

Round cylinders ESNU

FESTO



Key features

At a glance

ESNU-8 ... 63

- Stainless steel piston rod
- Good running performance and long service life
- Piston rod with male and female thread

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



ESNU-8 ... 25

- The basic versions conform to ISO 6432, variants are based on these standards

Wide choice of variants

ESNU-...

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

ESNU-...-MA

- Piston \varnothing 8 ... 63 mm
- Cylinder barrel made of stainless steel
- Bearing cap with threaded flange
- Short end cap with axial supply port



Cushioning types

Cushioning P

Mode of operation

- The drive is equipped with flexible polymer end-position cushioning







Application

- Small loads
- Low speeds
- Low impact energies

Advantages

- No adjustment required
- Saves time

Key features

| Further variants Symbol | Key features | Description |
|---|-------------------------------------|--|
|  | K2 Extended male piston rod thread | – |
|  | K3 Female piston rod thread | – |
|  | K5 Custom piston rod thread | Metric standard thread to ISO |
|  | K6 Shortened male piston rod thread | – |
|  | K8 Extended piston rod | – |
|  | A6 Metal scraper (32 ... 63 mm) | The cylinder has a hard-chrome-plated piston rod and metal scraper, which scrapes off hard particles (e.g. welding spatter) that stick to the piston rod. For use in welding systems, for example |

Longer service life with bellows kit DADB



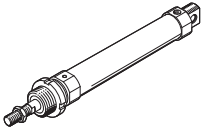
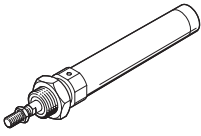
The bellows protects the piston rod, the seal and the bearing from the effects of a wide range of media, which has a positive impact on the service life of these components.

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

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

- Dust
- Chippings
- Oil
- Grease
- Fuel

Product range overview

| Function | Design | Piston \varnothing | Stroke | Variable stroke ¹⁾ | Cushioning Fixed | Position sensing |
|---------------|---|----------------------|------------|-------------------------------|---------------------|---------------------|
| | | [mm] | [mm] | [mm] | P | A |
| Single-acting | ESNU-... – With position sensing | | | | | |
| |  | 8 ... 63 | 10, 25, 50 | 1 ... 50 | ■ | ■ |
| Single-acting | ESNU-MA-... – Axial supply port | | | | | |
| |  | 8 ... 63 | – | 1 ... 50 | ■ | ■ |

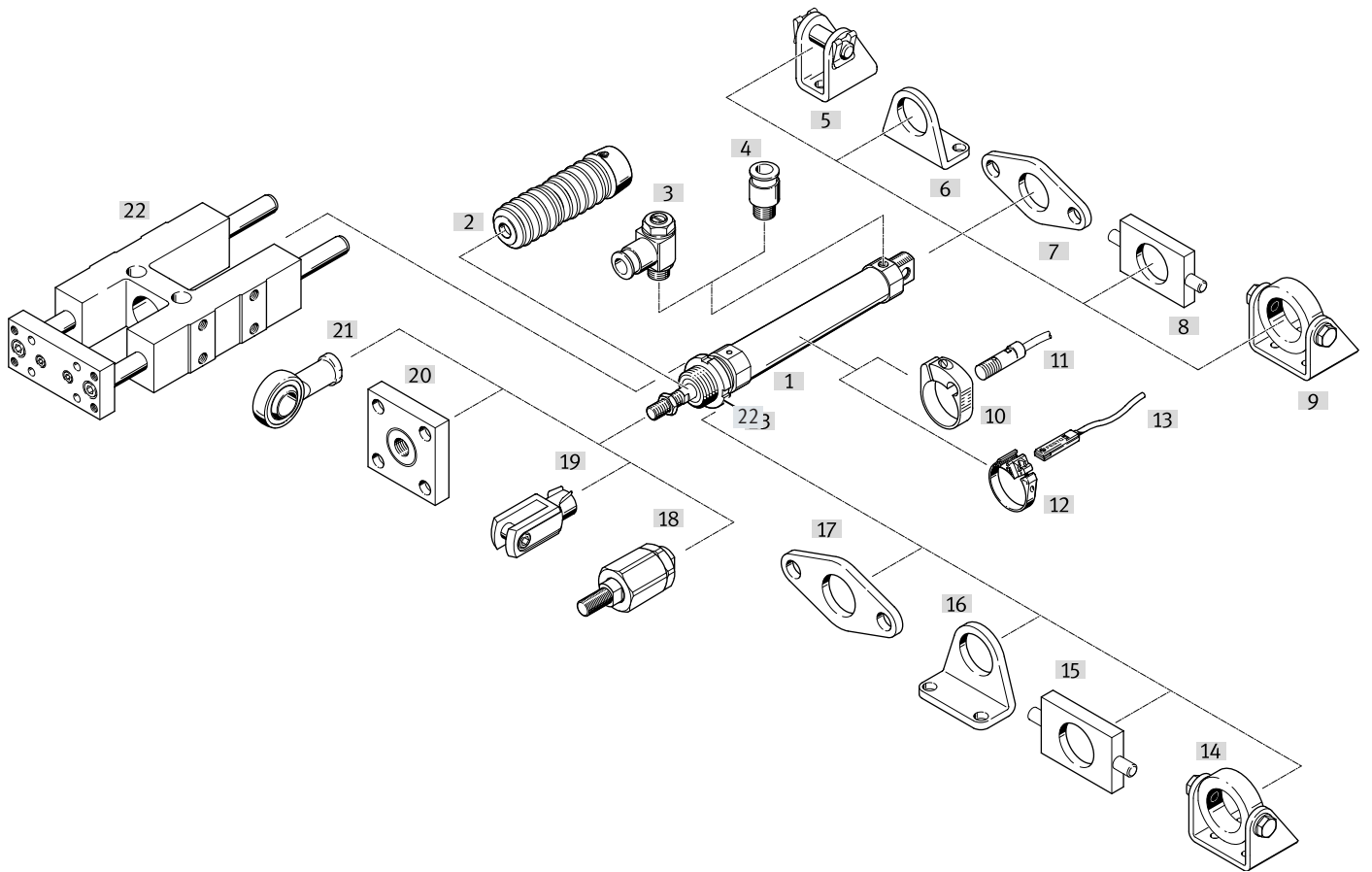
1) Cylinders with position sensing require a minimum stroke of 10 mm to ensure reliable sensing

Product range overview

| Piston \varnothing | Piston rod | | | | | → Page/ Internet |
|---|----------------|----------------|-----------------|---------------------|---------------------|---------------------|
| | Extended K8 | Male thread | | | Female thread K3 | |
| | | Extended K2 | Shortened K6 | Custom thread K5 | | |
| ESNU-... – With position sensing | | | | | | |
| 8 ... 63 | ■ | ■ | ■ | ■ | ■ | 9 |
| ESNU-MA-... – Axial supply port | | | | | | |
| 8 ... 63 | ■ | ■ | ■ | ■ | ■ | 9 |


Peripherals overview

ESNU-...



Peripherals overview

| Mounting attachments and accessories | | Piston ø | ESNU | MA | → Page/ Internet |
|--------------------------------------|--|-----------|------|----|---------------------|
| [1] | Round cylinder ESNU | | | | |
| [2] | Bellows kit ²⁾ DADB | 12 ... 63 | ■ | ■ | 28 |
| [3] | One-way flow control valve GRLZ | 8 ... 63 | ■ | ■ | 33 |
| [4] | Push-in fitting QS | 8 ... 63 | ■ | ■ | qs |
| [5] | Clevis foot LBN/CRLBN | 8 ... 63 | ■ | — | 25 |
| [6] | Foot mounting HBN/CRHBN/CRH | 8 ... 63 | ■ | ■ | 20 |
| [7] | Flange mounting FBN/CRFBN/CRFV | 8 ... 63 | ■ | ■ | 22 |
| [8] | Swivel mounting ¹⁾ WBN | 8 ... 63 | ■ | ■ | 24 |
| [9] | Swivel mounting ¹⁾ SBN | 20 ... 63 | ■ | ■ | 24 |
| [10] | Mounting kit SMBR/CRSMBR | 8 ... 63 | ■ | ■ | 31 |
| [11] | Proximity switch SMEO/SMTO/CRSMEO-4 | 8 ... 63 | ■ | ■ | 31 |
| [12] | Mounting kit SMBR-8 | 12 ... 63 | ■ | ■ | 32 |
| [13] | Proximity switch SME/SMT-8 | 8 ... 63 | ■ | ■ | 32 |
| [14] | Self-aligning rod coupler FK/CRFK | 8 ... 63 | ■ | ■ | 26 |
| [15] | Rod clevis SG/CRSG | 8 ... 63 | ■ | ■ | 26 |
| [16] | Coupling piece KSG/KSZ | 12 ... 63 | ■ | ■ | 26 |
| [17] | Rod eye SGS/CRSGS | 8 ... 63 | ■ | ■ | 26 |
| [18] | Guide unit FEN | 8 ... 25 | ■ | ■ | 27 |
| [19] | Right-angle clevis foot LQG | 32 ... 63 | ■ | ■ | 25 |
| [20] | Rod clevis SGA | 32 ... 63 | ■ | ■ | 26 |
| [21] | Clevis foot LBG | 32 ... 63 | ■ | ■ | 25 |
| [22] | Hex nut MSK | 16 ... 25 | ■ | ■ | 26 |

