

## Compact cylinders ADN/AEN, to ISO 21287

**FESTO**



# Compact cylinders ADN/AEN, to ISO 21287

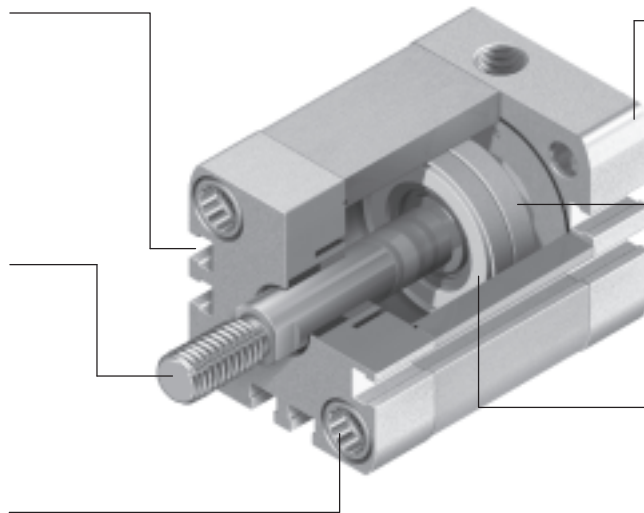
Key features

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Sensor slots on three sides for flush mounting of proximity sensors

Piston rod with choice of male or female thread

Mounting option: Female thread and through-hole



Centring hole in the end cap matches centring pins ZBS

Magnet for contactless position sensing

Integrated cushioning rings for absorbing residual energy at high speeds and machine cycles

## More than the standard

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

## Powerful

- Flexible cushioning rings as standard for absorbing the residual energy facilitate high speeds and machine cycles
- Long service life thanks to exceptional cushioning characteristics and minimal friction factors
- The ADNP with bearing and end caps made of polymer and integrated QS push-in fittings is distinguished by its low weight

## Convenient

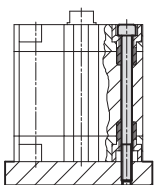
- Easy to mount with a comprehensive range of mounting accessories for just about every type of installation
- Highly flexible thanks to the wide range of variants
- Contactless position sensing using proximity sensors

## Reliable

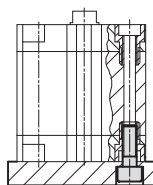
- Optimised manufacturing methods, patented technology and more than 40 years of experience in the field of cylinders make Festo and ADN/AEN a great team

## Mounting options

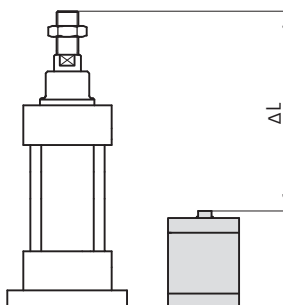
With through screw



Direct mounting



## Size

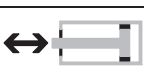


- Space savings of up to 50% compared with the standard ISO 15552

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Key features

| Variants from the modular system                                                    |                                                          |                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Symbol                                                                              | Key features                                             | Description                                                                                                                                                                                       |
|    | S1 Reinforced piston rod                                 | Increased lateral forces. Absorbs many times more lateral force than a basic cylinder                                                                                                             |
|    | S2 Through piston rod                                    | For working at both ends with the same forces in the advance and return stroke, for attaching external stops                                                                                      |
|    | S6 Heat-resistant seals                                  | Temperature resistance up to max. 120 °C                                                                                                                                                          |
|    | S10 Constant (slow speed) operation at low piston speeds | Suitable for slow stroke movements at a constant, judder-free speed over the full stroke of the cylinder.<br>Seal contains silicone grease (not free of paint-wetting impairment substances)      |
|    | S11 Low friction                                         | The special seals considerably reduce system wear. This corresponds to a considerably lower response pressure.<br>Seal contains silicone grease (not free of paint-wetting impairment substances) |
|    | S20 Through, hollow piston rod                           | For carrying vacuum, small parts, media, etc.                                                                                                                                                     |
|    | K2 Extended male piston rod thread                       | –                                                                                                                                                                                                 |
|    | K5 Special piston rod thread                             | Metric standard thread to ISO                                                                                                                                                                     |
|   | K8 Extended piston rod                                   | –                                                                                                                                                                                                 |
|  | K10 Smooth anodised aluminium piston rod                 | Ideal for use in welding environments:<br>– Protection against welding spatter<br>– Small moving loads<br>– Harder surface compared to steel<br>– Long service life                               |
|  | KP With clamping unit                                    | Integrated clamping unit on the piston rod                                                                                                                                                        |
|  | EL With end position lock                                | Positive lock in the end position as drop guard. If there is a drop in pressure, the piston rod is secured in its end position to prevent it from dropping                                        |
|  | Q Square piston rod                                      | Protection against torsion. For correctly oriented feeding                                                                                                                                        |
|  | R3 High corrosion protection                             | All external cylinder surfaces comply with corrosion resistance class 3 to Festo standard 940 070. The piston rod is made from corrosion and acid resistant steel                                 |
|  | R8 Dust protection (wiper seal)                          | The cylinder is equipped with a hard-chrome plated piston rod and a rigid wiper seal, which protects against dry, dusty media                                                                     |
|  | TL Captive rating plate                                  | Laser etched rating plate. For easy identification when it comes to replacement, even after years in a harsh environment                                                                          |
|  | TT Low temperature                                       | Temperature resistance up to max. –40 °C                                                                                                                                                          |

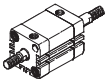
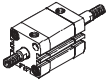
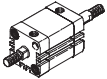
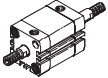
- Note

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

# Compact cylinders ADN, to ISO 21287

Product range overview

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| Function      | Version                                                                             | Type                                        | Piston Ø           | Stroke                                |            | Position sensing | Cushioning |
|---------------|-------------------------------------------------------------------------------------|---------------------------------------------|--------------------|---------------------------------------|------------|------------------|------------|
|               |                                                                                     |                                             | [mm]               | [mm]                                  |            |                  |            |
| Double-acting | Basic version                                                                       |                                             |                    |                                       |            |                  |            |
|               |    | ADN                                         | 12                 | 5, 10, 15, 20, 25, 30, 40             | 1 ... 300  | ■                | ■          |
|               |                                                                                     |                                             | 16                 | 5, 10, 15, 20, 25, 30, 40, 50         | 1 ... 300  |                  |            |
|               |                                                                                     |                                             | 20, 25             | 5, 10, 15, 20, 25, 30, 40, 50, 60     | 1 ... 300  |                  |            |
|               |                                                                                     |                                             | 32, 40, 50         | 5, 10, 15, 20, 25, 30, 40, 50, 60, 80 | 1 ... 400  |                  |            |
|               |                                                                                     |                                             | 63                 | 10, 15, 20, 25, 30, 40, 50, 60, 80    | 1 ... 400  |                  |            |
|               |                                                                                     |                                             | 80, 100            | 10, 15, 20, 25, 30, 40, 50, 60, 80    | 1 ... 500  |                  |            |
|               |                                                                                     |                                             | 125                | –                                     | 1 ... 500  |                  |            |
|               |    | ADN-...-S2<br>Through piston rod            | 12, 16, 20, 25     | –                                     | 1 ... 300  | ■                | ■          |
|               |                                                                                     |                                             | 32, 40, 50, 63     | –                                     | 1 ... 400  |                  |            |
|               |                                                                                     |                                             | 80, 100, 125       | –                                     | 1 ... 500  |                  |            |
|               |   | ADN-...-S20<br>Through, hollow piston rod   | 16, 20, 25         | –                                     | 1 ... 300  | ■                | ■          |
|               |                                                                                     |                                             | 32, 40, 50, 63     | –                                     | 1 ... 400  |                  |            |
|               |                                                                                     |                                             | 80, 100, 125       | –                                     | 1 ... 500  |                  |            |
|               | Reinforced piston rod                                                               |                                             |                    |                                       |            |                  |            |
|               |  | ADN-...-S1                                  | 25                 | –                                     | 5 ... 300  | ■                | ■          |
|               |                                                                                     |                                             | 40, 63             | –                                     | 10 ... 400 |                  |            |
|               |                                                                                     |                                             | 100                | –                                     | 10 ... 500 |                  |            |
|               | Non-rotating with square piston rod                                                 |                                             |                    |                                       |            |                  |            |
|               |  | ADN-...-Q                                   | 12, 16, 20, 25     | –                                     | 1 ... 300  | ■                | ■          |
|               |                                                                                     |                                             | 32, 40, 50, 63     | –                                     | 1 ... 400  |                  |            |
|               |                                                                                     |                                             | 80, 100, 125       | –                                     | 1 ... 500  |                  |            |
|               |  | ADN-...-Q-S2<br>Through piston rod          | 12, 16, 20, 25     | –                                     | 1 ... 300  | ■                | ■          |
|               |                                                                                     |                                             | 32, 40, 50, 63     | –                                     | 1 ... 400  |                  |            |
|               |                                                                                     |                                             | 80, 100, 125       | –                                     | 1 ... 500  |                  |            |
|               |  | ADN-...-Q-S20<br>Through, hollow piston rod | 16, 20, 25         | –                                     | 1 ... 200  | ■                | ■          |
|               |                                                                                     |                                             | 32, 40, 50, 63, 80 | –                                     | 1 ... 300  |                  |            |
|               |                                                                                     |                                             | 100, 125           | –                                     | 1 ... 400  |                  |            |
|               | Standard port pattern, with clamping unit                                           |                                             |                    |                                       |            |                  |            |
|               |  | ADN-...-KP                                  | 20, 25             | –                                     | 10 ... 300 | ■                | ■          |
|               |                                                                                     |                                             | 32, 40, 50, 63     |                                       | 10 ... 400 |                  |            |
|               |                                                                                     |                                             | 80, 100            |                                       | 10 ... 500 |                  |            |
|               | Standard port pattern, with end position lock                                       |                                             |                    |                                       |            |                  |            |
|               |  | ADN-...-EL                                  | 20, 25             | –                                     | 10 ... 300 | ■                | ■          |
|               |                                                                                     |                                             | 32, 40, 50, 63     |                                       | 10 ... 400 |                  |            |
|               |                                                                                     |                                             | 80, 100            |                                       | 10 ... 500 |                  |            |
|               | With polymer end cap                                                                |                                             |                    |                                       |            |                  |            |
|               |  | ADNP                                        | 20, 25             | 5, 10, 15, 20, 25, 30, 40, 50, 60     | –          | ■                | ■          |
|               |                                                                                     |                                             | 32, 40, 50         | 10, 15, 20, 25, 30, 40, 50, 60, 80    |            |                  |            |

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Product range overview

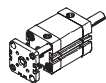
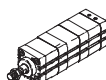
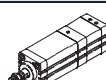
**FESTO**

| Type                                                 | Male piston rod thread | Female piston rod thread | Extended male piston rod thread | Special thread | Extended piston rod | Smooth anodised piston rod | Heat-resistant seals up to 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                |                 |
| <b>Basic version</b>                                 |                        |                          |                                 |                |                     |                            |                                        |                              |              |                           |                     |                   |                 |
| <b>ADN</b>                                           | ■                      | ■                        | ■                               | ■              | ■                   | ■<br>Ø 20 and above        | ■                                      | ■                            | ■            | ■                         | ■<br>Ø 20 and above | ■<br>Ø 20 ... 100 | 13              |
| <b>ADN-...-S2</b><br>Through piston rod              | ■                      | ■                        | ■                               | ■              | ■                   | –                          | ■                                      | –                            | –            | –                         | –                   | ■<br>Ø 20 ... 100 | 13              |
| <b>ADN-...-S20</b><br>Through, hollow piston rod     | ■                      | –                        | ■                               | ■              | ■                   | –                          | ■                                      | –                            | –            | –                         | –                   | –                 | 13              |
| <b>Reinforced piston rod</b>                         |                        |                          |                                 |                |                     |                            |                                        |                              |              |                           |                     |                   |                 |
| <b>ADN-...-S1</b>                                    | ■                      | ■                        | ■                               | ■              | ■                   | –                          | ■                                      | –                            | –            | ■                         | –                   | –                 | 13              |
| <b>Non-rotating with square piston rod</b>           |                        |                          |                                 |                |                     |                            |                                        |                              |              |                           |                     |                   |                 |
| <b>ADN-...-Q</b>                                     | ■                      | ■                        | ■                               | ■              | ■                   | –                          | ■                                      | –                            | –            | –                         | –                   | –                 | 13              |
| <b>ADN-...-Q-S2</b><br>Through piston rod            | ■                      | ■                        | ■                               | ■              | ■                   | –                          | ■                                      | –                            | –            | –                         | –                   | –                 | 13              |
| <b>ADN-...-Q-S20</b><br>Through, hollow piston rod   | ■                      | –                        | ■                               | ■              | ■                   | –                          | ■                                      | –                            | –            | –                         | –                   | –                 | 13              |
| <b>Standard port pattern, with clamping unit</b>     |                        |                          |                                 |                |                     |                            |                                        |                              |              |                           |                     |                   |                 |
| <b>ADN-...-KP</b>                                    | ■                      | ■                        | ■                               | ■              | ■                   | –                          | –                                      | –                            | –            | –                         | –                   | –                 | 38              |
| <b>Standard port pattern, with end position lock</b> |                        |                          |                                 |                |                     |                            |                                        |                              |              |                           |                     |                   |                 |
| <b>ADN-...-EL</b>                                    | ■                      | ■                        | ■                               | ■              | ■                   | –                          | –                                      | –                            | –            | –                         | –                   | –                 | 47              |
| <b>With polymer end cap</b>                          |                        |                          |                                 |                |                     |                            |                                        |                              |              |                           |                     |                   |                 |
| <b>ADNP</b>                                          | ■                      | ■                        | –                               | –              | –                   | –                          | –                                      | –                            | –            | –                         | –                   | –                 | 73              |

