

Compact cylinders ADN/AEN, to ISO 21287

FESTO

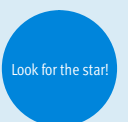


Festo core product range
Covers 80% of your automation tasks

Worldwide:
Superb:
Easy:

Always in stock
Festo quality at an attractive price
Reduces procurement and storing complexity

★ Ready for dispatch from the Festo factory in 24 hours
Held in stock in 13 service centres worldwide
More than 2200 products
★ Ready for dispatch in 5 days maximum from stock
Assembled for you in 4 service centres worldwide
Up to 6×10^{12} variants per product series



Compact cylinders ADN/AEN, to ISO 21287

Key features

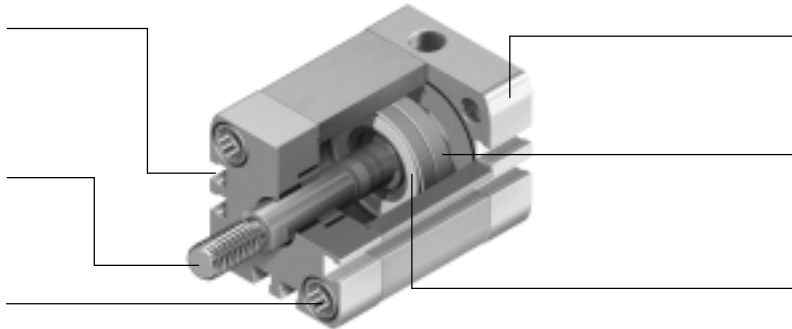


At a glance

Sensor slots on three sides for flush mounting of proximity sensors

Piston rod with choice of male or female thread

Mounting option: Female thread and through-hole



Centring hole in the end cap matches centring pins ZBS

Magnet for contactless position sensing

Integrated cushioning for absorbing residual energy

More than the standard

- The compact cylinder series ADN/AEN complies with the standard ISO 21287
- The ADN/AEN is distinguished by its compact design and broad area of application thanks to the large number of variants
- The variants can be configured according to individual needs thanks to the modular product system

Powerful

- Integrated cushioning for absorbing residual energy
- Long service life thanks to exceptional cushioning characteristics and minimal friction factors

Convenient

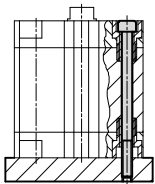
- Easy to mount with a comprehensive range of mounting accessories for just about every type of installation
- Highly flexible thanks to the wide range of variants
- Contactless position sensing using proximity sensors

Reliable

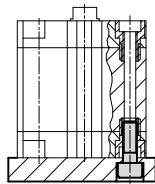
- Optimised manufacturing methods, patented technology and more than 40 years of experience in the field of cylinders make Festo and ADN/AEN a great team

Mounting options

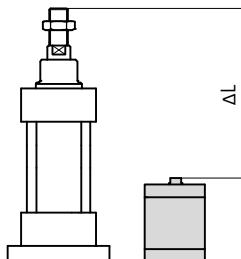
With through screw



Direct mounting



Size comparison between ISO 21287 and ISO 15552



- Space savings of up to 50% compared with the standard ISO 15552

Cushioning types

Cushioning P

Mode of operation

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

Application

- Small loads
- Low speeds
- Small cushioning capacity

Advantages

- No adjustment required
- Time-saving

Cushioning PPS

Mode of operation

- The drive is equipped with self-adjusting, pneumatic end-position cushioning

Application

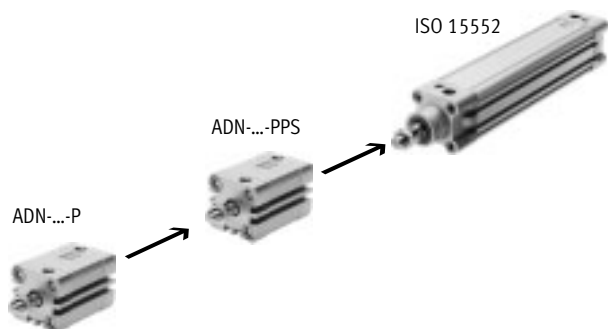
- Larger loads
- Higher speeds
- Larger cushioning capacity

Advantages

- No adjustment required
- Up to four times greater cushioning capacity than ADN-...-P
- Time-saving
- Noise reduction




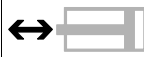




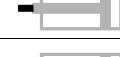




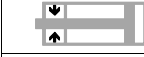
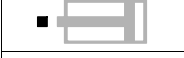

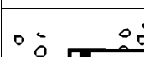
Cushioning capacity of ISO 21287 and ISO 15552

In terms of cushioning capacity, the compact cylinder ADN-...-PPS fills the gap between ADN-...-P and standard cylinders with ISO 15552.



Compact cylinders ADN, to ISO 21287

Key features


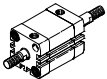
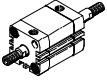


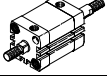
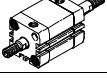


| Variants from the modular product system | | |
|---|---|---|
| Symbol | Key features | Description |
|  | S1 Reinforced piston rod | Increased lateral forces. Absorbs many times more lateral force than a basic cylinder |
|  | S2 Through piston rod | For working at both ends with the same force in the forward and return stroke, for attaching external stops |
|  | S6 Heat-resistant seals | Temperature resistance up to max. 120 °C |
|  | S10 Constant motion (slow speed) at low piston speeds | Suitable for slow stroke movements at a constant, judder-free speed over the full stroke of the cylinder. 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. Seal contains silicone grease (not free of paint-wetting impairment substances) |
|  | S20 Through, hollow piston rod | For supplying vacuum, small parts, media, etc. |
|  | K2 Extended male piston rod thread | – |
|  | K5 Special piston rod thread | Metric standard thread to ISO |
|  | K8 Extended piston rod | – |
|  | K10 Smooth anodised aluminium piston rod | Ideal for use in welding environments: – Protection against welding spatter – Small working loads – Harder surface compared to steel – Long service life |
|  | KP With clamping unit | Integrated clamping unit on the piston rod |
|  | EL With end-position locking | Positive locking in the end position as a drop guard. If there is a drop in pressure, the piston rod is secured in its end position to prevent it from dropping |
|  | Q Square piston rod | Protection against rotation. For correctly oriented feeding |
|  | R3 High corrosion protection | All external cylinder surfaces comply with corrosion resistance class 3 to Festo standard 940 070. The piston rod is made from corrosion and acid resistant steel |
|  | R8 Dust protection (wiper seal) | The cylinder is equipped with a hard-chrome plated piston rod and a rigid wiper seal, which protects against dry, dusty media |
|  | TL Captive rating plate | Laser etched rating plate. For easy identification of components when it comes to replacement, even after years in a harsh environment |
|  | TT Low temperature | Temperature resistance down to max. –40 °C |

Software tools and configuration of Festo modular products
[→www.festo.com](http://www.festo.com)

Compact cylinders ADN, to ISO 21287

Product range overview



| Function | Version | Type | Piston \varnothing | Stroke | Position sensing | Cushioning | | |
|---|---|---|----------------------|---------------------------------------|------------------|------------|---|----------------------|
| | | | [mm] | | | [mm] | A | P |
| Double-acting | Basic version | | | | | | | |
| |  | ADN | 12 | 5, 10, 15, 20, 25, 30, 40 | 1 ... 300 | ■ | ■ | ■ ∅ 20 ... 100 |
| | | | 16 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 ... 300 | | | |
| | | | 20, 25 | 5, 10, 15, 20, 25, 30, 40, 50, 60 | 1 ... 300 | | | |
| | | | 32, 40, 50 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | 1 ... 400 | | | |
| | | | 63 | 10, 15, 20, 25, 30, 40, 50, 60, 80 | 1 ... 400 | | | |
| | | | 80, 100 | 10, 15, 20, 25, 30, 40, 50, 60, 80 | 1 ... 500 | | | |
| | | | 125 | - | 1 ... 500 | | | |
| |  | ADN-...-S2 Through piston rod | 12, 16, 20, 25 | - | 1 ... 300 | ■ | ■ | ■ ∅ 20 ... 100 |
| | | | 32, 40, 50, 63 | - | 1 ... 400 | | | |
| | | | 80, 100, 125 | - | 1 ... 500 | | | |
| |  | ADN-...-S20 Through, hollow piston rod | 16, 20, 25 | - | 1 ... 300 | ■ | ■ | ■ ∅ 20 ... 100 |
| | | | 32, 40, 50, 63 | - | 1 ... 400 | | | |
| | | | 80, 100, 125 | - | 1 ... 500 | | | |
| | Reinforced piston rod | | | | | | | |
| |  | ADN-...-S1 | 25 | - | 5 ... 300 | ■ | ■ | - |
| | | | 40, 63 | - | 10 ... 400 | | | |
| | | | 100 | - | 10 ... 500 | | | |
| | Non-rotating with square piston rod | | | | | | | |
| |  | ADN-...-Q | 12, 16, 20, 25 | - | 1 ... 300 | ■ | ■ | - |
| | | | 32, 40, 50, 63 | - | 1 ... 400 | | | |
| | | | 80, 100, 125 | - | 1 ... 500 | | | |
| |  | ADN-...-Q-S2 Through piston rod | 12, 16, 20, 25 | - | 1 ... 300 | ■ | ■ | - |
| | | | 32, 40, 50, 63 | - | 1 ... 400 | | | |
| | | | 80, 100, 125 | - | 1 ... 500 | | | |
| |  | ADN-...-Q-S20 Through, hollow piston rod | 16, 20, 25 | - | 1 ... 200 | ■ | ■ | - |
| | | | 32, 40, 50, 63 | - | 1 ... 300 | | | |
| | | | 80, 100, 125 | - | 1 ... 400 | | | |
| Standard hole pattern, with clamping unit | | | | | | | | |
|  | ADN-...-KP | 20, 25 | - | 10 ... 300 | ■ | ■ | - | |
| | | 32, 40, 50, 63 | - | 10 ... 400 | | | | |
| | | 80, 100 | - | 10 ... 500 | | | | |
| Standard hole pattern, with end-position locking | | | | | | | | |
|  | ADN-...-EL | 20, 25 | - | 10 ... 300 | ■ | ■ | - | |
| | | 32, 40, 50, 63 | - | 10 ... 400 | | | | |
| | | 80, 100 | - | 10 ... 500 | | | | |

Compact cylinders ADN, to ISO 21287


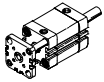
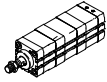
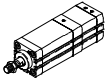
Product range overview

| Type | Male piston rod thread | Female piston rod thread | Extended male piston rod thread | Special piston rod thread | Extended piston rod | Smooth anodised piston rod | Heat-resistant seals max. 120 °C | Slow speed (constant motion) | Low friction | High corrosion protection | Dust protection | Low temperature | → Page/Internet |
|---|------------------------|--------------------------|---------------------------------|---------------------------|---------------------|----------------------------|----------------------------------|------------------------------|--------------|---------------------------|---------------------|-------------------|-----------------|
| | A | I | K2 | K5 | K8 | K10 | S6 | S10 | S11 | R3 | R8 | TT | |
| Basic version | | | | | | | | | | | | | |
| ADN | ■ | ■ | ■ | ■ | ■ | ■ ∅ 20 and above | ■ | ■ | ■ | ■ | ■ ∅ 20 and above | ■ ∅ 20 ... 100 | 13 |
| ADN-...-S2 Through piston rod | ■ | ■ | ■ | ■ | ■ | - | ■ | - | - | - | - | ■ ∅ 20 ... 100 | 13 |
| ADN-...-S20 Through, hollow piston rod | ■ | - | ■ | ■ | ■ | - | ■ | - | - | - | - | - | 13 |
| Reinforced piston rod | | | | | | | | | | | | | |
| ADN-...-S1 | ■ | ■ | ■ | ■ | ■ | - | ■ | - | - | ■ | - | - | 13 |
| Non-rotating with square piston rod | | | | | | | | | | | | | |
| ADN-...-Q | ■ | ■ | ■ | ■ | ■ | - | ■ | - | - | - | - | - | 13 |
| ADN-...-Q-S2 Through piston rod | ■ | ■ | ■ | ■ | ■ | - | ■ | - | - | - | - | - | 13 |
| ADN-...-Q-S20 Through, hollow piston rod | ■ | - | ■ | ■ | ■ | - | ■ | - | - | - | - | - | 13 |
| Standard hole pattern, with clamping unit | | | | | | | | | | | | | |
| ADN-...-KP | ■ | ■ | ■ | ■ | ■ | - | - | - | - | - | - | - | 40 |
| Standard hole pattern, with end-position locking | | | | | | | | | | | | | |
| ADN-...-EL | ■ | ■ | ■ | ■ | ■ | - | - | - | - | - | - | - | 49 |

Compact cylinders ADN, to ISO 21287

Product range overview



| Function | Version | Type | Piston \varnothing | Stroke | Position sensing | Cushioning | | |
|---|---|------------------------------------|----------------------------|---------------------------------------|------------------|------------|---|----------------------------------|
| | | | [mm] | | | [mm] | A | P |
| Double-acting | Standard hole pattern, non-rotating with yoke | | | | | | | |
| |  | ADNGF | 12 | 5, 10, 15, 20, 25, 30, 40 | 1 ... 200 | ■ | ■ | ■ \varnothing 20 ... 100 |
| | | | 16 | 5, 10, 15, 20, 25, 30, 40, 50 | 1 ... 200 | | | |
| | | | 20, 25 | 5, 10, 15, 20, 25, 30, 40, 50, 60 | 3 ... 200 | | | |
| | | | 32, 40, 50 | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | 5 ... 300 | | | |
| | | | 63, 80 | 10, 15, 20, 25, 30, 40, 50, 60, 80 | 5 ... 300 | | | |
| |  | ADNGF-...-S2 Through piston rod | 12, 16 | – | 1 ... 200 | ■ | ■ | ■ \varnothing 20 ... 100 |
| | | | 20, 25 | | 3 ... 200 | | | |
| | | | 32, 40, 50, 63, 80, 100 | | 5 ... 250 | | | |
| | | | | | | | | |
| | Standard hole pattern, high-force cylinder | | | | | | | |
| |  | ADNH | 25 | – | 1 ... 150 | ■ | ■ | – |
| | | | 40 | | | | | |
| | | | 63 | | | | | |
| 100 | | | | | | | | |
| Standard hole pattern, multi-position cylinder | | | | | | | | |
|  | ADNM | 25 | – | 1 ... 2,000 | ■ | ■ | – | |
| | | 40 | | | | | | |
| | | 63 | | | | | | |
| | | 100 | | | | | | |

Compact cylinders ADN, to ISO 21287


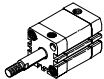

Product range overview

| Type | Male piston rod thread | Female piston rod thread | Extended male piston rod thread | Special piston rod thread | Extended piston rod | Heat-resistant seals max. 120 °C | → Page/Internet |
|---|------------------------|--------------------------|---------------------------------|---------------------------|---------------------|----------------------------------|-----------------|
| | A | I | K2 | K5 | K8 | S6 | |
| Standard hole pattern, non-rotating with yoke | | | | | | | |
| ADNGF | - | - | - | - | - | ■ | adngf |
| ADNGF-...-S2 Through piston rod | - | - | - | - | - | ■ | adngf |
| Standard hole pattern, high-force cylinder | | | | | | | |
| ADNH | ■ | ■ | ■ | ■ | ■ | ■ | adnh |
| Standard hole pattern, multi-position cylinder | | | | | | | |
| ADNM | ■ | ■ | ■ | ■ | ■ | ■ | adnh |

Compact cylinders AEN, to ISO 21287

Product overview



| Function | Version | Type | Piston \varnothing | Stroke | Position sensing | Cushioning |
|--|---|---------------------------------|-------------------------------------|----------|------------------|------------|
| | | | [mm] | [mm] | A | P |
| Single-acting | Basic version | | | | | |
| |  | AEN | 12 | 1 ... 10 | ■ | ■ |
| | | | 16, 20, 25, 32, 40, 50, 63, 80, 100 | 1 ... 25 | | |
| |  | AEN...-Z pulling | 12 | 1 ... 10 | ■ | ■ |
| | | | 16, 20, 25, 32, 40, 50, 63, 80, 100 | 1 ... 25 | | |
| | Non-rotating with square piston rod | | | | | |
|  | AEN...-Q | 16 | 1 ... 25 | ■ | ■ | |
| | | 20, 25, 32, 40, 50, 63, 80, 100 | 1 ... 25 | | | |

Compact cylinders AEN, to ISO 21287

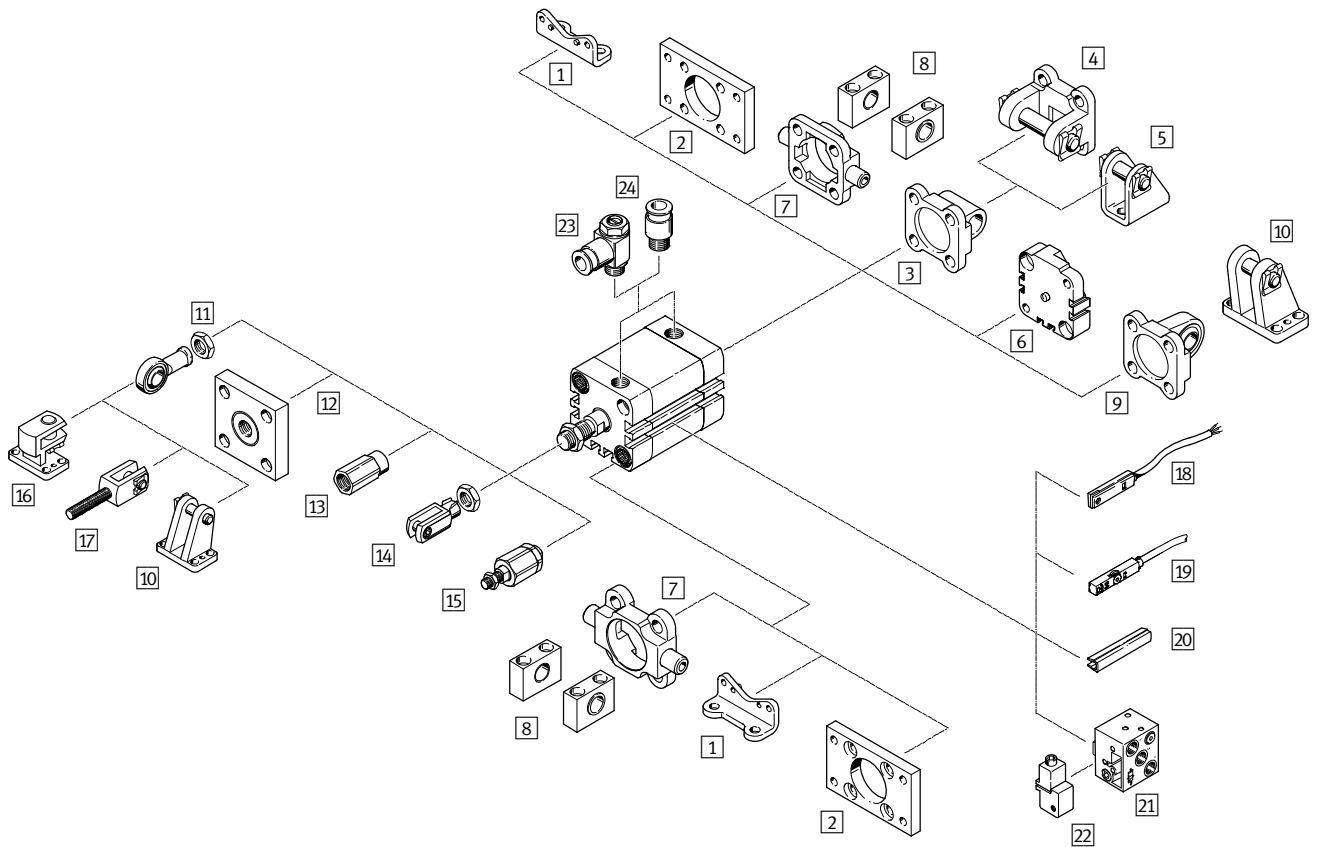
Product overview

| Type | Male piston rod thread | Female piston rod thread | Extended male piston rod thread | Special piston rod thread | Extended piston rod | Smooth anodised piston rod | Heat-resistant seals up to max. 120 °C | → Page/Internet |
|--|------------------------|--------------------------|---------------------------------|---------------------------|---------------------|----------------------------|--|-----------------|
| | A | I | K2 | K5 | K8 | K10 | S6 | |
| Basic version | | | | | | | | |
| AEN | ■ | ■ | ■ | ■ | ■ | ■ ∅ 20 and above | ■ | 59 |
| AEN-...-Z pulling | ■ | ■ | ■ | ■ | ■ | ■ ∅ 20 and above | ■ | 59 |
| Non-rotating with square piston rod | | | | | | | | |
| AEN-...-Q | ■ | ■ | ■ | ■ | ■ | - | ■ | 59 |

Compact cylinders ADN/AEN, to ISO 21287

Peripherals overview

FESTO



Compact cylinders ADN/AEN, to ISO 21287

Peripherals overview

FESTO

| Mounting attachments and accessories | | |
|--------------------------------------|--|--|
| | Description | → Page/Internet |
| 1 | Foot mounting HNA | For bearing or end caps 72 |
| 2 | Flange mounting FNC | For bearing or end caps 73 |
| 3 | Swivel flange SNCL/SNCL-...-R3 | For end caps 74 |
| 4 | Swivel flange SNCB/SNCB-...-R3 | For swivel flange SNCL 79 |
| 5 | Clevis foot LBN/CRLBN | For swivel flange SNCL 78 |
| 6 | Multi-position kit DPNA | For connecting two cylinders with identical piston \varnothing to form a multi-position cylinder 77 |
| 7 | Trunnion flange ZNCF/CRZNG | For bearing caps 80 |
| 8 | Trunnion support LNZG | For trunnion flange ZNCF/CRZNG 81 |
| 9 | Swivel flange SNCS/CRSNCS/SNCS-...-R3 | For end caps 75 |
| 10 | Clevis foot LBG/LBG-...-R3 | For swivel flange SNCS 76 |
| 11 | Rod eye SGS/CRSGS | With spherical bearing 82 |
| 12 | Coupling piece KSG/KSZ | For compensating radial deviations 82 |
| 13 | Adapter AD | For mounting a vacuum suction cup on a hollow cylinder piston rod 82 |
| 14 | Rod clevis SG/CRSG | Permits a swivelling movement of the cylinder in one plane 82 |
| 15 | Self-aligning rod coupler FK/CRFK | For compensating radial and angular deviations 82 |
| 16 | Right-angle clevis foot LQG | For rod eye SGS 83 |
| 17 | Rod clevis SGA | With male thread 82 |
| 18 | Proximity sensor SME/SMT-8 | Can be integrated in the sensor slot of the cylinder profile barrel 85 |
| 19 | Proximity sensor SME/SMT-8M | Can be integrated in the sensor slot of the cylinder profile barrel 85 |
| 20 | Slot cover ABP-5-S | For protecting the sensor cable and keeping dirt out of the sensor slots 85 |
| 21 | Proximity sensor SMPO-8E | Pneumatic output signal 85 |
| 22 | Mounting kit SMB-8E | For proximity sensor SMPO-8E 85 |
| 23 | One-way flow control valve GRLA/GRLZ | For speed regulation 83 |
| 24 | Push-in fitting QS | For connecting compressed air tubing with standard external diameters qs |

Compact cylinders ADN, to ISO 21287

Type codes

FESTO

ADN – 50 – 50 – A – P – A – S2

Type

| | |
|---------------|------------------|
| Double-acting | |
| ADN | Compact cylinder |

Piston Ø [mm]

Stroke [mm]

Piston rod thread

| | |
|---|---------------|
| A | Male thread |
| I | Female thread |

Cushioning

| | |
|-----|---|
| P | Flexible cushioning rings/pads at both ends |
| PPS | Pneumatic cushioning, self-adjusting at both ends |

Position sensing

| | |
|---|----------------------|
| A | Via proximity sensor |
|---|----------------------|

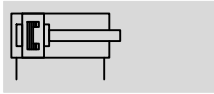
Variant

| | |
|-----|--|
| Q | Square piston rod |
| S1 | Reinforced piston rod |
| S2 | Through piston rod |
| S20 | Through, hollow piston rod |
| K2 | Piston rod with extended male thread |
| K5 | Piston rod with special thread |
| K8 | Extended piston rod |
| K10 | Smooth anodised piston rod |
| S6 | Heat-resistant seals up to max. 120 °C |
| S10 | Slow speed (constant motion) |
| S11 | Low friction |
| R3 | High corrosion protection |
| R8 | Dust protection |
| TL | Captive rating plate |
| TT | Low temperature |

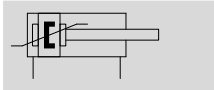
Compact cylinders ADN, to ISO 21287

Technical data

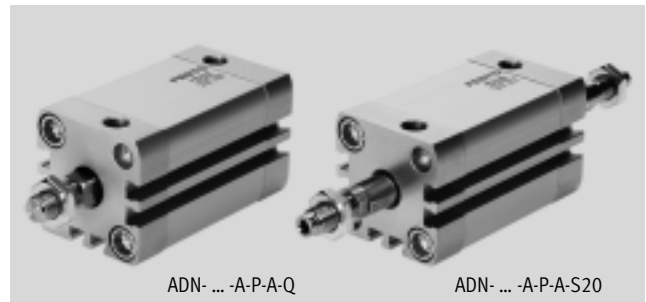
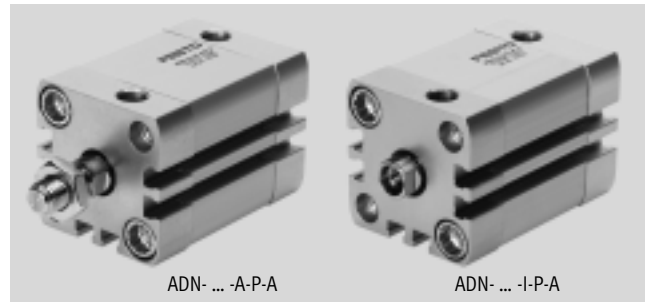
Function
P cushioning



PPS cushioning



Variants → page 3



⌀ - Diameter
12 ... 125 mm

— - Stroke length
1 ... 500 mm

www.festo.com

| General technical data | | | | | | | | | | | |
|------------------------|---|----|----|-----|----|----|----|----|-----|-----|-----|
| Piston ⌀ | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Design | Piston | | | | | | | | | | |
| | Piston rod | | | | | | | | | | |
| | Cylinder barrel | | | | | | | | | | |
| Mode of operation | Double-acting | | | | | | | | | | |
| Cushioning | | | | | | | | | | | |
| P | Flexible cushioning rings/pads at both ends | | | | | | | | | | |
| PPS | Pneumatic cushioning, self-adjusting at both ends | | | | | | | | | | — |
| Cushioning length | | | | | | | | | | | |
| PPS | [mm] | — | 3 | 3.5 | 4 | 5 | 6 | 7 | 7.5 | 10 | — |
| Position sensing | Via proximity sensor | | | | | | | | | | |
| Type of mounting | Via through-hole | | | | | | | | | | |
| | Via female thread | | | | | | | | | | |
| | Via accessories | | | | | | | | | | |
| Mounting position | Any | | | | | | | | | | |

| Technical data – Basic version and variants | | | | | | |
|---|----|-----|---------------|---------------|----------|---------------|
| Piston ⌀ | 12 | 16 | 20 | 25 | 32 | 40 |
| Pneumatic connection | | | | | | |
| — | M5 | M5 | M5 | M5 | G1/8 | G1/8 |
| S1 | — | — | — | M5 | — | M5 |
| Female piston rod thread | | | | | | |
| — | M3 | M4 | M6 | M6 | M8 | M8 |
| K5 | — | — | M5 | M5 | M6 | M6 |
| S1 | — | — | — | M6 | — | M10 |
| S1-K5 | — | — | — | M5 | — | M8 |
| Male piston rod thread | | | | | | |
| — | M5 | M6 | M8 | M8 | M10x1.25 | M10x1.25 |
| K5 | M6 | M8 | M10, M10x1.25 | M10, M10x1.25 | M10, M12 | M10, M12 |
| S1 | — | — | — | M8 | — | M12x1.25 |
| S1-K5 | — | — | — | M10, M10x1.25 | — | M10x1.25, M12 |
| Q-K5 | M6 | M8 | M10; M10x1.25 | M10; M10x1.25 | M10 | M10 |
| Max. torsional backlash of piston rod [°] | | | | | | |
| Q | 2 | 1.8 | 1.6 | 1.6 | 1.2 | 1.2 |

Compact cylinders ADN, to ISO 21287

FESTO

Technical data

| Technical data – Basic version and variants | | | | | |
|---|----------|-----------------|-------------------|-------------------|---------|
| Piston Ø | 50 | 63 | 80 | 100 | 125 |
| Pneumatic connection | | | | | |
| – | G1/8 | G1/8 | G1/8 | G1/8 | G1/4 |
| S1 | – | G $\frac{1}{8}$ | – | G $\frac{1}{8}$ | – |
| Female piston rod thread | | | | | |
| – | M10 | M10 | M12 | M12 | M16 |
| K5 | M8 | M8 | M10 | M10 | – |
| S1 | – | M12 | – | M16 | – |
| S1-K5 | – | M10 | – | – | – |
| Male piston rod thread | | | | | |
| – | M12x1.25 | M12x1.25 | M16x1.5 | M16x1.5 | M20x1.5 |
| K5 | M12, M16 | M12, M16 | M16, M20, M20x1.5 | M16, M20, M20x1.5 | M20 |
| S1 | – | M16x1.5 | – | M20x1.5 | – |
| S1-K5 | – | M12x1.25, M16 | – | M16x1.5, M20 | – |
| Q-K5 | M12 | M12 | M16 | M16 | M20 |
| Max. torsional backlash of piston rod [°] | | | | | |
| Q | 1 | 1 | 0.8 | 0.8 | 0.8 |

| Operating and environmental conditions | | | | | | | | | | | | |
|--|--|------------|-------------|----|-------------|----------|----------|------------|----|-----|----------|---|
| Piston Ø | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | |
| 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 ... 10 | | 0.6 ... 10 | | | | | | | | | |
| PPS | – | | 1.5 ... 10 | | | 1 ... 10 | | | – | | | |
| Q | 1.3 ... 10 | | 1 ... 10 | | 0.8 ... 10 | | | 0.6 ... 10 | | | | |
| S1 | – | | 1 ... 10 | | – | | 1 ... 10 | | – | | 1 ... 10 | – |
| S2, S20 | 1.5 ... 10 | 1.3 ... 10 | 1.2 ... 10 | | 1 ... 10 | | | 0.8 ... 10 | | | | |
| S6 | 1 ... 10 | | 0.6 ... 10 | | | | | | | | | |
| S11 | 0.45 ... 10 | | | | 0.25 ... 10 | | | | | | | |
| R8, TT | – | | 1.5 ... 10 | | | 1 ... 10 | | | – | | | |
| Ambient temperature ¹⁾ [°C] | | | | | | | | | | | | |
| – | –20 ... +80 | | | | | | | | | | | |
| S6 | 0 ... +120 | | | | | | | | | | | |
| R3 | –20 ... +80 | | | | | | | | | | | |
| TT | – | | –40 ... +80 | | | | | | | – | | |
| Corrosion resistance class CRC ²⁾ | | | | | | | | | | | | |
| – | 2 | | | | | | | | | | | |
| R3 | 3 | | | | | | | | | | | |
| ATEX | Specified types → www.festo.com | | | | | | | | | | | |

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.