 **Note**

- 1) Cannot be used on the bearing cap in combination with bellows kit DADB.
- 2) 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)

Type codes

ESNU-...

| | | |
|------------|--|--|
| 001 | Series | |
| ESNU | Round cylinder, single-acting, pressing, based on ISO 6432 | |

| | | |
|------------|------------------------|--|
| 002 | Piston diameter | |
| 8 | 8 | |
| 10 | 10 | |
| 12 | 12 | |
| 16 | 16 | |
| 20 | 20 | |
| 25 | 25 | |
| 32 | 32 | |
| 40 | 40 | |
| 50 | 50 | |
| 63 | 63 | |

| | | |
|------------|---------------|--|
| 003 | Stroke | |
| ... | 1 ... 50 | |

| | | |
|------------|---|--|
| 004 | Cushioning | |
| P | Elastic cushioning rings/plates on both sides | |

| | | |
|------------|-------------------------|--|
| 005 | Position sensing | |
| A | For proximity sensor | |

| | | |
|------------|-------------------|--|
| 006 | End cap | |
| | Standard | |
| MA | Axial supply port | |

| | | |
|------------|------------------------------------|--|
| 007 | Piston rod thread extension | |
| | None | |
| K2 | 1 ... 35 mm | |

| | | |
|------------|--|--|
| 008 | K6 - Shortened male piston rod thread | |
| | None | |
| K6 | 1 ... 10 mm | |

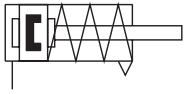
| | | |
|------------|-------------------------------|--|
| 009 | Piston rod thread type | |
| | Male thread | |
| K3 | Female thread | |

| | | |
|------------|----------------------|--|
| 010 | Custom thread | |
| "M10"K5 | M10 | |
| "M12"K5 | M12 | |
| "M16"K5 | M16 | |

| | | |
|------------|-----------------------------|--|
| 011 | Piston rod extension | |
| | None | |
| ...K8 | 1 ... 50 mm | |


Datasheet

P cushioning



-  - Diameter
8 ... 25 mm
ISO 6432

-  - 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 to standard | 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 ¹⁾ | [mm] 1 ... 50 | | | | | | | | | |
| Design | Piston/piston rod/cylinder barrel | | | | | | | | | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | | | | | |
| Position sensing | Via proximity switch | | | | | | | | | |
| Type of mounting | With accessories | | | | | | | | | |
| Mounting position | Any | | | | | | | | | |

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

Operating and environmental conditions

| | 8 | 10 | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
|--|--|-------------|----|----|------------|----|----|----|----|----|
| Operating medium | Compressed air to ISO 8573-1:2010 [7:4:4] | | | | | | | | | |
| Note on the operating/ pilot medium | Lubricated operation possible (in which case lubricated operation will always be required) | | | | | | | | | |
| Operating pressure | [MPa] | 0.15 ... 1 | | | 0.12 ... 1 | | | | | |
| | [bar] | 1.5 ... 10 | | | 1.2 ... 10 | | | | | |
| Ambient temperature ¹⁾ | [°C] | -20 ... +80 | | | | | | | | |
| Corrosion resistance class CRC ²⁾ | 2 | | | | | | | | | |

1) Note operating range of proximity switches

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

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

Datasheet

| Forces [N] and impact energy [J] | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|
| Piston ø | 8 | 10 | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
| Theoretical force at 0.6 MPa (6 bar), advancing | 24 | 41 | 61 | 107 | 169 | 270 | 442 | 688 | 1071 | 1763 |
| Theoretical spring return force | | | | | | | | | | |
| Stroke 10 mm | 4.9 | 4.9 | 6.3 | 13.2 | 18.3 | 22.9 | 36 | 60 | 95 | 95 |
| Stroke 25 mm | 4.1 | 4.1 | 5.4 | 11.9 | 16.5 | 21.2 | 30 | 50 | 82 | 82 |
| Stroke 50 mm | 2.8 | 4.8 | 3.9 | 9.8 | 13.6 | 18.5 | 20 | 30 | 60 | 60 |
| Impact energy in the end positions ¹⁾ | 0.03 | 0.05 | 0.07 | 0.15 | 0.20 | 0.30 | 0.40 | 0.70 | 1 | 1.3 |

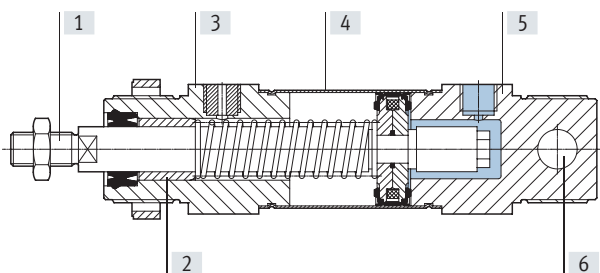
1) The values are reduced by approx. 50% at ambient temperatures of 80°C

| 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



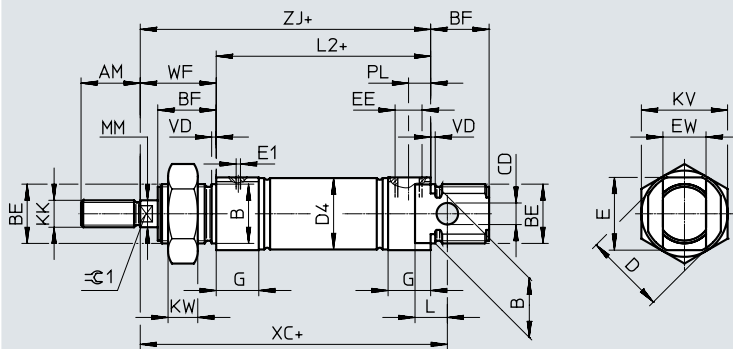
| Round cylinder | | |
|----------------|--------------------|----------------------------|
| [1] | Piston rod | High-alloy steel |
| [2] | Piston rod bearing | Sintered bronze |
| [3] | Bearing cap | Anodised aluminium |
| [4] | Cylinder barrel | High-alloy stainless steel |
| [5] | End cap | Anodised aluminium |
| - | Seals | NBR, TPE-U(PU) |
| - | Spring | Spring steel |
| | PWIS conformity | VDMA24364-B1/B2-L |
| | Note on materials | RoHS-compliant |
| [6] | Swivel bearing | Polymer |

Datasheet

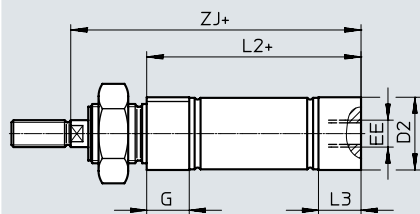
Dimensions

Download CAD data → www.festo.com

ESNU-8 ... 25



MA – Axial supply port



- Note

Piston rod nut is not included in the scope of delivery for diameter 8 ... 20.
+ = plus stroke length

| ∅ [mm] | AM | B ∅ h8 | BE | BF | CD ∅ H9 | D ∅ | D2 ∅ | D4 ∅ | E | E1 | EE | EW | G | KK |
|-----------|----|--------------|----------|----|---------------|--------|---------|---------|----|-----|------|----|----|----|
| | | | | | | | -MA | | | | | | | |
| 8 | 12 | 12 | M12x1.25 | 12 | 2 | 16 | 10.5 | 9.3 | 14 | 1 | M5 | 8 | 10 | M4 |
| 10 | | | | | | | 12.5 | | | | | | | |
| 12 | 16 | 16 | M16x1.5 | 17 | 3 | 20 | 14.5 | 13.3 | 18 | 1.6 | G1/8 | 12 | 16 | M6 |
| 16 | | | | | | | 17.5 | | | | | | | |
| 20 | 20 | 22 | M22x1.5 | 20 | 4 | 30 | 21.7 | 21.3 | 26 | 2 | G1/8 | 16 | 16 | M8 |
| 25 | | | | | | | 26.7 | | | | | | | |

