

Compact cylinders ADN/AEN, to ISO 21287

FESTO



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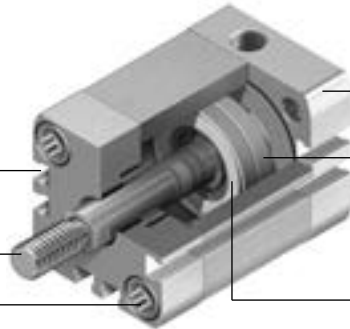
Key features

At a glance

Sensor slots on three sides for flush mounting of proximity switches

Piston rod with choice of male or female thread

Mounting option:
Female thread and through-hole



Centring hole in the end cap suitable for centring pins ZBS

Magnet for contactless position sensing

Integrated cushioning for absorbing residual energy

More than the standard

- The compact cylinders comply with or are based on the ISO 21287 standard, depending on the piston diameter
- The ADN/AEN is characterised by its compact design and wide range of application thanks to the large number of variants
- The variants can be configured using a modular product system

Powerful

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

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 switches

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 partner

Cushioning types

Cushioning P

Cushioning PPS

Operating mode

- The drive is fitted with polymer elastic end-position cushioning

Operating mode

- The drive has self-adjusting, pneumatic end-position cushioning

Application

- Small loads
- Low speeds
- Small cushioning capacity

Application

- Larger loads
- Higher speeds
- Larger cushioning capacity

Advantages

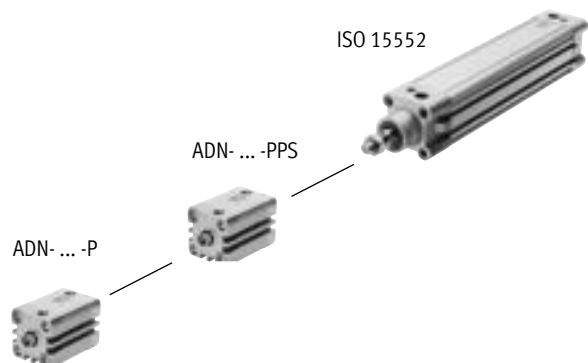
- No adjustment required
- Saves time

Advantages

- No adjustment required
- Cushioning capacity is four times bigger than ADN-...-P
- Saves time
- Reduces noise

Cushioning capacity of ISO 21287 and ISO 15552

The cushioning capacity of the compact cylinder ADN-...-PPS fills the gap between ADN-...-P and standards-based cylinders to ISO 15552.



For manufacturing lithium-ion batteries

ADN-...-F1A

Recommended for production systems for manufacturing lithium-ion batteries. Metals with copper, zinc or nickel as the main constituent are excluded from use. Exceptions are nickel in steels, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils.










Accessories

Please contact your Festo representative for information on which accessories are suitable for manufacturing lithium-ion batteries

Key features

| Variants from the modular product system | | |
|---|---|--|
| Symbol | Key features | Description |
|  | S1 Reinforced piston rod | Increased lateral loads. Absorbs many times more lateral load than a basic cylinder |
|  | S2 Through piston rod | The piston rod can be used for attachment at both ends of the cylinder |
|  | S6 Heat-resistant seals | Temperature resistance up to max. 120°C |
|  | S10 Constant motion (slow speed) at low piston speeds | <ul style="list-style-type: none"> • Break-away pressure: very low • Dynamic response: suitable for very slow, constant and stick-slip-free movements Application example: slow, constant feed motion |
|  | S11 Low friction | <ul style="list-style-type: none"> • Break-away pressure: very low • Dynamic response: especially suitable for slow movements with considerably reduced system friction • Application example: slow applications where standstill is critical |
|  | S20 Through, hollow piston rod | The piston rod can be used for attachment at both ends of the cylinder. The piston rod is hollow inside. This means it can be used to carry vacuum or compressed air |
|  | K2 Extended male piston rod thread | – |
|  | K5 Custom piston rod thread | Metric standard thread to ISO |
|  | K8 Extended piston rod | – |
|  | K10 Smooth anodised aluminium piston rod | Ideal for use in welding environments: <ul style="list-style-type: none"> • Protection against welding spatter • Small moving masses • 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 cylinder is secured in its end position to prevent it from dropping |
|  | Q Square piston rod | Protection against rotation. For position-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 with wiper seal | The cylinder has a hard-chrome-plated piston rod and a hard wiper seal, which protects against dry, dusty media |
|  | TL Captive rating plate | Laser-etched rating plate. Easy to identify spare parts, even after years in a harsh environment |
|  | TT Low temperature | Temperature resistance down to max. -40°C |
|  | F1A Recommended for production plants for manufacturing lithium-ion batteries | Cylinders free of copper, zinc and nickel ($\leq 1\%$) |



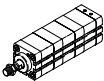
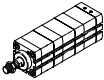
Product range overview

| Function | Version | Type | Piston \varnothing | Stroke | Position sensing | Recommended for production systems for manufacturing lithium-ion batteries | Cushioning | | |
|---|---|--|----------------------|---|------------------|--|------------|-----|----------------------|
| | | | [mm] | [mm] | | | A | F1A | P |
| Double-acting | Basic version | | | | | | | | |
| |  | ADN | 12 | 5, 10, 15, 20, 25, 30, 35, 40, 50, 60 | 1 ... 300 | ■ | ■ | ■ | ■ ∅ 20 ... 100 |
| | | | 16 | 5, 10, 15, 20, 25, 30, 35, 40, 50, 60, 70 | 1 ... 300 | | | | |
| | | | 20 | 5, 10, 15, 20, 25, 30, 35, 40, 50, 60, 70 | 1 ... 300 | | | | |
| | | | 25 | 5, 10, 15, 20, 25, 30, 35, 40, 50, 60, 70, 80 | 1 ... 300 | | | | |
| | | | 32, 40, 50 | 5, 10, 15, 20, 25, 30, 35, 40, 50, 60, 70, 80 | 1 ... 400 | | | | |
| | | | 63 | 10, 15, 20, 25, 30, 35, 40, 50, 60, 70, 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 | | | | |
| | Protected against rotation 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 | | | | | |

Product range overview

| Type | Male piston rod thread | Female piston rod thread | Extended male piston rod thread | Custom 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 | ■ | ■ | ■ | ■ | ■ | ■ from Ø 20 | ■ | ■ | ■ | ■ | ■ from Ø 20 | ■ Ø 20 ... 100 | 13 |
| ADN-...-S2 Through piston rod | ■ | ■ | ■ | ■ | ■ | - | ■ | - | - | - | - | ■ Ø 20 ... 100 | 13 |
| ADN-...-S20 Through, hollow piston rod | ■ | - | ■ | ■ | ■ | - | ■ | - | - | - | - | - | 13 |
| Reinforced piston rod | | | | | | | | | | | | | |
| ADN-...-S1 | ■ | ■ | ■ | ■ | ■ | - | ■ | - | - | ■ | - | - | 13 |
| Protected against rotation 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 | ■ | ■ | ■ | ■ | ■ | - | - | - | - | - | - | - | 44 |
| Standard hole pattern, with end-position locking | | | | | | | | | | | | | |
| ADN-...-EL | ■ | ■ | ■ | ■ | ■ | - | - | - | - | - | - | - | 53 |


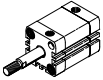

Product range overview

| Function | Version | Type | Piston \varnothing | Stroke | Position sensing | Cushioning | | |
|---|---|------------------------------------|-------------------------|---------------------------------------|------------------|------------|-------|----------------------|
| | | | [mm] | | | [mm] | Fixed | Self-adjusting |
| | | | | | A | P | PPS | |
| Double-acting | Standard hole pattern, non-rotating with yoke | | | | | | | |
| |  | ADNGF | 12 | 5, 10, 15, 20, 25, 30, 40 | 1 ... 200 | ■ | ■ | ■ ∅ 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 | | | |
| | | | 100 | 10, 15, 20, 25, 30, 40, 50, 60, 80 | 5 ... 400 | | | |
| |  | ADNGF-...-S2 Through piston rod | 12, 16 | - | 1 ... 200 | ■ | ■ | ■ ∅ 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 | | | | | | |

Product range overview

| Type | Male piston rod thread | Female piston rod thread | Extended male piston rod thread | Custom 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 |

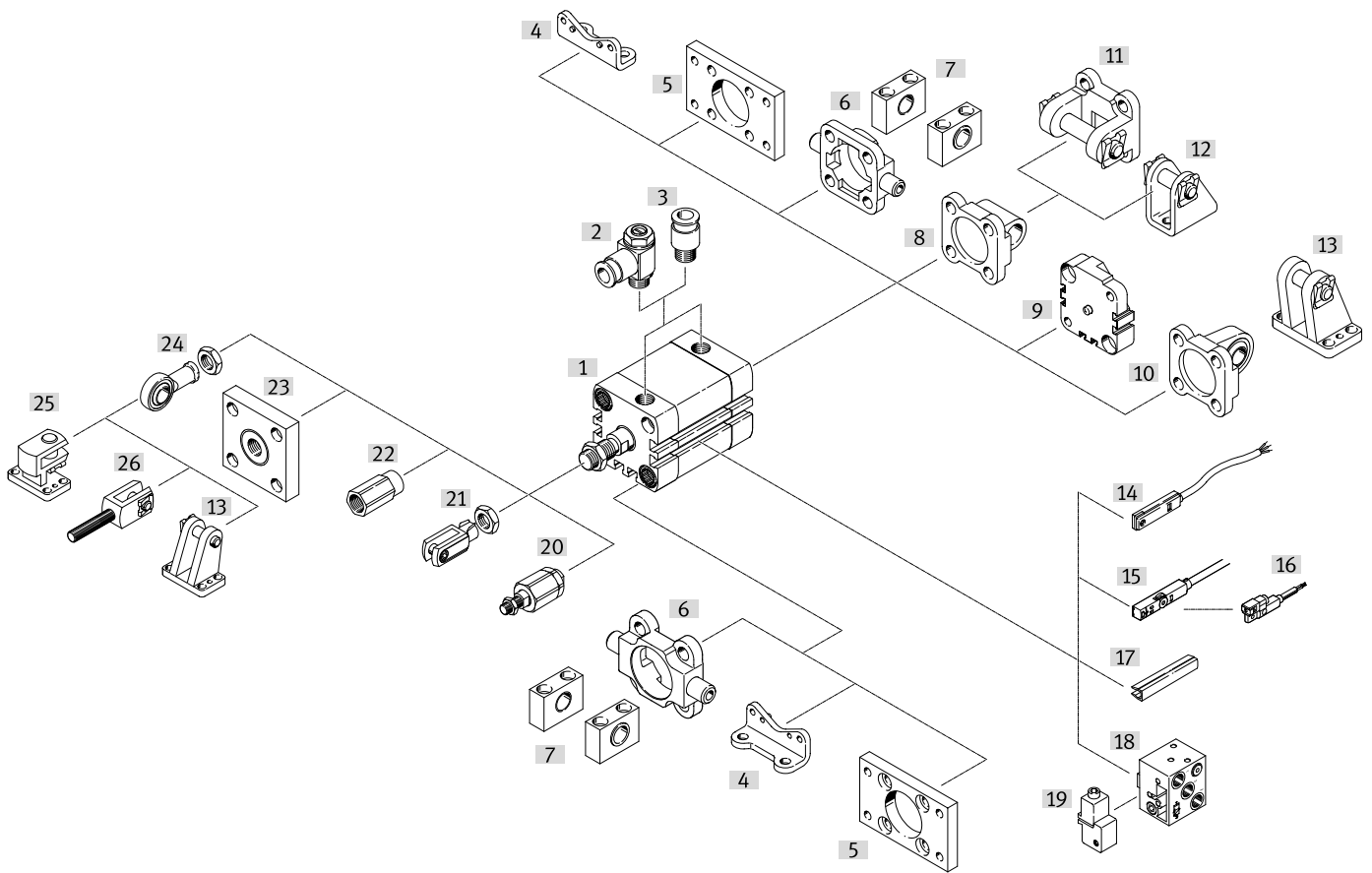
Product range overview

| 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 | | |
| | Protected against rotation with square piston rod | | | | | |
|  | AEN...-Q | 16 | 1 ... 25 | ■ | ■ | |
| | | 20, 25, 32, 40, 50, 63, 80, 100 | 1 ... 25 | | | |

Product range overview

| Type | Male piston rod thread | Female piston rod thread | Extended male piston rod thread | Custom piston rod thread | Extended piston rod | Smooth anodised piston rod | Heat-resistant seals max. 120°C | → Page/Internet |
|--|------------------------|--------------------------|---------------------------------|--------------------------|---------------------|----------------------------|---------------------------------|-----------------|
| | A | I | K2 | K5 | K8 | K10 | S6 | |
| Basic version | | | | | | | | |
| AEN | ■ | ■ | ■ | ■ | ■ | ■ from Ø 20 | ■ | 63 |
| AEN-...-Z Pulling | ■ | ■ | ■ | ■ | ■ | ■ from Ø 20 | ■ | 63 |
| Protected against rotation with square piston rod | | | | | | | | |
| AEN-...-Q | ■ | ■ | ■ | ■ | ■ | - | ■ | 63 |

Peripherals overview



Peripherals overview

| Mounting attachments and accessories | | Description | → Page/Internet |
|--------------------------------------|---|--|-----------------|
| [1] | Compact cylinder ADN | Double-acting cylinder | 13 |
| | Compact cylinder AEN | Single acting cylinder | 63 |
| [2] | One-way flow control valve GRLA/GRLZ | For regulating speed | 89 |
| [3] | Push-in fitting QS | For connecting tubing with standard O.D. | qs |
| [4] | Foot mounting HNA | For bearing or end caps | 78 |
| [5] | Flange mounting FNC | For bearing or end caps | 79 |
| [6] | Trunnion flange ZNCF/CRZNG | For bearing caps | 86 |
| [7] | Trunnion support LNZG | For trunnion flange ZNCF/CRZNG | 87 |
| [8] | Swivel flange SNCL/SNCL-...-R3 | For end caps | 80 |
| [9] | Multi-position kit DPNA | For connecting two cylinders with the same piston diameter to form a multi-position cylinder | 83 |
| [10] | Swivel flange SNCS/CRSNCS/SNCS-...-R3 | For end caps | 81 |
| [11] | Swivel flange SNCB/SNCB-...-R3 | For swivel flange SNCL | 85 |
| [12] | Clevis foot LBN/CRLBN | For swivel flange SNCL | 84 |
| [13] | Clevis foot LBG/LBG-...-R3 | For swivel flange SNCS | 82 |
| [14] | Proximity switch SME-8 | Can be integrated in the cylinder profile barrel | 91 |
| [15] | Proximity switch SME/SMT-8M | Can be integrated in the cylinder profile barrel | 91 |
| [16] | Proximity switch SMT-8G | Inserted into the slot lengthwise | 91 |
| [17] | Slot cover ABP-5-S | For protecting the sensor cables and the sensor slots from contamination | 91 |
| [18] | Proximity switch SMPO-8E | Pneumatic output signal | 91 |
| [19] | Mounting kit SMB-8E | For proximity switch SMPO-8E | 91 |
| [20] | Self-aligning rod coupler FK/CRFK/DARP | To compensate for radial and angular deviations | 88 |
| [21] | Rod clevis SG/CRSG | Permits a swivelling movement of the cylinder in one plane | 88 |
| [22] | Adapters AD | For mounting a suction cup on a hollow piston rod | 88 |
| [23] | Coupling piece KSG/KSZ | To compensate for radial deviations | 88 |
| [24] | Rod eye SGS/CRSGS | With spherical bearing | 88 |
| [25] | Right-angle clevis foot LQG | For rod eye SGS | 89 |
| [26] | Rod clevis SGA | With male thread | 88 |

Type codes

| | | |
|------------|---|--|
| 001 | Series | |
| ADN | Compact cylinder, double-acting, based on ISO 21287 | |

| | | |
|------------|-----------------------------|--|
| 002 | Piston diameter [mm] | |
| 12 | 12 | |
| 16 | 16 | |
| 20 | 20 | |
| 25 | 25 | |
| 32 | 32 | |
| 40 | 40 | |
| 50 | 50 | |
| 63 | 63 | |
| 80 | 80 | |
| 100 | 100 | |
| 125 | 125 | |

| | | |
|------------|--------------------------|--|
| 003 | Stroke range [mm] | |
| ... | 1 ... 500 | |

| | | |
|------------|-------------------------------|--|
| 004 | Piston rod thread type | |
| A | Male thread | |
| I | Female thread | |

| | | |
|------------|---|--|
| 005 | Cushioning | |
| P | Elastic cushioning rings/plates on both sides | |
| PPS | Pneumatic cushioning, self-adjusting at both ends | |

| | | |
|------------|-------------------------|--|
| 006 | Position sensing | |
| A | For proximity sensor | |

| | | |
|------------|--|--|
| 007 | Special material properties | |
| | None | |
| F1A | Recommended for production facilities for the manufacture of lithium-ion batteries | |

| | | |
|------------|------------------------------------|--|
| 008 | Protection against rotation | |
| | None | |
| Q | Square piston rod | |

| | | |
|------------|----------------------------|--|
| 009 | Piston rod type | |
| | At one end | |
| S2 | Through piston rod | |
| S20 | Through, hollow piston rod | |

| | | |
|---------------------|----------------------|--|
| 010 | Custom thread | |
| "M5"K5 | M5 | |
| "M6"K5 | M6 | |
| "M8"K5 | M8 | |
| "M10"K5 | M10 | |
| "M10x1,25"K5 | M10x1.25 | |
| "M12"K5 | M12 | |
| "M16"K5 | M16 | |
| "M20"K5 | M20 | |
| "M20x1,5"K5 | M20x1.5 | |

| | | |
|------------|----------------------------------|--|
| 011 | Temperature range | |
| | Standard | |
| S6 | Heat-resistant seals max. 120 °C | |

| | | |
|------------|------------------------|--|
| 012 | Constant motion | |
| | Standard | |
| S10 | Uniform, slow movement | |

| | | |
|------------|--------------------------------|--|
| 013 | Running characteristics | |
| | Standard | |
| S11 | Low friction | |

| | | |
|------------|---|--|
| 014 | Improved running performance | |
| | None | |
| K10 | Smooth anodised aluminium coated piston rod | |

| | | |
|------------|-----------------------------|--|
| 015 | Corrosion protection | |
| | Standard | |
| R3 | High corrosion protection | |

| | | |
|------------|-----------------------------|--|
| 016 | Captive rating plate | |
| | Rating plate, glued | |
| TL | Laser etched rating plate | |

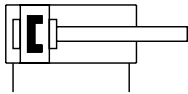
| | | |
|------------|------------------------|--|
| 017 | Low temperature | |
| | None | |
| TT | -40 °C... +80 °C | |

| | | |
|------------|------------------------|--|
| 018 | Scraper variant | |
| | Standard | |
| R8 | Dust protection | |

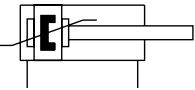
| | | |
|------------|-------------------------|--|
| 019 | EU certification | |
| | None | |
| EX4 | II 2GD | |

Datasheet

Function
Elastic cushioning (P)



PPS cushioning



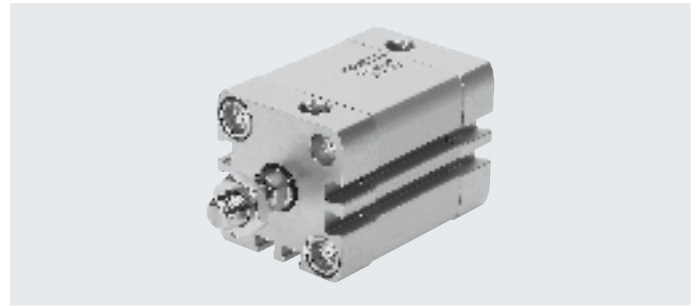
⌀ - Diameter
12 ... 125 mm

— - Stroke length
1 ... 500 mm

Variants → page 3



www.festo.com



| General technical data | | | | | | | | | | | | |
|------------------------|---|----|-----------------------|----|----|----|----|-----|----|-----|--------------------|--|
| Piston ⌀ | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 | |
| Standard | Based on ISO 21287 | | Conforms to ISO 21287 | | | | | | | | Based on ISO 21287 | |
| Design | Piston | | | | | | | | | | | |
| | Piston rod | | | | | | | | | | | |
| | Cylinder barrel | | | | | | | | | | | |
| Operating mode | Double-acting | | | | | | | | | | | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | | | | | | | |
| P | Elastic 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 switch | | | | | | | | | | | |
| Type of mounting | With through-hole | | | | | | | | | | | |
| | With 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 |

Datasheet

| 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 | – | G1/8 | – | G1/8 | – | | | | | | |
| 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 to ISO 8573-1:2010 [7:4:4] | | | | | | | | | | |
| Note on the operating/ pilot medium | Lubricated operation possible (in which case lubrication will always be required) | | | | | | | | | | |
| Operating pressure | | | | | | | | | | | |
| in [MPa] | | | | | | | | | | | |
| – | 0.1 ... 1 | | 0.06 ... 1 | | | | | | | | |
| PPS | – | | 0.15 ... 1 | | | 0.1 ... 1 | | | – | | |
| Q | 0.15 ... 1 | | 0.1 ... 1 | | | | | | | | |
| Q-S6 | 0.15 ... 0.6 | | 0.1 ... 0.6 | | | | | | | | |
| S1 | – | | 0.1 ... 1 | – | 0.1 ... 1 | – | 0.1 ... 1 | – | 0.1 ... 1 | – | |
| S2, S20 | 0.15 ... 1 | | 0.12 ... 1 | | 0.1 ... 1 | | | 0.08 ... 1 | | | |
| S6 | 0.1 ... 1 | | 0.06 ... 1 | | | | | | | | |
| S11 | 0.045 ... 1 | | | | 0.025 ... 1 | | | | | | |
| R8, TT | – | | 0.15 ... 1 | | | 0.1 ... 1 | | | – | | |
| in [bar] | | | | | | | | | | | |
| – | 1 ... 10 | | 0.6 ... 10 | | | | | | | | |
| PPS | – | | 1.5 ... 10 | | | 1 ... 10 | | | – | | |
| Q | 1.5 ... 10 | | 1 ... 10 | | | | | | | | |
| Q-S6 | 1.5 ... 6 | | 1 ... 6 | | | | | | | | |
| S1 | – | | 1 ... 10 | – | 1 ... 10 | – | 1 ... 10 | – | 1 ... 10 | – | |
| S2, S20 | 1.5 ... 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 | | | | | | | | | | |
| S10, S11 | +5 ... +80 | | | | | | | | | | |
| R3 | –20 ... +80 | | | | | | | | | | |
| TT | – | | –40 ... +80 | | | | | | | | |
| Corrosion resistance class CRC ²⁾ | | | | | | | | | | | |
| – | 2 | | | | | | | | | | |
| R3 | 3 | | | | | | | | | | |
| F1A | 0 | | | | | | | | | | |
| ATEX | Selected types → www.festo.com | | | | | | | | | | |

1) Note operating range of proximity switches

2) More information www.festo.com/x/topic/crc

Datasheet

| 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, S10, S11, TT | 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

These specifications represent the maximum values that can be achieved. The maximum permissible impact energy must be observed.