Compact cylinders ADN, to ISO 21287

Technical data

FESTO


| Forces [N] and impact energy [J] | | | | | | | | | | | |
|---|-------|-------|-------|-------|------|------|------|------|------|------|------|
| Piston Ø | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Theoretical force at 6 bar, advancing | | | | | | | | | | | |
| – | 68 | 121 | 188 | 295 | 483 | 754 | 1178 | 1870 | 3016 | 4712 | 7363 |
| S1 | – | – | – | 295 | – | 754 | – | 1870 | – | 4712 | – |
| S2 | 51 | 90 | 141 | 247 | 415 | 686 | 1057 | 1750 | 2827 | 4524 | 7069 |
| Theoretical force at 6 bar, retracting | | | | | | | | | | | |
| – | 51 | 90 | 141 | 247 | 415 | 686 | 1057 | 1750 | 2827 | 4524 | 7069 |
| S1 | – | – | – | 247 | – | 633 | – | 1681 | – | 4417 | – |
| S2 | 51 | 90 | 141 | 247 | 415 | 686 | 1057 | 1750 | 2827 | 4524 | 7069 |
| Max. impact energy in the end positions | | | | | | | | | | | |
| – | 0.07 | 0.15 | 0.2 | 0.3 | 0.4 | 0.7 | 1 | 1.3 | 1.8 | 2.5 | 3.3 |
| S1 | – | – | – | 0.3 | – | 0.7 | – | 1.3 | – | 2.5 | – |
| S6 | 0.035 | 0.075 | 0.1 | 0.15 | 0.2 | 0.35 | 0.5 | 0.65 | 0.9 | 1.25 | 1.75 |
| K10 | – | – | 0.16 | 0.24 | 0.32 | 0.56 | 0.8 | 1 | 1.4 | 2 | 2.6 |
| S20 | – | 0.016 | 0.024 | 0.083 | 0.15 | 0.39 | 0.48 | 0.62 | 0.8 | 0.9 | 0.95 |

 Note
This data represents the maximum values that can be achieved. The maximum permissible impact energy must be observed.

Permissible impact velocity:
$$v_{perm.} = \sqrt{\frac{2 \times E_{perm.}}{m_{dead} + m_{load}}}$$

Maximum permissible load:
$$m_{load} = \frac{2 \times E_{perm.}}{v^2} - m_{dead}$$

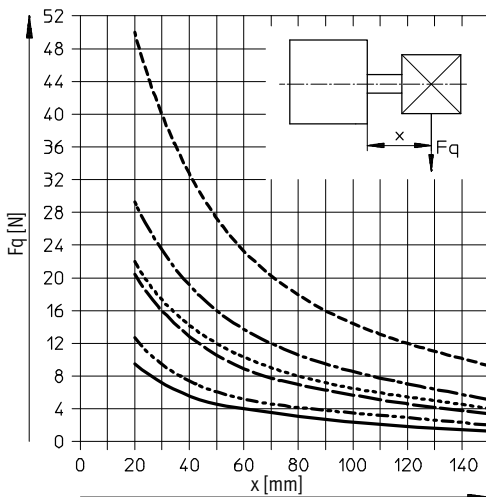
$v_{perm.}$ Permissible impact velocity
 $E_{perm.}$ Max. impact energy
 m_{dead} Moving load (drive)
 m_{load} Moving effective load

 Note
In combination with PPS cushioning, the maximum impact energy is still obtained.

| Max. energy conversion capacity [J] | | | | | | | | |
|-------------------------------------|------|-----|----|-----|-----|-----|----|-----|
| Piston Ø | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| For PPS cushioning | 0.65 | 0.8 | 1 | 1.7 | 2.8 | 4.8 | 8 | 12 |

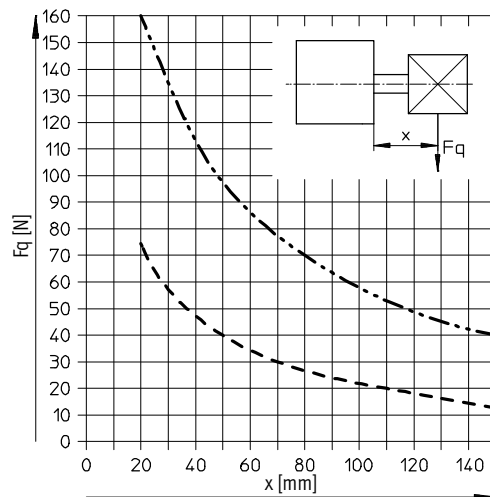
Max. lateral force F_q as a function of the projection x

Ø 12 ... 63



- Ø 12
- - - - - Ø 16
- · — · — Ø 20
- · · · · Ø 25
- · — · — Ø 32/40
- · — · — Ø 50/63

Ø 80 ... 125



- - - - - Ø 80/100
- · — · — Ø 125

Compact cylinders ADN, to ISO 21287

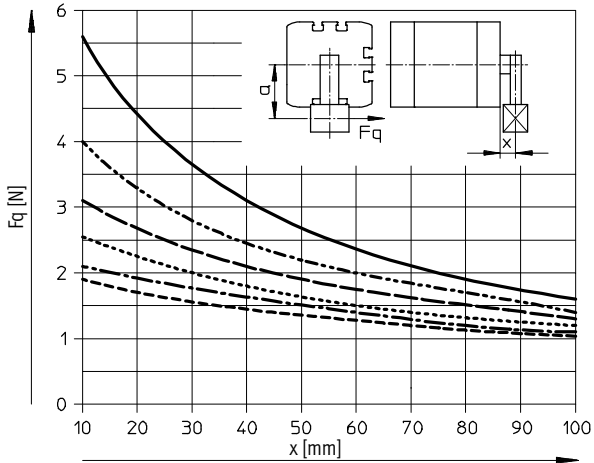
Technical data

FESTO

Max. lateral force F_q as a function of the projection x and the lever arm a

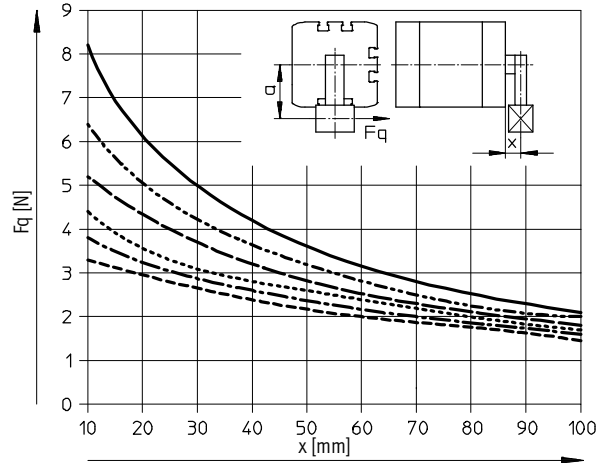
Q – Square piston rod

Ø 12



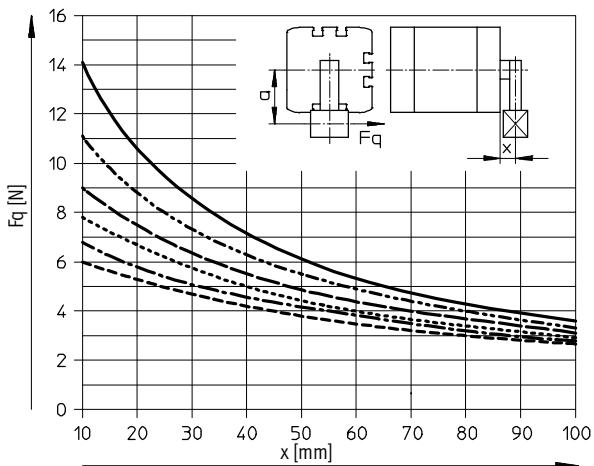
- a = 5 mm
- - - a = 10 mm
- · - a = 15 mm
- · · a = 20 mm
- · · · a = 25 mm
- · · · · a = 30 mm

Ø 16



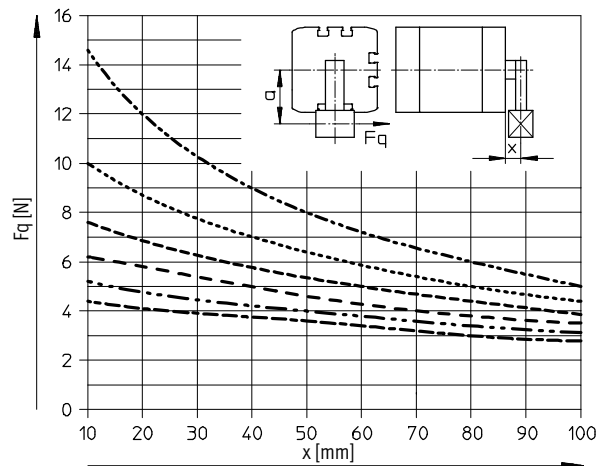
- a = 5 mm
- - - a = 10 mm
- · - a = 15 mm
- · · a = 20 mm
- · · · a = 25 mm
- · · · · a = 30 mm

Ø 20/25



- a = 5 mm
- - - a = 10 mm
- · - a = 15 mm
- · · a = 20 mm
- · · · a = 25 mm
- · · · · a = 30 mm

Ø 32/40



- - - a = 10 mm
- · · a = 20 mm
- · - a = 30 mm
- · · a = 40 mm
- · · · a = 50 mm
- · · · · a = 60 mm

Note

• Torques on the piston rod are to be excluded with projections greater than those shown in the graphs.

• If $a = 0$, the corresponding lateral load line of the basic ADN version can be used (→ page 15).

Compact cylinders ADN, to ISO 21287

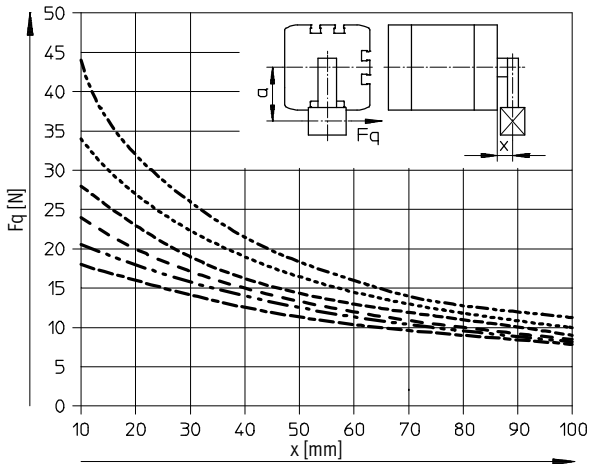
Technical data

FESTO

Max. lateral force F_q as a function of the projection x and the lever arm a

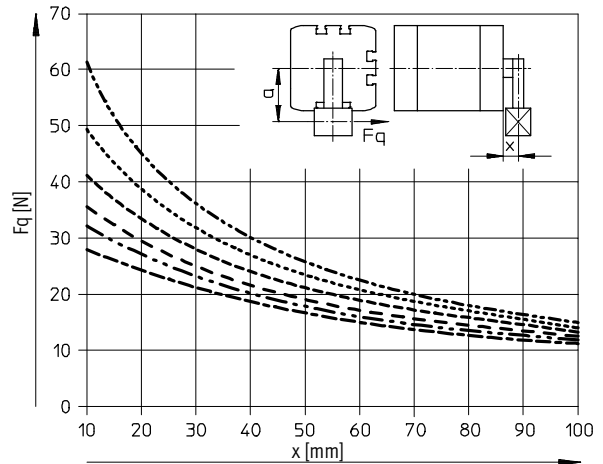
Q – Square piston rod

Ø 50/63



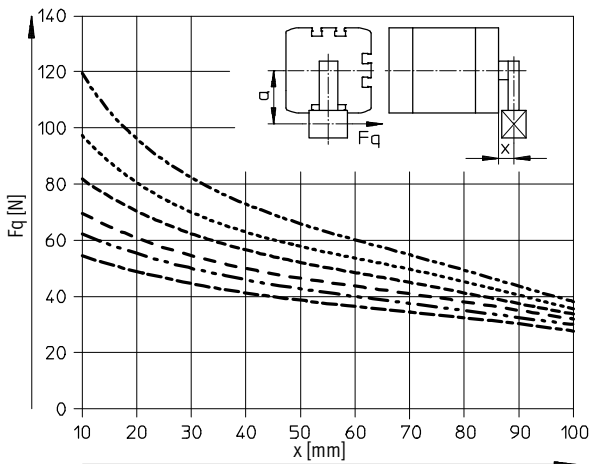
- a = 10 mm
- a = 20 mm
- a = 30 mm
- a = 40 mm
- a = 50 mm
- a = 60 mm

Ø 80/100



- a = 10 mm
- a = 20 mm
- a = 30 mm
- a = 40 mm
- a = 50 mm
- a = 60 mm

Ø 125



- a = 10 mm
- a = 20 mm
- a = 30 mm
- a = 40 mm
- a = 50 mm
- a = 60 mm

Note

• Torques on the piston rod are to be excluded with projections greater than those shown in the graphs.

• If $a = 0$, the corresponding lateral load line of the basic ADN version can be used (→ page 15).

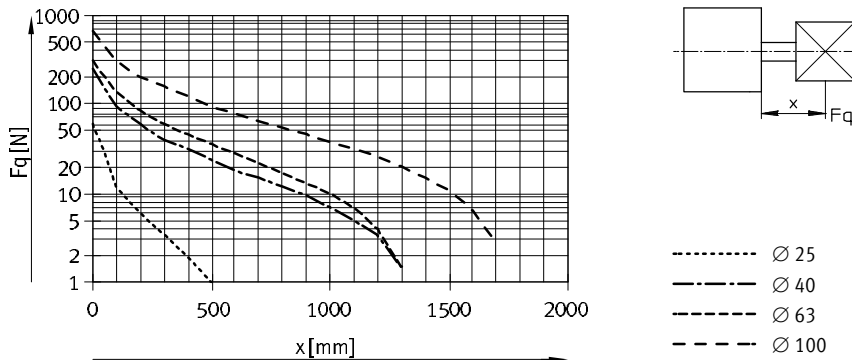
Compact cylinders ADN, to ISO 21287

Technical data

FESTO

Max. lateral force F_q as a function of the projection x

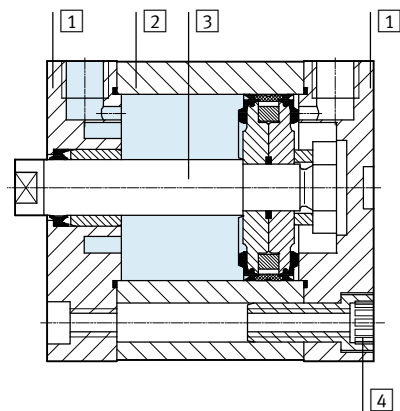
S1 – Reinforced piston rod



| Weight [g] | | | | | | | | | | | |
|------------------------------------|----|----|-----|-----|-----|-----|-----|-----|------|------|------|
| Piston Ø | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Product weight with 0 mm stroke | 77 | 79 | 131 | 156 | 265 | 346 | 540 | 722 | 1300 | 2154 | 2880 |
| Additional weight per 10 mm stroke | 12 | 14 | 21 | 23 | 30 | 37 | 51 | 59 | 79 | 98 | 117 |
| Moving load with 0 mm stroke | 9 | 15 | 30 | 50 | 60 | 80 | 140 | 180 | 400 | 570 | 1080 |
| Additional load per 10 mm stroke | 2 | 4 | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 | 39 |

Materials

Sectional view



| Compact cylinder | Basic version, Q | R8 | S6, S10, S11 | R3 | K10 |
|-----------------------|-----------------------------------|-------------------------------------|------------------|-----------------------------------|-----------------------------------|
| 1 Bearing and end cap | | | | | |
| Ø 12 ... 80 | Anodised aluminium | | | | |
| Ø 100/125 | Coated die-cast aluminium | | | | |
| 2 Cylinder barrel | Anodised aluminium | | | | |
| 3 Piston rod | High-alloy steel | Hard-chromium plated tempered steel | High-alloy steel | Anodised aluminium | |
| 4 Flange screws | | | | | |
| Ø 12 ... 16 | High-alloy steel | | | High-alloy steel | – |
| Ø 20 ... 63 | Galvanised steel | | | Steel, zinc flake coating | Galvanised steel |
| Ø 80 ... 125 | Standard screws, galvanised steel | | | Standard screws, high-alloy steel | Standard screws, galvanised steel |
| – Seals | Polyurethane | | Fluoro elastomer | Polyurethane | |
| Note on materials | RoHS-compliant | | | | |

Compact cylinders ADN, to ISO 21287

Technical data

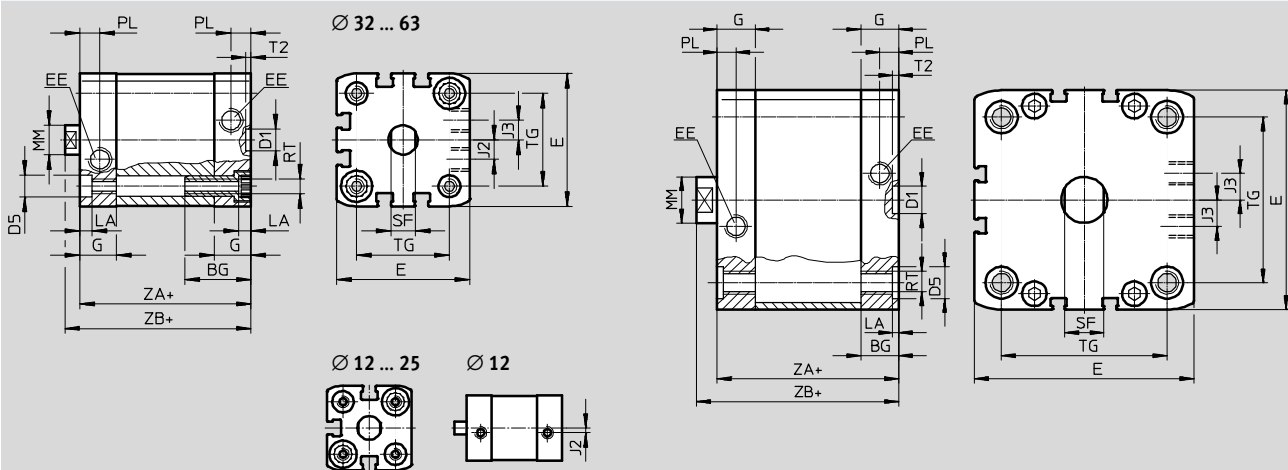
FESTO

Dimensions – Basic version

Download CAD data → www.festo.com

∅ 12 ... 63

∅ 80 ... 125



+ = plus stroke length

| ∅ [mm] | BG min. | D1 ∅ H9 | D5 ∅ | E | EE | G | J2 | J3 | LA +0.2 |
|-----------|------------|------------------|----------------------|-----------------------|------|------|-----|-------|------------|
| 12 | 17 | 9 | 6 ^{F9} | 27.5 ^{+0.3} | M5 | 10.5 | 2 | – | 3.5 |
| 16 | | | | 29 ^{+0.3} | | 11 | 2.6 | | |
| 20 | | | | 35.5 ^{+0.3} | | 12 | | 5 | |
| 25 | | | | 39.5 ^{+0.3} | | 15 | 8 | | |
| 32 | 26 | 12 ^{F9} | 47 ^{+0.3} | 6 | | | | | |
| 40 | | | 54.5 ^{+0.3} | 8 | | | | | |
| 50 | 27 | | 12 | 65.5 ^{+0.3} | 11.5 | | | 2.6 | |
| 63 | | | | 75.5 ^{+0.3} | | | | | |
| 80 | 17 | 15 | | 95.5 ^{+0.6} | 16.5 | 20 | | | |
| 100 | 21.5 | | | 113.5 ^{+0.6} | 21.5 | | | | |
| 125 | 20 | | – | 134.6 ^{+0.3} | G1/4 | | 20 | 21.15 | – |

| ∅ [mm] | MM ∅ | PL +0.2 | RT | SF h13 | T2 +0.1 | TG ±0.2 | ZA ±0.3 | ZB | | |
|-----------|---------|------------|-----|-----------|------------|------------|------------|------|-------------|------|
| | | | | | | | | +1.2 | PPS +1.3 | |
| 12 | 6 | 6 | M4 | 5 | 2.1 | 16 | 35 | 39.2 | – | |
| 16 | 8 | | | 7 | | 18 | 39.7 | | | |
| 20 | 10 | | | M5 | | 9 | 22 | 37 | 42.5 | 42.5 |
| 25 | | | | | | 26 | 39 | 44.5 | 45.3 | |
| 32 | 12 | M6 | 10 | | 32.5 | 44 | 50 | 50.6 | | |
| 40 | | | 38 | | 45 | 51.1 | 51.7 | | | |
| 50 | 16 | | M8 | 13 | 46.5 | 49 | 52.7 | 53.2 | | |
| 63 | | | | 56.5 | 57 | | | | | |
| 80 | 20 | M10 | | 17 | 72 | 54 | 62.9 | 63.4 | | |
| 100 | | | | 89 | 67 | 76 | 76.8 | | | |
| 125 | 25 | | M12 | 21 | 110 | 81 | 92 | – | | |

Compact cylinders ADN, to ISO 21287

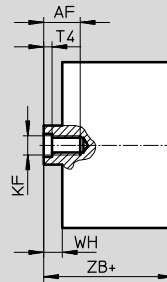
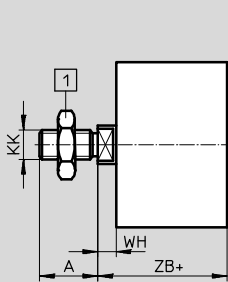
Technical data

FESTO

Dimensions – Variants

Download CAD data → www.festo.com

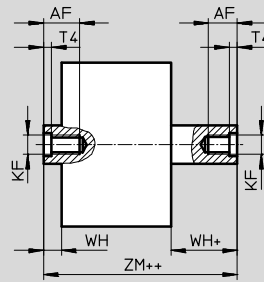
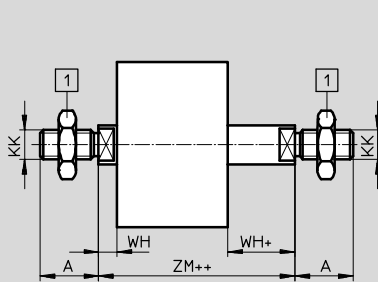
Basic version



1 Hex nut DIN 439-B
only with $\varnothing 32 \dots 125$

+ = plus stroke length

S2 – Through piston rod

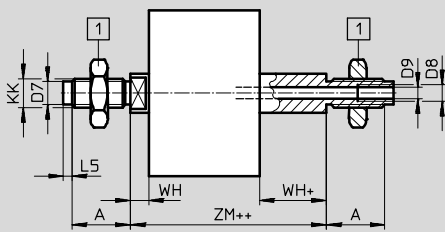


1 Hex nut DIN 439-B
only with $\varnothing 32 \dots 125$

+ = plus stroke length

++ = plus 2x stroke length

S20 – Through, hollow piston rod

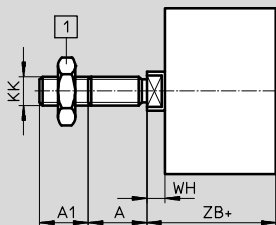


1 Hex nut DIN 439-B
only with $\varnothing 32 \dots 125$

+ = plus stroke length

++ = plus 2x stroke length

K2 – Extended male piston rod thread



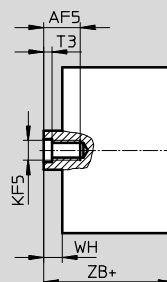
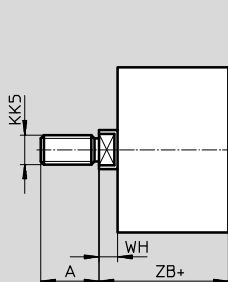
⌀ - Note

In combination with variants
S2/S20, the piston rod thread is
extended at both ends.

1 Hex nut DIN 439-B
only with $\varnothing 32 \dots 125$

+ = plus stroke length

K5 – Special piston rod thread



+ = plus stroke length

Compact cylinders ADN, to ISO 21287

Technical data

FESTO

Dimensions – Variants

Download CAD data → www.festo.com

K8 – Extended piston rod

1 Hex nut DIN 439-B only with \varnothing 32 ... 125
 + = plus stroke length

- - Note
 In combination with variants S2/S20, the piston rod is extended at one end.

R8 – Dust protection / TT – Low temperature

1 Hex nut DIN 439-B only with \varnothing 32 ... 125
 + = plus stroke length

| \varnothing | A | A1 | A2 | AF | AF5 | B | D7 | D8 | D9 | L5 | KF | KF5 | KK |
|---------------|------|----------|-----------|------|------|---------------|---------------|------|---------------|-----|-----|-----|----------|
| [mm] | -0.5 | | | min. | min. | \varnothing | \varnothing | | \varnothing | | | | |
| 12 | 10 | 1 ... 10 | 1 ... 300 | 8 | - | - | - | - | - | - | M3 | - | M5 |
| 16 | 12 | | | 10 | - | - | 4.5 | | 3.2 | 3 | M4 | - | M6 |
| 20 | 16 | 1 ... 20 | 1 ... 400 | 14 | 12 | 18 | 6 | - | 3.8 | 2 | M6 | M5 | M8 |
| 25 | | | | 19 | 16 | 14 | 27 | | 8 | 4.5 | 3 | M8 | M6 |
| 32 | 22 | 1 ... 30 | 1 ... 500 | 20 | 16 | 31 | 10 | - | 6 | 3.5 | M10 | M8 | M12x1.25 |
| 40 | | | | | | | | | | | | | |
| 50 | 40 | 1 ... 40 | | 25 | - | - | - | G1/4 | 11.7 | | M16 | - | M20x1.5 |
| 63 | | | | | | | | | | | | | |
| 80 | 100 | | | | | | | | | | | | |
| 125 | 125 | | | | | | | | | | | | |

| \varnothing | KK5 | T3 | T4 | VD | WH | | | ZB | | | ZM | |
|---------------|----------|-----|-----|-----|------|----------|------------|------|----------|-----------------------|----------------------|-----|
| | | | | | +1.3 | PPS +1.4 | R8/TT +1.3 | +1.2 | PPS +1.3 | R8/TT +1.2 | | PPS |
| [mm] | | | | | | | | | | | | |
| 12 | M6 | - | 1.5 | - | 4.2 | - | - | 39.2 | - | - | 44.5 ^{+0.5} | - |
| 16 | M8 | | | | 4.7 | | | 39.7 | | | 45.7 ^{+0.5} | |
| 20 | M10x1.25 | 2 | 2.6 | 5.2 | 5.5 | 10.5 | 42.5 | 42.5 | 47.5 | 49.5 ^{+0.5} | 49.5 ^{+0.5} | |
| 25 | M10 | | | | 5.5 | | 44.5 | 45.3 | 49.5 | 51.5 ^{+0.5} | 51.5 ^{+0.5} | |
| 32 | M10 | 2.6 | 3.3 | 6.4 | 6 | 12.5 | 50 | 50.6 | 56.5 | 57.5 ^{+0.5} | 58.6 ^{+0.6} | |
| 40 | M12 | | | | 6.1 | | 51.1 | 51.7 | 57.5 | 58.6 ^{+0.6} | 59.7 ^{+0.7} | |
| 50 | M12 | 3.3 | 4.7 | 6.4 | 7.7 | 14.7 | 52.7 | 53.2 | 59.7 | 62.0 ^{+0.6} | 63.1 ^{+0.7} | |
| 63 | M16 | | | | 7.5 | | 56.5 | 57 | 63.6 | 65.4 ^{+0.6} | 66.5 ^{+0.7} | |
| 80 | M16 | 4.7 | 6.1 | 6.4 | 8.9 | 15.4 | 62.9 | 63.4 | 69.4 | 73.2 ^{+0.6} | 74.3 ^{+0.7} | |
| 100 | M20x1.5 | | | | 9 | | 76 | 76.8 | 82.5 | 86.4 ^{+0.6} | 88 ^{+0.7} | |
| 125 | M20 | - | 7 | - | 11 | - | 92 | - | - | 104.4 ^{+0.6} | - | |

Compact cylinders ADN, to ISO 21287

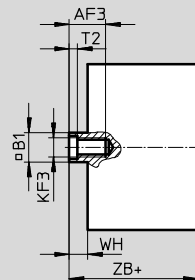
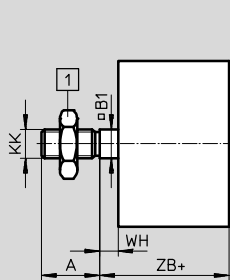
Technical data

FESTO

Dimensions – Variants

Download CAD data → www.festo.com

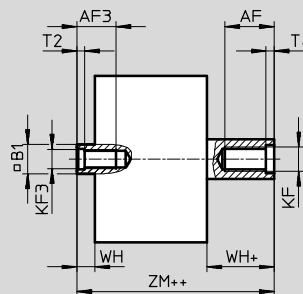
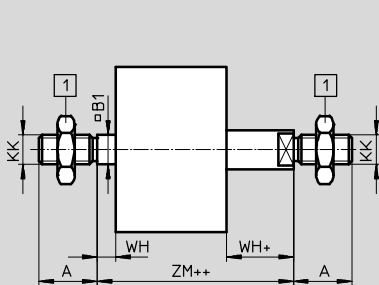
Q – Square piston rod



1 Hex nut DIN 439-B
only with $\varnothing 32 \dots 125$

+ = plus stroke length

Q-S2 – Square, through piston rod

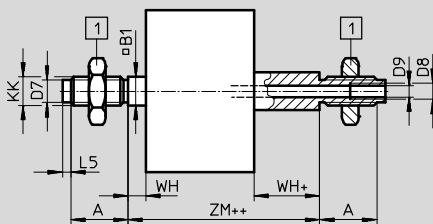


1 Hex nut DIN 439-B
only with $\varnothing 32 \dots 125$

+ = plus stroke length

++ = plus 2x stroke length

Q-S20 – Square, through, hollow piston rod

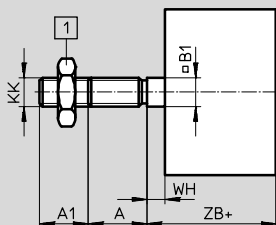


1 Hex nut DIN 439-B
only with $\varnothing 32 \dots 125$

+ = plus stroke length

++ = plus 2x stroke length

Q-K2 – Square piston rod with extended male thread

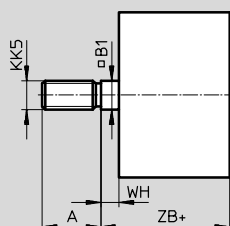


In combination with variants
S2/S20, the piston rod thread is
extended at both ends.