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Product range overview

**FESTO**

| Function      | Version                                                                             | Type                               | Piston Ø                | Stroke                                |            | Position sensing | Cushioning |
|---------------|-------------------------------------------------------------------------------------|------------------------------------|-------------------------|---------------------------------------|------------|------------------|------------|
|               |                                                                                     |                                    | [mm]                    |                                       |            |                  |            |
|               |                                                                                     |                                    |                         |                                       |            | A                | P          |
| Double-acting | Standard port pattern, non-rotating with yoke                                       |                                    |                         |                                       |            |                  |            |
|               |    | ADNGF                              | 12                      | 5, 10, 15, 20, 25, 30, 40             | 1 ... 200  | ■                | ■          |
|               |                                                                                     |                                    | 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<br>Through piston rod | 12, 16                  | –                                     | 1 ... 200  | ■                | ■          |
|               |                                                                                     |                                    | 20, 25                  |                                       | 3 ... 200  |                  |            |
|               |                                                                                     |                                    | 32, 40, 50, 63, 80, 100 |                                       | 5 ... 250  |                  |            |
|               |                                                                                     |                                    |                         |                                       |            |                  |            |
|               | Standard port pattern, high-force cylinder                                          |                                    |                         |                                       |            |                  |            |
|               |  | ADNH                               | 25                      | –                                     | 1 ... 150  | ■                | ■          |
|               |                                                                                     |                                    | 40                      |                                       |            |                  |            |
|               |                                                                                     |                                    | 63                      |                                       |            |                  |            |
|               |                                                                                     |                                    | 100                     |                                       |            |                  |            |
|               | Standard port pattern, multi-position cylinder                                      |                                    |                         |                                       |            |                  |            |
|               |  | ADNM                               | 25                      | –                                     | 1 ... 2000 | ■                | ■          |
|               |                                                                                     |                                    | 40                      |                                       |            |                  |            |
|               |                                                                                     |                                    | 63                      |                                       |            |                  |            |
|               |                                                                                     |                                    | 100                     |                                       |            |                  |            |

# Compact cylinders ADN, to ISO 21287

Product range overview

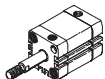
**FESTO**

| Type                                           | Male piston rod thread | Female piston rod thread | Extended male piston rod thread | Special thread | Extended piston rod | Heat-resistant seals up to max. 120 °C | → Page/Internet |
|------------------------------------------------|------------------------|--------------------------|---------------------------------|----------------|---------------------|----------------------------------------|-----------------|
|                                                | A                      | I                        | K2                              | K5             | K8                  | S6                                     |                 |
| Standard port pattern, non-rotating with yoke  |                        |                          |                                 |                |                     |                                        |                 |
| ADNGF                                          | -                      | -                        | -                               | -              | -                   | ■                                      | 4               |
| ADNGF-...-S2<br>Through piston rod             | -                      | -                        | -                               | -              | -                   | ■                                      | 4               |
| Standard port pattern, high-force cylinder     |                        |                          |                                 |                |                     |                                        |                 |
| ADNH                                           | ■                      | ■                        | ■                               | ■              | ■                   | ■                                      | 39              |
| Standard port pattern, multi-position cylinder |                        |                          |                                 |                |                     |                                        |                 |
| ADNM                                           | ■                      | ■                        | ■                               | ■              | ■                   | ■                                      | 8               |

# Compact cylinders AEN, to ISO 21287

Product overview

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| Function      | Version                                                                            | Type                 | Piston Ø                            | 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<br>pulling | 12                                  | 1 ... 10 | ■                | ■          |
|               |                                                                                    |                      | 16, 20, 25, 32, 40, 50, 63, 80, 100 | 1 ... 25 |                  |            |
|               | Non-rotating with square piston rod                                                |                      |                                     |          |                  |            |
|               |  | AEN-...-Q            | 16                                  | 1 ... 25 | ■                | ■          |
|               |                                                                                    |                      | 20, 25, 32, 40, 50, 63, 80, 100     | 1 ... 25 |                  |            |



# Compact cylinders AEN, to ISO 21287

Product overview

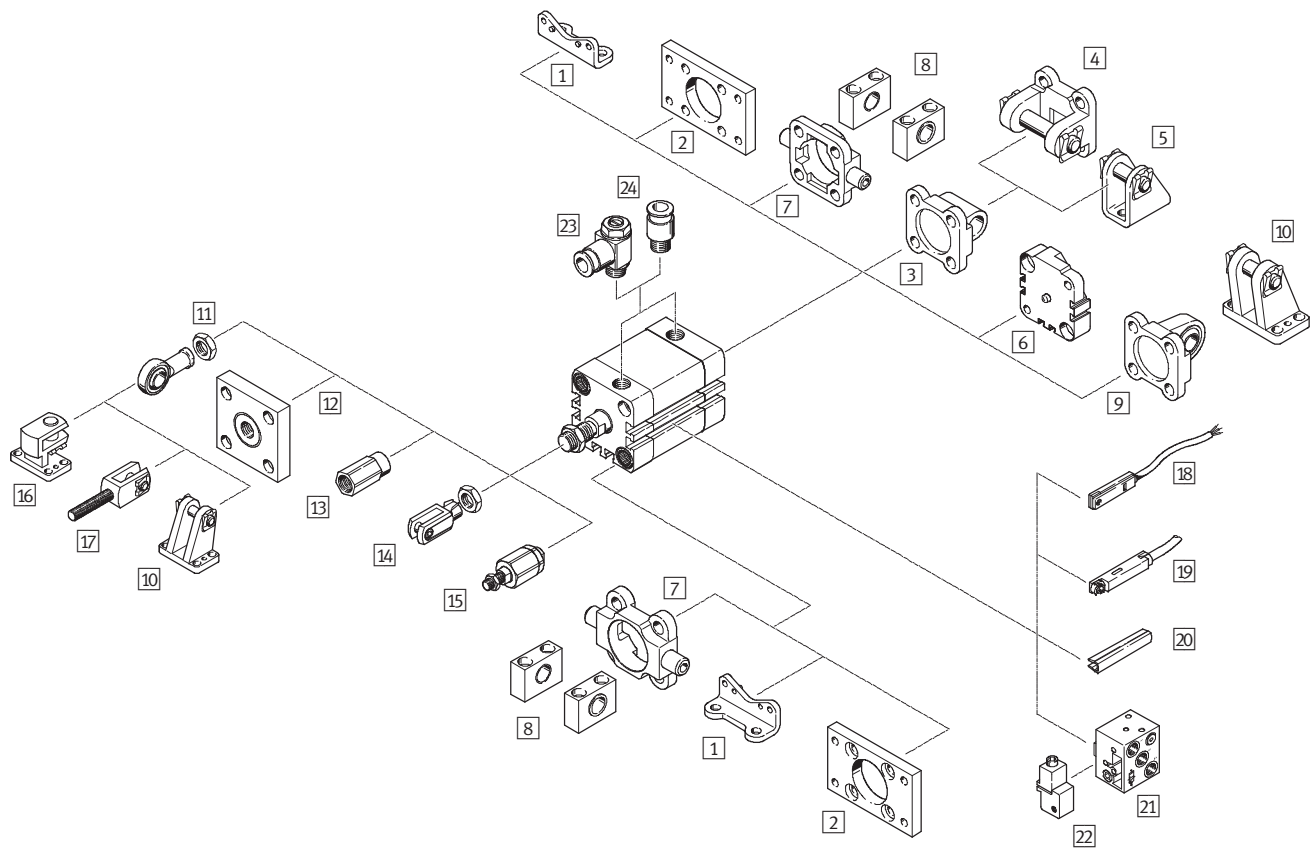
**FESTO**

| Type                                | Male piston rod thread | Female piston rod thread | Extended male piston rod thread | Special piston rod thread | Extended piston rod | Smooth anodised piston rod | Heat-resistant seals up to max. 120 °C | → Page/Internet |
|-------------------------------------|------------------------|--------------------------|---------------------------------|---------------------------|---------------------|----------------------------|----------------------------------------|-----------------|
|                                     | A                      | I                        | K2                              | K5                        | K8                  | K10                        | S6                                     |                 |
| Basic version                       |                        |                          |                                 |                           |                     |                            |                                        |                 |
| AEN                                 | ■                      | ■                        | ■                               | ■                         | ■                   | ■<br>Ø 20 and above        | ■                                      | 57              |
| AEN-...-Z pulling                   | ■                      | ■                        | ■                               | ■                         | ■                   | ■<br>Ø 20 and above        | ■                                      | 57              |
| Non-rotating with square piston rod |                        |                          |                                 |                           |                     |                            |                                        |                 |
| AEN-...-Q                           | ■                      | ■                        | ■                               | ■                         | ■                   | –                          | ■                                      | 57              |

# Compact cylinders ADN/AEN, to ISO 21287

Peripherals overview

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# Compact cylinders ADN/AEN, to ISO 21287

Peripherals overview

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| Mounting attachments and accessories |                                         |                                                                                                          |
|--------------------------------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------|
|                                      | Brief description                       | → Page/Internet                                                                                          |
| 1                                    | Foot mounting<br>HNA                    | For bearing or end caps<br>77                                                                            |
| 2                                    | Flange mounting<br>FNC                  | For bearing or end caps<br>78                                                                            |
| 3                                    | Swivel flange<br>SNCL                   | For end caps<br>79                                                                                       |
| 4                                    | Swivel flange<br>SNCB                   | For swivel flange SNCL<br>83                                                                             |
| 5                                    | Clevis foot<br>LBN/CRLBN                | For swivel flange SNCL<br>82                                                                             |
| 6                                    | Multi-position kit<br>DPNA              | For connecting two cylinders with identical piston $\varnothing$ to form a multi-position cylinder<br>81 |
| 7                                    | Trunnion flange<br>ZNCf/CRZNG           | For bearing caps<br>84                                                                                   |
| 8                                    | Trunnion support<br>LNZG                | For trunnion flange ZNCf/CRZNG<br>85                                                                     |
| 9                                    | Swivel flange<br>SNCS                   | For end caps<br>80                                                                                       |
| 10                                   | Clevis foot<br>LBG                      | For swivel flange SNCS<br>80                                                                             |
| 11                                   | Rod eye<br>SGS/CRSGS                    | With spherical bearing<br>86                                                                             |
| 12                                   | Coupling piece<br>KSG/KSZ               | For compensating radial deviations<br>86                                                                 |
| 13                                   | Adapter<br>AD                           | For mounting a vacuum suction cup on a hollow cylinder piston rod<br>86                                  |
| 14                                   | Rod clevis<br>SG/CRSG                   | Permits a swivelling movement of the cylinder in one plane<br>86                                         |
| 15                                   | Self-aligning rod coupler<br>FK         | For compensating radial and angular deviations<br>86                                                     |
| 16                                   | Right-angle clevis foot<br>LQG          | For rod eye SGS<br>87                                                                                    |
| 17                                   | Rod clevis<br>SGA                       | With male thread<br>86                                                                                   |
| 18                                   | Proximity sensor<br>SME/SMT-8           | Can be integrated in the sensor slot of the cylinder profile barrel<br>89                                |
| 19                                   | Proximity sensor<br>SME/SMT-8M          | Can be integrated in the sensor slot of the cylinder profile barrel<br>89                                |
| 20                                   | Slot cover<br>ABP-5-S                   | For protecting the sensor cable and keeping dirt out of the sensor slots<br>89                           |
| 21                                   | Proximity sensor<br>SMPO-8E             | Pneumatic output signal<br>89                                                                            |
| 22                                   | Mounting kit<br>SMB-8E                  | For proximity sensor SMPO-8E<br>89                                                                       |
| 23                                   | One-way flow control valve<br>GRLA/GRLZ | For speed regulation<br>87                                                                               |
| 24                                   | Push-in fitting<br>QS                   | For connecting compressed air tubing with standard external diameters<br>quick star                      |