Permissible impact speed:

$$V = \sqrt{\frac{2 \times E}{m_1 + m_2}}$$

V Permissible impact velocity

E Max. impact energy

m1 Moving mass (drive)

m2 Moving payload

Maximum permissible mass:

$$m_2 = \frac{2 \times E}{v^2} - m_1$$



Note

The maximum impact energy is still maintained in combination with the self-adjusting cushioning PPS

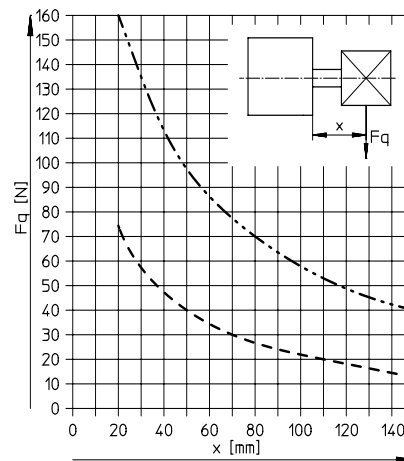
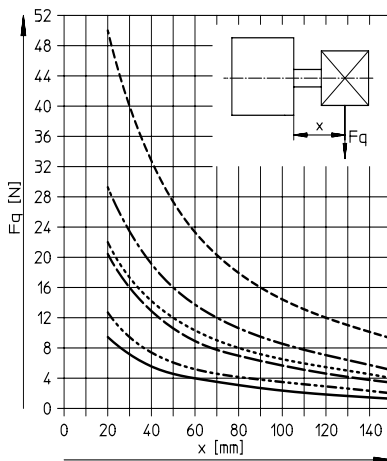
Max. energy conversion capacity [J]

| Piston ø | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
|-------------------------------------|------|-----|----|-----|-----|-----|----|-----|
| For self-adjusting cushioning (PPS) | 0.65 | 0.8 | 1 | 1.7 | 2.8 | 4.8 | 8 | 12 |

Max. lateral force F_q as a function of projection x

ø 12 ... 63

ø 80 ... 125



- ø 12
- · - · - · ø 16
- - - ø 20
- · · · · ø 25
- · - · - · ø 32/40
- - - ø 50/63

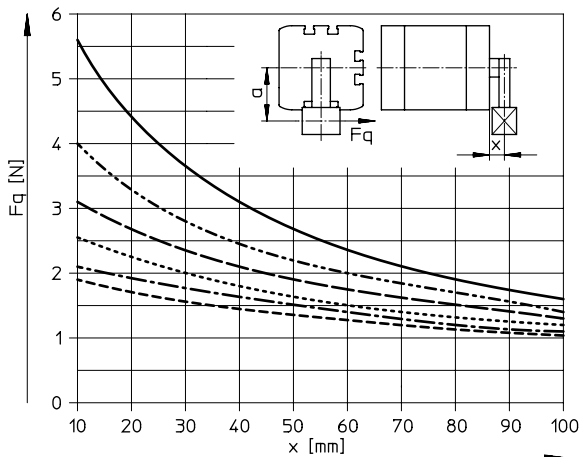
- - - - - ø 80/100
- · - · - · ø 125

Datasheet

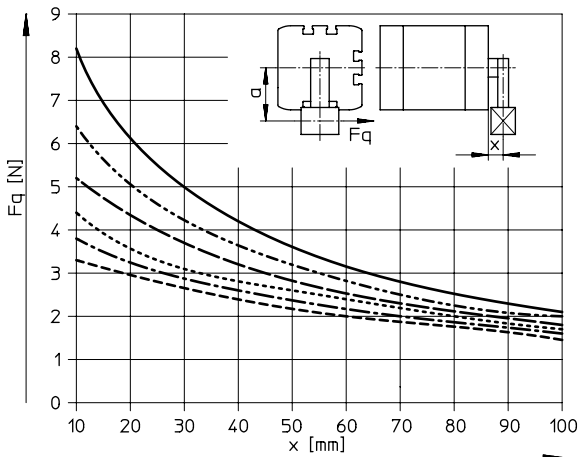
Max. lateral load F_q as a function of projection x and lever arm a

Q – Square piston rod

$\varnothing 12$



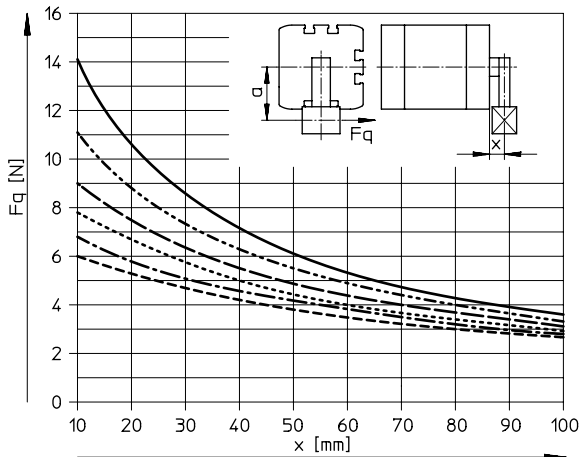
$\varnothing 16$



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

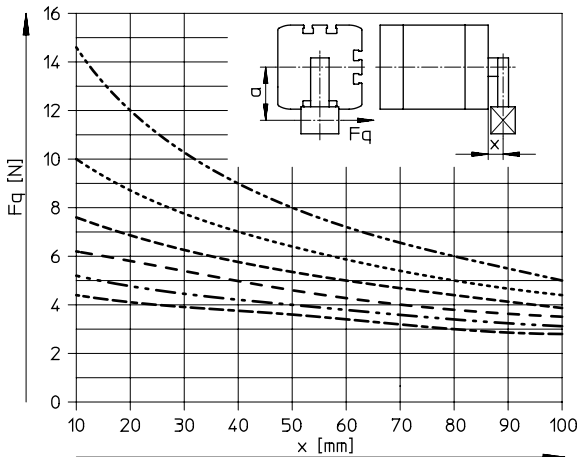
- a = 5 mm
- · - · - a = 10 mm
- - - a = 15 mm
- · · · · a = 20 mm
- · - · - a = 25 mm
- - - a = 30 mm

$\varnothing 20/25$



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

$\varnothing 32/40$



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

Note

• For cantilevers that are larger than those shown in the diagrams, torques on the piston rod must be ruled out.

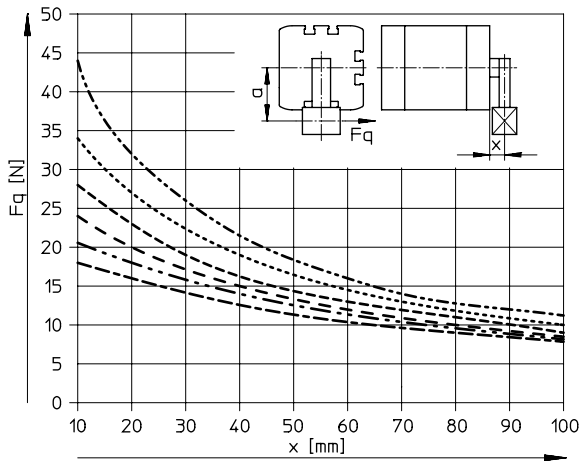
• If $a = 0$, the corresponding lateral load line of the basic version of the ADN can be used (→ page 15).

Datasheet

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

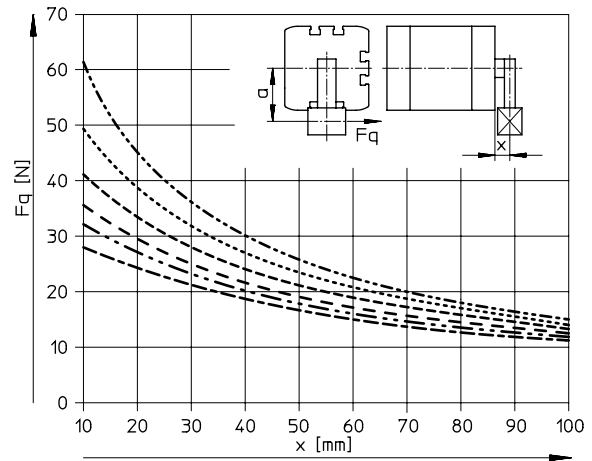
Q – Square piston rod

$\varnothing 50/63$



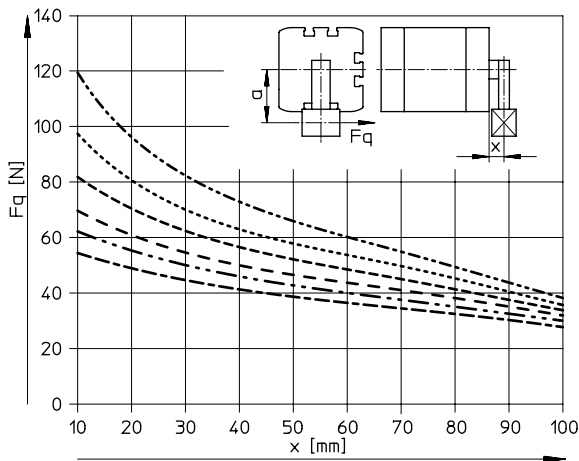
- a = 10 mm
- a = 20 mm
- a = 30 mm
- a = 40 mm
- a = 50 mm
- a = 60 mm

$\varnothing 80/100$



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

$\varnothing 125$



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

Note

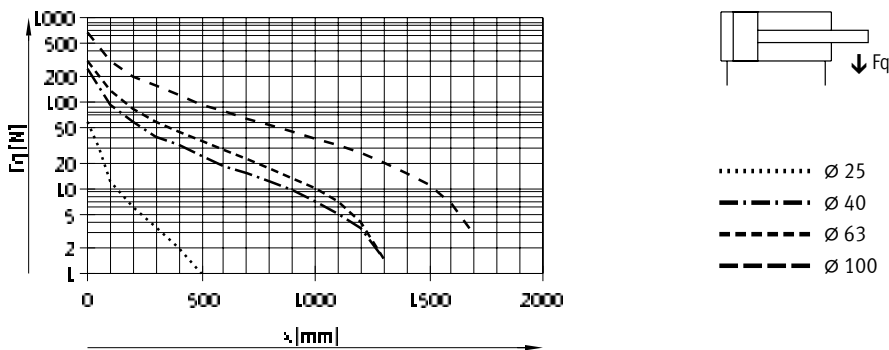
- For cantilevers that are larger than those shown in the diagrams, torques on the piston rod must be ruled out.

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

Datasheet

Max. lateral force F_q as a function of projection x

S1 – Reinforced piston rod



| Weight [g] | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
|------------------------------------|----|----|-----|-----|-----|-----|-----|-----|------|------|------|
| Piston \varnothing | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| ADN-... | | | | | | | | | | | |
| Product weight with 0 mm stroke | 64 | 75 | 128 | 181 | 265 | 361 | 531 | 755 | 1140 | 1741 | 2952 |
| Additional weight per 10 mm stroke | 12 | 14 | 22 | 26 | 29 | 38 | 51 | 60 | 80 | 99 | 116 |
| Moving mass with 0 mm stroke | 11 | 18 | 32 | 41 | 76 | 103 | 164 | 222 | 431 | 595 | 1020 |
| Additional mass per 10 mm stroke | 2 | 4 | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 | 29 |
| ADN-...-I | | | | | | | | | | | |
| Product weight with 0 mm stroke | 62 | 71 | 119 | 172 | 240 | 318 | 489 | 713 | 1012 | 1605 | 2768 |
| Additional weight per 10 mm stroke | 12 | 14 | 22 | 26 | 29 | 38 | 51 | 60 | 80 | 99 | 116 |
| Moving mass with 0 mm stroke | 9 | 14 | 23 | 32 | 51 | 60 | 122 | 180 | 303 | 459 | 836 |
| Additional mass per 10 mm stroke | 2 | 4 | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 | 29 |
| ADN-...-S2 | | | | | | | | | | | |
| Product weight with 0 mm stroke | 68 | 83 | 144 | 200 | 294 | 389 | 582 | 805 | 1220 | 1830 | 3245 |
| Additional weight per 10 mm stroke | 15 | 18 | 29 | 33 | 38 | 47 | 68 | 76 | 105 | 123 | 156 |
| Moving mass with 0 mm stroke | 15 | 26 | 48 | 55 | 105 | 127 | 205 | 265 | 493 | 665 | 1308 |
| Additional mass per 10 mm stroke | 5 | 8 | 13 | 13 | 18 | 18 | 33 | 32 | 50 | 49 | 69 |
| ADN-...-S20 | | | | | | | | | | | |
| Product weight with 0 mm stroke | – | 84 | 140 | 193 | 284 | 377 | 563 | 786 | 1162 | 1771 | 3076 |
| Additional weight per 10 mm stroke | – | 17 | 27 | 31 | 36 | 45 | 62 | 71 | 96 | 115 | 136 |
| Moving mass with 0 mm stroke | – | 22 | 42 | 48 | 96 | 115 | 186 | 245 | 435 | 606 | 1099 |
| Additional mass per 10 mm stroke | – | 7 | 11 | 11 | 16 | 16 | 27 | 27 | 41 | 41 | 49 |
| ADN-...-Q | | | | | | | | | | | |
| Product weight with 0 mm stroke | 65 | 78 | 132 | 180 | 270 | 361 | 537 | 749 | 1144 | 1741 | 2945 |
| Additional weight per 10 mm stroke | 12 | 14 | 22 | 26 | 28 | 37 | 46 | 55 | 75 | 94 | 108 |
| Moving mass with 0 mm stroke | 11 | 17 | 32 | 41 | 73 | – | 153 | 209 | 413 | 575 | 985 |
| Additional mass per 10 mm stroke | 2 | 4 | 6 | 6 | 8 | 8 | 11 | 11 | 20 | 20 | 21 |
| ADN-...-S1 | | | | | | | | | | | |
| Product weight with 0 mm stroke | – | – | – | 183 | – | 394 | – | 886 | – | 2710 | – |
| Additional weight per 10 mm stroke | – | – | – | 26 | – | 44 | – | 68 | – | 136 | – |
| Moving mass with 0 mm stroke | – | – | – | 45 | – | 134 | – | 308 | – | 737 | – |
| Additional mass per 10 mm stroke | – | – | – | 6 | – | 15 | – | 24 | – | 38 | – |
| ADN-...-PPS | | | | | | | | | | | |
| Product weight with 0 mm stroke | – | – | 128 | 173 | 272 | 372 | 547 | 773 | 1162 | 1766 | – |
| Additional weight per 10 mm stroke | – | – | 22 | 26 | 29 | 38 | 51 | 60 | 80 | 99 | – |
| Moving mass with 0 mm stroke | – | – | 33 | 39 | 83 | 114 | 180 | 240 | 453 | 620 | – |
| Additional mass per 10 mm stroke | – | – | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 | – |
| ADN-...-TT/-R8 | | | | | | | | | | | |
| Product weight with 0 mm stroke | – | – | 133 | 181 | 280 | 380 | 561 | 786 | 1167 | 1768 | – |
| Additional weight per 10 mm stroke | – | – | 22 | 26 | 29 | 38 | 51 | 60 | 80 | 99 | – |
| Moving mass with 0 mm stroke | – | – | 35 | 44 | 82 | 109 | 175 | 234 | 447 | 612 | – |
| Additional mass per 10 mm stroke | – | – | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 | – |

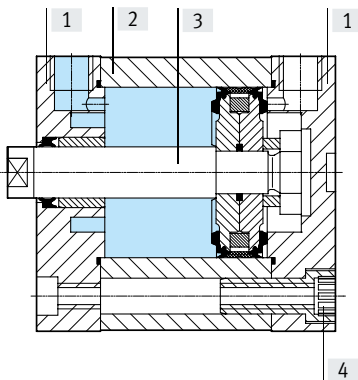
Datasheet

| Weight [g] | | | | | | | | | | | |
|--|----|----|-----|-----|-----|-----|-----|-----|------|------|------|
| Piston ø | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| ADN-...-K10 | | | | | | | | | | | |
| Product weight with 0 mm stroke | – | – | 131 | 183 | 281 | 373 | 562 | 780 | 1158 | 1754 | 2932 |
| Additional weight per 10 mm stroke | – | – | 18 | 22 | 23 | 29 | 40 | 48 | 61 | 80 | 86 |
| Moving mass with 0 mm stroke | – | – | 35 | 43 | 92 | 115 | 195 | 247 | 449 | 608 | 1000 |
| Additional mass per 10 mm stroke | – | – | 2 | 2 | 3 | 0 | 5 | 4 | 6 | 6 | 0 |
| ADN-...-R3 | | | | | | | | | | | |
| Product weight with 0 mm stroke | 64 | 75 | 128 | 181 | 265 | 361 | 531 | 755 | 1301 | 2171 | 2952 |
| Additional weight per 10 mm stroke | 12 | 14 | 22 | 26 | 29 | 38 | 51 | 60 | 80 | 99 | 116 |
| Moving mass with 0 mm stroke | 11 | 18 | 32 | 41 | 76 | 103 | 164 | 222 | 431 | 595 | 1020 |
| Additional mass per 10 mm stroke | 2 | 4 | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 | 29 |
| ADN-...-K8 | | | | | | | | | | | |
| Additional weight and additional mass per 10 mm extended piston rod thread | 2 | 4 | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 | – |
| ADN-...-K2 | | | | | | | | | | | |
| Additional weight and additional mass per 10 mm extended piston rod thread | 2 | 2 | 4 | 4 | 6 | 6 | 9 | 9 | 16 | 16 | – |

Datasheet

Materials

Sectional view



| | | | | | | |
|--------------------------|---|--------------------------------------|------------------|--------------------------------------|--------------------------------------|------------------------------------|
| Compact cylinder | Basic version, Q | R8 | S6, S10, S11 | R3 | K10 | F1A |
| [1] Cover | | | | | | |
| \varnothing 12 ... 63 | Anodised aluminium | | | | | |
| \varnothing 80 ... 125 | Coated die-cast aluminium | | | | | |
| [2] Cylinder barrel | Anodised aluminium | | | | | |
| [3] Piston rod | High-alloy steel | Hard-chrome-plated tempered steel | High-alloy steel | | Anodised aluminium | High-alloy steel |
| [4] Flange screws | | | | | | |
| \varnothing 12 ... 16 | High-alloy steel | | | High-alloy steel | – | Steel, chemically nickel-plated |
| \varnothing 20 ... 63 | Galvanised steel | | | Tempered steel | Galvanised steel | |
| \varnothing 80 ... 125 | Standard screws, galvanised steel | | | Standard screws, high-alloy steel | Standard screws, galvanised steel | |
| – Seals | Polyurethane | | Fluoro rubber | Polyurethane | | Polyurethane |
| Note on materials | | | | | | |
| ADN-... | RoHS-compliant | | | | | |
| | LABS (PWIS) conformity: VDMA24364-B1/B2-L | | | | | |
| \varnothing 12 ... 63 | Cleanroom class: 6 to ISO 14644-1 | | | | | |
| ADN-...S10/11 | Contains paint-wetting impairment substances | | | | | |
| | LABS (PWIS) conformity: VDMA24364-Zone III | | | | | |
| ADN-...F1A | Metals with copper, zinc or nickel as the main constituent are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils. | | | | | |

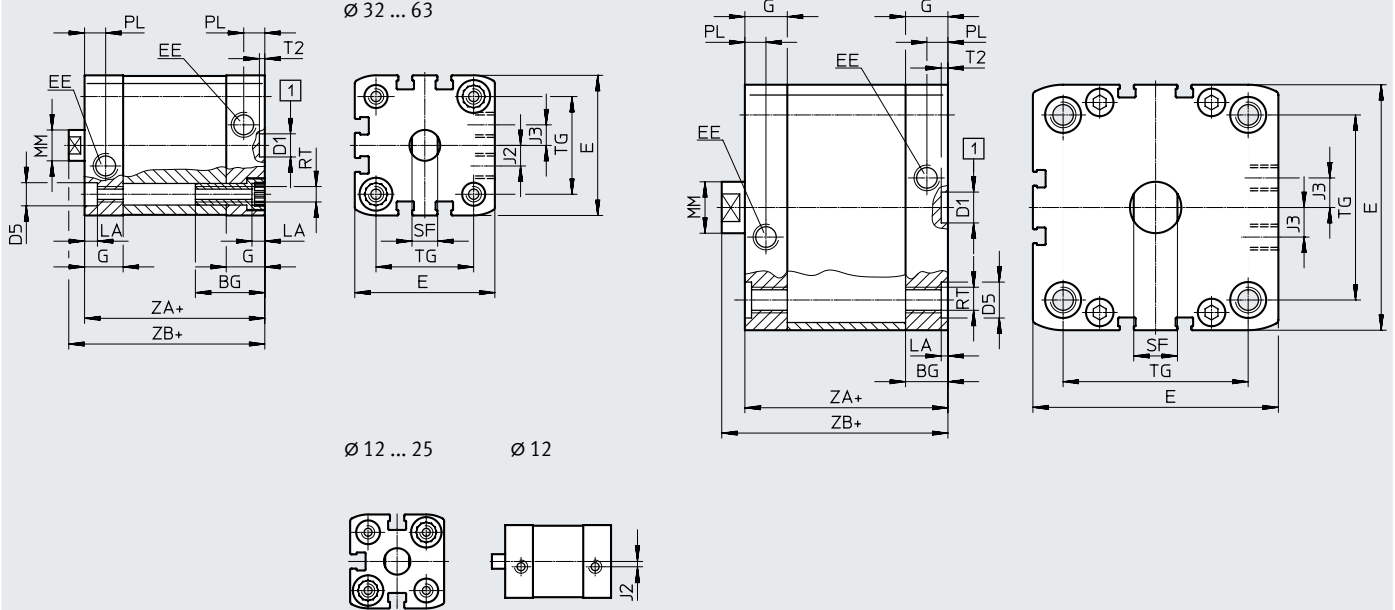
Datasheet

Dimensions – Basic version

Download CAD data → www.festo.com

∅ 12 ... 63

∅ 80 ... 125



+ = plus stroke length
 [1] = Drilled hole for centring pin/sleeve

| ∅ [mm] | BG min. | D1 ∅ H9 | D5 ∅ | E | EE | G | J2 | J3 | PW | |
|-----------|------------|---------------|-----------------------|----------------------|----------------------|-----------------------|-----|------|-----|-----|
| 12 | 17 | 9 | 6 ^{F9} | 27.5 ^{+0.3} | M5 | 10.5 | 2 | - | 3.5 | |
| 16 | | | | 29 ^{+0.3} | | 11 | | | | |
| 20 | | | | 35.5 ^{+0.3} | | 12 | 2.6 | | | |
| 25 | 19.5 | | 9 | 9 ^{F9} | 39.5 ^{+0.3} | G1/8 | 15 | 6 | 8 | 5 |
| 32 | | | | | 47 ^{+0.3} | | | | | |
| 40 | | | | | 54.5 ^{+0.3} | | | | | |
| 50 | 26 | 12 | | 12 ^{F9} | 65.5 ^{+0.3} | G1/8 | 15 | 11.5 | 20 | 2.6 |
| 63 | | | | | 75.5 ^{+0.3} | | | | | |
| 80 | 17 | | | 15 | 15 | | | | | |
| 100 | 21.5 | | 113.5 ^{+0.6} | | | | | | | |
| 125 | 20 | | - | | | 134.6 ^{+0.3} | | | | |