| ∅ [mm] | KV | KW | MM ∅ | L | L2 | | | L3 | PL | VD | WF ±1.2 | XC ±1 | ZJ | | ≈G1 |
|-----------|----|----|---------|----|-----------|------|------|-----|-----|----|------------|----------|-----------|------|-----|
| | | | | | ESNU- ... | -MA | -MA | | | | | | ESNU- ... | -MA | |
| | | | | | | | | | | | | | | | |
| 8 | 19 | 6 | 4 | 6 | 46 | 43.6 | 7.6 | 6 | 6 | 2 | 16 | 64 | 62 | 59.6 | - |
| 10 | | | | | | 43.1 | 7.1 | | | | | | 59.1 | | |
| 12 | 24 | 8 | 6 | 9 | 50 | 47.7 | 7.7 | 8.2 | 8.2 | 2 | 22 | 75 | 72 | 69.7 | 5 |
| 16 | | | | | | 53.7 | 14.5 | | | | | | 82 | 78 | |
| 20 | 32 | 11 | 8 | 12 | 68 | 66.5 | 14.5 | 8.2 | 8.2 | 2 | 24 | 95 | 92 | 90.5 | 7 |
| 25 | | | 10 | | 69.5 | 68.5 | 14 | | | | | | 28 | 104 | |

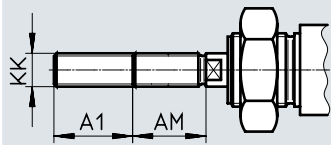
Datasheet

Dimensions

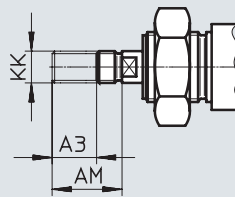
Download CAD data → www.festo.com

ESNU-8 ... 25

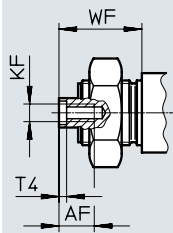
K2 – Extended male piston rod thread



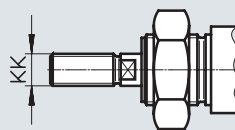
K6 – Shortened male piston rod thread



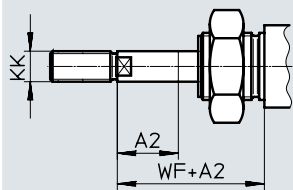
K3 – Female piston rod thread



K5 – Custom piston rod thread



K8 – Extended piston rod



| ∅ [mm] | A1 max. | A2 max. | A3 max. | AF | AM | KF | KK | | T4 | WF ±1.2 |
|-----------|------------|------------|------------|----|----|----------|--------------|-----------------------------|----|------------|
| | | | | | | | Basic thread | Custom thread ¹⁾ | | |
| 8 | 15 | 50 | 4 | - | 12 | - | M4 | - | - | 16 |
| 10 | | | | - | | - | | | | |
| 12 | | | | - | | - | | | | |
| 16 | 20 | | 8 | - | 16 | - | M6 | - | - | 22 |
| 20 | | | | 25 | | 20 | | M4 | M8 | |
| 25 | 35 | | | 22 | M6 | M10x1.25 | M10 | 2.6 | 28 | |

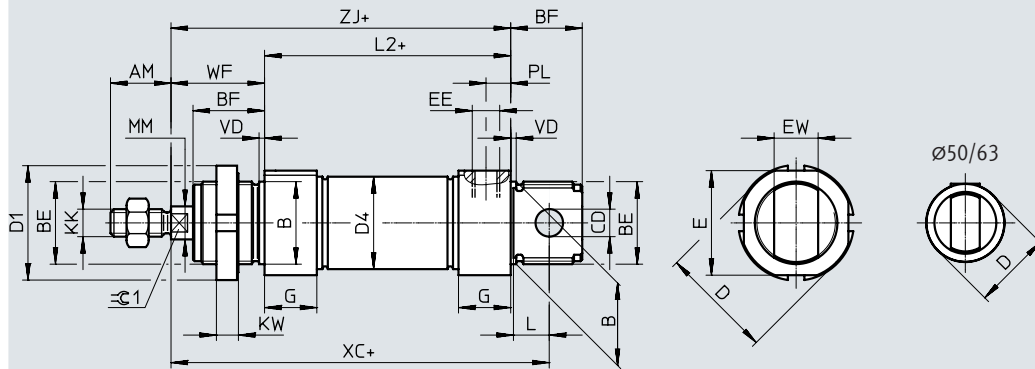
1) The custom threads are only available as male threads. The scope of delivery does not include a hex nut for the piston rod thread

Datasheet

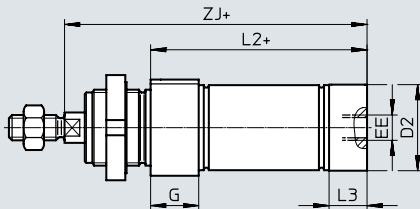
Dimensions

Download CAD data → www.festo.com

ESNU-32 ... 63



MA – Axial supply port



+ = plus stroke length

| ø | AM | B ø h8 | BE | BF | CD ø H9 | D ø | D1 ø | D2 ø | D4 ø | E | EE | EW | G | KK |
|----|----|--------------|---------|----|---------------|--------|---------|---------|---------|----|------|----|----|----------|
| 32 | 22 | 30 | M30x1.5 | 26 | 10 | 41 | 42 | 34 | 33.6 | 38 | G1/8 | 16 | 19 | M10x1.25 |
| 40 | 24 | 38 | M38x1.5 | 30 | 12 | 49 | 50 | 42 | 41.6 | 45 | G1/4 | 18 | 25 | M12x1.25 |
| 50 | 32 | 45 | M45x1.5 | 33 | 16 | 57 | 60 | 53 | 52.4 | - | | 21 | 28 | M16x1.5 |
| 63 | | | | | | 70 | | 66 | 65.4 | - | G3/8 | | | |

| ø [mm] | KW | L | L2 | | L3 | PL | MM ø | VD | WF ±1.2 | XC ±1 | ZJ | | ≈G1 |
|-----------|----|------|-----------|------|----|----|---------|----|------------|----------|-----------|-------|-----|
| | | | 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 | | | |

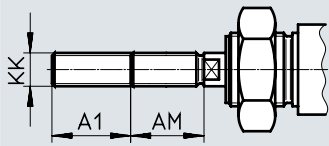
Datasheet

Dimensions

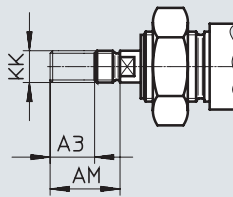
Download CAD data → www.festo.com

ESNU-32 ... 63

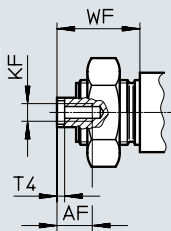
K2 – Extended male piston rod thread



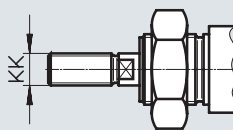
K6 – Shortened male piston rod thread



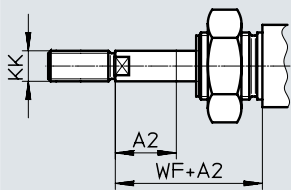
K3 – Female piston rod thread



K5 – Custom piston rod thread



K8 – Extended piston rod



| ∅ [mm] | A1 max. | A2 max. | A3 max. | AF | AM | KF | KK | | T4 | WF ±1.2 |
|-----------|------------|------------|------------|----|----|-----|--------------|-----------------------------|-----|------------|
| | | | | | | | Basic thread | Custom thread ¹⁾ | | |
| 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 custom threads are only available as male threads. The scope of delivery does not include a hex nut for the piston rod thread

Datasheet


| Ordering data | | | |
|------------------------------|----------------|----------|----------------|
| Piston \varnothing [mm] | Stroke [mm] | 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 | 196376 | ESNU-32-10-P-A |
| | 25 | 196377 | ESNU-32-25-P-A |
| | 50 | 196378 | ESNU-32-50-P-A |
| 40 | 10 | 196379 | ESNU-40-10-P-A |
| | 25 | 196380 | ESNU-40-25-P-A |
| | 50 | 196381 | ESNU-40-50-P-A |
| 50 | 10 | 196382 | ESNU-50-10-P-A |
| | 25 | 196383 | ESNU-50-25-P-A |
| | 50 | 196384 | ESNU-50-50-P-A |
| 63 | 10 | 196385 | ESNU-63-10-P-A |
| | 25 | 196386 | ESNU-63-25-P-A |
| | 50 | 196387 | ESNU-63-50-P-A |

| Ordering data | | | |
|------------------------------|----------------|----------|-----------------|
| Piston \varnothing [mm] | Stroke [mm] | Part no. | Type |
| Variable stroke | | | |
| 8 | 1 ... 50 | 14119 | ESNU-8-...-P-A |
| 10 | 1 ... 50 | 14118 | ESNU-10-...-P-A |
| 12 | 1 ... 50 | 14317 | ESNU-12-...-P-A |
| 16 | 1 ... 50 | 14316 | ESNU-16-...-P-A |
| 20 | 1 ... 50 | 14319 | ESNU-20-...-P-A |
| 25 | 1 ... 50 | 14318 | ESNU-25-...-P-A |