1 Hex nut DIN 439-B
only with $\varnothing 32 \dots 125$

+ = plus stroke length

Q-K5 – Square, special piston rod thread



+ = plus stroke length

Compact cylinders ADN, to ISO 21287

Technical data

FESTO

Dimensions – Variants

Download CAD data → www.festo.com

Q-K8 – Square, extended piston rod

1 - Note
In combination with variants S2/S20, the piston rod is extended at one end on the square piston rod.

1 Hex nut DIN 439-B only with \varnothing 32 ... 125

+ = plus stroke length

| \varnothing [mm] | A | A1 | A2 | AF min. | AF3 min. | B1 □ | D7 \varnothing | D8 | D9 \varnothing |
|-----------------------|----|----------|-----------|------------|-------------|---------|---------------------|------|---------------------|
| 12 | 10 | 1 ... 10 | 1 ... 300 | 8 | 8 | 5.5 | – | – | – |
| 16 | 12 | | | 10 | 10 | 7 | 4.5 | | 3.2 |
| 20 | 16 | | | 14 | 12 | 9 | 6 | | 3.8 |
| 25 | | 1 ... 20 | 1 ... 400 | 16 | 14 | 10 | 8 | 4.5 | |
| 32 | 22 | | | 20 | 16 | 12 | 10 | 6 | |
| 40 | 28 | | | 1 ... 30 | 1 ... 500 | 20 | 20 | 16 | – |
| 50 | | 25 | 24 | | | 20 | – | G1/4 | 11.7 |
| 63 | | 40 | 1 ... 40 | | | | | | |

| \varnothing [mm] | L5 | KF | KF3 | KK | KK5 | T2 | WH +1.3 | ZB +1.2 | ZM |
|-----------------------|-----|-----|-----|----------|-----------------|-----|------------|----------------------|----------------------|
| 12 | – | M3 | M3 | M5 | M6 | 1.5 | 4.2 | 39.2 | 44.5 ^{+0.5} |
| 16 | 3 | M4 | M4 | M6 | M8 | | 4.7 | 39.7 | 45.7 ^{+0.5} |
| 20 | 2 | M6 | M5 | M8 | M10x1.25 M10 | 2 | 5.5 | 42.5 | 49.5 ^{+0.5} |
| 25 | | | | | | | 44.5 | 51.5 ^{+0.5} | |
| 32 | 3 | M8 | M6 | M10x1.25 | M10 | 2.6 | 6 | 50 | 57.5 ^{+0.5} |
| 40 | | | | | | | 6.1 | 51.1 | 58.6 ^{+0.6} |
| 50 | 3.5 | M10 | M8 | M12x1.25 | M12 | 3.3 | 8.2 | 53.2 | 62.8 ^{+0.6} |
| 63 | | | | | | | 8.1 | 57.1 | 66.6 ^{+0.6} |
| 80 | | | | | | | 8.9 | 62.9 | 73.2 ^{+0.6} |
| 100 | – | M12 | M10 | M16x1.5 | M16 | 4.7 | 9 | 76 | 86.4 ^{+0.6} |
| 125 | | | | | | | M16 | M12 | M20x1.5 |

Compact cylinders ADN, to ISO 21287

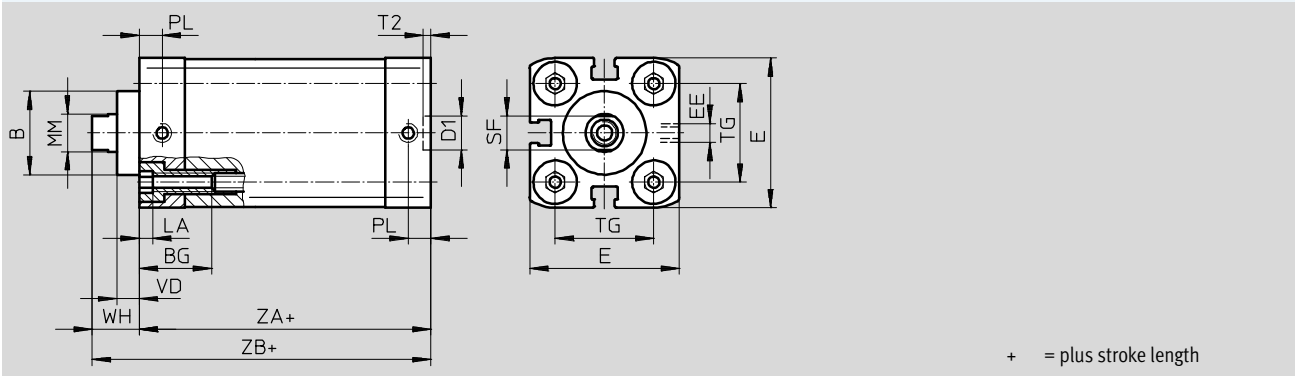
Technical data

Dimensions – Variants

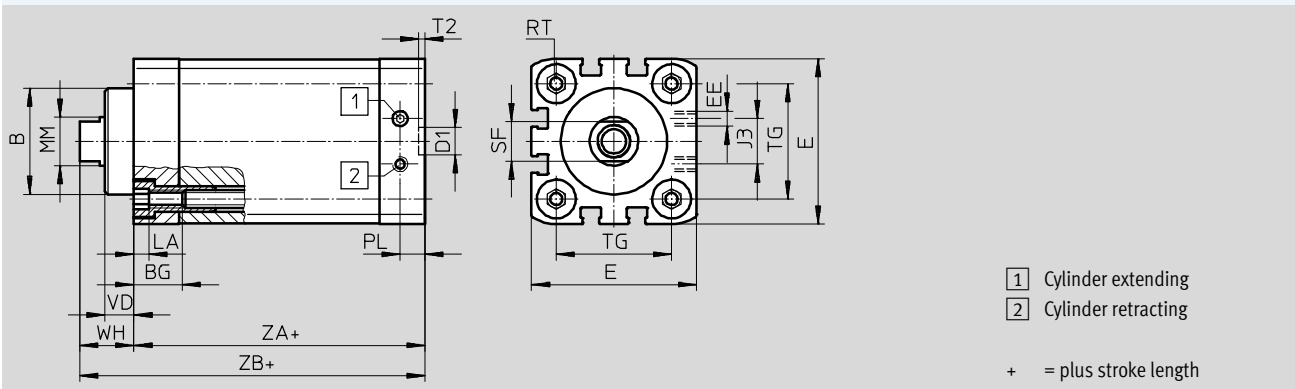
Download CAD data → www.festo.com

S1 – Reinforced piston rod

∅ 25



∅ 40 ... 100



| ∅ | B | BG | D1 | E | EE | J3 | LA | MM | PL |
|------|----|------|----|-----------------------|------|----|----|------|-----|
| [mm] | ∅ | min. | ∅ | | | | | ∅ | |
| 25 | 22 | 15 | 9 | 39.5 ^{+0.3} | M5 | - | 5 | 10 | 6 |
| 40 | 35 | 16 | | 54.5 ^{+0.3} | | 15 | | 16 | 8.2 |
| 63 | 42 | 17 | 12 | 75.5 ^{+0.3} | G1/8 | 23 | 20 | 10.5 | |
| 100 | 55 | | | 113.5 ^{+0.6} | | 40 | 25 | | |

| ∅ | RT | SF | T2 | TG | VD | WH | ZA | ZB |
|------|-----|-----|------|------|------|------|------|------|
| [mm] | | h13 | +0.1 | ±0.2 | | +1.3 | ±0.3 | +1.2 |
| 25 | M5 | 9 | 2.1 | 26 | 6 | 11.8 | 39 | 50.9 |
| 40 | M6 | 13 | | 38 | 9.5 | 18 | 45 | 62.9 |
| 63 | M8 | 17 | 2.6 | 56.5 | 12 | 21 | 49 | 70.2 |
| 100 | M10 | 21 | | 89 | 15.5 | 26.5 | 67 | 93.5 |

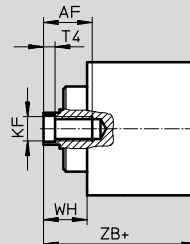
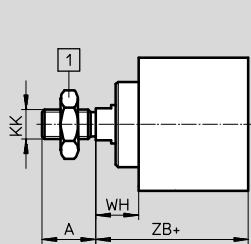
Compact cylinders ADN, to ISO 21287

Technical data

Dimensions – Variants

Download CAD data → www.festo.com

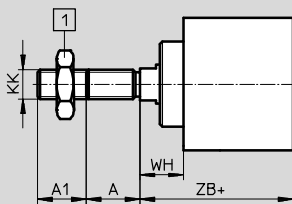
S1 – Reinforced piston rod



1 Hex nut DIN 439-B
only with \varnothing 40 ... 100

+ = plus stroke length

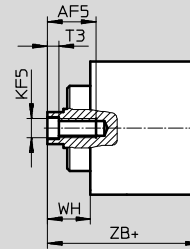
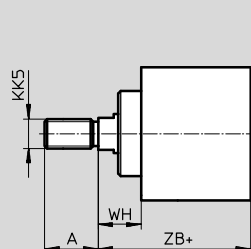
S1-K2 – Reinforced piston rod with extended male thread



1 Hex nut DIN 439-B
only with \varnothing 40 ... 100

+ = plus stroke length

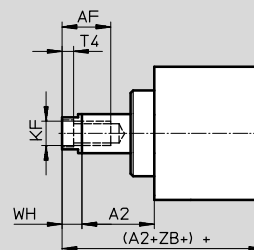
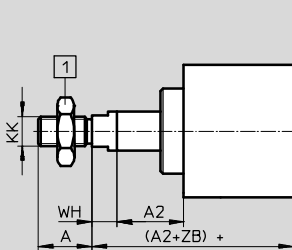
S1-K5 – Extended piston rod with special piston rod thread



1 Hex nut DIN 439-B
only with \varnothing 40 ... 100

+ = plus stroke length

S1-K8 – Reinforced piston rod with extended piston rod



1 Hex nut DIN 439-B
only with \varnothing 40 ... 100

+ = plus stroke length


| \varnothing | A | A1 | A2 | AF | AF5 | KF | KF5 | KK | KK5 | T3 | T4 | WH | ZB |
|---------------|------|----------|-----------|------|------|-----|-----|----------|-----------------|-----|-----|------|------|
| [mm] | -0.5 | | | min. | min. | | | | | | | +1.3 | +1.2 |
| 25 | 16 | 1 ... 20 | 1 ... 300 | 14 | 12 | M6 | M5 | M8 | M10x1.25 M10 | 2 | 2.6 | 11.8 | 50.9 |
| 40 | 22 | | 1 ... 400 | 20 | 16 | M10 | M8 | M12x1.25 | M10x1.25 M12 | 3.3 | 4.7 | 18 | 62.9 |
| 63 | 28 | | | | 20 | M12 | M10 | M16x1.5 | M12x1.25 M16 | 4.7 | 6.1 | 21 | 70.2 |
| 100 | 40 | 1 ... 30 | 1 ... 500 | 25 | - | M16 | - | M20x1.5 | M16x1.5 M20 | - | 7 | 26.5 | 93.5 |

Compact cylinders ADN, to ISO 21287

Technical data

FESTO

★ Core product range

| Ordering data | | | | | | |
|---|------------------|-----------------|---|-----------------|---|-----------------|
| Type | Piston Ø [mm] | Stroke [mm] | I – Piston rod with female thread | | A – Male piston rod thread | |
| | | | P – Flexible cushioning rings/pads at both ends | | P – Flexible cushioning rings/pads at both ends | |
| | | | Part No. | Type | Part No. | Type |
|  | 12 | 5 | ★ 536211 | ADN-12-5-I-P-A | ★ 536204 | ADN-12-5-A-P-A |
| | | 10 | ★ 536212 | ADN-12-10-I-P-A | ★ 536205 | ADN-12-10-A-P-A |
| | | 15 | ★ 536213 | ADN-12-15-I-P-A | ★ 536206 | ADN-12-15-A-P-A |
| | | 20 | ★ 536214 | ADN-12-20-I-P-A | ★ 536207 | ADN-12-20-A-P-A |
| | | 25 | ★ 536215 | ADN-12-25-I-P-A | ★ 536208 | ADN-12-25-A-P-A |
| | | 30 | ★ 536216 | ADN-12-30-I-P-A | ★ 536209 | ADN-12-30-A-P-A |
| | | 40 | ★ 536217 | ADN-12-40-I-P-A | ★ 536210 | ADN-12-40-A-P-A |
| | 16 | 5 | ★ 536226 | ADN-16-5-I-P-A | ★ 536219 | ADN-16-5-A-P-A |
| | | 10 | ★ 536227 | ADN-16-10-I-P-A | ★ 536220 | ADN-16-10-A-P-A |
| | | 15 | ★ 536228 | ADN-16-15-I-P-A | ★ 536221 | ADN-16-15-A-P-A |
| | | 20 | ★ 536229 | ADN-16-20-I-P-A | ★ 536222 | ADN-16-20-A-P-A |
| | | 25 | ★ 536230 | ADN-16-25-I-P-A | ★ 536223 | ADN-16-25-A-P-A |
| | | 30 | ★ 536231 | ADN-16-30-I-P-A | ★ 536224 | ADN-16-30-A-P-A |
| | | 40 | ★ 536232 | ADN-16-40-I-P-A | ★ 536225 | ADN-16-40-A-P-A |
| | 20 | 5 | ★ 536242 | ADN-20-5-I-P-A | ★ 536234 | ADN-20-5-A-P-A |
| | | 10 | ★ 536243 | ADN-20-10-I-P-A | ★ 536235 | ADN-20-10-A-P-A |
| | | 15 | ★ 536244 | ADN-20-15-I-P-A | ★ 536236 | ADN-20-15-A-P-A |
| | | 20 | ★ 536245 | ADN-20-20-I-P-A | ★ 536237 | ADN-20-20-A-P-A |
| | | 25 | ★ 536246 | ADN-20-25-I-P-A | ★ 536238 | ADN-20-25-A-P-A |
| | | 30 | ★ 536247 | ADN-20-30-I-P-A | ★ 536239 | ADN-20-30-A-P-A |
| | | 40 | ★ 536248 | ADN-20-40-I-P-A | ★ 536240 | ADN-20-40-A-P-A |
| | 25 | 5 | ★ 536259 | ADN-25-5-I-P-A | ★ 536251 | ADN-25-5-A-P-A |
| | | 10 | ★ 536260 | ADN-25-10-I-P-A | ★ 536252 | ADN-25-10-A-P-A |
| | | 15 | ★ 536261 | ADN-25-15-I-P-A | ★ 536253 | ADN-25-15-A-P-A |
| | | 20 | ★ 536262 | ADN-25-20-I-P-A | ★ 536254 | ADN-25-20-A-P-A |
| | | 25 | ★ 536263 | ADN-25-25-I-P-A | ★ 536255 | ADN-25-25-A-P-A |
| | | 30 | ★ 536264 | ADN-25-30-I-P-A | ★ 536256 | ADN-25-30-A-P-A |
| | | 40 | ★ 536265 | ADN-25-40-I-P-A | ★ 536257 | ADN-25-40-A-P-A |
| 32 | 5 | ★ 536278 | ADN-32-5-I-P-A | ★ 536268 | ADN-32-5-A-P-A | |
| | 10 | ★ 536279 | ADN-32-10-I-P-A | ★ 536269 | ADN-32-10-A-P-A | |
| | 15 | ★ 536280 | ADN-32-15-I-P-A | ★ 536270 | ADN-32-15-A-P-A | |
| | 20 | ★ 536281 | ADN-32-20-I-P-A | ★ 536271 | ADN-32-20-A-P-A | |
| | 25 | ★ 536282 | ADN-32-25-I-P-A | ★ 536272 | ADN-32-25-A-P-A | |
| | 30 | ★ 536283 | ADN-32-30-I-P-A | ★ 536273 | ADN-32-30-A-P-A | |
| | 40 | ★ 536284 | ADN-32-40-I-P-A | ★ 536274 | ADN-32-40-A-P-A | |
| 50 | ★ 536285 | ADN-32-50-I-P-A | ★ 536275 | ADN-32-50-A-P-A | | |
| 60 | ★ 536286 | ADN-32-60-I-P-A | ★ 536276 | ADN-32-60-A-P-A | | |
| 80 | ★ 536287 | ADN-32-80-I-P-A | ★ 536277 | ADN-32-80-A-P-A | | |

Festo core product range


- ★ Ready for dispatch from the Festo factory in 24 hours
- ☆ Ready for dispatch in 5 days maximum from stock

Compact cylinders ADN, to ISO 21287

Technical data

FESTO

★ Core product range

| Ordering data | | | | | | |
|---|------------------|----------------|--|-----------------|---|-----------------|
| Type | Piston Ø [mm] | Stroke [mm] | I – Piston rod with female thread P – Flexible cushioning rings/pads at both ends | | A – Male piston rod thread P – Flexible cushioning rings/pads at both ends | |
| | | | Part No. | Type | Part No. | Type |
|  | 40 | 5 | ★ 536299 | ADN-40-5-I-P-A | ★ 536289 | ADN-40-5-A-P-A |
| | | 10 | ★ 536300 | ADN-40-10-I-P-A | ★ 536290 | ADN-40-10-A-P-A |
| | | 15 | ★ 536301 | ADN-40-15-I-P-A | ★ 536291 | ADN-40-15-A-P-A |
| | | 20 | ★ 536302 | ADN-40-20-I-P-A | ★ 536292 | ADN-40-20-A-P-A |
| | | 25 | ★ 536303 | ADN-40-25-I-P-A | ★ 536293 | ADN-40-25-A-P-A |
| | | 30 | ★ 536304 | ADN-40-30-I-P-A | ★ 536294 | ADN-40-30-A-P-A |
| | | 40 | ★ 536305 | ADN-40-40-I-P-A | ★ 536295 | ADN-40-40-A-P-A |
| | | 50 | ★ 536306 | ADN-40-50-I-P-A | ★ 536296 | ADN-40-50-A-P-A |
| | | 60 | ★ 536307 | ADN-40-60-I-P-A | ★ 536297 | ADN-40-60-A-P-A |
| | 80 | ★ 536308 | ADN-40-80-I-P-A | ★ 536298 | ADN-40-80-A-P-A | |
| | 50 | 5 | ★ 536320 | ADN-50-5-I-P-A | ★ 536310 | ADN-50-5-A-P-A |
| | | 10 | ★ 536321 | ADN-50-10-I-P-A | ★ 536311 | ADN-50-10-A-P-A |
| | | 15 | ★ 536322 | ADN-50-15-I-P-A | ★ 536312 | ADN-50-15-A-P-A |
| | | 20 | ★ 536323 | ADN-50-20-I-P-A | ★ 536313 | ADN-50-20-A-P-A |
| | | 25 | ★ 536324 | ADN-50-25-I-P-A | ★ 536314 | ADN-50-25-A-P-A |
| | | 30 | ★ 536325 | ADN-50-30-I-P-A | ★ 536315 | ADN-50-30-A-P-A |
| | | 40 | ★ 536326 | ADN-50-40-I-P-A | ★ 536316 | ADN-50-40-A-P-A |
| | | 50 | ★ 536327 | ADN-50-50-I-P-A | ★ 536317 | ADN-50-50-A-P-A |
| | | 60 | ★ 536328 | ADN-50-60-I-P-A | ★ 536318 | ADN-50-60-A-P-A |
| | 80 | ★ 536329 | ADN-50-80-I-P-A | ★ 536319 | ADN-50-80-A-P-A | |
| | 63 | 10 | ★ 536342 | ADN-63-10-I-P-A | ★ 536332 | ADN-63-10-A-P-A |
| | | 15 | ★ 536343 | ADN-63-15-I-P-A | ★ 536333 | ADN-63-15-A-P-A |
| | | 20 | ★ 536344 | ADN-63-20-I-P-A | ★ 536334 | ADN-63-20-A-P-A |
| | | 25 | ★ 536345 | ADN-63-25-I-P-A | ★ 536335 | ADN-63-25-A-P-A |
| | | 30 | ★ 536346 | ADN-63-30-I-P-A | ★ 536336 | ADN-63-30-A-P-A |
| | | 40 | ★ 536347 | ADN-63-40-I-P-A | ★ 536337 | ADN-63-40-A-P-A |
| | | 50 | ★ 536348 | ADN-63-50-I-P-A | ★ 536338 | ADN-63-50-A-P-A |
| | | 60 | ★ 536349 | ADN-63-60-I-P-A | ★ 536339 | ADN-63-60-A-P-A |
| | | 80 | ★ 536350 | ADN-63-80-I-P-A | ★ 536340 | ADN-63-80-A-P-A |
| | 80 | 10 | ★ 536363 | ADN-80-10-I-P-A | ★ 536353 | ADN-80-10-A-P-A |
| | | 15 | ★ 536364 | ADN-80-15-I-P-A | ★ 536354 | ADN-80-15-A-P-A |
| | | 20 | ★ 536365 | ADN-80-20-I-P-A | ★ 536355 | ADN-80-20-A-P-A |
| | | 25 | ★ 536366 | ADN-80-25-I-P-A | ★ 536356 | ADN-80-25-A-P-A |
| | | 30 | ★ 536367 | ADN-80-30-I-P-A | ★ 536357 | ADN-80-30-A-P-A |
| | | 40 | ★ 536368 | ADN-80-40-I-P-A | ★ 536358 | ADN-80-40-A-P-A |
| | | 50 | ★ 536369 | ADN-80-50-I-P-A | ★ 536359 | ADN-80-50-A-P-A |
| 60 | | ★ 536370 | ADN-80-60-I-P-A | ★ 536360 | ADN-80-60-A-P-A | |
| 80 | | ★ 536371 | ADN-80-80-I-P-A | ★ 536361 | ADN-80-80-A-P-A | |

Festo core product range


- ★ Ready for dispatch from the Festo factory in 24 hours
- ☆ Ready for dispatch in 5 days maximum from stock

Compact cylinders ADN, to ISO 21287

Technical data

FESTO

★ Core product range


| Ordering data | | | | | | | |
|---|------------------|----------------|--|-------------------|---|-------------------|-------------------|
| Type | Piston Ø [mm] | Stroke [mm] | I – Piston rod with female thread PPS – Pneumatic cushioning, self-adjusting at both ends | | A – Male piston rod thread PPS – Pneumatic cushioning, self-adjusting at both ends | | |
| | | | Part No. | Type | Part No. | Type | |
|  | 32 | 10 | ★ 572646 | ADN-32-10-I-PPS-A | ★ 572655 | ADN-32-10-A-PPS-A | |
| | | 15 | ★ 572647 | ADN-32-15-I-PPS-A | ★ 572656 | ADN-32-15-A-PPS-A | |
| | | 20 | ★ 572648 | ADN-32-20-I-PPS-A | ★ 572657 | ADN-32-20-A-PPS-A | |
| | | 25 | ★ 572649 | ADN-32-25-I-PPS-A | ★ 572658 | ADN-32-25-A-PPS-A | |
| | | 30 | ★ 572650 | ADN-32-30-I-PPS-A | ★ 572659 | ADN-32-30-A-PPS-A | |
| | | 40 | ★ 572651 | ADN-32-40-I-PPS-A | ★ 572660 | ADN-32-40-A-PPS-A | |
| | | 50 | ★ 572652 | ADN-32-50-I-PPS-A | ★ 572661 | ADN-32-50-A-PPS-A | |
| | | 60 | ★ 572653 | ADN-32-60-I-PPS-A | ★ 572662 | ADN-32-60-A-PPS-A | |
| | | 80 | ★ 572654 | ADN-32-80-I-PPS-A | ★ 572663 | ADN-32-80-A-PPS-A | |
| | | 40 | 10 | ★ 572664 | ADN-40-10-I-PPS-A | ★ 572673 | ADN-40-10-A-PPS-A |
| | | | 15 | ★ 572665 | ADN-40-15-I-PPS-A | ★ 572674 | ADN-40-15-A-PPS-A |
| | | | 20 | ★ 572666 | ADN-40-20-I-PPS-A | ★ 572675 | ADN-40-20-A-PPS-A |
| | | | 25 | ★ 572667 | ADN-40-25-I-PPS-A | ★ 572676 | ADN-40-25-A-PPS-A |
| | | | 30 | ★ 572668 | ADN-40-30-I-PPS-A | ★ 572677 | ADN-40-30-A-PPS-A |
| | | | 40 | ★ 572669 | ADN-40-40-I-PPS-A | ★ 572678 | ADN-40-40-A-PPS-A |
| | | | 50 | ★ 572670 | ADN-40-50-I-PPS-A | ★ 572679 | ADN-40-50-A-PPS-A |
| | | | 60 | ★ 572671 | ADN-40-60-I-PPS-A | ★ 572680 | ADN-40-60-A-PPS-A |
| | | 80 | ★ 572672 | ADN-40-80-I-PPS-A | ★ 572681 | ADN-40-80-A-PPS-A | |
| | | 50 | 10 | ★ 572682 | ADN-50-10-I-PPS-A | ★ 572691 | ADN-50-10-A-PPS-A |
| | | | 15 | ★ 572683 | ADN-50-15-I-PPS-A | ★ 572692 | ADN-50-15-A-PPS-A |
| | | | 20 | ★ 572684 | ADN-50-20-I-PPS-A | ★ 572693 | ADN-50-20-A-PPS-A |
| | | | 25 | ★ 572685 | ADN-50-25-I-PPS-A | ★ 572694 | ADN-50-25-A-PPS-A |
| | | | 30 | ★ 572686 | ADN-50-30-I-PPS-A | ★ 572695 | ADN-50-30-A-PPS-A |
| | | | 40 | ★ 572687 | ADN-50-40-I-PPS-A | ★ 572696 | ADN-50-40-A-PPS-A |
| | | | 50 | ★ 572688 | ADN-50-50-I-PPS-A | ★ 572697 | ADN-50-50-A-PPS-A |
| | | | 60 | ★ 572689 | ADN-50-60-I-PPS-A | ★ 572698 | ADN-50-60-A-PPS-A |
| | | 80 | ★ 572690 | ADN-50-80-I-PPS-A | ★ 572699 | ADN-50-80-A-PPS-A | |
| | | 63 | 10 | ★ 572700 | ADN-63-10-I-PPS-A | ★ 572709 | ADN-63-10-A-PPS-A |
| | 15 | | ★ 572701 | ADN-63-15-I-PPS-A | ★ 572710 | ADN-63-15-A-PPS-A | |
| | 20 | | ★ 572702 | ADN-63-20-I-PPS-A | ★ 572711 | ADN-63-20-A-PPS-A | |
| | 25 | | ★ 572703 | ADN-63-25-I-PPS-A | ★ 572712 | ADN-63-25-A-PPS-A | |
| | 30 | | ★ 572704 | ADN-63-30-I-PPS-A | ★ 572713 | ADN-63-30-A-PPS-A | |
| | 40 | | ★ 572705 | ADN-63-40-I-PPS-A | ★ 572714 | ADN-63-40-A-PPS-A | |
| | 50 | | ★ 572706 | ADN-63-50-I-PPS-A | ★ 572715 | ADN-63-50-A-PPS-A | |
| | 60 | | ★ 572707 | ADN-63-60-I-PPS-A | ★ 572716 | ADN-63-60-A-PPS-A | |
| | 80 | ★ 572708 | ADN-63-80-I-PPS-A | ★ 572717 | ADN-63-80-A-PPS-A | | |
| | 80 | 10 | ★ 572718 | ADN-80-10-I-PPS-A | ★ 572727 | ADN-80-10-A-PPS-A | |
| | | 15 | ★ 572719 | ADN-80-15-I-PPS-A | ★ 572728 | ADN-80-15-A-PPS-A | |
| | | 20 | ★ 572720 | ADN-80-20-I-PPS-A | ★ 572729 | ADN-80-20-A-PPS-A | |
| | | 25 | ★ 572721 | ADN-80-25-I-PPS-A | ★ 572730 | ADN-80-25-A-PPS-A | |
| | | 30 | ★ 572722 | ADN-80-30-I-PPS-A | ★ 572731 | ADN-80-30-A-PPS-A | |
| | | 40 | ★ 572723 | ADN-80-40-I-PPS-A | ★ 572732 | ADN-80-40-A-PPS-A | |
| | | 50 | ★ 572724 | ADN-80-50-I-PPS-A | ★ 572733 | ADN-80-50-A-PPS-A | |
| | | 60 | ★ 572725 | ADN-80-60-I-PPS-A | ★ 572734 | ADN-80-60-A-PPS-A | |
| | 80 | ★ 572726 | ADN-80-80-I-PPS-A | ★ 572735 | ADN-80-80-A-PPS-A | | |