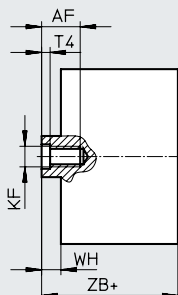
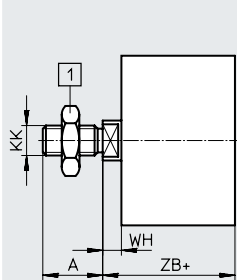
| ∅ [mm] | MM ∅ | PL +0.2 | RT | ST h13 | T2 +0.1 | TG ±0.2 | ZA ±0.6 | ZB +1.2 | PPS +1.3 |
|-----------|---------|------------|------|-----------|------------|------------|------------|------------|-------------|
| 12 | 6 | 6 | M4 | 5 | 2.1 | 16 | 35 | 39.2 | - |
| 16 | 8 | | | 7 | | 18 | | 39.7 | |
| 20 | 10 | | | M5 | | 9 | | 22 | |
| 25 | | | 26 | | | 39 | 44.5 | 45.3 | |
| 32 | | | 12 | | | M6 | 10 | 32.5 | 44 |
| 40 | 8.2 | | | M8 | | | 13 | 38 | 45 |
| 50 | | 46.5 | | | 49 | | 52.7 | 53.2 | |
| 63 | | 16 | 56.5 | | 56.5 | 57 | | | |
| 80 | 20 | M10 | 17 | 2.6 | 72 | 54 | 62.9 | 63.4 | |
| 100 | | | 89 | | 67 | 76 | 76.8 | | |
| 125 | | | 25 | | 110 | 81 | 92 | - | |

Datasheet

Dimensions – Variants

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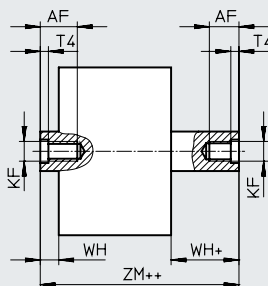
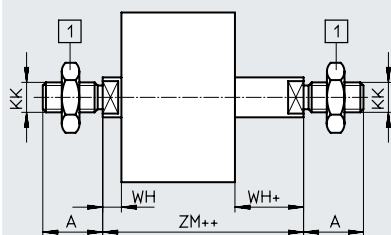
Basic version



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

+ = plus stroke length

S2 – Through piston rod

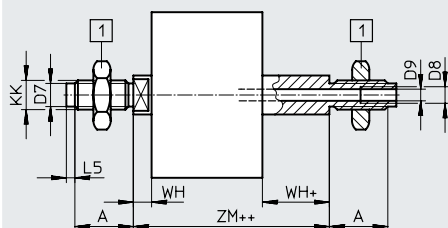


[1] Hex nut DIN 439-B
only with $\varnothing 32 \dots 125$

+ = plus stroke length

++ = plus 2x stroke length

S20 – Through, hollow piston rod

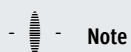
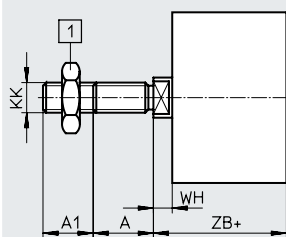


[1] Hex nut DIN 439-B
only with $\varnothing 32 \dots 125$

+ = plus stroke length

++ = plus 2x stroke length

K2 – Extended male piston rod thread



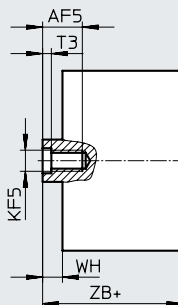
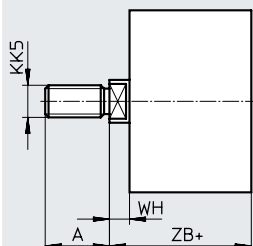
Note

In combination with variants S2/
S20, the piston rod thread is ex-
tended at both ends

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

+ = plus stroke length

K5 – Custom piston rod thread

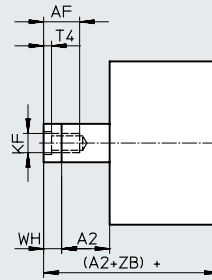
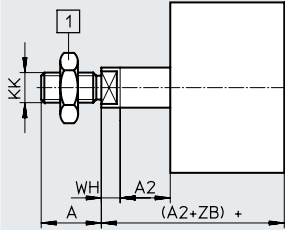


Datasheet

Dimensions – Variants

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K8 – Extended piston rod



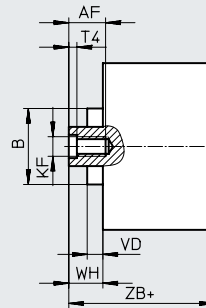
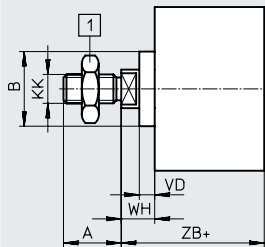
- **Note**

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

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

+ = plus stroke length

R8 – Dust protection / TT – Low temperature



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

+ = plus stroke length

| \varnothing [mm] | A | A1 | A2 | AF | AF5 | B \varnothing | D7 \varnothing | D8 | D9 \varnothing | L5 | KF | KF5 | KK |
|-----------------------|------|----------|-----------|------|------|--------------------|---------------------|------|---------------------|-----|-----|----------|----------|
| | -0.5 | | | min. | min. | | | | | | | | |
| 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 | M10x1.25 |
| 32 | 22 | 1 ... 30 | 1 ... 500 | 20 | 16 | 31 | 10 | 6 | 3.5 | M10 | M8 | M12x1.25 | |
| 40 | | | | | | | | | | | | | 28 |
| 50 | 40 | 1 ... 40 | 1 ... 500 | 25 | - | - | - | G1/4 | 11.7 | - | M16 | - | M20x1.5 |
| 63 | | | | | | | | | | | | | |
| 80 | 40 | 1 ... 40 | 1 ... 500 | 25 | - | - | - | G1/4 | 11.7 | - | M16 | - | M20x1.5 |
| 100 | | | | | | | | | | | | | |
| 125 | 40 | 1 ... 40 | 1 ... 500 | 25 | - | - | - | G1/4 | 11.7 | - | M16 | - | M20x1.5 |

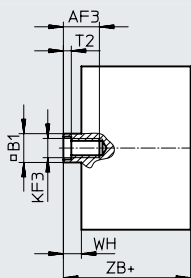
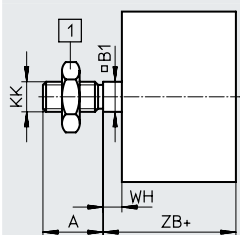
| \varnothing [mm] | KK5 | T3 | T4 | VD | WH | | | ZB | | | ZM | |
|-----------------------|-----------------|-----|-----|-----|------|-------------|---------------|------|-------------|---------------|-----------------------|----------------------|
| | | | | | +1.3 | PPS +1.4 | R8/TT +1.3 | +1.2 | PPS +1.3 | R8/TT +1.2 | | PPS |
| 12 | M6 | - | 1.5 | - | 4.2 | - | - | 39.2 | - | - | 44.5 ^{+0.5} | - |
| 16 | M8 | - | 1.5 | - | 4.7 | - | - | 39.7 | - | - | 45.7 ^{+0.5} | - |
| 20 | M10x1.25 M10 | 2 | 2.6 | 5.2 | 5.5 | 5.5 | 10.5 | 42.5 | 42.5 | 47.5 | 49.5 ^{+0.5} | 49.5 ^{+0.5} |
| 25 | | | | | | | | 44.5 | 45.3 | 49.5 | 51.5 ^{+0.5} | 51.5 ^{+0.5} |
| 32 | M10 M12 | 2.6 | 3.3 | 6.4 | 6 | 6.5 | 12.5 | 50 | 50.6 | 56.5 | 57.5 ^{+0.5} | 58.6 ^{+0.6} |
| 40 | | | | | | | | 51.1 | 51.7 | 57.5 | 58.6 ^{+0.6} | 59.7 ^{+0.7} |
| 50 | M12 | 3.3 | 4.7 | 6.4 | 7.7 | 8.2 | 14.7 | 52.7 | 53.2 | 59.7 | 62.0 ^{+0.6} | 63.1 ^{+0.7} |
| 63 | M16 | | | | | | | 56.5 | 57 | 63.6 | 65.4 ^{+0.6} | 66.5 ^{+0.7} |
| 80 | M16 | 4.7 | 6.1 | 6.4 | 8.9 | 9.4 | 15.4 | 62.9 | 63.4 | 69.4 | 73.2 ^{+0.6} | 74.3 ^{+0.7} |
| 100 | M20x1.5 M20 | | | | | | | 76 | 76.8 | 82.5 | 86.4 ^{+0.6} | 88 ^{+0.7} |
| 125 | M20 | - | 7 | - | 11 | - | - | 92 | - | - | 104.4 ^{+0.6} | - |

Datasheet

Dimensions – Variants

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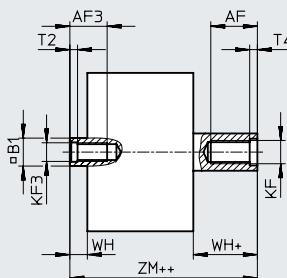
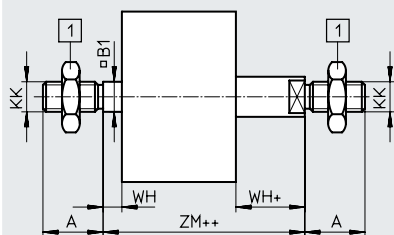
Q – Square piston rod



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

+ = plus stroke length

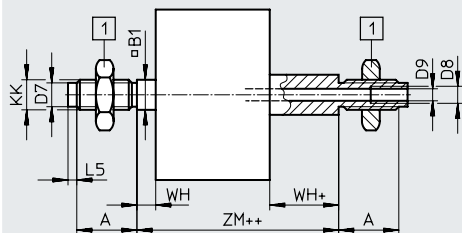
Q-S2 – Square, through piston rod



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

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

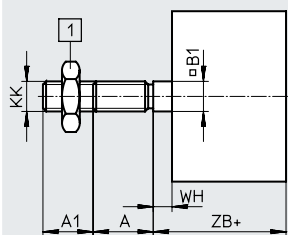
Q-S20 – Square, through, hollow piston rod



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

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

Q-K2 – Square piston rod with extended male thread



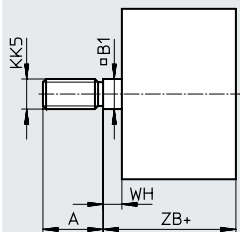
Note

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

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

+ = plus stroke length

Q-K5 – Square piston rod with custom thread



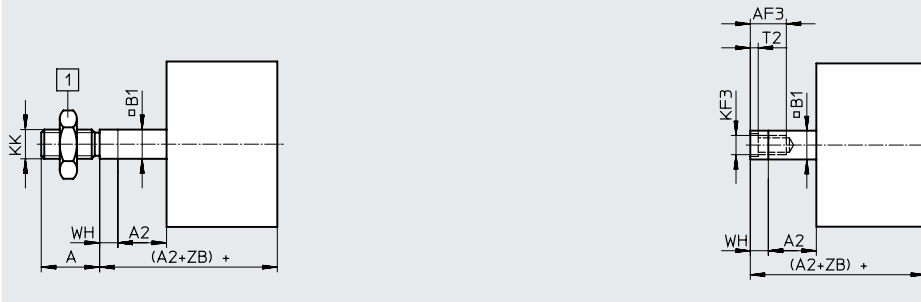
+ = plus stroke length

Datasheet

Dimensions – Variants

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Q-K8 – Square, extended piston rod



-  - **Note**

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

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

+ = 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 | 16 | 14 | 10 | 8 | 4.5 | | | |
| 32 | 19 | 1 ... 400 | 1 ... 500 | 20 | 16 | 12 | 10 | – | 6 | |
| 40 | | | | 20 | 16 | 12 | 10 | | 8 | |
| 50 | | | | 22 | 20 | 16 | 12 | | 10 | 6 |
| 63 | 28 | 1 ... 30 | 1 ... 500 | 20 | 20 | 16 | – | G1/8 | 8 | |
| 80 | | | | 25 | 24 | 20 | | | G1/4 | 11.7 |
| 100 | | | | 40 | 1 ... 40 | 25 | | | | 24 |
| 125 | 40 | 1 ... 40 | 1 ... 500 | 25 | 24 | 20 | – | G1/4 | 11.7 | |

| \varnothing [mm] | L5 | KF | KF3 | KK | KK5 | T2 | T4 | WH +1.3 | ZB +1.2 | ZM |
|-----------------------|-----|-----|-----|----------|-----------------|-----|-----|------------|----------------------|-----------------------|
| 12 | – | M3 | M3 | M5 | M6 | 1.5 | 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 | 2.6 | 5.5 | 42.5 | 49.5 ^{+0.5} |
| 25 | | | | | | | | 44.5 | 51.5 ^{+0.5} | |
| 32 | 3 | M8 | M6 | M10x1.25 | M10 | 2.6 | 3.3 | 6 | 50 | 57.5 ^{+0.5} |
| 40 | | | | | | | | 6.1 | 51.1 | 58.6 ^{+0.6} |
| 50 | | | | | | | | 8.2 | 53.2 | 62.8 ^{+0.6} |
| 63 | 3.5 | M10 | M8 | M12x1.25 | M12 | 3.3 | 4.7 | 8.1 | 57.1 | 66.6 ^{+0.6} |
| 80 | | | | | | | | 8.9 | 62.9 | 73.2 ^{+0.6} |
| 100 | | | | | | | | 9 | 76 | 86.4 ^{+0.6} |
| 125 | – | M16 | M12 | M20x1.5 | M20 | 6.1 | 7 | 11 | 92 | 104.4 ^{+0.6} |

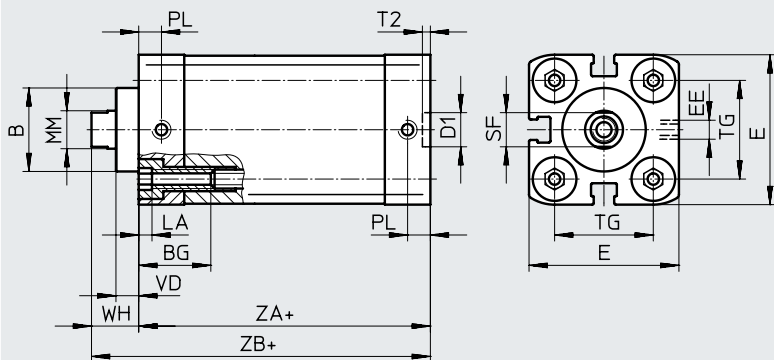
Datasheet

Dimensions – Variants

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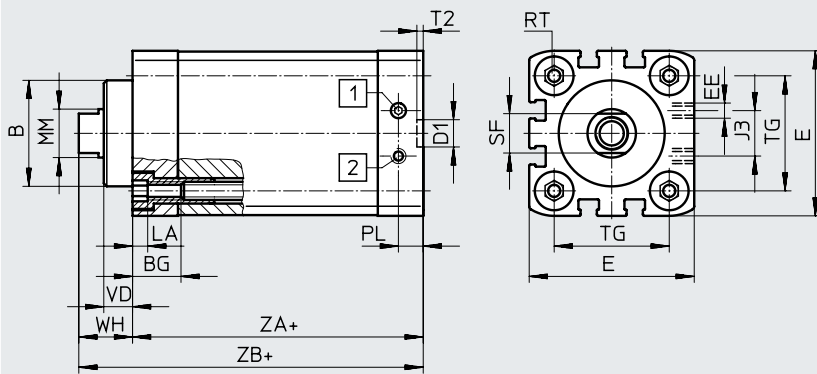
S1 – Reinforced piston rod

∅ 25



+ = plus stroke length

∅ 40 ... 100



- [1] Cylinder advancing
- [2] Cylinder retracting

+ = plus stroke length

| ∅ | B | BG | D1 | E | EE | J3 | PW | 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 |
| 63 | 42 | 17 | 12 | 75.5 ^{+0.3} | G1/8 | 23 | 25 | 20 | 8.2 |
| 100 | 55 | | | 113.5 ^{+0.6} | | | | 40 | 25 |

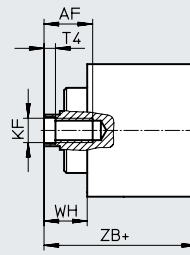
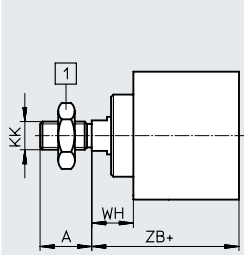
| ∅ | RT | ST | T2 | TG | VD | WH | ZA | ZB |
|------|-----|-----|------|------|------|------|------|------|
| [mm] | | h13 | +0.1 | ±0.2 | | +1.3 | ±0.6 | +1.2 |
| 25 | M5 | 9 | 2.1 | 26 | 6 | 11.8 | 39 | 50.9 |
| 40 | M6 | 13 | | 38 | 9.5 | 18 | 45 | 62.9 |
| 63 | M8 | 17 | 2.6 | 56.5 | 12 | 21 | 49 | 70.2 |
| 100 | M10 | 21 | | 89 | 15.5 | 26.5 | 67 | 93.5 |

Datasheet

Dimensions – Variants

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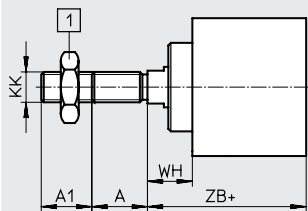
S1 – Reinforced piston rod



[1] Hex nut DIN 439-B
only with $\varnothing 40 \dots 100$

+ = plus stroke length

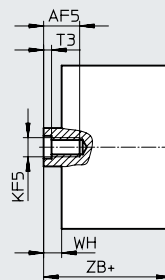
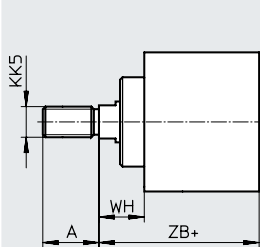
S1-K2 – Reinforced piston rod with extended male piston rod thread



[1] Hex nut DIN 439-B
only with $\varnothing 40 \dots 100$

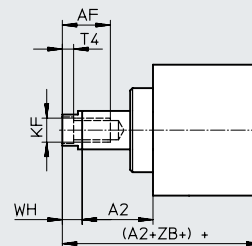
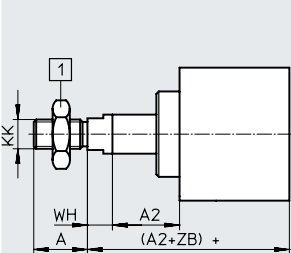
+ = plus stroke length

S1-K5 – Reinforced piston rod with custom piston rod thread



+ = plus stroke length

S1-K8 – Reinforced piston rod with extended piston rod




[1] Hex nut DIN 439-B
only with $\varnothing 40 \dots 100$

+ = plus stroke length

| \varnothing [mm] | A | A1 | A2 | AF | AF5 | KF | KF5 | KK | KK5 | T3 | T4 | WH | ZB |
|-----------------------|----|----------|-----------|----|-----|-----|-----|----------|-----------------|-----|-----|------|------|
| 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 |


Datasheet

★ Core Range

| Ordering data | | Piston ø [mm] | Stroke [mm] | I – Piston rod with female thread P – Elastic cushioning rings/plates at both ends | | A – Piston rod with male thread P – Elastic cushioning rings/plates at both ends | |
|--|----------|------------------|-----------------|---|-----------------|---|--|
| Type | 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 | | |
| 32 | 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 | | |


Datasheet

★ Core Range

| Ordering data | | Piston ø [mm] | Stroke [mm] | I – Piston rod with female thread P – Elastic cushioning rings/plates at both ends | | A – Piston rod with male thread P – Elastic cushioning rings/plates at both ends | |
|---|----------|------------------|-----------------|---|-----------------|---|--|
| Type | 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 | | | |


Datasheet

★ Core Range


| Ordering data | | Piston ø [mm] | Stroke [mm] | I – Piston rod with female thread PPS – Pneumatic cushioning, self-adjusting at both ends | | A – Piston rod with male thread PPS – Pneumatic cushioning, self-adjusting at both ends | |
|--|----------|-------------------|-------------------|--|-------------------|--|--|
| Type | 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 | | | |

Datasheet


★ Core Range

| Ordering data | | Piston ø [mm] | Stroke [mm] | I – Piston rod with female thread PPS – Pneumatic cushioning, self-adjusting at both ends | | A – Piston rod with male thread PPS – Pneumatic cushioning, self-adjusting at both ends | |
|---|----------|-------------------|-------------------|--|-------------------|--|--|
| Type | Part no. | | | Type | Part no. | Type | |
|  | 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 | | | |

