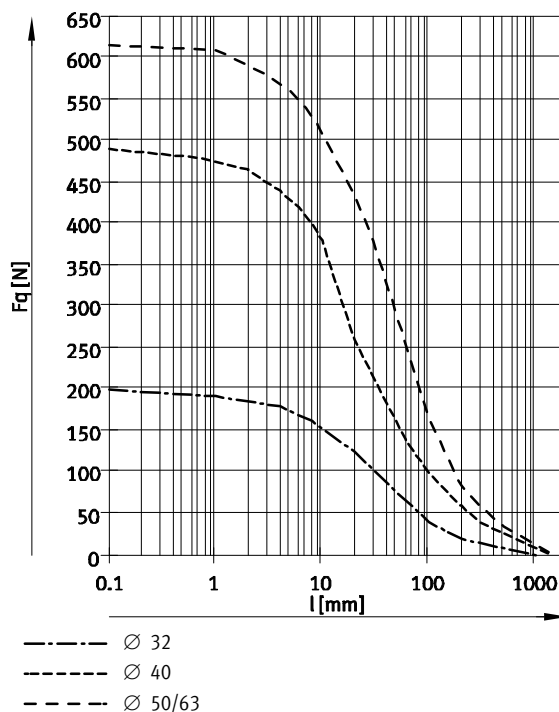
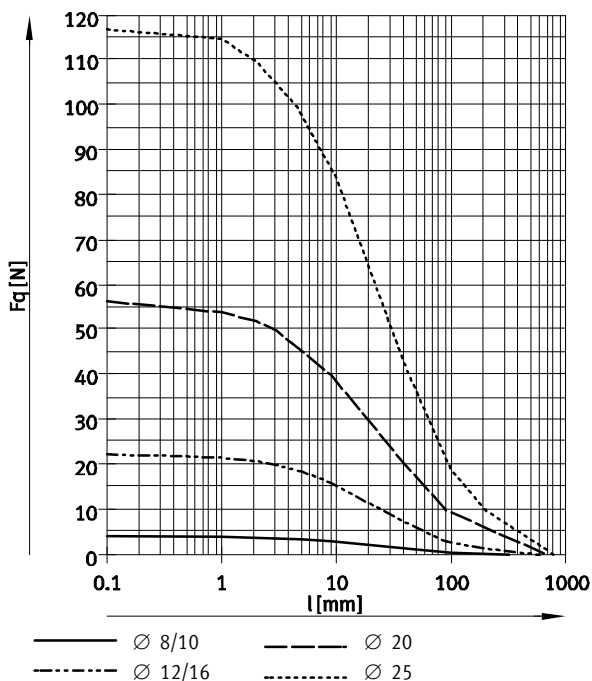
Technical data

FESTO

## Max. lateral force $F_q$ as a function of stroke length $l$

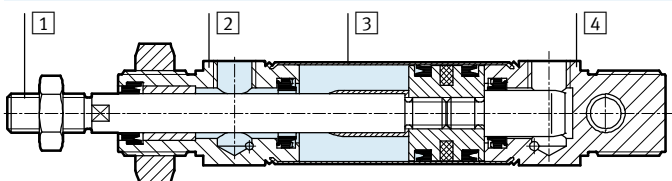


### DSNU-...-S2 – Through piston rod



## Materials

### Sectional view



| Round cylinder |                       | 8 ... 25                                            | 32 ... 63                           |
|----------------|-----------------------|-----------------------------------------------------|-------------------------------------|
| 1              | Piston rod            |                                                     |                                     |
|                | DSNU-...              | High-alloy steel                                    |                                     |
|                | DSNU-...-R3           | High-alloy stainless steel                          |                                     |
|                | DSNU-...-A6           | –                                                   | Hard-chromium plated tempered steel |
| 2              | Bearing cap           |                                                     |                                     |
| 3              | Cylinder barrel       |                                                     |                                     |
| 4              | End cap               |                                                     |                                     |
|                | Anodised aluminium    |                                                     |                                     |
| –              | Seals                 |                                                     |                                     |
|                | DSNU-...              | TPE-U(PU), NBR                                      |                                     |
|                | DSNU-...-S6           | FPM                                                 |                                     |
|                | DSNU-...-S10          | FPM                                                 | FPM, TPE-U(PU)                      |
|                | DSNU-...-S11          | FPM                                                 | FPM, TPE-U(PU)                      |
|                | DSNU-...-R3           | TPE-U(PU), NBR                                      |                                     |
|                | Piston rod wiper seal |                                                     |                                     |
|                | DSNU-...-A6           | –                                                   | CuZn                                |
|                | Note on materials     |                                                     |                                     |
|                | DSNU-...-             | RoHS compliant                                      |                                     |
|                | DSNU-...-S10/11       | Contains PWIS (paint-wetting impairment substances) |                                     |

# Round cylinders DSNU

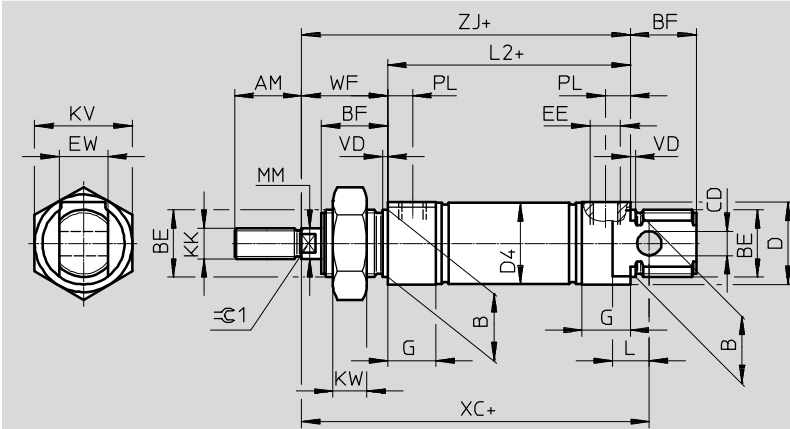
Technical data

**FESTO**

## Dimensions

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

DSNU-8 ... 25



Note

Piston rod nut is not included in scope of delivery for Ø 8 ... 20.

+ = plus stroke length

| Ø<br>[mm] | AM | B<br>Ø<br>h9 | BE       | BF | CD<br>Ø<br>H9 | D<br>Ø | D4<br>Ø | EE   | EW | G  | KK       | KV |
|-----------|----|--------------|----------|----|---------------|--------|---------|------|----|----|----------|----|
| 8         | 12 | 12           | M12x1.25 | 12 | 4             | 15     | 9.3     | M5   | 8  | 10 | M4       | 19 |
| 10        |    |              |          |    |               |        | 11.3    |      |    |    |          |    |
| 12        | 16 | 16           | M16x1.5  | 17 | 6             | 20     | 13.3    |      | 12 |    | M6       | 24 |
| 16        |    |              |          |    |               |        | 17.3    |      |    |    |          |    |
| 20        | 20 | 22           | M22x1.5  | 20 | 8             | 27     | 21.3    | G1/8 | 16 | 16 | M8       | 32 |
| 25        | 22 |              |          | 22 |               |        | 26.5    |      |    |    | M10x1.25 |    |

| Ø<br>[mm] | KW | L  | L2   | MM<br>Ø | PL  | VD | WF  | XC<br>±1 | ZJ | ≈C1 |
|-----------|----|----|------|---------|-----|----|-----|----------|----|-----|
| 8         | 6  | 6  | 46   | 4       | 6   | 2  | 16  | 64       | 62 | –   |
| 10        |    |    |      |         |     |    |     |          |    |     |
| 12        | 8  | 9  | 50   | 6       |     |    | 22  | 75       | 72 | 5   |
| 16        |    |    | 56   |         | 82  |    |     | 78       |    |     |
| 20        | 11 | 12 | 68   | 8       | 8.2 |    | 24  | 95       | 92 | 7   |
| 25        |    |    | 69.5 | 10      |     | 28 | 104 | 97.5     | 9  |     |

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

# Round cylinders DSNU

Technical data

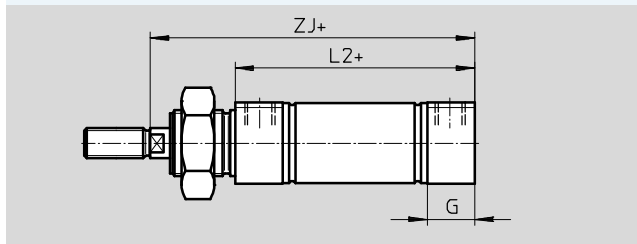
**FESTO**

## Dimensions

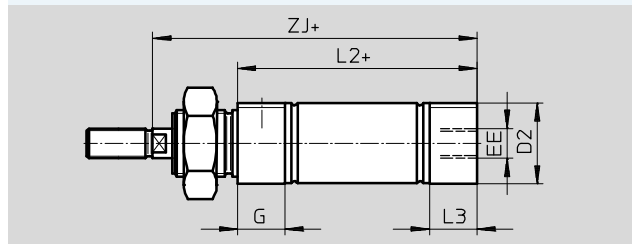
Download CAD data → [www.festo.com](http://www.festo.com)

DSNU-8 ... 25

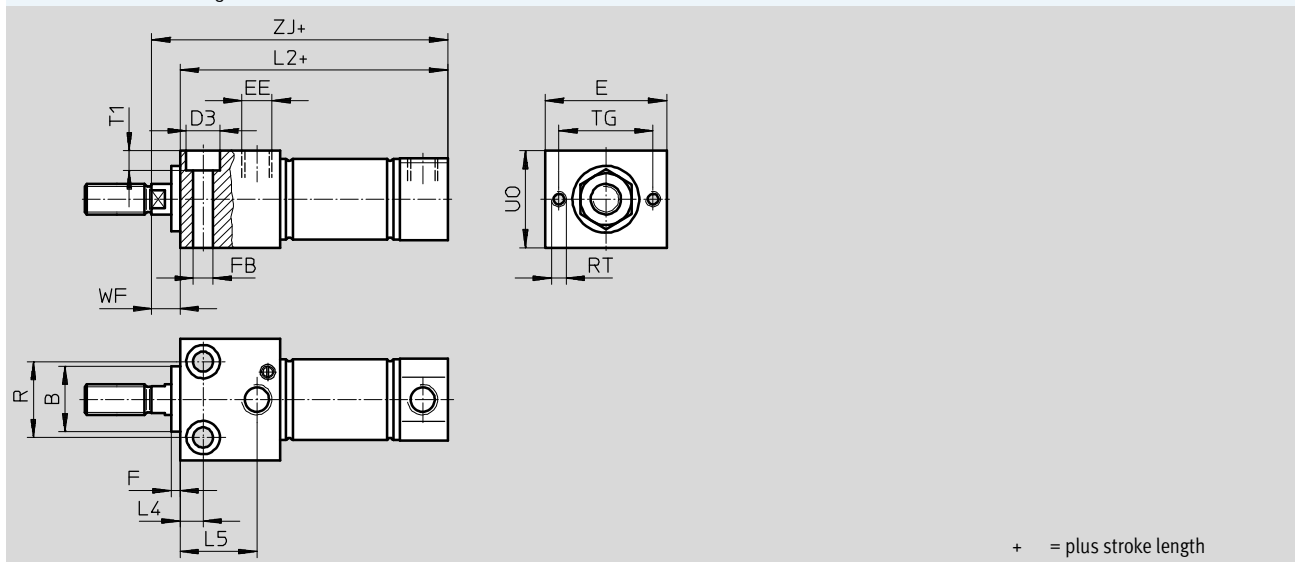
MQ – Lateral air connection



MA – Axial air connection



MH – With direct mounting



| Ø<br>[mm] | B<br>Ø<br>h9 | D2<br>Ø | D3<br>Ø | E  | EE   | F | FB<br>Ø | G  | L2              |      |      |
|-----------|--------------|---------|---------|----|------|---|---------|----|-----------------|------|------|
|           |              |         |         |    |      |   |         |    | DSNU-...<br>-MQ | -MA  | -MH  |
| 8         | 12           | 10.5    | 6       | 24 | M5   | 3 | 3.4     | 10 | 46              | 43.6 | 53.5 |
| 10        |              | 12.5    |         |    |      |   |         |    |                 | 43.1 | 53.8 |
| 12        | 16           | 14.5    | 8       | 30 |      |   | 4.5     |    | 50              | 47.7 | 62   |
| 16        |              | 17.5    |         |    |      |   |         |    | 56              | 53.7 | 67.5 |
| 20        | 22           | 21.7    | 10      | 40 | G1/8 |   | 5.5     | 16 | 68              | 66.5 | 81.5 |
| 25        |              | 26.7    | 11      |    |      |   | 6.6     |    | 69.5            | 68.5 | 86.2 |

| Ø<br>[mm] | L3   | L4  | L5   | R  | RT | TG | T1  | UO | WF | ZJ              |      |      |
|-----------|------|-----|------|----|----|----|-----|----|----|-----------------|------|------|
|           |      |     |      |    |    |    |     |    |    | DSNU-...<br>-MQ | -MA  | -MH  |
| 8         | 7.6  | 5   | 14   | 12 | M3 | 18 | 3.4 | 16 | 8  | 62              | 59.6 | 61.5 |
| 10        | 7.1  |     |      |    |    |    |     |    |    |                 | 59.1 | 61.8 |
| 12        | 7.7  | 6   | 18.1 | 16 | M4 | 23 | 4.5 | 22 | 10 | 72              | 69.7 | 72   |
| 16        |      |     |      |    |    |    |     |    |    | 78              | 75.7 | 77.8 |
| 20        | 14.5 | 7.5 | 22.4 | 22 | M5 | 31 | 5.5 | 28 | 11 | 92              | 90.5 | 91.5 |
| 25        | 14   |     | 25.2 | 25 |    |    | 6.6 | 32 |    | 97.5            | 96.5 | 97.2 |

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

# Round cylinders DSNU

Technical data

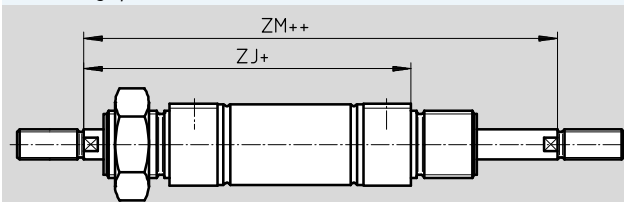
**FESTO**

## Dimensions

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

DSNU-8 ... 25

S2 – Through piston rod



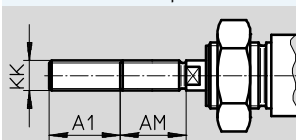
Note

The thread types at both piston rod ends are identical. In combination with variant Q, the left-hand piston rod end is square, the right-hand piston rod end round.

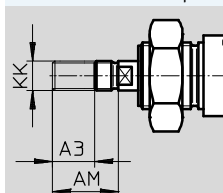
+ = plus stroke length

++ = plus 2x stroke length

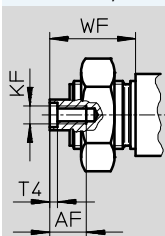
### K2 – Extended male piston rod thread



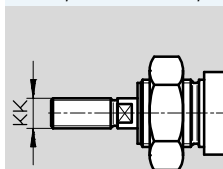
### K6 – Shortened male piston rod thread



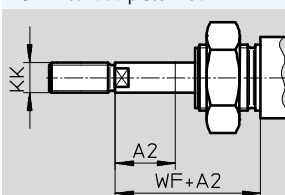
### K3 – Female piston rod thread



### K5 – Special thread on piston rod



### K8 – Extended piston rod



Note

If variant K8 is required in combination with S2, the piston rod will only be extended on one side.

| Ø<br>[mm] | A1<br>max. | A2<br>max. | A3<br>max. | AM | AF | KF | KK              |                                 | T4  | WF | ZJ              |      |      | ZM    |
|-----------|------------|------------|------------|----|----|----|-----------------|---------------------------------|-----|----|-----------------|------|------|-------|
|           |            |            |            |    |    |    | Basic<br>thread | Special<br>thread <sup>1)</sup> |     |    | DSNU-...<br>-MQ | -MA  | -MH  |       |
| 8         | 15         | 50         | 4          | 12 | –  | –  | M4              | –                               | –   | 16 | 62              | 59.6 | 61.5 | 78.4  |
| 10        |            |            |            |    | –  | –  |                 | –                               | –   |    |                 | 59.1 | 61.8 |       |
| 12        | 20         | 100        |            | 16 | –  | –  | M6              | –                               | –   | 22 | 72              | 69.7 | 72   | 94    |
| 16        |            |            |            |    | –  | –  |                 | –                               | –   |    | 78              | 75.7 | 77.8 | 100   |
| 20        | 25         | 110        | 8          | 20 | 12 | M4 | M8              | –                               | 2   | 24 | 92              | 90.5 | 91.5 | 116   |
| 25        | 35         | 150        |            | 22 |    | M6 | M10x1.25        | M10                             | 2.6 | 28 | 97.5            | 96.5 | 97.2 | 125.5 |

1) The special threads are only available as male threads. The scope of delivery does not include a hex nut for the piston rod thread.



# Round cylinders DSNU

Technical data

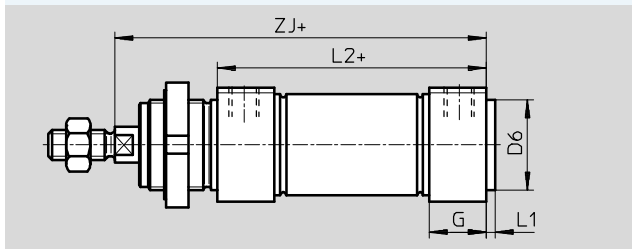
**FESTO**

## Dimensions

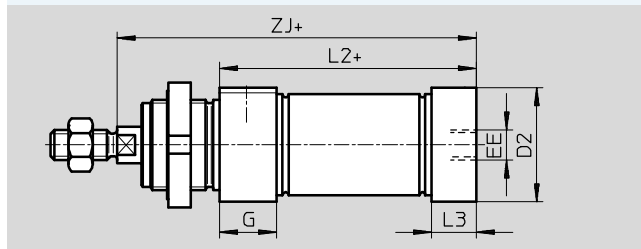
Download CAD data → [www.festo.com](http://www.festo.com)

DSNU-32 ... 63

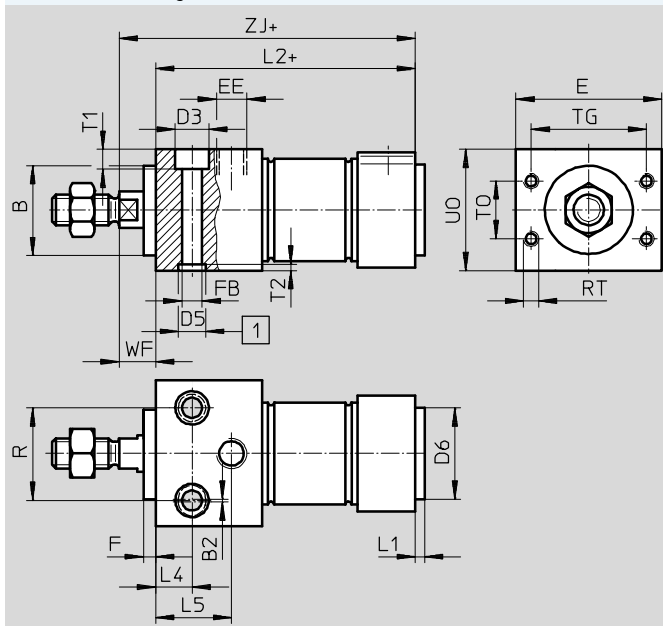
MQ – Lateral air connection



MA – Axial air connection



MH – Direct mounting



- 1 Centring holes  
(2 centring sleeves included in scope of delivery)  
+ = plus stroke length

| Ø<br>[mm] | B<br>Ø<br>h9 | B2 | E  | EE              | G  | F | FB<br>Ø | D2<br>Ø | D3   | D5<br>Ø | D6<br>Ø | L1 | L2              |      |       |
|-----------|--------------|----|----|-----------------|----|---|---------|---------|------|---------|---------|----|-----------------|------|-------|
|           |              |    |    |                 |    |   |         |         |      |         |         |    | DSNU-...<br>-MQ | -MA  | -MH   |
| 32        | 30           | 1  | 48 | G $\frac{1}{8}$ | 19 | 4 | 6.6     | 34      | 11   | 9       | 30      | 3  | 69.5            | 65.5 | 85.5  |
| 40        | 38           |    | 54 | G $\frac{1}{4}$ | 25 |   | 9       | 42      | 14   | 12      | 38      | 4  | 84.6            | 77.6 | 104.6 |
| 50        | 45           |    | 64 |                 | 28 |   | 11      | 53      |      | 18      | 15      |    | 45              | 86.2 | 86.2  |
| 63        |              | 2  | 72 | G $\frac{3}{8}$ |    |   |         | 66      | 94.2 |         |         |    |                 | 94.2 | 117.2 |

| Ø<br>[mm] | L3 | L4 | L5 | R  | RT | T0 | T1  | T2  | TG | U0 | WF | ZJ              |       |       |
|-----------|----|----|----|----|----|----|-----|-----|----|----|----|-----------------|-------|-------|
|           |    |    |    |    |    |    |     |     |    |    |    | DSNU-...<br>-MQ | -MA   | -MH   |
| 32        | 15 | 12 | 25 | 30 | M5 | 19 | 6.6 | 2.1 | 38 | 40 | 12 | 103.5           | 99.5  | 97.5  |
| 40        | 18 | 15 | 32 | 38 |    | 24 | 9   | 2.6 | 42 | 48 |    | 123.6           | 116.5 | 116.6 |
| 50        | 25 |    | 35 | 42 | M6 | 32 | 11  | 3.1 | 50 | 58 | 15 | 130.2           | 130.2 | 124.2 |
| 63        | 28 |    | 36 | 44 | M8 | 36 |     |     | 52 | 72 |    | 139.2           | 139.2 | 132.2 |

# Round cylinders DSNU

Technical data

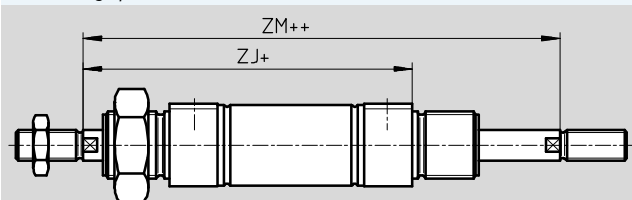
**FESTO**

## Dimensions

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

DSNU-32 ... 63

S2 – Through piston rod



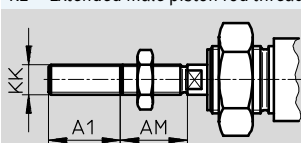
Note

The thread types at both piston rod ends are identical. In combination with variant Q, the left-hand piston rod end is square, the right-hand piston rod end round.

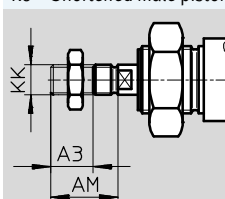
+ = plus stroke length

++ = plus 2x stroke length

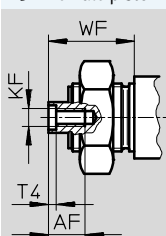
### K2 – Extended male piston rod thread



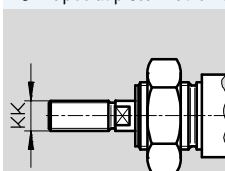
### K6 – Shortened male piston rod thread



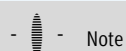
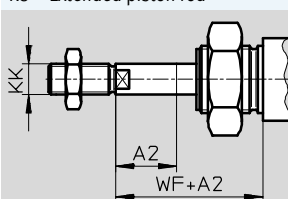
### K3 – Female piston rod thread



### K5 – Special piston rod thread



### K8 – Extended piston rod



Note

If variant K8 is required in combination with S2, the piston rod will only be extended on one side.

| Ø<br>[mm] | A1<br>max. | A2<br>max. | A3<br>max. | AF | AM | KF  | KK              |                                 | T4  | WF | ZJ       |       |       | ZM    |
|-----------|------------|------------|------------|----|----|-----|-----------------|---------------------------------|-----|----|----------|-------|-------|-------|
|           |            |            |            |    |    |     | Basic<br>thread | Special<br>thread <sup>1)</sup> |     |    | DSNU-... |       |       |       |
|           |            |            |            |    |    |     |                 |                                 |     |    | -MQ      | -MA   | -MH   |       |
| 32        | 35         | 500        | 8          | 12 | 22 | M6  | M10x1.25        | M10                             | 2.6 | 34 | 103.5    | 99.5  | 97.5  | 137.5 |
| 40        |            |            |            |    | 24 | M8  | M12x1.25        | M12                             | 3.3 | 39 | 123.6    | 111.6 | 116.6 | 162.6 |
| 50        | 70         |            | 10         | 16 | 32 | M10 | M16x1.5         | M16                             | 4.7 | 44 | 130.2    | 130.2 | 124.2 | 174.2 |
| 63        |            |            |            |    |    |     |                 |                                 |     | 45 | 139.2    | 139.2 | 132.2 | 184.2 |

1) The special threads are only available as male threads. The scope of delivery does not include a hex nut for the piston rod thread

# Round cylinders DSNU

Technical data

**FESTO**

| Ordering data        |        |                                                 |                 |                                                     |                   |                                                         |                   |
|----------------------|--------|-------------------------------------------------|-----------------|-----------------------------------------------------|-------------------|---------------------------------------------------------|-------------------|
| Piston $\varnothing$ | Stroke | P – Flexible cushioning rings/pads at both ends |                 | PPV – Pneumatic cushioning, adjustable at both ends |                   | PPS – Pneumatic cushioning, self-adjusting at both ends |                   |
|                      |        | A – With position sensing                       |                 | A – With position sensing                           |                   | A – With position sensing                               |                   |
| [mm]                 | [mm]   | Part No.                                        | Type            | Part No.                                            | Type              | Part No.                                                | Type              |
| 8                    | 10     | 19177                                           | DSNU-8-10-P-A   | –                                                   |                   | –                                                       |                   |
|                      | 15     | 1908247                                         | DSNU-8-15-P-A   |                                                     |                   |                                                         |                   |
|                      | 20     | 1908248                                         | DSNU-8-20-P-A   |                                                     |                   |                                                         |                   |
|                      | 25     | 19178                                           | DSNU-8-25-P-A   |                                                     |                   |                                                         |                   |
|                      | 30     | 1908249                                         | DSNU-8-30-P-A   |                                                     |                   |                                                         |                   |
|                      | 40     | 19179                                           | DSNU-8-40-P-A   |                                                     |                   |                                                         |                   |
|                      | 50     | 19180                                           | DSNU-8-50-P-A   |                                                     |                   |                                                         |                   |
|                      | 60     | 1908250                                         | DSNU-8-60-P-A   |                                                     |                   |                                                         |                   |
|                      | 80     | 19181                                           | DSNU-8-80-P-A   |                                                     |                   |                                                         |                   |
|                      | 100    | 19182                                           | DSNU-8-100-P-A  |                                                     |                   |                                                         |                   |
| 10                   | 10     | 19183                                           | DSNU-10-10-P-A  | –                                                   |                   | –                                                       |                   |
|                      | 15     | 1908251                                         | DSNU-10-15-P-A  |                                                     |                   |                                                         |                   |
|                      | 20     | 1908252                                         | DSNU-10-20-P-A  |                                                     |                   |                                                         |                   |
|                      | 25     | 19184                                           | DSNU-10-25-P-A  |                                                     |                   |                                                         |                   |
|                      | 30     | 1908253                                         | DSNU-10-30-P-A  |                                                     |                   |                                                         |                   |
|                      | 40     | 19185                                           | DSNU-10-40-P-A  |                                                     |                   |                                                         |                   |
|                      | 50     | 19186                                           | DSNU-10-50-P-A  |                                                     |                   |                                                         |                   |
|                      | 60     | 1908254                                         | DSNU-10-60-P-A  |                                                     |                   |                                                         |                   |
|                      | 80     | 19187                                           | DSNU-10-80-P-A  |                                                     |                   |                                                         |                   |
|                      | 100    | 19188                                           | DSNU-10-100-P-A |                                                     |                   |                                                         |                   |
| 12                   | 10     | 19189                                           | DSNU-12-10-P-A  | –                                                   |                   | –                                                       |                   |
|                      | 15     | 1908255                                         | DSNU-12-15-P-A  |                                                     |                   |                                                         |                   |
|                      | 20     | 1908256                                         | DSNU-12-20-P-A  |                                                     |                   |                                                         |                   |
|                      | 25     | 19190                                           | DSNU-12-25-P-A  |                                                     |                   |                                                         |                   |
|                      | 30     | 1908257                                         | DSNU-12-30-P-A  |                                                     |                   |                                                         |                   |
|                      | 40     | 19191                                           | DSNU-12-40-P-A  |                                                     |                   |                                                         |                   |
|                      | 50     | 19192                                           | DSNU-12-50-P-A  |                                                     |                   |                                                         |                   |
|                      | 60     | 1908258                                         | DSNU-12-60-P-A  |                                                     |                   |                                                         |                   |
|                      | 80     | 19193                                           | DSNU-12-80-P-A  |                                                     |                   |                                                         |                   |
|                      | 100    | 19194                                           | DSNU-12-100-P-A |                                                     |                   |                                                         |                   |
|                      | 125    | 19195                                           | DSNU-12-125-P-A |                                                     |                   |                                                         |                   |
|                      | 160    | 19196                                           | DSNU-12-160-P-A |                                                     |                   |                                                         |                   |
|                      | 200    | 19197                                           | DSNU-12-200-P-A |                                                     |                   |                                                         |                   |
| 16                   | 10     | 19198                                           | DSNU-16-10-P-A  | 1908266                                             | DSNU-16-10-PPV-A  | 1908274                                                 | DSNU-16-10-PPS-A  |
|                      | 15     | 1908259                                         | DSNU-16-15-P-A  | 1908267                                             | DSNU-16-15-PPV-A  | 1908275                                                 | DSNU-16-15-PPS-A  |
|                      | 20     | 1908260                                         | DSNU-16-20-P-A  | 1908268                                             | DSNU-16-20-PPV-A  | 1908276                                                 | DSNU-16-20-PPS-A  |
|                      | 25     | 19199                                           | DSNU-16-25-P-A  | 33973                                               | DSNU-16-25-PPV-A  | 559263                                                  | DSNU-16-25-PPS-A  |
|                      | 30     | 1908261                                         | DSNU-16-30-P-A  | 1908269                                             | DSNU-16-30-PPV-A  | 1908277                                                 | DSNU-16-30-PPS-A  |
|                      | 35     | 1908262                                         | DSNU-16-35-P-A  | 1908270                                             | DSNU-16-35-PPV-A  | 1908278                                                 | DSNU-16-35-PPS-A  |
|                      | 40     | 19200                                           | DSNU-16-40-P-A  | 19229                                               | DSNU-16-40-PPV-A  | 559264                                                  | DSNU-16-40-PPS-A  |
|                      | 50     | 19201                                           | DSNU-16-50-P-A  | 19230                                               | DSNU-16-50-PPV-A  | 559265                                                  | DSNU-16-50-PPS-A  |
|                      | 60     | 1908263                                         | DSNU-16-60-P-A  | 1908271                                             | DSNU-16-60-PPV-A  | 1908279                                                 | DSNU-16-60-PPS-A  |
|                      | 70     | 1908264                                         | DSNU-16-70-P-A  | 1908272                                             | DSNU-16-70-PPV-A  | 1908280                                                 | DSNU-16-70-PPS-A  |
|                      | 80     | 19202                                           | DSNU-16-80-P-A  | 19231                                               | DSNU-16-80-PPV-A  | 559266                                                  | DSNU-16-80-PPS-A  |
|                      | 100    | 19203                                           | DSNU-16-100-P-A | 19232                                               | DSNU-16-100-PPV-A | 559267                                                  | DSNU-16-100-PPS-A |
|                      | 125    | 19204                                           | DSNU-16-125-P-A | 19233                                               | DSNU-16-125-PPV-A | 559268                                                  | DSNU-16-125-PPS-A |
|                      | 150    | 1908265                                         | DSNU-16-150-P-A | 1908273                                             | DSNU-16-150-PPV-A | 1908281                                                 | DSNU-16-150-PPS-A |
|                      | 160    | 19205                                           | DSNU-16-160-P-A | 19234                                               | DSNU-16-160-PPV-A | 559269                                                  | DSNU-16-160-PPS-A |
|                      | 200    | 19206                                           | DSNU-16-200-P-A | 19235                                               | DSNU-16-200-PPV-A | 559270                                                  | DSNU-16-200-PPS-A |