# Compact cylinders ADN, to ISO 21287

Type codes

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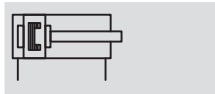
|                          |                                             |     |   |    |   |    |   |   |   |   |   |   |   |    |
|--------------------------|---------------------------------------------|-----|---|----|---|----|---|---|---|---|---|---|---|----|
|                          |                                             | ADN | – | 50 | – | 50 | – | A | – | P | – | A | – | S2 |
| <b>Type</b>              |                                             |     |   |    |   |    |   |   |   |   |   |   |   |    |
| Double-acting            |                                             |     |   |    |   |    |   |   |   |   |   |   |   |    |
| ADN                      | Compact cylinder                            |     |   |    |   |    |   |   |   |   |   |   |   |    |
| <b>Piston Ø [mm]</b>     |                                             |     |   |    |   |    |   |   |   |   |   |   |   |    |
| <b>Stroke [mm]</b>       |                                             |     |   |    |   |    |   |   |   |   |   |   |   |    |
| <b>Piston rod thread</b> |                                             |     |   |    |   |    |   |   |   |   |   |   |   |    |
| A                        | Male thread                                 |     |   |    |   |    |   |   |   |   |   |   |   |    |
| I                        | Female thread                               |     |   |    |   |    |   |   |   |   |   |   |   |    |
| <b>Cushioning</b>        |                                             |     |   |    |   |    |   |   |   |   |   |   |   |    |
| P                        | Flexible cushioning rings/pads at both ends |     |   |    |   |    |   |   |   |   |   |   |   |    |
| <b>Position sensing</b>  |                                             |     |   |    |   |    |   |   |   |   |   |   |   |    |
| A                        | Via proximity sensor                        |     |   |    |   |    |   |   |   |   |   |   |   |    |
| <b>Variant</b>           |                                             |     |   |    |   |    |   |   |   |   |   |   |   |    |
| Q                        | Square piston rod                           |     |   |    |   |    |   |   |   |   |   |   |   |    |
| S1                       | Reinforced piston rod                       |     |   |    |   |    |   |   |   |   |   |   |   |    |
| S2                       | Through piston rod                          |     |   |    |   |    |   |   |   |   |   |   |   |    |
| S20                      | Through, hollow piston rod                  |     |   |    |   |    |   |   |   |   |   |   |   |    |
| K2                       | Extended male piston rod thread             |     |   |    |   |    |   |   |   |   |   |   |   |    |
| K5                       | Special piston rod thread                   |     |   |    |   |    |   |   |   |   |   |   |   |    |
| K8                       | Extended piston rod                         |     |   |    |   |    |   |   |   |   |   |   |   |    |
| K10                      | Smooth anodised piston rod                  |     |   |    |   |    |   |   |   |   |   |   |   |    |
| S6                       | Heat-resistant seals up to max. 120 °C      |     |   |    |   |    |   |   |   |   |   |   |   |    |
| S10                      | Slow speed (constant motion)                |     |   |    |   |    |   |   |   |   |   |   |   |    |
| S11                      | Low friction                                |     |   |    |   |    |   |   |   |   |   |   |   |    |
| R3                       | High corrosion protection                   |     |   |    |   |    |   |   |   |   |   |   |   |    |
| R8                       | Dust protection                             |     |   |    |   |    |   |   |   |   |   |   |   |    |
| TL                       | Captive rating plate (laser etched)         |     |   |    |   |    |   |   |   |   |   |   |   |    |
| TT                       | Low temperature                             |     |   |    |   |    |   |   |   |   |   |   |   |    |

# Compact cylinders ADN, to ISO 21287

Technical data

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Function



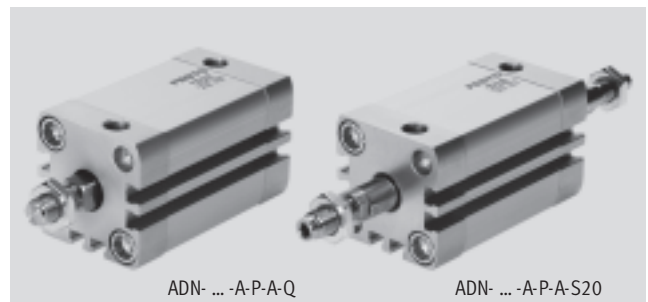
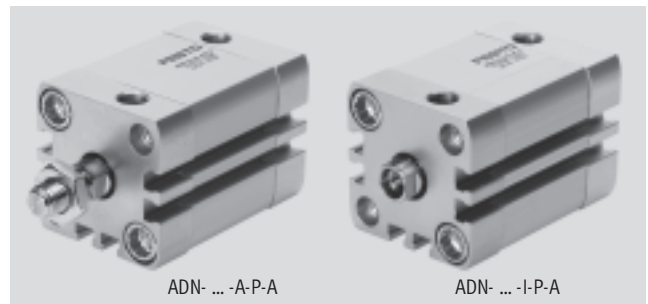
Variants → 3



Ø - Diameter  
12 ... 125 mm

█ - Stroke length  
1 ... 500 mm

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| General technical data |                                             |    |    |    |    |    |    |    |    |     |     |
|------------------------|---------------------------------------------|----|----|----|----|----|----|----|----|-----|-----|
| Piston Ø               | 12                                          | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 | 125 |
| Constructional design  | Piston                                      |    |    |    |    |    |    |    |    |     |     |
|                        | Piston rod                                  |    |    |    |    |    |    |    |    |     |     |
|                        | Cylinder barrel                             |    |    |    |    |    |    |    |    |     |     |
| Cushioning             | Flexible cushioning rings/pads at both ends |    |    |    |    |    |    |    |    |     |     |
| Position sensing       | Via proximity sensor                        |    |    |    |    |    |    |    |    |     |     |
| Type of mounting       | Via through-holes                           |    |    |    |    |    |    |    |    |     |     |
|                        | Via female threads                          |    |    |    |    |    |    |    |    |     |     |
|                        | Via accessories                             |    |    |    |    |    |    |    |    |     |     |
| Mounting position      | Any                                         |    |    |    |    |    |    |    |    |     |     |

| Technical data – Basic version and variants |    |    |               |               |                 |                 |     |
|---------------------------------------------|----|----|---------------|---------------|-----------------|-----------------|-----|
| Piston Ø                                    | 12 | 16 | 20            | 25            | 32              | 40              |     |
| Pneumatic connection                        | M5 | M5 | M5            | M5            | G $\frac{1}{8}$ | G $\frac{1}{8}$ |     |
| Female piston rod thread                    | M3 | M4 | M6            | M6            | M8              | M8              |     |
| K5                                          | –  | –  | M5            | M5            | M6              | M6              |     |
| 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        |     |
| Max. torsional backlash of piston rod [°]   | Q  | 2  | 1.8           | 1.6           | 1.6             | 1.2             | 1.2 |

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

# Compact cylinders ADN, to ISO 21287

Technical data

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| Technical data – Variant S1 |        |               |               |               |              |
|-----------------------------|--------|---------------|---------------|---------------|--------------|
| Piston Ø                    |        | 25            | 40            | 63            | 100          |
| Pneumatic connection        |        | M5            | M5            | G1/8          | G1/8         |
| Piston rod thread           | Female | M6            | M10           | M12           | M16          |
|                             | Male   | M8            | M12x1.25      | M16x1.5       | M20x1.5      |
| Special thread variant K5   | Female | M5            | M8            | M10           | –            |
|                             | Male   | M10, M10x1.25 | M10x1.25, M12 | M12x1.25, M16 | M16x1.5, M20 |

| Operating and environmental conditions |                                   |                                                                    |             |             |          |             |          |    |            |    |          |     |
|----------------------------------------|-----------------------------------|--------------------------------------------------------------------|-------------|-------------|----------|-------------|----------|----|------------|----|----------|-----|
| Piston Ø                               |                                   | 12                                                                 | 16          | 20          | 25       | 32          | 40       | 50 | 63         | 80 | 100      | 125 |
| Operating medium                       |                                   | Filtered compressed air, lubricated or unlubricated                |             |             |          |             |          |    |            |    |          |     |
| Operating pressure                     |                                   | 1 ... 10                                                           |             | 0.6 ... 10  |          |             |          |    |            |    |          |     |
| [bar]                                  | Q                                 | 1.3 ... 10                                                         |             | 1 ... 10    |          | 0.8 ... 10  |          |    | 0.6 ... 10 |    |          |     |
|                                        | S1                                | –                                                                  |             |             | 1 ... 10 | –           | 1 ... 10 | –  | 1 ... 10   | –  | 1 ... 10 | –   |
|                                        | S2, S20                           | 1.5 ... 10                                                         | 1.3 ... 10  | 1.2 ... 10  |          | 1 ... 10    |          |    | 0.8 ... 10 |    |          |     |
|                                        | S6                                | 1 ... 10                                                           |             | 0.6 ... 10  |          |             |          |    |            |    |          |     |
|                                        | S11                               | 0.45 ... 10                                                        |             |             |          | 0.25 ... 10 |          |    |            |    |          |     |
|                                        | R8, TT                            | –                                                                  |             | 1,5 ... 10  |          |             | 1 ... 10 |    |            | –  |          |     |
|                                        | Ambient temperature <sup>1)</sup> |                                                                    | –20 ... +80 |             |          |             |          |    |            |    |          |     |
| [°C]                                   | S6                                | 0 ... +120                                                         |             |             |          |             |          |    |            |    |          |     |
|                                        | R3                                | –20 ... +80                                                        |             |             |          |             |          |    |            |    |          |     |
|                                        | TT                                | –                                                                  |             | –40 ... +80 |          |             |          |    |            |    | –        |     |
|                                        | Corrosion resistance              |                                                                    | 2           |             |          |             |          |    |            |    |          |     |
| class CRC <sup>2)</sup>                |                                   | R3                                                                 | 3           |             |          |             |          |    |            |    |          |     |
| ATEX                                   |                                   | Specified types ➔ <a href="http://www.festo.com">www.festo.com</a> |             |             |          |             |          |    |            |    |          |     |

1) Note operating range of proximity sensors

2) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

Corrosion resistance class 3 to Festo standard 940 070

Components with heavy corrosion exposure. Externally visible components in direct contact with normal industrial atmosphere or media such as solvents and cleaning agents, where the surface requirement is predominantly functional.

| 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 at the end positions |     | 0.07  | 0.15  | 0.2   | 0.3   | 0.4  | 0.7  | 1    | 1.3  | 1.8  | 2.5  | 3.3  |
|                                         | S1  | –     | –     | –     | 0.3   | –    | 0.7  | –    | 1.3  | –    | 2.5  | –    |
|                                         | S6  | 0.035 | 0.075 | 0.1   | 0.15  | 0.2  | 0.35 | 0.5  | 0.65 | 0.9  | 1.25 | 1.75 |
|                                         | K10 | –     | –     | 0.16  | 0.24  | 0.32 | 0.56 | 0.8  | 1    | 1.4  | 2    | 2.6  |
|                                         | S20 | –     | 0.016 | 0.024 | 0.083 | 0.15 | 0.39 | 0.48 | 0.62 | 0.8  | 0.9  | 0.95 |

Permissible impact velocity:

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

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

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

$m_{\text{dead}}$  Moving load (drive)

$m_{\text{load}}$  Moving work load

Maximum permissible load:

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



Note

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

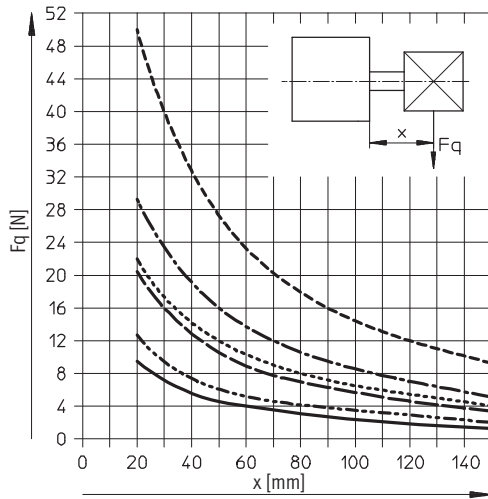
# Compact cylinders ADN, to ISO 21287

Technical data

FESTO

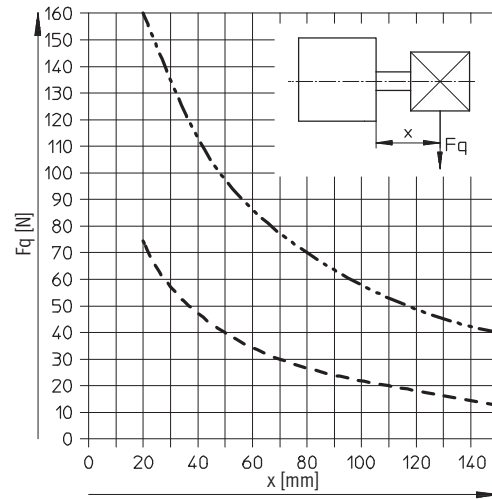
## Max. lateral force $F_q$ as a function of the projection $x$

Ø 12 ... 63



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

Ø 80 ... 125



- - - Ø 80/100
- - - Ø 125

# Compact cylinders ADN, to ISO 21287

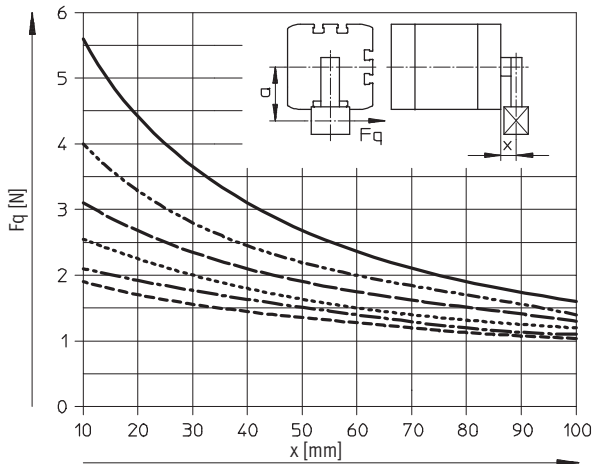
Technical data

FESTO

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

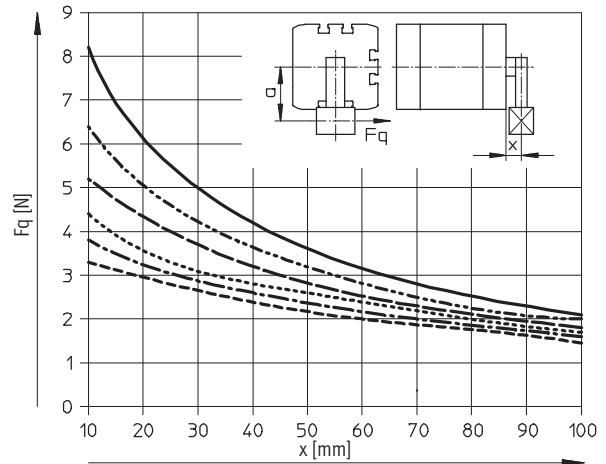
Q – Square piston rod

Ø 12



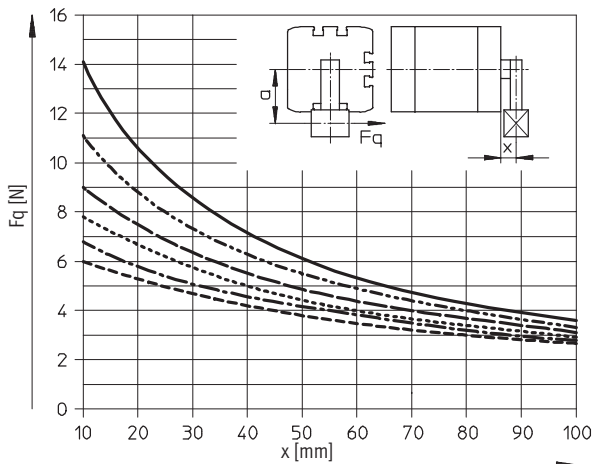
—  $a = 5$  mm  
 - - -  $a = 10$  mm  
 - - -  $a = 15$  mm  
 - - -  $a = 20$  mm  
 - - -  $a = 25$  mm  
 - - -  $a = 30$  mm