Datasheet

| Ordering data Type | Piston ø [mm] | Stroke [mm] | I – Piston rod with female thread P – Elastic cushioning rings/plates at both ends | | A – Piston rod with male thread P – Elastic cushioning rings/plates at both ends | |
|-----------------------|------------------|----------------|---|------------------|---|------------------|
| | | | Part no. | Type | Part no. | Type |
| | | |  | 12 | 35 | 8178328 |
| | | 50 | 8178550 | ADN-12-50-I-P-A | 8178548 | ADN-12-50-A-P-A |
| | | 60 | 604883 | ADN-12-60-I-P-A | 8178549 | ADN-12-60-A-P-A |
| | 16 | 35 | 8178765 | ADN-16-35-I-P-A | 8178762 | ADN-16-35-A-P-A |
| | | 60 | 8178766 | ADN-16-60-I-P-A | 8178763 | ADN-16-60-A-P-A |
| | | 70 | 8178767 | ADN-16-70-I-P-A | 594950 | ADN-16-70-A-P-A |
| | 20 | 35 | 578011 | ADN-20-35-I-P-A | 8178859 | ADN-20-35-A-P-A |
| | | 70 | 8178862 | ADN-20-70-I-P-A | 595275 | ADN-20-70-A-P-A |
| | 25 | 35 | 608920 | ADN-25-35-I-P-A | 574647 | ADN-25-35-A-P-A |
| | | 70 | 8178880 | ADN-25-70-I-P-A | 8178877 | ADN-25-70-A-P-A |
| | | 80 | 578450 | ADN-25-80-I-P-A | 576652 | ADN-25-80-A-P-A |
| | 32 | 35 | 8179019 | ADN-32-35-I-P-A | 576645 | ADN-32-35-A-P-A |
| | | 70 | 8173462 | ADN-32-70-I-P-A | 564092 | ADN-32-70-A-P-A |
| | 40 | 35 | 8179033 | ADN-40-35-I-P-A | 8179031 | ADN-40-35-A-P-A |
| | | 70 | 8179034 | ADN-40-70-I-P-A | 582549 | ADN-40-70-A-P-A |
| | 50 | 35 | 8178619 | ADN-50-35-I-P-A | 8178336 | ADN-50-35-A-P-A |
| | | 70 | 8178338 | ADN-50-70-I-P-A | 572851 | ADN-50-70-A-P-A |
| | 63 | 35 | 8178659 | ADN-63-35-I-P-A | 8178283 | ADN-63-35-A-P-A |
| | | 70 | 8178285 | ADN-63-70-I-P-A | 8178284 | ADN-63-70-A-P-A |
| | 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 |

Datasheet

| Ordering data Type | Piston ø [mm] | Stroke [mm] | I – Piston rod with female thread PPS – Pneumatic cushioning, self-adjusting at both ends | | A – Piston rod with male thread PPS – Pneumatic cushioning, self-adjusting at both ends | |
|-----------------------|------------------|----------------|--|--------------------|--|--------------------|
| | | | Part no. | Type | Part no. | Type |
| | | |  | 20 | 10 | 577158 |
| | | 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 |
| | | 35 | 8178865 | ADN-20-35-I-PPS-A | 8178863 | ADN-20-35-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 |
| | | 70 | 8178866 | ADN-20-70-I-PPS-A | 593451 | ADN-20-70-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 |
| | | 35 | 8178885 | ADN-25-35-I-PPS-A | 8178882 | ADN-25-35-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 |
| | | 70 | 8178886 | ADN-25-70-I-PPS-A | 8178883 | ADN-25-70-A-PPS-A |
| | | 80 | 8178887 | ADN-25-80-I-PPS-A | 8178884 | ADN-25-80-A-PPS-A |
| | 32 | 35 | 8179023 | ADN-32-35-I-PPS-A | 8179021 | ADN-32-35-A-PPS-A |
| | | 70 | 8179024 | ADN-32-70-I-PPS-A | 8179022 | ADN-32-70-A-PPS-A |
| | 40 | 35 | 8179037 | ADN-40-35-I-PPS-A | 8179035 | ADN-40-35-A-PPS-A |
| | | 70 | 8179038 | ADN-40-70-I-PPS-A | 8179036 | ADN-40-70-A-PPS-A |
| | 50 | 35 | 8178620 | ADN-50-35-I-PPS-A | 8178339 | ADN-50-35-A-PPS-A |
| | | 70 | 8178341 | ADN-50-70-I-PPS-A | 8178340 | ADN-50-70-A-PPS-A |
| | 63 | 35 | 609539 | ADN-63-35-I-PPS-A | 610152 | ADN-63-35-A-PPS-A |
| | | 70 | 609538 | ADN-63-70-I-PPS-A | 8178287 | ADN-63-70-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 |

Ordering data – Modular product system, basic version and variants

| Ordering table | | | | | | | | | |
|-------------------|--|---------------|---|---------------|---------------|---------------|------------|------------|------------|
| Size | 12 | 16 | 20 | 25 | 32 | 40 | Conditions | Code | Enter code |
| Module no. | 536203 | 536218 | 536233 | 536250 | 536267 | 536288 | | | |
| Function | Compact cylinder, double-acting | | | | | | | ADN | ADN |
| Standard | Based on ISO 21287 | | Conforms to ISO 21287 | | | | | | |
| Piston Ø [mm] | 12 | 16 | 20 | 25 | 32 | 40 | | ★ -... | |
| Stroke [mm] | 1 ... 300 | | | | 1 ... 400 | | [10] | ★ -... | |
| Piston rod thread | Male thread | | | | | | | ★ -A | |
| | Female thread | | | | | | [1] | ★ -I | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | | | ★ -P | |
| | - | | Pneumatic cushioning, self-adjusting at both ends | | | | [8] | ★ -PPS | |
| Position sensing | Via proximity switch | | | | | | | ★ -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

[10] **Stroke** Minimum stroke 5 mm when combining piston rod thread I and piston rod type S2

Ordering data – Modular product system, basic version and variants

| Ordering table | | | | | | | | | |
|------------------------------|--|----------------------------|--------------------------------------|-------------|-----------|-----------|------------|----------|------------|
| Size | 12 | 16 | 20 | 25 | 32 | 40 | Conditions | Code | Enter code |
| Piston rod type | Through piston rod | | | | | | [2] | ★ -S2 | |
| | - | Through, hollow piston rod | | | | 1 ... 400 | | [2] | -S20 |
| [mm] | 1 ... 300 | | | | | | | | |
| Extended male thread | Extended male piston rod thread | | | | | | | | |
| [mm] | 1 ... 10 | | | 1 ... 20 | | | | -...K2 | |
| Custom piston rod thread | Male thread | M6 | M8 | M10x1.25 | M10x1.25 | M10 | M10 | -“...”K5 | |
| | Female thread | - | - | M5 | M5 | M6 | M6 | | |
| Extended piston rod | Extended piston rod | | | | | | | | |
| [mm] | 1 ... 300 | | | | 1 ... 400 | | [3] | ★ -...K8 | |
| Improved running performance | - | - | Smooth anodised aluminium piston rod | | | | [4] | -K10 | |
| Temperature resistance | Heat-resistant seals 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 | |
| Custom material properties | Without | | | | | | | | |
| | Recommended for production systems for manufacturing lithium-ion batteries | | | | | | [9] | -F1A | |

[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 custom 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

[9] **F1A** Not with S6, S20, K10, R3, TL, TT, R8, PPS

**Note**

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

Ordering data – Modular product system, basic version and variants

| Ordering table | | | | | | | | Enter code |
|-------------------|---|---------------|---------------|---------------|--------------------|------------|------------|------------|
| Size | 50 | 63 | 80 | 100 | 125 | Conditions | Code | |
| Module no. | 536309 | 536330 | 536351 | 536372 | 536393 | | | |
| Function | Compact cylinder, double-acting | | | | | | ADN | ADN |
| Standard | Conforms to ISO 21287 | | | | Based on ISO 21287 | | | |
| Piston ø [mm] | 50 | 63 | 80 | – | – | | ★ -... | |
| | – | – | – | 100 | 125 | | -... | |
| Stroke [mm] | 1 ... 400 | | 1 ... 500 | | | [10] | ★ -... | |
| Piston rod thread | Male thread | | | | | | ★ -A | |
| | Female thread | | | | | | [1] | ★ -I |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | | ★ -P | |
| | Pneumatic cushioning, self-adjusting at both ends | | | | – | | [8] | ★ -PPS |
| Position sensing | Via proximity switch | | | | | | ★ -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

[10] Stroke Minimum stroke 5 mm when combining piston rod thread I and piston rod type S2

Ordering data – Modular product system, basic version and variants

| Ordering table | | | | | | | | Enter code |
|------------------------------|--|------------|------------|-----------------------|-----------------------|------------|----------|------------|
| Size | 50 | 63 | 80 | 100 | 125 | Conditions | Code | |
| Piston rod type | Through piston rod | | | | | [2] | ★ -S2 | |
| | Through, hollow piston rod | | | | | [2] | -S20 | |
| [mm] | 1 ... 400 | | 1 ... 500 | | | | | |
| Extended male thread | Extended male piston rod thread | | | | | | | |
| [mm] | 1 ... 20 | | 1 ... 30 | | 1 ... 40 | | -...K2 | |
| Custom piston rod 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 piston rod | | | | | [4] | -K10 | |
| [mm] | 2 ... 400 | | 5 ... 400 | 5 ... 500 | | | | |
| Temperature resistance | Heat-resistant seals 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 | |
| Custom material properties | Without | | | | | | | |
| | Recommended for production systems for manufacturing lithium-ion batteries | | | | | [9] | -F1A | |

- [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 custom 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
- [9] **F1A** Not with S6, S20, K10, R3, TL, TT, R8, PPS


**Note**

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

Ordering data – Modular product system, S10 – constant motion, S11 – low friction

| Ordering table | | | | | | | | | |
|------------------------------|---|---------------|--------------------------------------|-----------------|-----------------|---------------|------------|---------------|-----------------|
| Size | 12 | 16 | 20 | 25 | 32 | 40 | Conditions | Code | Enter code |
| Module no. | 536203 | 536218 | 536233 | 536250 | 536267 | 536288 | | | |
| Function | Compact cylinder, double-acting | | | | | | | ADN | ADN |
| Standard | Based on ISO 21287 | | Conforms to ISO 21287 | | | | | | |
| 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 | Elastic cushioning rings/pads at both ends | | | | | | | -P | -P |
| Position sensing | Via proximity switch | | | | | | | -A | -A |
| Extended male thread [mm] | Extended male piston rod thread | | | | | | | | |
| | 1 ... 10 | | 1 ... 20 | | | | | -...K2 | |
| Custom piston rod thread | Male thread | M6 | M8 | M10x1.25 M10 | M10x1.25 M10 | M10 M12 | M10 M12 | | -“...”K5 |
| | Female thread | - | - | M5 | M5 | M6 | M6 | | |
| Extended piston rod [mm] | Extended piston rod | | | | 1 ... 300 | | 1 ... 400 | [2] | -...K8 |
| Improved running performance | - | - | Smooth anodised aluminium piston rod | | | | [3] | -K10 | |
| Constant motion [mm] | Slow speed (constant motion at low piston speeds) | | | | | | [4] | -S10 | |
| | Restricted stroke | | | | 20 ... 300 | | 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.

Ordering data – Modular product system, S10 – constant motion, S11 – low friction

| Ordering table | | | | | | | | Enter code |
|-----------------------------------|--|---------------|---------------|---------------|--------------------|------------|-----------------|------------|
| Size | 50 | 63 | 80 | 100 | 125 | Conditions | Code | |
| Module no. | 536309 | 536330 | 536351 | 536372 | 536393 | | | |
| Function | Compact cylinder, double-acting | | | | | | ADN | ADN |
| Standard | Conforms to ISO 21287 | | | | Based on ISO 21287 | | | |
| 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 | Elastic cushioning rings/pads at both ends | | | | | | -P | -P |
| Position sensing | Via proximity switch | | | | | | -A | -A |
| Extended male thread [mm] | Extended male piston rod thread 1 ... 20 | | 1 ... 30 | | 1 ... 40 | | -...K2 | |
| Custom piston rod thread | Male thread | M12 | M12 | M16 | M16 | M20 | -“...”K5 | |
| | | M16 | M16 | M20 | M20 | M20x1.5 | | |
| | Female thread | M8 | M8 | M10 | M10 | - | | |
| Extended piston rod [mm] | Extended piston rod 1 ... 400 | | 1 ... 500 | | | [2] | -...K8 | |
| Improved running performance [mm] | Smooth anodised aluminium piston rod | | | | | [3] | -K10 | |
| | Restricted stroke 2 ... 400 5 ... 400 5 ... 500 | | | | | | | |
| Constant motion [mm] | Slow speed (constant motion at low piston speeds) | | | | | [4] | -S10 | |
| | Restricted stroke 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.

Ordering data – Modular product system, Q – Square piston rod, non-rotating

| Ordering table | | | | | | | | Conditions | Code | Enter code |
|--------------------------------------|--|--|-----------------------|-----------------|---------------|---------------|------|------------|------------|------------|
| Size | 12 | 16 | 20 | 25 | 32 | 40 | | | | |
| Module no. | 536203 | 536218 | 536233 | 536250 | 536267 | 536288 | | | | |
| Function | Compact cylinder, double-acting | | | | | | | | ADN | ADN |
| Standard | Based on ISO 21287 | | Conforms to ISO 21287 | | | | | | | |
| Piston ø [mm] | 12 | 16 | 20 | 25 | 32 | 40 | | ★ -... | | |
| Stroke [mm] | 1 ... 300 | | | | 1 ... 400 | | [10] | ★ -... | | |
| Piston rod thread | Male thread | | | | | | | | ★ -A | |
| | Female thread | | | | | | | [1] | ★ -I | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | | | | ★ -P | -P |
| Position sensing | Via proximity switch | | | | | | | | ★ -A | -A |
| Protection against rotation | Square piston rod | | | | | | | | ★ -Q | -Q |
| Piston rod type | Through piston rod | | | | | | | | ★ -S2 | |
| | - | Through, hollow piston rod Restricted stroke 1 ... 200 | | | | 1 ... 300 | | | -S20 | |
| Extended male thread [mm] | Extended male piston rod thread 1 ... 10 1 ... 20 | | | | | | | | -...K2 | |
| Custom piston rod thread Male thread | M6 | M8 | M10x1.25 M10 | M10x1.25 M10 | M10 | M10 | | -“...”K5 | | |
| Extended piston rod [mm] | Extended piston rod 1 ... 300 | | | | 1 ... 400 | | [2] | ★ -...K8 | | |
| Temperature resistance | Heat-resistant seals 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
- [10] **Stroke** Minimum stroke 5 mm when combining piston rod thread I and piston rod type S2

 **Note**

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

Ordering data – Modular product system, Q – Square piston rod, non-rotating

| Ordering table | | | | | | | | | |
|--------------------------------------|--|---------------|---------------|---------------|--------------------|------------|------------|------------|--|
| Size | 50 | 63 | 80 | 100 | 125 | Conditions | Code | Enter code | |
| Module no. | 536309 | 536330 | 536351 | 536372 | 536393 | | | | |
| Function | Compact cylinder, double-acting | | | | | | ADN | ADN | |
| Standard | Conforms to ISO 21287 | | | | Based on ISO 21287 | | | | |
| 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 | Elastic cushioning rings/pads at both ends | | | | | | ★ -P | -P | |
| Position sensing | Via proximity switch | | | | | | ★ -A | -A | |
| Protection against rotation | Square piston rod | | | | | | ★ -Q | -Q | |
| Piston rod type | Through piston rod | | | | | | ★ -S2 | | |
| | Through, hollow piston rod | | | | | | -S20 | | |
| | Restricted stroke [mm] | 1 ... 300 | | 1 ... 400 | | | | | |
| Extended male thread [mm] | Extended male piston rod thread | | | | | | -...K2 | | |
| Custom piston rod thread Male thread | M12 | M12 | M16 | M16 | M20 | | -“...”K5 | | |
| Extended piston rod [mm] | 1 ... 400 | | 1 ... 500 | | | [2] | ★ -...K8 | | |
| Temperature resistance | Heat-resistant seals 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 K2, K5 or K8.

Ordering data – Modular product system, S1 – Reinforced piston rod

| Ordering table | | | | | | | |
|---------------------------|--|-----------------|-----------------|-----------------|----------------|-----------------|------------|
| Size | 25 | 40 | 63 | 100 | Conditions | Code | Enter code |
| Module no. | 536250 | 536288 | 536330 | 536372 | | | |
| Function | Compact cylinder, double-acting | | | | | ADN | ADN |
| Standard | Conforms to ISO 21287 | | | | | | |
| 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 | Elastic cushioning rings/pads at both ends | | | | | -P | -P |
| Position sensing | Via proximity switch | | | | | -A | -A |
| Extended male thread [mm] | Extended male piston rod thread | | | 1 ... 30 | | -...K2 | |
| | 1 ... 20 | | | | | | |
| Custom piston rod thread | Male thread | M10x1.25 M10 | M10x1.25 M12 | M12x1.25 M16 | M16x1.5 M20 | -“...”K5 | |
| | Female thread | M5 | M8 | M10 | - | | |
| Extended piston rod [mm] | Extended piston rod | | 1 ... 400 | 1 ... 500 | [2] | -...K8 | |
| Temperature resistance | Heat-resistant seals max. 120°C | | | | | -S6 | |
| Increased lateral force | 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

Type codes

| | | |
|-----|---|--|
| 001 | Series | |
| ADN | Compact cylinder, double-acting, based on ISO 21287 | |

| | | |
|-----|-----------------|--|
| 002 | Piston diameter | |
| 20 | 20 | |
| 25 | 25 | |
| 32 | 32 | |
| 40 | 40 | |
| 50 | 50 | |
| 63 | 63 | |
| 80 | 80 | |
| 100 | 100 | |

| | | |
|-----|------------|--|
| 003 | Stroke | |
| ... | 10 ... 500 | |

| | | |
|-----|---------------|--|
| 004 | Clamping unit | |
| KP | Attached | |

| | | |
|-----|------------------------|--|
| 005 | Piston rod thread type | |
| A | Male thread | |
| I | Female thread | |

| | | |
|-----|---|--|
| 006 | Cushioning | |
| P | Elastic cushioning rings/plates on both sides | |

| | | |
|-----|----------------------|--|
| 007 | Position sensing | |
| A | For proximity sensor | |

| | | |
|-------|-----------------------------|--|
| 008 | Piston rod thread extension | |
| | None | |
| ...K2 | 1 ... 30 mm | |

| | | |
|---------------|---------------|--|
| 009 | Custom thread | |
| "M6"K5 | M6 | |
| "M8"K5 | M8 | |
| "M10"K5 | M10 | |
| "M10x-1,25"K5 | M10x1.25 | |
| "M12"K5 | M12 | |
| "M16"K5 | M16 | |
| "M20x-1,5"K5 | M20x1.5 | |
| "M5"K5 | M5 | |
| "M20"K5 | M20 | |

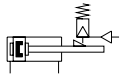
| | | |
|-------|----------------------|--|
| 010 | Piston rod extension | |
| | None | |
| ...K8 | 1 ... 500 mm | |

| | | |
|-----|---------------------------|--|
| 011 | Captive rating plate | |
| | Rating plate, glued | |
| TL | Laser etched rating plate | |

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

Datasheet

Function



Variants



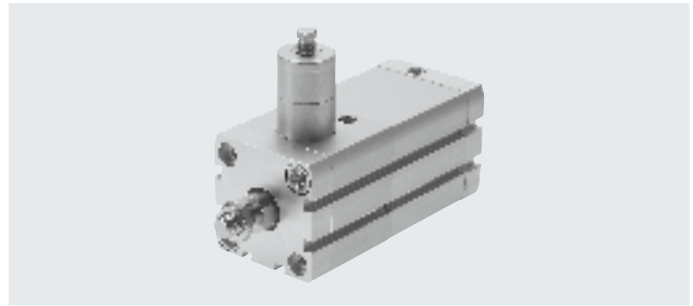
K2



K5



K8



- - Diameter
20 ... 100 mm

- - Stroke length
10 ... 500 mm

Note

If used in safety-oriented applications, additional measures are necessary, e.g. in Europe the standards listed in the EC Machinery Directive must be observed.

Without additional measures in accordance with legally specified minimum requirements, the product is not suitable as a safety-related component in control systems.

General technical data

| Piston \varnothing | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
|--|--|----|----------|------|----------|------|-------------------|------|
| Pneumatic connection | | | | | | | | |
| Cylinders | 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 backlash under load | [mm] 0.5 | | | | 0.8 | | | |
| Design | Piston | | | | | | | |
| | Piston rod | | | | | | | |
| | Cylinder barrel | | | | | | | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | | | |
| Position sensing | Via proximity switch | | | | | | | |
| Type of mounting | With through-hole | | | | | | | |
| | With female thread | | | | | | | |
| | Via accessories | | | | | | | |
| Mounting position | Any | | | | | | | |
| Clamping type with operating direction | At both ends | | | | | | | |

Operating and environmental conditions

| | | |
|--|---|-------------|
| Operating medium | Compressed air to ISO 8573-1:2010 [7:4:4] | |
| Note on the operating/pilot medium | Lubricated operation possible (in which case lubrication will always be required) | |
| Operating pressure | [MPa] | 0.15 ... 1 |
| | [bar] | 1.5 ... 10 |
| Min. release pressure | [MPa] | 0.3 |
| | [bar] | 3 |
| Ambient temperature ¹⁾ | [°C] | -10 ... +80 |
| Corrosion resistance class CRC ²⁾ | 2 | |

1) Note operating range of proximity switches

2) More information www.festo.com/x/topic/crc

Datasheet

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


Note

These specifications represent the maximum values that can be achieved. The maximum permissible impact energy must be observed.

Permissible impact speed:

$$V = \sqrt{\frac{2 \times E}{m_1 + m_2}}$$

V Permissible impact velocity

E Max. impact energy

m1 Moving mass (drive)

m2 Moving payload

Maximum permissible mass:

$$m_2 = \frac{2 \times E}{v^2} - m_1$$

| Forces [N] | | | | | | | | |
|--|-----|-----|-----|------|------|------|------|------|
| Piston \varnothing | 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:

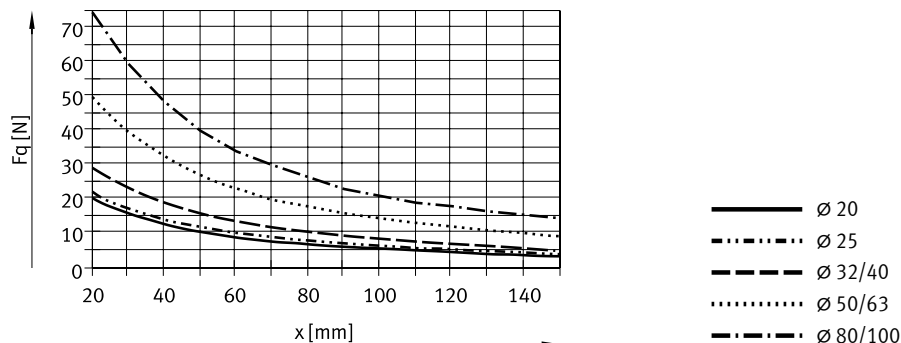
The specified holding force refers to a static load. If this value is exceeded, slippage may occur. Dynamic forces occurring during operation must

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

Actuation

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 compressed air supply at both ends (e.g. with a 5/3-way valve) does not provide any safety.