Festo core product range

- ★ Ready for dispatch from the Festo factory in 24 hours
- ☆ Ready for dispatch in 5 days maximum from stock

Compact cylinders ADN, to ISO 21287

Technical data

| Ordering data | | | | | | |
|---|------------------|----------------|--|------------------|---|------------------|
| Type | Piston Ø [mm] | Stroke [mm] | I – Piston rod with female thread P – Flexible cushioning rings/pads at both ends | | A – Male piston rod thread P – Flexible cushioning rings/pads at both ends | |
| | | | Part No. | Type | Part No. | Type |
|  | 100 | 10 | 536384 | ADN-100-10-I-P-A | 536374 | ADN-100-10-A-P-A |
| | | 15 | 536385 | ADN-100-15-I-P-A | 536375 | ADN-100-15-A-P-A |
| | | 20 | 536386 | ADN-100-20-I-P-A | 536376 | ADN-100-20-A-P-A |
| | | 25 | 536387 | ADN-100-25-I-P-A | 536377 | ADN-100-25-A-P-A |
| | | 30 | 536388 | ADN-100-30-I-P-A | 536378 | ADN-100-30-A-P-A |
| | | 40 | 536389 | ADN-100-40-I-P-A | 536379 | ADN-100-40-A-P-A |
| | | 50 | 536390 | ADN-100-50-I-P-A | 536380 | ADN-100-50-A-P-A |
| | | 60 | 536391 | ADN-100-60-I-P-A | 536381 | ADN-100-60-A-P-A |
| | | 80 | 536392 | ADN-100-80-I-P-A | 536382 | ADN-100-80-A-P-A |

| Ordering data | | | | | | |
|--|------------------|----------------|--|--------------------|---|--------------------|
| Type | Piston Ø [mm] | Stroke [mm] | I – Piston rod with female thread PPS – Pneumatic cushioning, self-adjusting at both ends | | A – Male piston rod thread PPS – Pneumatic cushioning, self-adjusting at both ends | |
| | | | Part No. | Type | Part No. | Type |
|  | 20 | 10 | 577158 | ADN-20-10-I-PPS-A | 577166 | ADN-20-10-A-PPS-A |
| | | 15 | 577159 | ADN-20-15-I-PPS-A | 577167 | ADN-20-15-A-PPS-A |
| | | 20 | 577160 | ADN-20-20-I-PPS-A | 577168 | ADN-20-20-A-PPS-A |
| | | 25 | 577161 | ADN-20-25-I-PPS-A | 577169 | ADN-20-25-A-PPS-A |
| | | 30 | 577162 | ADN-20-30-I-PPS-A | 577170 | ADN-20-30-A-PPS-A |
| | | 40 | 577163 | ADN-20-40-I-PPS-A | 577171 | ADN-20-40-A-PPS-A |
| | | 50 | 577164 | ADN-20-50-I-PPS-A | 577172 | ADN-20-50-A-PPS-A |
| | | 60 | 577165 | ADN-20-60-I-PPS-A | 577173 | ADN-20-60-A-PPS-A |
| | 25 | 10 | 577174 | ADN-25-10-I-PPS-A | 577182 | ADN-25-10-A-PPS-A |
| | | 15 | 577175 | ADN-25-15-I-PPS-A | 577183 | ADN-25-15-A-PPS-A |
| | | 20 | 577176 | ADN-25-20-I-PPS-A | 577184 | ADN-25-20-A-PPS-A |
| | | 25 | 577177 | ADN-25-25-I-PPS-A | 577185 | ADN-25-25-A-PPS-A |
| | | 30 | 577178 | ADN-25-30-I-PPS-A | 577186 | ADN-25-30-A-PPS-A |
| | | 40 | 577179 | ADN-25-40-I-PPS-A | 577187 | ADN-25-40-A-PPS-A |
| | | 50 | 577180 | ADN-25-50-I-PPS-A | 577188 | ADN-25-50-A-PPS-A |
| | | 60 | 577181 | ADN-25-60-I-PPS-A | 577189 | ADN-25-60-A-PPS-A |
| | 100 | 15 | 577191 | ADN-100-15-I-PPS-A | 577200 | ADN-100-15-A-PPS-A |
| | | 20 | 577192 | ADN-100-20-I-PPS-A | 577201 | ADN-100-20-A-PPS-A |
| | | 25 | 577193 | ADN-100-25-I-PPS-A | 577202 | ADN-100-25-A-PPS-A |
| | | 30 | 577194 | ADN-100-30-I-PPS-A | 577203 | ADN-100-30-A-PPS-A |
| | | 40 | 577195 | ADN-100-40-I-PPS-A | 577204 | ADN-100-40-A-PPS-A |
| | | 50 | 577196 | ADN-100-50-I-PPS-A | 577205 | ADN-100-50-A-PPS-A |
| | | 60 | 577197 | ADN-100-60-I-PPS-A | 577206 | ADN-100-60-A-PPS-A |
| | | 80 | 577198 | ADN-100-80-I-PPS-A | 577207 | ADN-100-80-A-PPS-A |

Compact cylinders ADN, to ISO 21287

Ordering data – Modular products, basic version and variants

| Ordering table | | | | | | | | | |
|---------------------|---|---------------|---|---------------|---------------|---------------|-----------------|------------|---------------|
| Size | 12 | 16 | 20 | 25 | 32 | 40 | Condi- tions | Code | Enter code |
| M Module No. | 536203 | 536218 | 536233 | 536250 | 536267 | 536288 | | | |
| Function | Compact cylinder, double-acting, based on ISO 21287 | | | | | | | ADN | ADN |
| Piston Ø [mm] | 12 | 16 | 20 | 25 | 32 | 40 | | ★ -... | |
| Stroke [mm] | 1 ... 300 | | | | 1 ... 400 | | | ★ -... | |
| Piston rod thread | Male thread | | | | | | | ★ -A | |
| | Female thread | | | | | | 1 | ★ -I | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | | | ★ -P | |
| | - | | Pneumatic cushioning, self-adjusting at both ends | | | | 8 | ★ -PPS | |
| Position sensing | Via proximity sensor | | | | | | | ★ -A | -A |

- 1** I Not with piston rod type S20.
Not with extended male thread K2
- 8** PPS Not with improved running performance K10, temperature resistance S6,
low temperature TT, wiper seal R8
Minimum stroke 5 mm

- M** Mandatory data
- O** Options

Transfer order code

ADN - - - - - **A**

Festo core product range

- ★ Ready for dispatch from the Festo factory in 24 hours
- ★ Ready for dispatch in 5 days maximum from stock


Compact cylinders ADN, to ISO 21287

Ordering data – Modular products, basic version and variants

| Ordering table | | | | | | | | | | |
|--------------------------------|--|---|---|-------------|-----------|-----|-----------------|----------|---------------|--|
| Size | 12 | 16 | 20 | 25 | 32 | 40 | Condi- tions | Code | Enter code | |
| 0 Piston rod type | Through piston rod | | | | | | 2 | ★ -S2 | | |
| | [mm] | Through, hollow piston rod 1 ... 300 | | | 1 ... 400 | | 2 | -S20 | | |
| Extended male thread | Piston rod with extended male thread | | | | | | | ...K2 | | |
| [mm] | 1 ... 10 | | 1 ... 20 | | | | | | | |
| Piston rod with special thread | Male thread | M6 | M8 | M10x1.25 | M10x1.25 | M10 | M10 | -“...”K5 | | |
| | Female thread | - | - | M5 | M5 | M6 | M6 | | | |
| Extended piston rod | Extended piston rod | | | | | | | ★ ...K8 | | |
| [mm] | 1 ... 300 | | | 1 ... 400 | | | 3 | | | |
| Improved running performance | - | | Smooth anodised aluminium coated piston rod | | | | 4 | -K10 | | |
| Temperature resistance | Heat-resistant seals up to max. 120 °C | | | | | | | ★ -S6 | | |
| Corrosion protection | High corrosion protection | | | | | | 5 | ★ -R3 | | |
| Captive rating plate | Laser etched rating plate | | | | | | | -TL | | |
| Low temperature | [°C] | - | | -40 ... +80 | | | | 6 7 | -TT | |
| Wiper seal | - | | Dust protection | | | | 6 | -R8 | | |

- 2 **S2, S20** Not with improved running performance K10.
Not with corrosion protection R3.
Not with wiper seal R8
- 3 **K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length
- 4 **K10** Not with extended male thread K2.
Not with special piston rod thread K5.
Not with corrosion protection R3

- 5 **R3** Not with captive rating plate TL.
Not with wiper seal R8
- 6 **TT, R8** Not with improved running performance K10.
Not with temperature resistance S6
- 7 **TT** Not with wiper seal R8

 Note
NSF-H1 lubricants are used in combination with R3 and in combination with R3 and K2, K5 or K8.

- M Mandatory data
- O Options

Transfer order code

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

Festo core product range ★ Ready for dispatch from the Festo factory in 24 hours
☆ Ready for dispatch in 5 days maximum from stock

Compact cylinders ADN, to ISO 21287

Ordering data – Modular products, basic version and variants

| Ordering table | | | | | | | | | |
|---------------------|---|---------------|---------------|---------------|---------------|-----------------|--------|---------------|-----|
| Size | 50 | 63 | 80 | 100 | 125 | Condi- tions | Code | Enter code | |
| M Module No. | 536309 | 536330 | 536351 | 536372 | 536393 | | | | |
| Function | Compact cylinder, double-acting, based on ISO 21287 | | | | | | | ADN | ADN |
| Piston Ø [mm] | 50 | 63 | 80 | - | - | | ★ -... | | |
| | - | - | - | 100 | 125 | | -... | | |
| Stroke [mm] | 1 ... 400 | | 1 ... 500 | | | | ★ -... | | |
| Piston rod thread | Male thread | | | | | | | ★ -A | |
| | Female thread | | | | | | 1 | ★ -I | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | | | ★ -P | |
| | Pneumatic cushioning, self-adjusting at both ends | | | | - | | 8 | ★ -PPS | |
| Position sensing | Via proximity sensor | | | | | | | ★ -A | -A |

- 1** I Not with piston rod type S20.
Not with extended male thread K2
- 8** PPS Not with improved running performance K10, temperature resistance S6,
low temperature TT, wiper seal R8
Minimum stroke 5 mm

- M** Mandatory data
- O** Options

Transfer order code

ADN - - - - - **A**

Festo core product range


- ★ Ready for dispatch from the Festo factory in 24 hours
- ★ Ready for dispatch in 5 days maximum from stock

Compact cylinders ADN, to ISO 21287

Ordering data – Modular products, basic version and variants

| Ordering table | | | | | | | | |
|--------------------------------|---|------------|------------|-----------------------|-----------------------|-----------------|----------|---------------|
| Size | 50 | 63 | 80 | 100 | 125 | Condi- tions | Code | Enter code |
| 0 Piston rod type | Through piston rod | | | | | 2 | ★-S2 | |
| | Through, hollow piston rod | | | | | 2 | -S20 | |
| [mm] | 1 ... 400 | | 1 ... 500 | | | | | |
| Extended male thread | Piston rod with extended male thread | | | | | | | |
| [mm] | 1 ... 20 | | 1 ... 30 | | 1 ... 40 | | -...K2 | |
| Piston rod with special thread | Male thread | M12 M16 | M12 M16 | M16 M20 M20x1.5 | M16 M20 M20x1.5 | M20 | -“...”K5 | |
| | Female thread | M8 | M8 | M10 | M10 | - | | |
| Extended piston rod | Extended piston rod | | | | | | | |
| [mm] | 1 ... 400 | | 1 ... 500 | | | 3 | ★-...K8 | |
| Improved running performance | Smooth anodised aluminium coated piston rod | | | | | 4 | -K10 | |
| [mm] | 2 ... 400 | | 5 ... 400 | 5 ... 500 | | | | |
| Temperature resistance | Heat-resistant seals up to max. 120 °C | | | | | | ★-S6 | |
| Corrosion protection | High corrosion protection | | | | | 5 | ★-R3 | |
| Captive rating plate | Laser etched rating plate | | | | | | -TL | |
| Low temperature [°C] | -40 ... +80 | | | | | 6 7 | -TT | |
| Wiper seal | Dust protection | | | | | 6 | -R8 | |

- 2 **S2, S20** Not with improved running performance K10.
Not with corrosion protection R3.
Not with wiper seal R8
- 3 **K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length
- 4 **K10** Not with extended male thread K2.
Not with special piston rod thread K5.
Not with corrosion protection R3
- 5 **R3** Not with captive rating plate TL.
Not with wiper seal R8
- 6 **TT, R8** Not with improved running performance K10.
Not with temperature resistance S6
- 7 **TT** Not with wiper seal R8

 Note
NSF-H1 lubricants are used in combination with R3 and in combination with R3 and K2, K5 or K8.

- M Mandatory data
- O Options

Transfer order code

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


Festo core product range ★ Ready for dispatch from the Festo factory in 24 hours
☆ Ready for dispatch in 5 days maximum from stock

Compact cylinders ADN, to ISO 21287

Ordering data – Modular products, S10 – Version with constant motion, S11 – Version with low friction

| Ordering table | | | | | | | | | |
|-------------------------------|---|---------------|---|---------------|-----------------|-----------------|-----------------|---------------|-----------------|
| Size | 12 | 16 | 20 | 25 | 32 | 40 | Condi- tions | Code | Enter code |
| M Module No. | 536203 | 536218 | 536233 | 536250 | 536267 | 536288 | | | |
| Function | Compact cylinder, double-acting, based on ISO 21287 | | | | | | | ADN | ADN |
| Piston Ø [mm] | 12 | 16 | 20 | 25 | 32 | 40 | | -... | |
| Stroke [mm] | 1 ... 300 | | | | 1 ... 400 | | | | |
| Piston rod thread | Male thread | | | | | | | -A | |
| | Female thread | | | | | | 1 | -I | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | | | -P | -P |
| Position sensing | Via proximity sensor | | | | | | | -A | -A |
| O Male thread extended | Extended male piston rod thread | | | | | | | | |
| [mm] | 1 ... 10 | | 1 ... 20 | | | | | -...K2 | |
| Special piston rod thread | Male thread | | M6 | M8 | M10x1.25 M10 | M10x1.25 M10 | M10 M12 | M10 M12 | -“...”K5 |
| | Female thread | | - | - | M5 | M5 | M6 | M6 | |
| Piston rod extended [mm] | 1 ... 300 | | | | 1 ... 400 | | 2 | -...K8 | |
| Improved running performance | - | | Smooth anodised aluminium coated piston rod | | | | 3 | -K10 | |
| Constant motion [mm] | Slow speed (constant motion at low piston speeds) | | | | | | 4 | -S10 | |
| | Restricted stroke | | | | 20 ... 400 | | | | |
| Low friction | Low friction | | | | | | 5 | -S11 | |
| Corrosion protection | High corrosion protection | | | | | | 6 | -R3 | |
| Captive rating plate | Laser etched rating plate | | | | | | | -TL | |

- 1 I** Not with extended male thread K2
- 2 K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length
- 3 K10** Not with extended male thread K2
Not with special piston rod thread K5
Not with corrosion protection R3
- 4 S10** Not with low friction S11
- 5 S11** Not with constant motion S10
- 6 R3** Not with captive rating plate TL

 Note
NSF-H1 lubricants are used in combination with R3 and in combination with R3 and K2, K5 or K8.

- M** Mandatory data
- O** Options

Transfer order code

ADN - - - - **P** - **A** - - - - - - - - - - -

Compact cylinders ADN, to ISO 21287

Ordering data – Modular products, S10 – Version with constant motion, S11 – Version with low friction

| Ordering table | | | | | | | | | |
|-------------------------------|---|---------------|---------------|---------------|---------------|-----------------|-----------------|------------|---------------|
| Size | 50 | 63 | 80 | 100 | 125 | Condi- tions | Code | | Enter code |
| M Module No. | 536309 | 536330 | 536351 | 536372 | 536393 | | | | |
| Function | Compact cylinder, double-acting, based on ISO 21287 | | | | | | | ADN | ADN |
| Piston Ø [mm] | 50 | 63 | 80 | 100 | 125 | | -... | | |
| Stroke [mm] | 1 ... 400 | | 1 ... 500 | | | | -... | | |
| Piston rod thread | Male thread | | | | | | -A | | |
| | Female thread | | | | | 1 | -I | | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | | -P | -P | |
| Position sensing | Via proximity sensor | | | | | | -A | -A | |
| O Male thread extended | Extended male piston rod thread | | | | | | | | |
| [mm] | 1 ... 20 | | 1 ... 30 | | 1 ... 40 | | -...K2 | | |
| Special piston rod thread | Male thread | M12 | M12 | M16 | M16 | M20 | -“...”K5 | | |
| | | M16 | M16 | M20 | M20 | M20x1.5 | | | |
| Female thread | M8 | M8 | M10 | M10 | - | | | | |
| Piston rod extended | Extended piston rod | | | | | | | | |
| [mm] | 1 ... 400 | | 1 ... 500 | | | 2 | -...K8 | | |
| Improved running performance | Smooth anodised aluminium coated piston rod | | | | | 3 | -K10 | | |
| | Restricted stroke | | | | | | | | |
| [mm] | 2 ... 400 | 5 ... 400 | 5 ... 500 | | | | | | |
| Constant motion | Slow speed (constant motion at low piston speeds) | | | | | 4 | -S10 | | |
| | Restricted stroke | | | | | | | | |
| [mm] | 20 ... 400 | | 20 ... 500 | | | | | | |
| Low friction | Low friction | | | | | 5 | -S11 | | |
| Corrosion protection | High corrosion protection | | | | | 6 | -R3 | | |
| Captive rating plate | Laser etched rating plate | | | | | | -TL | | |

- 1 I** Not with extended male thread K2
- 2 K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length
- 3 K10** Not with extended male thread K2
Not with special piston rod thread K5
Not with corrosion protection R3
- 4 S10** Not with low friction S11
- 5 S11** Not with constant motion S10
- 6 R3** Not with captive rating plate TL

- Note
NSF-H1 lubricants are used in combination with R3 and in combination with R3 and K2, K5 or K8.

- M** Mandatory data
- O** Options

Transfer order code

ADN - - - - **P** - **A** - - - - - - - - -

Compact cylinders ADN, to ISO 21287

Ordering data – Modular products, Q – Version with square piston rod, non-rotating



| Ordering table | | | | | | | | | |
|-------------------------------------|---|--|---------------|-----------------|-----------------|---------------|-----------------|------------|---------------|
| Size | 12 | 16 | 20 | 25 | 32 | 40 | Condi- tions | Code | Enter code |
| M Module No. | 536203 | 536218 | 536233 | 536250 | 536267 | 536288 | | | |
| Function | Compact cylinder, double-acting, based on ISO 21287 | | | | | | | ADN | ADN |
| Piston Ø [mm] | 12 | 16 | 20 | 25 | 32 | 40 | | ★ -... | |
| Stroke [mm] | 1 ... 300 | | | | 1 ... 400 | | | ★ -... | |
| Piston rod thread | Male thread | | | | | | | ★ -A | |
| | Female thread | | | | | | 1 | ★ -I | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | | | ★ -P | -P |
| Position sensing | Via proximity sensor | | | | | | | ★ -A | -A |
| O Protection against torsion | Square piston rod | | | | | | | ★ -Q | -Q |
| Type of piston rod | Through piston rod | | | | | | | ★ -S2 | |
| | - | Through, hollow piston rod Restricted stroke 1 ... 200 | | | | 1 ... 300 | | | -S20 |
| Male thread extended [mm] | 1 ... 10 | | | 1 ... 20 | | | | -...K2 | |
| Special piston rod thread | Male thread | M6 | M8 | M10x1.25 M10 | M10x1.25 M10 | M10 | M10 | -“...”K5 | |
| Piston rod extended [mm] | 1 ... 300 | | | | 1 ... 400 | | 2 | ★ -...K8 | |
| Temperature resistance | Heat-resistant seals up to max. 120 °C | | | | | | | ★ -S6 | |
| Corrosion protection | High corrosion protection | | | | | | 3 | ★ -R3 | |
| Captive rating plate | Laser etched rating plate | | | | | | | -TL | |

1 I Not with piston rod type S20
Not with extended male thread K2

2 K8 The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

3 R3 Not with captive rating plate TL.



Note

NSF-H1 lubricants are used in combination with R3 and in combination with R3 and Q, K2, K5 or K8.

M Mandatory data

O Options

Transfer order code

ADN

P

A

Q

Festo core product range

★ Ready for dispatch from the Festo factory in 24 hours

★ Ready for dispatch in 5 days maximum from stock

Compact cylinders ADN, to ISO 21287


Ordering data – Modular products, Q – Version with square piston rod, non-rotating

| Ordering table | | | | | | | | | |
|-------------------------------------|---|---------------|---------------|---------------|---------------|-----------------|----------|------------|---------------|
| Size | 50 | 63 | 80 | 100 | 125 | Condi- tions | Code | | Enter code |
| M Module No. | 536309 | 536330 | 536351 | 536372 | 536393 | | | | |
| Function | Compact cylinder, double-acting, based on ISO 21287 | | | | | | | ADN | ADN |
| Piston Ø [mm] | 50 | 63 | 80 | 100 | 125 | | ★ -... | | |
| Stroke [mm] | 1 ... 400 | | 1 ... 500 | | | | ★ -... | | |
| Piston rod thread | Male thread | | | | | | ★ -A | | |
| | Female thread | | | | | [1] | ★ -I | | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | | ★ -P | -P | |
| Position sensing | Via proximity sensor | | | | | | ★ -A | -A | |
| O Protection against torsion | Square piston rod | | | | | | ★ -Q | -Q | |
| Type of piston rod [mm] | Through piston rod | | | | | | ★ -S2 | | |
| | Through, hollow piston rod Restricted stroke | | 1 ... 400 | | | | -S20 | | |
| Male thread extended [mm] | 1 ... 300 | | 1 ... 400 | | | | | | |
| Special piston rod thread | Extended male piston rod thread | | | | | | | | |
| | 1 ... 20 | | 1 ... 30 | | 1 ... 40 | | -...K2 | | |
| Piston rod extended [mm] | M12 | M12 | M16 | M16 | M20 | | -“...”K5 | | |
| | Extended piston rod | | | | | [2] | ★ -...K8 | | |
| Temperature resistance | Heat-resistant seals up to max. 120 °C | | | | | | ★ -S6 | | |
| Corrosion protection | High corrosion protection | | | | | [3] | ★ -R3 | | |
| Captive rating plate | Laser etched rating plate | | | | | | -TL | | |

[1] I Not with piston rod type S20
Not with extended male thread K2

[2] K8 The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

[3] R3 Not with captive rating plate TL.

 Note
NSF-H1 lubricants are used in combination with R3 and in combination with R3 and Q, K2, K5 or K8.

- M** Mandatory data
- O** Options

Transfer order code

Festo core product range ★ Ready for dispatch from the Festo factory in 24 hours
★ Ready for dispatch in 5 days maximum from stock

Compact cylinders ADN, to ISO 21287

Ordering data – Modular products, S1 – Version with reinforced piston rod



| Ordering table | | | | | | | |
|------------------------------------|--|-----------------|-----------------|-----------------|-----------------|-----------------|---------------|
| Size | 25 | 40 | 63 | 100 | Condi- tions | Code | Enter code |
| M Module No. | 536250 | 536288 | 536330 | 536372 | | | |
| Function | Compact cylinder, double-acting, based on ISO 21287 | | | | | ADN | ADN |
| Piston Ø [mm] | 25 | 40 | 63 | 100 | | -... | |
| Stroke [mm] | 5 ... 300 | 10 ... 400 | | 10 ... 500 | | -... | |
| Piston rod thread | Male thread | | | | | -A | |
| | Female thread | | | | 1 | -I | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | -P | -P |
| Position sensing | Via proximity sensor | | | | | -A | -A |
| O Male thread extended [mm] | Extended male piston rod thread 1 ... 20 | | | 1 ... 30 | | -...K2 | |
| Special piston rod thread | Male thread | M10x1.25 M10 | M10x1.25 M12 | M12x1.25 M16 | M16x1.5 M20 | -“...”K5 | |
| | Female thread | M5 | M8 | M10 | - | | |
| Piston rod extended [mm] | Extended piston rod 1 ... 300 | | 1 ... 400 | 1 ... 500 | 2 | -...K8 | |
| Temperature resistance | Heat-resistant seals up to max. 120 °C | | | | | -S6 | |
| Reinforced piston rod | Reinforced piston rod or extended piston rod bearing | | | | | -S1 | -S1 |
| Captive rating plate | Laser etched rating plate | | | | | -TL | |

1 I Not with extended male thread K2

2 K8 The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

M Mandatory data

O Options

Transfer order code

ADN - - - - **P** - **A** - - - - - **S1** -

Compact cylinders ADN-KP, standard port pattern, with clamping unit

Type codes

ADN – 20 – 50 – KP – A – P – A – K2

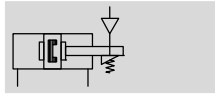
| | |
|--------------------------|---|
| Type | |
| Double-acting | |
| ADN | Compact cylinder |
| Piston Ø [mm] | |
| 20 | |
| Stroke [mm] | |
| 50 | |
| Clamping unit | |
| KP | Integrated |
| Piston rod thread | |
| A | Male thread |
| I | Female thread |
| Cushioning | |
| P | Flexible cushioning rings/pads at both ends |
| Position sensing | |
| A | Via proximity sensor |
| Variant | |
| K2 | Extended male piston rod thread |
| K5 | Special piston rod thread |
| K8 | Extended piston rod |
| TL | Captive rating plate |

Compact cylinders ADN-KP, standard port pattern, with clamping unit

FESTO

Technical data

Function



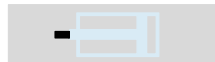
- \varnothing - Diameter
20 ... 100 mm

- | - Stroke length
10 ... 500 mm

Variants



K2



K5



K8



-  - Note

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

additional 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 \varnothing | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| Pneumatic connection | | | | | | | | |
| Cylinder | M5 | M5 | G1/8 | G1/8 | G1/8 | G1/8 | G1/8 | G1/8 |
| KP | M5 | M5 | M5 | G1/8 | G1/8 | G1/8 | G1/8 | G1/8 |
| Female piston rod thread | | | | | | | | |
| - | M6 | M8 | | M10 | | M12 | | |
| K5 | M5 | M6 | | M8 | | M10 | | |
| Male piston rod thread | | | | | | | | |
| - | M8 | | M10x1.25 | | M12x1.25 | | M16x1.5 | |
| K5 | M10, M10x1.25 | | M10, M12 | | M12, M16 | | M16, M20, M20x1.5 | |
| Axial play under load [mm] | 0.5 | | | | 0.8 | | | |
| Constructional design | Piston | | | | | | | |
| | Piston rod | | | | | | | |
| | Cylinder barrel | | | | | | | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | | | |
| Position sensing | Via proximity sensor | | | | | | | |
| Type of mounting | Via through-holes | | | | | | | |
| | Via female threads | | | | | | | |
| | Via accessories | | | | | | | |
| Mounting position | Any | | | | | | | |
| Clamping type with effective direction of action | From both sides | | | | | | | |

| 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] | 1.5 ... 10 |
| Min. release pressure [bar] | 3 |
| Ambient temperature ¹⁾ [°C] | -10 ... +80 |
| Corrosion resistance class CRC ²⁾ | 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.


Compact cylinders ADN-KP, standard port pattern, with clamping unit

Technical data

| Impact energy [J] | | | | | | | | |
|---|-----|-----|-----|-----|----|-----|-----|-----|
| Piston Ø | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| Max. impact energy at the end positions | 0.2 | 0.3 | 0.4 | 0.7 | 1 | 1.3 | 1.8 | 2.5 |


Permissible impact velocity:
$$v_{perm.} = \sqrt{\frac{2 \times E_{perm.}}{m_{dead} + m_{load}}}$$

$v_{perm.}$ Permissible impact velocity
 $E_{perm.}$ Max. impact energy
 m_{dead} Moving load (drive)
 m_{load} Moving work load

 Note
 These specifications represent the maximum values which can be reached. Note the maximum permitted impact energy.

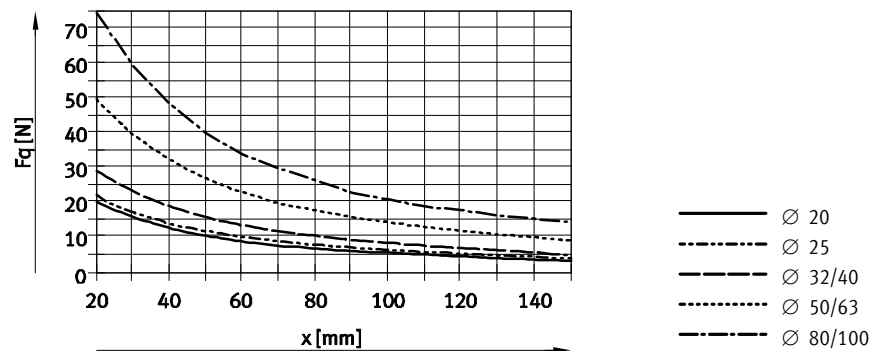
Maximum permissible load:
$$m_{load} = \frac{2 \times E_{perm.}}{v^2} - m_{dead}$$

| Forces [N] | | | | | | | | |
|--|-----|-----|-----|------|------|------|------|------|
| Piston Ø | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| Theoretical force at 6 bar, advancing | 188 | 295 | 483 | 754 | 1178 | 1870 | 3016 | 4712 |
| Theoretical force at 6 bar, retracting | 141 | 247 | 415 | 633 | 990 | 1682 | 2721 | 4418 |
| Static holding force | 350 | 350 | 600 | 1000 | 1400 | 2000 | 5000 | 5000 |

 Note
 The specified holding force refers to a static load. If this value is exceeded, slippage may occur. Dynamic forces occurring during operation must not exceed the static holding force. The clamping unit is not backlash-free in the clamped condition if varying loads are applied to the piston rod.

Activation:
 The clamping unit may only be released if the forces at the piston have reached equilibrium. Otherwise, there is a risk of accidents due to sudden movement of the piston rod. Blocking off the air supply at both ends (e.g. with a 5/3-way valve) does not provide any safety.