# Round cylinders DSNU

Technical data

**FESTO**

| Ordering data    |                |                                                                                 |                 |                                                                                     |                   |                                                                                         |                   |
|------------------|----------------|---------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------------|-------------------|
| Piston Ø<br>[mm] | Stroke<br>[mm] | P – Flexible cushioning rings/pads<br>at both ends<br>A – With position sensing |                 | PPV – Pneumatic cushioning,<br>adjustable at both ends<br>A – With position sensing |                   | PPS – Pneumatic cushioning,<br>self-adjusting at both ends<br>A – With position sensing |                   |
|                  |                | Part No.                                                                        | Type            | Part No.                                                                            | Type              | Part No.                                                                                | Type              |
| 20               | 10             | 19207                                                                           | DSNU-20-10-P-A  | 1908289                                                                             | DSNU-20-10-PPV-A  | 1908297                                                                                 | DSNU-20-10-PPS-A  |
|                  | 15             | 1908282                                                                         | DSNU-20-15-P-A  | 1908290                                                                             | DSNU-20-15-PPV-A  | 1908298                                                                                 | DSNU-20-15-PPS-A  |
|                  | 20             | 1908283                                                                         | DSNU-20-20-P-A  | 1908291                                                                             | DSNU-20-20-PPV-A  | 1908299                                                                                 | DSNU-20-20-PPS-A  |
|                  | 25             | 19208                                                                           | DSNU-20-25-P-A  | 33974                                                                               | DSNU-20-25-PPV-A  | 559271                                                                                  | DSNU-20-25-PPS-A  |
|                  | 30             | 1908284                                                                         | DSNU-20-30-P-A  | 1908292                                                                             | DSNU-20-30-PPV-A  | 1908300                                                                                 | DSNU-20-30-PPS-A  |
|                  | 35             | 1908285                                                                         | DSNU-20-35-P-A  | 1908293                                                                             | DSNU-20-35-PPV-A  | 1908301                                                                                 | DSNU-20-35-PPS-A  |
|                  | 40             | 19209                                                                           | DSNU-20-40-P-A  | 19236                                                                               | DSNU-20-40-PPV-A  | 559272                                                                                  | DSNU-20-40-PPS-A  |
|                  | 50             | 19210                                                                           | DSNU-20-50-P-A  | 19237                                                                               | DSNU-20-50-PPV-A  | 559273                                                                                  | DSNU-20-50-PPS-A  |
|                  | 60             | 1908286                                                                         | DSNU-20-60-P-A  | 1908294                                                                             | DSNU-20-60-PPV-A  | 1908302                                                                                 | DSNU-20-60-PPS-A  |
|                  | 70             | 1908287                                                                         | DSNU-20-70-P-A  | 1908295                                                                             | DSNU-20-70-PPV-A  | 1908303                                                                                 | DSNU-20-70-PPS-A  |
|                  | 80             | 19211                                                                           | DSNU-20-80-P-A  | 19238                                                                               | DSNU-20-80-PPV-A  | 559274                                                                                  | DSNU-20-80-PPS-A  |
|                  | 100            | 19212                                                                           | DSNU-20-100-P-A | 19239                                                                               | DSNU-20-100-PPV-A | 559275                                                                                  | DSNU-20-100-PPS-A |
|                  | 125            | 19213                                                                           | DSNU-20-125-P-A | 19240                                                                               | DSNU-20-125-PPV-A | 559276                                                                                  | DSNU-20-125-PPS-A |
|                  | 150            | 1908288                                                                         | DSNU-20-150-P-A | 1908296                                                                             | DSNU-20-150-PPV-A | 1908304                                                                                 | DSNU-20-150-PPS-A |
|                  | 160            | 19214                                                                           | DSNU-20-160-P-A | 19241                                                                               | DSNU-20-160-PPV-A | 559277                                                                                  | DSNU-20-160-PPS-A |
|                  | 200            | 19215                                                                           | DSNU-20-200-P-A | 19242                                                                               | DSNU-20-200-PPV-A | 559278                                                                                  | DSNU-20-200-PPS-A |
|                  | 250            | 19216                                                                           | DSNU-20-250-P-A | 19243                                                                               | DSNU-20-250-PPV-A | 559279                                                                                  | DSNU-20-250-PPS-A |
|                  | 300            | 19217                                                                           | DSNU-20-300-P-A | 19244                                                                               | DSNU-20-300-PPV-A | 559280                                                                                  | DSNU-20-300-PPS-A |
|                  | 320            | 34718                                                                           | DSNU-20-320-P-A | 34720                                                                               | DSNU-20-320-PPV-A | 559281                                                                                  | DSNU-20-320-PPS-A |
| 25               | 10             | 19218                                                                           | DSNU-25-10-P-A  | 1908312                                                                             | DSNU-25-10-PPV-A  | 1908320                                                                                 | DSNU-25-10-PPS-A  |
|                  | 15             | 1908305                                                                         | DSNU-25-15-P-A  | 1908313                                                                             | DSNU-25-15-PPV-A  | 1908321                                                                                 | DSNU-25-15-PPS-A  |
|                  | 20             | 1908306                                                                         | DSNU-25-20-P-A  | 1908314                                                                             | DSNU-25-20-PPV-A  | 1908322                                                                                 | DSNU-25-20-PPS-A  |
|                  | 25             | 19219                                                                           | DSNU-25-25-P-A  | 33975                                                                               | DSNU-25-25-PPV-A  | 559282                                                                                  | DSNU-25-25-PPS-A  |
|                  | 30             | 1908307                                                                         | DSNU-25-30-P-A  | 1908315                                                                             | DSNU-25-30-PPV-A  | 1908323                                                                                 | DSNU-25-30-PPS-A  |
|                  | 35             | 1908308                                                                         | DSNU-25-35-P-A  | 1908316                                                                             | DSNU-25-35-PPV-A  | 1908324                                                                                 | DSNU-25-35-PPS-A  |
|                  | 40             | 19220                                                                           | DSNU-25-40-P-A  | 19245                                                                               | DSNU-25-40-PPV-A  | 559283                                                                                  | DSNU-25-40-PPS-A  |
|                  | 50             | 19221                                                                           | DSNU-25-50-P-A  | 19246                                                                               | DSNU-25-50-PPV-A  | 559284                                                                                  | DSNU-25-50-PPS-A  |
|                  | 60             | 1908309                                                                         | DSNU-25-60-P-A  | 1908317                                                                             | DSNU-25-60-PPV-A  | 1908325                                                                                 | DSNU-25-60-PPS-A  |
|                  | 70             | 1908310                                                                         | DSNU-25-70-P-A  | 1908318                                                                             | DSNU-25-70-PPV-A  | 1908326                                                                                 | DSNU-25-70-PPS-A  |
|                  | 80             | 19222                                                                           | DSNU-25-80-P-A  | 19247                                                                               | DSNU-25-80-PPV-A  | 559285                                                                                  | DSNU-25-80-PPS-A  |
|                  | 100            | 19223                                                                           | DSNU-25-100-P-A | 19248                                                                               | DSNU-25-100-PPV-A | 559286                                                                                  | DSNU-25-100-PPS-A |
|                  | 125            | 19224                                                                           | DSNU-25-125-P-A | 19249                                                                               | DSNU-25-125-PPV-A | 559287                                                                                  | DSNU-25-125-PPS-A |
|                  | 150            | 1908311                                                                         | DSNU-25-150-P-A | 1908319                                                                             | DSNU-25-150-PPV-A | 1908327                                                                                 | DSNU-25-150-PPS-A |
|                  | 160            | 19225                                                                           | DSNU-25-160-P-A | 19250                                                                               | DSNU-25-160-PPV-A | 559288                                                                                  | DSNU-25-160-PPS-A |
|                  | 200            | 19226                                                                           | DSNU-25-200-P-A | 19251                                                                               | DSNU-25-200-PPV-A | 559289                                                                                  | DSNU-25-200-PPS-A |
|                  | 250            | 19227                                                                           | DSNU-25-250-P-A | 19252                                                                               | DSNU-25-250-PPV-A | 559290                                                                                  | DSNU-25-250-PPS-A |
|                  | 300            | 19228                                                                           | DSNU-25-300-P-A | 19253                                                                               | DSNU-25-300-PPV-A | 559291                                                                                  | DSNU-25-300-PPS-A |
|                  | 320            | 34719                                                                           | DSNU-25-320-P-A | 34721                                                                               | DSNU-25-320-PPV-A | 559292                                                                                  | DSNU-25-320-PPS-A |
|                  | 400            | 35191                                                                           | DSNU-25-400-P-A | 35193                                                                               | DSNU-25-400-PPV-A | 559293                                                                                  | DSNU-25-400-PPS-A |
|                  | 500            | 35192                                                                           | DSNU-25-500-P-A | 35194                                                                               | DSNU-25-500-PPV-A | 559294                                                                                  | DSNU-25-500-PPS-A |

# Round cylinders DSNU

Technical data

**FESTO**

| Ordering data    |                |                                                                                  |                 |                                                                                     |                   |                                                                                         |                   |
|------------------|----------------|----------------------------------------------------------------------------------|-----------------|-------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------------|-------------------|
| Piston Ø<br>[mm] | Stroke<br>[mm] | P – Flexible cushioning rings/<br>pads at both ends<br>A – With position sensing |                 | PPV – Pneumatic cushioning,<br>adjustable at both ends<br>A – With position sensing |                   | PPS – Pneumatic cushioning,<br>self-adjusting at both ends<br>A – With position sensing |                   |
|                  |                | Part No.                                                                         | Type            | Part No.                                                                            | Type              | Part No.                                                                                | Type              |
| 32               | 25             | 195980                                                                           | DSNU-32-25-P-A  | 196020                                                                              | DSNU-32-25-PPV-A  | 559295                                                                                  | DSNU-32-25-PPS-A  |
|                  | 40             | 195981                                                                           | DSNU-32-40-P-A  | 196021                                                                              | DSNU-32-40-PPV-A  | 559296                                                                                  | DSNU-32-40-PPS-A  |
|                  | 50             | 195982                                                                           | DSNU-32-50-P-A  | 196022                                                                              | DSNU-32-50-PPV-A  | 559297                                                                                  | DSNU-32-50-PPS-A  |
|                  | 80             | 195983                                                                           | DSNU-32-80-P-A  | 196023                                                                              | DSNU-32-80-PPV-A  | 559298                                                                                  | DSNU-32-80-PPS-A  |
|                  | 100            | 195984                                                                           | DSNU-32-100-P-A | 196024                                                                              | DSNU-32-100-PPV-A | 559299                                                                                  | DSNU-32-100-PPS-A |
|                  | 125            | 195985                                                                           | DSNU-32-125-P-A | 196025                                                                              | DSNU-32-125-PPV-A | 559300                                                                                  | DSNU-32-125-PPS-A |
|                  | 160            | 195986                                                                           | DSNU-32-160-P-A | 196026                                                                              | DSNU-32-160-PPV-A | 559301                                                                                  | DSNU-32-160-PPS-A |
|                  | 200            | 195987                                                                           | DSNU-32-200-P-A | 196027                                                                              | DSNU-32-200-PPV-A | 559302                                                                                  | DSNU-32-200-PPS-A |
|                  | 250            | 195988                                                                           | DSNU-32-250-P-A | 196028                                                                              | DSNU-32-250-PPV-A | 559303                                                                                  | DSNU-32-250-PPS-A |
|                  | 320            | 195989                                                                           | DSNU-32-320-P-A | 196029                                                                              | DSNU-32-320-PPV-A | 559304                                                                                  | DSNU-32-320-PPS-A |
| 40               | 25             | 195990                                                                           | DSNU-40-25-P-A  | 196030                                                                              | DSNU-40-25-PPV-A  | 559305                                                                                  | DSNU-40-25-PPS-A  |
|                  | 40             | 195991                                                                           | DSNU-40-40-P-A  | 196031                                                                              | DSNU-40-40-PPV-A  | 559306                                                                                  | DSNU-40-40-PPS-A  |
|                  | 50             | 195992                                                                           | DSNU-40-50-P-A  | 196032                                                                              | DSNU-40-50-PPV-A  | 559307                                                                                  | DSNU-40-50-PPS-A  |
|                  | 80             | 195993                                                                           | DSNU-40-80-P-A  | 196033                                                                              | DSNU-40-80-PPV-A  | 559308                                                                                  | DSNU-40-80-PPS-A  |
|                  | 100            | 195994                                                                           | DSNU-40-100-P-A | 196034                                                                              | DSNU-40-100-PPV-A | 559309                                                                                  | DSNU-40-100-PPS-A |
|                  | 125            | 195995                                                                           | DSNU-40-125-P-A | 196035                                                                              | DSNU-40-125-PPV-A | 559310                                                                                  | DSNU-40-125-PPS-A |
|                  | 160            | 195996                                                                           | DSNU-40-160-P-A | 196036                                                                              | DSNU-40-160-PPV-A | 559311                                                                                  | DSNU-40-160-PPS-A |
|                  | 200            | 195997                                                                           | DSNU-40-200-P-A | 196037                                                                              | DSNU-40-200-PPV-A | 559312                                                                                  | DSNU-40-200-PPS-A |
|                  | 250            | 195998                                                                           | DSNU-40-250-P-A | 196038                                                                              | DSNU-40-250-PPV-A | 559313                                                                                  | DSNU-40-250-PPS-A |
|                  | 320            | 195999                                                                           | DSNU-40-320-P-A | 196039                                                                              | DSNU-40-320-PPV-A | 559314                                                                                  | DSNU-40-320-PPS-A |
| 50               | 25             | 196000                                                                           | DSNU-50-25-P-A  | 196040                                                                              | DSNU-50-25-PPV-A  | 559315                                                                                  | DSNU-50-25-PPS-A  |
|                  | 40             | 196001                                                                           | DSNU-50-40-P-A  | 196041                                                                              | DSNU-50-40-PPV-A  | 559316                                                                                  | DSNU-50-40-PPS-A  |
|                  | 50             | 196002                                                                           | DSNU-50-50-P-A  | 196042                                                                              | DSNU-50-50-PPV-A  | 559317                                                                                  | DSNU-50-50-PPS-A  |
|                  | 80             | 196003                                                                           | DSNU-50-80-P-A  | 196043                                                                              | DSNU-50-80-PPV-A  | 559318                                                                                  | DSNU-50-80-PPS-A  |
|                  | 100            | 196004                                                                           | DSNU-50-100-P-A | 196044                                                                              | DSNU-50-100-PPV-A | 559319                                                                                  | DSNU-50-100-PPS-A |
|                  | 125            | 196005                                                                           | DSNU-50-125-P-A | 196045                                                                              | DSNU-50-125-PPV-A | 559320                                                                                  | DSNU-50-125-PPS-A |
|                  | 160            | 196006                                                                           | DSNU-50-160-P-A | 196046                                                                              | DSNU-50-160-PPV-A | 559321                                                                                  | DSNU-50-160-PPS-A |
|                  | 200            | 196007                                                                           | DSNU-50-200-P-A | 196047                                                                              | DSNU-50-200-PPV-A | 559322                                                                                  | DSNU-50-200-PPS-A |
|                  | 250            | 196008                                                                           | DSNU-50-250-P-A | 196048                                                                              | DSNU-50-250-PPV-A | 559323                                                                                  | DSNU-50-250-PPS-A |
|                  | 320            | 196009                                                                           | DSNU-50-320-P-A | 196049                                                                              | DSNU-50-320-PPV-A | 559324                                                                                  | DSNU-50-320-PPS-A |
| 63               | 25             | 196010                                                                           | DSNU-63-25-P-A  | 196050                                                                              | DSNU-63-25-PPV-A  | 559325                                                                                  | DSNU-63-25-PPS-A  |
|                  | 40             | 196011                                                                           | DSNU-63-40-P-A  | 196051                                                                              | DSNU-63-40-PPV-A  | 559326                                                                                  | DSNU-63-40-PPS-A  |
|                  | 50             | 196012                                                                           | DSNU-63-50-P-A  | 196052                                                                              | DSNU-63-50-PPV-A  | 559327                                                                                  | DSNU-63-50-PPS-A  |
|                  | 80             | 196013                                                                           | DSNU-63-80-P-A  | 196053                                                                              | DSNU-63-80-PPV-A  | 559328                                                                                  | DSNU-63-80-PPS-A  |
|                  | 100            | 196014                                                                           | DSNU-63-100-P-A | 196054                                                                              | DSNU-63-100-PPV-A | 559329                                                                                  | DSNU-63-100-PPS-A |
|                  | 125            | 196015                                                                           | DSNU-63-125-P-A | 196055                                                                              | DSNU-63-125-PPV-A | 559330                                                                                  | DSNU-63-125-PPS-A |
|                  | 160            | 196016                                                                           | DSNU-63-160-P-A | 196056                                                                              | DSNU-63-160-PPV-A | 559331                                                                                  | DSNU-63-160-PPS-A |
|                  | 200            | 196017                                                                           | DSNU-63-200-P-A | 196057                                                                              | DSNU-63-200-PPV-A | 559332                                                                                  | DSNU-63-200-PPS-A |
|                  | 250            | 196018                                                                           | DSNU-63-250-P-A | 196058                                                                              | DSNU-63-250-PPV-A | 559333                                                                                  | DSNU-63-250-PPS-A |
|                  | 320            | 196019                                                                           | DSNU-63-320-P-A | 196059                                                                              | DSNU-63-320-PPV-A | 559334                                                                                  | DSNU-63-320-PPS-A |

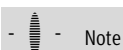
# Round cylinders DSNU

Technical data

**FESTO**

| Ordering data |        |                                                                                      |                 |
|---------------|--------|--------------------------------------------------------------------------------------|-----------------|
| Piston Ø      | Stroke | PPS – Pneumatic cushioning, self-adjustable at both ends<br>Without position sensing |                 |
| [mm]          | [mm]   | Part No.                                                                             | Type            |
| 16            | 40     | 559234                                                                               | DSNU-16-40-PPS  |
|               | 50     | 559235                                                                               | DSNU-16-50-PPS  |
|               | 80     | 559236                                                                               | DSNU-16-80-PPS  |
|               | 100    | 559237                                                                               | DSNU-16-100-PPS |
|               | 125    | 559238                                                                               | DSNU-16-125-PPS |
|               | 160    | 559239                                                                               | DSNU-16-160-PPS |
|               | 200    | 559240                                                                               | DSNU-16-200-PPS |
| 20            | 40     | 559241                                                                               | DSNU-20-40-PPS  |
|               | 50     | 559242                                                                               | DSNU-20-50-PPS  |
|               | 80     | 559243                                                                               | DSNU-20-80-PPS  |
|               | 100    | 559244                                                                               | DSNU-20-100-PPS |
|               | 125    | 559245                                                                               | DSNU-20-125-PPS |
|               | 160    | 559246                                                                               | DSNU-20-160-PPS |
|               | 200    | 559247                                                                               | DSNU-20-200-PPS |
|               | 250    | 559248                                                                               | DSNU-20-250-PPS |
|               | 300    | 559249                                                                               | DSNU-20-300-PPS |
| 25            | 40     | 559251                                                                               | DSNU-25-40-PPS  |
|               | 50     | 559252                                                                               | DSNU-25-50-PPS  |
|               | 80     | 559253                                                                               | DSNU-25-80-PPS  |
|               | 100    | 559254                                                                               | DSNU-25-100-PPS |
|               | 125    | 559255                                                                               | DSNU-25-125-PPS |
|               | 160    | 559256                                                                               | DSNU-25-160-PPS |
|               | 200    | 559257                                                                               | DSNU-25-200-PPS |
|               | 250    | 559258                                                                               | DSNU-25-250-PPS |
|               | 300    | 559259                                                                               | DSNU-25-300-PPS |
|               | 320    | 559260                                                                               | DSNU-25-320-PPS |
|               | 400    | 559261                                                                               | DSNU-25-400-PPS |
|               | 500    | 559262                                                                               | DSNU-25-500-PPS |

| Ordering data           |            |                                                                              |                                                                                  |
|-------------------------|------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Piston Ø                | Stroke     | P – Flexible cushioning rings/pads at both ends<br>A – With position sensing | PPV – Pneumatic cushioning, adjustable at both ends<br>A – With position sensing |
| [mm]                    | [mm]       | Part No.                                                                     | Type                                                                             |
| Variable stroke lengths |            | Variable stroke lengths                                                      |                                                                                  |
| 8                       | 10 ... 100 | 14326                                                                        | DSNU-8-...-P-A                                                                   |
| 10                      | 10 ... 100 | 14325                                                                        | DSNU-10-...-P-A                                                                  |
| 12                      | 10 ... 200 | 14324                                                                        | DSNU-12-...-P-A                                                                  |
| 16                      | 10 ... 200 | 14323                                                                        | DSNU-16-...-P-A                                                                  |
| 20                      | 10 ... 320 | 14328                                                                        | DSNU-20-...-P-A                                                                  |
| 25                      | 10 ... 500 | 14327                                                                        | DSNU-25-...-P-A                                                                  |
|                         |            | 14320                                                                        | DSNU-16-...-PPV-A                                                                |
|                         |            | 14321                                                                        | DSNU-20-...-PPV-A                                                                |
|                         |            | 14322                                                                        | DSNU-25-...-PPV-A                                                                |



Note

Additional variants can be configured and ordered via the DSNU product modules → 28.

# Round cylinders DSNU

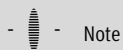
Ordering data – Modular products

FESTO

| Ordering table |                    |                                                              |               |                                               |                                                   |               |                 |             |               |
|----------------|--------------------|--------------------------------------------------------------|---------------|-----------------------------------------------|---------------------------------------------------|---------------|-----------------|-------------|---------------|
| Size           | 8                  | 10                                                           | 12            | 16                                            | 20                                                | 25            | Condi-<br>tions | Code        | Enter<br>code |
| <b>M</b>       | Module No.         | <b>193986</b>                                                | <b>193987</b> | <b>193988</b>                                 | <b>193989</b>                                     | <b>193990</b> | <b>193991</b>   |             |               |
|                | Function           | Standard cylinder, double-acting, based on ISO 6432          |               |                                               |                                                   |               |                 | <b>DSNU</b> | DSNU          |
|                | Piston Ø [mm]      | 8                                                            | 10            | 12                                            | 16                                                | 20            | 25              | -...        |               |
|                | Stroke [mm]        | 1 ... 100                                                    |               | 1 ... 200                                     |                                                   | 1 ... 320     | 1 ... 500       | <b>1</b>    | -...          |
|                | Cushioning         | Flexible cushioning rings/pads at both ends                  |               |                                               |                                                   |               |                 | <b>-P</b>   |               |
|                |                    | -                                                            | -             | Pneumatic cushioning, adjustable at both ends |                                                   |               | <b>2</b>        | <b>-PPV</b> |               |
|                |                    | -                                                            | -             | -                                             | Pneumatic cushioning, self-adjusting at both ends |               | <b>3</b>        | <b>-PPS</b> |               |
| <b>O</b>       | Position sensing   | Via proximity sensor                                         |               |                                               |                                                   |               | <b>4</b>        | <b>-A</b>   |               |
|                | Cylinder end cap   | Lateral supply port, end cap                                 |               |                                               |                                                   |               | <b>5</b>        | <b>-MQ</b>  |               |
|                |                    | Axial supply port, end cap                                   |               |                                               |                                                   |               | <b>5</b>        | <b>-MA</b>  |               |
|                |                    | With mounting flange at front (direct mounting), bearing cap |               |                                               |                                                   |               | <b>6</b>        | <b>-MH</b>  |               |
| <b>↓</b>       | Type of piston rod | Through piston rod                                           |               |                                               |                                                   |               | <b>7</b>        | <b>-S2</b>  |               |

- 1** -... Longer strokes on request
- 2** **PPV** Not with MA.  
In combination with S6, S10, S11 not with piston Ø 12 mm
- 3** **PPS** Not with MA, MH, S6, S10, S11  
and not with combination MQ-R3

- 4** **A** Minimum stroke: 10 mm
- 5** **MQ, MA** Not with S2, S10, S11
- 6** **MH** Not with combination S6-R3.  
Not with S10, S11
- 7** **S2** Not with S10, S11



The bellows kit DADB must not be used in combination with the variant MH.  
The running characteristics change slightly when the bellows kit DADB is combined with the variant S10 or S11.

- M** Mandatory data
- O** Options

Transfer order code

|  |      |   |  |   |  |   |  |   |  |   |  |
|--|------|---|--|---|--|---|--|---|--|---|--|
|  | DSNU | - |  | - |  | - |  | - |  | - |  |
|--|------|---|--|---|--|---|--|---|--|---|--|

# Round cylinders DSNU

Ordering data – Modular products

FESTO

| Ordering table |                                |          |                                                    |    |                                                   |           |      |                 |          |               |
|----------------|--------------------------------|----------|----------------------------------------------------|----|---------------------------------------------------|-----------|------|-----------------|----------|---------------|
| Size           |                                | 8        | 10                                                 | 12 | 16                                                | 20        | 25   | Condi-<br>tions | Code     | Enter<br>code |
| ↓              | Extended male thread           |          | Extended male piston rod thread                    |    |                                                   |           |      |                 |          |               |
| 0              | [mm]                           | 1 ... 15 | 1 ... 20                                           |    | 1 ... 25                                          | 1 ... 35  | 8    | -...K2          |          |               |
|                | Shortened male thread          |          | Shortened male piston rod thread                   |    |                                                   |           |      |                 |          |               |
|                | [mm]                           | 1 ... 4  |                                                    |    | 1 ... 8                                           | 1 ... 10  | 9    | -...K6          |          |               |
|                | Female thread                  |          | Female piston rod thread                           |    |                                                   |           |      |                 |          |               |
|                |                                | –        | –                                                  | –  | –                                                 | (M4)      | (M6) | 10              | -K3      |               |
|                | Special thread                 |          | Piston rod with special thread                     |    |                                                   |           |      |                 |          |               |
|                |                                | –        | –                                                  | –  | –                                                 | –         | M10  |                 | –“...”K5 |               |
|                | Piston rod extended at one end |          | Extended piston rod at one end                     |    |                                                   |           |      |                 |          |               |
|                | [mm]                           | 1 ... 50 | 1 ... 100                                          |    | 1 ... 110                                         | 1 ... 150 |      | ...K8           |          |               |
|                | Temperature resistance         |          | Heat-resistant seals for temperatures up to 120 °C |    |                                                   |           |      | 11              | -S6      |               |
|                | Slow speed (constant motion)   |          | –                                                  | –  | Slow speed (constant motion at low piston speeds) |           |      | 12              | -S10     |               |
|                | Low friction                   |          | –                                                  | –  | Low friction                                      |           |      | 13              | -S11     |               |
|                | Corrosion protection           |          | –                                                  | –  | High corrosion protection                         |           |      |                 | -R3      |               |
|                | EU certification               |          | II 2GD                                             |    |                                                   |           |      | 14              | -EX4     |               |

- [8] **K2** Not with K3, K6  
 [9] **K6** Not with K3  
 [10] **K3** Not with K5  
 [11] **S6** Not with S10, S11

- [12] **S10** Not with S11, R3  
 [13] **S11** Not with R3  
 [14] **EX4** Not with S6

- [M] Mandatory data  
 [O] Options

Transfer order code

- [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

# Round cylinders DSNU

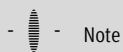
Ordering data – Modular products

FESTO

| Ordering table            |                                                         |               |               |               |                 |             |               |
|---------------------------|---------------------------------------------------------|---------------|---------------|---------------|-----------------|-------------|---------------|
| Size                      | 32                                                      | 40            | 50            | 63            | Condi-<br>tions | Code        | Enter<br>code |
| <b>M</b> Module No.       | <b>193992</b>                                           | <b>193993</b> | <b>193994</b> | <b>193995</b> |                 |             |               |
| Function                  | Double-acting round cylinder                            |               |               |               |                 | <b>DSNU</b> | DSNU          |
| Piston Ø [mm]             | 32                                                      | 40            | 50            | 63            |                 | -...        |               |
| Stroke [mm]               | 1 ... 500                                               |               |               |               | <b>1</b>        | -...        |               |
| Cushioning                | Flexible cushioning rings/pads at both ends             |               |               |               |                 | -P          |               |
|                           | Pneumatic cushioning, adjustable at both ends           |               |               |               | <b>2</b>        | -PPV        |               |
|                           | Pneumatic cushioning, self-adjusting at both ends       |               |               |               | <b>3</b>        | -PPS        |               |
| <b>O</b> Position sensing | Via proximity sensor                                    |               |               |               | <b>4</b>        | -A          |               |
| Cylinder end cap          | Lateral air connection, end cap                         |               |               |               | <b>5</b>        | -MQ         |               |
|                           | Axial air connection, end cap                           |               |               |               | <b>6</b>        | -MA         |               |
|                           | Mounting flange at front (direct mounting), bearing cap |               |               |               | <b>7</b>        | -MH         |               |
| Type of piston rod        | Through piston rod                                      |               |               |               | <b>8</b>        | -S2         |               |

- 1** -... Longer strokes on request  
**2** **PPV** Not with MA  
**3** **PPS** Not with MA, MH, S6, S10, S11 and not with combination MQ-R3  
**4** **A** Minimum stroke: 10 mm  
**5** **MQ** Not with S2, S10, S11  
**6** **MA** Not with S2, S10, S11, R8

- 7** **MH** Not with combination S6-R3  
Not with S10, S11, R8  
**8** **S2** Not with MQ, MA, S10, S11



The bellows kit DADB must not be used in combination with the variant MH.  
The running characteristics change slightly when the bellows kit DADB is combined with the variant S10 or S11.