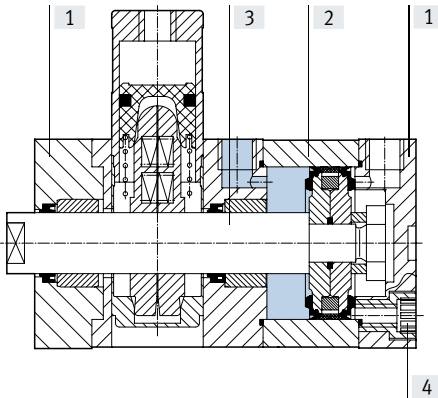
Max. lateral force F_q as a function of projection x


| Weight [g] | | | | | | | | |
|------------------------------------|-----|-----|-----|-----|------|------|------|------|
| Piston \varnothing | 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 mass with 0 mm stroke | 53 | 63 | 100 | 173 | 296 | 368 | 755 | 932 |
| Additional mass per 10 mm stroke | 6 | 6 | 9 | 16 | 25 | 25 | 39 | 39 |

Datasheet

Materials

Sectional view



Compact cylinder

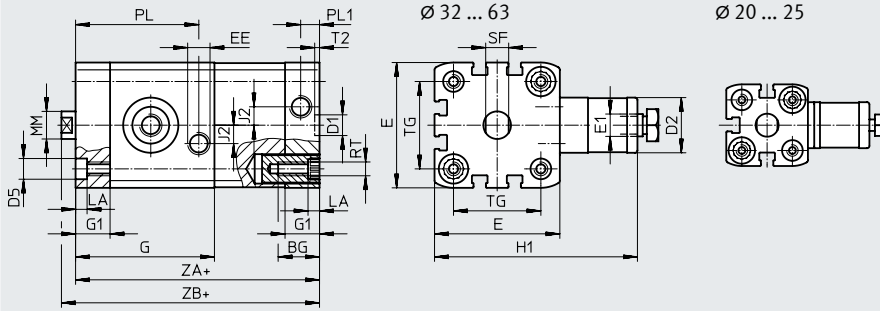
| | | | |
|-----|-------------------|--------------|-----------------------------------|
| [1] | Cover | | Anodised aluminium |
| [2] | Cylinder barrel | | Anodised aluminium |
| [3] | Piston rod | | High-alloy steel |
| [4] | Flange screws | ∅ 20 ... 63 | Galvanised steel |
| | | ∅ 80 ... 100 | Standard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

Datasheet

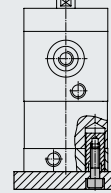
Dimensions – Basic version

Download CAD data → www.festo.com

∅ 20 ... 63



Only direct mounting is possible with this variant.

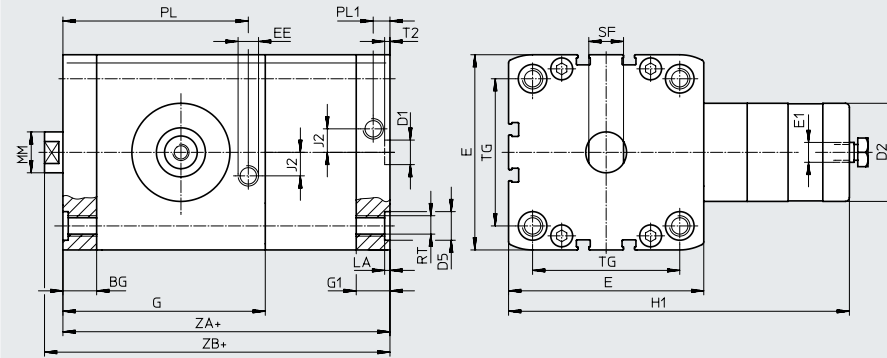


+ = plus stroke length

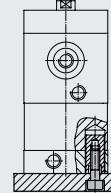
Dimensions – Basic version

Download CAD data → www.festo.com

∅ 80, 100



Only direct mounting is possible with this variant.



+ = plus stroke length

| ∅ [mm] | BG min. | D1 ∅ H9 | D2 ∅ | D5 ∅ | E | E1 | EE | G | G1 | H1 | J2 |
|-----------|------------|----------------------|---------|------------------|----------------------|------|------------------|--------------------|------|-----------------------|------|
| 20 | 19.5 | 9 | 20 | 9 ^{F9} | 35.5 ^{+0.3} | M5 | M5 | 49.8 | 12 | 63 | 2.6 |
| 25 | | | | | 39.5 ^{+0.3} | | | 50.6 | | 65 | |
| 32 | 26 | | | | 12 | 24 | 12 ^{F9} | 47 ^{+0.3} | G1/8 | G1/8 | 56.4 |
| 40 | | 54.5 ^{+0.3} | 60.4 | 89 | | | | | | | |
| 50 | 27 | 12 | 30 | 12 ^{F9} | 65.5 ^{+0.3} | G1/8 | G1/8 | 67.4 | | | 15 |
| 63 | | | | | 75.5 ^{+0.3} | | | 76.8 | 120 | | |
| 80 | 17 | 12 | 38 | 15 | 95.5 ^{+0.6} | G1/8 | G1/8 | 99 | 16.5 | 167 | 20 |
| 100 | 21.5 | | | | 48 | | | 15 | | 113.5 ^{+0.6} | |

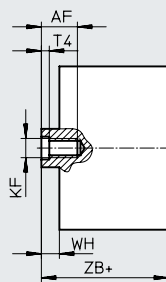
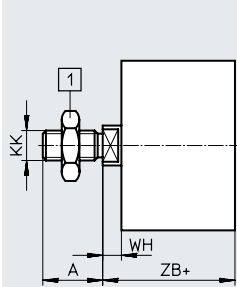
| ∅ [mm] | PW +0.2 | MM ∅ | PL +0.2 | PL1 +0.2 | RT | ST h13 | T2 +0.2 | TG ±0.2 | ZA ±0.6 | ZB +1.2 |
|-----------|------------|---------|------------|-------------|-------|-----------|------------|------------|------------|------------|
| 20 | 5 | 10 | 42.8 | 6 | M5 | 9 | 2.1 | 22 | 74.8 | 80.8 |
| 25 | | | 44.6 | | | | | 26 | 77.6 | 83.1 |
| 32 | | | 49.6 | | | | | 32.5 | 85.4 | 91.4 |
| 40 | | 12 | 53.6 | 8.2 | M6 | 13 | 2.6 | 38 | 90.4 | 96.5 |
| 50 | | 16 | 60.6 | | | | | 46.5 | 97.4 | 105.6 |
| 63 | 20 | 70 | M8 | 17 | 2.6 | 56.5 | 110.8 | 118.9 | | |
| 80 | 25 | 90.7 | | | | M10 | 21 | 72 | 136.5 | 145.4 |
| 100 | 2.6 | 88.6 | 10.5 | 89 | 145.1 | | | 154.1 | | |

Datasheet

Dimensions – Variants

Download CAD data → www.festo.com

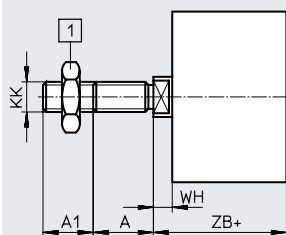
Basic version



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

+ = plus stroke length

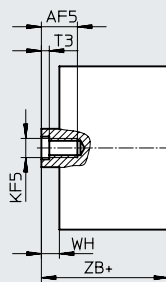
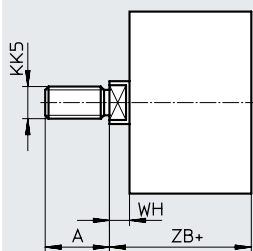
K2 – Extended male piston rod thread



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

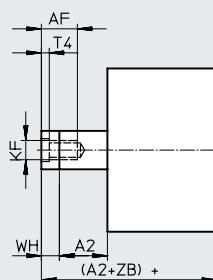
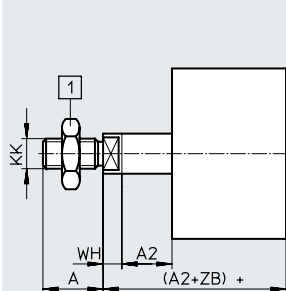
+ = plus stroke length

K5 – Custom piston rod thread



+ = plus stroke length

K8 – Extended piston rod



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

+ = plus stroke length

Datasheet

| ∅ | A | A1 | A2 | AF | AF5 | KF | KF5 |
|------|------|----------|-----------|------|------|-----|-----|
| [mm] | -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 | | | | | | | |

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

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

Ordering data – Modular product system

| Ordering table | | | | | | | Conditions | Code | Enter code |
|---------------------------|--|-----------------|-----------------|---------------|------------|--|-----------------|------|------------|
| Size | 20 | 25 | 32 | 40 | | | | | |
| Module no. | 548206 | 548207 | 548208 | 548209 | | | | | |
| Function | Compact cylinder, double-acting, standard hole pattern, with clamping unit | | | | | | ADN | ADN | |
| Piston ø [mm] | 20 | 25 | 32 | 40 | | | -... | | |
| Stroke [mm] | 10 ... 300 | | 10 ... 400 | | | | -... | | |
| Clamping unit | Attached | | | | | | -KP | -KP | |
| Piston rod thread | Male thread | | | | | | -A | | |
| | Female thread | | | | [1] | | -I | | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | | -P | -P | |
| Position sensing | Via proximity switch | | | | | | -A | -A | |
| Extended male thread [mm] | Extended male piston rod thread 1 ... 20 | | | | | | -...K2 | | |
| Custom piston rod thread | Male thread | M10x1.25 M10 | M10x1.25 M10 | M10 M12 | M10 M12 | | -“...”K5 | | |
| | Female thread | M5 | M5 | M6 | M6 | | | | |
| Extended piston rod [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

Ordering data – Modular product system

| Ordering table | | | | | | | | Enter code |
|---------------------------|--|---------------|---------------|---------------|------------|------|-----------------|------------|
| Size | 50 | 63 | 80 | 100 | Conditions | Code | | |
| Module no. | 548210 | 548211 | 548212 | 548213 | | | | |
| Function | Compact cylinder, double-acting, standard hole pattern, with clamping unit | | | | | | ADN | ADN |
| Piston ø [mm] | 50 | 63 | 80 | 100 | | -... | | |
| Stroke [mm] | 10 ... 400 | | 10 ... 500 | | | -... | | |
| Clamping unit | Attached | | | | | | -KP | -KP |
| Piston rod thread | Male thread | | | | | | -A | |
| | Female thread | | | | | [1] | -I | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | | -P | -P |
| Position sensing | Via proximity switch | | | | | | -A | -A |
| Extended male thread [mm] | Extended male piston rod thread | | | | | | | |
| | 1 ... 20 | | 1 ... 30 | | | | -...K2 | |
| Custom piston rod thread | Male thread | | | | | | | |
| | M12 | M12 | M16 | M16 | | | -“...”K5 | |
| M16 | M16 | M20 | M20 | | | | | |
| | Female thread | | | | | | | |
| M8 | M8 | M10 | M10 | | | | | |
| Extended piston rod [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

Type codes

| | | |
|------------|---|--|
| 001 | Series | |
| ADN | Compact cylinder, double-acting, based on ISO 21287 | |

| | | |
|------------|------------------------|--|
| 002 | Piston diameter | |
| 20 | 20 | |
| 25 | 25 | |
| 32 | 32 | |
| 40 | 40 | |
| 50 | 50 | |
| 63 | 63 | |
| 80 | 80 | |
| 100 | 100 | |

| | | |
|------------|---------------|--|
| 003 | Stroke | |
| ... | 10 ... 500 | |

| | | |
|------------|-----------------------------|--|
| 004 | End-position locking | |
| ELB | Both sides | |
| ELH | Rear | |
| ELV | Front | |

| | | |
|------------|-------------------------------|--|
| 005 | Piston rod thread type | |
| A | Male thread | |
| I | Female thread | |

| | | |
|------------|---|--|
| 006 | Cushioning | |
| P | Elastic cushioning rings/plates on both sides | |

| | | |
|------------|-------------------------|--|
| 007 | Position sensing | |
| A | For proximity sensor | |

| | | |
|--------------|------------------------------------|--|
| 008 | Piston rod thread extension | |
| | None | |
| ...K2 | 1 ... 30 mm | |

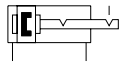
| | | |
|---------------------|----------------------|--|
| 009 | Custom thread | |
| "M6"K5 | M6 | |
| "M8"K5 | M8 | |
| "M10"K5 | M10 | |
| "M10x1,25"K5 | M10x1.25 | |
| "M12"K5 | M12 | |
| "M16"K5 | M16 | |
| "M20x1,5"K5 | M20x1.5 | |
| "M5"K5 | M5 | |
| "M20"K5 | M20 | |


| | | |
|--------------|-----------------------------|--|
| 010 | Piston rod extension | |
| | None | |
| ...K8 | 1 ... 500 mm | |


| | | |
|------------|-----------------------------|--|
| 011 | Captive rating plate | |
| | Rating plate, glued | |
| TL | Laser etched rating plate | |

Datasheet

Function



-  Diameter
 20 ... 100 mm

-  Stroke length
 10 ... 500 mm

Variants



K2




K5



K8




 **Note**

If used in safety-oriented applications, additional measures are necessary, e.g. in Europe the standards listed in the EC Machinery Directive must be observed.

Without additional measures in accordance with legally specified minimum requirements, the product is not suitable as a safety-related component in control systems.

General technical data

| Piston \varnothing | 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 | |
| Design | Piston | | | | | | | |
| | Piston rod | | | | | | | |
| | Cylinder barrel | | | | | | | |
| End-position locking | | | | | | | | |
| ELB | At both ends | | | | | | | |
| ELV | Advanced | | | | | | | |
| ELH | Rear | | | | | | | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | | | |
| Position sensing | Via proximity switch | | | | | | | |
| Type of mounting | With female thread | | | | | | | |
| | Via accessories | | | | | | | |
| Mounting position | Any | | | | | | | |

 **Note**

- Screws with a head or similar must not be used in place of end-position locking, as there is a risk that the function will be impaired if they are screwed in too deeply.
- The exhaust bore must not be closed.
- The piston rod can be locked in any stroke position once the drive is brought mechanically into its end position.
- End-position locking has been designed to prevent the load from dropping in case of pressure failure.
- Avoid operating the cylinder using a 3-way valve, especially with the function "mid-position closed" and those with "metallic sealing". 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. (If the pressure in the opposite chamber drops to less than the locking pressure, the locking piston will prematurely fall to its lower end position.)

Datasheet

| Operating and environmental conditions | | | | | | | | |
|--|---|-------------|----|----|------------|----|----|-----|
| Piston ø | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| Operating medium | Compressed air to ISO 8573-1:2010 [7:4:4] | | | | | | | |
| Note on the operating/pilot medium | Lubricated operation possible (in which case lubrication will always be required) | | | | | | | |
| Operating pressure | [MPa] | 0.25 ... 1 | | | 0.15 ... 1 | | | |
| | [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 switches
 2) More information www.festo.com/x/topic/crc

| 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

Assuming:
 Mounting 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 determined:
 Suitable piston diameter

Example with 32 mm piston diameter:
 Theoretical force at 6 bar, advancing = 483 N
 50% of the theoretical force = 241.5 N
 Static holding force with 32 mm piston diameter = 500 N
 The static holding force of end-position locking is within the permissible range (max. 500 N) for a workpiece load of 44 kg (431.6 N); however, the cylinder would be at 89% capacity.
Results:
 A cylinder with a piston diameter 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 in the end positions | 0.2 | 0.3 | 0.4 | 0.7 | 1 | 1.3 | 1.8 | 2.5 |

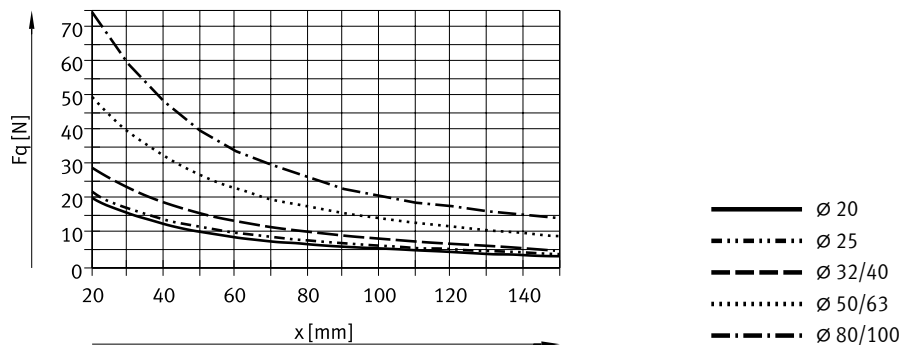
Note
 These specifications represent the maximum values that can be achieved. The maximum permissible impact energy must be observed.

Permissible impact speed: $V = \sqrt{\frac{2 \times E}{m_1 + m_2}}$

Maximum permissible mass: $m_2 = \frac{2 \times E}{v^2} - m_1$

V Permissible impact velocity
 E Max. impact energy
 m1 Moving mass (drive)
 m2 Moving payload

Max. lateral force F_q as a function of projection x

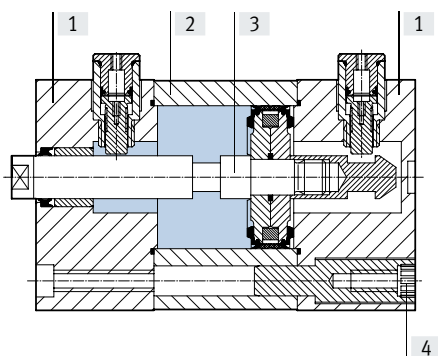


Datasheet

| Weight [g] | | | | | | | | |
|--|-----|-----|-----|-----|------|------|------|------|
| Piston \varnothing | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| End position locking 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 mass with 0 mm stroke | 43 | 53 | 85 | 101 | 199 | 248 | 475 | 637 |
| Additional mass per 10 mm stroke | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 |
| End-position locking 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 mass with 0 mm stroke | 35 | 46 | 75 | 98 | 175 | 225 | 464 | 626 |
| Additional mass per 10 mm stroke | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 |
| End-position locking 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 mass with 0 mm stroke | 37 | 45 | 73 | 89 | 168 | 217 | 413 | 582 |
| Additional mass 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 Galvanised steel Standard screws, galvanised steel |
| - | Seals | Polyurethane, nitrile rubber |
| | Note on materials | RoHS-compliant |

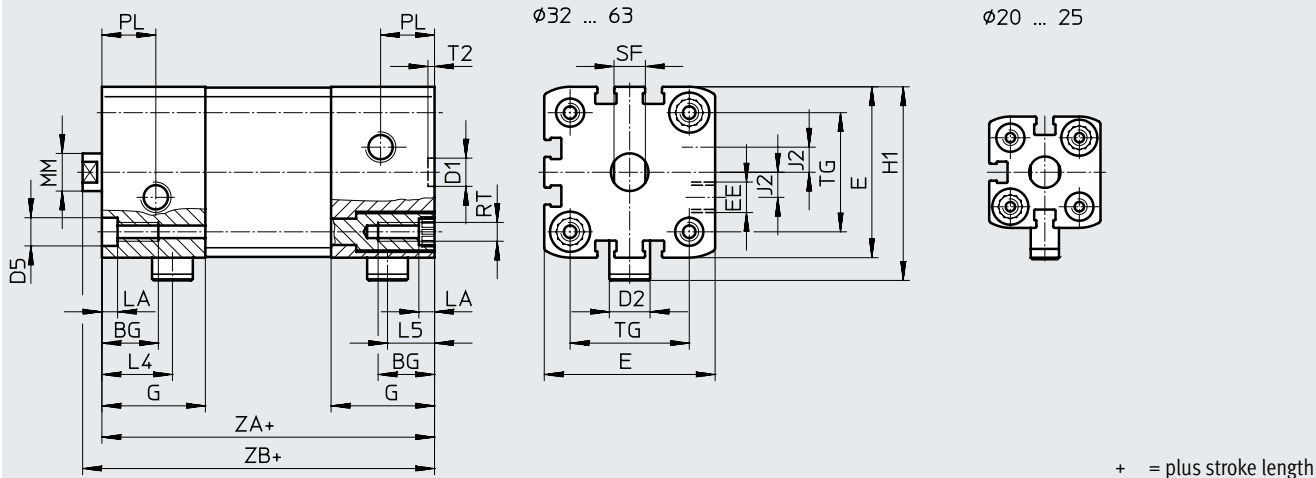
Datasheet

Dimensions – Basic version

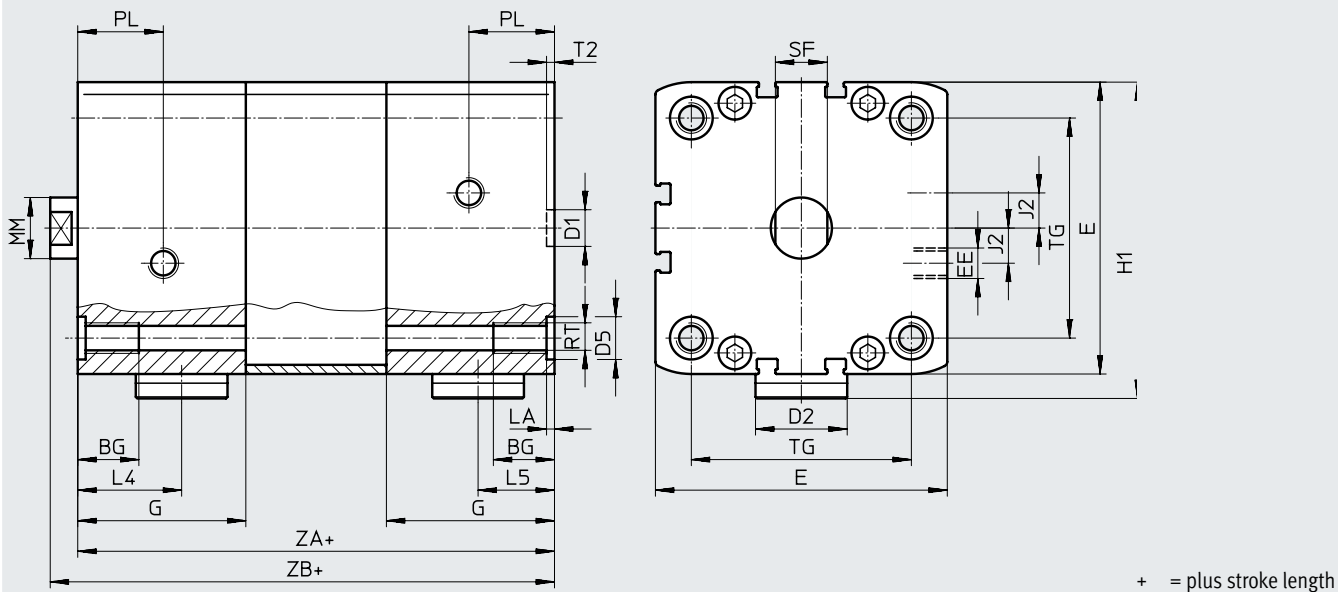
Download CAD data → www.festo.com

ELB – End-position locking at both ends

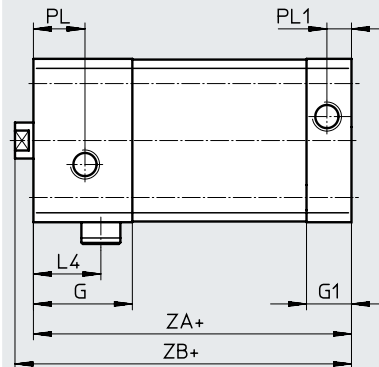
∅ 20 ... 63



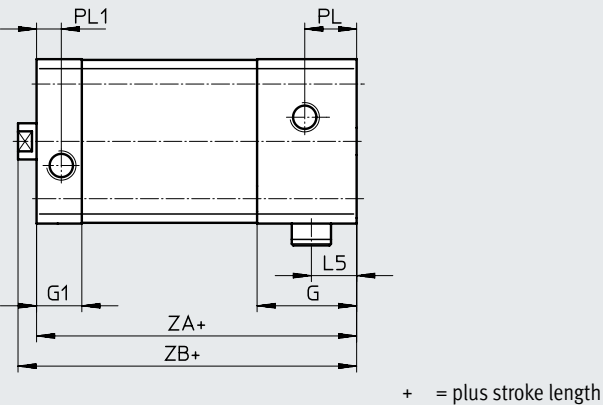
∅ 80 ... 100



ELV – End-position locking at front



ELH – End-position locking at rear



Datasheet

| ∅ [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 | | | 39.5 ^{+0.3} | | 29.5 | | 53.3 | | 20.8 | | 14 | |
| 32 | | | 13 | | 47 ^{+0.3} | 33 | 15 | 58 | 6 | 22.5 | 15 | |
| 40 | | | 54.5 ^{+0.3} | | 77 | | 8 | | | | | |
| 50 | 20 | 12 | 20 | 12 ^{F9} | 65.5 ^{+0.3} | G1/8 | 43 | 15 | 77 | 11.5 | 27.5 | 20.5 |
| 63 | | | 75.5 ^{+0.3} | 82 | 21.7 | | | | | | | |
| 80 | | | 30 | 15 | 95.5 ^{+0.6} | | 55 | | 16.5 | 103.5 | 34 | 25 |
| 100 | | | 113.5 ^{+0.6} | 57 | 21.5 | | 113.5 | | 20 | 35 | 27 | |