Max. lateral force Fq as a function of the projection x



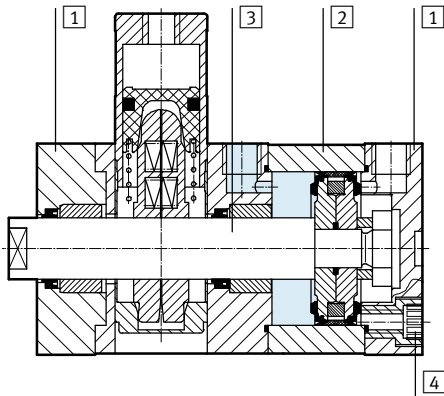
| Weight [g] | | | | | | | | |
|------------------------------------|-----|-----|-----|-----|------|------|------|------|
| Piston Ø | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| Product weight with 0 mm stroke | 282 | 344 | 503 | 789 | 1268 | 1894 | 3973 | 5497 |
| Additional weight per 10 mm stroke | 22 | 26 | 29 | 45 | 60 | 68 | 93 | 112 |
| Moving load with 0 mm stroke | 53 | 63 | 100 | 173 | 296 | 368 | 755 | 932 |
| Additional load per 10 mm stroke | 6 | 6 | 9 | 16 | 25 | 25 | 39 | 39 |

Compact cylinders ADN-KP, standard port pattern, with clamping unit

Technical data

Materials

Sectional view



| Compact cylinder | | |
|------------------|-------------------|--|
| 1 | Cover | Anodised aluminium |
| 2 | Cylinder barrel | Anodised aluminium |
| 3 | Piston rod | High-alloy steel |
| 4 | Flange screws | ∅ 20 ... 63 Galvanised steel |
| | | ∅ 80 ... 100 Standard screws, galvanised steel |
| - | Seals | Polyurethane, nitrile rubber |
| | Note on materials | RoHS compliant |

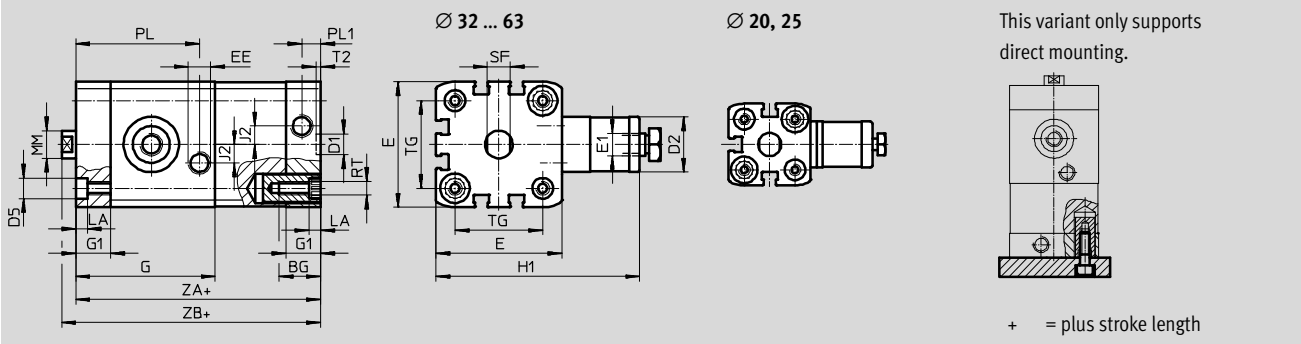
Compact cylinders ADN-KP, standard port pattern, with clamping unit

Technical data

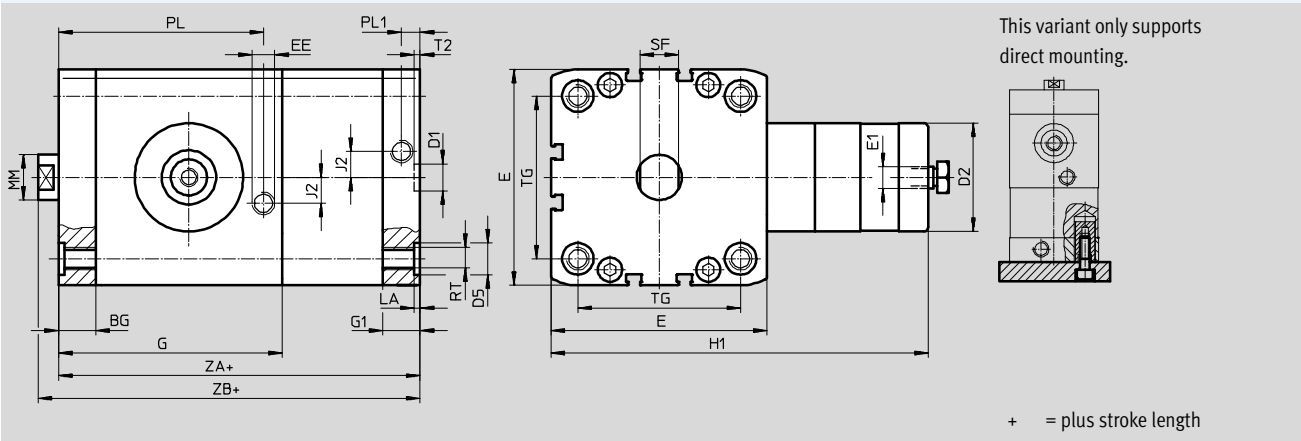
Dimensions – Basic version

Download CAD data → www.festo.com

∅ 20 ... 63



∅ 80, 100



| ∅ | BG | D1 | D2 | D5 | E | E1 | EE | G | G1 | H1 | J2 |
|------|------|---------|----|------|-----------------------|------|------|------|------|-----|------|
| [mm] | min. | ∅ H9 | ∅ | ∅ | | | | | | | |
| 20 | 19.5 | 9 | 20 | 9F9 | 35.5 ^{+0.3} | M5 | M5 | 49.8 | 12 | 63 | 2.6 |
| 25 | | | | | 39.5 ^{+0.3} | | | 50.6 | | 65 | |
| 32 | | | | | 47 ^{+0.3} | | | 56.4 | | 68 | |
| 40 | 26 | 12 | 24 | 12F9 | 54.5 ^{+0.3} | G1/8 | G1/8 | 60.4 | 15 | 89 | 8 |
| 50 | | | 30 | | 65.5 ^{+0.3} | | | 67.4 | 108 | | |
| 63 | | | 38 | | 75.5 ^{+0.3} | | | 76.8 | 120 | | |
| 80 | 17 | 12 | 48 | 15 | 95.5 ^{+0.6} | G1/8 | G1/8 | 99 | 16.5 | 167 | 11.5 |
| 100 | 21.5 | | | | 113.5 ^{+0.6} | | | 99.6 | 21.5 | 176 | |

| ∅ | LA | MM | PL | PL1 | RT | SF | T2 | TG | ZA | ZB |
|------|------|----|------|------|------|------|------|-------|-------|-------|
| [mm] | +0.2 | ∅ | +0.2 | +0.2 | | h13 | +0.2 | ±0.2 | ±0.3 | +1.2 |
| 20 | 5 | 10 | 42.8 | 6 | M5 | 9 | 2.1 | 22 | 74.8 | 80.8 |
| 25 | | | 44.6 | | | | | 26 | 77.6 | 83.1 |
| 32 | | | 49.6 | | | | | 32.5 | 85.4 | 91.4 |
| 40 | | 16 | 53.6 | 38 | 90.4 | 96.5 | | | | |
| 50 | | 20 | 8.2 | 60.6 | M8 | 17 | 2.6 | 46.5 | 97.4 | 105.6 |
| 63 | | | | 70 | | | | 56.5 | 110.8 | 118.9 |
| 80 | 90.7 | | | 72 | | | | 136.5 | 145.4 | |
| 100 | 2.6 | 25 | 88.6 | 10.5 | M10 | 21 | 89 | 145.1 | 154.1 | |

Compact cylinders ADN-KP, standard port pattern, with clamping unit

Technical data

Dimensions – Variants

Download CAD data → www.festo.com

Basic version

1 Hex nut to DIN 439-B only with \varnothing 32 ... 100

+ = plus stroke length

K2 – Extended male piston rod thread

1 Hex nut to DIN 439-B only with \varnothing 32 ... 100

+ = plus stroke length

K5 – Special piston rod thread

1 Hex nut to DIN 439-B only with \varnothing 32 ... 100

+ = plus stroke length

K8 – Extended piston rod

1 Hex nut to DIN 439-B only with \varnothing 32 ... 100

+ = plus stroke length

Compact cylinders ADN-KP, standard port pattern, with clamping unit

Technical data

| ∅ [mm] | A | A1 | A2 | AF | AF5 | KF | KF5 | |
|-----------|------|----------|-----------|------|------|-----|-----|-----|
| | -0.5 | | | min. | min. | | | |
| 20 | 16 | 1 ... 20 | 1 ... 300 | 14 | 12 | M6 | M5 | |
| 25 | | | | 16 | 14 | M8 | M6 | |
| 32 | 19 | | 1 ... 400 | 20 | 16 | 14 | M10 | M8 |
| 40 | | | | | 20 | 16 | M12 | M10 |
| 50 | 22 | | | | | | | |
| 63 | 28 | 1 ... 30 | 1 ... 500 | 20 | 20 | M12 | M10 | |
| 80 | | | | | | | | |
| 100 | | | | | | | | |

| ∅ [mm] | KK | KK5 | T3 | T4 | WH +1.3 | ZB +1.2 |
|-----------|----------|----------------|-----|-----|------------|------------|
| 20 | M8 | M10x1.25 | 2 | 2.6 | 5.5 | 80.8 |
| 25 | | M10 | | | | 83.1 |
| 32 | M10x1.25 | M10 | 2.6 | 3.3 | 6 | 91.4 |
| 40 | | M12 | | | | 96.5 |
| 50 | M12x1.25 | M12 | 3.3 | 4.7 | 8.2 | 105.6 |
| 63 | | M16 | | | | 118.9 |
| 80 | M16x1.5 | M16 | 4.7 | 6.1 | 8.9 | 145.4 |
| 100 | | M20x1.5 M20 | | | | 154.1 |

Compact cylinders ADN-KP, standard port pattern, with clamping unit



Ordering data – Modular products

| Ordering table | | | | | | | |
|------------------------------------|--|-----------------|-----------------|---------------|-----------------|-----------------|---------------|
| Size | 20 | 25 | 32 | 40 | Condi- tions | Code | Enter code |
| M Module No. | 548206 | 548207 | 548208 | 548209 | | | |
| Function | Compact cylinder, double-acting, standard port pattern, with clamping unit | | | | | ADN | ADN |
| Piston Ø [mm] | 20 | 25 | 32 | 40 | | -... | |
| Stroke [mm] | 10 ... 300 | | 10 ... 400 | | | -... | |
| Clamping unit | Integrated | | | | | -KP | -KP |
| Piston rod thread | Male thread | | | | | -A | |
| | Female thread | | | | 1 | -I | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | -P | -P |
| Position sensing | Via proximity sensor | | | | | -A | -A |
| O Male thread extended [mm] | Extended male piston rod thread 1 ... 20 | | | | | -...K2 | |
| Special piston rod thread | Male thread | M10x1.25 M10 | M10x1.25 M10 | M10 M12 | M10 M12 | -“...”K5 | |
| | Female thread | M5 | M5 | M6 | M6 | | |
| Piston rod extended [mm] | Extended piston rod 1 ... 300 | | 1 ... 400 | | 2 | -...K8 | |
| Captive rating plate | Laser etched rating plate | | | | | -TL | |

- 1** I Not with extended male thread K2
- 2** K8 The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

- M** Mandatory data
- O** Options

Transfer order code

Compact cylinders ADN-KP, standard port pattern, with clamping unit

Ordering data – Modular products

| Ordering table | | | | | | | |
|------------------------------------|--|---------------|---------------|---------------|-----------------|---------------|-----------------|
| Size | 50 | 63 | 80 | 100 | Condi- tions | Code | Enter code |
| M Module No. | 548210 | 548211 | 548212 | 548213 | | | |
| Function | Compact cylinder, double-acting, standard port pattern, with clamping unit | | | | | ADN | ADN |
| Piston Ø [mm] | 50 | 63 | 80 | 100 | | -... | |
| Stroke [mm] | 10 ... 400 | | 10 ... 500 | | | -... | |
| Clamping unit | Integrated | | | | | -KP | -KP |
| Piston rod thread | Male thread | | | | | -A | |
| | Female thread | | | | 1 | -I | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | -P | -P |
| Position sensing | Via proximity sensor | | | | | -A | -A |
| O Male thread extended [mm] | Extended male piston rod thread 1 ... 20 | | 1 ... 30 | | | -...K2 | |
| Special piston rod thread | Male thread | | M12 | M12 | M16 | M16 | -“...”K5 |
| | Female thread | | M16 | M16 | M20 | M20 | |
| | | | M20x1.5 | M20x1.5 | | | |
| Piston rod extended [mm] | Extended piston rod | | | | | | |
| | 1 ... 400 | | 1 ... 500 | | 2 | -...K8 | |
| Captive rating plate | Laser etched rating plate | | | | | -TL | |

- 1 I** Not with extended male thread K2
- 2 K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

- M** Mandatory data
- O** Options

Transfer order code

- - - -

Compact cylinders ADN-EL, standard port pattern, with end position lock

Type codes

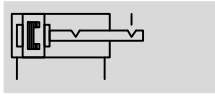
ADN – 20 – 100 – ELV – A – P – A – K2

| | |
|--------------------------|---|
| Type | |
| Double-acting | |
| ADN | Compact cylinder |
| Piston Ø [mm] | |
| Stroke [mm] | |
| End position lock | |
| ELB | At both ends |
| ELV | At front |
| ELH | At rear |
| Piston rod thread | |
| A | Male thread |
| I | Female thread |
| Cushioning | |
| P | Flexible cushioning rings/pads at both ends |
| Position sensing | |
| A | Via proximity sensor |
| Variant | |
| K2 | Extended male piston rod thread |
| K5 | Special piston rod thread |
| K8 | Extended piston rod |
| TL | Captive rating plate |

Compact cylinders ADN-EL, standard port pattern, with end position lock

Technical data

Function



- - Diameter
20 ... 100 mm
- - Stroke length
10 ... 500 mm

Variants



K2

K5

K8



Note

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

additional 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 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| Pneumatic connection | M5 | M5 | G1/8 | G1/8 | G1/8 | G1/8 | G1/8 | G1/8 |
| Female piston rod thread | | | | | | | | |
| - | M6 | | M8 | | M10 | | M12 | |
| K5 | M5 | | M6 | | M8 | | M10 | |
| Male piston rod thread | | | | | | | | |
| - | M8 | | M10x1.25 | | M12x1.25 | | M16x1.5 | |
| K5 | M10; M10x1.25 | | M10; M12 | | M12; M16 | | M16; M20; M20x1.5 | |
| Max. axial backlash with end position locked [mm] | 1.3 | | | | | | 2.1 | |
| Constructional design | | | | | | | | |
| | Piston | | | | | | | |
| | Piston rod | | | | | | | |
| | Cylinder barrel | | | | | | | |
| End position lock | | | | | | | | |
| ELB | At both ends | | | | | | | |
| ELV | At front | | | | | | | |
| ELH | At rear | | | | | | | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | | | |
| Position sensing | Via proximity sensor | | | | | | | |
| Type of mounting | | | | | | | | |
| | Via female threads | | | | | | | |
| | Via accessories | | | | | | | |
| Mounting position | Any | | | | | | | |

Note

- No screws with a head or similar may be used in place of the end position lock, as there is a risk that the function will be impaired if they are screwed in too deeply.
- The exhaust hole must not be closed.
- Locking can be performed from any stroke position, once the drive is brought mechanically into its end position.
- The end position lock has been designed to guard against the load dropping in case of pressure failure.
- Operation of the cylinder in conjunction with a 3-way valve (especially with the function “mid-position closed” and those with “metallic sealing”) should be avoided. The residual pressure that is enclosed on the locking side of the cylinder can release the locking function.
- The cylinder must not be operated with external stops (e.g. shock absorber, buffer, oil brake, etc.):
 - It may not be possible to reliably reach the internal end position.
 - The locking mechanism can wear out prematurely. (In the event of pressure drop in the opposite chamber to less than the locking pressure, the locking piston will prematurely fall to its end position.)

Compact cylinders ADN-EL, standard port pattern, with end position lock

Technical data



| Operating and environmental conditions | | | | | | | | |
|--|--|----|----|----|------------|----|----|-----|
| Piston Ø | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| 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] | 2.5 ... 10 | | | | 1.5 ... 10 | | | |
| Ambient temperature ¹⁾ [°C] | -20 ... +80 | | | | | | | |
| Corrosion resistance class CRC ²⁾ | 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.

| Forces [N] | | | | | | | | |
|--|-----|-----|-----|-----|------|------|------|------|
| Piston Ø | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| Theoretical force at 6 bar, advancing | 188 | 295 | 483 | 754 | 1178 | 1870 | 3016 | 4712 |
| Theoretical force at 6 bar, retracting | 141 | 247 | 415 | 686 | 1057 | 1750 | 2827 | 4524 |
| Static holding force | 250 | 500 | | | 2000 | | 5000 | |

Sizing example



Note
When sizing pneumatic cylinders it is recommended as a basic principle that only 50% of the indicated theoretical forces (see above) be used.

Given:

Installation position = Vertical

Workpiece load = 44 kg

$$F = m \times g = 44 \text{ kg} \times 9.81 \text{ m/s}^2 = 431.6 \text{ N}$$

To be calculated:

Suitable piston Ø

Analysis with 32 mm piston Ø:

Theoretical force at 6 bar, advancing = 483 N

50% of the theoretical force = 241.5 N

Static holding force with 32 mm piston Ø = 500 N

The static force on the end position lock is within the permissible range (max. 500 N) with a workpiece load of 44 kg (431.6 N), however the cylinder would be at 89% capacity.

Result:

A cylinder with a piston Ø of 40 mm is therefore recommended for this application.

| Impact energy [J] | | | | | | | | |
|---|-----|-----|-----|-----|----|-----|-----|-----|
| Piston Ø | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| Max. impact energy at the end positions | 0.2 | 0.3 | 0.4 | 0.7 | 1 | 1.3 | 1.8 | 2.5 |

Permissible impact velocity:

$$v_{\text{perm.}} = \sqrt{\frac{2 \times E_{\text{perm.}}}{m_{\text{dead}} + m_{\text{load}}}}$$

$v_{\text{perm.}}$ Permissible impact velocity

$E_{\text{perm.}}$ Max. impact energy

m_{dead} Moving load (drive)

m_{load} Moving work load

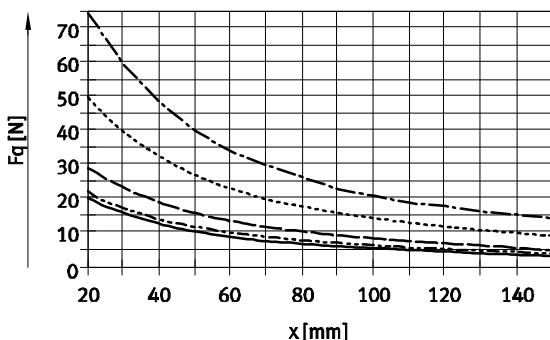


Note
These specifications represent the maximum values which can be reached. Note the maximum permitted impact energy.

Maximum permissible load:

$$m_{\text{load}} = \frac{2 \times E_{\text{perm.}}}{v^2} - m_{\text{dead}}$$

Max. lateral force F_q as a function of the projection x



- Ø 20
- - - - - Ø 25
- · - · - · - Ø 32/40
- · · · · Ø 50/63
- - - - - Ø 80/100

Compact cylinders ADN-EL, standard port pattern, with end position lock

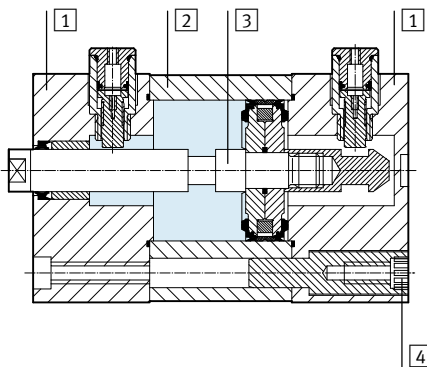
FESTO

Technical data

| Weight [g] | | | | | | | | |
|------------------------------------|-----|-----|-----|-----|------|------|------|------|
| Piston \varnothing | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| End position lock at both ends | | | | | | | | |
| Product weight with 0 mm stroke | 234 | 339 | 518 | 665 | 1334 | 1734 | 3300 | 4735 |
| Additional weight per 10 mm stroke | 22 | 26 | 29 | 38 | 51 | 59 | 79 | 98 |
| Moving load with 0 mm stroke | | | | | | | | |
| Product weight with 0 mm stroke | 43 | 53 | 85 | 101 | 199 | 248 | 475 | 637 |
| Additional load per 10 mm stroke | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 |
| End position lock at front | | | | | | | | |
| Product weight with 0 mm stroke | 177 | 248 | 387 | 498 | 922 | 1228 | 2296 | 3448 |
| Additional weight per 10 mm stroke | 22 | 26 | 29 | 38 | 51 | 59 | 79 | 98 |
| Moving load with 0 mm stroke | | | | | | | | |
| Product weight with 0 mm stroke | 35 | 46 | 75 | 98 | 175 | 225 | 464 | 626 |
| Additional load per 10 mm stroke | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 |
| End position lock at rear | | | | | | | | |
| Product weight with 0 mm stroke | 181 | 252 | 380 | 505 | 920 | 1217 | 2233 | 3409 |
| Additional weight per 10 mm stroke | 22 | 26 | 29 | 38 | 51 | 59 | 79 | 98 |
| Moving load with 0 mm stroke | | | | | | | | |
| Product weight with 0 mm stroke | 37 | 45 | 73 | 89 | 168 | 217 | 413 | 582 |
| Additional load per 10 mm stroke | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 |

Materials

Sectional view



| Compact cylinder | | |
|------------------|-------------------|------------------------------|
| 1 | Cover | Anodised aluminium |
| 2 | Cylinder barrel | Anodised aluminium |
| 3 | Piston rod | High-alloy steel |
| 4 | Flange screws | \varnothing 20 ... 63 |
| | | \varnothing 80 ... 100 |
| - | Seals | Polyurethane, nitrile rubber |
| - | Note on materials | RoHS compliant |

Compact cylinders ADN-EL, standard port pattern, with end position lock

Technical data

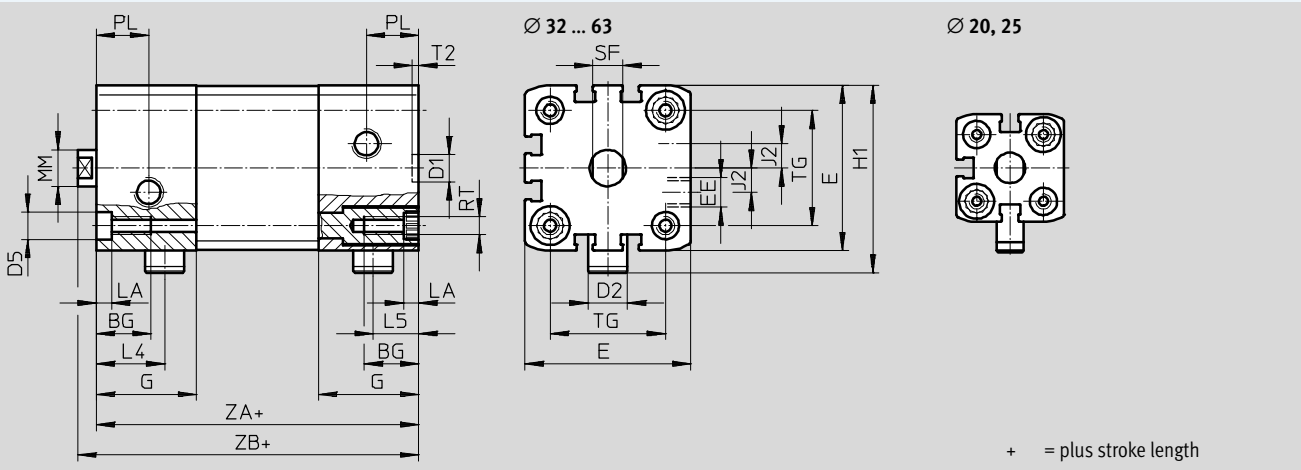


Dimensions – Basic version

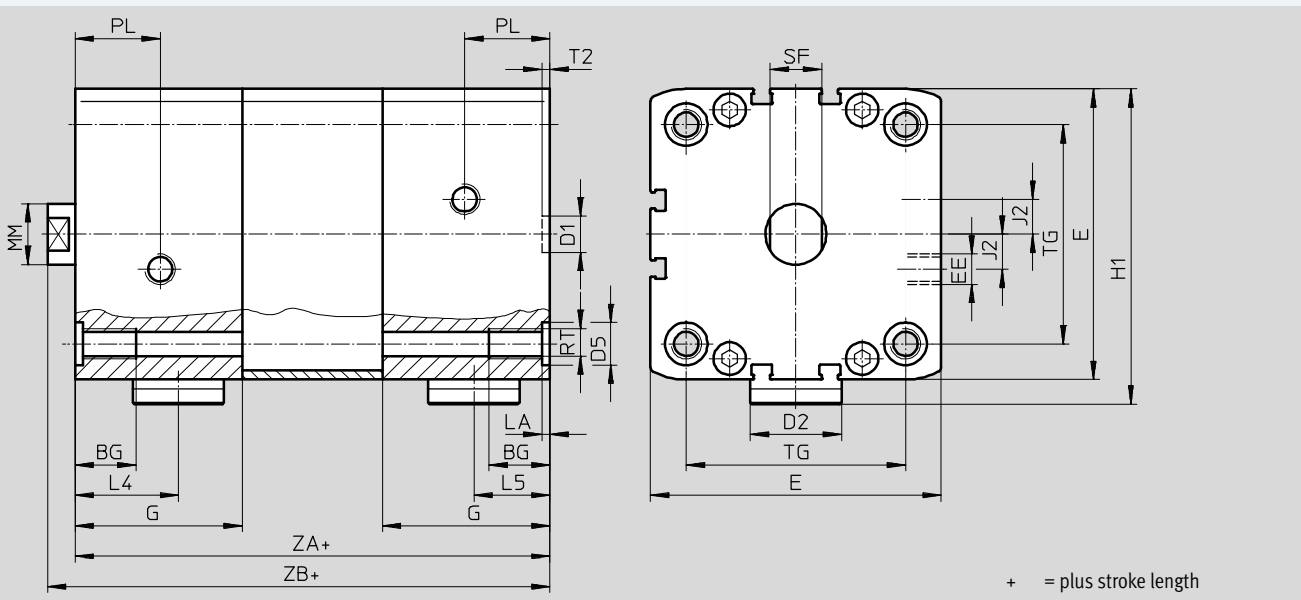
Download CAD data → www.festo.com

ELB – End position lock at both ends

Ø 20 ... 63

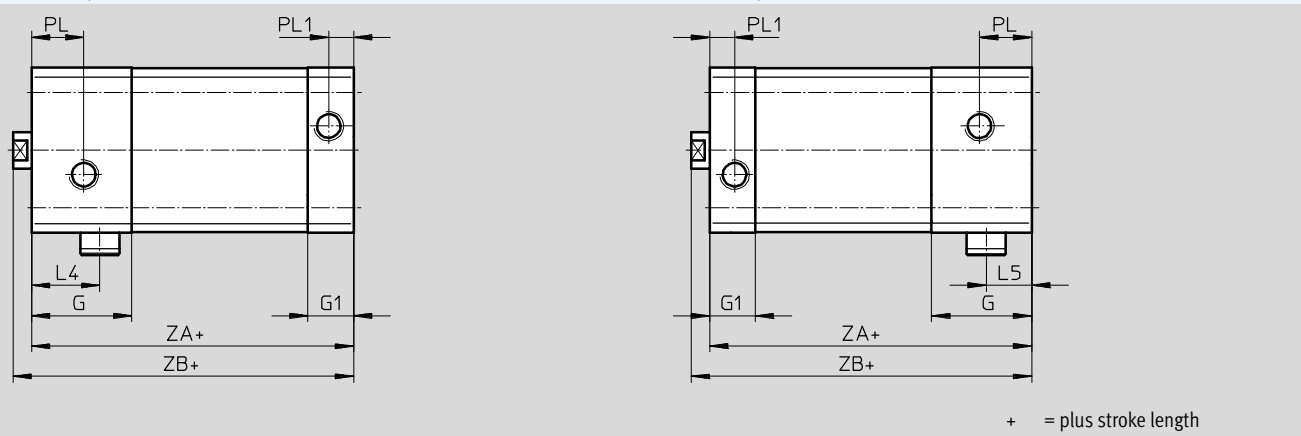


Ø 80 ... 100



ELV – End position lock at front

ELH – End position lock at rear



Compact cylinders ADN-EL, standard port pattern, with end position lock

Technical data

| ∅ [mm] | BG min. | D1 ∅ H9 | D2 ∅ | D5 ∅ | E | EE | G | G1 | H1 | J2 | L4 | L5 | |
|-----------|------------|---------------|----------------------|----------------------|-----------------------|----|--------------------|------|-------|------|------|-------|------|
| 20 | 18 | 9 | 9 | 9 ^{F9} | 35.5 ^{+0.3} | M5 | 25 | 12 | 45.5 | 2.6 | 18.5 | 12.5 | |
| 25 | | | 13 | | 39.5 ^{+0.3} | | 29.5 | | 53.3 | | 20.8 | 14 | |
| 32 | | | | | 20 | 12 | 47 ^{+0.3} | G1/8 | 33 | 15 | 58 | 8 | 22.5 |
| 40 | | | 54.5 ^{+0.3} | | | | 43 | | | | 77 | | 27.5 |
| 50 | 20 | 12 | 20 | 12 ^{F9} | 65.5 ^{+0.3} | 55 | 16.5 | | 103.5 | 11.5 | 34 | 25 | |
| 63 | | | 20 | 15 | 75.5 ^{+0.3} | | | | 57 | | 21.5 | 113.5 | 20 |
| 80 | | | 30 | 95.5 ^{+0.6} | 113.5 ^{+0.6} | | | | | | | | |
| 100 | | | | | | | | | | | | | |

| ∅ [mm] | LA +0.2 | MM ∅ | PL | PL1 | RT | SF h13 | T2 +0.1 | TG ±0.2 | ZA ±0.3 | | ZB +1.2 | | | | | | |
|-----------|------------|---------|----|------|------|-----------|------------|------------|------------|----------|------------|----------|------|----|----|------|----|
| | | | | | | | | | ELB | ELV, ELH | ELB | ELV, ELH | | | | | |
| 20 | 5 | 10 | 6 | 6 | M5 | 9 | 2.1 | 22 | 63 | 50 | 68.8 | 55.5 | | | | | |
| 25 | | | | | | | | 26 | 74 | 56.5 | 79.5 | 62 | | | | | |
| 32 | | | | | | | | 12 | 16 | 8.2 | M6 | 10 | 32.5 | 80 | 62 | 86 | 68 |
| 40 | | | | | | | | | | | | | 38 | 81 | 63 | 87.1 | 69 |
| 50 | 16 | 21 | M8 | 13 | 46.5 | 101 | 73 | 109.2 | 81.2 | | | | | | | | |
| 63 | | | | | 56.5 | 105 | 77 | 113.1 | 85.1 | | | | | | | | |
| 80 | 2.6 | 20 | 28 | 10.5 | M10 | 17 | 72 | 131 | 92.5 | 139.9 | 101.4 | | | | | | |
| 100 | | | | | | | 89 | 138 | 102.5 | 147 | 111.5 | | | | | | |