Ø 16



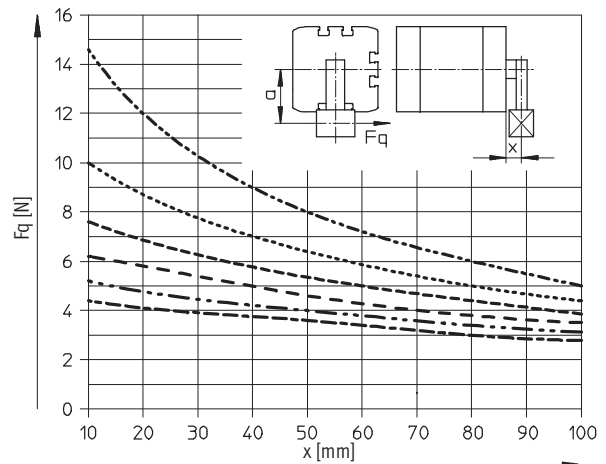
—  $a = 5$  mm  
 - - -  $a = 10$  mm  
 - - -  $a = 15$  mm  
 - - -  $a = 20$  mm  
 - - -  $a = 25$  mm  
 - - -  $a = 30$  mm

Ø 20/25



—  $a = 5$  mm  
 - - -  $a = 10$  mm  
 - - -  $a = 15$  mm  
 - - -  $a = 20$  mm  
 - - -  $a = 25$  mm  
 - - -  $a = 30$  mm

Ø 32/40



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

- Note

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

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



# Compact cylinders ADN, to ISO 21287

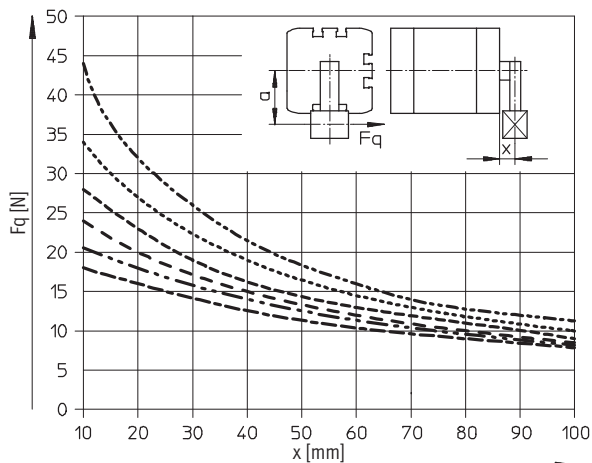
Technical data

FESTO

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

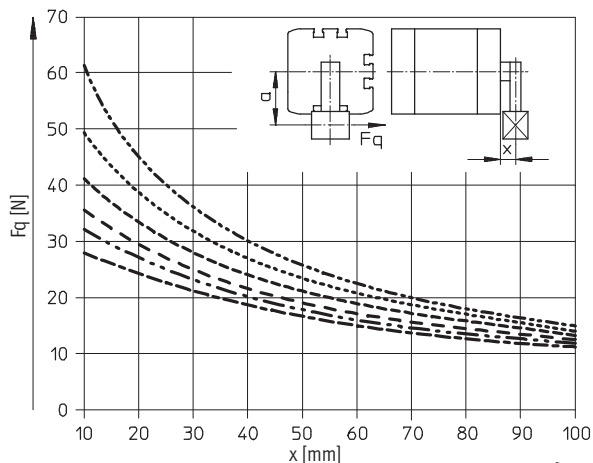
Q – Square piston rod

Ø 50/63



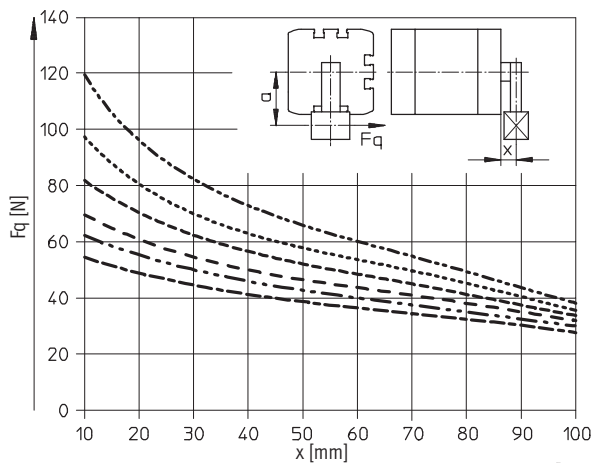
----- a = 10 mm  
 ..... a = 20 mm  
 ----- a = 30 mm  
 ----- a = 40 mm  
 ----- a = 50 mm  
 ----- a = 60 mm

Ø 80/100



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

Ø 125



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

- Note

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

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

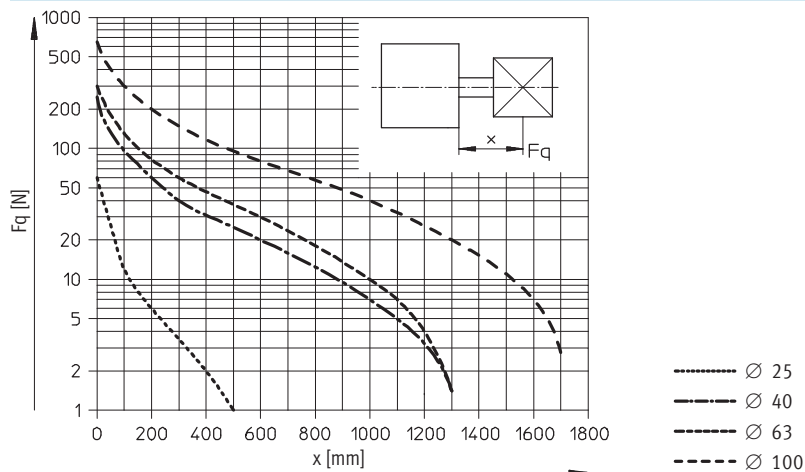
# Compact cylinders ADN, to ISO 21287

Technical data

FESTO

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

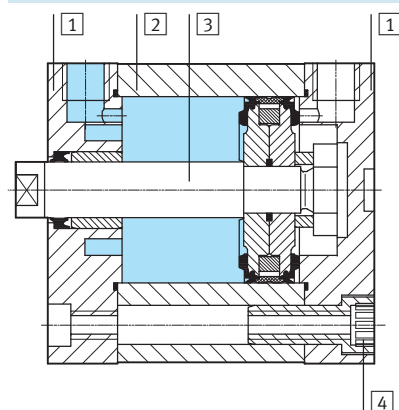
S1 – Reinforced piston rod



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

## Materials

Sectional view



| Compact cylinder |                  | Basic version, Q   |                                         | R8               | S6, S10, S11     | R3                                    | K10                                  |
|------------------|------------------|--------------------|-----------------------------------------|------------------|------------------|---------------------------------------|--------------------------------------|
| 1                | Cover            | Anodised aluminium |                                         |                  |                  |                                       |                                      |
| 2                | Cylinder barrel  | Anodised aluminium |                                         |                  |                  |                                       |                                      |
| 3                | Piston rod       | High-alloy steel   | Tempered steel,<br>hard-chromium plated | High-alloy steel |                  |                                       | Anodised aluminium                   |
| 4                | Flange<br>screws | Ø 12 ... 16        | High-alloy steel                        |                  |                  | High-alloy steel                      | –                                    |
|                  |                  | Ø 20 ... 25        | Galvanised steel                        |                  |                  | High-alloy steel                      | Galvanised steel                     |
|                  |                  | Ø 32 ... 63        | Galvanised steel                        |                  |                  | Steel, zinc flake<br>coating          | Galvanised steel                     |
|                  |                  | Ø 80 ... 125       | Standard screws, galvanised steel       |                  |                  | Standard screws, high-<br>alloy steel | Standard screws,<br>galvanised steel |
| –                | Seals            | Polyurethane       |                                         |                  | Fluoro elastomer | Polyurethane                          |                                      |

# Compact cylinders ADN, to ISO 21287

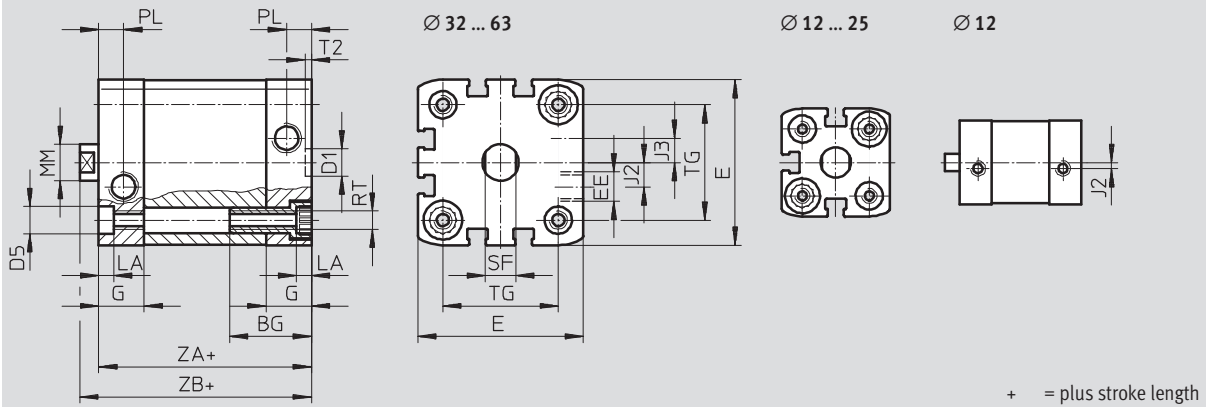
Technical data

**FESTO**

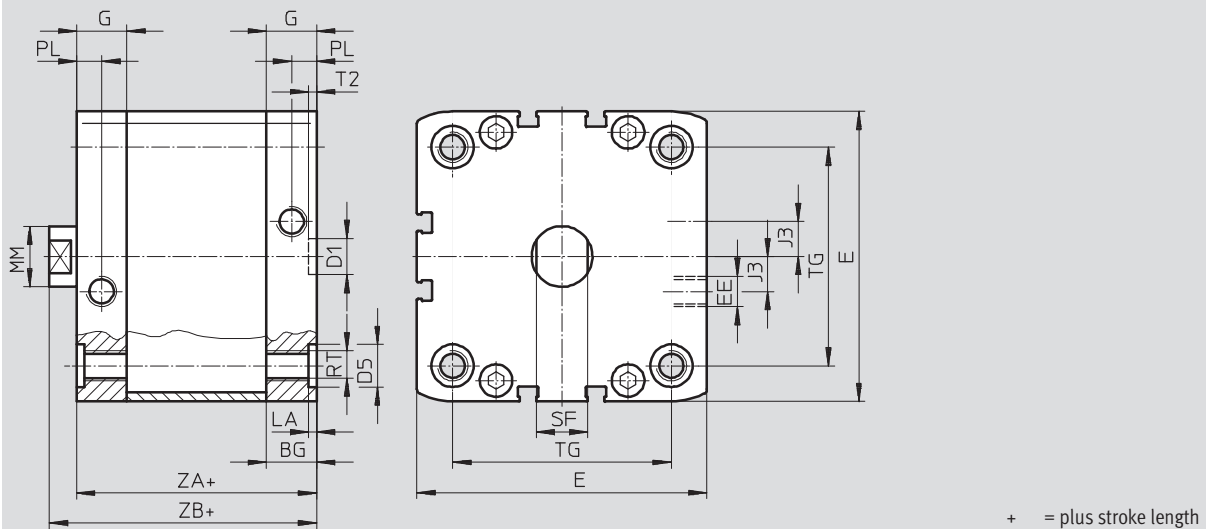
## Dimensions – Basic version

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

Ø 12 ... 63



Ø 80 ... 125



| Ø    | BG   | D1<br>Ø<br>H9 | D5<br>Ø<br>F9 | E          | EE   | G         | J2    | J3 | LA   | MM<br>Ø<br>h8 | PL   | RT  | SF        | T2   | TG   | ZA   | ZB   |
|------|------|---------------|---------------|------------|------|-----------|-------|----|------|---------------|------|-----|-----------|------|------|------|------|
| [mm] | min. |               |               |            |      |           |       |    | +0.2 |               | +0.2 |     | h13       | +0.1 | ±0.2 | ±0.3 | +1.2 |
| 12   | 17   | 9             | 6             | 27.5 +0.3  | M5   | 10.5      | 2     | –  | 3.5  | 6             | 6    | M4  | 5         | 2.1  | 16   | 35   | 39.2 |
| 16   |      |               |               | 29 +0.3    |      | 11        | 2.6   | 8  |      | 7             |      |     | 18        |      | 39.7 |      |      |
| 20   | 19.5 |               | 9             | 35.5 +0.3  |      | 5         |       |    | 10   |               |      | M5  | 9         |      | 22   | 37   | 42.5 |
| 25   |      |               |               | 39.5 +0.3  |      |           |       | 12 |      | 26            |      |     |           |      | 39   | 44.5 |      |
| 32   | 26   |               |               | G1/8       | 15   |           | 6     | 12 | 8.2  | M6            | 10   | 2.6 | 32.5      | 44   | 50   |      |      |
| 40   |      |               |               |            |      |           |       |    |      |               |      |     | 54.5 +0.3 | 8    | 38   | 45   | 51.1 |
| 50   | 27   | 12            | 12            |            |      | 65.5 +0.3 |       |    |      | 16            | M8   |     | 13        |      | 46.5 |      | 53.2 |
| 63   |      |               |               |            |      | 75.5 +0.3 |       |    |      |               |      |     |           |      | 11.5 | 20   | 10.5 |
| 80   | 17   |               | 15            | 95.5 +0.6  | 2.6  | 20        | M12   | 21 | 72   | 54            | 62.9 |     |           |      |      |      |      |
| 100  |      |               |               | 113.5 +0.6 |      |           |       |    | 21.5 | 20            | 89   | 67  | 76        |      |      |      |      |
| 125  | 20   |               | –             | 134.6 +0.3 | G1/4 | 20        | 21.15 | –  | 25   |               |      |     |           |      | 110  | 81   | 92   |