- M** Mandatory data  
**O** Options

Transfer order code

**DSNU** -  -  -  -  -  -

# Round cylinders DSNU

Ordering data – Modular products

FESTO

| Ordering table                      |                                                    |    |    |    |                 |          |               |
|-------------------------------------|----------------------------------------------------|----|----|----|-----------------|----------|---------------|
| Size                                | 32                                                 | 40 | 50 | 63 | Condi-<br>tions | Code     | Enter<br>code |
| ↓                                   |                                                    |    |    |    |                 |          |               |
| 0 Extended male thread [mm]         | Piston rod with extended male thread<br>1 ... 35   |    |    |    | 9               | -...K2   |               |
| Shortened male thread [mm]          | Piston rod with shortened male thread<br>1 ... 8   |    |    |    | 10              | -...K6   |               |
| Female thread                       | Piston rod with female thread<br>(M6) (M8) (M10)   |    |    |    | 11              | -K3      |               |
| Special thread                      | Piston rod with special thread<br>M10 M12 M16      |    |    |    |                 | -“...”K5 |               |
| Piston rod extended at one end [mm] | Extended piston rod at one end<br>1 ... 500        |    |    |    |                 | ...K8    |               |
| Temperature resistance              | Heat-resistant seals for temperatures up to 120 °C |    |    |    | 12              | -S6      |               |
| Slow speed (constant motion)        | Slow speed (constant motion at low piston speeds)  |    |    |    | 13              | -S10     |               |
| Running characteristics             | Low friction                                       |    |    |    | 14              | -S11     |               |
| Corrosion protection                | High corrosion protection                          |    |    |    | 15              | -R3      |               |
| Wiper seal                          | Dust protection                                    |    |    |    |                 | -R8      |               |
|                                     | Metal wiper seal                                   |    |    |    | 16              | -A6      |               |
| EU certification                    | II 2GD                                             |    |    |    | 17              | -EX4     |               |

- 9 **K2** Not with K3, K6  
 10 **K6** Not with K3  
 11 **K3** Not with K5  
 12 **S6** Not with S10, S11

- 13 **S10** Not with S11, R3, R8  
 14 **S11** Not with R3, R8  
 15 **R3** Not with R8  
 16 **A6** Not with S10, S11, MH, P, PPS, S6, R3, EX4  
 17 **EX4** Not with S6

- M Mandatory data  
 O Options

Transfer order code

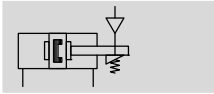
- [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

# Round cylinders DSNU-KP, with clamping unit

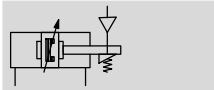
FESTO

## Technical data

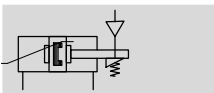
Function  
P cushioning



PPV cushioning



PPS cushioning



Ø - Diameter  
8 ... 25 mm  
ISO 6432

Ø - Diameter  
32 ... 63 mm

l - Stroke length  
1 ... 500 mm



⚠ - Note

Additional measures are required for use in safety-related applications; in Europe, for example, the standards listed under the EC Machinery Directive must be observed. Without addi-

tional measures in accordance with statutory minimum requirements, the product is not suitable for use in safety-related sections of control systems.

| General technical data             |                                             |    |                                               |                                        |           |           |          |          |         |         |
|------------------------------------|---------------------------------------------|----|-----------------------------------------------|----------------------------------------|-----------|-----------|----------|----------|---------|---------|
| Piston Ø                           | 8                                           | 10 | 12                                            | 16                                     | 20        | 25        | 32       | 40       | 50      | 63      |
| Conforms                           | ISO 6432                                    |    |                                               |                                        |           |           | –        |          |         |         |
| Pneumatic connection               | M5                                          | M5 | M5                                            | M5                                     | G1/8      | G1/8      | G1/8     | G1/4     | G1/4    | G3/8    |
| Piston rod thread                  | M4                                          | M4 | M6                                            | M6                                     | M8        | M10x1.25  | M10x1.25 | M12x1.25 | M16x1.5 | M16x1.5 |
| Stroke <sup>1)</sup> [mm]          | 1 ... 100                                   |    | 1 ... 200                                     |                                        | 1 ... 320 | 1 ... 500 |          |          |         |         |
| Constructional design              | Piston / Piston rod / Cylinder barrel       |    |                                               |                                        |           |           |          |          |         |         |
| Cushioning                         |                                             |    |                                               |                                        |           |           |          |          |         |         |
| DSNU-...-P                         | Flexible cushioning rings/pads at both ends |    |                                               |                                        |           |           |          |          |         |         |
| DSNU-...-PPV                       | –                                           |    | Pneumatic cushioning, adjustable at both ends |                                        |           |           |          |          |         |         |
| DSNU-...-PPS                       | –                                           |    |                                               | Self-adjusting cushioning at both ends |           |           |          |          |         |         |
| Cushioning length                  |                                             |    |                                               |                                        |           |           |          |          |         |         |
| DSNU-...-PPV [mm]                  | –                                           |    | 9                                             | 12                                     | 15        | 17        | 14       | 18       | 20      | 21      |
| DSNU-...-PPS [mm]                  | –                                           |    |                                               | 12                                     | 15        | 17        | 14       | 18       | 20      | 21      |
| Position sensing                   | Via proximity sensor                        |    |                                               |                                        |           |           |          |          |         |         |
| Type of mounting                   | Via through-holes                           |    |                                               |                                        |           |           |          |          |         |         |
|                                    | Via accessories                             |    |                                               |                                        |           |           |          |          |         |         |
| Mounting position                  | Any                                         |    |                                               |                                        |           |           |          |          |         |         |
| Clamping unit holding force [N]    | 80                                          | 80 | 180                                           | 180                                    | 350       | 350       | 600      | 1000     | 1400    | 2000    |
| Axial play under load [mm]         | 0.2                                         |    | 0.3                                           |                                        |           | 0.5       |          |          | 0.8     |         |
| Clamping unit pneumatic connection | M5                                          |    |                                               |                                        |           |           |          | G1/8     |         |         |

1) Cylinders with position sensing require a minimum stroke of 10 mm to ensure reliable sensing. Longer strokes on request.

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

# Round cylinders DSNU-KP, with clamping unit

## Technical data

| Operating and environmental conditions       |                                                                                                        |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Operating medium                             | Compressed air in accordance with ISO 8573-1:2010 [7:4:4]                                              |
| Note on operating/pilot medium               | Operation with lubricated medium possible (in which case lubricated operation will always be required) |
| Operating pressure [bar]                     | 3 ... 10                                                                                               |
| Ambient temperature <sup>1)</sup> [°C]       | -10 ... +80                                                                                            |
| Corrosion resistance class CRC <sup>2)</sup> |                                                                                                        |
| DSNU-...-                                    | 2                                                                                                      |
| DSNU-...-R3                                  | 3                                                                                                      |

1) Note operating range of proximity sensors.

2) 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.

Corrosion resistance class CRC 3 to Festo standard FN 940070

High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

| Force [N] and impact energy [J]                                                        |      |      |      |      |      |      |      |      |      |      |
|----------------------------------------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|
| Piston Ø                                                                               | 8    | 10   | 12   | 16   | 20   | 25   | 32   | 40   | 50   | 63   |
| Theoretical force at 6 bar, advancing                                                  | 30   | 47   | 68   | 121  | 189  | 295  | 483  | 753  | 1178 | 1870 |
| Theoretical force at 6 bar, retracting                                                 | 23   | 40   | 51   | 104  | 158  | 247  | 415  | 633  | 990  | 1682 |
| Max. impact energy at the end positions for flexible cushioning elements <sup>1)</sup> | 0.03 | 0.05 | 0.07 | 0.15 | 0.20 | 0.30 | 0.40 | 0.70 | 1    | 1.30 |

1) The values are reduced by approx. 50% at an ambient temperature of 80 °C

| Weight [g]                         |      |       |      |       |       |     |       |      |      |      |
|------------------------------------|------|-------|------|-------|-------|-----|-------|------|------|------|
| Piston Ø                           | 8    | 10    | 12   | 16    | 20    | 25  | 32    | 40   | 50   | 63   |
| Product weight with 0 mm stroke    | 97.6 | 100.3 | 193  | 207.9 | 393.8 | 456 | 711.5 | 1287 | 2059 | 2556 |
| Additional weight per 10 mm stroke | 2.4  | 2.7   | 4    | 4.6   | 7.2   | 11  | 15.5  | 24   | 40   | 44   |
| Moving load with 0 mm stroke       | 7.5  | 8.5   | 18.5 | 23    | 44    | 71  | 121   | 230  | 413  | 459  |
| Moving load per 10 mm stroke       | 1    | 1     | 2    | 2     | 4     | 6   | 9     | 16   | 25   | 25   |

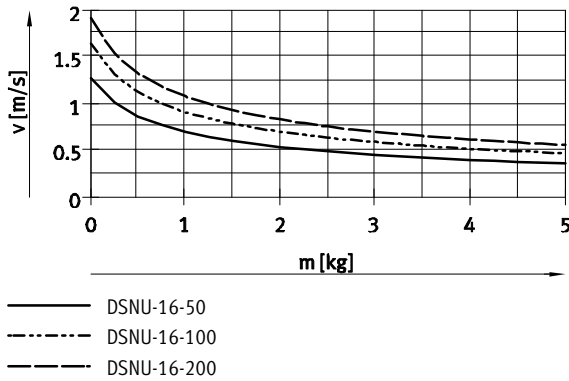
# Round cylinders DSNU-KP, with clamping unit

Technical data

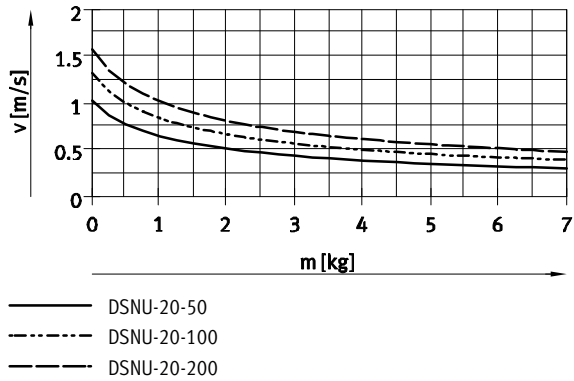
FESTO

## Average piston speed $v$ as a function of payload $m$ in combination with cushioning PPS

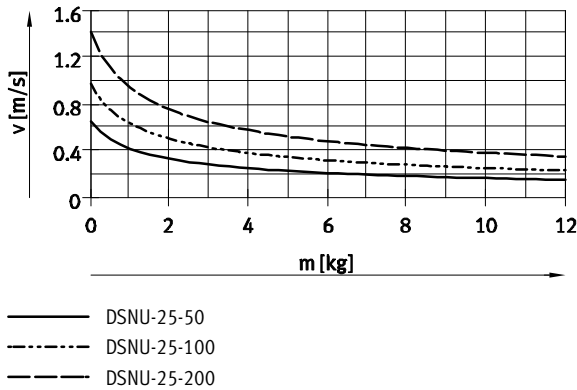
Piston  $\varnothing$  16



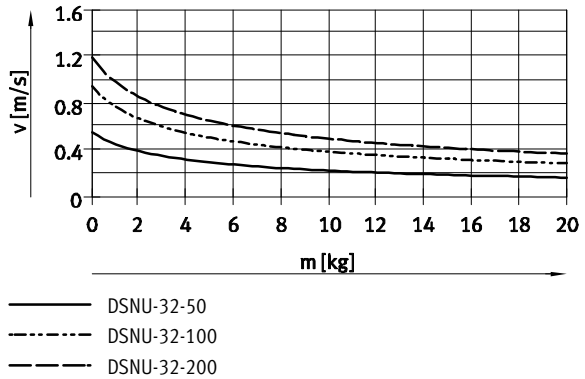
Piston  $\varnothing$  20



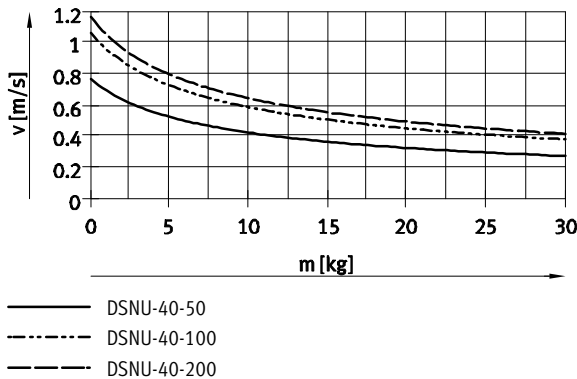
Piston  $\varnothing$  25



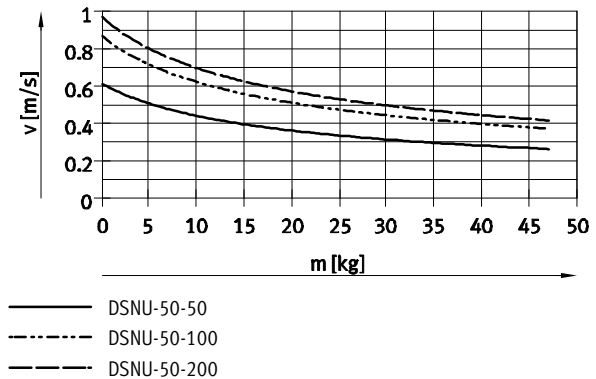
Piston  $\varnothing$  32



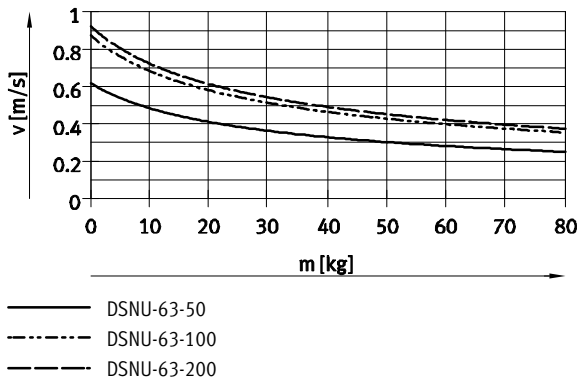
Piston  $\varnothing$  40



Piston  $\varnothing$  50



Piston  $\varnothing$  63



-  - Note  
Design software  
for flexible cushioning elements  
PPV cushioning  
→ ProDrive

Additional graphs  
for PPS cushioning  
→ [www.festo.com](http://www.festo.com)

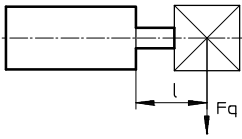
-  - Note  
Average piston speed  
= stroke/movement time

# Round cylinders DSNU-KP, with clamping unit

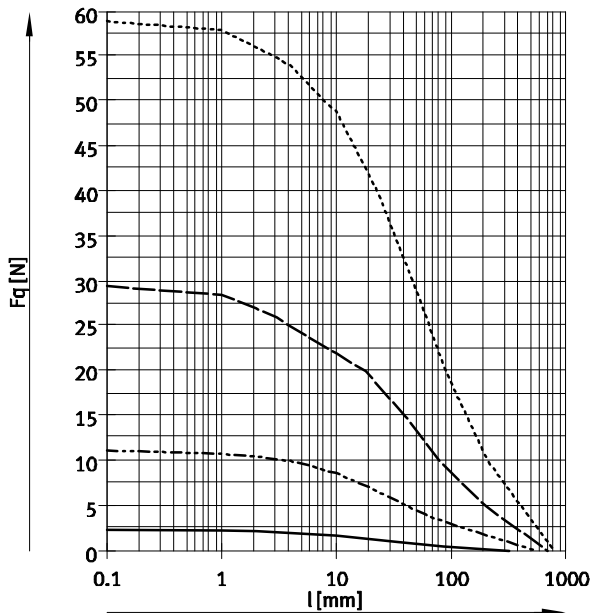
Technical data

FESTO

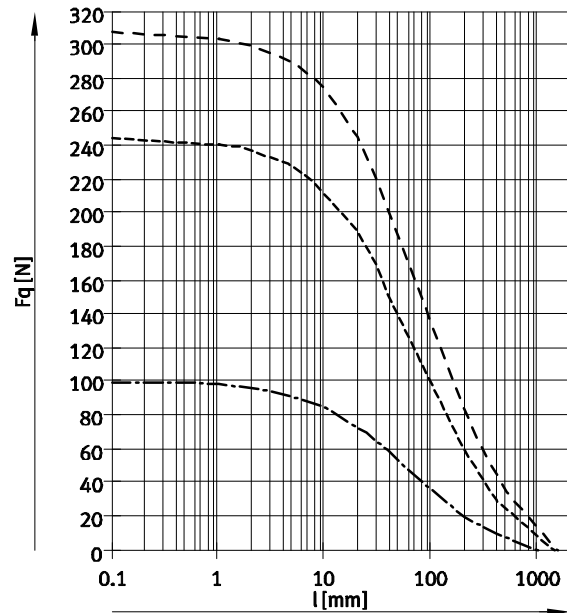
Max. lateral force  $F_q$  as a function of the projection  $l$



DSNU-...



— Ø 8/10  
 - - - Ø 12/16  
 — — — Ø 20  
 ······ Ø 25



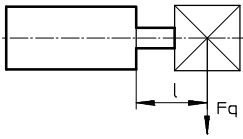
- · - · - Ø 32  
 - - - - - Ø 40  
 - - - - - Ø 50/63

# Round cylinders DSNU-KP, with clamping unit

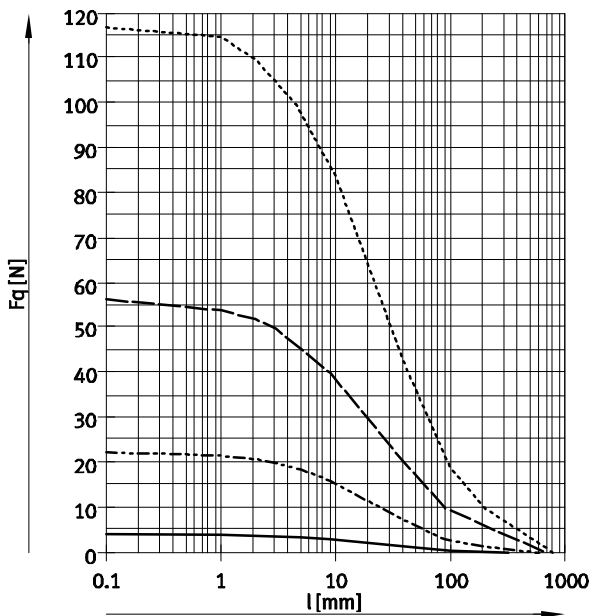
Technical data

FESTO

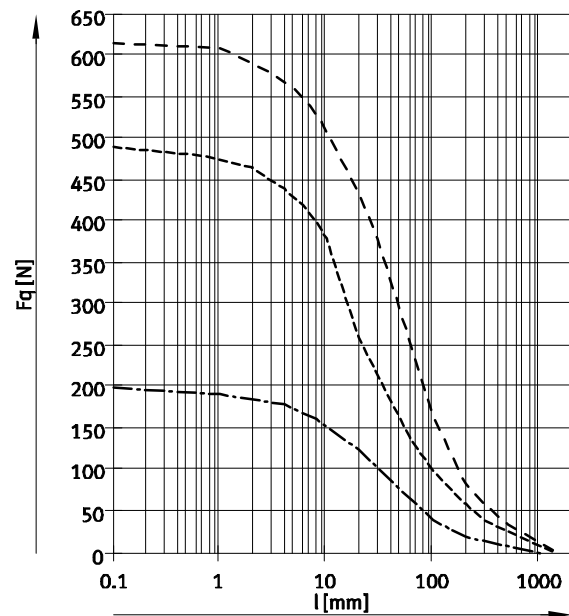
Max. lateral force  $F_q$  as a function of the projection  $l$



S2 – Through piston rod



— Ø 8/10  
 - - - Ø 12/16  
 — — — Ø 20  
 - · - · - Ø 25  
 - · - · - Ø 32



— · — · — Ø 32  
 - - - Ø 40  
 - - - - Ø 50/63  
 - · - · - Ø 20

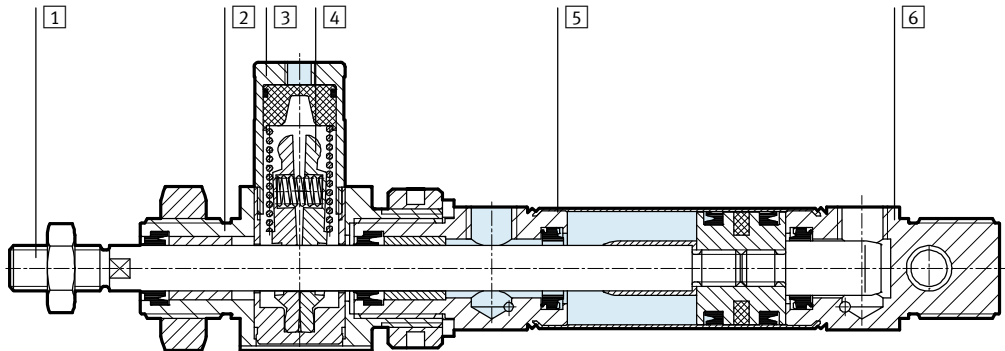
# Round cylinders DSNU-KP, with clamping unit

Technical data

FESTO

## Materials

Sectional view



## Round cylinder

|   |                        |                            |
|---|------------------------|----------------------------|
| 1 | Piston rod             |                            |
|   | DSNU-...               | High-alloy steel           |
|   | DSNU-...-R3            | High-alloy stainless steel |
| 2 | Bearing cap            | Anodised aluminium         |
| 3 | Housing, clamping unit | Wrought aluminium alloy    |
| 4 | Clamping jaws          | Brass                      |
| 5 | Cylinder barrel        | High-alloy stainless steel |
| 6 | End cap                | Anodised aluminium         |
| - | Piston, clamping unit  | Polyacetate                |
| - | Spring                 | Spring steel               |
| - | Seals                  | TPE-U(PU), NBR             |
|   | Note on materials      | RoHS compliant             |

# Round cylinders DSNU-KP, with clamping unit

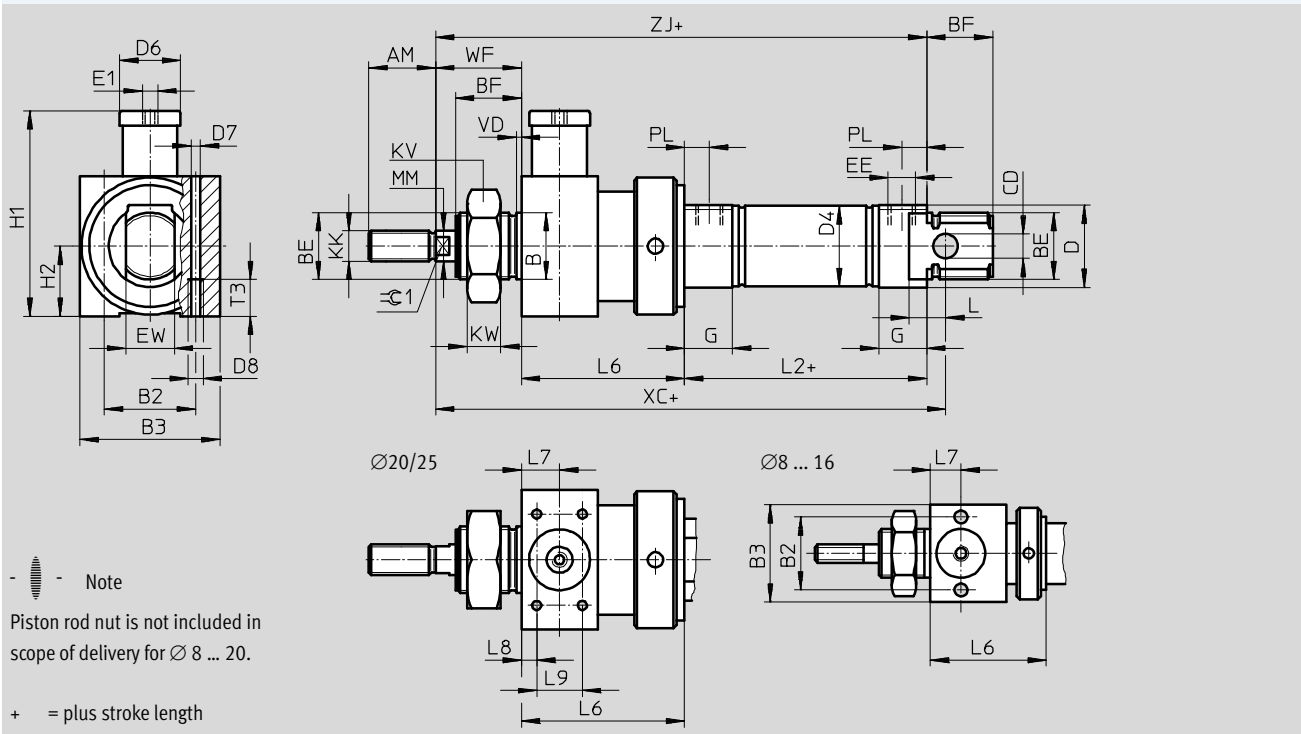
Technical data

**FESTO**

## Dimensions

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

DSNU-8 ... 25



| Ø<br>[mm] | AM | B<br>Ø<br>h9 | B2   | B3 | BE       | BF   | CD<br>Ø<br>H9 | D<br>Ø | D4<br>Ø | D6<br>Ø | D7<br>Ø | D8 |
|-----------|----|--------------|------|----|----------|------|---------------|--------|---------|---------|---------|----|
| 8         | 12 | 12           | 19.5 | 27 | M12x1.25 | 12   | 4             | 15     | 9.3     | 12      | 4.2     | M5 |
| 10        |    |              |      |    |          |      |               |        | 11.3    |         |         |    |
| 12        | 16 | 16           | 24   | 32 | M16x1.5  | 17   | 6             | 20     | 13.3    | 16      |         |    |
| 16        |    |              |      |    |          |      |               |        | 17.3    |         |         |    |
| 20        | 20 | 22           | 27   | 36 | M22x1.5  | 20   | 8             | 27     | 21.3    | 20      |         |    |
| 25        | 22 |              |      |    |          | 26.5 |               |        |         |         |         |    |

| Ø<br>[mm] | E1 | EE   | EW | G  | H1   | H2   | KK       | KV | KW | MM<br>Ø | L  | L2   |
|-----------|----|------|----|----|------|------|----------|----|----|---------|----|------|
| 8         | M5 | M5   | 8  | 10 | 34.5 | 13.5 | M4       | 19 | 6  | 4       | 6  | 46   |
| 10        |    |      | 12 |    | 41   | 16   | M6       | 24 | 8  | 6       | 9  | 50   |
| 12        |    |      |    |    |      |      |          |    |    |         |    | 56   |
| 16        |    | G1/8 | 16 | 16 | 62.5 | 18   | M8       | 32 | 11 | 8       | 12 | 68   |
| 20        |    |      |    |    |      |      | M10x1.25 |    |    | 10      |    | 69.5 |
| 25        |    |      |    |    |      |      |          |    |    |         |    |      |

| Ø    | L6       | L7 | L8  | L9 | T3 | PL  | VD | WF | XC  | ≈C1 |
|------|----------|----|-----|----|----|-----|----|----|-----|-----|
| [mm] |          |    |     |    |    |     |    |    | ±1  |     |
| 8    | 29 ±0.65 | 8  | —   | —  | 11 | 6   | 2  | 16 | 93  | —   |
| 10   |          |    | —   | —  |    |     |    |    |     | —   |
| 12   | 38 ±0.75 | 10 | —   | —  |    | 8.2 |    | 22 | 113 | 5   |
| 16   |          |    | —   | —  |    |     |    |    | 120 |     |
| 20   | 47 ±0.75 | 13 | 4.5 | 20 |    |     |    | 24 | 142 | 7   |
| 25   | 48 ±0.75 |    |     |    |    |     |    | 28 | 152 | 9   |

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

# Round cylinders DSNU-KP, with clamping unit

FESTO

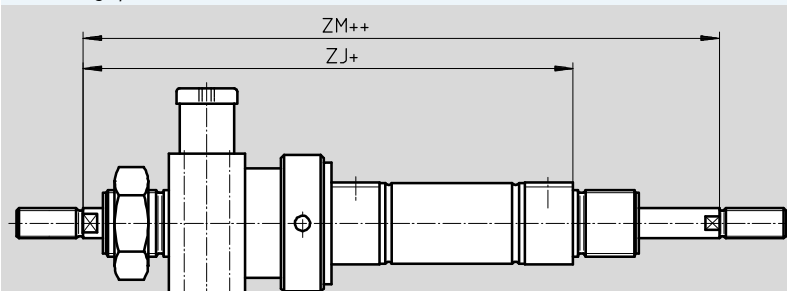
Technical data

## Dimensions

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

DSNU-8 ... 25

S2 – Through piston rod



+ = plus stroke length  
++ = plus 2x stroke length

- Note

The thread types at both piston rod ends are identical. The clamping unit is mounted on only one side.

In combination with variant Q (→ 54) the right-hand piston rod is square, the left-hand piston rod round. The clamping unit is mounted on the left-hand, round piston rod.

In combination with variant K8 the piston rod is only extended at the right hand. The clamping unit is mounted on the left side of the piston rod that is not extended.

In combination with variant K8 and Q the piston rod is only extended at the right-hand, square piston rod.

| Ø    | ZJ    | ZM    |
|------|-------|-------|
| [mm] |       |       |
| 8    | 91    | 107   |
| 10   |       |       |
| 12   | 110   | 132   |
| 16   | 116   | 138   |
| 20   | 139   | 163   |
| 25   | 145.5 | 173.5 |

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

# Round cylinders DSNU-KP, with clamping unit

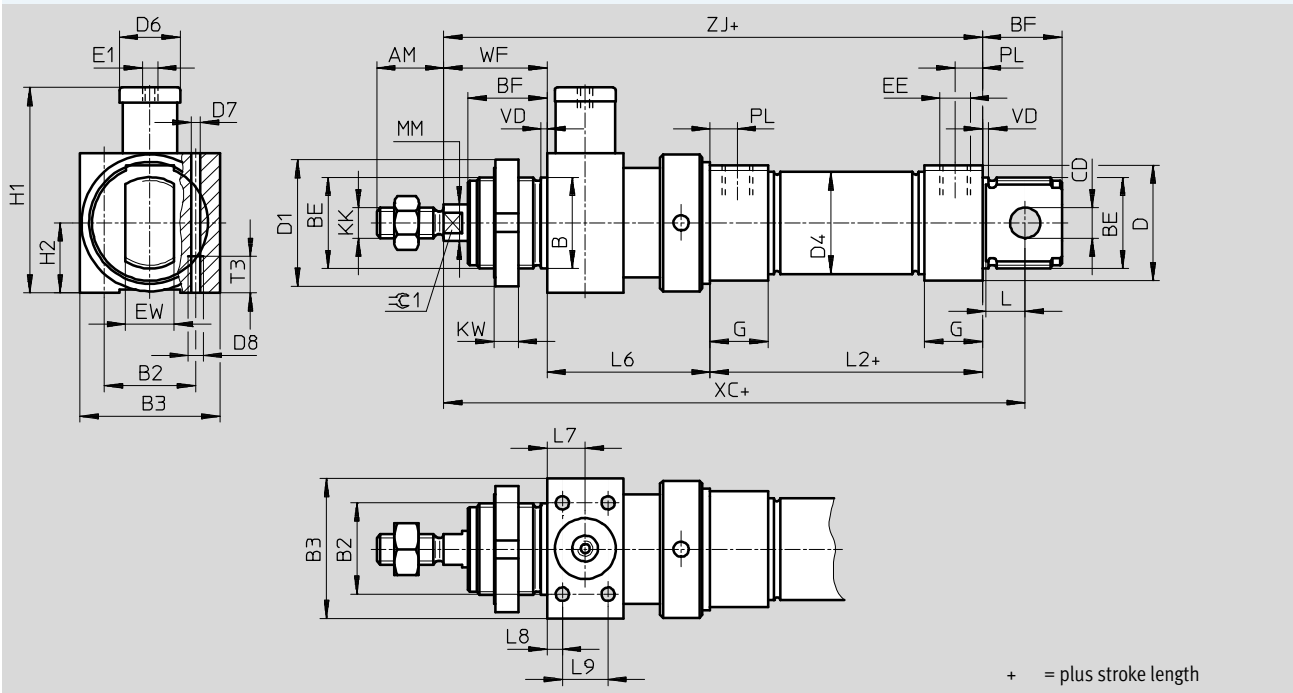
Technical data

**FESTO**

## Dimensions

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

DSNU-32 ... 63



| Ø<br>[mm] | AM | B<br>Ø<br>h9 | B2 | B3 | BE      | BF | CD<br>Ø<br>E10 | D<br>Ø | D1<br>Ø | D4<br>Ø | D6 | D7  |
|-----------|----|--------------|----|----|---------|----|----------------|--------|---------|---------|----|-----|
| 32        | 22 | 30           | 30 | 46 | M30x1.5 | 26 | 10             | 38     | 42      | 33.6    | 20 | 4.4 |
| 40        | 24 | 38           | 36 | 56 | M38x1.5 | 30 | 12             | 46     | 50      | 41.6    | 24 | 6.8 |
| 50        | 32 | 45           | 50 | 65 | M45x1.5 | 33 | 16             | 57     | 60      | 52.4    | 30 | 8.5 |
| 63        |    |              | 54 | 72 | M45x1.5 |    |                | 70     |         | 65.4    | 38 |     |

| Ø<br>[mm] | D8  | E1              | EE              | EW | G  | H1    | H2   | KK       | KW | MM<br>Ø | L  | L2   |
|-----------|-----|-----------------|-----------------|----|----|-------|------|----------|----|---------|----|------|
| 32        | M5  | M5              | G $\frac{1}{8}$ | 16 | 19 | 67.5  | 23   | M10x1.25 | 8  | 12      | 13 | 69.5 |
| 40        | M8  | G $\frac{1}{8}$ | G $\frac{1}{4}$ | 18 | 25 | 89    | 28   | M12x1.25 | 10 | 16      | 15 | 84.6 |
| 50        | M10 | G $\frac{1}{8}$ |                 | 21 |    | 107.5 | 32.5 | M16x1.5  |    | 20      | 16 | 86.2 |
| 63        |     | G $\frac{1}{8}$ | G $\frac{3}{8}$ |    | 28 | 121.5 | 36   |          |    |         |    | 94.2 |

| Ø<br>[mm] | L6    | L7   | L8 | L9 | T3 | PL | VD | WF   | XC    | ≈C1 |
|-----------|-------|------|----|----|----|----|----|------|-------|-----|
|           | ±0.75 |      |    |    |    |    |    |      | ±1    |     |
| 32        | 55    | 12.5 | 5  | 15 | 12 | 9  | 2  | 34.5 | 173   | 10  |
| 40        | 69    | 17   | 7  | 20 | 18 | 12 | 3  | 40.5 | 210.1 | 13  |
| 50        | 78    | 20   |    | 26 | 20 |    |    | 45.5 | 226.7 | 17  |
| 63        | 86    | 24   | 8  | 32 | 21 | 13 |    | 46.5 | 243.7 |     |

# Round cylinders DSNU-KP, with clamping unit

Technical data

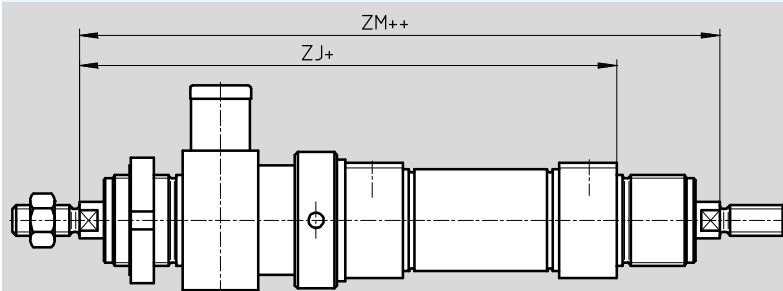
**FESTO**

## Dimensions

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

DSNU-32 ... 63

S2 – Through piston rod



-  - Note

The thread types at both piston rod ends are identical. The clamping unit is mounted on only one side.