Compact cylinders ADN-EL, standard port pattern, with end position lock

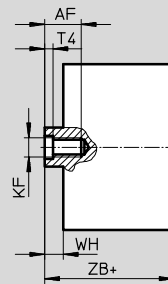
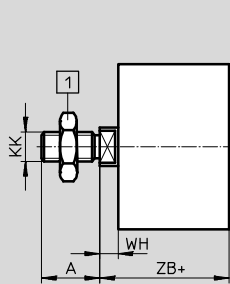
FESTO

Technical data

Dimensions – Variants

Download CAD data → www.festo.com

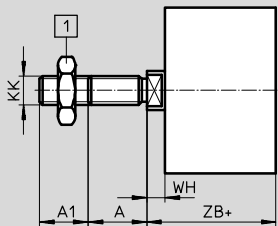
Basic version



1 Hex nut to DIN 439-B
only with \varnothing 32 ... 100

+ = plus stroke length

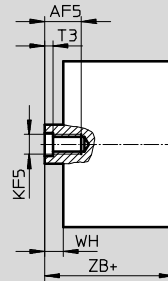
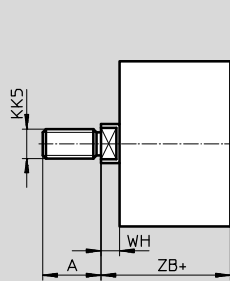
K2 – Extended male piston rod thread



1 Hex nut to DIN 439-B
only with \varnothing 32 ... 100

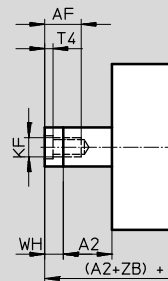
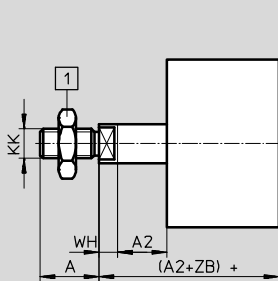
+ = plus stroke length

K5 – Special piston rod thread



+ = plus stroke length

K8 – Extended piston rod



1 Hex nut to DIN 439-B
only with \varnothing 32 ... 100

+ = plus stroke length

Compact cylinders ADN-EL, standard port pattern, with end position lock



Technical data

| ∅ [mm] | A | A1 | A2 | AF | AF5 | KF | KF5 |
|-----------|------|----------|-----------|------|------|-----|-----|
| | -0.5 | | | min. | min. | | |
| 20 | 16 | 1 ... 20 | 1 ... 300 | 14 | 12 | M6 | M5 |
| 25 | | | | | | | |
| 32 | 19 | | 1 ... 400 | 16 | 14 | M8 | M6 |
| 40 | | | | | | | |
| 50 | 22 | 1 ... 30 | 1 ... 500 | 20 | 16 | M10 | M8 |
| 63 | | | | | | | |
| 80 | 28 | | | | 20 | M12 | M10 |
| 100 | | | | | | | |

| ∅ [mm] | KK | KK5 | T3 | T4 | WH +1.3 | ZB +1.2 | |
|-----------|----------|----------------|-----|-----|------------|------------|----------|
| | | | | | | ELB | ELV. ELH |
| 20 | M8 | M10x1.25 | 2 | 2.6 | 5.5 | 68.8 | 55.5 |
| 25 | | M10 | | | | 79.5 | 62 |
| 32 | M10x1.25 | M10 | 2.6 | 3.3 | 6 | 86 | 68 |
| 40 | | M12 | | | | 87.1 | 69 |
| 50 | M12x1.25 | M12 | 3.3 | 4.7 | 8.2 | 109.2 | 81.2 |
| 63 | | M16 | | | | 113.1 | 85.1 |
| 80 | M16x1.5 | M16 | 4.7 | 6.1 | 8.9 | 139.9 | 101.4 |
| 100 | | M20x1.5 M20 | | | | 147 | 111.5 |

Compact cylinders ADN-EL, standard port pattern, with end position lock



Ordering data – Modular products

| Ordering table | | | | | | | |
|------------------------------------|--|-----------------|-----------------|---------------|-----------------|-----------------|---------------|
| Size | 20 | 25 | 32 | 40 | Condi- tions | Code | Enter code |
| M Module No. | 548214 | 548215 | 548216 | 548217 | | | |
| Function | Compact cylinder, double-acting, standard port pattern, with end position lock | | | | | ADN | ADN |
| Piston Ø [mm] | 20 | 25 | 32 | 40 | | -... | |
| Stroke [mm] | 10 ... 300 | | 10 ... 400 | | | -... | |
| End position lock | At both ends | | | | | -ELB | |
| | At front | | | | | -ELV | |
| | At rear | | | | | -ELH | |
| Piston rod thread | Male thread | | | | | -A | |
| | Female thread | | | | 1 | -I | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | -P | -P |
| Position sensing | Via proximity sensor | | | | | -A | -A |
| O Male thread extended [mm] | Extended male piston rod thread 1 ... 20 | | | | | -...K2 | |
| Special piston rod thread | Male thread | M10x1.25 M10 | M10x1.25 M10 | M10 M12 | M10 M12 | -“...”K5 | |
| | Female thread | M5 | M5 | M6 | M6 | | |
| Piston rod extended [mm] | Extended piston rod 1 ... 300 | | 1 ... 400 | | 2 | -...K8 | |
| Captive rating plate | Laser etched rating plate | | | | | -TL | |

- 1** I Not with extended male thread K2
- 2** K8 The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

- M** Mandatory data
- O** Options

Transfer order code

Compact cylinders ADN-EL, standard port pattern, with end position lock



Ordering data – Modular products

| Ordering table | | | | | | | |
|------------------------------------|--|---------------|---------------|-----------------------|-----------------------|-----------------|---------------|
| Size | 50 | 63 | 80 | 100 | Condi- tions | Code | Enter code |
| M Module No. | 548218 | 548219 | 548220 | 548221 | | | |
| Function | Compact cylinder, double-acting, standard port pattern, with end position lock | | | | | ADN | ADN |
| Piston Ø [mm] | 50 | 63 | 80 | 100 | | -... | |
| Stroke [mm] | 10 ... 400 | | 10 ... 500 | | | -... | |
| End position lock | At both ends | | | | | -ELB | |
| | At front | | | | | -ELV | |
| | At rear | | | | | -ELH | |
| Piston rod thread | Male thread | | | | | -A | |
| | Female thread | | | | ¹ | -I | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | -P | -P |
| Position sensing | Via proximity sensor | | | | | -A | -A |
| O Male thread extended [mm] | Extended male piston rod thread 1 ... 20 | | 1 ... 30 | | | -...K2 | |
| Special piston rod thread | Male thread | M12 M16 | M12 M16 | M16 M20 M20x1.5 | M16 M20 M20x1.5 | -“...”K5 | |
| | Female thread | M8 | M8 | M10 | M10 | | |
| Piston rod extended [mm] | Extended piston rod 1 ... 400 | | 1 ... 500 | | ² | -...K8 | |
| Captive rating plate | Laser etched rating plate | | | | | -TL | |

- ¹ **I** Not with extended male thread K2
- ² **K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

- M** Mandatory data
- O** Options

Transfer order code

- - - -

Compact cylinders AEN, to ISO 21287

Type codes

AEN – 50 – 25 – A – P – A – Q

Type

| | |
|---------------|------------------|
| Single-acting | |
| AEN | Compact cylinder |

Piston Ø [mm]

Stroke [mm]

Piston rod thread

| | |
|---|---------------|
| A | Male thread |
| I | Female thread |

Cushioning

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

Position sensing

| | |
|---|----------------------|
| A | Via proximity sensor |
|---|----------------------|

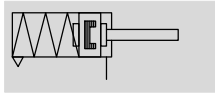
Variant

| | |
|-----|--|
| Z | Single-acting, pulling |
| Q | Square piston rod |
| K2 | Extended male piston rod thread |
| K5 | Special piston rod thread |
| K8 | Extended piston rod |
| K10 | Smooth anodised piston rod |
| S6 | Heat-resistant seals up to max. 120 °C |
| TL | Captive rating plate |

Compact cylinders AEN, to ISO 21287

Technical data

Function



pulling

⊘ - Diameter
12 ... 100 mm

— | — Stroke length
1 ... 25 mm

- www.festo.com

Variants



S6



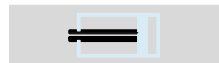
K2



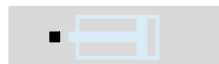
K5



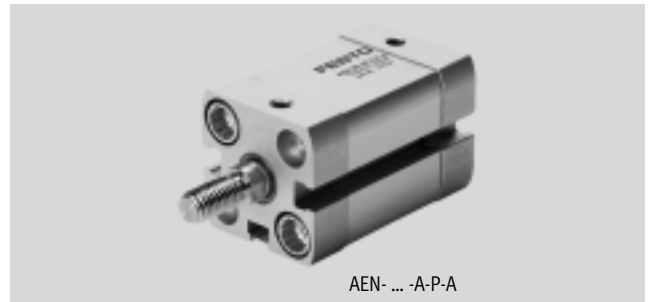
K8



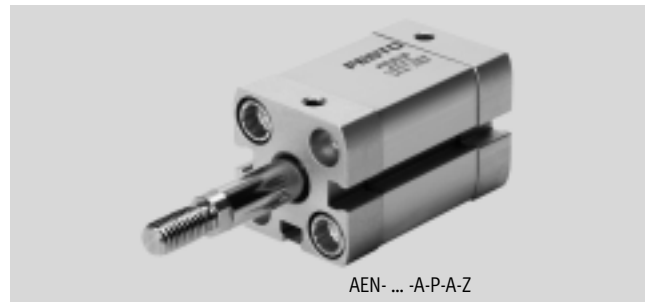
K10



Q



AEN- ... -A-P-A



AEN- ... -A-P-A-Z

General technical data

| | | | | | | | | | | |
|-------------------|---|----|----|----|----|----|----|----|----|-----|
| Piston Ø | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| Design | Piston | | | | | | | | | |
| | Piston rod | | | | | | | | | |
| | Cylinder barrel | | | | | | | | | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | | | | | |
| Position sensing | Via proximity sensor | | | | | | | | | |
| Type of mounting | Via through-hole | | | | | | | | | |
| | Via female thread | | | | | | | | | |
| | Via accessories | | | | | | | | | |
| Mounting position | Any | | | | | | | | | |

Technical data – Basic version and variants

| | | | | | |
|--------------------------|----|----|---------------|---------------|----------|
| Piston Ø | 12 | 16 | 20 | 25 | 32 |
| Pneumatic connection | M5 | M5 | M5 | M5 | G1/8 |
| Female piston rod thread | | | | | |
| — | M3 | M4 | M6 | M6 | M8 |
| K5 | — | — | M5 | M5 | M6 |
| Male piston rod thread | | | | | |
| — | M5 | M6 | M8 | M8 | M10x1.25 |
| K5 | M6 | M8 | M10; M10x1.25 | M10; M10x1.25 | M10; M12 |
| Q-K5 | — | M8 | M10; M10x1.25 | M10; M10x1.25 | M10 |

| | | | | | |
|--------------------------|----------|----------|----------|-------------------|-------------------|
| Piston Ø | 40 | 50 | 63 | 80 | 100 |
| Pneumatic connection | G1/8 | G1/8 | G1/8 | G1/8 | G1/8 |
| Female piston rod thread | | | | | |
| — | M8 | M10 | M10 | M12 | M12 |
| K5 | M6 | M8 | M8 | M10 | M10 |
| Male piston rod thread | | | | | |
| — | M10x1.25 | M12x1.25 | M12x1.25 | M16x1.5 | M16x1.5 |
| K5 | M10; M12 | M12; M16 | M12; M16 | M16; M20; M20x1.5 | M16; M20; M20x1.5 |
| Q-K5 | M10 | M12 | M12 | M16 | M16 |

Compact cylinders AEN, to ISO 21287

Technical data



| Operating and environmental conditions | | | | | | | | | | |
|--|--|------------|------------|----|----|------------|------------|----|----|-----|
| Piston Ø | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| 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 | | | | | | | |
| Z | 1.7 ... 10 | 2.2 ... 10 | 1.3 ... 10 | | | 0.7 ... 10 | 0.6 ... 10 | | | |
| Q | 1.5 ... 10 | | 1 ... 10 | | | | | | | |
| Ambient temperature ¹⁾ [°C] | | | | | | | | | | |
| - | -20 ... +80 | | | | | | | | | |
| S6 | 0 ... +120 | | | | | | | | | |
| Corrosion resistance class CRC ²⁾ | 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.

| Forces [N] and impact energy [J] | | | | | | | | | | |
|---|------|------|------|------|-----|------|------|------|------|------|
| Piston Ø | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| AEN | | | | | | | | | | |
| Theoretical force at 6 bar, advancing | 56 | 95 | 162 | 259 | 441 | 702 | 1098 | 1783 | 2899 | 4511 |
| AEN...Z, pulling | | | | | | | | | | |
| Theoretical force at 6 bar, retracting | 39 | 65 | 115 | 211 | 373 | 634 | 977 | 1663 | 2610 | 4323 |
| Max. impact energy in the end positions | 0.04 | 0.04 | 0.04 | 0.08 | 0.1 | 0.15 | 0.18 | 0.28 | 0.35 | 0.7 |

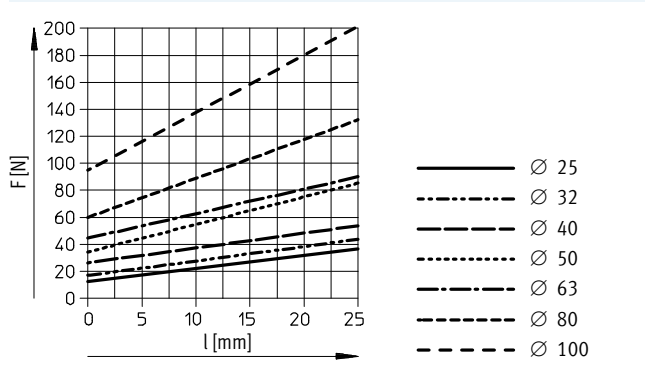
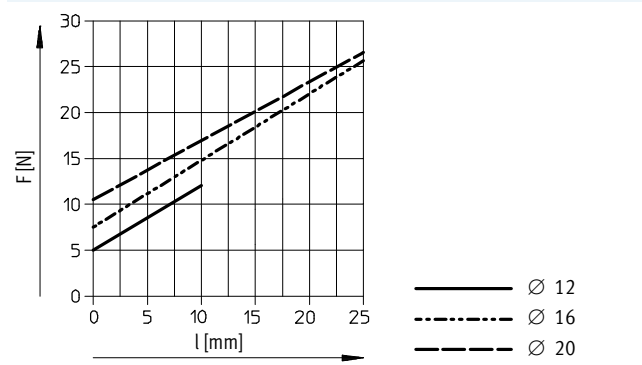
Permissible impact velocity:
$$v_{perm.} = \sqrt{\frac{2 \times E_{perm.}}{m_{dead} + m_{load}}}$$

$v_{perm.}$ Permissible impact velocity
 $E_{perm.}$ Max. impact energy
 m_{dead} Moving load (drive)
 m_{load} Moving effective load

Note
 This data represents the maximum values that can be achieved. The maximum permissible impact energy must be observed.

Maximum permissible load:
$$m_{load} = \frac{2 \times E_{perm.}}{v^2} - m_{dead}$$

Spring return force F as a function of the stroke l



Note
 The degree of friction depends upon the mounting position and the type of load involved. Single-acting cylinders should as far as possible be operated without lateral forces.

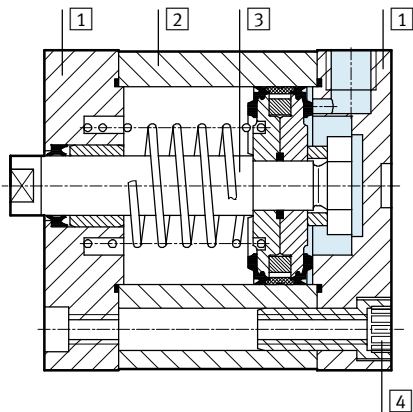
Compact cylinders AEN, to ISO 21287

Technical data

| Weight [g] | | | | | | | | | | |
|------------------------------------|----|----|-----|-----|-----|-----|-----|-----|------|------|
| Piston \varnothing | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| Product weight with 0 mm stroke | 77 | 79 | 131 | 156 | 265 | 346 | 540 | 722 | 1300 | 2154 |
| Additional weight per 10 mm stroke | 12 | 14 | 21 | 23 | 30 | 37 | 51 | 59 | 79 | 98 |
| Moving load with 0 mm stroke | 9 | 15 | 30 | 50 | 60 | 80 | 140 | 180 | 400 | 570 |
| Additional load per 10 mm stroke | 2 | 4 | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 |

Materials

Sectional view



| Compact cylinder | Basic version | S6 |
|---|-----------------------------------|------------------|
| 1 Bearing and end cap \varnothing 12 ... 80 | Anodised aluminium | |
| \varnothing 100 | Coated die-cast aluminium | |
| 2 Cylinder barrel | Anodised aluminium | |
| 3 Piston rod | High-alloy steel | |
| 4 Flange screws \varnothing 12 ... 16 | High-alloy steel | |
| \varnothing 20 ... 63 | Galvanised steel | |
| \varnothing 80 ... 100 | Standard screws, galvanised steel | |
| - Seals | Polyurethane | Fluoro elastomer |
| Note on materials | RoHS-compliant | |

Compact cylinders AEN, to ISO 21287

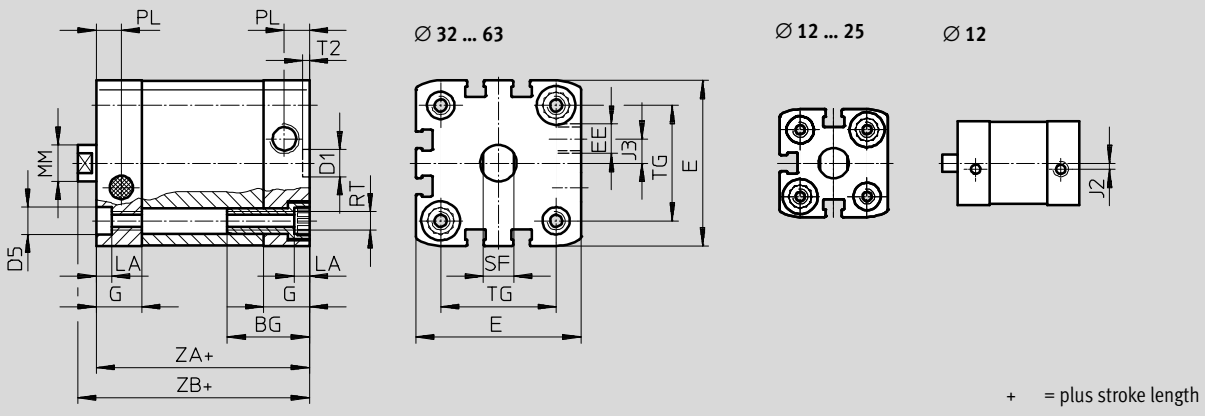
Technical data



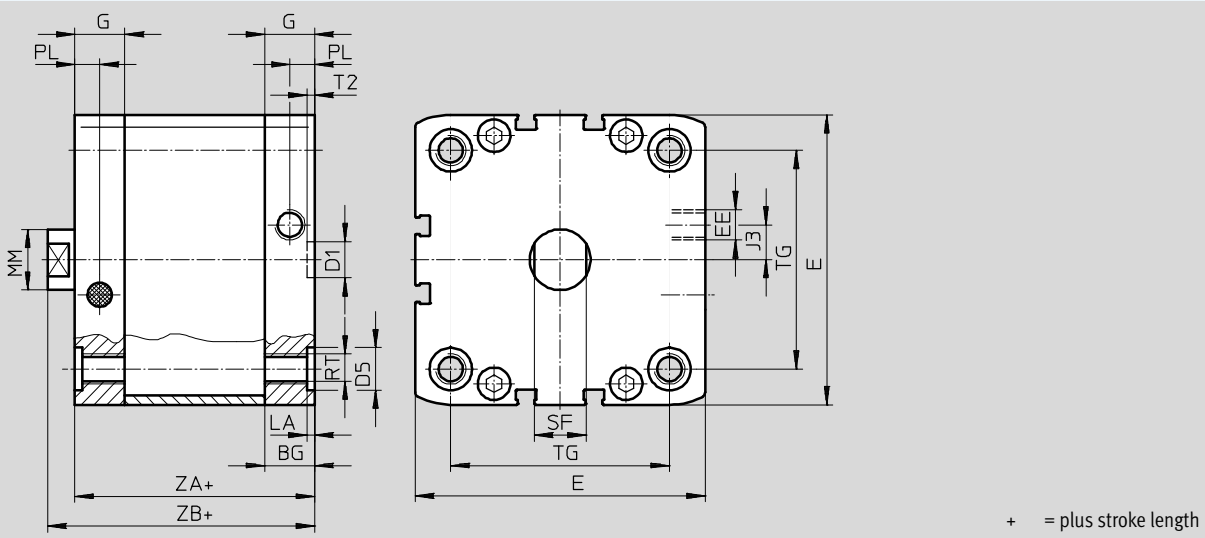
Dimensions – Basic version

Download CAD data → www.festo.com

Ø 12 ... 63



Ø 80 ... 100



Compact cylinders AEN, to ISO 21287

Technical data

| ∅ [mm] | BG min. | D1 ∅ H9 | D5 ∅ | E | EE | G | J2 | J3 | LA +0.2 |
|-----------|----------------------|------------------|----------------------|-----------------------|--------------------|------|-----|----|------------|
| 12 | 17 | 9 | 6 ^{F9} | 27.5 ^{+0.3} | M5 | 10.5 | 2 | - | 3.5 |
| 16 | | | | 29 ^{+0.3} | | 11 | | | |
| 20 | 19.5 | | 9 ^{F9} | 35.5 ^{+0.3} | | 12 | 2.6 | | |
| 25 | | | | 39.5 ^{+0.3} | | | | | |
| 32 | | | | 26 | 47 ^{+0.3} | 15 | | 6 | |
| 40 | 54.5 ^{+0.3} | | 8 | | | | | | |
| 50 | 27 | 12 ^{F9} | | 65.5 ^{+0.3} | G1/8 | 11.5 | 5 | | |
| 63 | | | 75.5 ^{+0.3} | | | | | | |
| 80 | 17 | 12 | 95.5 ^{+0.6} | 16.5 | | | | | |
| 100 | 21.5 | | 15 | 113.5 ^{+0.6} | 21.5 | 20 | 2.6 | | |

| ∅ [mm] | MM ∅ | PL +0.2 | RT | SF h13 | T2 +0.1 | TG ±0.2 | ZA ±0.3 | ZB +1.2 |
|-----------|---------|------------|-----|-----------|------------|------------|------------|------------|
| 12 | 6 | 6 | M4 | 5 | 2.1 | 16 | 35 | 39.2 |
| 16 | 8 | | | 7 | | 18 | | 39.7 |
| 20 | 10 | | M5 | 9 | | 22 | 37 | 42.5 |
| 25 | | | | | | 26 | 39 | 44.5 |
| 32 | 12 | 8.2 | M6 | 10 | 32.5 | 44 | 50 | |
| 40 | | | | | 38 | | 51.1 | |
| 50 | 16 | | M8 | 13 | 46.5 | 45 | 53.2 | |
| 63 | | | | | 56.5 | | 49 | 57.1 |
| 80 | 20 | | M10 | 17 | 72 | 54 | 62.9 | |
| 100 | | | | | 10.5 | | 89 | 67 |

Compact cylinders AEN, to ISO 21287

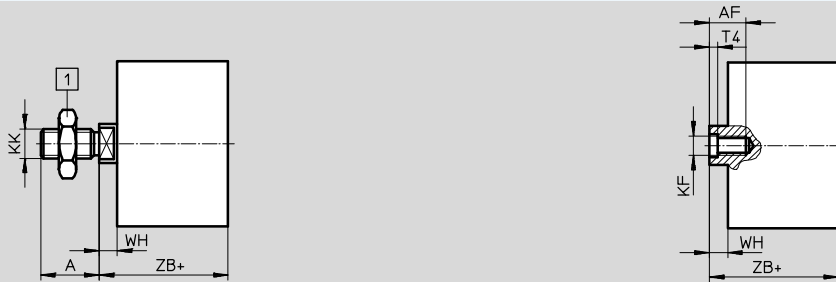
Technical data

FESTO

Dimensions – Variants

Download CAD data → www.festo.com

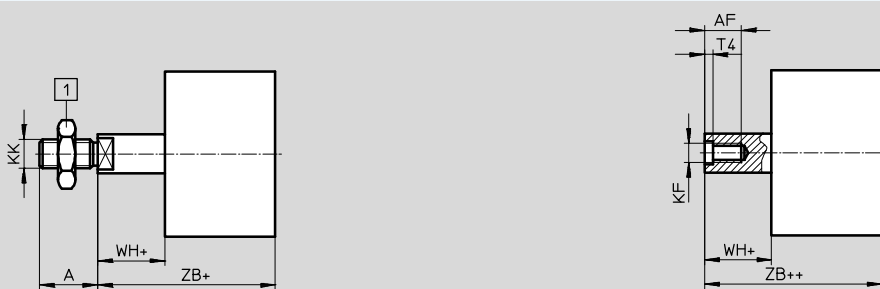
Basic version



1 Hex nut DIN 439-B
only with \varnothing 32 ... 100

+ = plus stroke length

Z – pulling

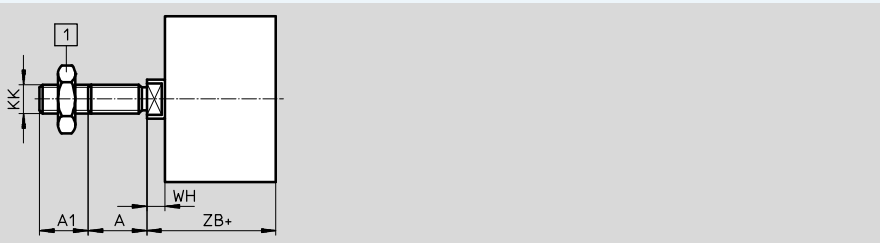


1 Hex nut DIN 439-B
only with \varnothing 32 ... 100

+ = plus stroke length

++ = plus 2x stroke length

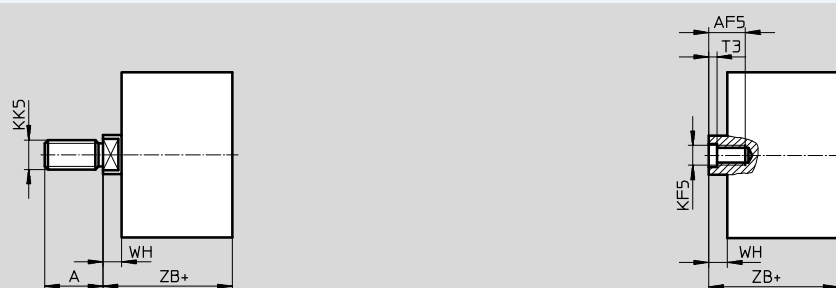
K2 – Extended male piston rod thread



1 Hex nut DIN 439-B
only with \varnothing 32 ... 100

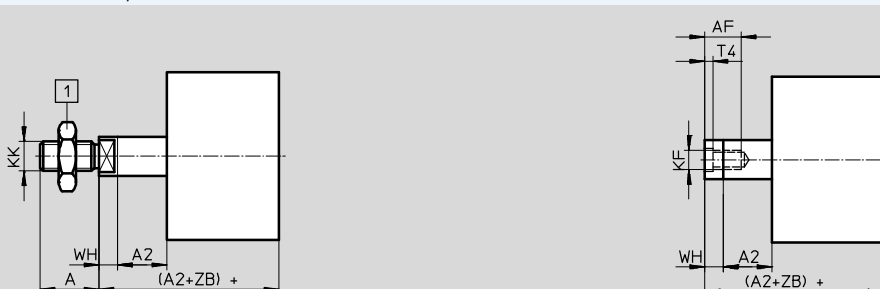
+ = plus stroke length

K5 – Special piston rod thread



+ = plus stroke length

K8 – Extended piston rod



1 Hex nut DIN 439-B
only with \varnothing 32 ... 100

+ = plus stroke length

Compact cylinders AEN, to ISO 21287

Technical data



| ∅ [mm] | A | A1 | A2 | AF | AF5 | KF | KF5 |
|-----------|------|----------|-----------|------|----------|-----------|-----|
| | -0.5 | | | min. | min. | | |
| 12 | 10 | 1 ... 10 | 1 ... 300 | 8 | - | M3 | - |
| 16 | 12 | | | 10 | | M4 | |
| 20 | 16 | 1 ... 20 | | 14 | 12 | M6 | M5 |
| 25 | | | 19 | 16 | 14 | M8 | M6 |
| 32 | 22 | | | 20 | 16 | M10 | M8 |
| 40 | | | 28 | | 1 ... 30 | 1 ... 500 | 20 |
| 50 | | | | | | | |
| 63 | | | | | | | |
| 80 | | | | | | | |
| 100 | | | | | | | |

| ∅ [mm] | KK | KK5 | T3 | T4 | WH | ZB |
|-----------|----------|----------------|-----|-----|------|------|
| | | | | | +1.3 | +1.2 |
| 12 | M5 | M6 | - | 1.5 | 4.2 | 39.2 |
| 16 | M6 | M8 | | | 4.7 | 39.7 |
| 20 | M8 | M10x1.25 | 2 | 2.6 | 5.5 | 42.5 |
| 25 | | M10 | | | | 44.5 |
| 32 | M10x1.25 | M10 | 2.6 | 3.3 | 6 | 50 |
| 40 | | M12 | | | 6.1 | 51.1 |
| 50 | M12x1.25 | M12 | 3.3 | 4.7 | 8.2 | 53.2 |
| 63 | | M16 | | | 8.1 | 57.1 |
| 80 | M16x1.5 | M16 | 4.7 | 6.1 | 8.9 | 62.9 |
| 100 | | M20x1.5 M20 | | | 9 | 76 |