# Compact cylinders ADN, to ISO 21287

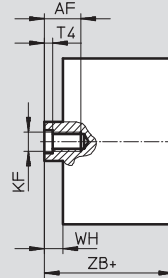
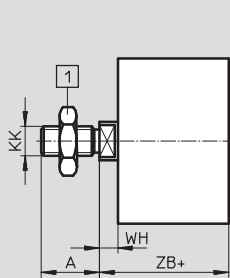
Technical data

**FESTO**

## Dimensions – Variants

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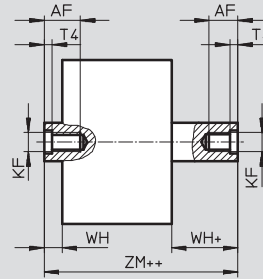
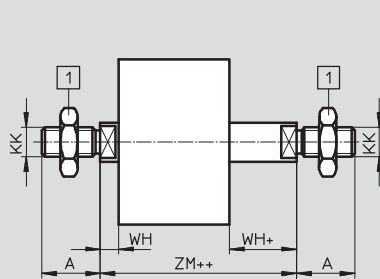
### Basic version



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

+ = plus stroke length

### S2 – Through piston rod

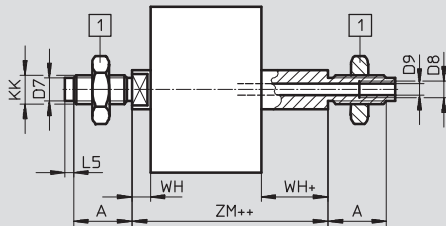


1 Hex nut to DIN 439-B  
only with  $\varnothing 32 \dots 125$

+ = plus stroke length

++ = plus 2x stroke length

### S20 – Through, hollow piston rod



– Note

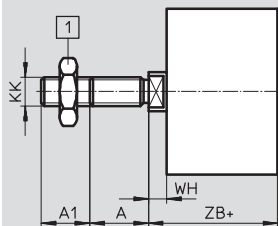
Piston rod extension is performed  
at one end in combination with  
the S2/S20 variants.

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

+ = plus stroke length

++ = plus 2x stroke length

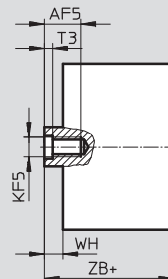
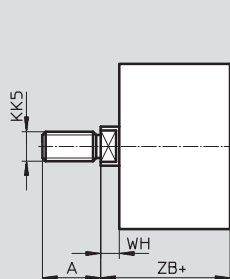
### K2 – Extended male piston rod thread



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

+ = plus stroke length

### K5 – Special piston rod thread



+ = plus stroke length

# Compact cylinders ADN, to ISO 21287

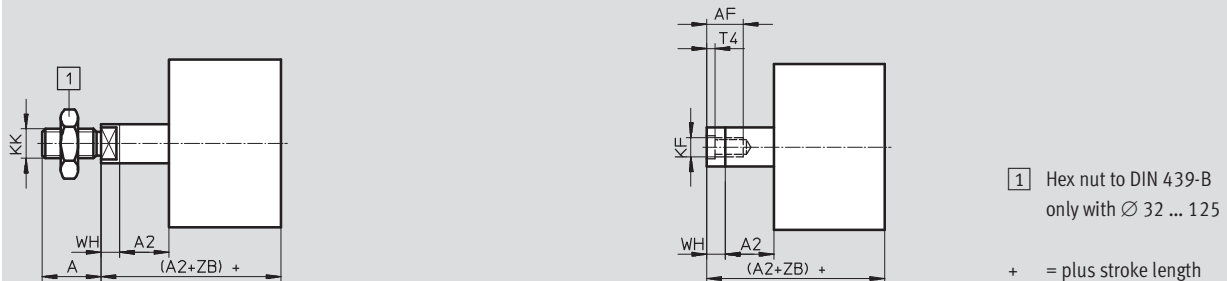
Technical data

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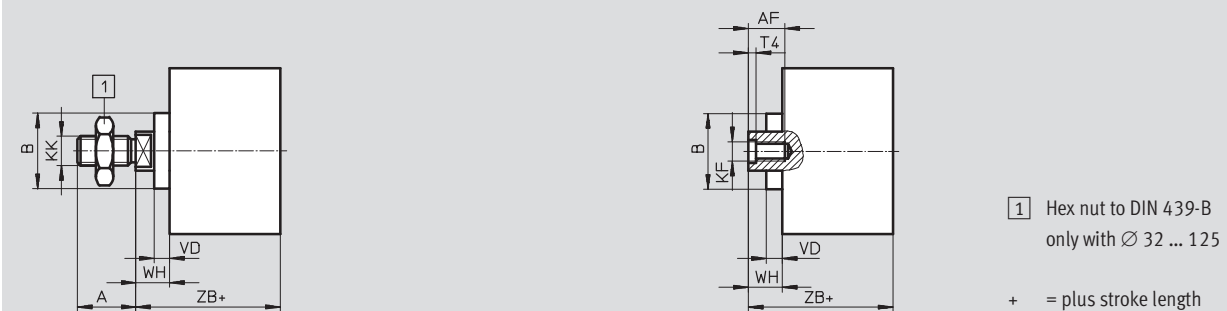
## Dimensions – Variants

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

### K8 – Extended piston rod



### R8 – Dust protection / TT – Low temperature



| Ø    | A    | A1       | A2        | AF   | AF5  | B<br>Ø | D7<br>Ø | D8   | D9<br>Ø | L5   | KF  |
|------|------|----------|-----------|------|------|--------|---------|------|---------|------|-----|
| [mm] | -0.5 |          |           | min. | min. |        |         |      |         |      |     |
| 12   | 10   | 1 ... 10 | 1 ... 300 | 8    | -    | -      | -       | -    | -       | -    | M3  |
| 16   | 12   |          |           | 10   |      |        | 4.5     |      | 3.2     | 3    | M4  |
| 20   | 16   |          |           | 14   |      |        | 12      |      | 18      | 6    | 3.8 |
| 25   |      |          |           |      |      |        |         |      |         |      |     |
| 32   | 19   | 1 ... 20 | 1 ... 400 | 16   | 14   | 27     | 8       | -    | 4.5     | 3    | M8  |
| 40   |      |          |           |      |      |        |         |      |         |      |     |
| 50   | 22   |          |           | 16   | 31   | 10     | 6       |      | 3.5     | M10  |     |
| 63   |      |          |           |      |      |        |         |      |         |      |     |
| 80   | 28   | 1 ... 30 | 1 ... 500 | 20   | 20   | 35     | -       | G1/8 | 8       | -    | M12 |
| 100  |      |          |           |      |      |        |         |      |         |      |     |
| 125  | 40   | 1 ... 40 |           |      | 25   | -      | -       |      | G1/4    | 11.7 |     |

| Ø    | KF5 | KK       | KK5      | T3  | T4  | VD  | WH<br>+1.3 |       | ZB<br>+1.2 |       | ZM                    |                      |
|------|-----|----------|----------|-----|-----|-----|------------|-------|------------|-------|-----------------------|----------------------|
| [mm] |     |          |          |     |     |     |            | R8/TT |            | R8/TT |                       |                      |
| 12   | -   | M5       | M6       | -   | 1.5 | -   | 4.2        | -     | 39.2       | -     | 44.5 <sup>+0.5</sup>  |                      |
| 16   |     | M6       | M8       |     |     |     | 4.7        |       | 39.7       |       | 45.7 <sup>+0.5</sup>  |                      |
| 20   | M5  | M8       | M10x1.25 | 2   | 2.6 | 5.2 | 5.5        | 10.5  | 42.5       | 47.5  | 49.5 <sup>+0.5</sup>  |                      |
| 25   |     |          | M10      |     |     |     |            |       | 44.5       | 49.5  | 51.5 <sup>+0.5</sup>  |                      |
| 32   | M6  | M10x1.25 | M10      | 2.6 | 3.3 | 6.4 | 6          | 12.5  | 50         | 56.5  | 57.5 <sup>+0.5</sup>  |                      |
| 40   |     |          | M12      |     |     |     |            |       | 6.1        | 51.1  | 57.5                  | 58.6 <sup>+0.6</sup> |
| 50   | M8  | M12x1.25 | M12      | 3.3 | 4.7 |     | 8.2        | 14.7  | 53.2       | 59.7  | 62.8 <sup>+0.6</sup>  |                      |
| 63   |     |          | M16      |     |     |     |            | 8.1   | 14.6       | 57.1  | 63.6                  | 66.6 <sup>+0.6</sup> |
| 80   | M10 | M16x1.5  | M16      | 4.7 | 6.1 |     | 8.9        | 15.4  | 62.9       | 69.4  | 73.2 <sup>+0.6</sup>  |                      |
| 100  |     |          | M20x1.5  |     |     |     | M20        |       | 9          | 15.5  | 76                    | 82.5                 |
| 125  | -   | M20x1.5  | M20      | -   | 7   | -   | 11         | -     | 92         | -     | 104.4 <sup>+0.6</sup> |                      |

# Compact cylinders ADN, to ISO 21287

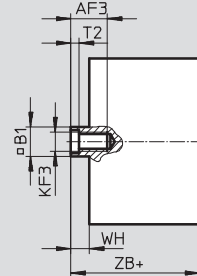
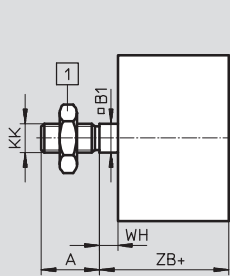
Technical data

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## Dimensions – Variants

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

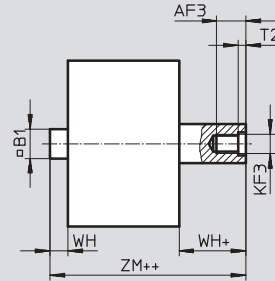
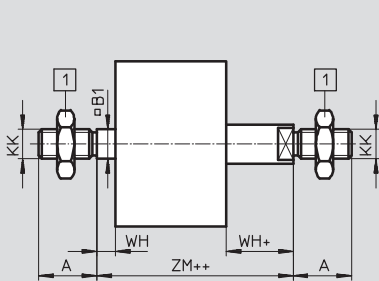
### Q – Square piston rod



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

+ = plus stroke length

### Q-S2 – Square, through piston rod

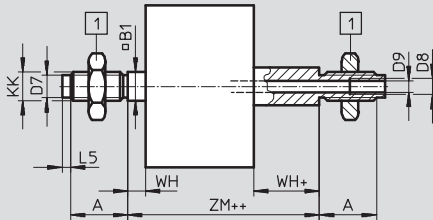


1 Hex nut to DIN 439-B  
only with  $\varnothing 32 \dots 125$

+ = plus stroke length

++ = plus 2x stroke length

### Q-S20 – Square, through, hollow piston rod



Note

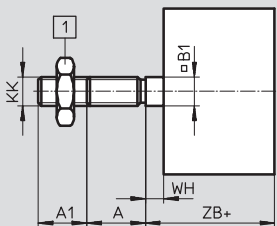
Piston rod extension is performed  
at one end at the square piston rod  
in combination with the S2/S20  
variants.