In combination with variant Q (→ 54) the right-hand piston rod is square, the left-hand piston rod round. The clamping unit is mounted on the left-hand, round piston rod.

In combination with variant K8 the piston rod is only extended at the right hand. The clamping unit is mounted on the left side of the piston rod that is not extended.

+ = plus stroke length  
++ = plus 2x stroke length

In combination with variant K8 and Q the piston rod is only extended at the right-hand, square piston rod.

| Ø    | ZJ    | ZM    |
|------|-------|-------|
| [mm] |       |       |
| 32   | 159   | 191   |
| 40   | 194.1 | 230.1 |
| 50   | 209.7 | 250.7 |
| 63   | 226.7 | 268.7 |

# Round cylinders DSNU-KP, with clamping unit



Ordering data – Modular products

| Ordering table |                    |                                                     |                      |                                               |                                                   |           |           |                 |      |               |
|----------------|--------------------|-----------------------------------------------------|----------------------|-----------------------------------------------|---------------------------------------------------|-----------|-----------|-----------------|------|---------------|
| Size           |                    | 8                                                   | 10                   | 12                                            | 16                                                | 20        | 25        | Condi-<br>tions | Code | Enter<br>code |
| [M]            | Module No.         | 193986                                              | 193987               | 193988                                        | 193989                                            | 193990    | 193991    |                 |      |               |
|                | Function           | Standard cylinder, double-acting, based on ISO 6432 |                      |                                               |                                                   |           |           |                 | DSNU |               |
|                | Piston Ø [mm]      | 8                                                   | 10                   | 12                                            | 16                                                | 20        | 25        | -...            |      |               |
|                | Stroke [mm]        | 1 ... 100                                           |                      | 1 ... 200                                     |                                                   | 1 ... 320 | 1 ... 500 | 1               | -... |               |
|                | Cushioning         | Flexible cushioning rings/pads at both ends         |                      |                                               |                                                   |           |           |                 | -P   |               |
|                |                    | –                                                   | –                    | Pneumatic cushioning, adjustable at both ends |                                                   |           |           | 2               | -PPV |               |
|                |                    | –                                                   | –                    | –                                             | Pneumatic cushioning, self-adjusting at both ends |           |           | 3               | -PPS |               |
|                | [O]                | Position sensing                                    | Via proximity sensor |                                               |                                                   |           |           |                 | 4    |               |
| ↓              | Cylinder end cap   | Lateral supply port, end cap                        |                      |                                               |                                                   |           |           | 5               | -MQ  |               |
|                |                    | Axial supply port, end cap                          |                      |                                               |                                                   |           |           | 5               | -MA  |               |
|                | Type of piston rod | Through piston rod                                  |                      |                                               |                                                   |           |           |                 | -S2  |               |

- 1** -... Longer strokes on request  
**2** **PPV** Not with MA.  
**3** **PPS** Not with MA, MH  
 and not with combination MQ-R3

- 4** **A** Minimum stroke: 10 mm  
**5** **MQ, MA** Not with S2

- M** Mandatory data  
**O** Options

Transfer order code

|  |      |   |  |   |  |   |  |   |  |   |  |
|--|------|---|--|---|--|---|--|---|--|---|--|
|  | DSNU | - |  | - |  | - |  | - |  | - |  |
|--|------|---|--|---|--|---|--|---|--|---|--|

## Round cylinders DSNU-KP, with clamping unit

FESTO

Ordering data – Modular products

| Ordering table                 |                                |                                  |           |          |           |           |          |                 |          |               |
|--------------------------------|--------------------------------|----------------------------------|-----------|----------|-----------|-----------|----------|-----------------|----------|---------------|
| Size                           |                                | 8                                | 10        | 12       | 16        | 20        | 25       | Condi-<br>tions | Code     | Enter<br>code |
| ↓<br>[0]                       | Extended male thread           | Extended male piston rod thread  |           |          |           |           |          |                 |          |               |
|                                | [mm]                           | 1 ... 15                         |           | 1 ... 20 |           | 1 ... 25  | 1 ... 35 | [6]             | -...K2   |               |
|                                | Shortened male thread          | Shortened male piston rod thread |           |          |           |           |          |                 |          |               |
|                                | [mm]                           | 1 ... 4                          |           |          |           | 1 ... 8   | 1 ... 10 | [7]             | -...K6   |               |
|                                | Female thread                  | Female piston rod thread         |           |          |           |           |          |                 |          |               |
|                                |                                | -                                | -         | -        | -         | (M4)      | (M6)     | [8]             | -K3      |               |
|                                | Special thread                 | Piston rod with special thread   |           |          |           |           |          |                 |          |               |
|                                |                                | -                                | -         | -        | -         | -         | M10      |                 | -“...”K5 |               |
| Piston rod extended at one end | Extended piston rod at one end |                                  |           |          |           |           |          |                 |          |               |
| [mm]                           | 1 ... 50                       |                                  | 1 ... 100 |          | 1 ... 110 | 1 ... 150 |          | ...K8           |          |               |
| Clamping unit                  | Attached                       |                                  |           |          |           |           |          |                 | -KP      | -KP           |

- 6 **K2** Not with K3, K6  
 7 **K6** Not with K3  
 8 **K3** Not with K5

- M Mandatory data  
 O Options

Transfer order code

-  -  -  -  -  -  - KP

# Round cylinders DSNU-KP, with clamping unit

FESTO

Ordering data – Modular products

| Ordering table              |                                                   |               |               |               |                 |             |               |
|-----------------------------|---------------------------------------------------|---------------|---------------|---------------|-----------------|-------------|---------------|
| Size                        | 32                                                | 40            | 50            | 63            | Condi-<br>tions | Code        | Enter<br>code |
| <b>M</b> Module No.         | <b>193992</b>                                     | <b>193993</b> | <b>193994</b> | <b>193995</b> |                 |             |               |
| Function                    | Double-acting round cylinder                      |               |               |               |                 | <b>DSNU</b> | DSNU          |
| Piston Ø [mm]               | 32                                                | 40            | 50            | 63            |                 | -...        |               |
| Stroke [mm]                 | 1 ... 500                                         |               |               |               | <b>1</b>        | -...        |               |
| Cushioning                  | Flexible cushioning rings/pads at both ends       |               |               |               |                 | -P          |               |
|                             | Pneumatic cushioning, adjustable at both ends     |               |               |               | <b>2</b>        | -PPV        |               |
|                             | Pneumatic cushioning, self-adjusting at both ends |               |               |               | <b>3</b>        | -PPS        |               |
| <b>O</b> Position sensing   | Via proximity sensor                              |               |               |               | <b>4</b>        | -A          |               |
| Cylinder end cap            | Lateral air connection, end cap                   |               |               |               | <b>5</b>        | -MQ         |               |
|                             | Axial air connection, end cap                     |               |               |               | <b>5</b>        | -MA         |               |
| <b>↓</b> Type of piston rod | Through piston rod                                |               |               |               |                 | -S2         |               |

- 1** -... Longer strokes on request  
**2** PPV Not with MA  
**3** PPS Not with MA, MH  
 and not with combination MQ-R3

- 4** A Minimum stroke: 10 mm  
**5** MQ, MA Not with S2

- M** Mandatory data  
**O** Options

Transfer order code

|  |      |   |  |   |  |   |  |   |  |   |  |   |  |
|--|------|---|--|---|--|---|--|---|--|---|--|---|--|
|  | DSNU | - |  | - |  | - |  | - |  | - |  | - |  |
|--|------|---|--|---|--|---|--|---|--|---|--|---|--|

## Round cylinders DSNU-KP, with clamping unit

FESTO

Ordering data – Modular products

| Ordering table                      |                                                  |    |    |          |                 |          |               |
|-------------------------------------|--------------------------------------------------|----|----|----------|-----------------|----------|---------------|
| Size                                | 32                                               | 40 | 50 | 63       | Condi-<br>tions | Code     | Enter<br>code |
| ↓<br>0 Extended male thread [mm]    | Piston rod with extended male thread<br>1 ... 35 |    |    | 1 ... 70 | 6               | -...K2   |               |
| Shortened male thread [mm]          | Piston rod with shortened male thread<br>1 ... 8 |    |    | 1 ... 10 | 7               | -...K6   |               |
| Female thread                       | Piston rod with female thread<br>(M6) (M8) (M10) |    |    |          | 8               | -K3      |               |
| Special thread                      | Piston rod with special thread<br>M10 M12 M16    |    |    |          |                 | -“...”K5 |               |
| Piston rod extended at one end [mm] | Extended piston rod at one end<br>1 ... 500      |    |    |          |                 | ...K8    |               |
| Clamping unit                       | Attached                                         |    |    |          |                 | -KP      | -KP           |

- 6 **K2** Not with K3, K6  
 7 **K6** Not with K3  
 8 **K3** Not with K5

- M Mandatory data  
 O Options

Transfer order code

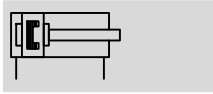
-  -  -  -  -  -  - KP

- 1 - Type discontinued  
Available up until 2017

## Round cylinders DSNUP

Technical data

Function  
P cushioning



- Ø - Diameter  
16 ... 25 mm  
ISO 6432
- | - Stroke length  
25 ... 100 mm



| General technical data |                                             |      |      |
|------------------------|---------------------------------------------|------|------|
| Piston Ø               | 16                                          | 20   | 25   |
| Conforms               | ISO 6432                                    |      |      |
| Pneumatic connection   | M5                                          | G1/8 | G1/8 |
| Constructional design  | Piston / Piston rod / Cylinder barrel       |      |      |
| Stroke [mm]            | 25 ... 100                                  |      |      |
| Mode of operation      | Double-acting                               |      |      |
| Cushioning             | Flexible cushioning rings/pads at both ends |      |      |
| Position sensing       | Via proximity sensor                        |      |      |
| Type of mounting       | Via accessories                             |      |      |
| Mounting position      | Any                                         |      |      |

| Operating and environmental conditions       |                                                                                                        |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Operating medium                             | Compressed air in accordance with ISO 8573-1:2010 [7:4:4]                                              |
| Note on operating/pilot medium               | Operation with lubricated medium possible (in which case lubricated operation will always be required) |
| Operating pressure <sup>1)</sup> [bar]       | 1 ... 8                                                                                                |
| Ambient temperature [°C]                     | -10 ... +60                                                                                            |
| Corrosion resistance class CRC <sup>2)</sup> | 2                                                                                                      |

1) Note operating range of proximity sensors

2) 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.

| Force [N] and impact energy [J]        |      |      |      |
|----------------------------------------|------|------|------|
| Piston Ø                               | 16   | 20   | 25   |
| Theoretical force at 6 bar, advancing  | 121  | 189  | 295  |
| Theoretical force at 6 bar, retracting | 104  | 158  | 247  |
| Impact energy at end positions         | 0.15 | 0.20 | 0.30 |

| Weight [g]                         |    |    |     |
|------------------------------------|----|----|-----|
| Piston Ø                           | 16 | 20 | 25  |
| Product weight with 0 mm stroke    | 47 | 83 | 111 |
| Additional weight per 10 mm stroke | 4  | 6  | 8   |
| Moving load at 0 mm stroke         | 23 | 44 | 71  |
| Additional load per 10 mm stroke   | 2  | 4  | 6   |

## Round cylinders DSNUP

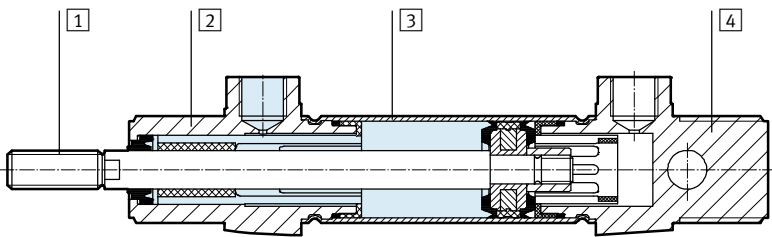
Technical data

FESTO

| Speed v without payload |       |       |      |       |
|-------------------------|-------|-------|------|-------|
| Piston Ø                |       | 16    | 20   | 25    |
| Advancing               |       |       |      |       |
| Minimum                 | [m/s] | 0.015 | 0.02 | 0.015 |
| Maximum                 | [m/s] | 2.3   | 2.3  | 2.3   |
| Retracting              |       |       |      |       |
| Minimum                 | [m/s] | 0.015 | 0.02 | 0.015 |
| Maximum                 | [m/s] | 1.9   | 1.7  | 2.0   |

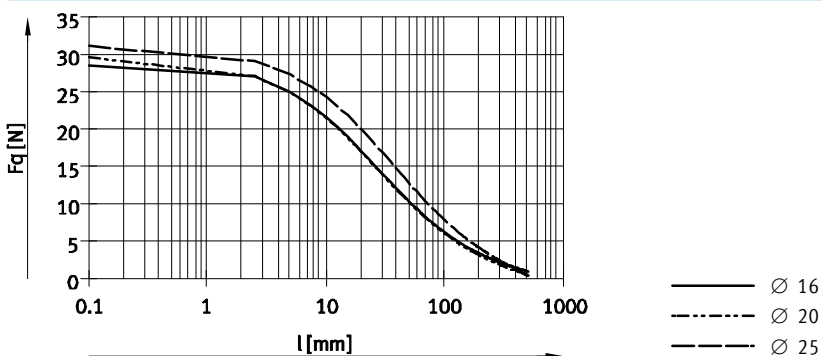
### Materials

Sectional view

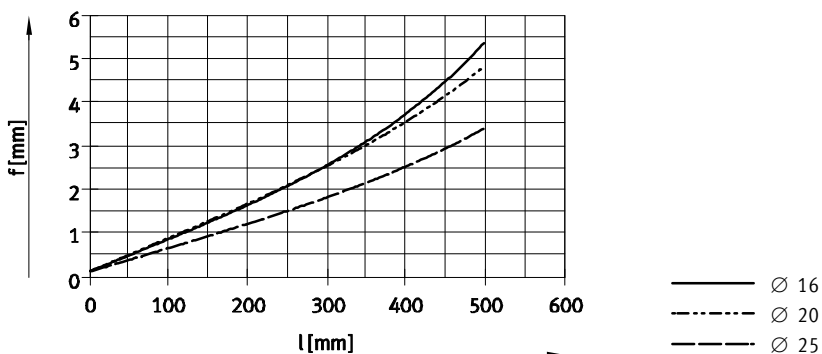


| Round cylinder    |                 |                            |
|-------------------|-----------------|----------------------------|
| 1                 | Piston rod      | High-alloy stainless steel |
| 2                 | Bearing cap     | Polyamide                  |
| 3                 | Cylinder barrel | Wrought aluminium alloy    |
| 4                 | End cap         | Polyamide                  |
| -                 | Seals           | TPE-U(PU), NBR             |
| Note on materials |                 | RoHS compliant             |

### Permissible lateral force $F_q$ as a function of stroke length $l$



### Permissible piston rod displacement $f$ as a function of stroke length $l$



**- 1 - Type discontinued**  
**Available up until 2017**

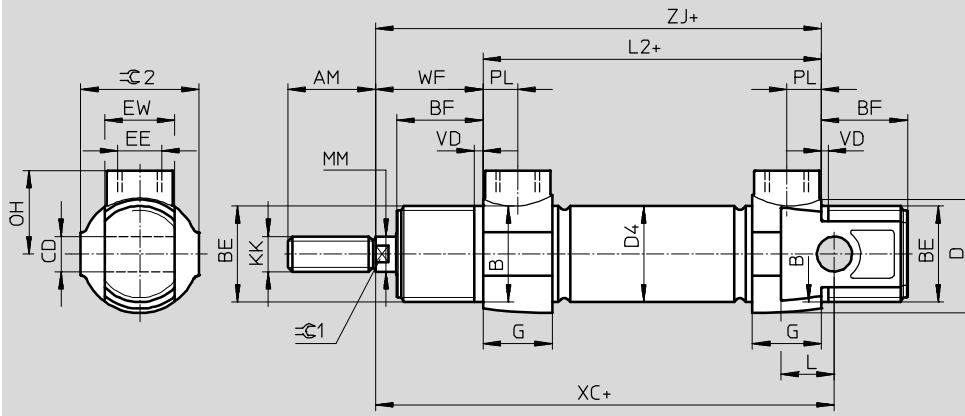
## Round cylinders DSNUP

Technical data

**FESTO**

### Dimensions

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



- Note

For the compressed air ports only push-in fittings or one-way flow control valves with cylindrical connecting thread (M or G thread) may be used. Piston rod nut is not included in scope of delivery for Ø 16/20.

+ = plus stroke length

| Ø    | AM | B<br>Ø<br>h9 | BE      | BF | CD<br>Ø<br>H9 | D<br>Ø | D4<br>Ø | EE              |
|------|----|--------------|---------|----|---------------|--------|---------|-----------------|
| [mm] |    |              |         |    |               |        |         |                 |
| 16   | 16 | 16           | M16x1.5 | 17 | 6             | 20     | 18      | M5              |
| 20   | 20 | 22           | M22x1.5 | 20 | 8             | 27     | 22      | G $\frac{1}{8}$ |
| 25   | 22 | 22           | M22x1.5 | 22 | 8             | 27     | 27      | G $\frac{1}{8}$ |

| Ø    | EW | G  | KK       | L  | L2 | MM<br>Ø | OH | PL  | VD |
|------|----|----|----------|----|----|---------|----|-----|----|
| [mm] |    |    |          |    |    |         |    |     |    |
| 16   | 12 | 10 | M6       | 8  | 56 | 6       | 14 | 4.9 | 2  |
| 20   | 16 | 16 | M8       | 12 | 68 | 8       | 19 | 7.9 | 2  |
| 25   | 16 | 16 | M10x1.25 | 12 | 70 | 10      | 19 | 7.9 | 2  |

| Ø    | WF | XC<br>±1 | ZJ | ≈ 1 | ≈ 2 | Max. tightening torque of thread [Nm] |     |
|------|----|----------|----|-----|-----|---------------------------------------|-----|
| [mm] |    |          |    |     |     | BE <sup>1)</sup>                      | EE  |
| 16   | 22 | 82       | 78 | 5   | 19  | 12/8                                  | 1.3 |
| 20   | 24 | 95       | 92 | 7   | 27  | 22/15                                 | 6   |
| 25   | 28 | 104      | 98 | 9   | 27  | 22/15                                 | 6   |

1) Bearing cap/end cap

- 2 - Type discontinued  
Available up until 2017

FESTO

## Round cylinders DSNUP

Technical data



Note

Variable strokes on request.

| Ordering data    |                |          |                  |
|------------------|----------------|----------|------------------|
| Piston Ø<br>[mm] | Stroke<br>[mm] | Part No. | Type             |
| 16               | 25             | 551668   | DSNUP-16-25-P-A  |
|                  | 50             | 551669   | DSNUP-16-50-P-A  |
|                  | 100            | 551670   | DSNUP-16-100-P-A |
| 20               | 25             | 551671   | DSNUP-20-25-P-A  |
|                  | 50             | 551672   | DSNUP-20-50-P-A  |
|                  | 100            | 551673   | DSNUP-20-100-P-A |
| 25               | 25             | 551674   | DSNUP-25-25-P-A  |
|                  | 50             | 551675   | DSNUP-25-50-P-A  |
|                  | 100            | 551676   | DSNUP-25-100-P-A |

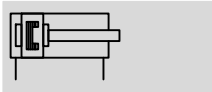
# Round cylinders DSNU-Q, protected against rotation

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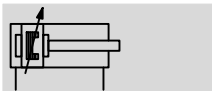
Technical data

Function

P cushioning



PPV cushioning



Ø - Diameter  
12 ... 25 mm  
ISO 6432

Ø - Diameter  
32 ... 63 mm

└ - Stroke length  
5 ... 500 mm



| General technical data             |                                                   |                                    |           |           |                                             |           |         |           |
|------------------------------------|---------------------------------------------------|------------------------------------|-----------|-----------|---------------------------------------------|-----------|---------|-----------|
| PistonØ                            | 12                                                | 16                                 | 20        | 25        | 32                                          | 40        | 50      | 63        |
| Conforms                           | ISO 6432                                          |                                    |           |           | –                                           |           |         |           |
| Pneumatic connection               | M5                                                | M5                                 | G1⁄8      | G1⁄8      | G1⁄8                                        | G¼        | G¼      | G3⁄8      |
| Piston rod thread                  | M6                                                | M6                                 | M8        | M10x1.25  | M10x1.25                                    | M12x1.25  | M16x1.5 | M16x1.5   |
| Stroke <sup>1)</sup> [mm]          | 5 ... 160                                         |                                    | 5 ... 200 | 5 ... 250 | 5 ... 300                                   | 5 ... 400 |         | 5 ... 500 |
| Constructional design              | Piston                                            |                                    |           |           |                                             |           |         |           |
|                                    | Protected against rotation with square piston rod |                                    |           |           |                                             |           |         |           |
| Max. torque at the piston rod [Nm] | 0.10                                              | 0.10                               | 0.20      | 0.45      | 0.8                                         | 1.1       | 0.45    | 0.45      |
| Cushioning                         |                                                   |                                    |           |           |                                             |           |         |           |
| DSNU-...-P                         | Flexible cushioning rings/pads at both ends       | –                                  |           |           | Flexible cushioning rings/pads at both ends |           |         |           |
| DSNU-...-PPV                       | –                                                 | Adjustable cushioning at both ends |           |           |                                             |           |         |           |
| Cushioning length (PPV) [mm]       | –                                                 | 12                                 | 15        | 17        | 14                                          | 18        | 20      | 21        |
| Position sensing                   | Via proximity sensor                              |                                    |           |           |                                             |           |         |           |
| Type of mounting                   | Via accessories                                   |                                    |           |           |                                             |           |         |           |
| Mounting position                  | Any                                               |                                    |           |           |                                             |           |         |           |

1) Cylinders with position sensing require a minimum stroke of 10 mm to ensure reliable sensing.  
Longer strokes on request.

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

| Operating and environmental conditions       |                                                                                                        |    |          |    |            |    |    |    |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------|----|----------|----|------------|----|----|----|
| Piston Ø                                     | 12                                                                                                     | 16 | 20       | 25 | 32         | 40 | 50 | 63 |
| Operating medium                             | Compressed air in accordance with ISO 8573-1:2010 [7:4:4]                                              |    |          |    |            |    |    |    |
| Note on operating/pilot medium               | Operation with lubricated medium possible (in which case lubricated operation will always be required) |    |          |    |            |    |    |    |
| Operating pressure [bar]                     | 1.5 ... 10 <sup>1)</sup>                                                                               |    | 1 ... 10 |    |            |    |    |    |
| Ambient temperature <sup>2)</sup>            |                                                                                                        |    |          |    |            |    |    |    |
| DSNU-... [°C]                                | –20 ... +80                                                                                            |    |          |    |            |    |    |    |
| DSNU-Q-...-S6 [°C]                           | –                                                                                                      |    |          |    | 0 ... +120 |    |    |    |
| Corrosion resistance class CRC <sup>3)</sup> |                                                                                                        |    |          |    |            |    |    |    |
| DSNU- ...                                    | 2                                                                                                      |    |          |    |            |    |    |    |
| DSNU-...-R3                                  | 3                                                                                                      |    |          |    |            |    |    |    |
| Certification                                | Germanischer Lloyd                                                                                     |    |          |    | –          |    |    |    |

1) With DSNU-12- ... -Q-PPV (pneumatic cushioning adjustable at both ends): 2 ... 10 bar

2) Note operating range of proximity sensors.

3) 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.

Corrosion resistance class CRC 3 to Festo standard FN 940070

High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

## Round cylinders DSNU-Q, protected against rotation

FESTO

Technical data

| ATEX <sup>1)</sup>                            |                                             |
|-----------------------------------------------|---------------------------------------------|
| ATEX category for gas                         | II 2G                                       |
| Explosion ignition protection type for gas    | c T4                                        |
| ATEX category for dust                        | II 2D                                       |
| Explosion ignition protection type for dust   | c 120°C                                     |
| Explosion-proof temperature rating            | -20°C ≤ Ta ≤ +60°C                          |
| CE marking<br>(see declaration of conformity) | To EU Explosion Protection Directive (ATEX) |

1) Make sure that the accessories are suited for ATEX application.

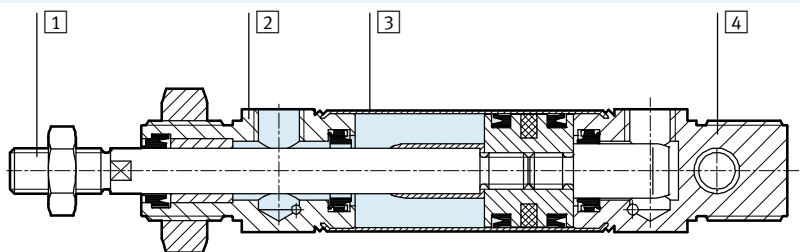
| Forces [N] and impact energy [J]                                                       |      |      |      |      |      |      |      |      |
|----------------------------------------------------------------------------------------|------|------|------|------|------|------|------|------|
| Piston Ø                                                                               | 12   | 16   | 20   | 25   | 32   | 40   | 50   | 63   |
| Theoretical force at 6 bar, advancing                                                  | 68   | 121  | 189  | 295  | 483  | 753  | 1178 | 1870 |
| Theoretical force at 6 bar, retracting                                                 | 51   | 104  | 158  | 247  | 415  | 633  | 990  | 1682 |
| Max. impact energy at the end positions for flexible cushioning elements <sup>1)</sup> | 0.07 | 0.15 | 0.20 | 0.30 | 0.40 | 0.70 | 1    | 1.3  |

1) The values are reduced by approx. 50% at an ambient temperature of 80 °C

| Weight [g]                         |      |     |     |      |       |     |      |      |
|------------------------------------|------|-----|-----|------|-------|-----|------|------|
| Piston Ø                           | 12   | 16  | 20  | 25   | 32    | 40  | 50   | 63   |
| Product weight with 0 mm stroke    | 80   | 110 | 215 | 275  | 370.5 | 661 | 1087 | 1445 |
| Additional weight per 10 mm stroke | 4.1  | 4.7 | 7.1 | 10.9 | 15.5  | 24  | 40   | 44   |
| Moving load with 0 mm stroke       | 18.5 | 23  | 44  | 71   | 121   | 230 | 413  | 459  |
| Moving load per 10 mm stroke       | 2    | 2   | 4   | 6    | 9     | 16  | 25   | 25   |

### Materials

Sectional view

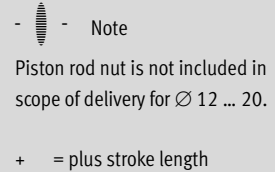


| Round cylinder |                   |
|----------------|-------------------|
| 1              | Piston rod        |
|                | DSNU-...          |
|                | DSNU-...-R3       |
| 2              | Bearing cap       |
| 3              | Cylinder barrel   |
| 4              | End cap           |
| -              | Seals             |
|                | Note on materials |

|                            |
|----------------------------|
| High-alloy steel           |
| High-alloy stainless steel |
| Anodised aluminium         |
| High-alloy stainless steel |
| Anodised aluminium         |
| TPE-U(PU), NBR             |
| RoHS compliant             |

## Technical data

DSNU-12 ... 25



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

- + = plus stroke length
- ++ = plus 2x stroke length

Subject to change – 2016/11

# Round cylinders DSNU-Q, protected against rotation

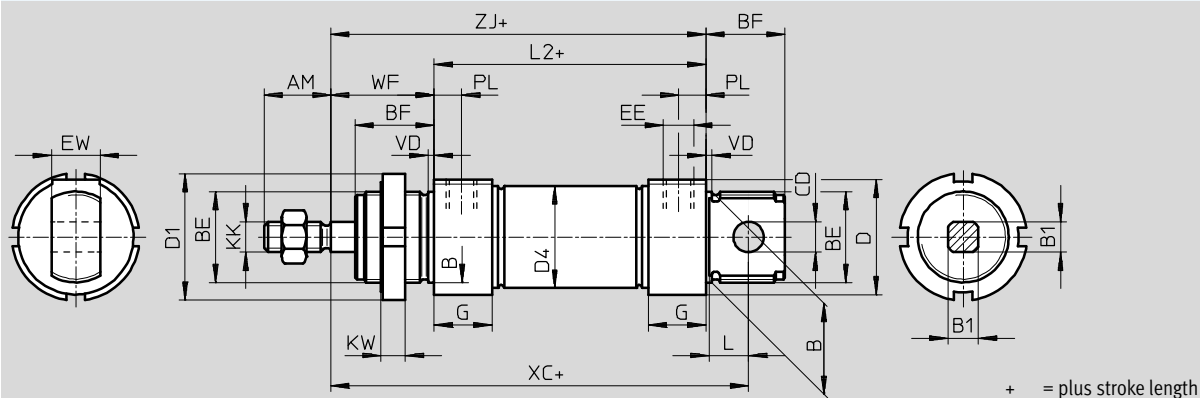
FESTO

Technical data

## Dimensions

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

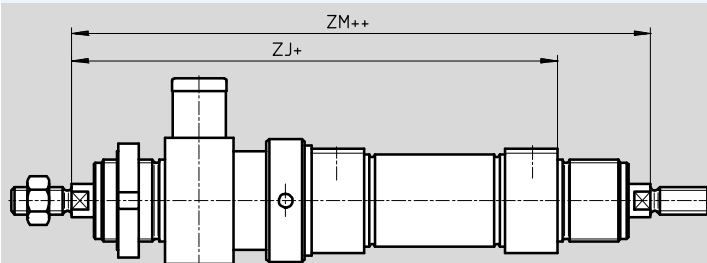
DSNU-32 ... 63



| ∅    | AM | B<br>∅<br>h9 | B1<br>□ | BE      | BF | CD<br>∅<br>E10 | D<br>∅ | D1<br>∅ | D4<br>∅ | EE                            | EW |
|------|----|--------------|---------|---------|----|----------------|--------|---------|---------|-------------------------------|----|
| [mm] |    |              |         |         |    |                |        |         |         |                               |    |
| 32   | 22 | 30           | 10      | M30x1.5 | 26 | 10             | 38     | 42      | 33.6    | G <sup>1</sup> / <sub>8</sub> | 16 |
| 40   | 24 | 38           | 12      | M38x1.5 | 30 | 12             | 46     | 50      | 41.6    | G <sup>1</sup> / <sub>4</sub> | 18 |
| 50   | 32 | 45           | 16      | M45x1.5 | 33 | 16             | 57     | 60      | 52.4    | G <sup>1</sup> / <sub>4</sub> | 21 |
| 63   | 32 | 45           | 16      | M45x1.5 | 33 | 16             | 70     | 60      | 65.4    | G <sup>3</sup> / <sub>8</sub> | 21 |

| ∅    | G  | KK       | KW | L  | L2   | PL | VD | WF | XC<br>±1 | ZJ    |
|------|----|----------|----|----|------|----|----|----|----------|-------|
| [mm] |    |          |    |    |      |    |    |    |          |       |
| 32   | 19 | M10x1.25 | 8  | 13 | 69.5 | 9  | 2  | 34 | 117.5    | 103.5 |
| 40   | 25 | M12x1.25 | 10 | 15 | 84.6 | 12 | 3  | 39 | 139.6    | 123.6 |
| 50   | 25 | M16x1.5  | 10 | 16 | 86.2 | 12 | 3  | 44 | 147.2    | 130.2 |
| 63   | 28 | M16x1.5  | 10 | 16 | 94.2 | 13 | 3  | 45 | 156.2    | 139.2 |

## S2 – Through piston rod



The thread types at both piston rod ends are identical. The clamping unit is mounted on only one side. In

combination with variant Q, the right-hand piston rod is square, the left-hand piston rod round.