Compact cylinders AEN, to ISO 21287

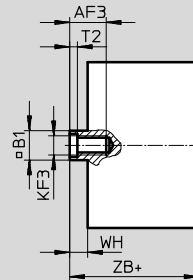
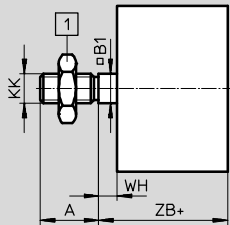
Technical data

FESTO

Dimensions – Variants

Download CAD data → www.festo.com

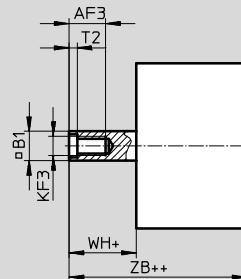
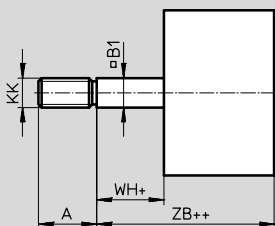
Q – Square piston rod



1 Hex nut DIN 439-B
only with $\varnothing 32 \dots 100$

+ = plus stroke length

Q – Z – pulling

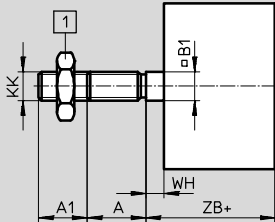


1 Hex nut DIN 439-B
only with $\varnothing 32 \dots 100$

+ = plus stroke length

++ = plus 2x stroke length

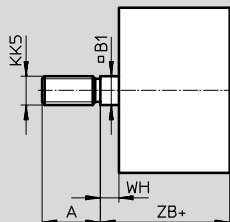
Q-K2 – Square piston rod with extended male thread



1 Hex nut DIN 439-B
only with $\varnothing 32 \dots 100$

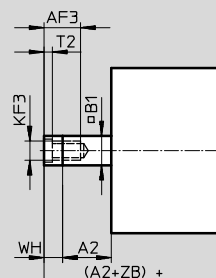
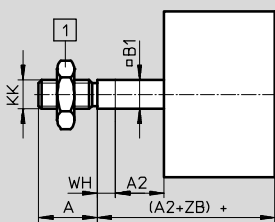
+ = plus stroke length

Q-K5 – Square, special piston rod thread



+ = plus stroke length

Q-K8 – Square, extended piston rod



1 Hex nut DIN 439-B
only with $\varnothing 32 \dots 100$

+ = plus stroke length

Compact cylinders AEN, to ISO 21287

Technical data

| ∅ | A | A1 | A2 | AF3 | B1 □ | KF3 |
|------|------|----------|-----------|-----------|---------|-----|
| [mm] | -0.5 | | | min. | | |
| 16 | 12 | 1 ... 10 | 1 ... 300 | 10 | 7 | M4 |
| 20 | 16 | 1 ... 20 | | 12 | 9 | M5 |
| 25 | | | 14 | 10 | M6 | |
| 32 | 19 | | 16 | 12 | M8 | |
| 40 | 22 | | 1 ... 30 | 1 ... 500 | 20 | 16 |
| 50 | | | | | | |
| 63 | 28 | | | | | |
| 80 | | | | | | |
| 100 | | | | | | |

| ∅ | KK | KK5 | T2 | WH | ZB |
|------|----------|----------|-----|------|------|
| [mm] | | | | +1.3 | +1.2 |
| 16 | M6 | M8 | 1.5 | 4.7 | 39.7 |
| 20 | M8 | M10x1.25 | 2 | 5.5 | 42.5 |
| 25 | | M10 | | | 44.5 |
| 32 | M10x1.25 | M10 | 2.6 | 6 | 50 |
| 40 | | | | 6.1 | 51.1 |
| 50 | M12x1.25 | M12 | 3.3 | 8.2 | 53.2 |
| 63 | | | | 8.1 | 57.1 |
| 80 | M16x1.5 | M16 | 4.7 | 8.9 | 62.9 |
| 100 | | | | 9 | 76 |

Compact cylinders AEN, to ISO 21287

Ordering data – Modular products, basic version and variants

| Ordering table | | | | | | | | | |
|--|---|---------------|---|-----------------|-----------------|-----------------|---------------|-----------------|-----|
| Size | 12 | 16 | 20 | 25 | 32 | Condi- tions | Code | Enter code | |
| M Module No. | 536414 | 536415 | 536416 | 536417 | 536418 | | | | |
| Function | Compact cylinder, single-acting, based on ISO 21287 | | | | | | | AEN | AEN |
| Piston Ø [mm] | 12 | 16 | 20 | 25 | 32 | | -... | | |
| Stroke [mm] | 1 ... 10 | 1 ... 25 | | | | | -... | | |
| Type of thread | Male thread | | | | | | -A | | |
| | Female thread | | | | | 1 | -I | | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | | -P | -P | |
| Position sensing | Via proximity sensor | | | | | | -A | -A | |
| O Effective direction of action | Single-acting, pulling | | | | | | -Z | | |
| Male thread extended [mm] | Extended male piston rod thread 1 ... 10 | | 1 ... 20 | | | 2 | -...K2 | | |
| Special piston rod thread | Male thread | M6 | M8 | M10x1.25 M10 | M10x1.25 M10 | M10 M12 | 2 | -“...”K5 | |
| | Female thread | - | - | M5 | M5 | M6 | | | |
| Piston rod extended [mm] | Extended piston rod 1 ... 10 | | 1 ... 25 | | | | -...K8 | | |
| Improved running performance | - | | Smooth anodised aluminium coated piston rod | | | | -K10 | | |
| Temperature resistance | Heat-resistant seals up to max. 120 °C | | | | | | -S6 | | |
| Captive rating plate | Laser etched rating plate | | | | | | -TL | | |

- 1 I** Not with extended male thread K2
- 2 K2, K5** Not with improved running performance K10

- M** Mandatory data
- O** Options

Transfer order code

AEN - - - - **P** - **A**

Compact cylinders AEN, to ISO 21287

Ordering data – Modular products, basic version and variants

| Ordering table | | | | | | | | |
|--|---|---------------|---------------|---------------|---------------|-----------------|---------------|-----------------|
| Size | 40 | 50 | 63 | 80 | 100 | Condi- tions | Code | Enter code |
| M Module No. | 536419 | 536420 | 536421 | 536422 | 536423 | | | |
| Function | Compact cylinder, single-acting, based on ISO 21287 | | | | | | AEN | AEN |
| Piston Ø [mm] | 40 | 50 | 63 | 80 | 100 | | -... | |
| Stroke [mm] | 1 ... 25 | | | | | | -... | |
| Type of thread | Male thread | | | | | | -A | |
| | Female thread | | | | | 1 | -I | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | | -P | -P |
| Position sensing | Via proximity sensor | | | | | | -A | -A |
| O Effective direction of action | Single-acting, pulling | | | | | | -Z | |
| Male thread extended [mm] | Extended male piston rod thread 1 ... 20 | | | 1 ... 30 | | 2 | -...K2 | |
| Special piston rod thread | Male thread | M10 | M12 | M12 | M16 | M16 | 2 | -“...”K5 |
| | | M12 | M16 | M16 | M20 | M20 | | |
| | Female thread | M6 | M8 | M8 | M10 | M10 | | |
| Piston rod extended [mm] | Extended piston rod 1 ... 25 | | | | | | -...K8 | |
| Improved running performance | Smooth anodised aluminium coated piston rod | | | | | | -K10 | |
| Temperature resistance | Heat-resistant seals up to max. 120 °C | | | | | | -S6 | |
| Captive rating plate | Laser etched rating plate | | | | | | -TL | |

- 1 I** Not with extended male thread K2
- 2 K2, K5** Not with improved running performance K10

- M** Mandatory data
- O** Options

Transfer order code

- - - - - - -

Compact cylinders AEN, to ISO 21287

Ordering data – Modular products, Q – Version with square piston rod, non-rotating

| Ordering table | | | | | | | |
|--|---|-----------------|-----------------|---------------|-----------------|-----------------|---------------|
| Size | 16 | 20 | 25 | 32 | Condi- tions | Code | Enter code |
| M Module No. | 536415 | 536416 | 536417 | 536418 | | | |
| Function | Compact cylinder, single-acting, based on ISO 21287 | | | | | AEN | AEN |
| Piston Ø [mm] | 16 | 20 | 25 | 32 | | -... | |
| Stroke [mm] | 1 ... 25 | | | | | -... | |
| Type of thread | Male thread | | | | | -A | |
| | Female thread | | | | ¹ | -I | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | -P | -P |
| Position sensing | Via proximity sensor | | | | | -A | -A |
| O Effective direction of action | Single-acting, pulling | | | | | -Z | |
| Protection against torsion | Square piston rod | | | | | -Q | -Q |
| Male thread extended [mm] | Extended male piston rod thread | | | | | | |
| | 1 ... 10 | 1 ... 20 | | | | -...K2 | |
| Special piston rod thread Male thread | M8 | M10x1.25 M10 | M10x1.25 M10 | M10 | | -“...”K5 | |
| Piston rod extended [mm] | Extended piston rod | | | | | | |
| | 1 ... 25 | | | | | -...K8 | |
| Temperature resistance | Heat-resistant seals up to max. 120 °C | | | | | -S6 | |
| Captive rating plate | Laser etched rating plate | | | | | -TL | |

¹ I Not with extended male thread K2

M Mandatory data

O Options

Transfer order code

Compact cylinders AEN, to ISO 21287

Ordering data – Modular products, Q – Version with square piston rod, non-rotating

| Ordering table | | | | | | | | |
|--|---|---------------|---------------|---------------|---------------|-----------------|-----------------|---------------|
| Size | 40 | 50 | 63 | 80 | 100 | Condi- tions | Code | Enter code |
| M Module No. | 536419 | 536420 | 536421 | 536422 | 536423 | | | |
| Function | Compact cylinder, single-acting, based on ISO 21287 | | | | | | AEN | AEN |
| Piston Ø [mm] | 40 | 50 | 63 | 80 | 100 | | -... | |
| Stroke [mm] | 1 ... 25 | | | | | | -... | |
| Type of thread | Male thread | | | | | | -A | |
| | Female thread | | | | | ¹ | -I | |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | | -P | -P |
| Position sensing | Via proximity sensor | | | | | | -A | -A |
| O Effective direction of action | Single-acting, pulling | | | | | | -Z | |
| Protection against torsion | Square piston rod | | | | | | -Q | -Q |
| Male thread extended [mm] | Extended male piston rod thread 1 ... 20 | | | 1 ... 30 | | | ...K2 | |
| Special piston rod thread Male thread | M10 | M12 | M12 | M16 | M16 | | -“...”K5 | |
| Piston rod extended [mm] | Extended piston rod 1 ... 25 | | | | | | -...K8 | |
| Temperature resistance | Heat-resistant seals up to max. 120 °C | | | | | | -S6 | |
| Captive rating plate | Laser etched rating plate | | | | | | -TL | |

¹ | Not with extended male thread K2

M Mandatory data

O Options

Transfer order code

- - **Q** - - - - -

Compact cylinders ADN/AEN, to ISO 21287

Accessories



Foot mounting HNA/HNA-...-R3

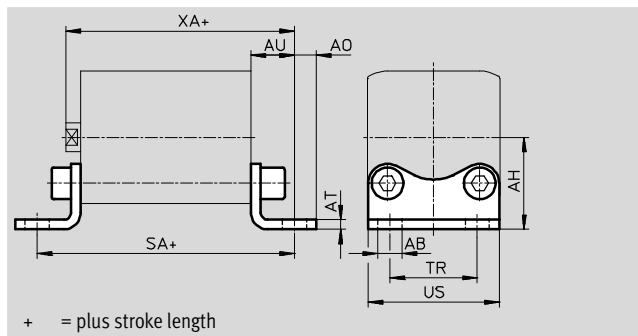
Material:

HNA: Galvanised steel

HNA-...-R3: Steel with protective coating

Free of copper and PTFE

RoHS-compliant



| Dimensions and ordering data | | | | | | | | | | |
|------------------------------|----------------------------|------------|------|-----------------|-----------------|-----|-----------------|--------------|------|------|
| For \varnothing [mm] | AB \varnothing H14 | AH JS14 | A0 | AT ± 0.5 | AU ± 0.2 | SA | TR ± 0.2 | US -0.5 | XA | |
| 12 | 5.8 | 21 | 5 | 3 | 13 | 61 | 16 | 26 | 52.2 | |
| 16 | | 22 | 4.75 | | | | 18 | 27.5 | | |
| 20 | 7 | 27 | 6.25 | 4 | 16 | 69 | 22 | 34.5 | 58.7 | |
| 25 | | 29 | | | | 76 | 26 | 38.5 | | |
| 32 | | 33.5 | 7 | | | 32 | 46 | 66.2 | | |
| 40 | 10 | 38 | 9 | 5 | 21 | 81 | 36 | 54 | 69.2 | |
| 50 | | 45 | 8 | | | 87 | 45 | 64 | | 74.2 |
| 63 | | 50 | | | | 91 | 50 | 75 | | 78.2 |
| 80 | 12 | 63 | 10.5 | 6 | 26 | 106 | 63 | 63 | 89 | |
| 100 | 14.5 | 74 | 12.5 | | | 27 | 121 | 75 | 110 | 103 |

| For \varnothing [mm] | Basic version | | | | R3 – High corrosion protection | | | |
|---------------------------|-------------------|---------------|----------|---------|--------------------------------|---------------|----------|------------|
| | CRC ¹⁾ | Weight [g] | Part No. | Type | CRC ¹⁾ | Weight [g] | Part No. | Type |
| 12 | 1 | 39 | 537237 | HNA-12 | 3 | 39 | 537252 | HNA-12-R3 |
| 16 | 1 | 42 | 537238 | HNA-16 | 3 | 42 | 537253 | HNA-16-R3 |
| 20 | 1 | 84 | 537239 | HNA-20 | 3 | 84 | 537254 | HNA-20-R3 |
| 25 | 1 | 90 | 537240 | HNA-25 | 3 | 90 | 537255 | HNA-25-R3 |
| 32 | 1 | 123 | 537241 | HNA-32 | 3 | 123 | 537256 | HNA-32-R3 |
| 40 | 1 | 157 | 537242 | HNA-40 | 3 | 157 | 537257 | HNA-40-R3 |
| 50 | 1 | 278 | 537243 | HNA-50 | 3 | 278 | 537258 | HNA-50-R3 |
| 63 | 1 | 328 | 537244 | HNA-63 | 3 | 328 | 537259 | HNA-63-R3 |
| 80 | 1 | 634 | 537249 | HNA-80 | 3 | 634 | 537260 | HNA-80-R3 |
| 100 | 1 | 814 | 537250 | HNA-100 | 3 | 814 | 537261 | HNA-100-R3 |

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 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.

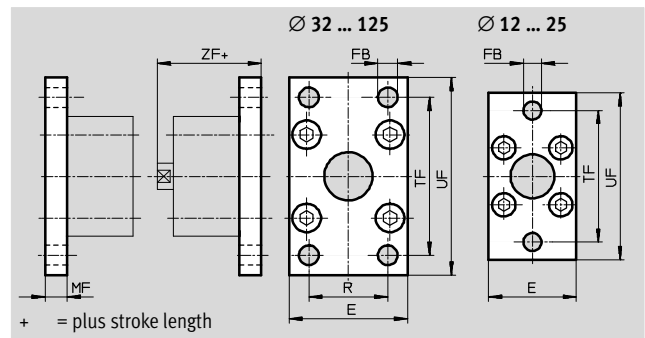
Compact cylinders ADN/AEN, to ISO 21287

Accessories



Flange mounting FNC

Material:
Galvanised steel
Free of copper and PTFE
RoHS-compliant



Dimensions and ordering data

| For Ø | E | FB Ø | MF | R | TF | UF | ZF | CRC ¹⁾ | Weight [g] | Part No. | Type |
|-------|-----|---------|----|----|-----|-----|------|-------------------|---------------|----------|---------|
| [mm] | | | | | | ±1 | | | | | |
| 12 | 28 | 5.5 | 8 | - | 40 | 50 | 47.2 | 1 | 79 | 537245 | FNC-12 |
| 16 | 29 | | | | 43 | 55 | 47.9 | 1 | 88 | 537246 | FNC-16 |
| 20 | 36 | 6.6 | | | 55 | 70 | 50.7 | 1 | 141 | 537247 | FNC-20 |
| 25 | 40 | | | | 60 | 76 | 52.7 | 1 | 165 | 537248 | FNC-25 |
| 32 | 45 | 7 | 10 | 32 | 64 | 80 | 60.2 | 1 | 221 | ★ 174376 | FNC-32 |
| 40 | 54 | 9 | | 36 | 72 | 90 | 61.2 | 1 | 291 | ★ 174377 | FNC-40 |
| 50 | 65 | | 12 | 45 | 90 | 110 | 65.2 | 1 | 536 | ★ 174378 | FNC-50 |
| 63 | 75 | | | 50 | 100 | 120 | 69.2 | 1 | 679 | ★ 174379 | FNC-63 |
| 80 | 93 | 12 | 16 | 63 | 126 | 150 | 79 | 1 | 1495 | ★ 174380 | FNC-80 |
| 100 | 110 | 14 | | 75 | 150 | 175 | 92 | 1 | 2041 | 174381 | FNC-100 |
| 125 | 132 | 16 | 20 | 90 | 180 | 210 | 112 | 1 | 3775 | 174382 | FNC-125 |

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).

Festo core product range

- ★ Ready for dispatch from the Festo factory in 24 hours
- ☆ Ready for dispatch in 5 days maximum from stock

Compact cylinders ADN/AEN, to ISO 21287

Accessories



Swivel flange SNCL/SNCL-...-R3

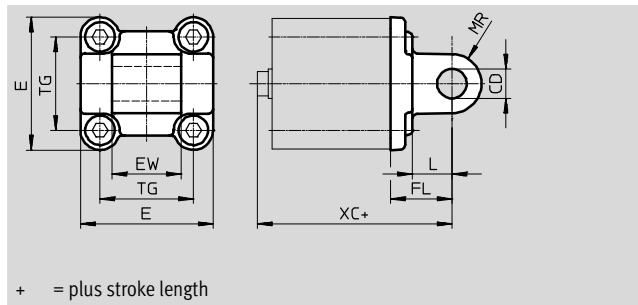
Material:

SNCL: 12 ... 25: Wrought aluminium alloy

SNCL: 32 ... 125: Die-cast aluminium alloy
SNCL-...-R3: Wrought aluminium alloy with protective coating

Free of copper and PTFE

RoHS-compliant



+ = plus stroke length

| Dimensions and ordering data | | | | | | | | |
|------------------------------|---------------------|--------------------------|-------------------------|-----------|----|----|------|------|
| For \varnothing | CD | E | EW | FL | L | MR | TG | XC |
| [mm] | \varnothing H9 | | | ± 0.2 | | | | |
| 12 | 6 | 25 _{-0.6} | 12 _{h12} | 16 | 10 | 6 | 16 | 55.2 |
| 16 | | 27.5 _{-0.6} | | | | | 18 | |
| 20 | 8 | 34.5 _{-0.6} | 16 _{h12} | 20 | 14 | 8 | 22 | 62.7 |
| 25 | | 38.5 _{-0.6} | | | | | 26 | |
| 32 | 10 | 45 ^{+0.2/-0.5} | 26 _{-0.2/-0.6} | 22 | 13 | 10 | 32.5 | 72.2 |
| 40 | 12 | 54 _{-0.5} | 28 _{-0.2/-0.6} | 25 | 16 | 12 | 38 | 75.2 |
| 50 | | 64 _{-0.6} | 32 _{-0.2/-0.6} | 27 | | | 46.5 | 80.2 |
| 63 | 16 | 75 _{-0.6} | 40 _{-0.2/-0.6} | 32 | 21 | 16 | 56.5 | 89.2 |
| 80 | | 93 _{-0.8} | 50 _{-0.2/-0.6} | 36 | | | 72 | 99 |
| 100 | 20 | 110 _{+0.3/-0.8} | 60 _{-0.2/-0.6} | 41 | 27 | 20 | 89 | 117 |
| 125 | 25 | 131 _{-0.8} | 70 _{-0.2/-0.6} | 50 | 30 | 25 | 110 | 142 |

| For \varnothing | Basic version | | | | R3 – High corrosion protection | | | |
|-------------------|-------------------|------------|----------|----------|--------------------------------|------------|----------|------------|
| | CRC ¹⁾ | Weight [g] | Part No. | Type | CRC ¹⁾ | Weight [g] | Part No. | Type |
| [mm] | | | | | | | | |
| 12 | 2 | 20 | 537790 | SNCL-12 | 3 | 20 | 537794 | SNCL-12-R3 |
| 16 | 2 | 21 | 537791 | SNCL-16 | 3 | 21 | 537795 | SNCL-16-R3 |
| 20 | 2 | 38 | 537792 | SNCL-20 | 3 | 38 | 537796 | SNCL-20-R3 |
| 25 | 2 | 41 | 537793 | SNCL-25 | 3 | 41 | 537797 | SNCL-25-R3 |
| 32 | 1 | 71 | ★ 174404 | SNCL-32 | – | – | – | – |
| 40 | 1 | 95 | ★ 174405 | SNCL-40 | – | – | – | – |
| 50 | 1 | 158 | ★ 174406 | SNCL-50 | – | – | – | – |
| 63 | 1 | 225 | ★ 174407 | SNCL-63 | – | – | – | – |
| 80 | 1 | 436 | ★ 174408 | SNCL-80 | – | – | – | – |
| 100 | 1 | 606 | 174409 | SNCL-100 | – | – | – | – |
| 125 | 1 | 1135 | 174410 | SNCL-125 | – | – | – | – |

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 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.

Festo core product range

★ Ready for dispatch from the Festo factory in 24 hours

☆ Ready for dispatch in 5 days maximum from stock

Compact cylinders ADN/AEN, to ISO 21287

Accessories

Swivel flange

SNCS/CRSNCS/SNCS-...-R3

Material:

SNCS 32 ... 50: Die-cast aluminium

SNCS 63 ... 125:

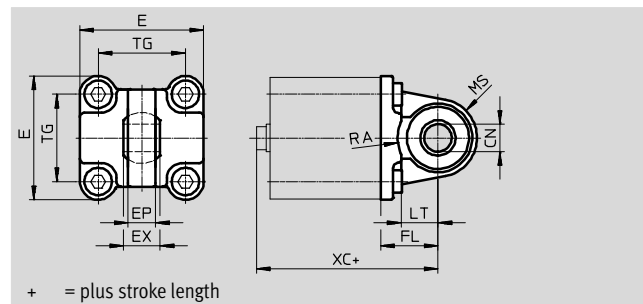
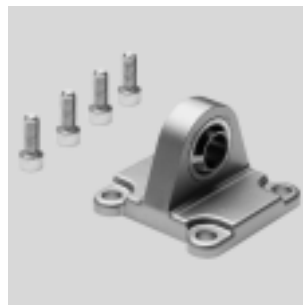
Wrought aluminium alloy

CRSNCS 32 ... 80:

High-alloy stainless steel

SNCS-...-R3: 100 ... 125: Wrought aluminium alloy with protective coating

RoHS-compliant



+ = plus stroke length

| Dimensions and ordering data | | | | | | | |
|------------------------------|----------------------|----------------------------|-------------------------|------------------------|-----------------|----|-----------------|
| For \varnothing [mm] | CN \varnothing | | E | | EP ± 0.2 | EX | FL ± 0.2 |
| | ADN-... | ADN-...-R3 | ADN-... | ADN-...-R3 | | | |
| 32 | 10 ^{+0.013} | 10 ^{+0.015/-0.04} | 45 ^{+0.2/-0.5} | 45 _{-0.5} | 10.5 | 14 | 22 |
| 40 | 12 ^{+0.015} | 12 ^{+0.018/-0.04} | 54 _{-0.5} | 54 _{-0.5} | 12 | 16 | 25 |
| 50 | 16 ^{+0.015} | 16 ^{+0.018/-0.04} | 64 _{-0.6} | 64 _{-0.6} | 15 | 21 | 27 |
| 63 | 16 ^{+0.015} | 16 ^{+0.018/-0.04} | 74,5 ± 0.5 | 75 _{-0.6} | 15 | 21 | 32 |
| 80 | 20 ^{+0.018} | 20 ^{+0.021/-0.04} | 92,2 ± 0.8 | 93 _{-0.8} | 18 | 25 | 36 |
| 100 | 20 ^{+0.018} | 20 ^{+0.021/-0.04} | 109 ^{+1/-0.7} | 109 ^{+1/-0.7} | 18 | 25 | 41 |
| 125 | 30 ^{+0.018} | 30 ^{+0.021/-0.04} | 132 ^{+1/-0.7} | 132 ^{+1/-0.7} | 25 | 37 | 50 |

| For \varnothing [mm] | LT | MS | | RA | | TG | XC |
|---------------------------|----|--------------------|--------------------|---------------|------------------|------|------|
| | | ADN-... | ADN-...-R3 | ADN-... +1 | ADN-...-R3 +1 | | |
| 32 | 13 | 15 ^{+0.5} | 15 ^{+0.5} | 14.5 | 14.5 | 32.5 | 72.2 |
| 40 | 16 | 17 ^{+0.5} | 17 ^{+0.5} | 17.5 | 17.5 | 38 | 75.2 |
| 50 | 16 | 20 ^{+0.5} | 20 ^{+0.5} | 18.5 | 19 | 46.5 | 80.2 |
| 63 | 21 | 23 _{-0.5} | 22 ^{+0.5} | 23 | 23 | 56.5 | 89.2 |
| 80 | 22 | 28 _{-0.5} | 27 ^{+0.5} | 25 | 25 | 72 | 99 |
| 100 | 27 | 30 ± 0.5 | 30 ± 0.5 | 95 | 100 | 89 | 117 |
| 125 | 30 | 39 ± 0.5 | 39 ± 0.5 | 100 | 100 | 110 | 142 |

| For \varnothing [mm] | Basic version | | | | High corrosion protection | | | |
|---------------------------|-------------------|------------|----------|----------|---------------------------|------------|----------|-------------|
| | CRC ¹⁾ | Weight [g] | Part No. | Type | CRC ¹⁾ | Weight [g] | Part No. | Type |
| 32 | 1 | 86 | ★ 174397 | SNCS-32 | 4 | 161 | 2895920 | CRSNCS-32 |
| 40 | 1 | 122 | ★ 174398 | SNCS-40 | 4 | 239 | 2895921 | CRSNCS-40 |
| 50 | 1 | 216 | ★ 174399 | SNCS-50 | 4 | 403 | 2895922 | CRSNCS-50 |
| 63 | 2 | 281 | ★ 174400 | SNCS-63 | 4 | 576 | 2895923 | CRSNCS-63 |
| 80 | 2 | 557 | ★ 174401 | SNCS-80 | 4 | 1173 | 2895924 | CRSNCS-80 |
| 100 | 2 | 683 | 174402 | SNCS-100 | 3 | 684 | 2895925 | SNCS-100-R3 |
| 125 | 2 | 1369 | 174403 | SNCS-125 | 3 | 1369 | 2895926 | SNCS-125-R3 |

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 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.

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.

Festo core product range

★ Ready for dispatch from the Festo factory in 24 hours

☆ Ready for dispatch in 5 days maximum from stock

Compact cylinders ADN/AEN, to ISO 21287

Accessories

Clevis foot LBG/LBG-R3

The clevis foot is secured against rotation with a dowel pin.