Ordering data – Modular product system

| Ordering table | | | | | | | | | |
|------------------|---|---------------|---------------|---------------|---------------|---------------|------------|-------------|------------|
| Size | 8 | 10 | 12 | 16 | 20 | 25 | Conditions | Code | Enter code |
| Module no. | 193996 | 193997 | 193998 | 193999 | 194000 | 194001 | | | |
| Function | Round cylinder, single-acting, pushing, based on ISO 6432 | | | | | | | ESNU | ESNU |
| Piston Ø [mm] | 8 | 10 | 12 | 16 | 20 | 25 | | -... | |
| Stroke [mm] | 1 ... 50 | | | | | | | -... | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | | | -P | -P |
| Position sensing | Via proximity switch | | | | | | [1] | -A | -A |
| End cap | Axial supply port | | | | | | | -MA | |

[1] A Minimum stroke ≥ 10 mm required for reliable sensing

 **Note**

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

Longer strokes on request

Ordering data – Modular product system

| Ordering table | | 8 | 10 | 12 | 16 | 20 | 25 | Conditions | Code | Enter code | |
|-----------------------|------|----------------------------------|----------|----------|----------|------|------|------------|---------|------------|--|
| Extended male thread | | Extended male piston rod thread | | | | | | | | | |
| | [mm] | 1 ... 15 | 1 ... 20 | 1 ... 25 | 1 ... 35 | [2] | | -...K2 | | | |
| Shortened male thread | | Shortened male piston rod thread | | | | | | | | | |
| | [mm] | 1 ... 4 | 1 ... 8 | | | | | -...K6 | | | |
| Female thread | | Piston rod with female thread | | | | | | | | | |
| | | - | - | - | - | (M4) | (M6) | [3] | -K3 | | |
| Custom thread | | Custom thread on the piston rod | | | | | | | | | |
| | | - | - | - | - | - | M10 | | -"...K5 | | |
| Extended piston rod | | Extended piston rod | | | | | | | | | |
| | [mm] | 1 ... 50 | | | | | | ...K8 | | | |

[2] K2 Not with female thread K3, shortened male thread K6

[3] K3 Not with custom thread K5, shortened male thread K6

Ordering data – Modular product system

| Ordering table | | | | | | | |
|------------------|--|---------------|---------------|---------------|------------|-------------|------------|
| Size | 32 | 40 | 50 | 63 | Conditions | Code | Enter code |
| Module no. | 194002 | 194003 | 194004 | 194005 | | | |
| Function | Single-acting round cylinder | | | | | ESNU | ESNU |
| Piston Ø [mm] | 32 | 40 | 50 | 63 | | -... | |
| Stroke [mm] | 1 ... 50 | | | | | -... | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | -P | -P |
| Position sensing | Via proximity switch | | | | [1] | -A | -A |
| End cap | Axial supply port | | | | | -MA | |

[1] A Minimum stroke ≥ 10 mm required for reliable sensing



Note

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

Longer strokes on request

Ordering data – Modular product system

| Ordering table | | | | | | | |
|-----------------------|----------------------------------|----------|------|----------|------------|----------|------------|
| Size | 32 | 40 | 50 | 63 | Conditions | Code | Enter code |
| Extended male thread | Extended male piston rod thread | | | | | | |
| | [mm] | 1 ... 35 | | | [2] | -...K2 | |
| Shortened male thread | Shortened male piston rod thread | | | | | | |
| | [mm] | 1 ... 8 | | 1 ... 10 | | [3] | -...K6 |
| Female thread | Piston rod with female thread | | | | | | |
| | | (M6) | (M8) | (M10) | [3] | -K3 | |
| Custom thread | Custom thread on the piston rod | | | | | | |
| | | M10 | M12 | M16 | | -“...”K5 | |
| Extended piston rod | Extended piston rod | | | | | | |
| | [mm] | 1 ... 50 | | | | ...K8 | |

[2] K2 Not with female thread K3, shortened male thread K6

[3] K3 Not with custom thread K5, shortened male thread K6

Accessories

Foot mounting HBN/CRHBN

Scope of delivery:

HBN/CRHBN-...x1: 1 foot

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

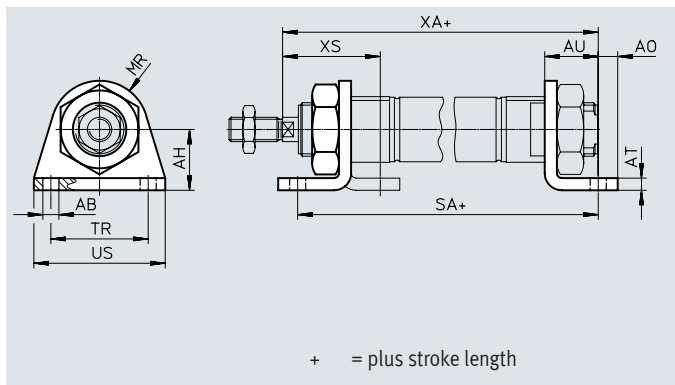
Material:

HBN: Galvanised steel

CRHBN: High-alloy stainless steel

Free of copper and PTFE

RoHS-compliant



Dimensions and ordering data

| For \varnothing [mm] | AB \varnothing | AH | AO | AT | AU | R1 | SA | TR | US | XA | XS |
|---------------------------|---------------------|----|----|----|----|----|-------|----|----|-------|----|
| 8, 10 | 4.5 | 16 | 5 | 3 | 11 | 10 | 68 | 25 | 35 | 73 | 24 |
| 12 | 5.5 | 20 | 6 | 4 | 14 | 13 | 78 | 32 | 42 | 86 | 32 |
| 16 | 5.5 | 20 | 6 | 4 | 14 | 13 | 84 | 32 | 42 | 92 | 32 |
| 20 | 6.6 | 25 | 8 | 5 | 17 | 20 | 102 | 40 | 54 | 109 | 36 |
| 25 | 6.6 | 25 | 8 | 5 | 17 | 20 | 103.5 | 40 | 54 | 114.5 | 40 |

| For \varnothing [mm] | Basic version | | | | High corrosion protection | | | |
|---------------------------|-------------------|------------|----------|-------------|---------------------------|------------|----------|---------------|
| | CRC ¹⁾ | Weight [g] | Part no. | Type | CRC ¹⁾ | Weight [g] | Part no. | Type |
| 8, 10 | 1 | 22 | 5123 | HBN-8/10x1 | - | - | - | |
| | 1 | 54 | 5124 | HBN-8/10x2 | - | - | - | |
| 12, 16 | 1 | 43 | 5125 | HBN-12/16x1 | 4 | 43 | 161866 | CRHBN-12/16x1 |
| | 1 | 107 | 5126 | HBN-12/16x2 | 4 | 107 | 162999 | CRHBN-12/16x2 |
| 20, 25 | 1 | 95 | 5127 | HBN-20/25x1 | 4 | 94 | 161867 | CRHBN-20/25x1 |
| | 1 | 237 | 5128 | HBN-20/25x2 | 4 | 236 | 162998 | CRHBN-20/25x2 |

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

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

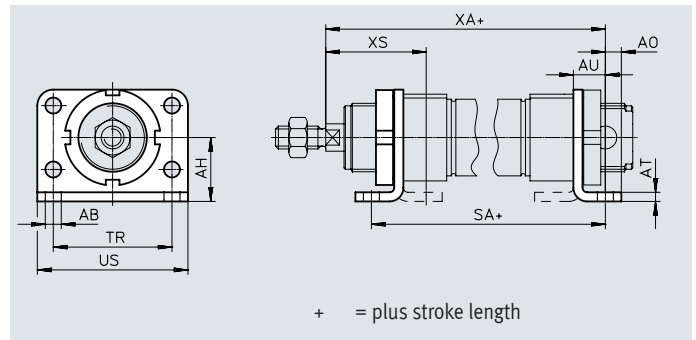
Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