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

+ = plus stroke length

++ = plus 2x stroke length

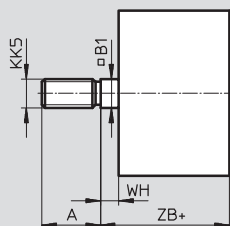
### Q-K2 – Square, extended male piston rod thread



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

+ = plus stroke length

### Q-K5 – Square, special piston rod thread



+ = plus stroke length

# Compact cylinders ADN, to ISO 21287

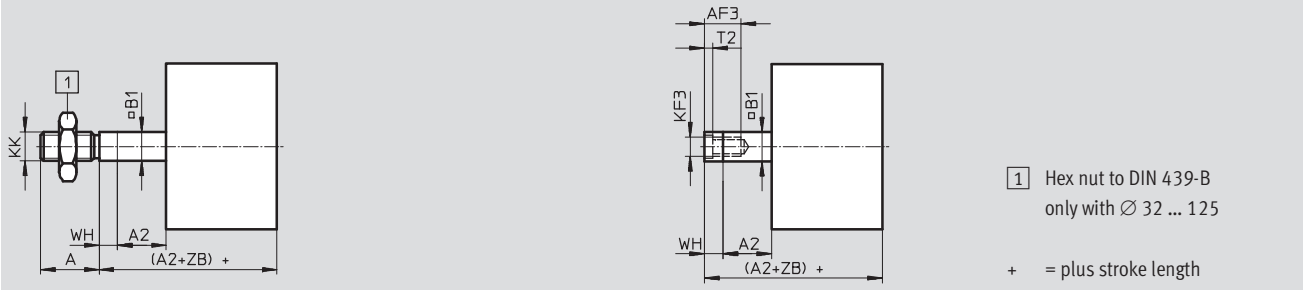
Technical data

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## Dimensions – Variants

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

Q-K8 – Square, extended piston rod



| Ø    | A    | A1       | A2        | AF3      | B1<br>□   | D7<br>Ø | D8   | D9<br>Ø |
|------|------|----------|-----------|----------|-----------|---------|------|---------|
| [mm] | −0.5 |          |           | min.     |           |         |      |         |
| 12   | 10   | 1 ... 10 | 1 ... 300 | 8        | 5.5       | –       | –    | –       |
| 16   | 12   |          |           | 10       | 7         | 4.5     |      | 3.2     |
| 20   | 16   |          |           | 12       | 9         | 6       |      | 3.8     |
| 25   |      |          |           |          |           |         |      |         |
| 32   | 19   | 1 ... 20 | 1 ... 400 | 14       | 10        | 8       |      | 4.5     |
| 40   |      |          |           | 22       | 16        | 12      |      |         |
| 50   |      |          |           |          |           |         |      |         |
| 63   |      |          |           |          |           |         |      |         |
| 80   | 28   |          |           | 1 ... 30 | 1 ... 500 | 20      | 16   | –       |
| 100  |      | 24       | 20        |          |           | –       | G1⁄4 |         |
| 125  | 40   |          |           | 1 ... 40 |           |         |      |         |

| $\varnothing$<br>[mm] | L5  | KF3 | KK       | KK5             | T2  | WH<br>+1.3 | ZB<br>+1.2 | ZM                    |
|-----------------------|-----|-----|----------|-----------------|-----|------------|------------|-----------------------|
| 12                    | –   | M3  | M5       | M6              | 1.5 | 4.2        | 39.2       | 44.5 <sup>+0.5</sup>  |
| 16                    | 3   | M4  | M6       | M8              |     | 4.7        | 39.7       | 45.7 <sup>+0.5</sup>  |
| 20                    | 2   | M5  | M8       | M10x1.25<br>M10 | 2   | 5.5        | 42.5       | 49.5 <sup>+0.5</sup>  |
| 25                    |     |     |          |                 |     |            | 44.5       | 51.5 <sup>+0.5</sup>  |
| 32                    | 3   | M6  | M10x1.25 | M10             | 2.6 | 6          | 50         | 57.5 <sup>+0.5</sup>  |
| 40                    |     |     |          |                 |     | 6.1        | 51.1       | 58.6 <sup>+0.6</sup>  |
| 50                    | 3.5 | M8  | M12x1.25 | M16             | 3.3 | 8.2        | 53.2       | 62.8 <sup>+0.6</sup>  |
| 63                    |     |     |          |                 |     | 8.1        | 57.1       | 66.6 <sup>+0.6</sup>  |
| 80                    |     |     |          |                 |     | 8.9        | 62.9       | 73.2 <sup>+0.6</sup>  |
| 100                   | –   | M10 | M16x1.5  | M16             | 4.7 | 9          | 76         | 86.4 <sup>+0.6</sup>  |
| 125                   |     | M12 | M20x1.5  | M20             | 6.1 | 11         | 92         | 104.4 <sup>+0.6</sup> |

# Compact cylinders ADN, to ISO 21287

Technical data

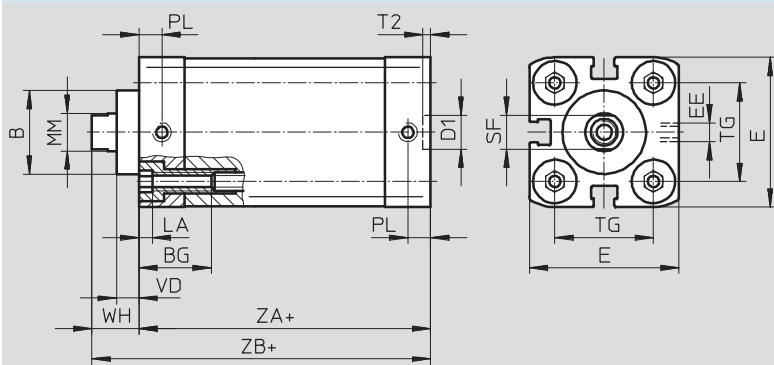
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## Dimensions – Variants

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

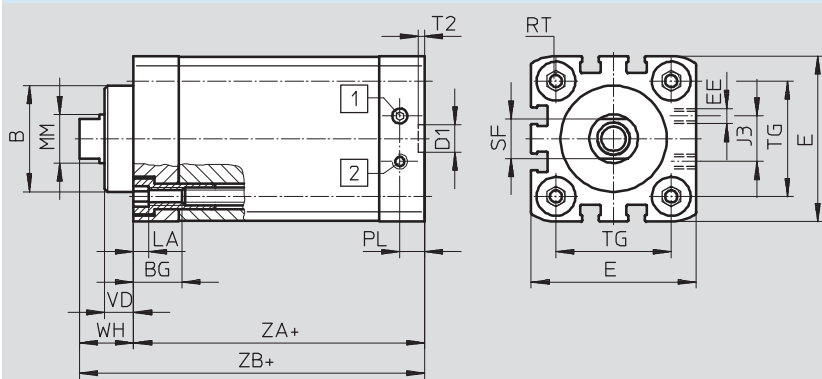
S1 – Reinforced piston rod

Ø 25



+ = plus stroke length

Ø 40 ... 100



- 1 Cylinder advancing
- 2 Cylinder retracting

+ = plus stroke length

| Ø<br>[mm] | B<br>Ø<br>f8 | BG<br>min. | D1<br>Ø<br>H9 | E                     | EE   | J3 | LA | MM<br>Ø<br>h9 | PL  |
|-----------|--------------|------------|---------------|-----------------------|------|----|----|---------------|-----|
| 25        | 22           | 15         | 9             | 39.5 <sup>+0.3</sup>  | M5   | –  | 5  | 10            | 6   |
| 40        | 35           | 16         |               | 54.5 <sup>+0.3</sup>  |      | 15 |    | 16            | 8.2 |
| 63        | 42           |            | 12            | 75.5 <sup>+0.3</sup>  | G1/8 | 23 |    | 20            |     |
| 100       | 55           | 17         |               | 113.5 <sup>+0.6</sup> |      | 40 | 25 | 10.5          |     |

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



# Compact cylinders ADN, to ISO 21287

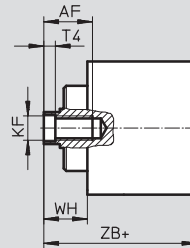
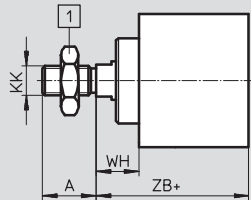
Technical data

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## Dimensions – Variants

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

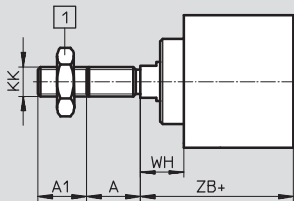
### S1 – Reinforced piston rod



1 Hex nut to DIN 439-B  
only with Ø 40 ... 100

+ = plus stroke length

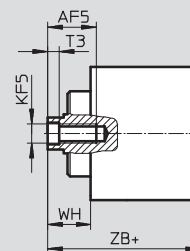
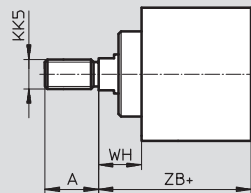
### S1-K2 – Reinforced piston rod with extended male piston rod thread



1 Hex nut to DIN 439-B  
only with Ø 40 ... 100

+ = plus stroke length

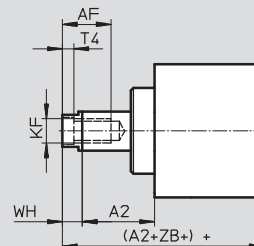
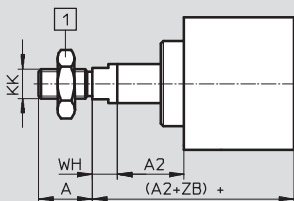
### S1-K5 – Reinforced piston rod with special piston rod thread



1 Hex nut to DIN 439-B  
only with Ø 40 ... 100

+ = plus stroke length

### S1-K8 – Reinforced piston rod with extended piston rod



1 Hex nut to DIN 439-B  
only with Ø 40 ... 100

+ = plus stroke length

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

# Compact cylinders ADN, to ISO 21287

Technical data

**FESTO**

| Ordering data                                                                     |                  |                |                          |                 |                        |                 |
|-----------------------------------------------------------------------------------|------------------|----------------|--------------------------|-----------------|------------------------|-----------------|
| Type                                                                              | Piston Ø<br>[mm] | Stroke<br>[mm] | Female piston rod thread |                 | Male piston rod thread |                 |
|                                                                                   |                  |                | Part No.                 | Type            | Part No.               | Type            |
|  | 12               | 5              | 536 211                  | ADN-12-5-I-P-A  | 536 204                | ADN-12-5-A-P-A  |
|                                                                                   |                  | 10             | 536 212                  | ADN-12-10-I-P-A | 536 205                | ADN-12-10-A-P-A |
|                                                                                   |                  | 15             | 536 213                  | ADN-12-15-I-P-A | 536 206                | ADN-12-15-A-P-A |
|                                                                                   |                  | 20             | 536 214                  | ADN-12-20-I-P-A | 536 207                | ADN-12-20-A-P-A |
|                                                                                   |                  | 25             | 536 215                  | ADN-12-25-I-P-A | 536 208                | ADN-12-25-A-P-A |
|                                                                                   |                  | 30             | 536 216                  | ADN-12-30-I-P-A | 536 209                | ADN-12-30-A-P-A |
|                                                                                   |                  | 40             | 536 217                  | ADN-12-40-I-P-A | 536 210                | ADN-12-40-A-P-A |
|                                                                                   |                  |                |                          |                 |                        |                 |
|                                                                                   | 16               | 5              | 536 226                  | ADN-16-5-I-P-A  | 536 219                | ADN-16-5-A-P-A  |
|                                                                                   |                  | 10             | 536 227                  | ADN-16-10-I-P-A | 536 220                | ADN-16-10-A-P-A |
|                                                                                   |                  | 15             | 536 228                  | ADN-16-15-I-P-A | 536 221                | ADN-16-15-A-P-A |
|                                                                                   |                  | 20             | 536 229                  | ADN-16-20-I-P-A | 536 222                | ADN-16-20-A-P-A |
|                                                                                   |                  | 25             | 536 230                  | ADN-16-25-I-P-A | 536 223                | ADN-16-25-A-P-A |
|                                                                                   |                  | 30             | 536 231                  | ADN-16-30-I-P-A | 536 224                | ADN-16-30-A-P-A |
|                                                                                   |                  | 40             | 536 232                  | ADN-16-40-I-P-A | 536 225                | ADN-16-40-A-P-A |
|                                                                                   |                  | 50             | 536 341                  | ADN-16-50-I-P-A | 536 331                | ADN-16-50-A-P-A |
|                                                                                   |                  |                |                          |                 |                        |                 |
|                                                                                   | 20               | 5              | 536 242                  | ADN-20-5-I-P-A  | 536 234                | ADN-20-5-A-P-A  |
|                                                                                   |                  | 10             | 536 243                  | ADN-20-10-I-P-A | 536 235                | ADN-20-10-A-P-A |
|                                                                                   |                  | 15             | 536 244                  | ADN-20-15-I-P-A | 536 236                | ADN-20-15-A-P-A |
|                                                                                   |                  | 20             | 536 245                  | ADN-20-20-I-P-A | 536 237                | ADN-20-20-A-P-A |
|                                                                                   |                  | 25             | 536 246                  | ADN-20-25-I-P-A | 536 238                | ADN-20-25-A-P-A |
|                                                                                   |                  | 30             | 536 247                  | ADN-20-30-I-P-A | 536 239                | ADN-20-30-A-P-A |
|                                                                                   |                  | 40             | 536 248                  | ADN-20-40-I-P-A | 536 240                | ADN-20-40-A-P-A |
|                                                                                   |                  | 50             | 536 249                  | ADN-20-50-I-P-A | 536 241                | ADN-20-50-A-P-A |
|                                                                                   |                  | 60             | 536 362                  | ADN-20-60-I-P-A | 536 352                | ADN-20-60-A-P-A |
|                                                                                   |                  |                |                          |                 |                        |                 |
|                                                                                   | 25               | 5              | 536 259                  | ADN-25-5-I-P-A  | 536 251                | ADN-25-5-A-P-A  |
|                                                                                   |                  | 10             | 536 260                  | ADN-25-10-I-P-A | 536 252                | ADN-25-10-A-P-A |
|                                                                                   |                  | 15             | 536 261                  | ADN-25-15-I-P-A | 536 253                | ADN-25-15-A-P-A |
|                                                                                   |                  | 20             | 536 262                  | ADN-25-20-I-P-A | 536 254                | ADN-25-20-A-P-A |
|                                                                                   |                  | 25             | 536 263                  | ADN-25-25-I-P-A | 536 255                | ADN-25-25-A-P-A |
|                                                                                   |                  | 30             | 536 264                  | ADN-25-30-I-P-A | 536 256                | ADN-25-30-A-P-A |
|                                                                                   |                  | 40             | 536 265                  | ADN-25-40-I-P-A | 536 257                | ADN-25-40-A-P-A |
|                                                                                   |                  | 50             | 536 266                  | ADN-25-50-I-P-A | 536 258                | ADN-25-50-A-P-A |
|                                                                                   |                  | 60             | 536 383                  | ADN-25-60-I-P-A | 536 373                | ADN-25-60-A-P-A |
|                                                                                   |                  |                |                          |                 |                        |                 |
|                                                                                   | 32               | 5              | 536 278                  | ADN-32-5-I-P-A  | 536 268                | ADN-32-5-A-P-A  |
|                                                                                   |                  | 10             | 536 279                  | ADN-32-10-I-P-A | 536 269                | ADN-32-10-A-P-A |
|                                                                                   |                  | 15             | 536 280                  | ADN-32-15-I-P-A | 536 270                | ADN-32-15-A-P-A |
|                                                                                   |                  | 20             | 536 281                  | ADN-32-20-I-P-A | 536 271                | ADN-32-20-A-P-A |
|                                                                                   |                  | 25             | 536 282                  | ADN-32-25-I-P-A | 536 272                | ADN-32-25-A-P-A |
|                                                                                   |                  | 30             | 536 283                  | ADN-32-30-I-P-A | 536 273                | ADN-32-30-A-P-A |
|                                                                                   |                  | 40             | 536 284                  | ADN-32-40-I-P-A | 536 274                | ADN-32-40-A-P-A |
|                                                                                   |                  | 50             | 536 285                  | ADN-32-50-I-P-A | 536 275                | ADN-32-50-A-P-A |
|                                                                                   |                  | 60             | 536 286                  | ADN-32-60-I-P-A | 536 276                | ADN-32-60-A-P-A |
|                                                                                   |                  | 80             | 536 287                  | ADN-32-80-I-P-A | 536 277                | ADN-32-80-A-P-A |