The clamping unit is mounted on the left-hand, round piston rod.

+ = plus stroke length  
++ = plus 2x stroke length

| ∅    | ZJ    | ZM    |
|------|-------|-------|
| [mm] |       |       |
| 32   | 159   | 191   |
| 40   | 194.1 | 230.1 |
| 50   | 209.7 | 250.7 |
| 63   | 226.7 | 268.7 |

# Round cylinders DSNU-Q, protected against rotation

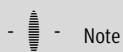
Ordering data – Modular products

FESTO

| Ordering table |                             |                                                     |                                                                 |           |           |                 |      |               |
|----------------|-----------------------------|-----------------------------------------------------|-----------------------------------------------------------------|-----------|-----------|-----------------|------|---------------|
| Size           |                             | 12                                                  | 16                                                              | 20        | 25        | Condi-<br>tions | Code | Enter<br>code |
| [M]            | Module No.                  | 193988                                              | 193989                                                          | 193990    | 193991    |                 |      |               |
|                | Function                    | Standard cylinder, double-acting, based on ISO 6432 |                                                                 |           |           |                 | DSNU |               |
|                | Piston Ø [mm]               | 12                                                  | 16                                                              | 20        | 25        | -...            |      |               |
|                | Stroke [mm]                 | 5 ... 160                                           |                                                                 | 5 ... 200 | 5 ... 250 | 1               | -... |               |
|                | Cushioning                  | Flexible cushion-<br>ing rings/pads at<br>both ends | -                                                               | -         | -         |                 | -P   |               |
|                |                             | -                                                   | Pneumatic cushioning, adjustable at both ends                   |           |           | 2               | -PPV |               |
| [O]            | Position sensing            | Via proximity sensor                                |                                                                 |           |           | 3               | -A   |               |
|                | Cylinder end cap            | Lateral supply port, end cap                        |                                                                 |           |           | 4               | -MQ  |               |
|                |                             | Axial supply<br>port, end cap                       | -                                                               | -         | -         | 4               | -MA  |               |
|                |                             | -                                                   | With mounting flange at front (direct mounting),<br>bearing cap |           |           | 5               | -MH  |               |
|                | Protection against rotation | Square piston rod                                   |                                                                 |           |           |                 | -Q   | -Q            |
| ↓              | Type of piston rod          | Through piston rod                                  |                                                                 |           |           |                 | -S2  |               |

- 1 -... Longer strokes on request  
 2 PPV Not with MA  
 3 A Minimum stroke: 10 mm

- 4 MQ, MA Not with S2  
 5 MH Not with combination Q-R3



Note

The bellows kit DADB must not be used in combination with the variant Q.

- M** Mandatory data  
**O** Options

Transfer order code

**DSNU** -  -  -  -  -  -  - **Q**  -

## Round cylinders DSNU-Q, protected against rotation

FESTO

Ordering data – Modular products

| Ordering table                                |                                  |                           |           |           |                          |          |  |               |
|-----------------------------------------------|----------------------------------|---------------------------|-----------|-----------|--------------------------|----------|--|---------------|
| Size                                          | 12                               | 16                        | 20        | 25        | Condi-<br>tions          | Code     |  | Enter<br>code |
| ↓                                             |                                  |                           |           |           |                          |          |  |               |
| <input type="checkbox"/> Extended male thread | Extended male piston rod thread  |                           |           |           |                          |          |  |               |
| <input type="checkbox"/> [mm]                 | 1 ... 20                         |                           | 1 ... 25  | 1 ... 35  | <input type="checkbox"/> | -...K2   |  |               |
| Shortened male thread                         | Shortened male piston rod thread |                           |           |           |                          |          |  |               |
| [mm]                                          | 1 ... 4                          |                           | 1 ... 8   | 1 ... 10  | <input type="checkbox"/> | -...K6   |  |               |
| Female thread                                 | Female piston rod thread         |                           |           |           |                          |          |  |               |
|                                               | –                                | –                         | (M4)      | (M6)      | <input type="checkbox"/> | -K3      |  |               |
| Special thread                                | Piston rod with special thread   |                           |           |           |                          |          |  |               |
|                                               | –                                | –                         | –         | M10       |                          | -“...”K5 |  |               |
| Piston rod extended at one end                | Extended piston rod at one end   |                           |           |           |                          |          |  |               |
| [mm]                                          | 1 ... 100                        |                           | 1 ... 110 | 1 ... 150 |                          | ...K8    |  |               |
| Clamping unit                                 | Attached                         |                           |           |           | <input type="checkbox"/> | -KP      |  |               |
| Corrosion protection                          | –                                | High corrosion protection |           |           |                          | -R3      |  |               |
| EU certification                              | II 2GD                           |                           |           |           | <input type="checkbox"/> | -EX4     |  |               |

- ☐ **K2** Not with K3, K6  
☐ **K6** Not with K3  
☐ **K3** Not with K5

- ☐ **KP** Only with S2.  
Not with R3  
☐ **EX4** Not with KP

- ☐ **M** Mandatory data  
☐ **O** Options

Transfer order code

–  –  –  –  –  –  –  –

# Round cylinders DSNU-Q, protected against rotation

FESTO

Ordering data – Modular products

| Ordering table              |                                                         |               |               |               |                 |             |               |
|-----------------------------|---------------------------------------------------------|---------------|---------------|---------------|-----------------|-------------|---------------|
| Size                        | 32                                                      | 40            | 50            | 63            | Condi-<br>tions | Code        | Enter<br>code |
| <b>M</b> Module No.         | <b>193992</b>                                           | <b>193993</b> | <b>193994</b> | <b>193995</b> |                 |             |               |
| Function                    | Double-acting round cylinder                            |               |               |               |                 | <b>DSNU</b> | DSNU          |
| Piston Ø [mm]               | 32                                                      | 40            | 50            | 63            |                 | -...        |               |
| Stroke [mm]                 | 5 ... 300                                               | 5 ... 400     |               | 5 ... 500     | <b>1</b>        | -...        |               |
| Cushioning                  | Flexible cushioning rings/pads at both ends             |               |               |               |                 | <b>-P</b>   |               |
|                             | Pneumatic cushioning, adjustable at both ends           |               |               |               | <b>2</b>        | <b>-PPV</b> |               |
| <b>O</b> Position sensing   | Via proximity sensor                                    |               |               |               | <b>3</b>        | <b>-A</b>   |               |
| Cylinder end cap            | Lateral air connection, end cap                         |               |               |               | <b>4</b>        | <b>-MQ</b>  |               |
|                             | Axial air connection, end cap                           |               |               |               | <b>4</b>        | <b>-MA</b>  |               |
|                             | Mounting flange at front (direct mounting), bearing cap |               |               |               | <b>5</b>        | <b>-MH</b>  |               |
| Protection against rotation | Square piston rod                                       |               |               |               |                 | <b>-Q</b>   | -Q            |
| <b>↓</b> Type of piston rod | Through piston rod                                      |               |               |               |                 | <b>-S2</b>  |               |

- 1** -... Longer strokes on request  
**2** **PPV** Not with MA  
**3** **A** Minimum stroke: 10 mm

- 4** **MQ, MA** Not with S2  
**5** **MH** Not with combinations: Q-R3, S6-R3  
 Not with KP



Note

The bellows kit DADB must not be used in combination with the variant Q.

**M** Mandatory data

**O** Options

Transfer order code

**DSNU** -  -  -  -  -  -  **Q** -

## Round cylinders DSNU-Q, protected against rotation

FESTO

Ordering data – Modular products

| Ordering table         |                                                    |                                       |       |    |      |                 |          |               |
|------------------------|----------------------------------------------------|---------------------------------------|-------|----|------|-----------------|----------|---------------|
| Size                   |                                                    | 32                                    | 40    | 50 | 63   | Condi-<br>tions | Code     | Enter<br>code |
| ↓<br>[0]               | Extended male thread                               | Piston rod with extended male thread  |       |    |      | [6]             | -...K2   |               |
|                        | [mm] 1 ... 35                                      | 1 ... 70                              |       |    |      |                 |          |               |
|                        | Shortened male thread                              | Piston rod with shortened male thread |       |    |      | [7]             | -...K6   |               |
|                        | [mm] 1 ... 8                                       | 1 ... 10                              |       |    |      |                 |          |               |
|                        | Female thread                                      | Piston rod with female thread         |       |    |      | [8]             | -K3      |               |
|                        | (M6)                                               | (M8)                                  | (M10) |    |      |                 |          |               |
|                        | Special thread                                     | Piston rod with special thread        |       |    |      |                 | -“...”K5 |               |
|                        | M10                                                | M12                                   | M16   |    |      |                 |          |               |
|                        | Piston rod extended at one end                     | Extended piston rod at one end        |       |    |      |                 | ...K8    |               |
|                        | [mm] 1 ... 500                                     |                                       |       |    |      |                 |          |               |
| Clamping unit          | Attached                                           |                                       |       |    | [9]  | -KP             |          |               |
| Temperature resistance | Heat-resistant seals for temperatures up to 120 °C |                                       |       |    |      | -S6             |          |               |
| Corrosion protection   | High corrosion protection                          |                                       |       |    |      | -R3             |          |               |
| EU certification       | II 2GD                                             |                                       |       |    | [10] | -EX4            |          |               |

[6] **K2** Not with K3, K6  
 [7] **K6** Not with K3  
 [8] **K3** Not with K5

[9] **KP** Only with S2  
 Not with S6, R3  
 [10] **EX4** Not with KP

[M] Mandatory data  
 [O] Options

Transfer order code

- [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

# Round cylinders ESNU

Technical data

FESTO

Function

Flexible cushioning



Ø - Diameter  
8 ... 25 mm  
IO 6432

Ø - Diameter  
32 ... 63 mm

┃ - Stroke length  
1 ... 50 mm



| General technical data    |                                             |    |    |    |      |          |          |          |         |         |
|---------------------------|---------------------------------------------|----|----|----|------|----------|----------|----------|---------|---------|
| Piston Ø                  | 8                                           | 10 | 12 | 16 | 20   | 25       | 32       | 40       | 50      | 63      |
| Conforms                  | ISO 6432                                    |    |    |    |      |          | -        |          |         |         |
| Pneumatic connection      | M5                                          | M5 | M5 | M5 | G1/8 | G1/8     | G1/8     | G1/4     | G1/4    | G3/8    |
| Piston rod thread         | M4                                          | M4 | M6 | M6 | M8   | M10x1.25 | M10x1.25 | M12x1.25 | M16x1.5 | M16x1.5 |
| Stroke <sup>1)</sup> [mm] | 1 ... 50                                    |    |    |    |      |          |          |          |         |         |
| Constructional design     | Piston / Piston rod / Cylinder barrel       |    |    |    |      |          |          |          |         |         |
| Cushioning                | Flexible cushioning rings/pads at both ends |    |    |    |      |          |          |          |         |         |
| Position sensing          | Via proximity sensor                        |    |    |    |      |          |          |          |         |         |
| Type of mounting          | Via accessories                             |    |    |    |      |          |          |          |         |         |
| Mounting position         | Any                                         |    |    |    |      |          |          |          |         |         |

1) Cylinders with position sensing require a minimum stroke of 10 mm to ensure reliable sensing

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

| Operating and environmental conditions       |                                                                                                        |    |    |            |    |    |    |    |    |    |  |  |  |  |  |  |  |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------|----|----|------------|----|----|----|----|----|----|--|--|--|--|--|--|--|
| Piston Ø                                     | 8                                                                                                      | 10 | 12 | 16         | 20 | 25 | 32 | 40 | 50 | 63 |  |  |  |  |  |  |  |
| Operating medium                             | Compressed air in accordance with ISO 8573-1:2010 [7:4:4]                                              |    |    |            |    |    |    |    |    |    |  |  |  |  |  |  |  |
| Note on operating/pilot medium               | Operation with lubricated medium possible (in which case lubricated operation will always be required) |    |    |            |    |    |    |    |    |    |  |  |  |  |  |  |  |
| Operating pressure [bar]                     | 1.5 ... 10                                                                                             |    |    | 1.2 ... 10 |    |    |    |    |    |    |  |  |  |  |  |  |  |
| Ambient temperature <sup>1)</sup> [°C]       | -20 ... +80                                                                                            |    |    |            |    |    |    |    |    |    |  |  |  |  |  |  |  |
| Corrosion resistance class CRC <sup>2)</sup> | 2                                                                                                      |    |    |            |    |    |    |    |    |    |  |  |  |  |  |  |  |

1) Note operating range of proximity sensors.

2) 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.

# Round cylinders ESNU

Technical data

**FESTO**

| Force [N] and impact energy [J]                       |      |      |      |      |      |      |      |      |      |      |
|-------------------------------------------------------|------|------|------|------|------|------|------|------|------|------|
| Piston Ø                                              | 8    | 10   | 12   | 16   | 20   | 25   | 32   | 40   | 50   | 63   |
| Theoretical force at 6 bar, advancing                 | 24   | 41   | 61   | 107  | 169  | 270  | 442  | 688  | 1071 | 1763 |
| Spring return force                                   |      |      |      |      |      |      |      |      |      |      |
| 10 mm stroke                                          | 4.9  | 4.9  | 6.3  | 13.2 | 18.3 | 22.9 | 36   | 60   | 95   | 95   |
| 25 mm stroke                                          | 4.1  | 4.1  | 5.4  | 11.9 | 16.5 | 21.2 | 30   | 50   | 82   | 82   |
| 50 mm stroke                                          | 2.8  | 4.8  | 3.9  | 9.8  | 13.6 | 18.5 | 20   | 30   | 60   | 60   |
| Max. impact energy at the end positions <sup>1)</sup> | 0.03 | 0.05 | 0.07 | 0.15 | 0.20 | 0.30 | 0.40 | 0.70 | 1    | 1.3  |

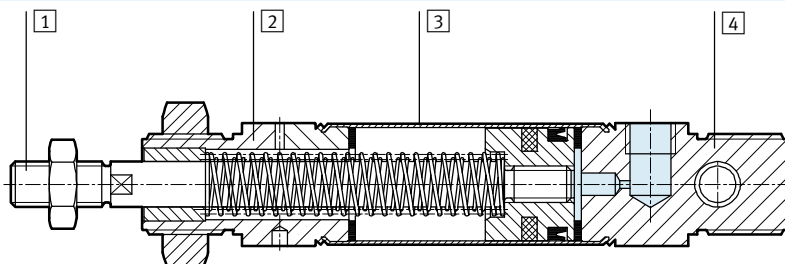
1) The values are reduced by approx. 50% at ambient temperatures of 80 °C

| Weight ESNU-... [g]                |     |      |    |      |       |     |       |     |      |      |
|------------------------------------|-----|------|----|------|-------|-----|-------|-----|------|------|
| Piston Ø                           | 8   | 10   | 12 | 16   | 20    | 25  | 32    | 40  | 50   | 63   |
| Product weight with 0 mm stroke    | 35  | 37.3 | 75 | 89.9 | 186.8 | 238 | 370.5 | 661 | 1087 | 1445 |
| Additional weight per 10 mm stroke | 2.4 | 2.7  | 4  | 4.6  | 7.2   | 11  | 15.5  | 24  | 40   | 44   |

| Weight ESNU-...-MA [g]             |     |     |    |     |     |     |      |     |      |      |
|------------------------------------|-----|-----|----|-----|-----|-----|------|-----|------|------|
| Piston Ø                           | 8   | 10  | 12 | 16  | 20  | 25  | 32   | 40  | 50   | 63   |
| Product weight with 0 mm stroke    | 30  | 33  | 65 | 81  | 167 | 222 | 330  | 585 | 1013 | 1369 |
| Additional weight per 10 mm stroke | 2.4 | 2.7 | 4  | 4.6 | 7.2 | 11  | 15.5 | 24  | 40   | 44   |

## Materials

Sectional view



| Round cylinder    |                 |                            |
|-------------------|-----------------|----------------------------|
| 1                 | Piston rod      | High-alloy steel           |
| 2                 | Bearing cap     | Anodised aluminium         |
| 3                 | Cylinder barrel | High-alloy stainless steel |
| 4                 | End cap         | Anodised aluminium         |
| –                 | Seals           | TPE-U(PU), NBR             |
| –                 | Spring          | Spring steel               |
| Note on materials |                 | RoHS compliant             |

# Round cylinders ESNU

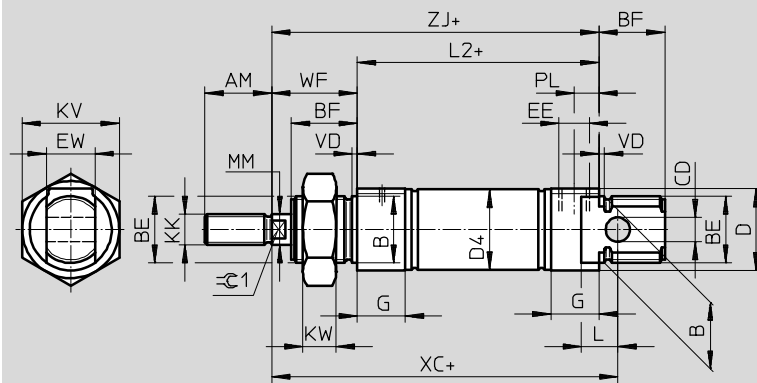
Technical data

**FESTO**

## Dimensions

ESNU-8 ... 25

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

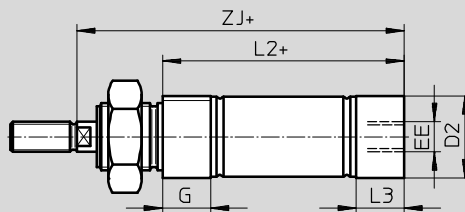


Note

Piston rod nut is not included in scope of delivery for Ø 8 ... 20.

+ = plus stroke length

## MA – Axial air connection



+ = plus stroke length

| Ø<br>[mm] | AM | B<br>Ø<br>h9 | BE       | BF | CD<br>Ø<br>H9 | D<br>Ø | D2<br>Ø | D4<br>Ø | EE                            | EW | G  | KK       | KV |
|-----------|----|--------------|----------|----|---------------|--------|---------|---------|-------------------------------|----|----|----------|----|
| 8         | 12 | 12           | M12x1.25 | 12 | 4             | 15     | 10.5    | 9.3     | M5                            | 8  | 10 | M4       | 19 |
| 10        |    |              |          |    |               |        | 12.5    | 11.3    |                               |    |    |          |    |
| 12        | 16 | 16           | M16x1.5  | 17 | 6             | 20     | 14.5    | 13.3    |                               | 12 |    | M6       | 24 |
| 16        |    |              |          |    |               |        | 17.5    | 17.3    |                               |    |    |          |    |
| 20        | 20 | 22           | M22x1.5  | 20 | 8             | 27     | 21.7    | 21.3    | G <sup>1</sup> / <sub>8</sub> | 16 | 16 | M8       | 32 |
| 25        | 22 |              |          | 22 |               |        | 26.7    | 26.5    |                               |    |    | M10x1.25 |    |

| Ø<br>[mm] | KW | L  | L2        |      | L3   | MM<br>Ø | PL  | VD | WF | XC<br>±1 | ZJ        |      | ≈C1 |
|-----------|----|----|-----------|------|------|---------|-----|----|----|----------|-----------|------|-----|
|           |    |    | ESNU- ... | -MA  |      |         |     |    |    |          | ESNU- ... | -MA  |     |
| 8         | 6  | 6  | 46        | 43.6 | 7.6  | 4       | 6   | 2  | 16 | 64       | 62        | 59.6 | -   |
| 10        |    |    |           | 43.1 | 7.1  |         |     |    |    |          |           | 59.1 |     |
| 12        | 8  | 9  | 50        | 47.7 | 7.7  | 6       | 8.2 | 2  | 22 | 75       | 72        | 69.7 | 5   |
| 16        |    |    | 56        | 53.7 |      |         |     |    |    | 82       | 78        | 75.7 |     |
| 20        | 11 | 12 | 68        | 66.5 | 14.5 | 8       | 8.2 | 2  | 24 | 95       | 92        | 90.5 | 7   |
| 25        |    |    | 69.5      | 68.5 | 14   | 10      |     |    | 28 | 104      | 97.5      | 96.5 | 9   |

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

# Round cylinders ESNU

Technical data

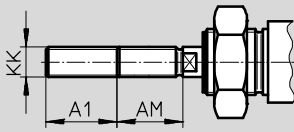
**FESTO**

## Dimensions

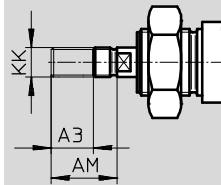
Download CAD data → [www.festo.com](http://www.festo.com)

ESNU-8 ... 25

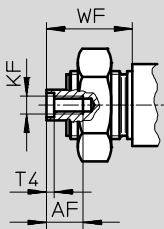
K2 – Extended male piston rod thread



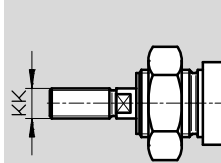
K6 – Shortened male piston rod thread



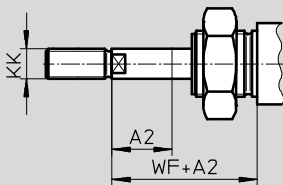
K3 – Female piston rod thread



K5 – Special piston rod thread



K8 – Extended piston rod

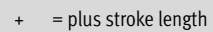


| Ø<br>[mm] | A1<br>max. | A2<br>max. | A3<br>max. | AF | AM | KF | KK              |                                 | T4  | WF |
|-----------|------------|------------|------------|----|----|----|-----------------|---------------------------------|-----|----|
|           |            |            |            |    |    |    | Basic<br>thread | Special<br>thread <sup>1)</sup> |     |    |
| 8         | 15         | 50         | 4          | –  | 12 | –  | M4              | –                               | –   | 16 |
| 10        |            |            |            | –  |    | –  |                 | –                               | –   |    |
| 12        | 20         |            |            | –  | 16 | –  | M6              | –                               | –   | 22 |
| 16        |            |            |            | –  |    | –  |                 | –                               | –   |    |
| 20        | 25         |            | 8          | 12 | 20 | M4 | M8              | –                               | 2   | 24 |
| 25        | 35         |            |            |    | 22 | M6 | M10x1.25        | M10                             | 2.6 | 28 |

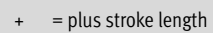
1) The special threads are only available as male threads. The scope of delivery does not include a hex nut for the piston rod thread.

## Technical data

## ESNU-32 ... 63

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

## MA – Axial air connection



| Ø<br>[mm] | AM | B<br>Ø<br>h9 | BE      | BF | CD<br>Ø<br>E10 | D<br>Ø | D1<br>Ø | D2<br>Ø | D4<br>Ø | EE   | EW | G  | KK       |
|-----------|----|--------------|---------|----|----------------|--------|---------|---------|---------|------|----|----|----------|
| 32        | 22 | 30           | M30x1.5 | 26 | 10             | 38     | 42      | 34      | 33.6    | G1/8 | 16 | 19 | M10x1.25 |
| 40        | 24 | 38           | M38x1.5 | 30 | 12             | 46     | 50      | 42      | 41.6    | G1/4 | 18 | 25 | M12x1.25 |
| 50        | 32 | 45           | M45x1.5 | 33 | 16             | 57     | 60      | 53      | 52.4    |      | 21 |    | 28       |
| 63        |    |              |         |    |                | 70     |         | 66      | 65.4    | G3/8 |    |    |          |

| Ø<br>[mm] | KW | L  | L2        |      | L3 | PL | MM<br>Ø | VD | WF | XC<br>±1 | ZJ        |       | ≡±1 |
|-----------|----|----|-----------|------|----|----|---------|----|----|----------|-----------|-------|-----|
|           |    |    | ESNU- ... | -MA  |    |    |         |    |    |          | ESNU- ... | -MA   |     |
| 32        | 8  | 13 | 69.5      | 65.5 | 15 | 9  | 12      | 2  | 34 | 117.5    | 103.5     | 99.5  | 10  |
| 40        | 10 | 15 | 84.6      | 77.6 | 18 | 12 | 16      | 3  | 39 | 139.6    | 123.6     | 116.6 | 13  |
| 50        |    | 16 | 86.2      | 86.2 | 25 |    | 20      |    | 44 | 147.2    | 130.2     | 130.2 | 17  |
| 63        |    |    | 94.2      | 94.2 | 28 | 13 |         |    | 45 | 156.2    | 139.2     | 139.2 |     |

# Round cylinders ESNU

Technical data

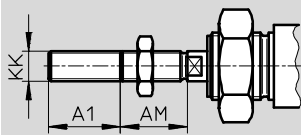
**FESTO**

## Dimensions

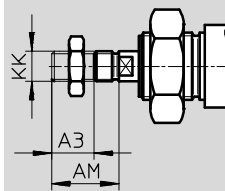
Download CAD data → [www.festo.com](http://www.festo.com)

ESNU-32 ... 63

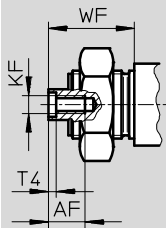
K2 – Extended male piston rod thread



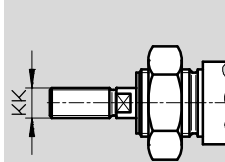
K6 – Shortened male piston rod thread



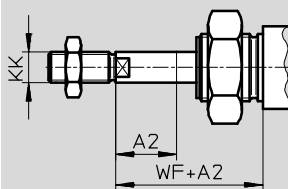
K3 – Female piston rod thread



K5 – Special piston rod thread



K8 – Extended piston rod



| Ø<br>[mm] | A1<br>max. | A2<br>max. | A3<br>max. | AF | AM | KF  | KK              |                                 | T4  | WF |
|-----------|------------|------------|------------|----|----|-----|-----------------|---------------------------------|-----|----|
|           |            |            |            |    |    |     | Basic<br>thread | Special<br>thread <sup>1)</sup> |     |    |
| 32        | 35         | 50         | 8          | 12 | 22 | M6  | M10x1.25        | M10                             | 2.6 | 34 |
| 40        |            |            |            |    | 24 | M8  | M12x1.25        | M12                             | 3.3 | 39 |
| 50        |            |            | 10         | 16 | 32 | M10 | M16x1.5         | M16                             | 4.7 | 44 |
| 63        |            |            |            |    |    |     |                 |                                 |     | 45 |

1) The special threads are only available as male threads. The scope of delivery does not include a hex nut for the piston rod thread.