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 \varnothing [mm] | AB \varnothing | AH | AO | AT | AU | SA | TR | US | XA | XS |
|---------------------------|---------------------|----|----|----|----|-------|----|----|-------|----|
| 32 | 7 | 28 | 7 | 4 | 14 | 97.5 | 52 | 66 | 117.5 | 44 |
| 40 | 9 | 33 | 10 | 5 | 20 | 124.6 | 60 | 80 | 143.6 | 54 |
| 50 | 9 | 40 | 10 | 6 | 20 | 126.2 | 70 | 90 | 150.2 | 58 |
| 63 | 9 | 45 | 10 | 6 | 20 | 134.2 | 76 | 96 | 159.2 | 59 |

| For \varnothing [mm] | Basic version | | | | High corrosion protection | | | |
|---------------------------|-------------------|------------|----------|----------|---------------------------|------------|----------|--------|
| | CRC ¹⁾ | Weight [g] | Part no. | Type | CRC ¹⁾ | Weight [g] | Part no. | Type |
| 32 | 1 | 353 | 195851 | HBN-32x2 | 4 | 353 | 162951 | CRH-32 |
| 40 | 1 | 611 | 195852 | HBN-40x2 | 4 | 611 | 162952 | CRH-40 |
| 50 | 1 | 916 | 195853 | HBN-50x2 | 4 | 916 | 162953 | CRH-50 |
| 63 | 1 | 1066 | 195854 | HBN-63x2 | 4 | 1066 | 162954 | CRH-63 |

1) Corrosion resistance class CRC 1 to Festo standard FN 940070
 Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or 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, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

Accessories

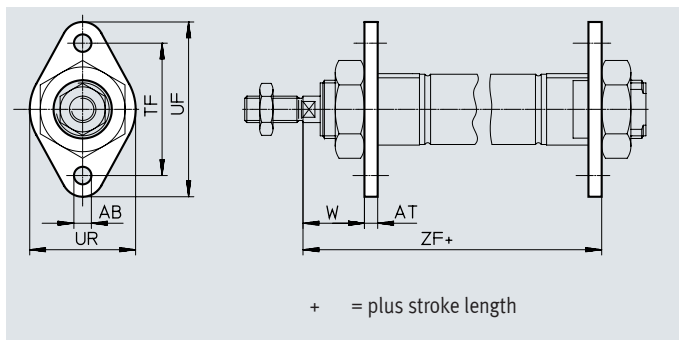
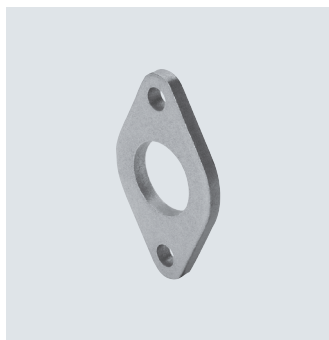
Flange mounting FBN/CRFBN

Material:

FBN: Galvanised steel

CRFBN: High-alloy stainless steel

Free of copper and PTFE



Dimensions and ordering data

| For \varnothing [mm] | AB \varnothing | AT | TF | UF | UR | W | ZF |
|---------------------------|---------------------|----|----|----|----|----|-------|
| 8, 10 | 4.5 | 3 | 30 | 40 | 25 | 13 | 65 |
| 12 | 5.5 | 4 | 40 | 53 | 30 | 18 | 76 |
| 16 | 5.5 | 4 | 40 | 53 | 30 | 18 | 82 |
| 20 | 6.6 | 5 | 50 | 66 | 40 | 19 | 97 |
| 25 | 6.6 | 5 | 50 | 66 | 40 | 23 | 102.5 |

| For \varnothing [mm] | Basic version | | | High corrosion protection | | | | |
|---------------------------|-------------------|------------|----------|---------------------------|-------------------|------------|----------|-------------|
| | CRC ¹⁾ | Weight [g] | Part no. | Type | CRC ¹⁾ | Weight [g] | Part no. | Type |
| 8, 10 | 1 | 12 | 5129 | FBN-8/10 | - | - | - | - |
| 12, 16 | 1 | 26 | 5130 | FBN-12/16 | 4 | 26 | 161864 | CRFBN-12/16 |
| 20, 25 | 1 | 52 | 5131 | FBN-20/25 | 4 | 52 | 161865 | CRFBN-20/25 |

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

Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or 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, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

Accessories

Flange mounting FBN/CRFV

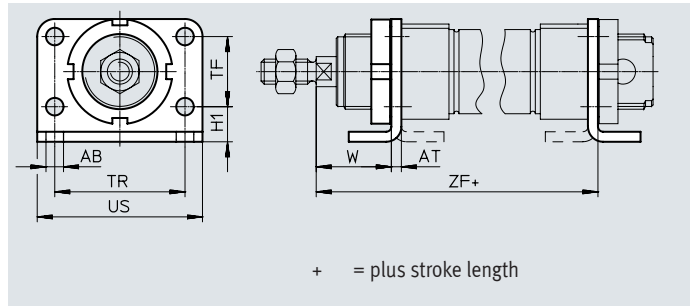
Material:

FBN: Galvanised steel

CRFV: High-alloy stainless steel

Free of copper and PTFE

RoHS-compliant



Dimensions and ordering data

| For \varnothing [mm] | AB \varnothing | AT | H1 | TF | TR | US | W | ZF |
|---------------------------|---------------------|----|----|----|----|----|----|-------|
| 32 | 7 | 4 | 14 | 28 | 52 | 66 | 30 | 107.5 |
| 40 | 9 | 5 | 18 | 30 | 60 | 80 | 29 | 128.6 |
| 50 | 9 | 6 | 20 | 40 | 70 | 90 | 38 | 136.2 |
| 63 | 9 | 6 | 20 | 50 | 76 | 96 | 39 | 145.2 |

| For \varnothing [mm] | Basic version | | | | High corrosion protection | | | |
|---------------------------|-------------------|------------|----------|--------|---------------------------|------------|----------|---------|
| | CRC ¹⁾ | Weight [g] | Part no. | Type | CRC ¹⁾ | Weight [g] | Part no. | Type |
| 32 | 1 | 103 | 195855 | FBN-32 | 4 | 103 | 161858 | CRFV-32 |
| 40 | 1 | 191 | 195856 | FBN-40 | 4 | 191 | 161859 | CRFV-40 |
| 50 | 1 | 292 | 195857 | FBN-50 | 4 | 292 | 161860 | CRFV-50 |
| 63 | 1 | 367 | 195858 | FBN-63 | 4 | 367 | 161861 | CRFV-63 |

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

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

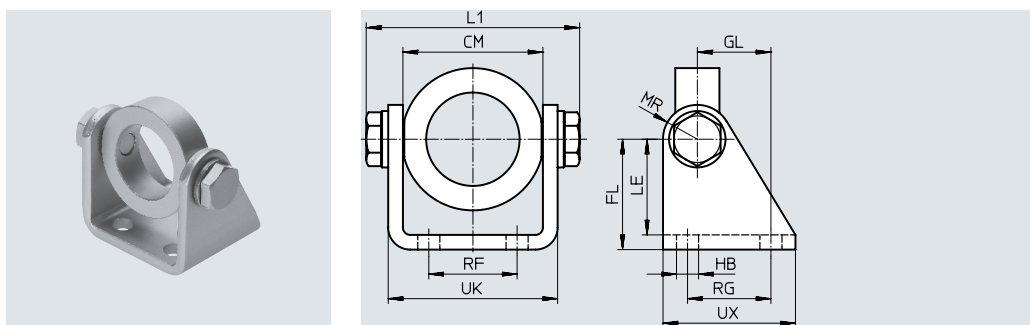
Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

Accessories

Swivel mounting SBN

Material:
 Retaining ring: Anodised wrought aluminium alloy
 Bearing: Bronze
 Screws: galvanised steel
 Bracket: Steel
 Cannot be used on the bearing cap in combination with bellows kit DADB.