Material:

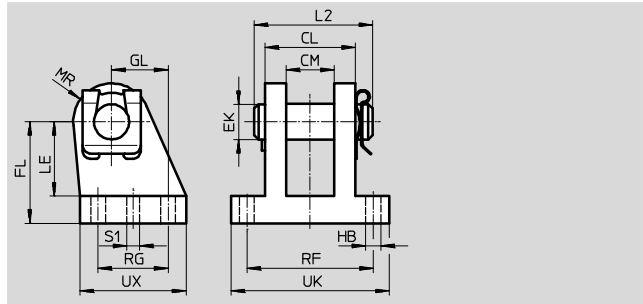
LBG 32 ... 63: Special steel casting

LBG 80 ... 125: Nodular graphite cast iron

LBG-...-R3: High-alloy stainless steel

Free of copper and PTFE

RoHS-compliant



| Dimensions and ordering data | | | | | | | | | | | | | | |
|------------------------------|------|------|----|----|----|-----|----|----|----|-----|----|------|-----|------|
| For Ø | CL | CM | EK | FL | GL | HB | L2 | LE | MR | RF | RG | S1 | UK | UX |
| [mm] | ±0.2 | | Ø | | | Ø | | | | | | Ø | | |
| 32 | 28 | 14.1 | 10 | 32 | 16 | 6.8 | 35 | 24 | 12 | 42 | 20 | 4.8 | 56 | 36 |
| 40 | 30 | 16.1 | 12 | 36 | 20 | 6.8 | 39 | 26 | 14 | 44 | 26 | 5.8 | 58 | 41.5 |
| 50 | 40 | 21.1 | 16 | 45 | 25 | 9.2 | 50 | 33 | 15 | 56 | 31 | 5.8 | 70 | 47 |
| 63 | 40 | 21.1 | 16 | 50 | 25 | 9 | 50 | 38 | 17 | 56 | 31 | 7.8 | 70 | 49 |
| 80 | 50 | 25.1 | 20 | 63 | 30 | 11 | 60 | 49 | 18 | 70 | 36 | 7.8 | 89 | 55 |
| 100 | 50 | 25.1 | 20 | 71 | 41 | 11 | 60 | 56 | 22 | 70 | 46 | 9.8 | 89 | 65 |
| 125 | 80 | 37.2 | 30 | 90 | 60 | 14 | 89 | 70 | 26 | 106 | 70 | 11.8 | 128 | 96 |

| For Ø | Basic version | | | | R3 – High corrosion protection | | | |
|-------|-------------------|--------|--------------|----------------|--------------------------------|--------|----------------|-------------------|
| | CRC ¹⁾ | Weight | Part No. | Type | CRC ¹⁾ | Weight | Part No. | Type |
| [mm] | | [g] | | | | [g] | | |
| 32 | 2 | 220 | 31761 | LBG-32 | 3 | 220 | 2078790 | LBG-32-R3 |
| 40 | 2 | 300 | 31762 | LBG-40 | 3 | 300 | 2078792 | LBG-40-R3 |
| 50 | 2 | 540 | 31763 | LBG-50 | 3 | 540 | 2078794 | LBG-50-R3 |
| 63 | 2 | 580 | 31764 | LBG-63 | 3 | 580 | 2078795 | LBG-63-R3 |
| 80 | 2 | 1050 | 31765 | LBG-80 | 3 | 1050 | 2078797 | LBG-80-R3 |
| 100 | 2 | 1375 | 31766 | LBG-100 | 3 | 1375 | 2078799 | LBG-100-R3 |
| 125 | 2 | 4140 | 31767 | LBG-125 | 3 | 4140 | 2078837 | LBG-125-R3 |

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.

Compact cylinders ADN/AEN, to ISO 21287

Accessories

Multi-position kit DPNA

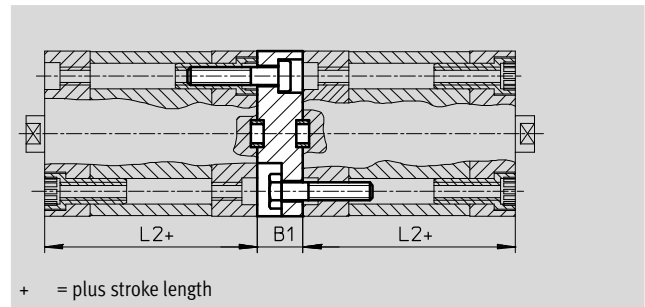
Material:

Flange: Wrought aluminium alloy

Screws: Galvanised steel

Free of copper and PTFE

RoHS-compliant



 Note

The maximum overall stroke length may not be exceeded when combining cylinders and multi-position kits.

| Dimensions and ordering data | | | | | | | |
|------------------------------|----|------|----------------------------|-------------------|--------|----------|----------|
| For Ø | L2 | B1 | Max. overall stroke length | CRC ¹⁾ | Weight | Part No. | Type |
| [mm] | | | [mm] | | [g] | | |
| 12 | 35 | 13 | 600 | 2 | 28 | 537263 | DPNA-12 |
| 16 | | | | | 33 | 537264 | DPNA-16 |
| 20 | | | | | 50 | 537265 | DPNA-20 |
| 25 | | | | | 60 | 537266 | DPNA-25 |
| 32 | 44 | 15 | 800 | | 99 | 537267 | DPNA-32 |
| 40 | 45 | | | | 129 | 537268 | DPNA-40 |
| 50 | | | | | 196 | 537269 | DPNA-50 |
| 63 | 49 | | | | 249 | 537270 | DPNA-63 |
| 80 | 54 | 17 | 1000 | | 474 | 537271 | DPNA-80 |
| 100 | 67 | 19.5 | | | 712 | 537272 | DPNA-100 |

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.

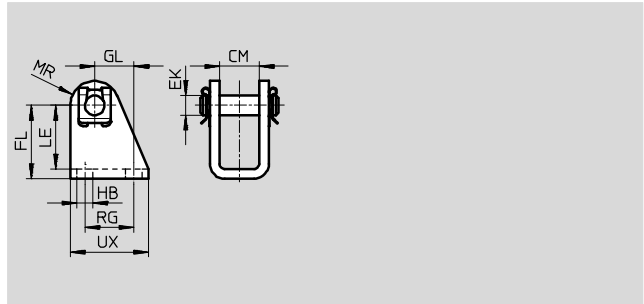
Compact cylinders ADN/AEN, to ISO 21287

FESTO

Accessories

Clevis foot LBN

Material:
Galvanised steel
Free of copper and PTFE
RoHS-compliant

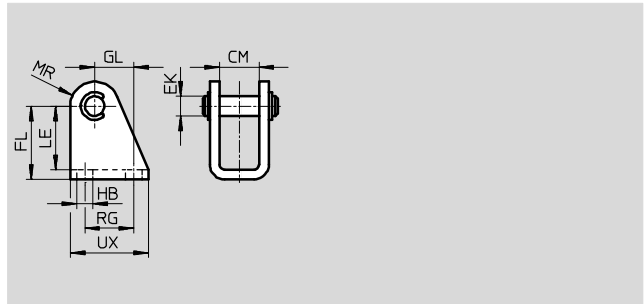


| Dimensions and ordering data | | | | | | | | | | | | | |
|------------------------------|------|---------|--------------|----|---------|----|----|----|----|-------------------|---------------|----------|-----------|
| For Ø | CM | EK Ø | FL | GL | HB Ø | LE | MR | RG | UX | CRC ¹⁾ | Weight [g] | Part No. | Type |
| [mm] | | | | | | | | | | | | | |
| 12/16 | 12.1 | 6 | 27 +0.3/-0.2 | 13 | 5.5 | 24 | 7 | 15 | 25 | 1 | 40 | ★ 6058 | LBN-12/16 |
| 20/25 | 16.1 | 8 | 30 +0.4/-0.2 | 16 | 6.6 | 26 | 10 | 20 | 32 | 1 | 84 | ★ 6059 | LBN-20/25 |

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).

Clevis foot CRLBN, stainless steel

Material:
High-alloy steel
Free of copper and PTFE
RoHS-compliant



| Dimensions and ordering data | | | | | | | | | | | | | |
|------------------------------|------|---------|--------------|----|-----|----|----|----|----|-------------------|---------------|----------|-------------|
| For Ø | CM | EK Ø | FL | GL | HB | LE | MR | RG | UX | CRC ¹⁾ | Weight [g] | Part No. | Type |
| [mm] | | | | | | | | | | | | | |
| 12/16 | 12.1 | 6 | 27 +0.3/-0.2 | 13 | 5.5 | 24 | 7 | 15 | 25 | 4 | 39 | 161862 | CRLBN-12/16 |
| 20/25 | 16.1 | 8 | 30 +0.4/-0.2 | 16 | 6.6 | 26 | 10 | 20 | 32 | 4 | 82 | 161863 | CRLBN-20/25 |

1) 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.

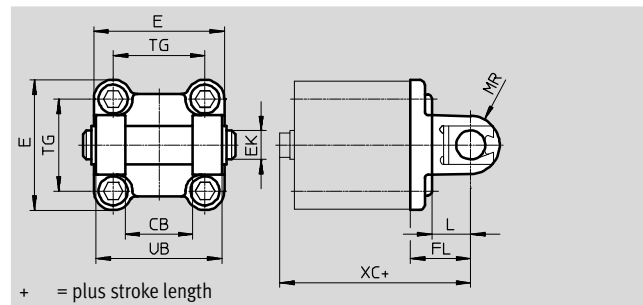
Festo core product range ★ Ready for dispatch from the Festo factory in 24 hours
 ☆ Ready for dispatch in 5 days maximum from stock

Compact cylinders ADN/AEN, to ISO 21287

Accessories

Swivel flange SNCB/SNCB-...-R3

Material:
SNCB: Die-cast aluminium
SNCB-...-R3: Die-cast aluminium with protective coating
Free of copper and PTFE
RoHS-compliant



| Dimensions and ordering data | | | | | | | | | |
|------------------------------|-----|-----------------|---------------------|-----------|----|------|------|-----|-----|
| For \varnothing | CB | E | EK \varnothing | FL | L | MR | TG | UB | XC |
| [mm] | H14 | | H9/e8 | ± 0.2 | | -0.5 | | h14 | |
| 32 | 26 | 45 $+0.2/-0.5$ | 10 | 22 | 13 | 8.5 | 32.5 | 45 | 72 |
| 40 | 28 | 54 -0.5 | 12 | 25 | 16 | 12 | 38 | 52 | 76 |
| 50 | 32 | 64 -0.6 | 12 | 27 | 16 | 12 | 46.5 | 60 | 80 |
| 63 | 40 | 75 -0.6 | 16 | 32 | 21 | 16 | 56.5 | 70 | 89 |
| 80 | 50 | 93 -0.8 | 16 | 36 | 22 | 16 | 72 | 90 | 99 |
| 100 | 60 | 110 $+0.3/-0.8$ | 20 | 41 | 27 | 20 | 89 | 110 | 117 |
| 125 | 70 | 131 -0.8 | 25 | 50 | 30 | 25 | 110 | 130 | 142 |

| For \varnothing [mm] | Basic version | | | | R3 – High corrosion protection | | | |
|---------------------------|-------------------|------------|----------|----------|--------------------------------|------------|----------|-------------|
| | CRC ¹⁾ | Weight [g] | Part No. | Type | CRC ¹⁾ | Weight [g] | Part No. | Type |
| 32 | 1 | 103 | ★ 174390 | SNCB-32 | 3 | 100 | 176944 | SNCB-32-R3 |
| 40 | 1 | 155 | ★ 174391 | SNCB-40 | 3 | 151 | 176945 | SNCB-40-R3 |
| 50 | 1 | 232 | ★ 174392 | SNCB-50 | 3 | 228 | 176946 | SNCB-50-R3 |
| 63 | 1 | 375 | ★ 174393 | SNCB-63 | 3 | 371 | 176947 | SNCB-63-R3 |
| 80 | 1 | 636 | ★ 174394 | SNCB-80 | 3 | 632 | 176948 | SNCB-80-R3 |
| 100 | 1 | 1035 | 174395 | SNCB-100 | 3 | 986 | 176949 | SNCB-100-R3 |
| 125 | 1 | 1860 | 174396 | SNCB-125 | 3 | 1776 | 176950 | SNCB-125-R3 |

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 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.

Festo core product range

- ★ Ready for dispatch from the Festo factory in 24 hours
- ☆ Ready for dispatch in 5 days maximum from stock

Compact cylinders ADN/AEN, to ISO 21287

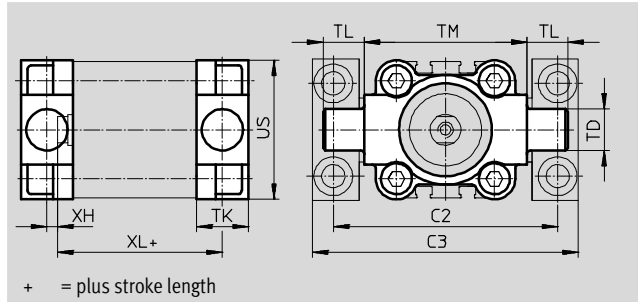
Accessories

FESTO

Trunnion flange ZNCF/CRZNG

Material:

ZNCF: Special steel casting
 CRZNG: Electrolytically polished special steel casting
 Free of copper and PTFE
 RoHS-compliant



Dimensions and ordering data

| For \varnothing | C2 | C3 | TD | TK | TL | TM | US | XH | XL |
|-------------------|-----|-----|---------------------|----|----|-----|-----|----|------|
| [mm] | | | \varnothing e9 | | | | | | |
| 32 | 71 | 86 | 12 | 16 | 12 | 50 | 45 | 2 | 58 |
| 40 | 87 | 105 | 16 | 20 | 16 | 63 | 54 | 4 | 61.1 |
| 50 | 99 | 117 | 16 | 24 | 16 | 75 | 64 | 4 | 64.7 |
| 63 | 116 | 136 | 20 | 24 | 20 | 90 | 75 | 4 | 68.5 |
| 80 | 136 | 156 | 20 | 28 | 20 | 110 | 93 | 5 | 76.9 |
| 100 | 164 | 189 | 25 | 38 | 25 | 132 | 110 | 10 | 95 |
| 125 | 192 | 217 | 25 | 50 | 25 | 160 | 131 | 14 | 117 |

| For \varnothing | Basic version | | | | R3 – High corrosion protection | | | |
|-------------------|-------------------|------------|---------------|-----------------|--------------------------------|------------|---------------|------------------|
| | CRC ¹⁾ | Weight [g] | Part No. | Type | CRC ¹⁾ | Weight [g] | Part No. | Type |
| [mm] | | | | | | | | |
| 32 | 2 | 150 | 174411 | ZNCF-32 | 4 | 150 | 161852 | CRZNG-32 |
| 40 | 2 | 285 | 174412 | ZNCF-40 | 4 | 285 | 161853 | CRZNG-40 |
| 50 | 2 | 473 | 174413 | ZNCF-50 | 4 | 473 | 161854 | CRZNG-50 |
| 63 | 2 | 687 | 174414 | ZNCF-63 | 4 | 687 | 161855 | CRZNG-63 |
| 80 | 2 | 1296 | 174415 | ZNCF-80 | 4 | 1296 | 161856 | CRZNG-80 |
| 100 | 2 | 2254 | 174416 | ZNCF-100 | 4 | 2254 | 161857 | CRZNG-100 |
| 125 | 2 | 3484 | 174417 | ZNCF-125 | 4 | 3484 | 185362 | CRZNG-125 |

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.

Compact cylinders ADN/AEN, to ISO 21287

Accessories

Trunnion support LNZG

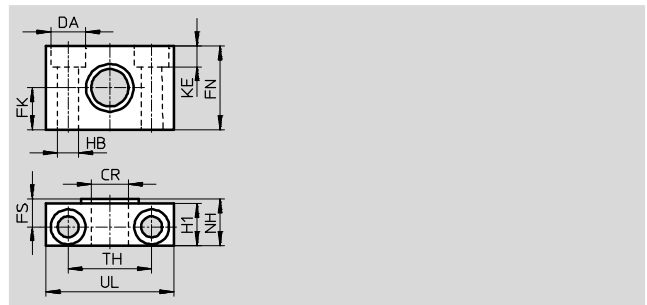
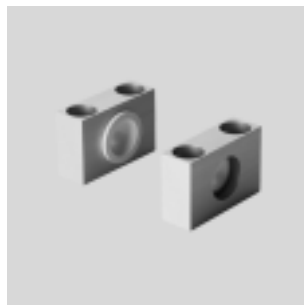
Material:

Trunnion support: Anodised aluminium

Plain bearing: Plastic

Free of copper and PTFE

RoHS-compliant



| Dimensions and ordering data | | | | | | | | | | | | | Weight | Part No. | Type |
|------------------------------|-------------------|-------------------|-------------------------|----|------|------|-------------------|-----|------|-----------|----|-------------------|--------|--------------|---------------------|
| For \varnothing | CR | DA | FK | FN | FS | H1 | HB | KE | NH | TH | UL | CRC ¹⁾ | | | |
| [mm] | \varnothing D11 | \varnothing H13 | \varnothing ± 0.1 | | | | \varnothing H13 | | | ± 0.2 | | | [g] | | |
| 32 | 12 | 11 | 15 | 30 | 10.5 | 15 | 6.6 | 6.8 | 18 | 32 | 46 | 2 | 83 | 32959 | LNZG-32 |
| 40, 50 | 16 | 15 | 18 | 36 | 12 | 18 | 9 | 9 | 21 | 36 | 55 | 2 | 129 | 32960 | LNZG-40/50 |
| 63, 80 | 20 | 18 | 20 | 40 | 13 | 20 | 11 | 11 | 23 | 42 | 65 | 2 | 178 | 32961 | LNZG-63/80 |
| 100, 125 | 25 | 20 | 25 | 50 | 16 | 24.5 | 14 | 13 | 28.5 | 50 | 75 | 2 | 306 | 32962 | LNZG-100/125 |





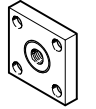
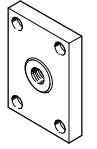

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

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.

Compact cylinders ADN/AEN, to ISO 21287

Accessories

FESTO

| Ordering data – Piston rod attachments | | | | Technical data → Internet: piston-rod attachment | | | |
|---|----------------|----------|-----------------|--|---------------------------|-------------|--------------|
| Designation | For Ø | Part No. | Type | Designation | For Ø | Part No. | Type |
| Rod eye SGS | | | | Rod clevis SGA used in combination with rod eye SGS | | | |
|  | 12 | – | |  | 12, 16, 20, 25 | – | |
| | 16 | ★ 9254 | SGS-M6 | | 32, 40 | 32954 | SGA-M10x1,25 |
| | 20, 25 | ★ 9255 | SGS-M8 | | 50, 63 | 10767 | SGA-M12x1,25 |
| | 32, 40 | ★ 9261 | SGS-M10x1,25 | | 80, 100 | 10768 | SGA-M16x1,25 |
| | 50, 63 | ★ 9262 | SGS-M12x1,25 | | 125 | 10769 | SGA-M20x1,25 |
| | 80, 100 | ★ 9263 | SGS-M16x1,5 | | | | |
| | 125 | ★ 9264 | SGS-M20x1,5 | | | | |
| Rod clevis SG | | | | Self-aligning rod coupler FK | | | |
|  | 12 | – | |  | 12 | 30984 | FK-M5 |
| | 16 | ★ 3110 | SG-M6 | | 16 | ★ 2061 | FK-M6 |
| | 20, 25 | ★ 3111 | SG-M8 | | 20, 25 | ★ 2062 | FK-M8 |
| | 32, 40 | ★ 6144 | SG-M10x1,25 | | 32, 40 | ★ 6140 | FK-M10x1,25 |
| | 50, 63 | ★ 6145 | SG-M12x1,25 | | 50, 63 | ★ 6141 | FK-M12x1,25 |
| | 80, 100 | ★ 6146 | SG-M16x1,5 | | 80, 100 | ★ 6142 | FK-M16x1,5 |
| | 125 | ★ 6147 | SG-M20x1,5 | | 125 | ★ 6143 | FK-M20x1,5 |
| Coupling piece KSG | | | | | Coupling piece KSZ | | |
|  | 12, 16, 20, 25 | – | |  | 12 | – | |
| | 32, 40 | 32963 | KSG-M10x1,25 | | 16 | 36123 | KSZ-M6 |
| | 50, 63 | 32964 | KSG-M12x1,25 | | 20, 25 | 36124 | KSZ-M8 |
| | 80, 100 | 32965 | KSG-M16x1,5 | | 32, 40 | 36125 | KSZ-M10x1,25 |
| | 125 | 32966 | KSG-M20x1,5 | | 50, 63 | 36126 | KSZ-M12x1,25 |
| | | | | | 80, 100 | 36127 | KSZ-M16x1,5 |
| | | | 125 | | 36128 | KSZ-M20x1,5 | |
| Adapter AD | | | | | | | |
|  | 12 | – | | | | | |
| | 16 | 157328 | AD-M6-M5 | | | | |
| | | 157329 | AD-M6-1/8 | | | | |
| | | 157330 | AD-M6-1/4 | | | | |
| | 20 | 157331 | AD-M8-1/8 | | | | |
| | 25 | 157332 | AD-M8-1/4 | | | | |
| | 32 | 157333 | AD-M10x1,25-1/8 | | | | |
| | 40 | 157334 | AD-M10x1,25-1/4 | | | | |
| | 50 | 160256 | AD-M12x1,25-1/4 | | | | |
| | 63 | 160257 | AD-M12x1,25-3/8 | | | | |




Festo core product range

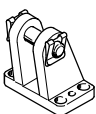
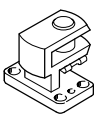
- ★ Ready for dispatch from the Festo factory in 24 hours
- ☆ Ready for dispatch in 5 days maximum from stock

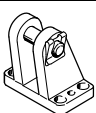
Compact cylinders ADN/AEN, to ISO 21287


Accessories

FESTO

| Ordering data – Corrosion and acid resistant piston rod attachments | | | | Technical data → Internet: crsg | | | |
|---|---------|----------|----------------|---|---------|----------|---------------|
| Designation | For Ø | Part No. | Type | Designation | For Ø | Part No. | Type |
| Rod eye CRSGS | | | | Rod clevis CRSG | | | |
|  | 12 | – | |  | 12 | – | |
| | 16 | 195580 | CRSGS-M6 | | 16, 20 | 13567 | CRSG-M6 |
| | 20, 25 | 195581 | CRSGS-M8 | | 20, 25 | 13568 | CRSG-M8 |
| | 32, 40 | 195582 | CRSGS-M10x1,25 | | 32, 40 | 13569 | CRSG-M10x1,25 |
| | 50, 63 | 195583 | CRSGS-M12x1,25 | | 50, 63 | 13570 | CRSG-M12x1,25 |
| | 80, 100 | 195584 | CRSGS-M16x1,5 | | 80, 100 | 13571 | CRSG-M16x1,5 |
| | 125 | 195585 | CRSGS-M20x1,5 | | 125 | 13572 | CRSG-M20x1,5 |
| Self-aligning rod coupler CRFK | | | | | | | |
|  | 32, 40 | 2305778 | CRFK-M10x1,25 | | | | |
| | 50, 63 | 2305779 | CRFK-M12x1,25 | | | | |
| | 80, 100 | 2490673 | CRFK-M16x1,5 | | | | |
| | 125 | 2545677 | CRFK-M20x1,5 | | | | |

| Ordering data – Mounting attachments | | | | Technical data → Internet: clevis foot | | | |
|--|---------|----------|---------|--|---------|----------|---------|
| Designation | For Ø | Part No. | Type | Designation | For Ø | Part No. | Type |
| Clevis foot LBG for rod eye SGS | | | | Right-angle clevis foot LQG for rod eye SGS | | | |
|  | 32, 40 | 31761 | LBG-32 |  | 32, 40 | 31768 | LQG-32 |
| | 50, 63 | 31762 | LBG-40 | | 50, 63 | 31769 | LQG-40 |
| | 80, 100 | 31763 | LBG-50 | | 80, 100 | 31770 | LQG-50 |
| | | 31764 | LBG-63 | | | 31771 | LQG-63 |
| | 125 | 31765 | LBG-80 | | 125 | 31772 | LQG-80 |
| | | 31766 | LBG-100 | | | 31773 | LQG-100 |

| Ordering data – Mounting attachments, R3 – High corrosion protection | | | | Technical data → Internet: lagerbock | | | | |
|---|---------|----------|------|--------------------------------------|-------|----------|------------|-----------|
| Designation | For Ø | Part No. | Type | Designation | For Ø | Part No. | Type | |
| Clevis foot LBG-R3 for rod eye CRSGS | | | | | | | | |
|  | 32, 40 | | | | | 2078790 | LBG-32-R3 | |
| | 50, 63 | | | | | 2078792 | LBG-40-R3 | |
| | 80, 100 | | | | | | 2078794 | LBG-50-R3 |
| | | | | | | | 2078795 | LBG-63-R3 |
| | 125 | | | | | | 2078797 | LBG-80-R3 |
| | | | | | | 2078799 | LBG-100-R3 | |

| Ordering data – One-way flow control valves | | | | Technical data → Internet: grla | | | | |
|---|-------------------------|-----------------|--------------|---------------------------------|--------|----------------|--------|------------------|
| Designation | Connection | | Material | Part No. | Type | | | |
| | For Ø | For tubing O.D. | | | | | | |
| For exhaust air | | | | | | | | |
|  | 12, 16, 20, 25 | 3 | Metal design | ★ | 193137 | GRLA-M5-QS-3-D | | |
| | | 4 | | | | | 193138 | GRLA-M5-QS-4-D |
| | | 6 | | | | | 193139 | GRLA-M5-QS-6-D |
| | 32, 40, 50, 63, 80, 100 | 3 | | | | | 193142 | GRLA-1/8-QS-3-D |
| | | 4 | | | | | 193143 | GRLA-1/8-QS-4-D |
| | | 6 | | | | | 193144 | GRLA-1/8-QS-6-D |
| | | 8 | | | | | 193145 | GRLA-1/8-QS-8-D |
| | | 6 | | | | | 193146 | GRLA-1/4-QS-6-D |
| | 125 | 8 | | | | | 193147 | GRLA-1/4-QS-8-D |
| | | 10 | | | | | 193148 | GRLA-1/4-QS-10-D |


Festo core product range

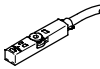
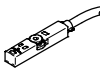
- ★ Ready for dispatch from the Festo factory in 24 hours
- ☆ Ready for dispatch in 5 days maximum from stock

Compact cylinders ADN/AEN, to ISO 21287

Accessories

FESTO

| Ordering data – One-way flow control valves | | | | Technical data → Internet: grlz | |
|---|-------------------------|-----------------|--------------|---------------------------------|-----------------|
| Connection | Material | | Part No. | Type | |
| | For Ø | For tubing O.D. | | | |
| For supply air | | | | | |
|  | 12, 16, 20, 25 | 3 | Metal design | ★ 193153 | GRLZ-M5-QS-3-D |
| | | 4 | | ★ 193154 | GRLZ-M5-QS-4-D |
| | | 6 | | ★ 193155 | GRLZ-M5-QS-6-D |
| | 32, 40, 50, 63, 80, 100 | 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 |
| | 125 | – | | 151195 | GRLZ-1/4-B |

| 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 |

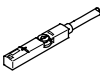


Festo core product range



- ★ Ready for dispatch from the Festo factory in 24 hours
- ☆ Ready for dispatch in 5 days maximum from stock

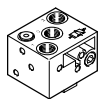
Compact cylinders ADN/AEN, to ISO 21287

Accessories

FESTO

| Ordering data – Proximity sensors for T-slot, magnetic reed | | | | | Technical data → Internet: sme | |
|---|--|---------------|-----------------------|------------------|--------------------------------|-------------------------|
| | 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 | 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 |
| | | | Plug M8x1, 3-pin | 2.5 | ★ 543872 | SME-8M-ZS-24V-K-2,5-OE |
| | | | | 0.3 | ★ 543861 | SME-8M-DS-24V-K-0,3-M8D |
|  | Insertable in the slot lengthwise, flush with the cylinder profile | Contacting | Cable, 3-wire | 2.5 | 150855 | SME-8-K-LED-24 |
| | | | Plug M8x1, 3-pin | 0.3 | 150857 | SME-8-S-LED-24 |
| N/C contact | | | | | | |
|  | Insertable in the slot lengthwise, flush with the cylinder profile | Contacting | Cable, 3-wire | 7.5 | 160251 | SME-8-O-K-LED-24 |

| Ordering data – Connecting cables | | | | Technical data → Internet: nebu | |
|---|-------------------------------|------------------------------|------------------|---------------------------------|----------------------|
| | Electrical connection, left | Electrical connection, right | Cable length [m] | Part No. | Type |
|  | Straight socket, M8x1, 3-pin | Cable, open end, 3-wire | 2.5 | ★ 541333 | NEBU-M8G3-K-2.5-LE3 |
| | | | 5 | ★ 541334 | NEBU-M8G3-K-5-LE3 |
| | Straight socket, M12x1, 5-pin | Cable, open end, 3-wire | 2.5 | ★ 541363 | NEBU-M12G5-K-2.5-LE3 |
| | | | 5 | ★ 541364 | NEBU-M12G5-K-5-LE3 |
|  | Angled socket, M8x1, 3-pin | Cable, open end, 3-wire | 2.5 | ★ 541338 | NEBU-M8W3-K-2.5-LE3 |
| | | | 5 | ★ 541341 | NEBU-M8W3-K-5-LE3 |
| | Angled socket, M12x1, 5-pin | Cable, open end, 3-wire | 2.5 | 541367 | NEBU-M12W5-K-2.5-LE3 |
| | | | 5 | 541370 | NEBU-M12W5-K-5-LE3 |

| Ordering data – Rectangular proximity sensors, pneumatic | | | Technical data → Internet: smpo | |
|---|----------------------|--|---------------------------------|---------|
| | Pneumatic connection | | Part No. | Type |
| 3/2-way valve, normally closed | | | | |
|  | Female thread M5 | | 178563 | SMPO-8E |

| Ordering data – Mounting kits for proximity sensors SMPO-8E | | | Technical data → Internet: smb | |
|---|-------------------|--|--------------------------------|--------|
| | Assembly | | Part No. | Type |
|  | Clamped in T-slot | | 178230 | SMB-8E |

| Ordering data – Slot cover for T-slot | | | | |
|---|-----------------------|----------|----------|---------|
| | Assembly | Length | Part No. | Type |
|  | Insertable from above | 2x 0.5 m | 151680 | ABP-5-S |

Festo core product range

- ★ Ready for dispatch from the Festo factory in 24 hours
- ☆ Ready for dispatch in 5 days maximum from stock

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Switch Actuators](#) category:

Click to view products by [Festo](#) manufacturer:

Other Similar products are found below :

[LW1B-M0](#) [61-1330.0](#) [61-2607.0/D](#) [680-4000-00](#) [704.411.018I](#) [704.412.0](#) [704.633.1](#) [704.730.1](#) [704.733.0](#) [79452124](#) [84-1221.7](#) [G6083](#)
[9PA24](#) [120-1867-000](#) [ADC-418G](#) [12MA7](#) [HW1M-L2222](#) [200-.704-00](#) [JS-10008](#) [JS-10083](#) [JS-10118](#) [JS-10133](#) [JS-116](#) [JS-150](#) [JS-552](#) [JS-555](#) [JS-68](#) [JS-6-B](#) [JS-91](#) [JS-94](#) [22-211.011](#) [9001KXSDC](#) [KRR22NW3XX03](#) [SAPT654133](#) [2PA3](#) [STKLBU](#) [STKLWH](#) [SW53AA2](#) [302561](#)
[3E-10.4](#) [3E-12.0](#) [468-10243-001](#) [51-030.002](#) [51-030.005](#) [JM-13](#) [JS-10120](#) [JS-138-B](#) [JS-143-B](#) [JS-49](#) [JS-551](#)