# Compact cylinders ADN, to ISO 21287

Technical data

**FESTO**

| Ordering data                                                                     |                  |                |                          |                  |                        |                  |
|-----------------------------------------------------------------------------------|------------------|----------------|--------------------------|------------------|------------------------|------------------|
| Type                                                                              | Piston Ø<br>[mm] | Stroke<br>[mm] | Female piston rod thread |                  | Male piston rod thread |                  |
|                                                                                   |                  |                | Part No.                 | Type             | Part No.               | Type             |
|  | 40               | 5              | 536 299                  | ADN-40-5-I-P-A   | 536 289                | ADN-40-5-A-P-A   |
|                                                                                   |                  | 10             | 536 300                  | ADN-40-10-I-P-A  | 536 290                | ADN-40-10-A-P-A  |
|                                                                                   |                  | 15             | 536 301                  | ADN-40-15-I-P-A  | 536 291                | ADN-40-15-A-P-A  |
|                                                                                   |                  | 20             | 536 302                  | ADN-40-20-I-P-A  | 536 292                | ADN-40-20-A-P-A  |
|                                                                                   |                  | 25             | 536 303                  | ADN-40-25-I-P-A  | 536 293                | ADN-40-25-A-P-A  |
|                                                                                   |                  | 30             | 536 304                  | ADN-40-30-I-P-A  | 536 294                | ADN-40-30-A-P-A  |
|                                                                                   |                  | 40             | 536 305                  | ADN-40-40-I-P-A  | 536 295                | ADN-40-40-A-P-A  |
|                                                                                   |                  | 50             | 536 306                  | ADN-40-50-I-P-A  | 536 296                | ADN-40-50-A-P-A  |
|                                                                                   |                  | 60             | 536 307                  | ADN-40-60-I-P-A  | 536 297                | ADN-40-60-A-P-A  |
|                                                                                   |                  | 80             | 536 308                  | ADN-40-80-I-P-A  | 536 298                | ADN-40-80-A-P-A  |
|                                                                                   | 50               | 5              | 536 320                  | ADN-50-5-I-P-A   | 536 310                | ADN-50-5-A-P-A   |
|                                                                                   |                  | 10             | 536 321                  | ADN-50-10-I-P-A  | 536 311                | ADN-50-10-A-P-A  |
|                                                                                   |                  | 15             | 536 322                  | ADN-50-15-I-P-A  | 536 312                | ADN-50-15-A-P-A  |
|                                                                                   |                  | 20             | 536 323                  | ADN-50-20-I-P-A  | 536 313                | ADN-50-20-A-P-A  |
|                                                                                   |                  | 25             | 536 324                  | ADN-50-25-I-P-A  | 536 314                | ADN-50-25-A-P-A  |
|                                                                                   |                  | 30             | 536 325                  | ADN-50-30-I-P-A  | 536 315                | ADN-50-30-A-P-A  |
|                                                                                   |                  | 40             | 536 326                  | ADN-50-40-I-P-A  | 536 316                | ADN-50-40-A-P-A  |
|                                                                                   |                  | 50             | 536 327                  | ADN-50-50-I-P-A  | 536 317                | ADN-50-50-A-P-A  |
|                                                                                   |                  | 60             | 536 328                  | ADN-50-60-I-P-A  | 536 318                | ADN-50-60-A-P-A  |
|                                                                                   |                  | 80             | 536 329                  | ADN-50-80-I-P-A  | 536 319                | ADN-50-80-A-P-A  |
|                                                                                   | 63               | 10             | 536 342                  | ADN-63-10-I-P-A  | 536 332                | ADN-63-10-A-P-A  |
|                                                                                   |                  | 15             | 536 343                  | ADN-63-15-I-P-A  | 536 333                | ADN-63-15-A-P-A  |
|                                                                                   |                  | 20             | 536 344                  | ADN-63-20-I-P-A  | 536 334                | ADN-63-20-A-P-A  |
|                                                                                   |                  | 25             | 536 345                  | ADN-63-25-I-P-A  | 536 335                | ADN-63-25-A-P-A  |
|                                                                                   |                  | 30             | 536 346                  | ADN-63-30-I-P-A  | 536 336                | ADN-63-30-A-P-A  |
|                                                                                   |                  | 40             | 536 347                  | ADN-63-40-I-P-A  | 536 337                | ADN-63-40-A-P-A  |
|                                                                                   |                  | 50             | 536 348                  | ADN-63-50-I-P-A  | 536 338                | ADN-63-50-A-P-A  |
|                                                                                   |                  | 60             | 536 349                  | ADN-63-60-I-P-A  | 536 339                | ADN-63-60-A-P-A  |
|                                                                                   |                  | 80             | 536 350                  | ADN-63-80-I-P-A  | 536 340                | ADN-63-80-A-P-A  |
|                                                                                   | 80               | 10             | 536 363                  | ADN-80-10-I-P-A  | 536 353                | ADN-80-10-A-P-A  |
|                                                                                   |                  | 15             | 536 364                  | ADN-80-15-I-P-A  | 536 354                | ADN-80-15-A-P-A  |
|                                                                                   |                  | 20             | 536 365                  | ADN-80-20-I-P-A  | 536 355                | ADN-80-20-A-P-A  |
|                                                                                   |                  | 25             | 536 366                  | ADN-80-25-I-P-A  | 536 356                | ADN-80-25-A-P-A  |
|                                                                                   |                  | 30             | 536 367                  | ADN-80-30-I-P-A  | 536 357                | ADN-80-30-A-P-A  |
|                                                                                   |                  | 40             | 536 368                  | ADN-80-40-I-P-A  | 536 358                | ADN-80-40-A-P-A  |
|                                                                                   |                  | 50             | 536 369                  | ADN-80-50-I-P-A  | 536 359                | ADN-80-50-A-P-A  |
|                                                                                   |                  | 60             | 536 370                  | ADN-80-60-I-P-A  | 536 360                | ADN-80-60-A-P-A  |
|                                                                                   |                  | 80             | 536 371                  | ADN-80-80-I-P-A  | 536 361                | ADN-80-80-A-P-A  |
|                                                                                   | 100              | 10             | 536 384                  | ADN-100-10-I-P-A | 536 374                | ADN-100-10-A-P-A |
|                                                                                   |                  | 15             | 536 385                  | ADN-100-15-I-P-A | 536 375                | ADN-100-15-A-P-A |
|                                                                                   |                  | 20             | 536 386                  | ADN-100-20-I-P-A | 536 376                | ADN-100-20-A-P-A |
|                                                                                   |                  | 25             | 536 387                  | ADN-100-25-I-P-A | 536 377                | ADN-100-25-A-P-A |
|                                                                                   |                  | 30             | 536 388                  | ADN-100-30-I-P-A | 536 378                | ADN-100-30-A-P-A |
|                                                                                   |                  | 40             | 536 389                  | ADN-100-40-I-P-A | 536 379                | ADN-100-40-A-P-A |
|                                                                                   |                  | 50             | 536 390                  | ADN-100-50-I-P-A | 536 380                | ADN-100-50-A-P-A |
|                                                                                   |                  | 60             | 536 391                  | ADN-100-60-I-P-A | 536 381                | ADN-100-60-A-P-A |
|                                                                                   |                  | 80             | 536 392                  | ADN-100-80-I-P-A | 536 382                | ADN-100-80-A-P-A |

# Compact cylinders ADN, to ISO 21287

Ordering data – Modular products, basic version and variants

FESTO

| Mandatory data |          |      |                   |     |                  |     |  |
|----------------|----------|------|-------------------|-----|------------------|-----|--|
| Module No.     | Function |      | Stroke            |     | Cushioning       |     |  |
|                | Piston Ø |      | Piston rod thread |     | Position sensing |     |  |
| 536 203        | ADN      | 12   | 1 ... 500         | A   | P                | A   |  |
| 536 218        |          | 16   |                   | I   |                  |     |  |
| 536 233        |          | 20   |                   |     |                  |     |  |
| 536 250        |          | 25   |                   |     |                  |     |  |
| 536 267        |          | 32   |                   |     |                  |     |  |
| 536 288        |          | 40   |                   |     |                  |     |  |
| Order example  |          |      |                   |     |                  |     |  |
| 536 309        | ADN      | - 40 | - 250             | - A | - P              | - A |  |

| Ordering table |                   |                                                     |         |         |         |           |         |                 |      |               |
|----------------|-------------------|-----------------------------------------------------|---------|---------|---------|-----------|---------|-----------------|------|---------------|
| Size           |                   | 12                                                  | 16      | 20      | 25      | 32        | 40      | Condi-<br>tions | Code | Enter<br>Code |
| M              | Module No.        | 536 203                                             | 536 218 | 536 233 | 536 250 | 536 267   | 536 288 |                 |      |               |
|                | Function          | Compact cylinder, double-acting, based on ISO 21287 |         |         |         |           |         |                 | ADN  |               |
|                | Piston Ø [mm]     | 12                                                  | 16      | 20      | 25      | 32        | 40      |                 | -... |               |
|                | Stroke [mm]       | 1 ... 300                                           |         |         |         | 1 ... 400 |         |                 | -... |               |
|                | Piston rod thread | Male thread                                         |         |         |         |           |         |                 | -A   |               |
|                |                   | Female thread                                       |         |         |         |           |         | 1               | -I   |               |
|                | Cushioning        | Flexible cushioning rings/pads at both ends         |         |         |         |           |         |                 | -P   |               |
|                | Position sensing  | Via proximity sensor                                |         |         |         |           |         |                 | -A   |               |

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

Transfer order code

|  |     |   |  |   |  |   |   |   |   |
|--|-----|---|--|---|--|---|---|---|---|
|  | ADN | - |  | - |  | - | P | - | A |
|--|-----|---|--|---|--|---|---|---|---|