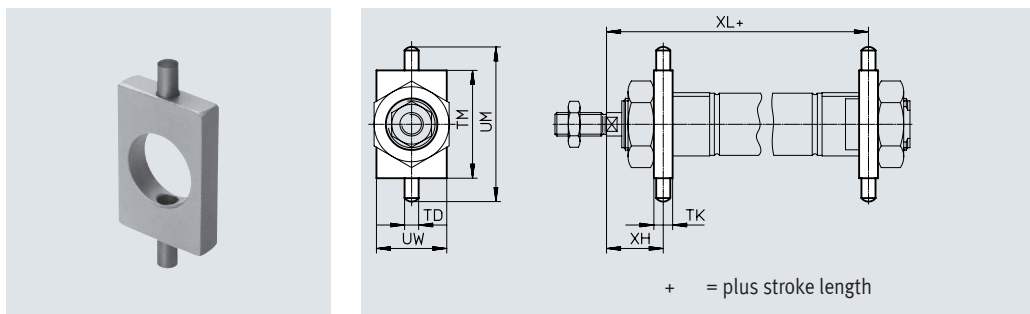
Dimensions and ordering data

| For \varnothing [mm] | CM | FL | GL | HB | L1 max. | LE | MR | RF | RG | UK | UX | CRC ¹⁾ | Weight [g] | Part no. | Type |
|---------------------------|----------|----|----|----|------------|----|----|----|----|------|----|-------------------|---------------|----------|-----------|
| 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 1 to Festo standard FN 940070
 Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).

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.



Dimensions and ordering data

| For \varnothing [mm] | TD \varnothing -0.01/ -0.05 | TK | TM | UM | UW | XH | XL | CRC ¹⁾ | Weight [g] | Part no. | Type |
|---------------------------|--|----|----|-----|----|------|-------|-------------------|---------------|----------|-----------|
| 8, 10 | 4 | 6 | 26 | 38 | 20 | 13 | 65 | 1 | 20 | 8608 | WBN-8/10 |
| 12 | 6 | 8 | 38 | 58 | 25 | 18 | 76 | 1 | 51 | 8609 | WBN-12/16 |
| 16 | 6 | 8 | 38 | 58 | 25 | 18 | 82 | 1 | 51 | 8609 | WBN-12/16 |
| 20 | 6 | 8 | 46 | 66 | 30 | 20 | 96 | 1 | 67 | 8610 | WBN-20/25 |
| 25 | 6 | 8 | 46 | 66 | 30 | 24 | 101.5 | 1 | 67 | 8610 | WBN-20/25 |
| 32 | 8 | 12 | 50 | 76 | 40 | 28 | 109.5 | 1 | 131 | 195863 | WBN-32 |
| 40 | 10 | 15 | 60 | 92 | 50 | 31.5 | 126.1 | 1 | 238 | 195864 | WBN-40 |
| 50 | 12 | 20 | 80 | 116 | 65 | 34 | 140.2 | 1 | 596 | 195865 | WBN-50/63 |
| 63 | 12 | 20 | 80 | 116 | 65 | 35 | 149.2 | 1 | 596 | 195865 | WBN-50/63 |

1) Corrosion resistance class CRC 1 to Festo standard FN 940070
 Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).

Accessories

Clevis foot LBN/CRLBN

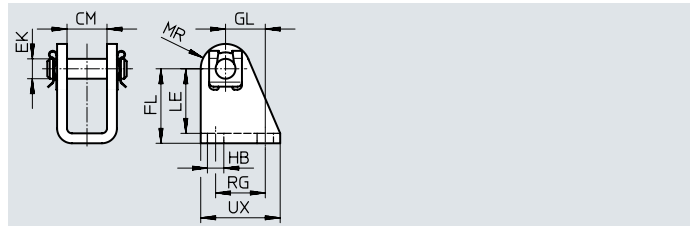
Material:

LBN: galvanised steel

CRLBN: High-alloy stainless steel

Free of copper and PTFE

RoHS-compliant



Dimensions and ordering data

| For \varnothing [mm] | CM | EK \varnothing | FL | GL | HB | LE | MR | RG | UX |
|---------------------------|------|---------------------|--------------|------|-----|------|----|------|----|
| 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 \varnothing [mm] | Basic version | | | | High corrosion protection | | | |
|---------------------------|-------------------|------------|---------------|------------------|---------------------------|------------|---------------|--------------------|
| | CRC ¹⁾ | Weight [g] | Part no. | Type | CRC ¹⁾ | Weight [g] | Part no. | Type |
| 8, 10 | 1 | 20 | 6057 | LBN-8/10 | – | – | – | – |
| 12, 16 | 1 | 40 | 6058 | LBN-12/16 | 4 | 39 | 161862 | CRLBN-12/16 |
| 20, 25 | 1 | 84 | 6059 | LBN-20/25 | 4 | 82 | 161863 | CRLBN-20/25 |
| 32 | 1 | 110 | 195860 | LBN-32 | 4 | 106 | 195866 | CRLBN-32 |
| 40 | 1 | 191 | 195861 | LBN-40 | 4 | 185 | 195867 | CRLBN-40 |
| 50, 63 | 1 | 300 | 195862 | LBN-50/63 | 4 | 283 | 195868 | CRLBN-50/63 |

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


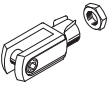
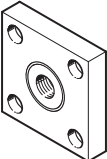

Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or parts which are covered in the application (e.g. drive trunnions).

Corrosion resistance class CRC 4 to Festo standard FN 940070

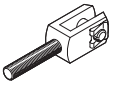
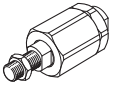
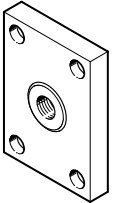
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

Accessories

Ordering data – Piston rod attachments


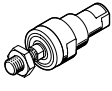
| Designation | For ø | Part no. | Type |
|--|-------|----------|--------------|
| Rod eye SGS | | | |
|  | 8 | 9253 | SGS-M4 |
| | 10 | | |
| | 12 | 9254 | SGS-M6 |
| | 16 | | |
| | 20 | 9255 | SGS-M8 |
| | 25 | | |
| | 32 | 9261 | SGS-M10x1.25 |
| | 40 | | |
| | 50 | 9263 | SGS-M16x1.5 |
| 63 | | | |
| Rod clevis SG | | | |
|  | 8 | 6532 | SG-M4 |
| | 10 | | |
| | 12 | 3110 | SG-M6 |
| | 16 | | |
| | 20 | 3111 | SG-M8 |
| | 25 | | |
| | 32 | 6144 | SG-M10x1.25 |
| | 40 | | |
| | 50 | 6146 | SG-M16x1.5 |
| 63 | | | |
| Coupling piece KSG | | | |
|  | 12 | - | |
| | 16 | | |
| | 20 | 32963 | KSG-M10x1.25 |
| | 25 | | |
| | 32 | 32964 | KSG-M12x1.25 |
| | 40 | | |
| | 50 | 32965 | KSG-M16x1.5 |
| 63 | | | |
| Hex nut MSK | | | |
|  | 16 | 189007 | MSK-M16x1.5 |
| | 20 | 189009 | MSK-M22x1.5 |
| | 25 | | |

Datasheets → Internet: piston rod attachment

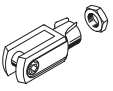
| Designation | For ø | Part no. | Type | | |
|---|-------|----------|--------------|-------------|--------------|
| Rod clevis SGA | | | | | |
|  | 8 | - | | | |
| | 10 | | | | |
| | 12 | | | | |
| | 16 | | | | |
| | 20 | | | | |
| | 25 | | | | |
| | 32 | | | 32954 | SGA-M10x1.25 |
| | 40 | | | 10767 | SGA-M12x1.25 |
| | 50 | | | 10768 | SGA-M16x1.5 |
| 63 | | | | | |
| Self-aligning rod coupler FK | | | | | |
|  | 8 | 6528 | FK-M4 | | |
| | 10 | | | | |
| | 12 | 2061 | FK-M6 | | |
| | 16 | | | | |
| | 20 | 2062 | FK-M8 | | |
| | 25 | | | | |
| | 32 | 6140 | FK-M10x1.25 | | |
| | 40 | | | | |
| | 50 | 6142 | FK-M16x1.5 | | |
| 63 | | | | | |
| Coupling piece KSZ | | | | | |
|  | 12 | 36123 | KSZ-M6 | | |
| | 16 | | | | |
| | 20 | 36124 | KSZ-M8 | | |
| | 25 | | | | |
| | 32 | 36125 | KSZ-M10x1.25 | | |
| | 40 | | | | |
| | 50 | 36126 | KSZ-M12x1.25 | | |
| 63 | 36127 | | | KSZ-M16x1.5 | |

Accessories


Ordering data – Piston rod attachments, corrosion-resistant

| Designation | For ø | Part no. | Type |
|---|-------|----------|----------------|
| Rod eye CRSGS | | | |
|  | 12 | 195580 | CRSGS-M6 |
| | 16 | | |
| | 20 | 195581 | CRSGS-M8 |
| | 25 | 195582 | CRSGS-M10x1.25 |
| | 32 | | |
| | 40 | 195583 | CRSGS-M12x1.25 |
| | 50 | 195584 | CRSGS-M16x1.5 |
| | 63 | | |
| Self-aligning rod coupler CRFK | | | |
|  | 25 | 2305778 | CRFK-M10x1.25 |
| | 32 | | |
| | 40 | 2305779 | CRFK-M12x1.25 |
| | 50 | 2490673 | CRFK-M16x1.5 |
| | 63 | | |