# Round cylinders ESNU

Technical data



| Ordering data |        |                          |              |                           |
|---------------|--------|--------------------------|--------------|---------------------------|
| Piston Ø      | Stroke | Without position sensing |              | A – With position sensing |
| [mm]          | [mm]   | Part No.                 | Type         | Part No. Type             |
| 8             | 10     | –                        |              | 19254 ESNU-8-10-P-A       |
|               | 25     |                          |              | 19255 ESNU-8-25-P-A       |
|               | 50     |                          |              | 19256 ESNU-8-50-P-A       |
| 10            | 10     | –                        |              | 19257 ESNU-10-10-P-A      |
|               | 25     |                          |              | 19258 ESNU-10-25-P-A      |
|               | 50     |                          |              | 19259 ESNU-10-50-P-A      |
| 12            | 10     | –                        |              | 19260 ESNU-12-10-P-A      |
|               | 25     |                          |              | 19261 ESNU-12-25-P-A      |
|               | 50     |                          |              | 19262 ESNU-12-50-P-A      |
| 16            | 10     | –                        |              | 19263 ESNU-16-10-P-A      |
|               | 25     |                          |              | 19264 ESNU-16-25-P-A      |
|               | 50     |                          |              | 19265 ESNU-16-50-P-A      |
| 20            | 10     | –                        |              | 19266 ESNU-20-10-P-A      |
|               | 25     |                          |              | 19267 ESNU-20-25-P-A      |
|               | 50     |                          |              | 19268 ESNU-20-50-P-A      |
| 25            | 10     | –                        |              | 19269 ESNU-25-10-P-A      |
|               | 25     |                          |              | 19270 ESNU-25-25-P-A      |
|               | 50     |                          |              | 19271 ESNU-25-50-P-A      |
| 32            | 10     | 195870                   | ESNU-32-10-P | 196376 ESNU-32-10-P-A     |
|               | 25     | 195871                   | ESNU-32-25-P | 196377 ESNU-32-25-P-A     |
|               | 50     | 195872                   | ESNU-32-50-P | 196378 ESNU-32-50-P-A     |
| 40            | 10     | 195873                   | ESNU-40-10-P | 196379 ESNU-40-10-P-A     |
|               | 25     | 195874                   | ESNU-40-25-P | 196380 ESNU-40-25-P-A     |
|               | 50     | 195875                   | ESNU-40-50-P | 196381 ESNU-40-50-P-A     |
| 50            | 10     | 195876                   | ESNU-50-10-P | 196382 ESNU-50-10-P-A     |
|               | 25     | 195877                   | ESNU-50-25-P | 196383 ESNU-50-25-P-A     |
|               | 50     | 195878                   | ESNU-50-50-P | 196384 ESNU-50-50-P-A     |
| 63            | 10     | 195879                   | ESNU-63-10-P | 196385 ESNU-63-10-P-A     |
|               | 25     | 195880                   | ESNU-63-25-P | 196386 ESNU-63-25-P-A     |
|               | 50     | 195881                   | ESNU-63-50-P | 196387 ESNU-63-50-P-A     |

# Round cylinders ESNU

Technical data



| Ordering data           |                |              |                        |
|-------------------------|----------------|--------------|------------------------|
| Ø<br>[mm]               | Stroke<br>[mm] | Part No.     | Type                   |
| Variable stroke lengths |                |              |                        |
| 8                       | 1 ... 50       | <b>14119</b> | <b>ESNU-8-...-P-A</b>  |
| 10                      | 1 ... 50       | <b>14118</b> | <b>ESNU-10-...-P-A</b> |
| 12                      | 1 ... 50       | <b>14317</b> | <b>ESNU-12-...-P-A</b> |
| 16                      | 1 ... 50       | <b>14316</b> | <b>ESNU-16-...-P-A</b> |
| 20                      | 1 ... 50       | <b>14319</b> | <b>ESNU-20-...-P-A</b> |
| 25                      | 1 ... 50       | <b>14318</b> | <b>ESNU-25-...-P-A</b> |

# Round cylinders ESNU

Ordering data – Modular products

FESTO

| Ordering table            |                                                             |               |               |               |               |               |                 |             |               |
|---------------------------|-------------------------------------------------------------|---------------|---------------|---------------|---------------|---------------|-----------------|-------------|---------------|
| Size                      | 8                                                           | 10            | 12            | 16            | 20            | 25            | Condi-<br>tions | Code        | Enter<br>code |
| <b>M</b> Module No.       | <b>193996</b>                                               | <b>193997</b> | <b>193998</b> | <b>193999</b> | <b>194000</b> | <b>194001</b> |                 |             |               |
| Function                  | Standard cylinder, single-acting pushing, based on ISO 6432 |               |               |               |               |               |                 | <b>ESNU</b> | ESNU          |
| Piston Ø [mm]             | 8                                                           | 10            | 12            | 16            | 20            | 25            |                 | -...        |               |
| Stroke [mm]               | 1 ... 50                                                    |               |               |               |               |               |                 | -...        |               |
| Cushioning                | Flexible cushioning rings/pads at both ends                 |               |               |               |               |               |                 | -P          | -P            |
| <b>O</b> Position sensing | Via proximity sensor                                        |               |               |               |               |               | <b>1</b>        | -A          |               |
| <b>↓</b> End cap          | Axial air connection                                        |               |               |               |               |               |                 | -MA         |               |

**1** A Minimum stroke: 10 mm

**M** Mandatory data

**O** Options

Transfer order code

**ESNU** -  -  - **P**  -  -

# Round cylinders ESNU

Ordering data – Modular products



| Ordering table              |                                                                              |    |    |    |    |    |                 |          |  |               |
|-----------------------------|------------------------------------------------------------------------------|----|----|----|----|----|-----------------|----------|--|---------------|
| Size                        | 8                                                                            | 10 | 12 | 16 | 20 | 25 | Condi-<br>tions | Code     |  | Enter<br>code |
| ↓                           |                                                                              |    |    |    |    |    |                 |          |  |               |
| 0 Extended male thread [mm] | Extended male piston rod thread<br>1 ... 15   1 ... 20   1 ... 25   1 ... 35 |    |    |    |    |    | 2               | -...K2   |  |               |
| Shortened male thread [mm]  | Shortened male piston rod thread<br>1 ... 4   1 ... 8                        |    |    |    |    |    |                 | -...K6   |  |               |
| Female thread               | Female piston rod thread<br>-   -   -   -   (M4)   (M6)                      |    |    |    |    |    | 3               | -K3      |  |               |
| Special thread              | Piston rod with special thread<br>-   -   -   -   -   M10                    |    |    |    |    |    |                 | - "...K5 |  |               |
| Extended piston rod [mm]    | Extended piston rod<br>1 ... 50                                              |    |    |    |    |    |                 | ...K8    |  |               |

- 2 K2 Not with female thread K3, shortened male thread K6  
3 K3 Not with special thread K5, shortened male thread K6

- M Mandatory data  
O Options

Transfer order code

-  -  -  -  -

# Round cylinders ESNU

Ordering data – Modular products

FESTO

| Ordering table            |                                             |               |               |               |                 |             |               |
|---------------------------|---------------------------------------------|---------------|---------------|---------------|-----------------|-------------|---------------|
| Size                      | 32                                          | 40            | 50            | 63            | Condi-<br>tions | Code        | Enter<br>code |
| <b>M</b> Module No.       | <b>194002</b>                               | <b>194003</b> | <b>194004</b> | <b>194005</b> |                 |             |               |
| Function                  | Single-acting round cylinder                |               |               |               |                 | <b>ESNU</b> | ESNU          |
| Piston Ø [mm]             | 32                                          | 40            | 50            | 63            |                 | -...        |               |
| Stroke [mm]               | 1 ... 50                                    |               |               |               |                 | -...        |               |
| Cushioning                | Flexible cushioning rings/pads at both ends |               |               |               |                 | -P          | -P            |
| <b>O</b> Position sensing | Via proximity sensor                        |               |               |               | <b>1</b>        | -A          |               |
| <b>↓</b> End cap          | Axial air connection                        |               |               |               |                 | -MA         |               |

**1** A Minimum stroke: 10 mm

**M** Mandatory data

**O** Options

Transfer order code

ESNU -  -  - P  -  -  -

# Round cylinders ESNU

Ordering data – Modular products



| Ordering table              |                                                             |    |    |    |                 |          |               |
|-----------------------------|-------------------------------------------------------------|----|----|----|-----------------|----------|---------------|
| Size                        | 32                                                          | 40 | 50 | 63 | Condi-<br>tions | Code     | Enter<br>code |
| ↓                           |                                                             |    |    |    |                 |          |               |
| 0 Extended male thread [mm] | Piston rod with extended male thread<br>1 ... 35            |    |    |    | 2               | -...K2   |               |
| Shortened male thread [mm]  | Piston rod with shortened male thread<br>1 ... 8   1 ... 10 |    |    |    |                 | -...K6   |               |
| Female thread               | Piston rod with female thread<br>(M6)   (M8)   (M10)        |    |    |    | 3               | -K3      |               |
| Special thread              | Piston rod with special thread<br>M10   M12   M16           |    |    |    |                 | -“...”K5 |               |
| Extended piston rod [mm]    | Extended piston rod<br>1 ... 50                             |    |    |    |                 | ...K8    |               |

- 2 K2 Not with female thread K3, shortened male thread K6  
3 K3 Not with special thread K5, shortened male thread K6

- M Mandatory data  
O Options

Transfer order code

-  -  -  -

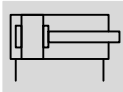
- 1 - Type discontinued  
Available up until 2017

## Round cylinders DSN

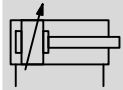
Technical data

Function

P cushioning



PPV cushioning



- Ø - Diameter  
8 ... 25 mm  
ISO 6432
- | - Stroke length  
1 ... 500 mm



| General technical data       |                                             |    |           |                                               |                               |                               |
|------------------------------|---------------------------------------------|----|-----------|-----------------------------------------------|-------------------------------|-------------------------------|
| Piston Ø                     | 8                                           | 10 | 12        | 16                                            | 20                            | 25                            |
| Conforms                     | ISO 6432                                    |    |           |                                               |                               |                               |
| Pneumatic connection         | M5                                          | M5 | M5        | M5                                            | G <sup>1</sup> / <sub>8</sub> | G <sup>1</sup> / <sub>8</sub> |
| Piston rod thread            | M4                                          | M4 | M6        | M6                                            | M8                            | M10x1.25                      |
| Stroke [mm]                  | 1 ... 100                                   |    | 1 ... 200 |                                               | 1 ... 320                     | 1 ... 500                     |
| Constructional design        | Piston / Piston rod / Cylinder barrel       |    |           |                                               |                               |                               |
| Cushioning                   |                                             |    |           |                                               |                               |                               |
| DSN- ... -P                  | Flexible cushioning rings/pads at both ends |    |           |                                               |                               |                               |
| DSN- ... -PPV                | –                                           |    |           | Pneumatic cushioning, adjustable at both ends |                               |                               |
| Cushioning length (PPV) [mm] | –                                           |    |           | 12                                            | 15                            | 17                            |
| Type of mounting             | Via accessories                             |    |           |                                               |                               |                               |
| Mounting position            | Any                                         |    |           |                                               |                               |                               |

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

| Operating and environmental conditions       |                                                                                                        |    |    |          |    |    |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------|----|----|----------|----|----|
| Piston Ø                                     | 8                                                                                                      | 10 | 12 | 16       | 20 | 25 |
| Operating medium                             | Compressed air in accordance with ISO 8573-1:2010 [7:4:4]                                              |    |    |          |    |    |
| Note on operating/pilot medium               | Operation with lubricated medium possible (in which case lubricated operation will always be required) |    |    |          |    |    |
| Operating pressure [bar]                     | 1.5 ... 10                                                                                             |    |    | 1 ... 10 |    |    |
| Ambient temperature [°C]                     | -20 ... +80                                                                                            |    |    |          |    |    |
| Corrosion resistance class CRC <sup>1)</sup> | 2                                                                                                      |    |    |          |    |    |

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.

## Round cylinders DSN

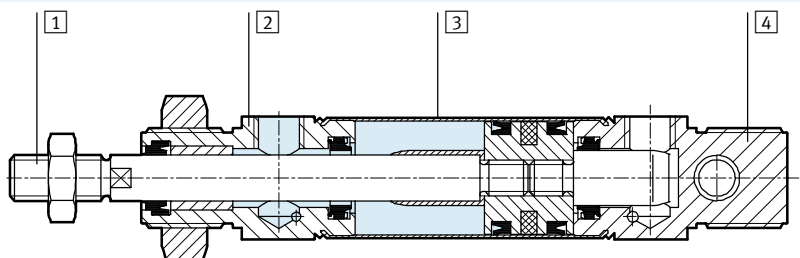
Technical data

| Forces [N]                             |    |    |    |     |     |     |
|----------------------------------------|----|----|----|-----|-----|-----|
| Piston Ø                               | 8  | 10 | 12 | 16  | 20  | 25  |
| Theoretical force at 6 bar, advancing  | 30 | 47 | 68 | 121 | 189 | 295 |
| Theoretical force at 6 bar, retracting | 23 | 40 | 51 | 104 | 158 | 247 |

| Weights [g]                        |      |      |      |      |       |     |
|------------------------------------|------|------|------|------|-------|-----|
| Piston Ø                           | 8    | 10   | 12   | 16   | 20    | 25  |
| Product weight with 0 mm stroke    | 34.6 | 37.3 | 75   | 89.8 | 186.8 | 238 |
| Additional weight per 10 mm stroke | 2.4  | 2.7  | 4    | 4.6  | 7.2   | 11  |
| Moving load with 0 mm stroke       | 7.5  | 8.5  | 18.5 | 23   | 44    | 71  |
| Moving load per 10 mm stroke       | 1    | 1    | 2    | 2    | 4     | 6   |

### Materials

Sectional view



| Round cylinder    |                 |                            |
|-------------------|-----------------|----------------------------|
| 1                 | Piston rod      | High-alloy steel           |
| 2                 | Bearing cap     | Anodised aluminium         |
| 3                 | Cylinder barrel | High-alloy stainless steel |
| 4                 | End cap         | Anodised aluminium         |
| -                 | Seals           | TPE-U(PU), NBR             |
| Note on materials |                 | RoHS compliant             |

**- 1 - Type discontinued**  
**Available up until 2017**

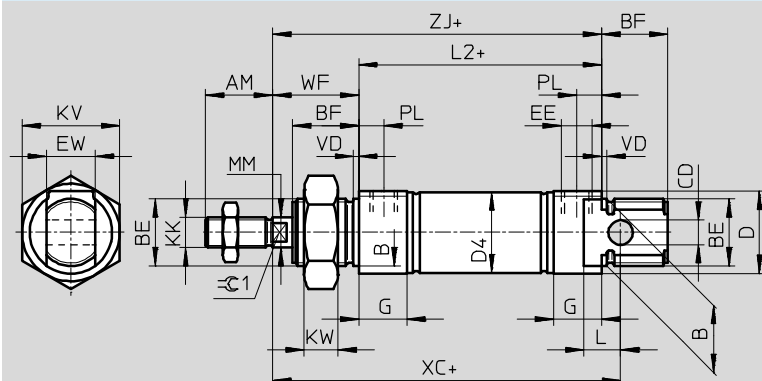
## Round cylinders DSN

## Technical data

**FESTO**

## Dimensions

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



-  - Note

Piston rod nut is not included in scope of delivery for Ø 8 ... 20.

+ = plus stroke length

| Ø<br>[mm] | AM | B<br>Ø<br>h9 | BE       | BF | CD<br>Ø<br>H9 | D<br>Ø | D4<br>Ø | EE   | EW | G  | KK       |
|-----------|----|--------------|----------|----|---------------|--------|---------|------|----|----|----------|
| 8         | 12 | 12           | M12x1.25 | 12 | 4             | 15     | 9.3     | M5   | 8  | 10 | M4       |
| 10        |    |              |          |    |               |        | 11.3    |      |    |    |          |
| 12        | 16 | 16           | M16x1.5  | 17 | 6             | 20     | 13.3    |      | 12 |    | M6       |
| 16        |    |              |          |    |               |        | 17.3    |      |    |    |          |
| 20        | 20 | 22           | M22x1.5  | 20 | 8             | 27     | 21.3    | G1/8 | 16 | 16 | M8       |
| 25        | 22 |              |          | 22 |               |        | 26.5    |      |    |    | M10x1.25 |

| Ø    | KV | KW | L  | L2   | MM<br>Ø | PL  | VD | WF | XC | ZJ  | ≡G1  |
|------|----|----|----|------|---------|-----|----|----|----|-----|------|
| [mm] |    |    |    |      |         |     |    |    | ±1 |     |      |
| 8    | 19 | 6  | 6  | 46   | 4       | 6   | 2  | 16 | 64 | 62  | –    |
| 10   |    |    |    |      |         |     |    |    |    |     |      |
| 12   | 24 | 8  | 9  | 50   | 6       |     |    | 22 | 75 | 72  | 5    |
| 16   |    |    |    | 56   |         |     |    |    | 82 | 78  |      |
| 20   | 32 | 11 | 12 | 68   | 8       | 8.2 |    | 24 | 95 | 92  | 7    |
| 25   |    |    |    | 69.5 |         |     |    | 10 | 28 | 104 | 97.5 |

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

 - 2 - Type discontinued  
Available up until 2017

**FESTO**

## Round cylinders DSN

Technical data

| Ordering data    |                |                                                 |              |
|------------------|----------------|-------------------------------------------------|--------------|
| Piston Ø<br>[mm] | Stroke<br>[mm] | P – Flexible cushioning rings/pads at both ends |              |
|                  |                | Part No.                                        | Type         |
| 8                | 10             | 5033                                            | DSN-8-10-P   |
|                  | 25             | 5034                                            | DSN-8-25-P   |
|                  | 40             | 5035                                            | DSN-8-40-P   |
|                  | 50             | 5036                                            | DSN-8-50-P   |
|                  | 80             | 5037                                            | DSN-8-80-P   |
|                  | 100            | 5038                                            | DSN-8-100-P  |
| 10               | 10             | 5040                                            | DSN-10-10-P  |
|                  | 25             | 5041                                            | DSN-10-25-P  |
|                  | 40             | 5042                                            | DSN-10-40-P  |
|                  | 50             | 5043                                            | DSN-10-50-P  |
|                  | 80             | 5044                                            | DSN-10-80-P  |
|                  | 100            | 5045                                            | DSN-10-100-P |
| 12               | 10             | 5047                                            | DSN-12-10-P  |
|                  | 25             | 5048                                            | DSN-12-25-P  |
|                  | 40             | 5049                                            | DSN-12-40-P  |
|                  | 50             | 5050                                            | DSN-12-50-P  |
|                  | 80             | 5051                                            | DSN-12-80-P  |
|                  | 100            | 5052                                            | DSN-12-100-P |
|                  | 125            | 8519                                            | DSN-12-125-P |
|                  | 160            | 5053                                            | DSN-12-160-P |
|                  | 200            | 5054                                            | DSN-12-200-P |

**- 1 - Type discontinued**  
**Available up until 2017**

**FESTO**

## Round cylinders DSN

Technical data

| Ordering data    |                |                                                 |              |                                                     |                |
|------------------|----------------|-------------------------------------------------|--------------|-----------------------------------------------------|----------------|
| Piston Ø<br>[mm] | Stroke<br>[mm] | P – Flexible cushioning rings/pads at both ends |              | PPV – Pneumatic cushioning, adjustable at both ends |                |
|                  |                | Part No.                                        | Type         | Part No.                                            | Type           |
| 16               | 10             | 5056                                            | DSN-16-10-P  | –                                                   |                |
|                  | 25             | 5057                                            | DSN-16-25-P  |                                                     |                |
|                  | 40             | 5058                                            | DSN-16-40-P  | 14534                                               | DSN-16-40-PPV  |
|                  | 50             | 5059                                            | DSN-16-50-P  | 14535                                               | DSN-16-50-PPV  |
|                  | 80             | 5060                                            | DSN-16-80-P  | 14536                                               | DSN-16-80-PPV  |
|                  | 100            | 5061                                            | DSN-16-100-P | 14537                                               | DSN-16-100-PPV |
|                  | 125            | 8520                                            | DSN-16-125-P | 14538                                               | DSN-16-125-PPV |
|                  | 160            | 5062                                            | DSN-16-160-P | 14539                                               | DSN-16-160-PPV |
|                  | 200            | 5063                                            | DSN-16-200-P | 14540                                               | DSN-16-200-PPV |
| 20               | 10             | 5065                                            | DSN-20-10-P  | –                                                   |                |
|                  | 25             | 5066                                            | DSN-20-25-P  |                                                     |                |
|                  | 40             | 5067                                            | DSN-20-40-P  | 8743                                                | DSN-20-40-PPV  |
|                  | 50             | 5068                                            | DSN-20-50-P  | 8744                                                | DSN-20-50-PPV  |
|                  | 80             | 5069                                            | DSN-20-80-P  | 8745                                                | DSN-20-80-PPV  |
|                  | 100            | 5070                                            | DSN-20-100-P | 8746                                                | DSN-20-100-PPV |
|                  | 125            | 8521                                            | DSN-20-125-P | 8747                                                | DSN-20-125-PPV |
|                  | 160            | 5071                                            | DSN-20-160-P | 8748                                                | DSN-20-160-PPV |
|                  | 200            | 5072                                            | DSN-20-200-P | 8749                                                | DSN-20-200-PPV |
|                  | 250            | 8522                                            | DSN-20-250-P | 8750                                                | DSN-20-250-PPV |
|                  | 300            | 5073                                            | DSN-20-300-P | 8751                                                | DSN-20-300-PPV |
|                  | 320            | 34710                                           | DSN-20-320-P | 34712                                               | DSN-20-320-PPV |
| 25               | 10             | 5075                                            | DSN-25-10-P  | –                                                   |                |
|                  | 25             | 5076                                            | DSN-25-25-P  |                                                     |                |
|                  | 40             | 5077                                            | DSN-25-40-P  | 9666                                                | DSN-25-40-PPV  |
|                  | 50             | 5078                                            | DSN-25-50-P  | 9667                                                | DSN-25-50-PPV  |
|                  | 80             | 5079                                            | DSN-25-80-P  | 9668                                                | DSN-25-80-PPV  |
|                  | 100            | 5080                                            | DSN-25-100-P | 9669                                                | DSN-25-100-PPV |
|                  | 125            | 8523                                            | DSN-25-125-P | 8531                                                | DSN-25-125-PPV |
|                  | 160            | 5081                                            | DSN-25-160-P | 9670                                                | DSN-25-160-PPV |
|                  | 200            | 5082                                            | DSN-25-200-P | 9671                                                | DSN-25-200-PPV |
|                  | 250            | 8524                                            | DSN-25-250-P | 8532                                                | DSN-25-250-PPV |
|                  | 300            | 5083                                            | DSN-25-300-P | 9672                                                | DSN-25-300-PPV |
|                  | 320            | 34711                                           | DSN-25-320-P | 34713                                               | DSN-25-320-PPV |
|                  | 400            | 32298                                           | DSN-25-400-P | 32300                                               | DSN-25-40-PPV  |
|                  | 500            | 32299                                           | DSN-25-500-P | 32301                                               | DSN-25-500-PPV |

**- 2 - Type discontinued**  
**Available up until 2017**

**FESTO**

## Round cylinders DSN

Technical data

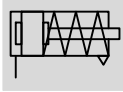
| Ordering data           |                |                                                 |              |                                                     |                |
|-------------------------|----------------|-------------------------------------------------|--------------|-----------------------------------------------------|----------------|
| Piston Ø<br>[mm]        | Stroke<br>[mm] | P – Flexible cushioning rings/pads at both ends |              | PPV – Pneumatic cushioning, adjustable at both ends |                |
|                         |                | Part No.                                        | Type         |                                                     | Part No.       |
| Variable stroke lengths |                |                                                 |              | Variable stroke lengths                             |                |
| 8                       | 1 ... 100      | 5032                                            | DSN-8-...-P  | –                                                   |                |
| 10                      | 1 ... 100      | 5039                                            | DSN-10-...-P |                                                     |                |
| 12                      | 1 ... 200      | 5046                                            | DSN-12-...-P |                                                     |                |
| 16                      | 1 ... 200      | 5055                                            | DSN-16-...-P |                                                     |                |
| 20                      | 1 ... 320      | 5064                                            | DSN-20-...-P |                                                     |                |
| 25                      | 1 ... 500      | 5074                                            | DSN-25-...-P |                                                     |                |
|                         |                |                                                 |              |                                                     |                |
| 16                      | 1 ... 200      | –                                               |              | 14533                                               | DSN-16-...-PPV |
| 20                      | 1 ... 320      |                                                 |              | 8742                                                | DSN-20-...-PPV |
| 25                      | 1 ... 500      |                                                 |              | 9665                                                | DSN-25-...-PPV |

- 1 - Type discontinued  
Available up until 2017

## Round cylinders ESN

Technical data

Function  
P cushioning



- Ø - Diameter  
8 ... 25 mm  
ISO 6432
- l - Stroke length  
1 ... 50 mm



| General technical data |      |                                             |    |    |    |    |          |
|------------------------|------|---------------------------------------------|----|----|----|----|----------|
| Piston Ø               |      | 8                                           | 10 | 12 | 16 | 20 | 25       |
| Conforms               |      | ISO 6432                                    |    |    |    |    |          |
| Pneumatic connection   |      | M5                                          | M5 | M5 | M5 | G¼ | G¼       |
| Piston rod thread      |      | M4                                          | M4 | M6 | M6 | M8 | M10x1.25 |
| Stroke                 | [mm] | 1 ... 50                                    |    |    |    |    |          |
| Constructional design  |      | Piston / Piston rod / Cylinder barrel       |    |    |    |    |          |
| Cushioning             |      | Flexible cushioning rings/pads at both ends |    |    |    |    |          |
| Type of mounting       |      | Via accessories                             |    |    |    |    |          |
| Mounting position      |      | Any                                         |    |    |    |    |          |

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

| Operating and environmental conditions       |                                                                                                        |             |    |    |            |    |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------|-------------|----|----|------------|----|
| Piston Ø                                     | 8                                                                                                      | 10          | 12 | 16 | 20         | 25 |
| Operating medium                             | Compressed air in accordance with ISO 8573-1:2010 [7:4:4]                                              |             |    |    |            |    |
| Note on operating/pilot medium               | Operation with lubricated medium possible (in which case lubricated operation will always be required) |             |    |    |            |    |
| Operating pressure                           | [bar]                                                                                                  | 1.5 ... 10  |    |    | 1.2 ... 10 |    |
| Ambient temperature                          | [°C]                                                                                                   | -20 ... +80 |    |    |            |    |
| Corrosion resistance class CRC <sup>1)</sup> | 2                                                                                                      |             |    |    |            |    |

- 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.

## Round cylinders ESN

Technical data

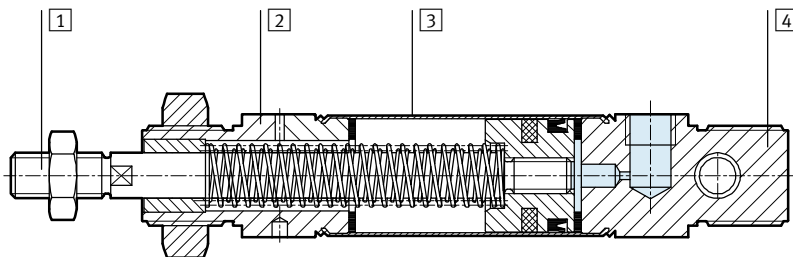
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| Force [N] and impact energy [J]       |      |      |      |      |      |      |
|---------------------------------------|------|------|------|------|------|------|
| Piston Ø                              | 8    | 10   | 12   | 16   | 20   | 25   |
| Theoretical force at 6 bar, advancing | 24   | 41   | 61   | 107  | 169  | 270  |
| Spring return force                   |      |      |      |      |      |      |
| 10 mm stroke                          | 4.9  | 4.9  | 6.3  | 13.2 | 18.3 | 22.9 |
| 25 mm stroke                          | 4.1  | 4.1  | 5.4  | 11.9 | 16.5 | 21.2 |
| 50 mm stroke                          | 2.8  | 4.8  | 3.9  | 9.8  | 13.6 | 18.5 |
| Impact energy at end positions        | 0.03 | 0.05 | 0.07 | 0.15 | 0.20 | 0.30 |

| Weight [g]                         |      |      |     |      |       |      |
|------------------------------------|------|------|-----|------|-------|------|
| Piston Ø                           | 8    | 10   | 12  | 16   | 20    | 25   |
| Product weight with 0 mm stroke    | 40   | 43   | 80  | 96   | 200   | 260  |
| Additional weight per 10 mm stroke | 2.3  | 2.5  | 4.1 | 4.7  | 7.1   | 10.9 |
|                                    |      |      |     |      |       |      |
| Moving load with 0 mm stroke       | 34.6 | 37.3 | 75  | 89.9 | 186.8 | 238  |
| Moving load per 10 mm stroke       | 2.4  | 2.7  | 4   | 4.6  | 7.2   | 11   |

### Materials

Sectional view



| Standard cylinder |                 |                            |
|-------------------|-----------------|----------------------------|
| 1                 | Piston rod      | High-alloy stainless steel |
| 2                 | Bearing cap     | Anodised aluminium         |
| 3                 | Cylinder barrel | High-alloy stainless steel |
| 4                 | End cap         | Anodised aluminium         |
| -                 | Seals           | TPE-U(PU), NBR             |
| -                 | Spring          | Spring steel               |
| Note on materials |                 | RoHS compliant             |

**1 - Type discontinued**  
**Available up until 2017**

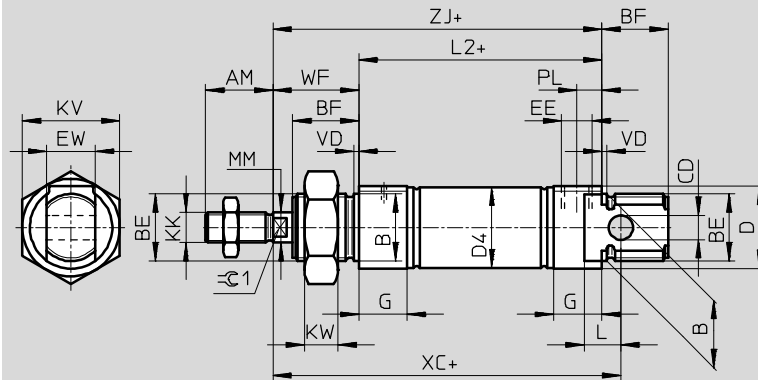
## Round cylinders ESN

Technical data

**FESTO**

### Dimensions

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



Note  
Piston rod nut is not included in scope of delivery for  $\varnothing 8 \dots 20$ .  
+ = plus stroke length

| Ø<br>[mm] | AM | B<br>Ø<br>h9 | BE       | BF | CD<br>Ø<br>H9 | D<br>Ø | D4<br>Ø | EE                            | EW | G  | KK       |
|-----------|----|--------------|----------|----|---------------|--------|---------|-------------------------------|----|----|----------|
| 8         | 12 | 12           | M12x1.25 | 12 | 4             | 15     | 9.3     | M5                            | 8  | 10 | M4       |
| 10        |    |              |          |    |               |        | 11.3    |                               |    |    |          |
| 12        | 16 | 16           | M16x1.5  | 17 | 6             | 20     | 13.3    |                               | 12 |    | M6       |
| 16        |    |              |          |    |               |        | 17.3    |                               |    |    |          |
| 20        | 20 | 22           | M22x1.5  | 20 | 8             | 27     | 21.3    | G <sup>1</sup> / <sub>8</sub> | 16 | 16 | M8       |
| 25        | 22 |              |          | 22 |               |        | 26.5    |                               |    |    | M10x1.25 |

| $\varnothing$<br>[mm] | KV | KW | L  | L2   | MM<br>$\varnothing$ | PL  | VD | WF | XC<br>$\pm 1$ | ZJ | $\approx 1$ |
|-----------------------|----|----|----|------|---------------------|-----|----|----|---------------|----|-------------|
| 8                     | 19 | 6  | 6  | 46   | 4                   | 6   | 2  | 16 | 64            | 62 | -           |
| 10                    |    |    |    |      |                     |     |    |    |               |    |             |
| 12                    | 24 | 8  | 9  | 50   | 6                   | 8.2 | 22 | 75 | 82            | 78 | 5           |
| 16                    |    |    |    | 56   |                     |     |    |    |               |    |             |
| 20                    | 32 | 11 | 12 | 68   | 8                   | 8.2 | 24 | 95 | 92            | 92 | 7           |
| 25                    |    |    |    | 69.5 |                     |     |    |    |               |    |             |

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

 Type discontinued  
Available up until 2017

## Round cylinders ESN

Technical data

**FESTO**

| Ordering data |                |             |                    |
|---------------|----------------|-------------|--------------------|
| Ø<br>[mm]     | Stroke<br>[mm] | Part No.    | Type               |
| 8             | 10             | <b>5086</b> | <b>ESN-8-10-P</b>  |
|               | 25             | <b>5087</b> | <b>ESN-8-25-P</b>  |
|               | 50             | <b>5088</b> | <b>ESN-8-50-P</b>  |
| 10            | 10             | <b>5089</b> | <b>ESN-10-10-P</b> |
|               | 25             | <b>5090</b> | <b>ESN-10-25-P</b> |
|               | 50             | <b>5091</b> | <b>ESN-10-50-P</b> |
| 12            | 10             | <b>5092</b> | <b>ESN-12-10-P</b> |
|               | 25             | <b>5093</b> | <b>ESN-12-25-P</b> |
|               | 50             | <b>5094</b> | <b>ESN-12-50-P</b> |
| 16            | 10             | <b>5095</b> | <b>ESN-16-10-P</b> |
|               | 25             | <b>5096</b> | <b>ESN-16-25-P</b> |
|               | 50             | <b>5097</b> | <b>ESN-16-50-P</b> |
| 20            | 10             | <b>5098</b> | <b>ESN-20-10-P</b> |
|               | 25             | <b>5099</b> | <b>ESN-20-25-P</b> |
|               | 50             | <b>5100</b> | <b>ESN-20-50-P</b> |
| 25            | 10             | <b>5101</b> | <b>ESN-25-10-P</b> |
|               | 25             | <b>5102</b> | <b>ESN-25-25-P</b> |
|               | 50             | <b>5103</b> | <b>ESN-25-50-P</b> |

| Ordering data           |                |              |                     |
|-------------------------|----------------|--------------|---------------------|
| Ø<br>[mm]               | Stroke<br>[mm] | Part No.     | Type                |
| Variable stroke lengths |                |              |                     |
| 8                       | 1 ... 50       | <b>11651</b> | <b>ESN-8-...-P</b>  |
| 10                      | 1 ... 50       | <b>11652</b> | <b>ESN-10-...-P</b> |
| 12                      | 1 ... 50       | <b>11653</b> | <b>ESN-12-...-P</b> |
| 16                      | 1 ... 50       | <b>11654</b> | <b>ESN-16-...-P</b> |
| 20                      | 1 ... 50       | <b>11655</b> | <b>ESN-20-...-P</b> |
| 25                      | 1 ... 50       | <b>11656</b> | <b>ESN-25-...-P</b> |

# Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Accessories

FESTO

## Foot mounting HBN/CRHBN

Scope of delivery:

HBN/CRHBN-...x1: 1 foot

HBN/CRHBN-...x2: 2 feet and 1 nut

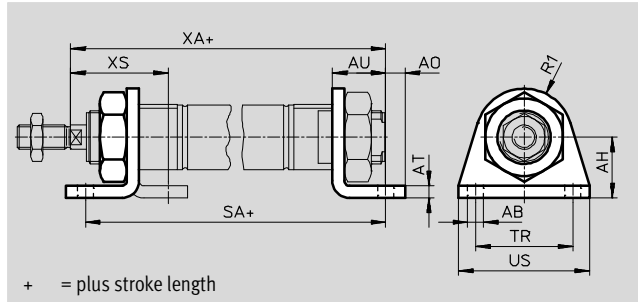
Material:

HBN: Galvanised steel

CRHBN: High-alloy stainless steel

Free of copper and PTFE

RoHS-compliant



| Dimensions and ordering data |     |    |    |    |    |    |         |       |    |    |         |       |         |   |
|------------------------------|-----|----|----|----|----|----|---------|-------|----|----|---------|-------|---------|---|
| For Ø                        | AB  | AH | AO | AT | AU | R1 | SA      |       | TR | US | XA      |       | XS      |   |
| [mm]                         | Ø   |    |    |    |    |    | DSNU-KP |       |    |    | DSNU-KP |       | DSNU-KP |   |
| 8, 10                        | 4.5 | 16 | 5  | 3  | 11 | 10 | 68      | 97    | 25 | 35 | 73      | 102   | 24      | – |
| 12                           | 5.5 | 20 | 6  | 4  | 14 | 13 | 78      | 116   | 32 | 42 | 86      | 124   | 32      | – |
| 16                           | 5.5 | 20 | 6  | 4  | 14 | 13 | 84      | 122   | 32 | 42 | 92      | 130   | 32      | – |
| 20                           | 6.6 | 25 | 8  | 5  | 17 | 20 | 102     | 149   | 40 | 54 | 109     | 156   | 36      | – |
| 25                           | 6.6 | 25 | 8  | 5  | 17 | 20 | 103.5   | 151.5 | 40 | 54 | 114.5   | 162.5 | 40      | – |

| For Ø  | Basic version     |            |          |             | High corrosion protection |            |          |               |
|--------|-------------------|------------|----------|-------------|---------------------------|------------|----------|---------------|
|        | CRC <sup>1)</sup> | Weight [g] | Part No. | Type        | CRC <sup>1)</sup>         | Weight [g] | Part No. | Type          |
| 8, 10  | 2                 | 20         | 5123     | HBN-8/10x1  | –                         | –          | –        | –             |
|        | 2                 | 55         | 5124     | HBN-8/10x2  | –                         | –          | –        | –             |
| 12, 16 | 2                 | 40         | 5125     | HBN-12/16x1 | 4                         | 40         | 161866   | CRHBN-12/16x1 |
|        | 2                 | 105        | 5126     | HBN-12/16x2 | 4                         | 97         | 162999   | CRHBN-12/16x2 |
| 20, 25 | 2                 | 90         | 5127     | HBN-20/25x1 | 4                         | 55         | 161867   | CRHBN-20/25x1 |
|        | 2                 | 220        | 5128     | HBN-20/25x2 | 4                         | 100        | 162998   | CRHBN-20/25x2 |

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.

Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

# Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

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Accessories

## Foot mounting HBN/CRH

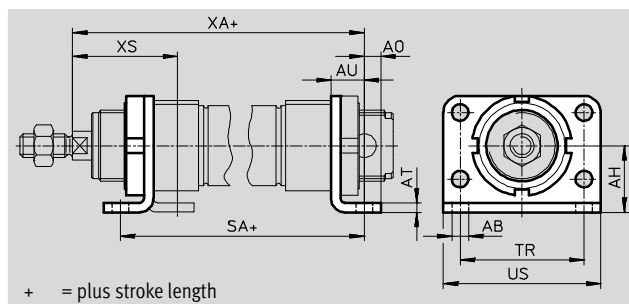
Material:

HBN: Galvanised steel

CRH: High-alloy stainless steel

Free of copper and PTFE

RoHS-compliant



| Dimensions and ordering data |    |    |    |    |    |         |       |    |    |         |       |         |   |
|------------------------------|----|----|----|----|----|---------|-------|----|----|---------|-------|---------|---|
| For Ø                        | AB | AH | AO | AT | AU | SA      |       | TR | US | XA      |       | XS      |   |
| [mm]                         | Ø  |    |    |    |    | DSNU-KP |       |    |    | DSNU-KP |       | DSNU-KP |   |
| 32                           | 7  | 28 | 7  | 4  | 14 | 97.5    | 151   | 52 | 66 | 117.5   | 171   | 44      | – |
| 40                           | 9  | 33 | 10 | 5  | 20 | 124.6   | 192.1 | 60 | 80 | 138.6   | 206.1 | 49      | – |
| 50                           | 9  | 40 | 10 | 6  | 20 | 126.2   | 202.7 | 70 | 90 | 150.2   | 226.7 | 58      | – |
| 63                           | 9  | 45 | 10 | 6  | 20 | 134.2   | 218.7 | 76 | 96 | 159.2   | 243.7 | 59      | – |

| For Ø | Basic version     |            |               |                 | High corrosion protection |            |               |               |
|-------|-------------------|------------|---------------|-----------------|---------------------------|------------|---------------|---------------|
|       | CRC <sup>1)</sup> | Weight [g] | Part No.      | Type            | CRC <sup>1)</sup>         | Weight [g] | Part No.      | Type          |
| 32    | 2                 | 247        | <b>195851</b> | <b>HBN-32x2</b> | 4                         | 237        | <b>162951</b> | <b>CRH-32</b> |
| 40    | 2                 | 446        | <b>195852</b> | <b>HBN-40x2</b> | 4                         | 341        | <b>162952</b> | <b>CRH-40</b> |
| 50    | 2                 | 666        | <b>195853</b> | <b>HBN-50x2</b> | 4                         | 559        | <b>162953</b> | <b>CRH-50</b> |
| 63    | 2                 | 816        | <b>195854</b> | <b>HBN-63x2</b> | 4                         | 680        | <b>162954</b> | <b>CRH-63</b> |

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.

Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

# Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Accessories

FESTO

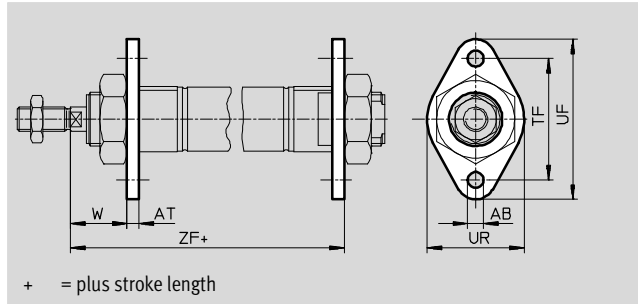
## Flange mounting FBN/CRFBN

Material:

FBN: Galvanised steel

CRFBN: High-alloy stainless steel

Free of copper and PTFE



| Dimensions and ordering data |     |    |    |    |    |    |       |         |
|------------------------------|-----|----|----|----|----|----|-------|---------|
| For Ø                        | AB  | AT | TF | UF | UR | W  | ZF    |         |
| [mm]                         | Ø   |    |    |    |    |    |       | DSNU-KP |
| 8, 10                        | 4.5 | 3  | 30 | 40 | 25 | 13 | 65    | 94      |
| 12                           | 5.5 | 4  | 40 | 53 | 30 | 18 | 76    | 114     |
| 16                           | 5.5 | 4  | 40 | 53 | 30 | 18 | 82    | 120     |
| 20                           | 6.6 | 5  | 50 | 66 | 40 | 19 | 97    | 144     |
| 25                           | 6.6 | 5  | 50 | 66 | 40 | 23 | 102.5 | 150.5   |

| For Ø  | Basic version     |            |          |           | High corrosion protection |            |          |             |
|--------|-------------------|------------|----------|-----------|---------------------------|------------|----------|-------------|
|        | CRC <sup>1)</sup> | Weight [g] | Part No. | Type      | CRC <sup>1)</sup>         | Weight [g] | Part No. | Type        |
| 8, 10  | 2                 | 12         | 5129     | FBN-8/10  | –                         | –          | –        | –           |
| 12, 16 | 2                 | 26         | 5130     | FBN-12/16 | 4                         | 26         | 161864   | CRFBN-12/16 |
| 20, 25 | 2                 | 52         | 5131     | FBN-20/25 | 4                         | 52         | 161865   | CRFBN-20/25 |

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.

Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

## Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Accessories

**FESTO**

### Flange mounting FBN/CRFV

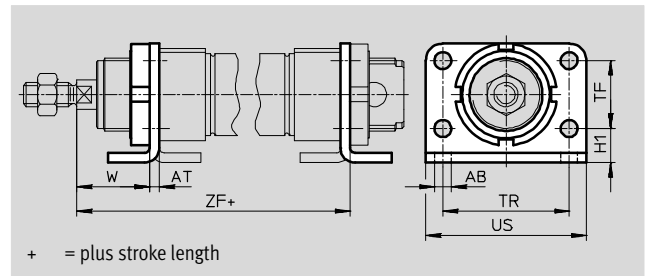
Material:

FBN: Galvanised steel

CRFV: High-alloy stainless steel

Free of copper and PTFE

RoHS-compliant



#### Dimensions and ordering data

| For Ø | AB | AT | H1 | TF | TR | US | W  | ZF    |       |
|-------|----|----|----|----|----|----|----|-------|-------|
| [mm]  | Ø  |    |    |    |    |    |    |       | -KP   |
| 32    | 7  | 4  | 14 | 28 | 52 | 66 | 30 | 107.5 | 161   |
| 40    | 9  | 5  | 18 | 30 | 60 | 80 | 29 | 123.6 | 191.1 |
| 50    | 9  | 6  | 20 | 40 | 70 | 90 | 38 | 136.2 | 212.6 |
| 63    | 9  | 6  | 20 | 50 | 76 | 96 | 39 | 145.2 | 229.7 |

| For Ø | Basic version     |            |               |               | High corrosion protection |            |               |                |
|-------|-------------------|------------|---------------|---------------|---------------------------|------------|---------------|----------------|
|       | CRC <sup>1)</sup> | Weight [g] | Part No.      | Type          | CRC <sup>1)</sup>         | Weight [g] | Part No.      | Type           |
| 32    | 1                 | 102        | <b>195855</b> | <b>FBN-32</b> | 4                         | 102        | <b>161858</b> | <b>CRFV-32</b> |
| 40    | 1                 | 190        | <b>195856</b> | <b>FBN-40</b> | 4                         | 190        | <b>161859</b> | <b>CRFV-40</b> |
| 50    | 1                 | 290        | <b>195857</b> | <b>FBN-50</b> | 4                         | 290        | <b>161860</b> | <b>CRFV-50</b> |
| 63    | 1                 | 365        | <b>195858</b> | <b>FBN-63</b> | 4                         | 365        | <b>161861</b> | <b>CRFV-63</b> |

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

Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

# Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Accessories

FESTO

## Swivel mounting SBN

Material:

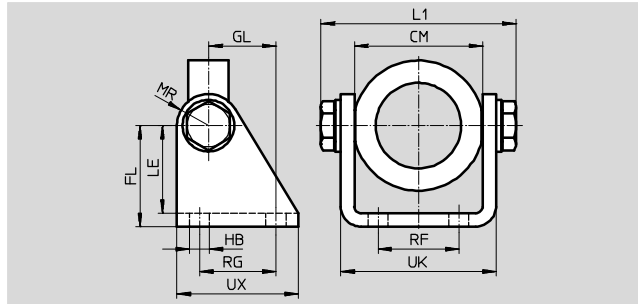
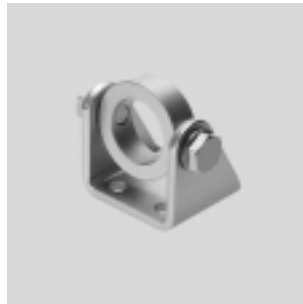
Mounting ring: Wrought aluminium alloy, anodised

Bearing: Bronze

Screws: Galvanised steel

Bracket: Steel

Cannot be used on the bearing cap in combination with bellows kit DADB.



| Dimensions and ordering data |          |    |    |    |       |    |    |    |    |      |    |                   |        |                  |
|------------------------------|----------|----|----|----|-------|----|----|----|----|------|----|-------------------|--------|------------------|
| For Ø                        | CM       | FL | GL | HB | L1    | LE | MR | RF | RG | UK   | UX | CRC <sup>1)</sup> | Weight | Part No. Type    |
| [mm]                         |          |    |    |    | max.  |    |    |    |    |      |    |                   | [g]    |                  |
| 20/25                        | 38.1+0.4 | 35 | 20 | 7  | 60.2  | 31 | 12 | 20 | 24 | 46.1 | 40 | 1                 | 238    | 539927 SBN-20/25 |
| 32                           | 46.1+0.2 | 40 | 27 | 9  | 72.2  | 35 | 13 | 28 | 30 | 56.1 | 50 | 1                 | 361    | 539924 SBN-32    |
| 40                           | 57.1+0.2 | 45 | 30 | 9  | 88.2  | 39 | 14 | 36 | 34 | 69.1 | 54 | 1                 | 593    | 539925 SBN-40    |
| 50/63                        | 70.1+0.4 | 50 | 34 | 9  | 102.2 | 44 | 16 | 42 | 35 | 82.1 | 65 | 1                 | 894    | 539926 SBN-50/63 |

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 mounting WBN

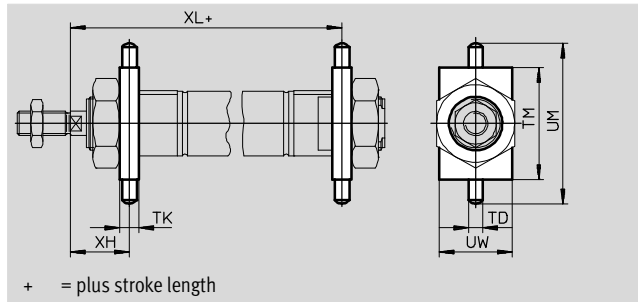
Material:

Galvanised steel

Free of copper and PTFE

RoHS-compliant

Cannot be used on the bearing cap in combination with bellows kit DADB.



+ = plus stroke length

| Dimensions and ordering data |      |    |    |     |    |      |             |                   |        |                  |
|------------------------------|------|----|----|-----|----|------|-------------|-------------------|--------|------------------|
| For Ø                        | TD   | TK | TM | UM  | UW | XH   | XL          | CRC <sup>1)</sup> | Weight | Part No. Type    |
| [mm]                         | Ø f8 |    |    |     |    |      | DSNU-KP     |                   | [g]    |                  |
| 8, 10                        | 4    | 6  | 26 | 38  | 20 | 13   | 65 94       | 2                 | 20     | 8608 WBN-8/10    |
| 12                           | 6    | 8  | 38 | 58  | 25 | 18   | 76 114      | 2                 | 50     | 8609 WBN-12/16   |
| 16                           | 6    | 8  | 38 | 58  | 25 | 18   | 82 120      | 2                 | 50     | 8609 WBN-12/16   |
| 20                           | 6    | 8  | 46 | 66  | 30 | 20   | 96 143      | 2                 | 70     | 8610 WBN-20/25   |
| 25                           | 6    | 8  | 46 | 66  | 30 | 24   | 101.5 149.5 | 2                 | 70     | 8610 WBN-20/25   |
| 32                           | 8    | 12 | 50 | 76  | 40 | 28   | 109.5 163   | 2                 | 130    | 195863 WBN-32    |
| 40                           | 10   | 15 | 60 | 92  | 50 | 31.5 | 126.1 193.6 | 2                 | 240    | 195864 WBN-40    |
| 50                           | 12   | 20 | 80 | 116 | 65 | 34   | 140.2 216.7 | 2                 | 610    | 195865 WBN-50/63 |
| 63                           | 12   | 20 | 80 | 116 | 65 | 35   | 149.2 233.7 | 2                 | 610    | 195865 WBN-50/63 |

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.

## Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Accessories

**FESTO**

### Clevis foot LBN/CRLBN

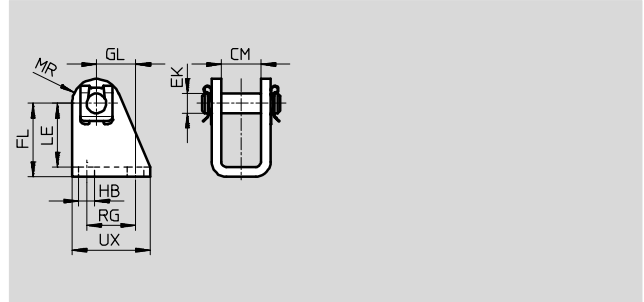
Material:

LBN: Galvanised steel

CRLBN: High-alloy stainless steel

Free of copper and PTFE

RoHS-compliant



| Dimensions and ordering data |      |         |              |      |     |      |    |      |    |
|------------------------------|------|---------|--------------|------|-----|------|----|------|----|
| For Ø                        | CM   | EK<br>Ø | FL           | GL   | HB  | LE   | MR | RG   | UX |
| [mm]                         |      |         |              |      |     |      |    |      |    |
| 8, 10                        | 8.1  | 4       | 24 +0.3/-0.2 | 13.8 | 4.5 | 21.5 | 5  | 12.5 | 20 |
| 12, 16                       | 12.1 | 6       | 27 +0.3/-0.2 | 13   | 5.5 | 24   | 7  | 15   | 25 |
| 20, 25                       | 16.1 | 8       | 30 +0.4/-0.2 | 16   | 6.6 | 26   | 10 | 20   | 32 |
| 32                           | 16.1 | 10      | 35 +0.4/-0.2 | 18.5 | 6.6 | 31   | 11 | 24   | 35 |
| 40                           | 18.1 | 12      | 40 +0.4/-0.2 | 24.5 | 9   | 35   | 13 | 30   | 45 |
| 50, 63                       | 21.1 | 16      | 45 +0.5/-0.2 | 28   | 9   | 39   | 14 | 34   | 50 |

| For Ø<br>[mm] | Basic version     |            |               |                  | High corrosion protection |            |               |                    |
|---------------|-------------------|------------|---------------|------------------|---------------------------|------------|---------------|--------------------|
|               | CRC <sup>1)</sup> | Weight [g] | Part No.      | Type             | CRC <sup>1)</sup>         | Weight [g] | Part No.      | Type               |
| 8, 10         | 1                 | 20         | <b>6057</b>   | <b>LBN-8/10</b>  | –                         | –          | –             |                    |
| 12, 16        | 1                 | 40         | <b>6058</b>   | <b>LBN-12/16</b> | 4                         | 39         | <b>161862</b> | <b>CRLBN-12/16</b> |
| 20, 25        | 1                 | 84         | <b>6059</b>   | <b>LBN-20/25</b> | 4                         | 82         | <b>161863</b> | <b>CRLBN-20/25</b> |
| 32            | 1                 | 110        | <b>195860</b> | <b>LBN-32</b>    | 4                         | 106        | <b>195866</b> | <b>CRLBN-32</b>    |
| 40            | 1                 | 191        | <b>195861</b> | <b>LBN-40</b>    | 4                         | 185        | <b>195867</b> | <b>CRLBN-40</b>    |
| 50, 63        | 1                 | 300        | <b>195862</b> | <b>LBN-50/63</b> | 4                         | 293        | <b>195868</b> | <b>CRLBN-50/63</b> |

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

Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

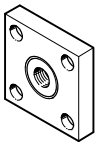
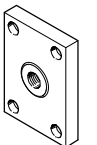
Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

# Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Accessories

**FESTO**

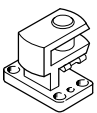
| Ordering data – Piston rod attachments                                              |       |          |              | Technical data → Internet: piston rod attachments                                   |       |          |              |
|-------------------------------------------------------------------------------------|-------|----------|--------------|-------------------------------------------------------------------------------------|-------|----------|--------------|
| Designation                                                                         | For Ø | Part No. | Type         | Designation                                                                         | For Ø | Part No. | Type         |
| Rod eye SGS                                                                         |       |          |              | Rod clevis SGA                                                                      |       |          |              |
|    | 8     | 9253     | SGS-M4       |    | 8     | –        |              |
|                                                                                     | 10    |          |              |                                                                                     | 10    |          |              |
|                                                                                     | 12    | 9254     | SGS-M6       |                                                                                     | 12    |          |              |
|                                                                                     | 16    |          |              |                                                                                     | 16    |          |              |
|                                                                                     | 20    | 9255     | SGS-M8       |                                                                                     | 20    |          |              |
|                                                                                     | 25    | 9261     | SGS-M10x1.25 |                                                                                     | 25    |          |              |
|                                                                                     | 32    |          |              |                                                                                     | 32    | 32654    | SGA-M10x1.25 |
|                                                                                     | 40    | 9262     | SGS-M12x1.25 |                                                                                     | 40    | 10767    | SGA-M12x1.25 |
|                                                                                     | 50    | 9263     | SGS-M16x1.5  |                                                                                     | 50    | 10768    | SGA-M16x1.5  |
|                                                                                     | 63    |          |              |                                                                                     | 63    |          |              |
| Rod clevis SG                                                                       |       |          |              | Self-aligning rod coupler FK                                                        |       |          |              |
|    | 8     | 6532     | SG-M4        |    | 8     | 6528     | FK-M4        |
|                                                                                     | 10    |          |              |                                                                                     | 10    |          |              |
|                                                                                     | 12    | 3110     | SG-M6        |                                                                                     | 12    | 2061     | FK-M6        |
|                                                                                     | 16    |          |              |                                                                                     | 16    |          |              |
|                                                                                     | 20    | 3111     | SG-M8        |                                                                                     | 20    | 2062     | FK-M8        |
|                                                                                     | 25    | 6144     | SG-M10x1.25  |                                                                                     | 25    | 6140     | FK-M10x1.25  |
|                                                                                     | 32    |          |              |                                                                                     | 32    |          |              |
|                                                                                     | 40    | 6145     | SG-M12x1.25  |                                                                                     | 40    | 6141     | FK-M12x1.25  |
|                                                                                     | 50    | 6146     | SG-M16x1.5   |                                                                                     | 50    | 6142     | FK-M16x1.5   |
|                                                                                     | 63    |          |              |                                                                                     | 63    |          |              |
| Coupling piece KSG                                                                  |       |          |              | Coupling piece KSZ                                                                  |       |          |              |
|  | 12    | –        |              |  | 12    | 36123    | KSZ-M6       |
|                                                                                     | 16    |          |              |                                                                                     | 16    |          |              |
|                                                                                     | 20    |          |              |                                                                                     | 20    | 36124    | KSZ-M8       |
|                                                                                     | 25    | 32963    | KSG-M10x1.25 |                                                                                     | 25    | 36125    | KSZ-M10x1.25 |
|                                                                                     | 32    |          |              |                                                                                     | 32    |          |              |
|                                                                                     | 40    | 32964    | KSG-M12x1.25 |                                                                                     | 40    | 36126    | KSZ-M12x1.25 |
|                                                                                     | 50    | 32965    | KSG-M16x1.5  |                                                                                     | 50    | 36127    | KSZ-M16x1.5  |
|                                                                                     | 63    |          |              |                                                                                     | 63    |          |              |
| Hex nut MSK                                                                         |       |          |              | –                                                                                   |       |          |              |
|  | 16    | 189007   | MSK-M16X1.5  |                                                                                     |       |          |              |
|                                                                                     | 20    | 189009   | MSK-M22X1.5  |                                                                                     |       |          |              |
|                                                                                     | 25    |          |              |                                                                                     |       |          |              |

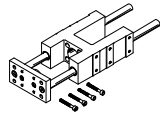
## Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

**FESTO**

Accessories

| Ordering data – Piston rod attachments, corrosion resistant                       |       |          |                | Technical data → Internet: crsg                                                   |        |          |               |               |    |       |              |
|-----------------------------------------------------------------------------------|-------|----------|----------------|-----------------------------------------------------------------------------------|--------|----------|---------------|---------------|----|-------|--------------|
| Designation                                                                       | For Ø | Part No. | Type           | Designation                                                                       | For Ø  | Part No. | Type          |               |    |       |              |
| Rod eye CRSGS                                                                     |       |          |                | Rod clevis CRSG                                                                   |        |          |               |               |    |       |              |
|  | 12    | 195580   | CRSGS-M6       |  | 12     | 13567    | CRSG-M6       |               |    |       |              |
|                                                                                   | 16    |          |                |                                                                                   | 16     |          |               |               |    |       |              |
|                                                                                   | 20    | 195581   | CRSGS-M8       |                                                                                   | 20     | 13568    | CRSG-M8       |               |    |       |              |
|                                                                                   | 25    | 195582   | CRSGS-M10x1.25 |                                                                                   | 25     | 13569    | CRSG-M10x1.25 |               |    |       |              |
|                                                                                   | 32    | 195583   | CRSGS-M12x1.25 |                                                                                   | 32     | 13570    | CRSG-M12x1.25 |               |    |       |              |
|                                                                                   | 40    |          |                |                                                                                   | 40     |          |               |               |    |       |              |
|                                                                                   | 50    |          |                |                                                                                   | 195584 |          |               | CRSGS-M16x1.5 | 50 | 13571 | CRSG-M16x1.5 |
|                                                                                   | 63    |          |                |                                                                                   | 63     |          |               |               |    |       |              |
| Self-aligning rod coupler CRFK                                                    |       |          |                | -                                                                                 |        |          |               |               |    |       |              |
|  | 25    | 2305778  | CRFK-M10x1.25  |                                                                                   |        |          |               |               |    |       |              |
|                                                                                   | 32    |          |                |                                                                                   |        |          |               |               |    |       |              |
|                                                                                   | 40    | 2305779  | CRFK-M12x1.25  |                                                                                   |        |          |               |               |    |       |              |
|                                                                                   | 50    | 2490673  | CRFK-M16x1.5   |                                                                                   |        |          |               |               |    |       |              |
|                                                                                   | 63    |          |                |                                                                                   |        |          |               |               |    |       |              |

| Ordering data – Mounting attachments                                                |       |          |        | Technical data → Internet: clevis foot                                              |       |          |        |
|-------------------------------------------------------------------------------------|-------|----------|--------|-------------------------------------------------------------------------------------|-------|----------|--------|
| Designation                                                                         | For Ø | Part No. | Type   | Designation                                                                         | For Ø | Part No. | Type   |
| Clevis foot LBG                                                                     |       |          |        | Right-angle clevis foot LQG                                                         |       |          |        |
|  | 32    | 31761    | LBG-32 |  | 32    | 31768    | LQG-32 |
|                                                                                     | 40    | 31762    | LBG-40 |                                                                                     | 40    | 31769    | LQG-40 |
|                                                                                     | 50    | 31763    | LBG-50 |                                                                                     | 50    | 31770    | LQG-50 |
|                                                                                     | 63    | 31764    | LBG-63 |                                                                                     | 63    | 31771    | LQG-63 |

| Ordering data – Guide units                                                         |        |             |                                       |                  | Technical data → Internet: feng |                  |
|-------------------------------------------------------------------------------------|--------|-------------|---------------------------------------|------------------|---------------------------------|------------------|
|                                                                                     | For Ø  | Stroke [mm] | With recirculating ball bearing guide |                  | With plain-bearing guide        |                  |
|                                                                                     |        |             | Part No.                              | Type             | Part No.                        | Type             |
|  | 8, 10  | 1 ... 100   | 35197                                 | FEN-8/10-...-KF  | 35196                           | FEN-8/10-...-GF  |
|                                                                                     | 12, 16 | 1 ... 200   | 33481                                 | FEN-12/16-...-KF | 19168                           | FEN-12/16-...-GF |
|                                                                                     | 20     | 2 ... 250   | 33482                                 | FEN-20-...-KF    | 19169                           | FEN-20-...-GF    |
|                                                                                     | 25     | 2 ... 250   | 33483                                 | FEN-25-...-KF    | 19170                           | FEN-25-...-GF    |

# Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Accessories

FESTO

## Bellows kit DADB



| General technical data                       |                                                                      |             |            |            |    |    |    |    |
|----------------------------------------------|----------------------------------------------------------------------|-------------|------------|------------|----|----|----|----|
| Type DADB-S1-                                | 12                                                                   | 16          | 20         | 25         | 32 | 40 | 50 | 63 |
| Max. stroke range of cylinder <sup>1)</sup>  |                                                                      |             |            |            |    |    |    |    |
| DSNU                                         | [mm]                                                                 | 10 ... 200  | 10 ... 320 | 10 ... 500 |    |    |    |    |
| ESNU <sup>2)</sup>                           | [mm]                                                                 | –           | 10 ... 50  |            |    |    |    |    |
| Type of mounting                             | With threaded pin                                                    |             |            |            |    |    |    |    |
| Mounting position                            | Any                                                                  |             |            |            |    |    |    |    |
| Resistance to media                          | Dust, chippings, oil, grease, fuel (➔ Internet: Resistance to media) |             |            |            |    |    |    |    |
| Ambient temperature <sup>3)</sup>            | [°C]                                                                 | –10 ... +80 |            |            |    |    |    |    |
| Corrosion resistance class CRC <sup>4)</sup> | 3                                                                    |             |            |            |    |    |    |    |

1) In combination with the bellows kit DADB

2) Slight change in spring return force

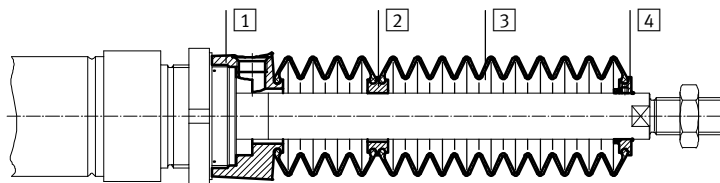
3) Note operating range of proximity sensors and cylinder

4) Corrosion resistance class CRC 3 to Festo standard FN 940070

High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

## Materials

### Sectional view



| Bellows           |                    |                         |
|-------------------|--------------------|-------------------------|
| 1                 | Connection         | Polyamide               |
| 2                 | Intermediate piece | Polyamide               |
| 3                 | Bellows            | NBR                     |
| 4                 | End piece          | Polyamide               |
| –                 | O-ring             | NBR                     |
| Note on materials |                    | Free of copper and PTFE |
|                   |                    | RoHS compliant          |

## Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

**FESTO**

Accessories

| Weight [g]                    |    |    |     |     |
|-------------------------------|----|----|-----|-----|
| Type DADB-S1 -<br>Stroke [mm] | 12 | 16 | 20  | 25  |
| 10 ... 50                     | 7  | 7  | 20  | 19  |
| 51 ... 100                    | 9  | 9  | 32  | 31  |
| 101 ... 150                   | 13 | 13 | 45  | 44  |
| 151 ... 200                   | 16 | 16 | 58  | 57  |
| 201 ... 250                   | –  | –  | 73  | 72  |
| 251 ... 300                   | –  | –  | 85  | 84  |
| 301 ... 350                   | –  | –  | 100 | 98  |
| 351 ... 400                   | –  | –  | –   | 109 |
| 401 ... 450                   | –  | –  | –   | 124 |
| 451 ... 500                   | –  | –  | –   | 136 |

| Weight [g]                    |     |     |     |     |
|-------------------------------|-----|-----|-----|-----|
| Type DADB-S1 -<br>Stroke [mm] | 32  | 40  | 50  | 63  |
| 10 ... 50                     | 29  | 34  | 55  | 55  |
| 51 ... 100                    | 41  | 49  | 75  | 75  |
| 101 ... 150                   | 51  | 60  | 89  | 89  |
| 151 ... 200                   | 66  | 78  | 113 | 113 |
| 201 ... 250                   | 79  | 93  | 131 | 131 |
| 251 ... 300                   | 92  | 108 | 149 | 149 |
| 301 ... 350                   | 92  | 108 | 151 | 151 |
| 351 ... 400                   | 104 | 122 | 169 | 169 |
| 401 ... 450                   | 117 | 137 | 187 | 187 |
| 451 ... 500                   | 117 | 137 | 189 | 189 |

# Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Accessories

FESTO

## Speed of travel $v$ as a function of tube length $l$



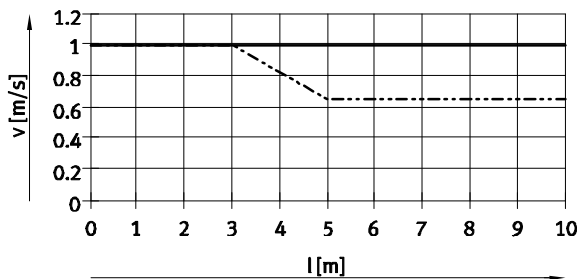
The bellows kit is a leak-free system. To prevent unwanted media from being drawn in, the supply and exhaust air must be ducted via a pressure compensation hole in the

connection part **1**.