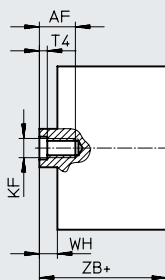
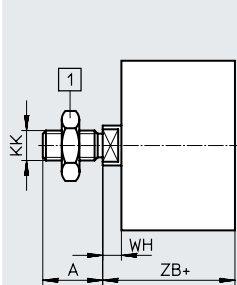
| ∅ [mm] | PW +0.2 | MM ∅ | PL | PL1 | RT | ST h13 | T2 +0.1 | TG ±0.2 | ZA ±0.6 | | ZB +1.2 | |
|-----------|------------|---------|-----|-----|------|-----------|------------|------------|------------|----------|------------|----------|
| | | | | | | | | | ELB | ELV, ELH | ELB | ELV, ELH |
| 20 | 5 | 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 | 2.6 | 46.5 | 101 | 73 | 109.2 | 81.2 | |
| 63 | | | | | | | 56.5 | 105 | 77 | 113.1 | 85.1 | |
| 80 | 20 | 28 | M10 | 17 | 72 | | 131 | 92.5 | 139.9 | 101.4 | | |
| 100 | | | | | 10.5 | | 89 | 138 | 102.5 | 147 | 111.5 | |

Datasheet

Dimensions – Variants

Download CAD data → www.festo.com

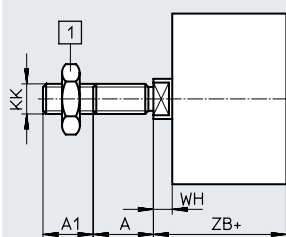
Basic version



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

+ = plus stroke length

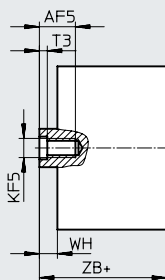
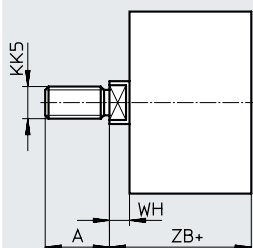
K2 – Extended male piston rod thread



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

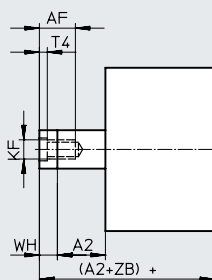
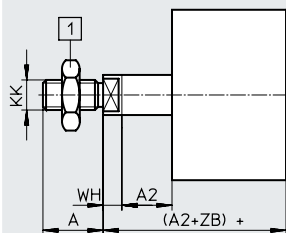
+ = plus stroke length

K5 – Custom piston rod thread



+ = plus stroke length

K8 – Extended piston rod



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

+ = plus stroke length

Datasheet

| ∅ | A | A1 | A2 | AF | AF5 | KF | KF5 |
|------|------|----------|-----------|------|------|-----|-----|
| [mm] | -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 | | | | | | | |

| ∅ | KK | KK5 | T3 | T4 | WH | ZB +1.2 | |
|------|----------|-----------------------|-----|-----|------|------------|----------|
| [mm] | | | | | +1.3 | ELB | ELV, ELH |
| 20 | M8 | M10x1.25 M10 | 2 | 2.6 | 5.5 | 68.8 | 55.5 |
| 25 | | | | | | 79.5 | 62 |
| 32 | M10x1.25 | M10 M12 | 2.6 | 3.3 | 6 | 86 | 68 |
| 40 | | | | | 6.1 | 87.1 | 69 |
| 50 | M12x1.25 | M12 M16 | 3.3 | 4.7 | 8.2 | 109.2 | 81.2 |
| 63 | | | | | 8.1 | 113.1 | 85.1 |
| 80 | M16x1.5 | M16 M20x1.5 M20 | 4.7 | 6.1 | 8.9 | 139.9 | 101.4 |
| 100 | | | | | 9 | 147 | 111.5 |

Compact cylinders ADN-EL, standard hole pattern, with end-position locking

Ordering data – Modular product system

| Ordering table | | | | | | | Conditions | Code | Enter code |
|---------------------------|---|-----------------|-----------------|---------------|------------|-----|-----------------|------|------------|
| Size | 20 | 25 | 32 | 40 | | | | | |
| Module no. | 548214 | 548215 | 548216 | 548217 | | | | | |
| Function | Compact cylinder, double-acting, standard hole pattern, with end-position locking | | | | | | ADN | ADN | |
| Piston ø [mm] | 20 | 25 | 32 | 40 | | | -... | | |
| Stroke [mm] | 10 ... 300 | | 10 ... 400 | | | | -... | | |
| End-position locking | At both ends | | | | | | -ELB | | |
| | Advanced | | | | | | -ELV | | |
| | Rear | | | | | | -ELH | | |
| Piston rod thread | Male thread | | | | | | -A | | |
| | Female thread | | | | | [1] | -I | | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | | -P | -P | |
| Position sensing | Via proximity switch | | | | | | -A | -A | |
| Extended male thread [mm] | Extended male piston rod thread 1 ... 20 | | | | | | -...K2 | | |
| Custom piston rod thread | Male thread | M10x1.25 M10 | M10x1.25 M10 | M10 M12 | M10 M12 | | -“...”K5 | | |
| | Female thread | M5 | M5 | M6 | M6 | | | | |
| Extended piston rod [mm] | 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

Ordering data – Modular product system

| Ordering table | | | | | | | | |
|---------------------------|---|---------------|---------------|---------------|-----------------------|-----------------------|---------------|-----------------|
| Size | 50 | 63 | 80 | 100 | Conditions | Code | Enter code | |
| Module no. | 548218 | 548219 | 548220 | 548221 | | | | |
| Function | Compact cylinder, double-acting, standard hole pattern, with end-position locking | | | | | ADN | ADN | |
| Piston Ø [mm] | 50 | 63 | 80 | 100 | | -... | | |
| Stroke [mm] | 10 ... 400 | | 10 ... 500 | | | -... | | |
| End-position locking | At both ends | | | | | -ELB | | |
| | Advanced | | | | | -ELV | | |
| | Rear | | | | | -ELH | | |
| Piston rod thread | Male thread | | | | | -A | | |
| | Female thread | | | | [1] | -I | | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | -P | -P | |
| Position sensing | Via proximity switch | | | | | -A | -A | |
| Extended male thread [mm] | Extended male piston rod thread | | 1 ... 20 | | 1 ... 30 | | -...K2 | |
| | Custom piston rod thread | Male thread | M12 M16 | M12 M16 | M16 M20 M20x1.5 | M16 M20 M20x1.5 | | -“...”K5 |
| Female thread | | M8 | M8 | M10 | M10 | | | |
| Extended piston rod [mm] | Extended piston rod | | | | | -...K8 | | |
| | 1 ... 400 | | 1 ... 500 | | [2] | | | |
| 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

Type codes

| | | |
|------------|---|--|
| 001 | Series | |
| AEN | Compact cylinder, single-acting, based on ISO 21287 | |

| | | |
|------------|----------------------|--|
| 002 | Piston diameter [mm] | |
| 12 | 12 | |
| 16 | 16 | |
| 20 | 20 | |
| 25 | 25 | |
| 32 | 32 | |
| 40 | 40 | |
| 50 | 50 | |
| 63 | 63 | |
| 80 | 80 | |
| 100 | 100 | |

| | | |
|------------|-------------|--|
| 003 | Stroke [mm] | |
| ... | 1 ... 25 | |

| | | |
|------------|------------------------|--|
| 004 | Piston rod thread type | |
| A | Male thread | |
| I | Female thread | |

| | | |
|------------|---|--|
| 005 | Cushioning | |
| P | Elastic cushioning rings/plates on both sides | |

| | | |
|------------|----------------------|--|
| 006 | Position sensing | |
| A | For proximity sensor | |

| | | |
|------------|------------------------|--|
| 007 | Active direction | |
| Z | Single-acting, pulling | |
| | Single-acting, pushing | |

| | | |
|--------------|-----------------------------|--|
| 008 | Piston rod thread extension | |
| | None | |
| ...K2 | 1 ... 30 mm | |

| | | |
|---------------------|---------------|--|
| 009 | Custom thread | |
| "M5"K5 | M5 | |
| "M6"K5 | M6 | |
| "M8"K5 | M8 | |
| "M10"K5 | M10 | |
| "M10x1,25"K5 | M10x1.25 | |
| "M12"K5 | M12 | |
| "M16"K5 | M16 | |
| "M20"K5 | M20 | |
| "M20x1,5"K5 | M20x1.5 | |

| | | |
|--------------|----------------------|--|
| 010 | Piston rod extension | |
| | None | |
| ...K8 | 1 ... 25 mm | |

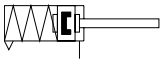
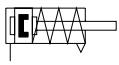
| | | |
|------------|---|--|
| 011 | Improved running performance | |
| | None | |
| K10 | Smooth anodised aluminium coated piston rod | |

| | | |
|------------|----------------------------------|--|
| 012 | Temperature resistance | |
| | Standard | |
| S6 | Heat-resistant seals max. 120 °C | |

| | | |
|------------|---------------------------|--|
| 013 | Captive rating plate | |
| | Rating plate, glued | |
| TL | Laser etched rating plate | |

Datasheet

Function



Pulling

⊘ Diameter
12 ... 100 mm

— Stroke length
1 ... 25 mm

 www.festo.com

Variants



S6



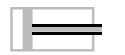
K2



K5



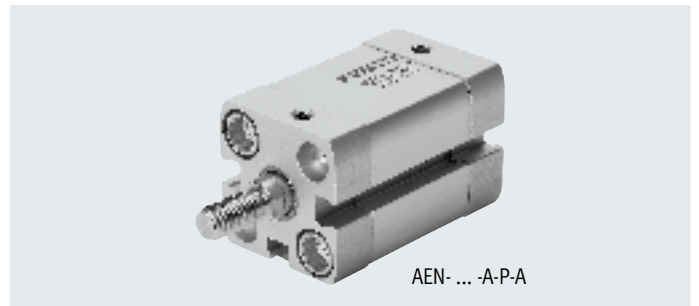
K8



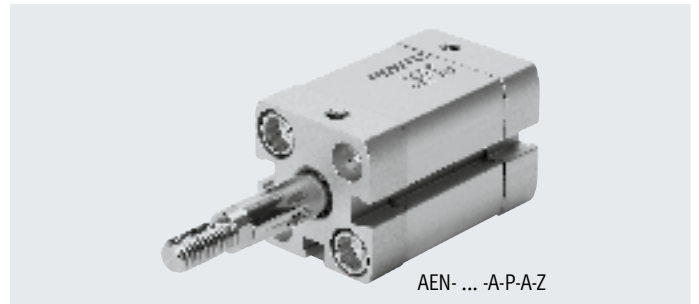
K10



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 | Elastic cushioning rings/pads at both ends | | | | | | | | | |
| Position sensing | Via proximity switch | | | | | | | | | |
| Type of mounting | With through-hole | | | | | | | | | |
| | With 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 |


Datasheet

| Operating and environmental conditions | | | | | | | | | | |
|--|---|------------|-------------|----|------------|------------|----|----|----|-----|
| Piston ø | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| Operating medium | Compressed air to ISO 8573-1:2010 [7:4:4] | | | | | | | | | |
| Note on the operating/pilot medium | Lubricated operation possible (in which case lubrication will always be required) | | | | | | | | | |
| Operating pressure | | | | | | | | | | |
| in [MPa] | | | | | | | | | | |
| – | 0.15 ... 1 | | 0.1 ... 1 | | | | | | | |
| Z | 0.17 ... 1 | 0.22 ... 1 | 0.13 ... 1 | | 0.07 ... 1 | 0.06 ... 1 | | | | |
| Q | 0.15 ... 1 | | 0.1 ... 1 | | | | | | | |
| Q-S6 | 0.15 ... 0.6 | | 0.1 ... 0.6 | | | | | | | |
| in [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 | | | | | | | |
| Q-S6 | 1.5 ... 6 | | 1 ... 6 | | | | | | | |
| Ambient temperature ¹⁾ [°C] | | | | | | | | | | |
| – | –20 ... +80 | | | | | | | | | |
| S6 | 0 ... +120 | | | | | | | | | |
| Corrosion resistance class CRC ²⁾ | 2 | | | | | | | | | |

1) Note operating range of proximity switches

2) More information www.festo.com/x/topic/crc

| 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 at the end positions | 0.04 | 0.04 | 0.04 | 0.08 | 0.1 | 0.15 | 0.18 | 0.28 | 0.35 | 0.7 |

 **Note**

These specifications represent the maximum values that can be achieved. The maximum permissible impact energy must be observed.

Permissible impact speed:

$$V = \sqrt{\frac{2 \times E}{m_1 + m_2}}$$

Maximum permissible mass:

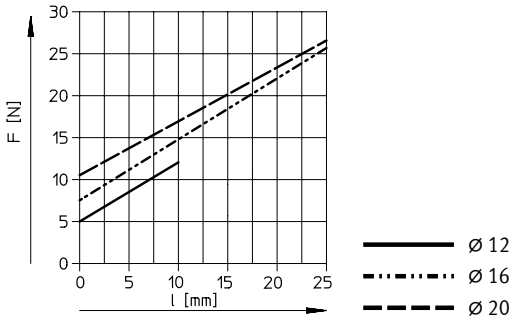
$$m_2 = \frac{2 \times E}{v^2} - m_1$$

V Permissible impact velocity
E Max. impact energy
m1 Moving mass (drive)
m2 Moving payload

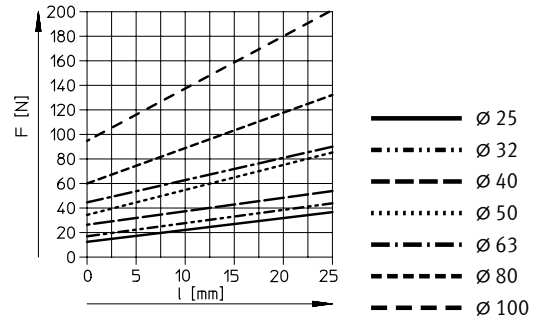
Datasheet

Spring return force F as a function of stroke l

∅ 12 ... 20



∅ 25 ... 100



Note

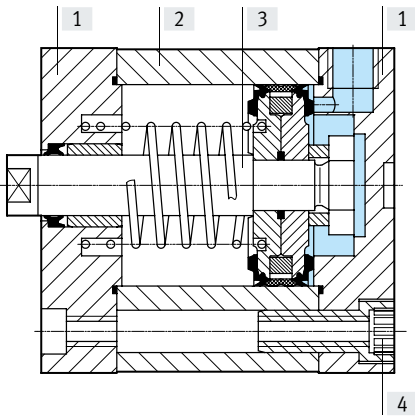
The degree of friction depends on the mounting position and the type of load involved. Single-acting cylinders should as far as possible be operated without transverse loads.

| Weight [g] | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
|--|----|----|-----|-----|-----|-----|-----|-----|------|------|
| Piston ∅ | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
| AEN-... | | | | | | | | | | |
| Product weight with 0 mm stroke | 67 | 78 | 131 | 168 | 273 | 361 | 532 | 752 | 1135 | 1733 |
| Additional weight per 10 mm stroke | 12 | 14 | 22 | 26 | 29 | 38 | 51 | 60 | 80 | 99 |
| Moving mass with 0 mm stroke | 11 | 18 | 32 | 41 | 76 | 103 | 164 | 220 | 425 | 587 |
| Additional mass per 10 mm stroke | 2 | 4 | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 |
| AEN-...-I | | | | | | | | | | |
| Product weight with 0 mm stroke | 65 | 75 | 122 | 159 | 248 | 336 | 490 | 710 | 1050 | 1648 |
| Additional weight per 10 mm stroke | 12 | 14 | 22 | 26 | 29 | 38 | 51 | 60 | 80 | 99 |
| Moving mass with 0 mm stroke | 9 | 15 | 23 | 32 | 51 | 78 | 122 | 178 | 340 | 502 |
| Additional mass per 10 mm stroke | 2 | 4 | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 |
| AEN-...-Q | | | | | | | | | | |
| Product weight with 0 mm stroke | - | 78 | 130 | 168 | 270 | 362 | 539 | 754 | 1147 | 1741 |
| Additional weight per 10 mm stroke | - | 14 | 22 | 26 | 28 | 37 | 47 | 55 | 75 | 94 |
| Moving mass with 0 mm stroke | - | 18 | 32 | 41 | 73 | 97 | 155 | 210 | 415 | 567 |
| Additional mass per 10 mm stroke | - | 4 | 6 | 6 | 8 | 8 | 11 | 11 | 20 | 20 |
| AEN-...-K10 | | | | | | | | | | |
| Product weight with 0 mm stroke | - | - | 134 | 170 | 278 | 366 | 551 | 764 | 1135 | 1725 |
| Additional weight per 10 mm stroke | - | - | 18 | 22 | 23 | 32 | 41 | 47 | 61 | 80 |
| Moving mass with 0 mm stroke | - | - | 35 | 43 | 89 | 108 | 184 | 231 | 425 | 579 |
| Additional mass per 10 mm stroke | - | - | 2 | 2 | 3 | 3 | 5 | 4 | 6 | 6 |
| AEN-...-K8 | | | | | | | | | | |
| Additional weight and additional mass per 10 mm extended piston rod thread | 2 | 4 | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 |
| AEN-...-K2 | | | | | | | | | | |
| Additional weight and additional mass per 10 mm extended piston rod thread | 2 | 2 | 4 | 4 | 6 | 6 | 9 | 9 | 16 | 16 |
| AEN-...-Z | | | | | | | | | | |
| Product weight with 0 mm stroke | 64 | 74 | 125 | 166 | 265 | 361 | 532 | 752 | 1135 | 1733 |
| Additional weight per 10 mm stroke | 12 | 14 | 22 | 26 | 29 | 38 | 51 | 60 | 80 | 99 |
| Moving mass with 0 mm stroke | 11 | 18 | 32 | 41 | 76 | 103 | 164 | 220 | 425 | 587 |
| Additional mass per 10 mm stroke | 2 | 4 | 6 | 6 | 9 | 9 | 16 | 16 | 25 | 25 |

Datasheet

Materials

Sectional view



Datasheet

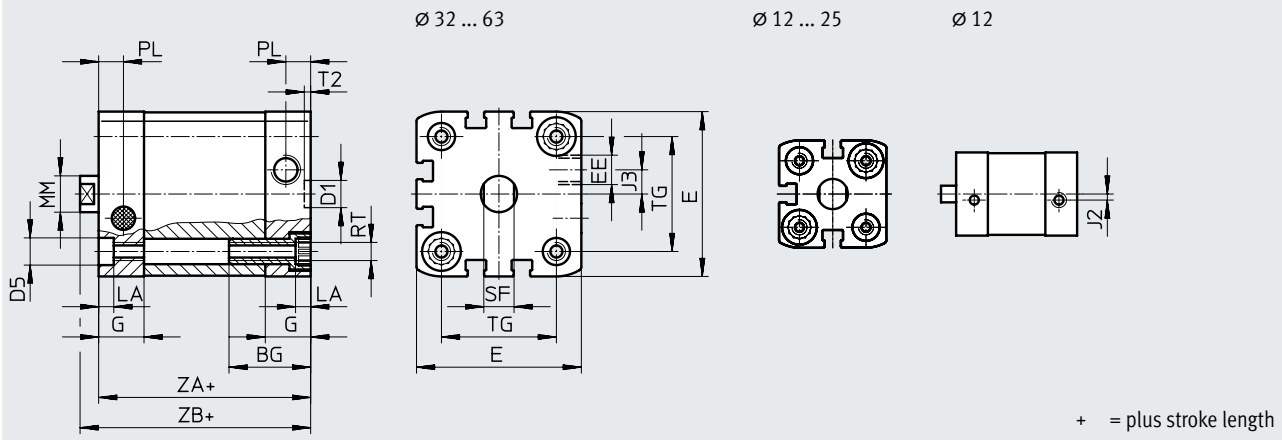
| Compact cylinder | | Basic version | S6 |
|------------------|-------------------|----------------------|---|
| [1] | Cover | ø 12 ... 80 ø 100 | Anodised aluminium Coated die-cast aluminium |
| [2] | Cylinder barrel | | Anodised aluminium |
| [3] | Piston rod | | High-alloy steel |
| [4] | Flange screws | ø 12 ... 16 | High-alloy steel |
| | | ø 20 ... 63 | Galvanised steel |
| | | ø 80 ... 100 | Standard screws, galvanised steel |
| - | Seals | | Polyurethane Fluoro rubber |
| | Note on materials | | RoHS-compliant |