Datasheets → Internet: piston rod attachment

| Designation | For ø | Part no. | Type |
|---|-------|----------|---------------|
| Rod clevis CRSG | | | |
|  | 12 | 13567 | CRSG-M6 |
| | 16 | | |
| | 20 | 13568 | CRSG-M8 |
| | 25 | 13569 | CRSG-M10x1.25 |
| | 32 | | |
| | 40 | 13570 | CRSG-M12x1.25 |
| | 50 | 13571 | CRSG-M16x1.5 |
| | 63 | | |

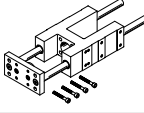
Ordering data – Mounting components

| Designation | For ø | Part no. | Type |
|---|-------|----------|--------|
| Clevis foot LBG | | | |
|  | 32 | 31761 | LBG-32 |
| | 40 | 31762 | LBG-40 |
| | 50 | 31763 | LBG-50 |
| | 63 | 31764 | LBG-63 |

Datasheets → Internet: clevis foot

| Designation | For ø | Part no. | Type |
|---|-------|----------|--------|
| Right angle clevis foot LQG | | | |
|  | 32 | 31768 | LQG-32 |
| | 40 | 31769 | LQG-40 |
| | 50 | 31770 | LQG-50 |
| | 63 | 31771 | LQG-63 |

Ordering data – Guide units

| | 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 |

Datasheets → Internet: feng

Accessories

Bellows kit DADB

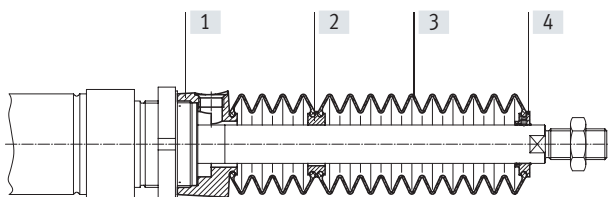


| General technical data | | 20 | 25 | 32 | 40 | 50 | 63 |
|---|------|---|----|----|----|----|----|
| Type DADB-S1- | | | | | | | |
| Max. stroke range of the cylinder ¹⁾²⁾ | [mm] | 10 ... 50 | | | | | |
| Type of mounting | | Via threaded pin | | | | | |
| Mounting position | | Any | | | | | |
| Media resistance | | Dust, chippings, oil, grease, fuel (→ Internet: media resistance) | | | | | |
| Ambient temperature ³⁾ | [°C] | -10 ... +80 | | | | | |
| Corrosion resistance class CRC ⁴⁾ | | 3 | | | | | |

- 1) In conjunction with the bellows kit DADB
- 2) Slight change in spring return force
- 3) Note operating range of proximity switches and cylinder
- 4) Corrosion resistance class CRC 3 to Festo standard FN 940070
High corrosion stress. Outdoor exposure under moderate corrosive conditions. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment.

Materials

Sectional view



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

| Weights [g] | | | | |
|---------------|--|----|----|----|
| Type DADB-S1- | | 20 | 25 | 32 |
| Stroke [mm] | | | | |
| 10 ... 50 | | 20 | 19 | 29 |
| Type DADB-S1- | | 40 | 50 | 63 |
| Stroke [mm] | | | | |
| 10 ... 50 | | 34 | 55 | 55 |

Accessories

Travel speed v as a function of tubing length l

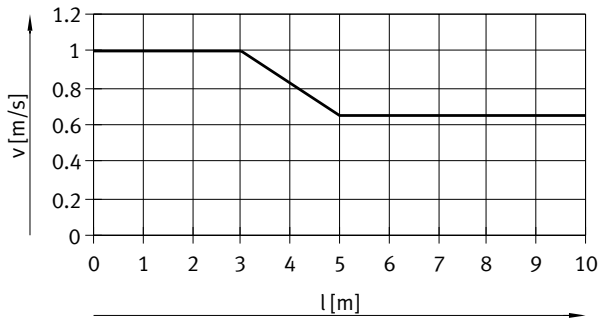


The bellows kit is a leak-free system.

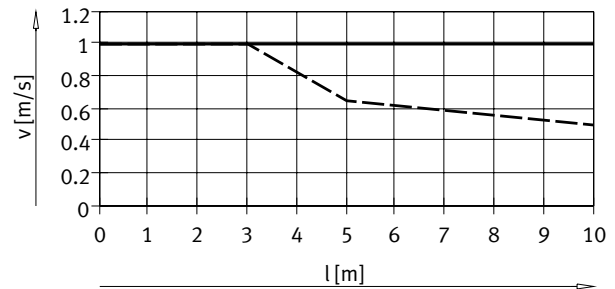
To prevent unwanted media from being drawn in, the supply and exhaust air must be ducted via a pressure compensation hole in the connection part.

The pressure generated in the bellows kit by the positioning motion is primarily defined by the travel speed and tubing length. The recommended tubing length based on the travel speed of the drive can be read from the graph.

Advancing

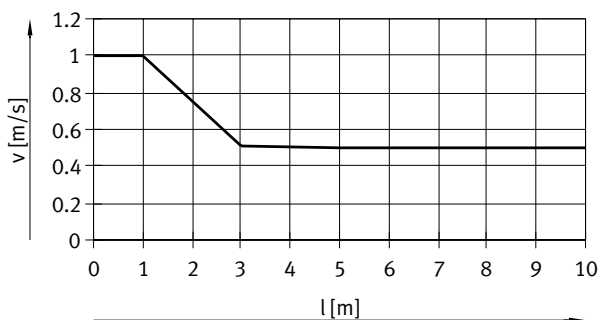


ESNU-20/25

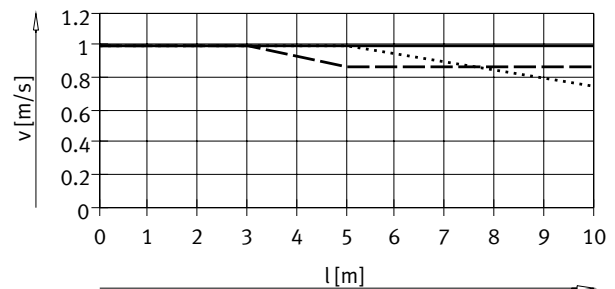


ESNU-32/50/63
ESNU-40


Retracting



ESNU-20/25



ESNU-32
ESNU-40
ESNU-50/63

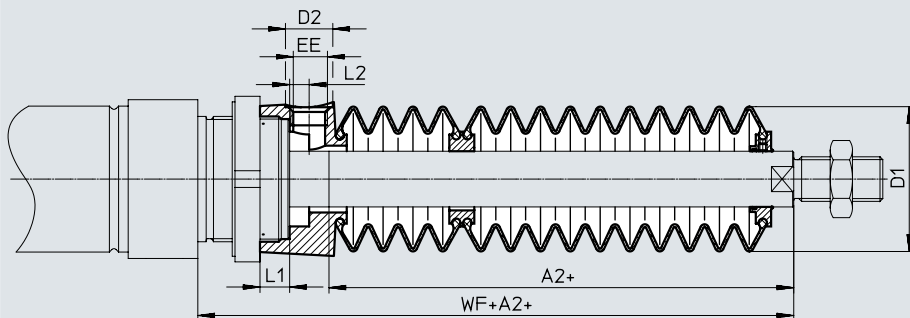
 Note
The push-in fittings in the adjacent table must be used for the pressure compensation hole. Silencers can be used as an alternative. This reduces the travel speed slightly.

| Tubing size and push-in fitting for pressure compensation hole | | | |
|--|------------------|--------------------------|--------------------|
| \varnothing [mm] | Tubing O.D. [mm] | Push-in fitting Part no. | Type |
| 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-G1/8-8-I |
| | | 578376 | NPQH-DK-G18-Q8-P10 |
| | | 578362 | NPQH-D-G18-S8-P10 |
| 50, 63 | 12 | ★ 186350 | QS-G1/4-12 |
| | | 578344 | NPQH-D-G14-Q12-P10 |
| | | 578366 | NPQH-D-G14-S12-P10 |