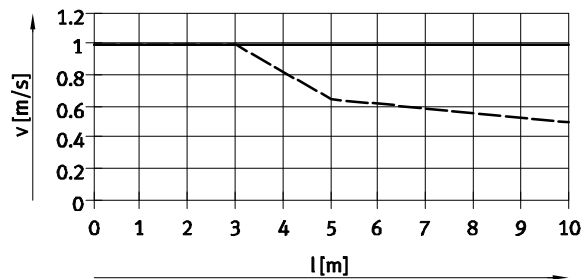
The pressure generated in the bellows kit by the positioning motion is primarily defined by speed of travel

and tubing length. The recommended tubing length based on the travel speed of the drive can be read from the graph.

### Advancing

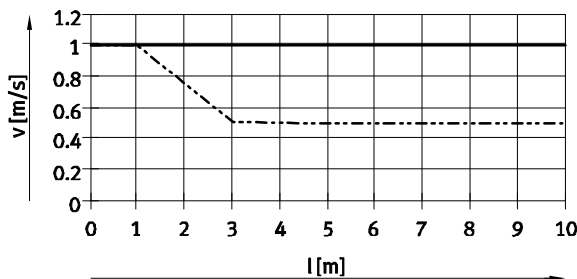


— Ø 12/16  
- - - Ø 20/25

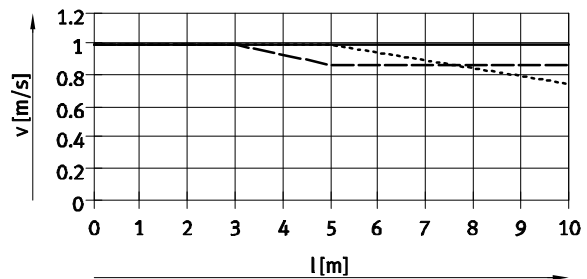


— Ø 32/50/63  
- - - Ø 40

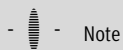
### Retracting



— Ø 12/16  
- - - Ø 20/25



— Ø 32  
- - - Ø 40  
- - - Ø 50/63



Note

The push-in fittings opposite must be used for the pressure compensation hole.

Silencers can be used as an alternative. This reduces the travel speed slightly.

### Tubing length and push-in fitting for pressure compensation hole

| Ø [mm]         | Tubing O.D. [mm] | Push-in fitting |                         |
|----------------|------------------|-----------------|-------------------------|
|                |                  | Part No.        | Type                    |
| 12, 16, 20, 25 | 6                | 153317          | QSM-M5-6-I              |
|                |                  | 578371          | NPQH-DK-M5-Q6-P10       |
|                |                  | 578335          | NPQH-D-M5-Q6-P10        |
|                |                  | 578359          | NPQH-D-M5-S6-P10        |
| 32, 40         | 8                | 186109          | QS-G $\frac{1}{8}$ -8-I |
|                |                  | 578376          | NPQH-DK-G18-Q8-P10      |
|                |                  | 578362          | NPQH-D-G18-S8-P10       |
|                |                  | 186350          | QS-G $\frac{1}{4}$ -12  |
| 50, 63         | 12               | 578344          | NPQH-D-G14-Q12-P10      |
|                |                  | 578366          | NPQH-D-G14-S12-P10      |

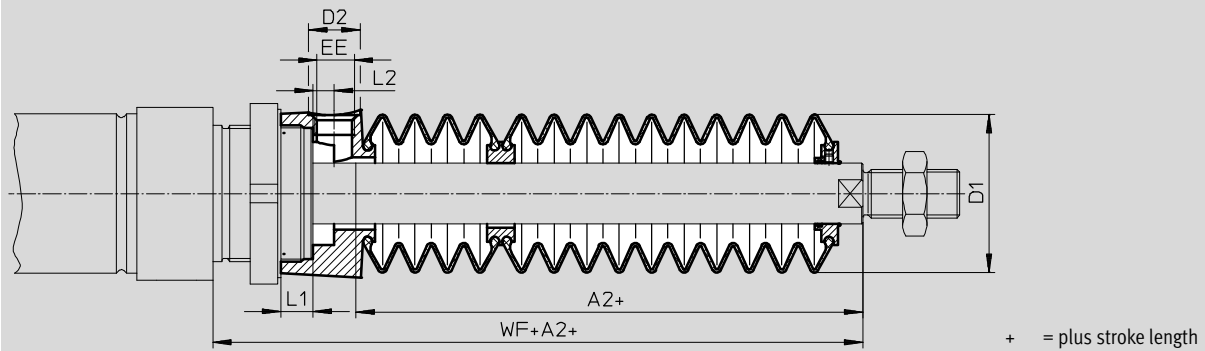
# Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Accessories

**FESTO**

## Dimensions

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



| Ø<br>Stroke<br>[mm] | 12/16            |            |     |    |    |     |       | 20               |            |     |    |     |     |       |
|---------------------|------------------|------------|-----|----|----|-----|-------|------------------|------------|-----|----|-----|-----|-------|
|                     | A2 <sup>1)</sup> | D1<br>max. | D2  | EE | L1 | L2  | WF+A2 | A2 <sup>1)</sup> | D1<br>max. | D2  | EE | L1  | L2  | WF+A2 |
| 10 ... 50           | 23               | 22         | 8.5 | M5 | 5  | 3.2 | 45    | 22               | 29         | 8.5 | M5 | 4.2 | 2.7 | 46    |
| 51 ... 100          | 34               |            |     |    |    |     | 56    | 34               |            |     |    |     |     | 58    |
| 101 ... 150         | 48               |            |     |    |    |     | 70    | 47               |            |     |    |     |     | 71    |
| 151 ... 200         | 59               |            |     |    |    |     | 81    | 60               |            |     |    |     |     | 84    |
| 201 ... 250         | –                |            |     |    |    |     | –     | 75               |            |     |    |     |     | 99    |
| 251 ... 300         | –                |            |     |    |    |     | –     | 86               |            |     |    |     |     | 110   |
| 301 ... 350         | –                |            |     |    |    |     | –     | 101              |            |     |    |     |     | 125   |
| 351 ... 400         | –                |            |     |    |    |     | –     | –                |            |     |    |     |     | –     |
| 401 ... 450         | –                |            |     |    |    |     | –     | –                |            |     |    |     |     | –     |
| 451 ... 500         | –                |            |     |    |    |     | –     | –                |            |     |    |     |     | –     |

| Ø<br>Stroke<br>[mm] | 25               |            |     |    |     |     |       |
|---------------------|------------------|------------|-----|----|-----|-----|-------|
|                     | A2 <sup>1)</sup> | D1<br>max. | D2  | EE | L1  | L2  | WF+A2 |
| 10 ... 50           | 22               | 29         | 8.5 | M5 | 4.2 | 2.7 | 50    |
| 51 ... 100          | 34               |            |     |    |     |     | 62    |
| 101 ... 150         | 47               |            |     |    |     |     | 75    |
| 151 ... 200         | 60               |            |     |    |     |     | 88    |
| 201 ... 250         | 75               |            |     |    |     |     | 103   |
| 251 ... 300         | 86               |            |     |    |     |     | 114   |
| 301 ... 350         | 101              |            |     |    |     |     | 129   |
| 351 ... 400         | 112              |            |     |    |     |     | 140   |
| 401 ... 450         | 127              |            |     |    |     |     | 155   |
| 451 ... 500         | 138              |            |     |    |     |     | 166   |

1) The dimension corresponds to the K8 value (extended piston rod) of the drive

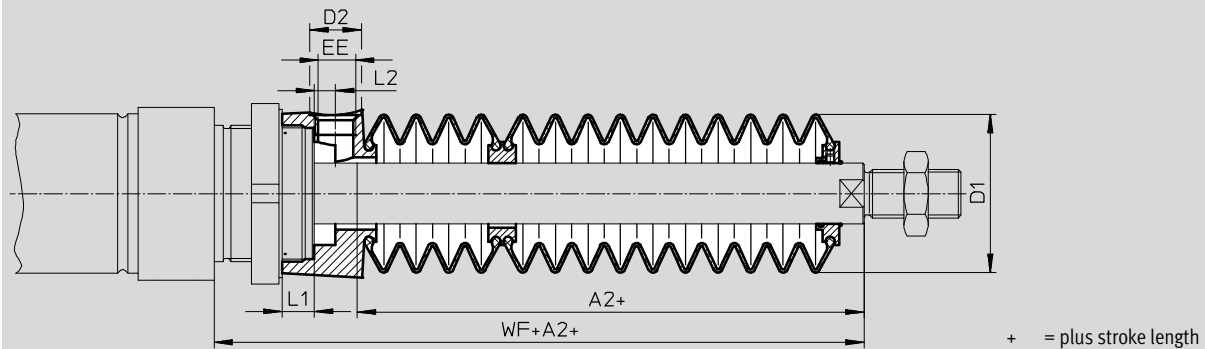
# Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Accessories

**FESTO**

## Dimensions

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



| Ø<br>Stroke<br>[mm] | 32               |            |    |      |      |     |       | 40               |            |    |      |     |     |       |
|---------------------|------------------|------------|----|------|------|-----|-------|------------------|------------|----|------|-----|-----|-------|
|                     | A2 <sup>1)</sup> | D1<br>max. | D2 | EE   | L1   | L2  | WF+A2 | A2 <sup>1)</sup> | D1<br>max. | D2 | EE   | L1  | L2  | WF+A2 |
| 10 ... 50           | 30               | 38         | 14 | G1/8 | 12.9 | 5.4 | 64    | 29               | 46         | 14 | G1/8 | 8.1 | 5.4 | 68    |
| 51 ... 125          | 48               |            |    |      |      |     | 82    | 44               |            |    |      |     |     | 83    |
| 126 ... 175         | 63               |            |    |      |      |     | 97    | 57               |            |    |      |     |     | 96    |
| 176 ... 250         | 82               |            |    |      |      |     | 116   | 73               |            |    |      |     |     | 112   |
| 251 ... 300         | 97               |            |    |      |      |     | 131   | 87               |            |    |      |     |     | 126   |
| 301 ... 350         | 113              |            |    |      |      |     | 147   | 101              |            |    |      |     |     | 140   |
| 351 ... 375         | 115              |            |    |      |      |     | 149   | 102              |            |    |      |     |     | 141   |
| 376 ... 425         | 131              |            |    |      |      |     | 165   | 116              |            |    |      |     |     | 155   |
| 426 ... 475         | 147              |            |    |      |      |     | 181   | 131              |            |    |      |     |     | 170   |
| 476 ... 500         | 149              |            |    |      |      |     | 183   | 132              |            |    |      |     |     | 171   |

| Ø<br>Stroke<br>[mm] | 50/63            |            |    |      |       |    |         |
|---------------------|------------------|------------|----|------|-------|----|---------|
|                     | A2 <sup>1)</sup> | D1<br>max. | D2 | EE   | L1    | L2 | WF+A2   |
| 10 ... 50           | 30               | 57         | 17 | G1/4 | 10.65 | 7  | 74/75   |
| 51 ... 125          | 48               |            |    |      |       |    | 92/93   |
| 126 ... 175         | 58               |            |    |      |       |    | 102/103 |
| 176 ... 250         | 77               |            |    |      |       |    | 121/122 |
| 251 ... 300         | 88               |            |    |      |       |    | 132/133 |
| 301 ... 350         | 99               |            |    |      |       |    | 143/144 |
| 351 ... 375         | 106              |            |    |      |       |    | 150/151 |
| 376 ... 425         | 117              |            |    |      |       |    | 161/162 |
| 426 ... 475         | 128              |            |    |      |       |    | 172/173 |
| 476 ... 500         | 135              |            |    |      |       |    | 179/180 |

1) The dimension corresponds to the K8 value (extended piston rod) of the drive

# Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

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Accessories

## Ordering data – Bellows kit

An extended piston rod (order code K8) is required when using a bellows kit  
→ Ordering data – Modular products.

The necessary dimensions for K8 as a function of piston diameter and cylinder stroke as well as the corresponding bellows kit are indicated in the table below:

## Order example:

Selected standard cylinder:

DSNU-25-320-PPV-A-MQ-...

The dimension for the corresponding K8 value (see table):  
101 mm

Complete type code for standard cylinder:

DSNU-25-320-PPV-A-MQ-...-101K8

The corresponding bellows kit:

DADB-S1-25-S301-350

| Cylinder data |             |                  | Bellows kit |                     |
|---------------|-------------|------------------|-------------|---------------------|
| Ø             | Stroke      | Dimension for K8 | Part No.    | Type                |
| [mm]          | [mm]        | [mm]             |             |                     |
| 12            | 10 ... 50   | 23               | 553391      | DADB-S1-12-S10-50   |
|               | 51 ... 100  | 34               | 553393      | DADB-S1-12-S51-100  |
|               | 101 ... 150 | 48               | 553395      | DADB-S1-12-S101-150 |
|               | 151 ... 200 | 59               | 553397      | DADB-S1-12-S151-200 |
| 20            | 10 ... 50   | 22               | 553407      | DADB-S1-20-S10-50   |
|               | 51 ... 100  | 34               | 553409      | DADB-S1-20-S51-100  |
|               | 101 ... 150 | 47               | 553411      | DADB-S1-20-S101-150 |
|               | 151 ... 200 | 60               | 553413      | DADB-S1-20-S151-200 |
|               | 201 ... 250 | 75               | 553415      | DADB-S1-20-S201-250 |
|               | 251 ... 300 | 86               | 553417      | DADB-S1-20-S251-300 |
|               | 301 ... 320 | 101              | 553419      | DADB-S1-20-S301-350 |
| 25            | 10 ... 50   | 22               | 553421      | DADB-S1-25-S10-50   |
|               | 51 ... 100  | 34               | 553423      | DADB-S1-25-S51-100  |
|               | 101 ... 150 | 47               | 553425      | DADB-S1-25-S101-150 |
|               | 151 ... 200 | 60               | 553427      | DADB-S1-25-S151-200 |
|               | 201 ... 250 | 75               | 553429      | DADB-S1-25-S201-250 |
|               | 251 ... 300 | 86               | 553431      | DADB-S1-25-S251-300 |
|               | 301 ... 350 | 101              | 553433      | DADB-S1-25-S301-350 |
|               | 351 ... 400 | 112              | 553435      | DADB-S1-25-S351-400 |
|               | 401 ... 450 | 127              | 553437      | DADB-S1-25-S401-450 |
|               | 451 ... 500 | 138              | 553439      | DADB-S1-25-S451-500 |
| 32            | 10 ... 50   | 30               | 553441      | DADB-S1-32-S10-50   |
|               | 51 ... 125  | 48               | 553443      | DADB-S1-32-S51-125  |
|               | 126 ... 175 | 63               | 553445      | DADB-S1-32-S126-175 |
|               | 176 ... 250 | 82               | 553447      | DADB-S1-32-S176-250 |
|               | 251 ... 300 | 97               | 553449      | DADB-S1-32-S251-300 |
|               | 301 ... 350 | 113              | 553451      | DADB-S1-32-S301-350 |
|               | 351 ... 375 | 115              | 553453      | DADB-S1-32-S351-375 |
|               | 376 ... 425 | 131              | 553455      | DADB-S1-32-S376-425 |
|               | 426 ... 475 | 147              | 553457      | DADB-S1-32-S426-475 |
|               | 476 ... 500 | 149              | 553459      | DADB-S1-32-S476-500 |
| 40            | 10 ... 50   | 29               | 553461      | DADB-S1-40-S10-50   |
|               | 51 ... 125  | 44               | 553463      | DADB-S1-40-S51-125  |
|               | 126 ... 175 | 57               | 553465      | DADB-S1-40-S126-175 |
|               | 176 ... 250 | 73               | 553467      | DADB-S1-40-S176-250 |
|               | 251 ... 300 | 87               | 553469      | DADB-S1-40-S251-300 |
|               | 301 ... 350 | 101              | 553471      | DADB-S1-40-S301-350 |
|               | 351 ... 375 | 102              | 553473      | DADB-S1-40-S351-375 |
|               | 376 ... 425 | 116              | 553475      | DADB-S1-40-S376-425 |
|               | 426 ... 475 | 131              | 553477      | DADB-S1-40-S426-475 |
|               | 476 ... 500 | 132              | 553479      | DADB-S1-40-S476-500 |
| 50            | 10 ... 50   | 30               | 553481      | DADB-S1-50-S10-50   |
|               | 51 ... 125  | 48               | 553483      | DADB-S1-50-S51-125  |
|               | 126 ... 175 | 58               | 553485      | DADB-S1-50-S126-175 |
|               | 176 ... 250 | 77               | 553487      | DADB-S1-50-S176-250 |
|               | 251 ... 300 | 88               | 553489      | DADB-S1-50-S251-300 |
|               | 301 ... 350 | 99               | 553491      | DADB-S1-50-S301-350 |
|               | 351 ... 375 | 106              | 553493      | DADB-S1-50-S351-375 |
|               | 376 ... 425 | 117              | 553495      | DADB-S1-50-S376-425 |
|               | 426 ... 475 | 128              | 553497      | DADB-S1-50-S426-475 |
|               | 476 ... 500 | 135              | 553499      | DADB-S1-50-S476-500 |
| 63            | 10 ... 50   | 30               | 553501      | DADB-S1-63-S10-50   |
|               | 51 ... 125  | 48               | 553503      | DADB-S1-63-S51-125  |
|               | 126 ... 175 | 58               | 553505      | DADB-S1-63-S126-175 |
|               | 176 ... 250 | 77               | 553507      | DADB-S1-63-S176-250 |
|               | 251 ... 300 | 88               | 553509      | DADB-S1-63-S251-300 |
|               | 301 ... 350 | 99               | 553511      | DADB-S1-63-S301-350 |
|               | 351 ... 375 | 106              | 553513      | DADB-S1-63-S351-375 |
|               | 376 ... 425 | 117              | 553515      | DADB-S1-63-S376-425 |
|               | 426 ... 475 | 128              | 553517      | DADB-S1-63-S426-475 |
|               | 476 ... 500 | 135              | 553519      | DADB-S1-63-S476-500 |

# Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Accessories

**FESTO**

| Ordering data – Proximity sensors, round design, magneto-resistive                |                 |                  |                       |         |                  |                      | Technical data ➔ Internet: smto |                            |
|-----------------------------------------------------------------------------------|-----------------|------------------|-----------------------|---------|------------------|----------------------|---------------------------------|----------------------------|
|                                                                                   | Assembly        | Switching output | Electrical connection |         | Cable length [m] | Connection direction | Part No.                        | Type                       |
|                                                                                   |                 |                  | Cable                 | Plug M8 |                  |                      |                                 |                            |
| N/O contact                                                                       |                 |                  |                       |         |                  |                      |                                 |                            |
|  | Via accessories | PNP              | 3-wire                | –       | 2.5              | In-line              | <b>152836</b>                   | <b>SMT0-4U-PS-K-LED-24</b> |
|                                                                                   |                 |                  | –                     | 3-pin   | –                | In-line              | <b>152742</b>                   | <b>SMT0-4U-PS-S-LED-24</b> |
|                                                                                   |                 | NPN              | 3-wire                | –       | 2.5              | In-line              | <b>152837</b>                   | <b>SMT0-4U-NS-K-LED-24</b> |
|                                                                                   |                 |                  | –                     | 3-pin   | –                | In-line              | <b>152743</b>                   | <b>SMT0-4U-NS-S-LED-24</b> |

| Ordering data – Proximity sensors, round design, magnetic reed                    |                 |                       |         |                     |                         |          | Technical data → Internet: smeo |  |
|-----------------------------------------------------------------------------------|-----------------|-----------------------|---------|---------------------|-------------------------|----------|---------------------------------|--|
|                                                                                   | Assembly        | Electrical connection |         | Cable length<br>[m] | Connection<br>direction | Part No. | Type                            |  |
|                                                                                   |                 | Cable                 | Plug M8 |                     |                         |          |                                 |  |
| N/O contact                                                                       |                 |                       |         |                     |                         |          |                                 |  |
|  | Via accessories | 3-wire                | –       | 2.5                 | In-line                 | 36198    | SMEO-4U-K-LED-24                |  |
|                                                                                   |                 |                       |         | 5                   | In-line                 | 175401   | SMEO-4U-K5-LED-24               |  |
|                                                                                   |                 | –                     | 3-pin   | –                   | In-line                 | 151526   | SMEO-4U-S-LED-24-B              |  |

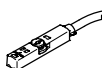
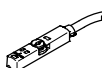
| Ordering data – Proximity sensors, round design, magnetic reed, corrosion resistant |                 |                       |         |                     |                         |          | Technical data → Internet: crsmeo |  |
|-------------------------------------------------------------------------------------|-----------------|-----------------------|---------|---------------------|-------------------------|----------|-----------------------------------|--|
|                                                                                     | Assembly        | Electrical connection |         | Cable length<br>[m] | Connection<br>direction | Part No. | Type                              |  |
|                                                                                     |                 | Cable                 | Plug M8 |                     |                         |          |                                   |  |
| N/O contact                                                                         |                 |                       |         |                     |                         |          |                                   |  |
|  | Via accessories | 3-wire                | –       | 2.5                 | In-line                 | 161775   | CRSME0-4-K-LED-24                 |  |

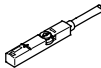
| Ordering data – Mounting kits for proximity sensors SME0/SMT0/CRSME0                |       |          |         | Technical data → Internet: smbr                                                     |        |           |           |
|-------------------------------------------------------------------------------------|-------|----------|---------|-------------------------------------------------------------------------------------|--------|-----------|-----------|
| Designation                                                                         | For Ø | Part No. | Type    | Designation                                                                         | For Ø  | Part No.  | Type      |
| Mounting kit SMBR                                                                   |       |          |         | Mounting kit CRSMBR, corrosion resistant                                            |        |           |           |
|  | 8     | 19272    | SMBR-8  |  | 8      | –         | –         |
|                                                                                     | 10    | 19273    | SMBR-10 |                                                                                     | 10     | –         | –         |
|                                                                                     | 12    | 19274    | SMBR-12 |                                                                                     | 12     | 164581    | CRSMBR-12 |
|                                                                                     | 16    | 19275    | SMBR-16 |                                                                                     | 16     | 164582    | CRSMBR-16 |
|                                                                                     | 20    | 19276    | SMBR-20 |                                                                                     | 20     | 164583    | CRSMBR-20 |
|                                                                                     | 25    | 19277    | SMBR-25 |                                                                                     | 25     | 164584    | CRSMBR-25 |
|                                                                                     | –     |          |         |  | 32     | 163888    | CRSMBR-32 |
|                                                                                     |       |          | 40      |                                                                                     | 163889 | CRSMBR-40 |           |
|                                                                                     |       |          | 50      |                                                                                     | 163890 | CRSMBR-50 |           |
|                                                                                     |       |          | 63      |                                                                                     | 163891 | CRSMBR-63 |           |

## Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Accessories

**FESTO**

| 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              | <b>543862</b>                  | <b>SME-8M-DS-24V-K-2,5-OE</b>  |
|                                                                                     |                                                                    |                  |                                   | 5.0              | <b>543863</b>                  | <b>SME-8M-DS-24V-K-5,0-OE</b>  |
|                                                                                     |                                                                    |                  | Cable, 2-wire<br>Plug M8x1, 3-pin | 2.5              | <b>543872</b>                  | <b>SME-8M-ZS-24V-K-2,5-OE</b>  |
|                                                                                     |                                                                    |                  |                                   | 0.3              | <b>543861</b>                  | <b>SME-8M-DS-24V-K-0,3-M8D</b> |
|  | Insertable in the slot lengthwise, flush with the cylinder profile | Contacting       | Cable, 3-wire                     | 2.5              | <b>150855</b>                  | <b>SME-8-K-LED-24</b>          |
|                                                                                     |                                                                    |                  | Plug M8x1, 3-pin                  | 0.3              | <b>150857</b>                  | <b>SME-8-S-LED-24</b>          |
| N/C contact                                                                         |                                                                    |                  |                                   |                  |                                |                                |
|  | Insertable in the slot lengthwise, flush with the cylinder profile | Contacting       | Cable, 3-wire                     | 7.5              | <b>160251</b>                  | <b>SME-8-O-K-LED-24</b>        |

| Ordering data – Mounting kits for proximity sensors SME/SMT-8                       |       |          | Technical data → Internet: smbr |  |
|-------------------------------------------------------------------------------------|-------|----------|---------------------------------|--|
| Designation                                                                         | For Ø | Part No. | Type                            |  |
| Mounting kit SMBR-8                                                                 |       |          |                                 |  |
|  | 8     | 175091   | SMBR-8-8                        |  |
|                                                                                     | 10    | 175092   | SMBR-8-10                       |  |
|                                                                                     | 12    | 175093   | SMBR-8-12                       |  |
|                                                                                     | 16    | 175094   | SMBR-8-16                       |  |
|                                                                                     | 20    | 175095   | SMBR-8-20                       |  |
|                                                                                     | 25    | 175096   | SMBR-8-25                       |  |
|                                                                                     | 32    | 175097   | SMBR-8-32                       |  |
|                                                                                     | 40    | 175098   | SMBR-8-40                       |  |
|                                                                                     | 50    | 175099   | SMBR-8-50                       |  |
|                                                                                     | 63    | 175100   | SMBR-8-63                       |  |

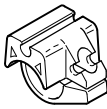
## Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Accessories

**FESTO**

| Ordering data – Proximity sensors for slot type 10 (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                                                                       |                                   |                  |                                             |                  |                                |                            |
|  | Insertable in the slot from above | 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 |
|                                                                                   |                                   |                  | Plug M8x1, 3-pin, angled                    | 0.3              | 551376                         | SMT-10M-PS-24V-E-0,3-Q-M8D |

| Ordering data – Proximity sensors for C-slot, magnetic reed                       |                                   |                  |                                             |                  | Technical data → Internet: sme |                            |
|-----------------------------------------------------------------------------------|-----------------------------------|------------------|---------------------------------------------|------------------|--------------------------------|----------------------------|
|                                                                                   | Type of mounting                  | Switching output | Electrical connection, connection direction | Cable length [m] | Part No.                       | Type                       |
| N/O contact                                                                       |                                   |                  |                                             |                  |                                |                            |
|  | Insertable in the slot from above | Contacting       | Plug M8x1, 3-pin, in-line                   | 0.3              | 551367                         | SME-10M-DS-24V-E-0,3-L-M8D |
|                                                                                   |                                   |                  | Cable, 3-wire, in-line                      | 2.5              | 551365                         | SME-10M-DS-24V-E-2,5-L-OE  |
|                                                                                   |                                   |                  | Cable, 2-wire, in-line                      | 2.5              | 551369                         | SME-10M-ZS-24V-E-2,5-L-OE  |
|  | Insertable in slot lengthwise     | Contacting       | Plug M8x1, 3-pin, in-line                   | 0.3              | 173212                         | SME-10-SL-LED-24           |
|                                                                                   |                                   |                  | Cable, 3-wire, in-line                      | 2.5              | 173210                         | SME-10-KL-LED-24           |

| Ordering data – Mounting kits for proximity sensors SME/SMT-10                      |       |  |  | Technical data → Internet: smbr |            |
|-------------------------------------------------------------------------------------|-------|--|--|---------------------------------|------------|
| Designation                                                                         | For Ø |  |  | Part No.                        | Type       |
| Mounting kit SMBR-10                                                                |       |  |  |                                 |            |
|  | 8     |  |  | 175101                          | SMBR-10-8  |
|                                                                                     | 10    |  |  | 173227                          | SMBR-10-10 |
|                                                                                     | 12    |  |  | 175102                          | SMBR-10-12 |
|                                                                                     | 16    |  |  | 173228                          | SMBR-10-16 |
|                                                                                     | 20    |  |  | 175103                          | SMBR-10-20 |
|                                                                                     | 25    |  |  | 175104                          | SMBR-10-25 |
|                                                                                     | 32    |  |  | 175105                          | SMBR-10-32 |
|                                                                                     | 40    |  |  | 175106                          | SMBR-10-40 |
|                                                                                     | 50    |  |  | 175107                          | SMBR-10-50 |
|                                                                                     | 63    |  |  | 175108                          | SMBR-10-63 |

| 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   |

# Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

**FESTO**

Accessories

| Ordering data – One-way flow control valves                                       |                                                                                    |                 |              | Technical data → Internet: grl |                  |        |                |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------|--------------|--------------------------------|------------------|--------|----------------|
|                                                                                   | Port                                                                               | For tubing O.D. | Material     | Part No.                       | Type             |        |                |
|                                                                                   | Thread                                                                             |                 |              |                                |                  |        |                |
| For exhaust air                                                                   |                                                                                    |                 |              |                                |                  |        |                |
|  | M5                                                                                 | 3               | Metal design | 193137                         | GRLA-M5-QS-3-D   |        |                |
|                                                                                   |                                                                                    | 4               |              | 193138                         | GRLA-M5-QS-4-D   |        |                |
|                                                                                   |                                                                                    | 6               |              | 193139                         | GRLA-M5-QS-6-D   |        |                |
|                                                                                   | G1/8                                                                               | 3               |              | 193142                         | GRLA-1/8-QS-4-D  |        |                |
|                                                                                   |                                                                                    | 4               |              | 193143                         | GRLA-1/8-QS-4-D  |        |                |
|                                                                                   |                                                                                    | 6               |              | 193144                         | GRLA-1/8-QS-6-D  |        |                |
|                                                                                   |                                                                                    | 8               |              | 193145                         | GRLA-1/8-QS-8-D  |        |                |
|                                                                                   | G1/4                                                                               | 6               |              | 193146                         | GRLA-1/4-QS-6-D  |        |                |
|                                                                                   |                                                                                    | 8               |              | 193147                         | GRLA-1/4-QS-8-D  |        |                |
|                                                                                   |                                                                                    | 10              |              | 193148                         | GRLA-1/4-QS-10-D |        |                |
|                                                                                   | G3/8                                                                               | 6               |              | 193149                         | GRLA-3/8-QS-6-D  |        |                |
|                                                                                   |                                                                                    | 8               |              | 193150                         | GRLA-3/8-QS-8-D  |        |                |
|                                                                                   |                                                                                    | 10              |              | 193151                         | GRLA-3/8-QS-10-D |        |                |
|                                                                                   | For supply air                                                                     |                 |              |                                |                  |        |                |
|                                                                                   |  | G1/8            |              | 3                              | Metal design     | 193153 | GRLZ-M5-QS-3-D |
| 4                                                                                 |                                                                                    |                 | 193154       | GRLZ-M5-QS-4-D                 |                  |        |                |
| 6                                                                                 |                                                                                    |                 | 193155       | GRLZ-M5-QS-6-D                 |                  |        |                |
| 3                                                                                 |                                                                                    |                 | 193156       | GRLZ-1/8-QS-3-D                |                  |        |                |
| 4                                                                                 |                                                                                    |                 | 193157       | GRLZ-1/8-QS-4-D                |                  |        |                |
| 6                                                                                 |                                                                                    |                 | 193158       | GRLZ-1/8-QS-6-D                |                  |        |                |
| 8                                                                                 |                                                                                    |                 | 193159       | GRLZ-1/8-QS-8-D                |                  |        |                |
|                                                                                   |                                                                                    |                 |              |                                |                  |        |                |
|                                                                                   |                                                                                    |                 |              |                                |                  |        |                |

| Ordering data – One-way flow control valves, corrosion resistant                    |        |                     |                                                   |          | Technical data ➔ Internet: <a href="#">crgla</a> |  |
|-------------------------------------------------------------------------------------|--------|---------------------|---------------------------------------------------|----------|--------------------------------------------------|--|
|                                                                                     | Port   |                     | Material                                          | Part No. | Type                                             |  |
|                                                                                     | Thread | For push-in fitting |                                                   |          |                                                  |  |
| For exhaust air                                                                     |        |                     |                                                   |          |                                                  |  |
|  | M5     | CRQS/CRQSL/CRQST    | Electrolytically polished stainless steel casting | 161403   | CRGRLA-M5-B                                      |  |
|                                                                                     | G1/8   |                     |                                                   | 161404   | CRGRLA-1/8-B                                     |  |
|                                                                                     | G1/4   |                     |                                                   | 161405   | CRGRLA-1/4-B                                     |  |
|                                                                                     | G3/8   |                     |                                                   | 161406   | CRGRLA-3/8-B                                     |  |

 Note

Only push-in fittings or one-way flow control valves with cylindrical connecting thread (M or G thread) may be used for the compressed air ports in conjunction with the DSNUP.