Datasheet

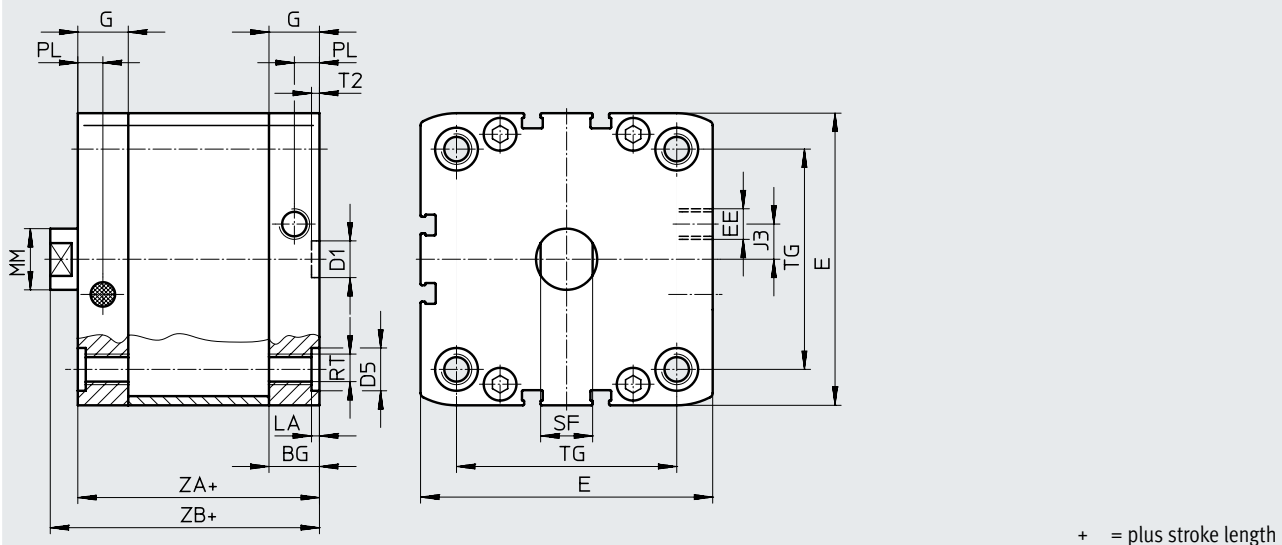
Dimensions – Basic version

Download CAD data → www.festo.com

∅ 12 ... 63



∅ 80 ... 100



Datasheet

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

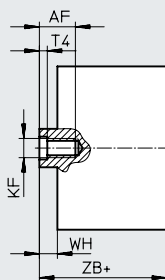
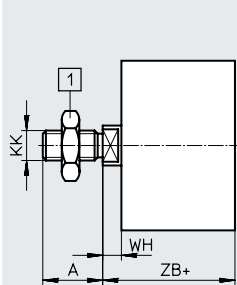
| ∅ [mm] | MM ∅ | PL +0.2 | RT | ST h13 | T2 +0.1 | TG ±0.2 | ZA ±0.3 | ZB +1.2 |
|-----------|---------|------------|-----|-----------|------------|------------|------------|------------|
| 12 | 6 | 6 | M4 | 5 | 2.1 | 16 | 35 | 39.2 |
| 16 | 8 | | | 7 | | 18 | | 39.7 |
| 20 | 10 | | M5 | 9 | | 22 | 37 | 42.5 |
| 25 | | | | 32.5 | | 39 | 44.5 | |
| 32 | 12 | | 8.2 | M6 | | 10 | 38 | 44 |
| 40 | | 46.5 | | | 45 | 51.1 | | |
| 50 | 16 | M8 | | 13 | 56.5 | 49 | 53.2 | |
| 63 | | | 72 | 54 | 57.1 | | | |
| 80 | 20 | 10.5 | M10 | 17 | 89 | 67 | 62.9 | |
| 100 | | | | 76 | | | | |

Datasheet

Dimensions – Variants

Download CAD data → www.festo.com

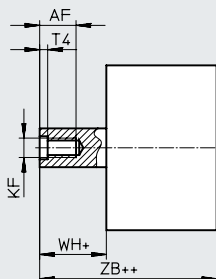
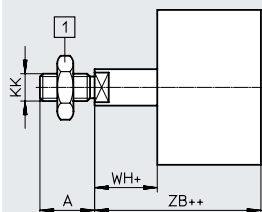
Basic version



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

+ = plus stroke length

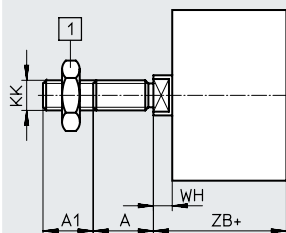
Z – Pulling



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

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

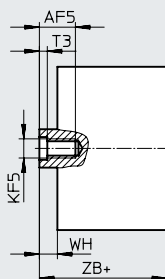
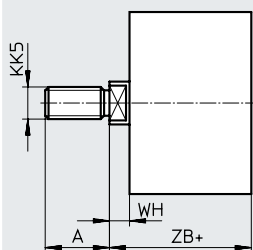
K2 – Extended male piston rod thread



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

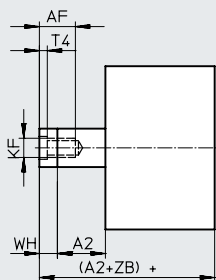
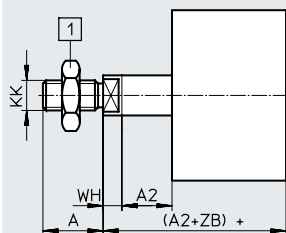
+ = plus stroke length

K5 – Custom piston rod thread



+ = plus stroke length

K8 – Extended piston rod



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

+ = plus stroke length

Datasheet

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

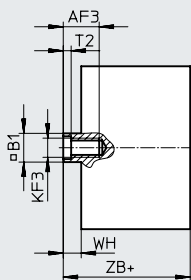
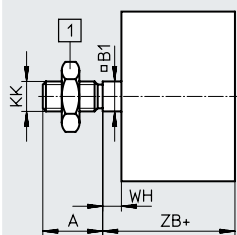
| ∅ | KK | KK5 | T3 | T4 | WH | ZB |
|------|----------|-----------------------|-----|-----|------|------|
| [mm] | | | | | +1.3 | +1.2 |
| 12 | M5 | M6 | - | 1.5 | 4.2 | 39.2 |
| 16 | M6 | M8 | | | 4.7 | 39.7 |
| 20 | M8 | M10x1.25 M10 | 2 | 2.6 | 5.5 | 42.5 |
| 25 | | | | | 5.5 | 44.5 |
| 32 | M10x1.25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

Datasheet

Dimensions – Variants

Download CAD data → www.festo.com

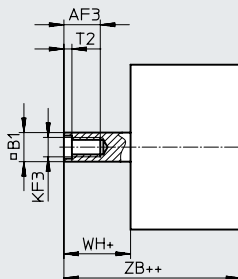
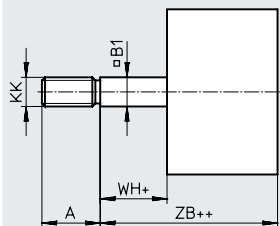
Q – Square piston rod



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

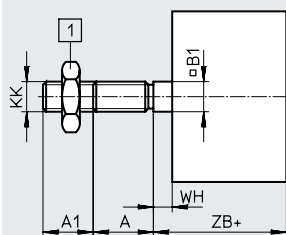
+ = plus stroke length
++ = plus 2x stroke length

Q – Z – Pulling



+ = plus stroke length

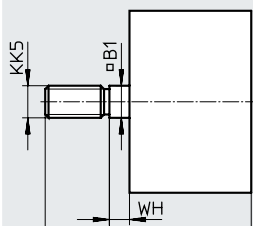
Q-K2 – Square piston rod with extended male thread



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

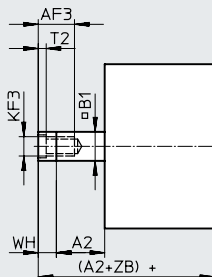
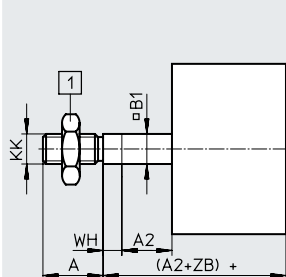
+ = plus stroke length

Q-K5 – Square piston rod with custom 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

Datasheet

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

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

Ordering data – Modular product system, basic version and variants

| Ordering table | | | | | | | | Conditions | Code | Enter code |
|------------------------------|--|---------------|--------------------------------------|-----------------|-----------------|------------|---------------|-----------------|------|------------|
| Size | 12 | 16 | 20 | 25 | 32 | | | | | |
| Module no. | 536414 | 536415 | 536416 | 536417 | 536418 | | | | | |
| Function | Compact cylinder, single-acting | | | | | | | AEN | AEN | |
| Standard | Based on ISO 21287 | | Conforms to ISO 21287 | | | | | | | |
| Piston Ø [mm] | 12 | 16 | 20 | 25 | 32 | | -... | | | |
| Stroke [mm] | 1 ... 10 | 1 ... 25 | | | | | | -... | | |
| Thread type | Male thread | | | | | | -A | | | |
| | Female thread | | | | | [1] | -I | | | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | | -P | -P | | |
| Position sensing | Via proximity switch | | | | | | -A | -A | | |
| Effective direction | Single-acting, pulling | | | | | | -Z | | | |
| Extended male thread [mm] | Extended male piston rod thread | | 1 ... 20 | | | [2] | -...K2 | | | |
| | 1 ... 10 | | | | | | | | | |
| Custom piston rod thread | Male thread | M6 | M8 | M10x1.25 M10 | M10x1.25 M10 | M10 M12 | [2] | -“...”K5 | | |
| | Female thread | - | - | M5 | M5 | M6 | | | | |
| Extended piston rod [mm] | Extended piston rod | | 1 ... 25 | | | | -...K8 | | | |
| Improved running performance | - | - | Smooth anodised aluminium piston rod | | | | -K10 | | | |
| Temperature resistance | Heat-resistant seals 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

Ordering data – Modular product system, basic version and variants

| Ordering table | | | | | | | | | | |
|------------------------------|--|---------------|---------------|---------------|---------------|------------|---------------|---------------|-----------------|--|
| Size | 40 | 50 | 63 | 80 | 100 | Conditions | Code | Enter code | | |
| Module no. | 536419 | 536420 | 536421 | 536422 | 536423 | | | | | |
| Function | Compact cylinder, single-acting | | | | | | AEN | AEN | | |
| Standard | Conforms to ISO 21287 | | | | | | | | | |
| Piston Ø [mm] | 40 | 50 | 63 | 80 | 100 | | -... | | | |
| Stroke [mm] | 1 ... 25 | | | | | | -... | | | |
| Thread type | Male thread | | | | | | -A | | | |
| | Female thread | | | | | [1] | -I | | | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | | -P | -P | | |
| Position sensing | Via proximity switch | | | | | | -A | -A | | |
| Effective direction | Single-acting, pulling | | | | | | -Z | | | |
| Extended male thread [mm] | Extended male piston rod thread | | | | | | | | | |
| | 1 ... 20 | | | 1 ... 30 | | [2] | -...K2 | | | |
| Custom piston rod thread | Male thread | | M10 | M12 | M12 | M16 | M16 | [2] | -“...”K5 | |
| | | | M12 | M16 | M16 | M20 | M20 | | | |
| Female thread | | M6 | M8 | M8 | M10 | M10 | | | | |
| Extended piston rod [mm] | Extended piston rod | | | | | | | | | |
| | | 1 ... 25 | | | | | | -...K8 | | |
| Improved running performance | Smooth anodised aluminium piston rod | | | | | | -K10 | | | |
| Temperature resistance | Heat-resistant seals 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

Ordering data – Modular product system, Q – Square piston rod, non-rotating

| Ordering table | | | | | | | |
|--------------------------------------|--|-----------------------|---------------|---------------|------------|-----------------|------------|
| Size | 16 | 20 | 25 | 32 | Conditions | Code | Enter code |
| Module no. | 536415 | 536416 | 536417 | 536418 | | | |
| Function | Compact cylinder, single-acting | | | | | AEN | AEN |
| Standard | Based on ISO 21287 | Conforms to ISO 21287 | | | | | |
| Piston ø [mm] | 16 | 20 | 25 | 32 | | -... | |
| Stroke [mm] | 1 ... 25 | | | | | -... | |
| Thread type | Male thread | | | | | -A | |
| | Female thread | | | | [1] | -I | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | -P | -P |
| Position sensing | Via proximity switch | | | | | -A | -A |
| Effective direction | Single-acting, pulling | | | | | -Z | |
| Protection against rotation | Square piston rod | | | | | -Q | -Q |
| Extended male thread [mm] | Extended male piston rod thread | | | | | | |
| | 1 ... 10 | 1 ... 20 | | | | -...K2 | |
| Custom piston rod thread Male thread | M8 | M10x1.25 | M10x1.25 | M10 | | -“...”K5 | |
| | | M10 | M10 | | | | |
| Extended piston rod [mm] | Extended piston rod | | | | | | |
| | 1 ... 25 | | | | | -...K8 | |
| Temperature resistance | Heat-resistant seals max. 120°C | | | | | -S6 | |
| Captive rating plate | Laser-etched rating plate | | | | | -TL | |

[1] I Not with extended male thread K2

Ordering data – Modular product system, Q – Square piston rod, non-rotating

| Ordering table | | | | | | | | |
|-----------------------------|--|---------------|---------------|---------------|---------------|------------|-----------------|------------|
| Size | 40 | 50 | 63 | 80 | 100 | Conditions | Code | Enter code |
| Module no. | 536419 | 536420 | 536421 | 536422 | 536423 | | | |
| Function | Compact cylinder, single-acting | | | | | | AEN | AEN |
| Standard | Conforms to ISO 21287 | | | | | | | |
| Piston ø [mm] | 40 | 50 | 63 | 80 | 100 | | -... | |
| Stroke [mm] | 1 ... 25 | | | | | | -... | |
| Thread type | Male thread | | | | | | -A | |
| | Female thread | | | | | [1] | -I | |
| Cushioning | Elastic cushioning rings/pads at both ends | | | | | | -P | -P |
| Position sensing | Via proximity switch | | | | | | -A | -A |
| Effective direction | Single-acting, pulling | | | | | | -Z | |
| Protection against rotation | Square piston rod | | | | | | -Q | -Q |
| Extended male thread [mm] | Extended male piston rod thread | | | | | | | |
| | 1 ... 20 | | | 1 ... 30 | | | -...K2 | |
| Custom piston rod thread | Male thread | M10 | M12 | M12 | M16 | M16 | -“...”K5 | |
| Extended piston rod [mm] | Extended piston rod | | | | | | | |
| | 1 ... 25 | | | | | | -...K8 | |
| Temperature resistance | Heat-resistant seals max. 120°C | | | | | | -S6 | |
| Captive rating plate | Laser-etched rating plate | | | | | | -TL | |

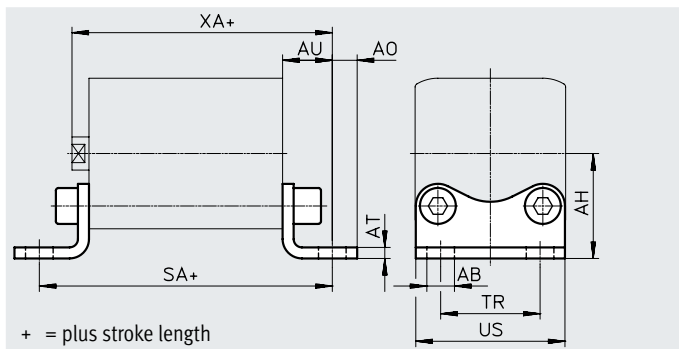
[1] 1 Not with extended male thread K2

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 | AO | 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 | | | | | 38.5 | | |
| 32 | | 33.5 | 7 | | | | 46 | 60.7 | |
| 40 | 10 | 38 | 9 | 5 | 18 | 81 | 36 | 54 | 69.2 |
| 50 | | 45 | 8 | | | | 45 | 64 | |
| 63 | | 50 | | | | | 50 | 75 | |
| 80 | 12 | 63 | 10.5 | 6 | 26 | 106 | 63 | 93 | 89 |
| 100 | 14.5 | 74 | 12.5 | | | | 27 | 121 | |

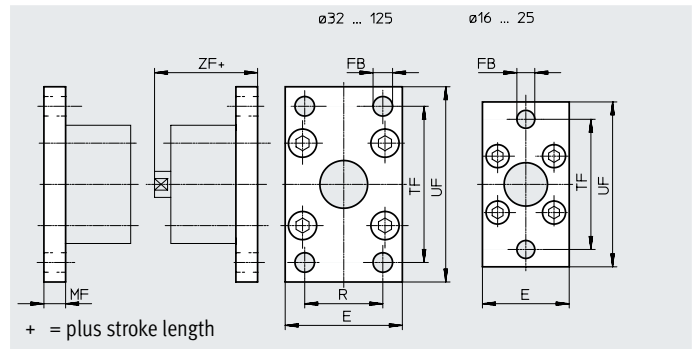
| For \varnothing [mm] | Basic version | | | | R3 – High corrosion protection | | | |
|---------------------------|-------------------|---------------|----------|---------|--------------------------------|---------------|----------|------------|
| | CRC ¹⁾ | Weight [g] | Part no. | Type | CRC ¹⁾ | Weight [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) More information www.festo.com/x/topic/crc

Accessories

Flange mounting FNC

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



Dimensions and ordering data

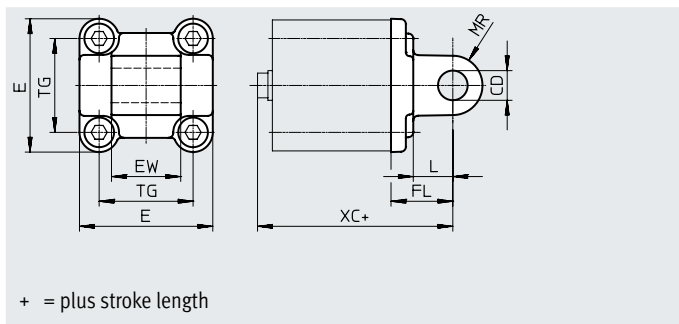
| For \varnothing [mm] | E | FB \varnothing | MF | R | TF | UF ± 1 | ZF | CRC ¹⁾ | Weight [g] | Part no. | Type |
|---------------------------|-----|---------------------|----|----|-----|---------------|------|-------------------|---------------|----------|---------|
| 12 | 28 | 5.5 | 8 | - | 40 | 50 | 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 | 9 | 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 |

1) More information www.festo.com/x/topic/crc

Accessories

Swivel flange SNCL/SNCL-...-R3

Material:
 SNCL 12 ... 25:
 Wrought aluminium alloy
 SNCL 32 ... 125:
 Die-cast aluminium
 SNCL-...-R3: Wrought aluminium alloy
 with protective coating
 Free of copper and PTFE
 RoHS-compliant



| Dimensions and ordering data | | | | | | | | |
|------------------------------|----------------------------|--------------------------|-------------------------|-----------------|----|----|------|------|
| For \varnothing [mm] | CD \varnothing H10 | E | EW | FL ± 0.2 | L | MR | TG | XC |
| 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 | |
| 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 | |
| 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 [mm] | Basic version | | | | R3 – High corrosion protection | | | |
|---------------------------|-------------------|---------------|----------|----------|--------------------------------|---------------|----------|------------|
| | CRC ¹⁾ | Weight [g] | Part no. | Type | CRC ¹⁾ | Weight [g] | Part no. | Type |
| 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) More information www.festo.com/x/topic/crc

Accessories

Swivel flange

SNCS/CRSNCS/SNCS-...-R3

Material:

SNCS 32 ... 50: Die-cast aluminium

SNCS 63 ... 125: Wrought aluminium alloy

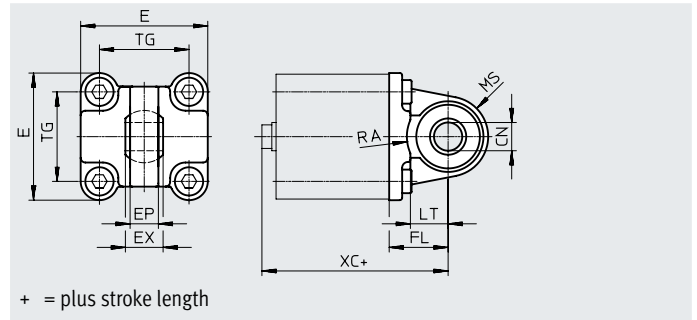
CRSNCS 32 ... 80:

High-alloy stainless steel

SNCS-...-R3 100 ... 125:

Wrought aluminium alloy with protective coating

RoHS-compliant



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) More information www.festo.com/x/topic/crc

Accessories

Clevis foot LBG/LBG-...-R3

The pivot pin is secured against rotation with a spring pin.