Accessories

Dimensions

Download CAD data → www.festo.com



| ∅ Stroke [mm] | 20 | | | | | | | 25 | | | | | | |
|------------------|------------------|-----------------|---------|----|-----|-----|-------|------------------|-----------------|---------|----|-----|-----|-------|
| | A2 ¹⁾ | D1 ∅ max. | D2 ∅ | EE | L1 | L2 | WF+A2 | A2 ¹⁾ | D1 ∅ max. | D2 ∅ | EE | L1 | L2 | WF+A2 |
| 10 ... 50 | 22 | 29 | 8.5 | M5 | 4.2 | 2.7 | 46 | 22 | 29 | 8.5 | M5 | 4.2 | 2.7 | 50 |

| ∅ Stroke [mm] | 32 | | | | | | | 40 | | | | | | |
|------------------|------------------|-----------------|---------|------|------|-----|-------|------------------|-----------------|---------|------|-----|-----|-------|
| | A2 ¹⁾ | D1 ∅ max. | D2 ∅ | EE | L1 | L2 | WF+A2 | A2 ¹⁾ | D1 ∅ 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 |

| ∅ Stroke [mm] | 50/63 | | | | | | |
|------------------|------------------|-----------------|---------|------|-------|----|-------|
| | A2 ¹⁾ | D1 ∅ max. | D2 ∅ | EE | L1 | L2 | WF+A2 |
| 10 ... 50 | 30 | 57 | 17 | G1/4 | 10.65 | 7 | 74/75 |

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

Ordering data – Bellows kit

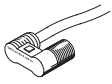
An extended piston rod (order code K8) is absolutely essential when using a bellows kit → Ordering data – Modular product system.

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

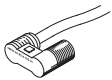
| Cylinder data | | | Bellows kit | | Cylinder data | | | Bellows kit | |
|---------------|-----------|------------------|-------------|-------------------|---------------|-----------|------------------|-------------|-------------------|
| ∅ | Stroke | Dimension for K8 | Part no. | Type | ∅ | Stroke | Dimension for K8 | Part no. | Type |
| [mm] | [mm] | [mm] | | | [mm] | [mm] | [mm] | | |
| 20 | 10 ... 50 | 22 | 553407 | DADB-S1-20-S10-50 | 25 | 10 ... 50 | 22 | 553421 | DADB-S1-25-S10-50 |
| 32 | 10 ... 50 | 30 | 553441 | DADB-S1-32-S10-50 | 40 | 10 ... 50 | 29 | 553461 | DADB-S1-40-S10-50 |
| 50 | 10 ... 50 | 30 | 553481 | DADB-S1-50-S10-50 | 63 | 10 ... 50 | 30 | 553501 | DADB-S1-63-S10-50 |

Accessories

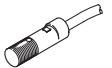
Ordering data – Proximity switch, round design, magneto-resistive Datasheets → Internet: smto

| | Mounting | Switching output | Electrical connection | | Cable length [m] | Outlet direction of connection | Part no. | Type |
|---|------------------|------------------|-----------------------|---------|---------------------|--------------------------------|---------------|----------------------------|
| | | | Cable | Plug M8 | | | | |
| N/O | | | | | | | | |
|  | With accessories | PNP | 3-wire | – | 2.5 | In-line | 152836 | SMT0-4U-PS-K-LED-24 |
| | | | – | 3-pin | – | In-line | 152742 | SMT0-4U-PS-S-LED-24 |
| | | NPN | 3-wire | – | 2.5 | In-line | 152837 | SMT0-4U-NS-K-LED-24 |
| | | | – | 3-pin | – | In-line | 152743 | SMT0-4U-NS-S-LED-24 |




Ordering data – Proximity switch, round design, magnetic reed Datasheets → Internet: smeo

| | Mounting | Electrical connection | | Cable length [m] | Outlet direction of connection | Part no. | Type | |
|---|------------------|-----------------------|---------|---------------------|--------------------------------|--------------------------|---------------------------|--|
| | | Cable | Plug M8 | | | | | |
| N/O | | | | | | | | |
|  | With accessories | 3-wire | – | 2.5 | In-line | 36198 | SME0-4U-K-LED-24 | |
| | | | 5 | In-line | 175401 | SME0-4U-K5-LED-24 | | |
| | | – | 3-pin | – | In-line | 151526 | SME0-4U-S-LED-24-B | |

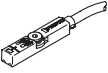
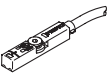
Ordering data – Proximity switch, round design, magnetic reed, corrosion-resistant Datasheets → Internet: crsmeo

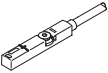
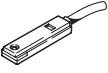
| | Mounting | Electrical connection | | Cable length [m] | Outlet direction of connection | Part no. | Type | |
|---|------------------|-----------------------|---------|---------------------|--------------------------------|---------------|--------------------------|--|
| | | Cable | Plug M8 | | | | | |
| N/O | | | | | | | | |
|  | With accessories | 3-wire | – | 2.5 | In-line | 161775 | CRSMEO-4-K-LED-24 | |


Ordering data – Mounting kits for proximity switch SME0/SMT0/CRSMEO Datasheets → Internet: smbr


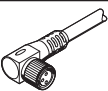
| Designation | For ø | Part no. | Type | Designation | For ø | Part no. | Type |
|---|-------|--------------|----------------|---|-------|---------------|------------------|
| Mounting kit SMBR | | | | Mounting kit CRSMBR, corrosion resistant | | | |
|  | 8 | 19272 | SMBR-8 |  | 8 | – | – |
| | 10 | 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 |

Accessories


| Ordering data – Proximity switch for T-slot, magneto-resistive | | | | | | Datasheets → Internet: smt |
|--|--|------------------|-----------------------|------------------|----------|----------------------------|
| | Type of mounting | Switching output | Electrical connection | Cable length [m] | Part no. | Type |
| N/O | | | | | | |
|  | Inserted in the slot from above, flush with the 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 |
| | | NPN | Plug M12x1, 3-pin | 0.3 | 574337 | SMT-8M-A-PS-24V-E-0.3-M12 |
| | | | 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 | | | | | | |
|  | Inserted in the slot from above, flush with the cylinder profile, short design | PNP | Cable, 3-wire | 7.5 | 574340 | SMT-8M-A-PO-24V-E-7.5-OE |

| Ordering data – Proximity switch for T-slot, magnetic reed | | | | | | Datasheets → Internet: sme |
|---|--|------------------|-----------------------|------------------|----------|----------------------------|
| | Type of mounting | Switching output | Electrical connection | Cable length [m] | Part no. | Type |
| N/O | | | | | | |
|  | Inserted in the slot from above, flush with the cylinder profile | Contacting | Cable, 3-wire | 2.5 | 543862 | SME-8M-DS-24V-K-2.5-OE |
| | | | | 5.0 | 543863 | SME-8M-DS-24V-K-5.0-OE |
| | | | Cable, 2-wire | 2.5 | 543872 | SME-8M-ZS-24V-K-2.5-OE |
| | | | Plug M8x1, 3-pin | 0.3 | 543861 | SME-8M-DS-24V-K-0.3-M8D |
| N/C | | | | | | |
|  | Inserted in the slot lengthwise, flush with the cylinder profile | Contacting | Cable, 3-wire | 7.5 | 160251 | SME-8-O-K-LED-24 |

| Ordering data – Mounting kits for proximity switch SME/SMT-8 | | | | Datasheets → 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 | |

| Ordering data – Connecting cables | | | | | Datasheets → 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 |

Accessories

| Ordering data – One-way flow control valves | | | | Datasheets → Internet: grl | | |
|---|-------------------|-----------------|--------------|----------------------------|-----------------|--|
| | Connection thread | For tubing O.D. | Material | Part no. | Type | |
| For supply air | | | | | | |
|  | M5 | 3 | Metal design | 193153 | GRLZ-M5-QS-3-D | |
| | | 4 | | 193154 | GRLZ-M5-QS-4-D | |
| | | 6 | | 193155 | GRLZ-M5-QS-6-D | |
| | G1/8 | 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 | |
| | | | | | | |

Festo - Your Partner in Automation



1 Festo Inc.
5300 Explorer Drive
Mississauga, ON L4W 5G4
Canada

Festo Customer Interaction Center
Tel: 1 877 463 3786
Fax: 1 877 393 3786
Email: customer.service.ca@festo.com



2 Festo Pneumatic
Av. Ceylán 3,
Col. Tequesquináhuac
54020 Tlalnepantla,
Estado de México

Multinational Contact Center
01 800 337 8669
ventas.mexico@festo.com



3 Festo Corporation
1377 Motor Parkway
Suite 310
Islandia, NY 11749

Festo Customer Interaction Center
1 800 993 3786
1 800 963 3786
customer.service.us@festo.com



4 Regional Service Center
7777 Columbia Road
Mason, OH 45040

Connect with us



www.festo.com/socialmedia



www.festo.com

Subject to change