Material:

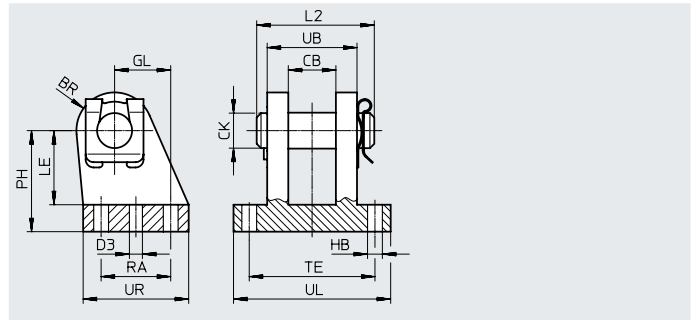
LBG 32 ... 63: Stainless steel casting

LBG 80 ... 125: Spheroidal graphite cast iron

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

Free of copper and PTFE

RoHS-compliant



Dimensions and ordering data

| For \varnothing [mm] | BR | | CB | CK \varnothing | D3 \varnothing | GL | HB \varnothing | L2 | LE | PH | RA | TE | UB | UL | UR |
|---------------------------|----|------------|------|---------------------|---------------------|----|---------------------|----|----|----|----|-----|----|-----|------|
| | | ADN-...-R3 | | | | | | | | | | | | | |
| 32 | 12 | 12 | 14.1 | 10 | 4.8 | 16 | 6.8 | 35 | 24 | 32 | 20 | 42 | 28 | 56 | 36 |
| 40 | 14 | 14 | 16.1 | 12 | 5.8 | 20 | 6.8 | 39 | 26 | 36 | 26 | 44 | 30 | 58 | 41.5 |
| 50 | 15 | 15 | 21.1 | 16 | 5.8 | 25 | 9.2 | 50 | 33 | 45 | 31 | 56 | 40 | 70 | 47 |
| 63 | 17 | 17 | 21.1 | 16 | 7.8 | 25 | 9.2 | 50 | 38 | 50 | 31 | 56 | 40 | 70 | 49 |
| 80 | 17 | 17 | 25.1 | 20 | 7.8 | 30 | 11 | 60 | 49 | 63 | 36 | 70 | 50 | 89 | 55 |
| 100 | 20 | 22 | 25.1 | 20 | 9.8 | 41 | 11 | 60 | 56 | 71 | 46 | 70 | 50 | 89 | 65 |
| 125 | 25 | 25 | 37.2 | 30 | 11.8 | 60 | 14 | 89 | 70 | 90 | 70 | 106 | 80 | 128 | 96 |

| For \varnothing [mm] | Basic version | | | | R3 – High corrosion protection | | | |
|---------------------------|-------------------|---------------|--------------|----------------|--------------------------------|---------------|----------------|-------------------|
| | CRC ¹⁾ | Weight [g] | Part no. | Type | CRC ¹⁾ | Weight [g] | Part no. | Type |
| 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) More information www.festo.com/x/topic/crc

Accessories

Multi-position kit DPNA

Material:

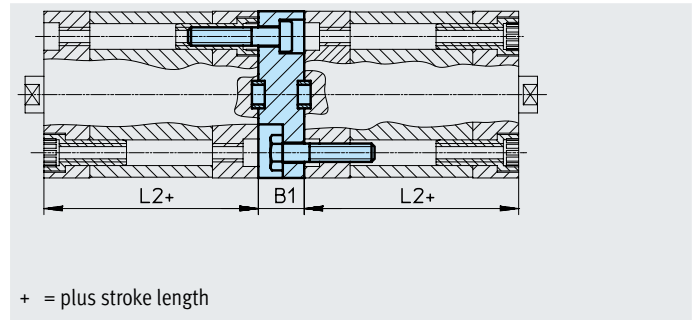
Flange:

Wrought aluminium alloy

Screws: Galvanised steel

Free of copper and PTFE

RoHS-compliant



Dimensions and ordering data

| For \varnothing [mm] | L2 | B1 | Max. overall stroke length [mm] | CRC ¹⁾ | Weight [g] | Part no. | Type ¹⁾ |
|---------------------------|----|----|---------------------------------------|-------------------|---------------|---------------|--------------------|
| 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 | 45 | 15 | 800 | | 99 | 537267 | DPNA-32 |
| 40 | | | | | 129 | 537268 | DPNA-40 |
| 50 | | | | | 16 | 537269 | DPNA-50 |
| 63 | 49 | 17 | 1000 | | 249 | 537270 | DPNA-63 |
| 80 | 54 | | | | 474 | 537271 | DPNA-80 |
| 100 | 67 | | | | 712 | 537272 | DPNA-100 |

- - **Note**

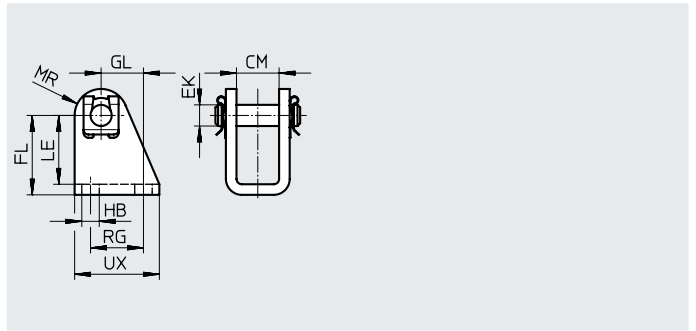
The maximum total stroke length must not be exceeded when combining cylinders and multi-position kits.

1) More information www.festo.com/x/topic/crc

Accessories

Clevis foot LBN

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



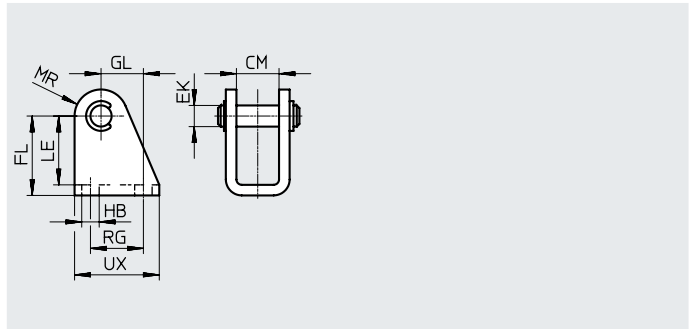
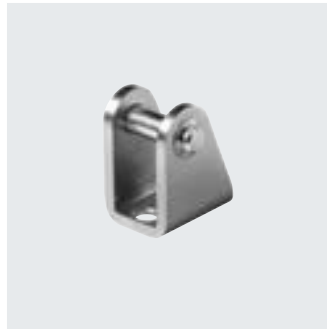
Dimensions and ordering data

| For \varnothing | CM | EK \varnothing | FL | GL | HB \varnothing | 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) More information www.festo.com/x/topic/crc

Clevis foot CRLBN, stainless steel

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



Dimensions and ordering data

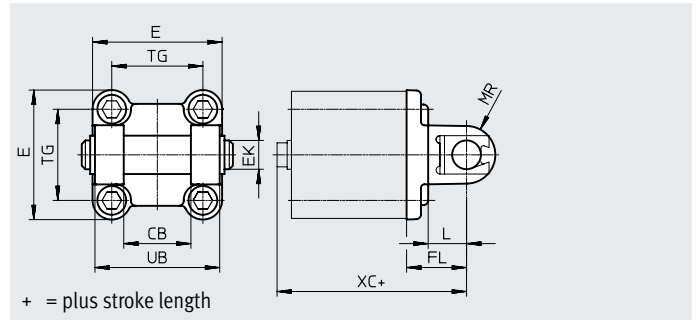
| For \varnothing | CM | EK \varnothing | FL | GL | HB \varnothing | LE | MR | RG | UX | CRC ¹⁾ | Weight [g] | Part no. | Type |
|-------------------|------|---------------------|--------------|----|---------------------|----|----|----|----|-------------------|---------------|----------|-------------|
| [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) More information www.festo.com/x/topic/crc

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 |

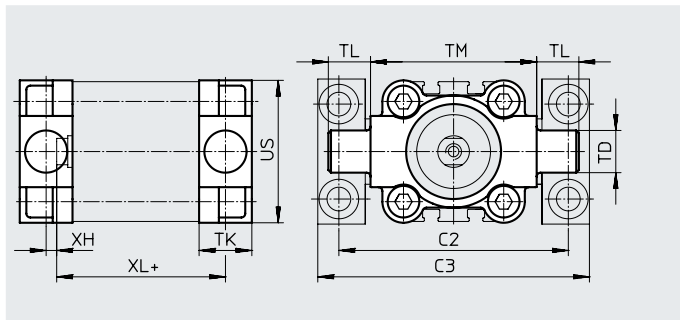
| For \varnothing | Basic version | | | | R3 – High corrosion protection | | | |
|-------------------|-------------------|------------|----------|----------|--------------------------------|------------|----------|-------------|
| | CRC ¹⁾ | Weight [g] | Part no. | Type | CRC ¹⁾ | Weight [g] | Part no. | Type |
| [mm] | | | | | | | | |
| 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 | 233 | ★ 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) More information www.festo.com/x/topic/crc

Accessories

Trunnion flange ZNCF/CRZNG

Material:
 ZNCF: Stainless steel casting
 CRZNG: Electropolished stainless steel casting
 Free of copper and PTFE
 RoHS-compliant



Dimensions and ordering data

| For \varnothing [mm] | C2) | C3) | TD \varnothing e9 | TK | TL | TM | US | XH | XL |
|---------------------------|-----|-----|---------------------------|----|----|-----|-----|----|------|
| 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 [mm] | Basic version | | | | R3 – High corrosion protection | | | |
|---------------------------|-------------------|---------------|----------|----------|--------------------------------|---------------|----------|-----------|
| | CRC ¹⁾ | Weight [g] | Part no. | Type | CRC ¹⁾ | Weight [g] | Part no. | Type |
| 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) More information www.festo.com/x/topic/crc

Accessories

Trunnion support LNZG

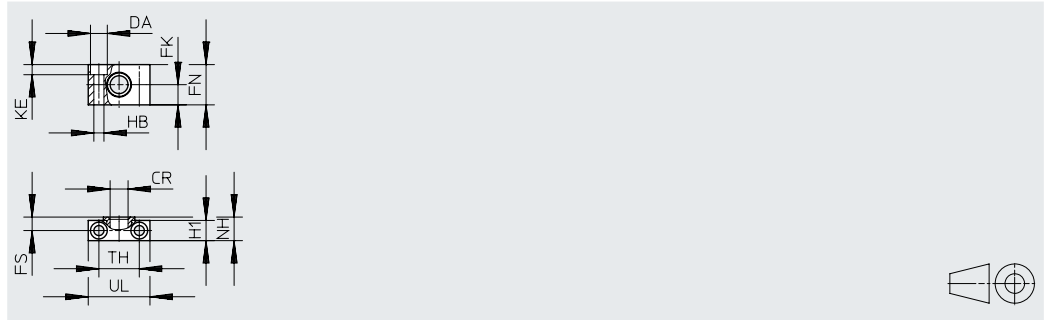
Material:

Trunnion support: Anodised aluminium

Plain bearing: Plastic

Free of copper and PTFE

RoHS-compliant




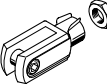
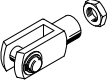
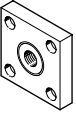
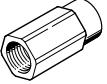
Dimensions and ordering data

| For \varnothing [mm] | CR \varnothing D11 | DA \varnothing H13 | FK \varnothing ± 0.1 | FN | FS | H1 | HB \varnothing H13 | KE | NH | TH ± 0.2 | UL | CRC ¹⁾ | Weight [g] | Part no. | Type |
|---------------------------|----------------------------|----------------------------|----------------------------------|----|------|------|----------------------------|-----|------|-----------------|----|-------------------|---------------|----------|--------------|
| 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 |

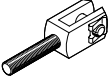
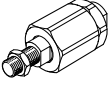
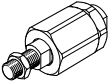
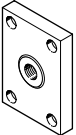
1) More information www.festo.com/x/topic/crc

Accessories

Ordering data – Piston rod attachments

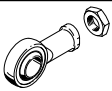
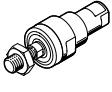
| Designation | For ø | Part no. | Type |
|--|----------------|-----------------|-----------------|
| Rod eye SGS | | | |
|  | 16 | ★ 9254 | SGS-M6 |
| | 20, 25 | ★ 9255 | SGS-M8 |
| | 32, 40 | ★ 9261 | SGS-M10x1.25 |
| | 50, 63 | ★ 9262 | SGS-M12x1.25 |
| | 80, 100 | ★ 9263 | SGS-M16x1.5 |
| | 125 | ★ 9264 | SGS-M20x1.5 |
| Rod clevis SG | | | |
|  | 12 | – | |
| | 16 | ★ 3110 | SG-M6 |
| | 20, 25 | ★ 3111 | SG-M8 |
| | 32, 40 | ★ 6144 | SG-M10x1.25 |
| | 50, 63 | ★ 6145 | SG-M12x1.25 |
| | 80, 100 | ★ 6146 | SG-M16x1.5 |
|  | 125 | ★ 6147 | SG-M20x1.5 |
| | | | |
| Coupling piece KSG | | | |
|  | 12, 16, 20, 25 | – | |
| | 32, 40 | 32963 | KSG-M10x1.25 |
| | 50, 63 | 32964 | KSG-M12x1.25 |
| | 80, 100 | 32965 | KSG-M16x1.5 |
| | 125 | 32966 | KSG-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 | |

Datasheets → Internet: piston rod attachment

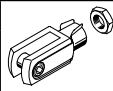
| Designation | For ø | Part no. | Type |
|---|----------------|----------|--------------|
| Rod clevis SGA for rod eye SGS | | | |
|  | 12, 16, 20, 25 | – | |
| | 32, 40 | 32954 | SGA-M10x1.25 |
| | 50, 63 | 10767 | SGA-M12x1.25 |
| | 80, 100 | 10768 | SGA-M16x1.5 |
| | 125 | 10769 | SGA-M20x1.5 |
| Self-aligning rod coupler FK | | | |
|  | 12 | 30984 | FK-M5 |
| | 16 | ★ 2061 | FK-M6 |
| | 20, 25 | ★ 2062 | FK-M8 |
| | 32, 40 | ★ 6140 | FK-M10x1.25 |
| | 50, 63 | ★ 6141 | FK-M12x1.25 |
| | 80, 100 | ★ 6142 | FK-M16x1.5 |
| | 125 | ★ 6143 | FK-M20x1.5 |
| | | | |
| Self-aligning rod coupler DARP | | | |
|  | 12 | 8170112 | DARP-M5-F |
| | 16 | 8170115 | DARP-M6-F |
| | 20, 25 | 8170116 | DARP-M8-F |
| | 32, 40 | 8170119 | DARP-M10P-F |
| | 50, 63 | 8170120 | DARP-M12P-F |
| | 80, 100 | 8170121 | DARP-M16P-F |
| | 125 | 8170124 | DARP-M20P-F |
| Coupling piece KSZ | | | |
|  | 12 | – | |
| | 16 | 36123 | KSZ-M6 |
| | 20, 25 | 36124 | KSZ-M8 |
| | 32, 40 | 36125 | KSZ-M10x1.25 |
| | 50, 63 | 36126 | KSZ-M12x1.25 |
| | 80, 100 | 36127 | KSZ-M16x1.5 |
| | 125 | 36128 | KSZ-M20x1.5 |
| | | | |

Accessories

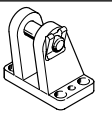
Ordering data – Piston-rod attachments, corrosion-resistant

| Designation | For ø | Part no. | Type |
|---|---------|----------|----------------|
| Rod eye CRSGS | | | |
|  | 12 | – | |
| | 16 | 195580 | CRSGS-M6 |
| | 20, 25 | 195581 | CRSGS-M8 |
| | 32, 40 | 195582 | CRSGS-M10x1.25 |
| | 50, 63 | 195583 | CRSGS-M12x1.25 |
| | 80, 100 | 195584 | CRSGS-M16x1.5 |
| | 125 | 195585 | CRSGS-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 |

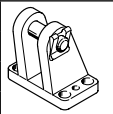
Datasheets → Internet: piston rod attachment

| Designation | For ø | Part no. | Type |
|---|---------|----------|---------------|
| Rod clevis CRSG | | | |
|  | 12 | – | |
| | 16, 20 | 13567 | CRSG-M6 |
| | 20, 25 | 13568 | CRSG-M8 |
| | 32, 40 | 13569 | CRSG-M10x1.25 |
| | 50, 63 | 13570 | CRSG-M12x1.25 |
| | 80, 100 | 13571 | CRSG-M16x1.5 |
| | 125 | 13572 | CRSG-M20x1.5 |

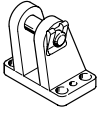
Ordering data – Mounting components

| Designation | For ø | Part no. | Type |
|---|---------|----------|---------|
| Right-angle clevis foot LQG for rod eye SGS | | | |
|  | 32, 40 | 31761 | LBG-32 |
| | 50, 63 | 31762 | LBG-40 |
| | 80, 100 | 31763 | LBG-50 |
| | | 31764 | LBG-63 |
| | 125 | 31765 | LBG-80 |
| | | 31766 | LBG-100 |

Datasheets → Internet: clevis foot

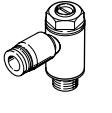
| Designation | For ø | Part no. | Type |
|---|---------|----------|---------|
| Right-angle clevis foot LQG for rod eye SGS | | | |
|  | 32, 40 | 31768 | LQG-32 |
| | 50, 63 | 31769 | LQG-40 |
| | 80, 100 | 31770 | LQG-50 |
| | | 31771 | LQG-63 |
| | 125 | 31772 | LQG-80 |
| | | 31773 | LQG-100 |

Ordering data – Mounting components, high corrosion protection


| 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 |


Datasheets → Internet: clevis foot



Ordering data – One-way flow control valves

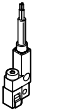
| Connection | For ø | For tubing O.D. | Material | Part no. | Type |
|---|-------------------------|-----------------|--------------|-----------------------------|------------------|
| | | | | Datasheets → Internet: grla | |
| For exhaust air | | | | | |
|  | 12, 16, 20, 25 | 3 | Metal design | ★ 193137 | 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 |
| | | 125 | | 6 | ★ 193146 |
| | 125 | 8 | | ★ 193147 | GRLA-1/4-QS-8-D |
| | | 10 | | ★ 193148 | GRLA-1/4-QS-10-D |

Accessories

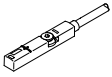
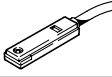
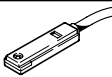





| Ordering data – One-way flow control valves | | | | | Datasheets → Internet: grlz | | |
|--|-------------------------|-----------------|--------------|----------|-----------------------------|--|--|
| | Connection | | Material | Part no. | Type | | |
| | For ø | For tubing O.D. | | | | | |
| For supply 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 | | |
| | | – | | 151195 | GRLZ-1/4-B | | |
| | 125 | – | | | | | |

| Ordering data – One-way flow control valves for cylinders ADNH and ADN | | | | | Datasheets → Internet: grla | |
|--|------------|-----------------|--------------|----------|-----------------------------|--|
| | Connection | | Material | Part no. | Type | |
| | For ø | For tubing O.D. | | | | |
| For exhaust air | | | | | | |
|  | 25, 40 | 3 | Metal design | 193137 | GRLA-M5-QS-3-D | |
| | | 4 | | 193138 | GRLA-M5-QS-4-D | |
| | 63, 100 | 4 | | 193143 | GRLA-1/8-QS-4-D | |
| | | 6 | | 193144 | GRLA-1/8-QS-6-D | |
| | | 8 | | 193145 | GRLA-1/8-QS-8-D | |
| | | | | | | |

| Ordering data – Proximity switch for T-slot, magneto-resistive | | | | | | Datasheets → Internet: smt | |
|--|--|------------------|-----------------------|------------------|----------|----------------------------|--|
| | Type of mounting | Switching output | Electrical connection | Cable length [m] | Part no. | Type | |
| N/O | | | | | | | |
|  | Inserted in the slot from above, flush with the cylinder profile, short design | PNP | Cable, 3-core | 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-core | 2.5 | ★ 574338 | SMT-8M-A-NS-24V-E-2.5-OE | |
| | | | Plug M8x1, 3-pin | 0.3 | ★ 574339 | SMT-8M-A-NS-24V-E-0.3-M8D | |
| N/C | | | | | | | |
|  | Inserted in the slot from above, flush with the cylinder profile, short design | PNP | Cable, 3-core | 7.5 | ★ 574340 | SMT-8M-A-PO-24V-E-7.5-OE | |

| Ordering data – Proximity switch for T-slot, magneto-resistive | | | | | | Datasheets → Internet: smt | |
|--|-----------------------------------|---|------------------|------------------|----------|----------------------------|--|
| | Type of mounting | Electrical connection, outlet direction of connection | Switching output | Cable length [m] | Part no. | Type | |
| N/O | | | | | | | |
|  | Inserted into the slot lengthwise | Cable, 3-wire, crosswise | PNP | 2.5 | 547859 | SMT-8G-PS-24V-E-2.5Q-OE | |
| | | Plug M8x1, 3-pin, crosswise | | 0.3 | 547860 | SMT-8G-PS-24V-E-0.3Q-M8D | |
| | | Cable, 3-wire, crosswise | NPN | 2.5 | 8065028 | SMT-8G-NS-24V-E-2.5Q-OE | |
| | | Plug M8x1, 3-pin, crosswise | | 0.3 | 8065027 | SMT-8G-NS-24V-E-0.3Q-M8D | |

Accessories

| Ordering data – Proximity switches for T-slot, magnetic reed | | | | | | Datasheets → Internet: sme | |
|---|--|------------------------------|-----------------------|------------------|----------|-----------------------------|--|
| | Type of mounting | Switching output | Electrical connection | Cable length [m] | Part no. | Type | |
| N/O | | | | | | | |
|  | Inserted in the slot from above, flush with the cylinder profile | Contacting | Cable, 3-core | 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 | |
|  | Inserted in the slot lengthwise, flush with the cylinder profile | Contacting | Cable, 3-core | 2.5 | 150855 | SME-8-K-LED-24 | |
| | | | | 0.3 | 150857 | SME-8-S-LED-24 | |
| N/C | | | | | | | |
|  | Inserted in the slot lengthwise, flush with the cylinder profile | Contacting | Cable, 3-core | 7.5 | 160251 | SME-8-O-K-LED-24 | |
| Ordering data – Connecting cables | | | | | | Datasheets → Internet: nebu | |
| | Electrical connection, left | Electrical connection, right | | Cable length [m] | Part no. | Type | |
|  | Straight socket, M8x1, 3-pin | Cable, open end, 3-core | | 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-core | | 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-core | | 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-core | | 2.5 | 541367 | NEBU-M12W5-K-2.5-LE3 | |
| | | | | 5 | 541370 | NEBU-M12W5-K-5-LE3 | |
| Ordering data – Proximity switch, cuboid shape, pneumatic | | | | | | Datasheets → Internet: smpo | |
| | Pneumatic connection | | | | Part no. | Type | |
| 3/2-way valve, normally closed | | | | | | | |
|  | Female thread M5 | | | | 178563 | SMPO-8E | |
| Ordering data – Mounting kit for proximity switch SMPO-8E | | | | | | Datasheets → Internet: smb | |
| | Mounting | | | | Part no. | Type | |
|  | Clamped in T-slot | | | | 178230 | SMB-8E | |
| Ordering data – Slot cover for T-slot | | | | | | | |
| | Mounting | Length | | | Part no. | Type | |
|  | Insertable | 2x 0.5 m | | | 151680 | ABP-5-S | |