# Compact cylinders ADN, to ISO 21287

Ordering data – Modular products, basic version and variants

FESTO

| Options              |        |                     |        |                              |      |                      |    |                 |    |
|----------------------|--------|---------------------|--------|------------------------------|------|----------------------|----|-----------------|----|
| Type of piston rod   |        | Special thread      |        | Improved running performance |      | Corrosion protection |    | Low temperature |    |
| Male thread extended |        | Piston rod extended |        | Temperature resistance       |      | Captive rating plate |    | Wiper seal      |    |
| S2                   | ...K2  | "... "K5            | ...K8  | K10                          | S6   | R3                   | TL | TT              | R8 |
| S20                  |        |                     |        |                              |      |                      |    |                 |    |
| - S2                 | - 15K2 | - "M16"K5           | - 50K8 | -                            | - S6 | -                    | -  | -               | -  |

| Ordering table               |                            |                                             |    |                 |                 |            |                 |        |          |               |
|------------------------------|----------------------------|---------------------------------------------|----|-----------------|-----------------|------------|-----------------|--------|----------|---------------|
| Size                         | 12                         | 16                                          | 20 | 25              | 32              | 40         | Condi-<br>tions | Code   |          | Enter<br>Code |
| 0 Type of piston rod         | Through piston rod         |                                             |    |                 |                 |            | 2               | -S2    |          |               |
|                              | Through, hollow piston rod |                                             |    |                 |                 |            | 2               | -S20   |          |               |
|                              | [mm]                       | 1 ... 300                                   |    |                 |                 |            |                 |        |          |               |
| Male thread extended         |                            | Extended male piston rod thread             |    |                 |                 |            |                 |        |          |               |
|                              | [mm]                       | 1 ... 10                                    |    | 1 ... 20        |                 |            |                 | -...K2 |          |               |
| Special piston rod thread    | Male thread                | M6                                          | M8 | M10x1,25<br>M10 | M10x1,25<br>M10 | M10<br>M12 | M10<br>M12      |        | "... "K5 |               |
|                              | Female thread              | -                                           | -  | M5              | M5              | M6         | M6              |        |          |               |
| Piston rod extended          |                            | Extended piston rod                         |    |                 |                 |            |                 |        |          |               |
|                              | [mm]                       | 1 ... 300                                   |    |                 |                 |            | 3               | -...K8 |          |               |
| Improved running performance |                            | Smooth anodised aluminium coated piston rod |    |                 |                 |            |                 | 4      | -K10     |               |
| Temperature resistance       |                            | Heat-resistant seals up to max. 120 °C      |    |                 |                 |            |                 |        | -S6      |               |
| Corrosion protection         |                            | High corrosion protection                   |    |                 |                 |            |                 | 5      | -R3      |               |
| Captive rating plate         |                            | Laser etched rating plate                   |    |                 |                 |            |                 |        | -TL      |               |
| Low temperature [°C]         |                            | -40 ... +80                                 |    |                 |                 |            |                 | 6 7    | -TT      |               |
| Wiper seal                   |                            | Dust protection                             |    |                 |                 |            |                 | 6      | -R8      |               |

2 S2, S20 Not with improved running performance K10

Not with corrosion protection R3

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

4 K10 Not with extended male thread K2  
Not with special piston rod thread K5  
Not with corrosion protection R3

5 R3 Not with captive rating plate TL

Not with low temperature TT

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

Transfer order code

- - - - - - - - - -

# Compact cylinders ADN, to ISO 21287

Ordering data – Modular products, basic version and variants

FESTO

| Mandatory data →     |            |             |                   |            |                  |            |  |
|----------------------|------------|-------------|-------------------|------------|------------------|------------|--|
| Module No.           | Function   |             | Stroke            |            | Cushioning       |            |  |
|                      | Piston Ø   |             | Piston rod thread |            | Position sensing |            |  |
| 536 309              | ADN        | 50          | 1 ... 500         | A          | P                | A          |  |
| 536 330              |            | 63          |                   | I          |                  |            |  |
| 536 351              |            | 80          |                   |            |                  |            |  |
| 536 372              |            | 100         |                   |            |                  |            |  |
| 536 393              |            | 125         |                   |            |                  |            |  |
| <b>Order example</b> |            |             |                   |            |                  |            |  |
| <b>536 309</b>       | <b>ADN</b> | <b>- 50</b> | <b>- 350</b>      | <b>- A</b> | <b>- P</b>       | <b>- A</b> |  |

| Ordering table                |                                                     |         |           |         |         |                 |      |               |
|-------------------------------|-----------------------------------------------------|---------|-----------|---------|---------|-----------------|------|---------------|
| Size                          | 50                                                  | 63      | 80        | 100     | 125     | Condi-<br>tions | Code | Enter<br>Code |
| <div>M</div> Module No.       | 536 309                                             | 536 330 | 536 351   | 536 372 | 536 393 |                 |      |               |
| Function                      | Compact cylinder, double-acting, based on ISO 21287 |         |           |         |         |                 | ADN  | ADN           |
| Piston Ø [mm]                 | 50                                                  | 63      | 80        | 100     | 125     |                 | -... |               |
| Stroke [mm]                   | 1 ... 400                                           |         | 1 ... 500 |         |         |                 | -... |               |
| Piston rod thread             | Male thread                                         |         |           |         |         |                 | -A   |               |
|                               | Female thread                                       |         |           |         |         | <div>1</div>    | -I   |               |
| Cushioning                    | Flexible cushioning rings/pads at both ends         |         |           |         |         |                 | -P   | -P            |
| <div>↓</div> Position sensing | Via proximity sensor                                |         |           |         |         |                 | -A   | -A            |

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

Transfer order code

|  |     |   |  |   |  |   |  |   |   |   |   |
|--|-----|---|--|---|--|---|--|---|---|---|---|
|  | ADN | - |  | - |  | - |  | - | P | - | A |
|--|-----|---|--|---|--|---|--|---|---|---|---|

# Compact cylinders ADN, to ISO 21287

Ordering data – Modular products, basic version and variants

FESTO

| 0 Options            |        |                     |        |                              |      |                      |    |                 |    |
|----------------------|--------|---------------------|--------|------------------------------|------|----------------------|----|-----------------|----|
| Type of piston rod   |        | Special thread      |        | Improved running performance |      | Corrosion protection |    | Low temperature |    |
| Male thread extended |        | Piston rod extended |        | Temperature resistance       |      | Captive rating plate |    | Wiper seal      |    |
| S2                   | ...K2  | "...K5              | ...K8  | K10                          | S6   | R3                   | TL | TT              | R8 |
| S20                  |        |                     |        |                              |      |                      |    |                 |    |
| - S2                 | - 15K2 | - "M16"K5           | - 50K8 | -                            | - S6 | -                    | -  | -               | -  |

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

2 S2, S20 Not with improved running performance K10

Not with corrosion protection R3

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

4 K10 Not with extended male thread K2  
Not with special piston rod thread K5  
Not with corrosion protection R3

5 R3 Not with captive rating plate TL

Not with low temperature TT

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

Transfer order code

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

# Compact cylinders ADN, to ISO 21287

FESTO

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

| Mandatory data |          |          |           |                   |            |                  | → |
|----------------|----------|----------|-----------|-------------------|------------|------------------|---|
| Module No.     | Function | Piston Ø | Stroke    | Piston rod thread | Cushioning | Position sensing |   |
| 536 203        | ADN      | 12       | 1 ... 500 | A                 | P          | A                |   |
| 536 218        |          | 16       |           | I                 |            |                  |   |
| 536 233        |          | 20       |           |                   |            |                  |   |
| 536 250        |          | 25       |           |                   |            |                  |   |
| 536 267        |          | 32       |           |                   |            |                  |   |
| 536 288        |          | 40       |           |                   |            |                  |   |
| 536 309        |          | 50       |           |                   |            |                  |   |
| 536 330        |          | 63       |           |                   |            |                  |   |
| 536 351        |          | 80       |           |                   |            |                  |   |
| 536 372        |          | 100      |           |                   |            |                  |   |
| 536 393        |          | 125      |           |                   |            |                  |   |
| Order example  |          |          |           |                   |            |                  |   |
| 536 309        | ADN      | - 50     | - 350     | - A               | - P        | - A              |   |

| Ordering table |                              |                                                     |         |                                             |                 |                 |                 |            |        |               |          |  |
|----------------|------------------------------|-----------------------------------------------------|---------|---------------------------------------------|-----------------|-----------------|-----------------|------------|--------|---------------|----------|--|
| Size           | 12                           | 16                                                  | 20      | 25                                          | 32              | 40              | Condi-<br>tions | Code       |        | Enter<br>code |          |  |
| M              | Module No.                   | 536 203                                             | 536 218 | 536 233                                     | 536 250         | 536 267         | 536 288         |            |        |               |          |  |
|                | Function                     | Compact cylinder, double-acting, based on ISO 21287 |         |                                             |                 |                 |                 |            | ADN    |               | ADN      |  |
|                | Piston Ø [mm]                | 12                                                  | 16      | 20                                          | 25              | 32              | 40              |            | -...   |               |          |  |
|                | Stroke [mm]                  | 1 ... 300                                           |         |                                             |                 | 1 ... 400       |                 |            | -...   |               |          |  |
|                | Piston rod thread            | Male thread                                         |         |                                             |                 |                 |                 |            | -A     |               |          |  |
|                |                              | Female thread                                       |         |                                             |                 |                 |                 | 1          | -I     |               |          |  |
|                | Cushioning                   | Flexible cushioning rings/pads at both ends         |         |                                             |                 |                 |                 |            | -P     |               | -P       |  |
|                | Position sensing             | Via proximity sensor                                |         |                                             |                 |                 |                 |            | -A     |               | -A       |  |
| O              | Male thread extended [mm]    | Extended male piston rod thread<br>1 ... 10         |         |                                             |                 | 1 ... 20        |                 |            | -...K2 |               |          |  |
|                | Special piston rod thread    | Male thread                                         | M6      | M8                                          | M10x1.25<br>M10 | M10x1.25<br>M10 | M10<br>M12      | M10<br>M12 |        |               | -“...”K5 |  |
|                |                              | Female thread                                       | –       | –                                           | M5              | M5              | M6              | M6         |        |               |          |  |
|                | Piston rod extended [mm]     | Extended piston rod<br>1 ... 300                    |         |                                             |                 | 1 ... 400       |                 | 2          | -...K8 |               |          |  |
|                | Improved running performance | –                                                   | –       | Smooth anodised aluminium coated piston rod |                 |                 |                 | 3          | -K10   |               |          |  |
|                | Constant motion [mm]         | Slow speed (constant motion at low piston speeds)   |         |                                             |                 |                 |                 | 4          | -S10   |               |          |  |
|                |                              | Restricted stroke<br>20 ... 300                     |         |                                             |                 |                 |                 |            |        |               |          |  |
|                | 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                                                                              | 4 S10 | Not with low friction S11        |
| 2 K8  | The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length   | 5 S11 | Not with constant motion S10     |
| 3 K10 | Not with extended male thread K2<br>Not with special piston rod thread K5<br>Not with corrosion protection R3 | 6 R3  | Not with captive rating plate TL |

## Transfer order code

|  |     |   |  |   |  |   |  |   |   |   |   |
|--|-----|---|--|---|--|---|--|---|---|---|---|
|  | ADN | - |  | - |  | - |  | - | P | - | A |
|--|-----|---|--|---|--|---|--|---|---|---|---|



# Compact cylinders ADN, to ISO 21287

FESTO

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

| Options              |                |                     |                              |                 |              |                      |                      |
|----------------------|----------------|---------------------|------------------------------|-----------------|--------------|----------------------|----------------------|
| Male thread extended | Special thread | Piston rod extended | Improved running performance | Constant motion | Low friction | Corrosion protection | Captive rating plate |
| ...K2                | "..."K5        | ...K8               | K10                          | S10             | S11          | R3                   | TL                   |
| -                    | - "M16"K5      | - 50K8              | -                            | - S10           | -            | - R3                 | -                    |

| Ordering table       |                              |                                                   |                                                     |         |            |         |                 |        |               |
|----------------------|------------------------------|---------------------------------------------------|-----------------------------------------------------|---------|------------|---------|-----------------|--------|---------------|
| Size                 |                              | 50                                                | 63                                                  | 80      | 100        | 125     | Condi-<br>tions | Code   | Enter<br>code |
| M                    | Module No.                   |                                                   | 536 309                                             | 536 330 | 536 351    | 536 372 | 536 393         |        |               |
|                      | Function                     |                                                   | Compact cylinder, double-acting, based on ISO 21287 |         |            |         |                 | ADN    | ADN           |
|                      | Piston Ø                     | [mm]                                              | 50                                                  | 63      | 80         | 100     | 125             | -...   |               |
|                      | Stroke                       | [mm]                                              | 1 ... 400                                           |         | 1 ... 500  |         |                 | -...   |               |
|                      | Piston rod thread            | Male thread                                       |                                                     |         |            |         |                 | -A     |               |
|                      |                              | Female thread                                     |                                                     |         |            |         | 1               | -I     |               |
|                      | Cushioning                   | Flexible cushioning rings/pads at both ends       |                                                     |         |            |         |                 | -P     | -P            |
| Position sensing     |                              | Via proximity sensor                              |                                                     |         |            |         |                 | -A     | -A            |
| O                    | Male thread extended         |                                                   | Extended male piston rod thread                     |         |            |         |                 |        |               |
|                      |                              | [mm]                                              | 1 ... 20                                            |         | 1 ... 30   |         | 1 ... 40        |        | -...K2        |
|                      | Special piston<br>rod thread | Male thread                                       | M12                                                 | M12     | M16        | M16     | M20             |        | -“...”K5      |
|                      |                              |                                                   | M16                                                 | M16     | M20        | M20     | M20x1.5         |        |               |
|                      |                              | Female thread                                     | M8                                                  | M8      | M10        | M10     | —               |        |               |
|                      | Piston rod extended          | Extended piston rod                               |                                                     |         |            |         |                 |        |               |
|                      |                              | [mm]                                              | 1 ... 400                                           |         | 1 ... 500  |         | 2               | -...K8 |               |
|                      | Improved running performance | Smooth anodised aluminium coated piston rod       |                                                     |         |            |         | 3               | -K10   |               |
|                      |                              | [mm]                                              | 2 ... 400                                           |         | 5 ... 400  |         | 5 ... 500       |        |               |
|                      | Constant motion              | Slow speed (constant motion at low piston speeds) |                                                     |         |            |         | 4               | -S10   |               |
|                      |                              | [mm]                                              | 20 ... 400                                          |         | 20 ... 500 |         |                 |        |               |
|                      | Low friction                 | Low friction                                      |                                                     |         |            |         | 5               | -S11   |               |
| Corrosion protection | High corrosion protection    |                                                   |                                                     |         |            | 6       | -R3             |        |               |
| Captive rating plate |                              | Laser etched rating plate                         |                                                     |         |            |         |                 | -TL    |               |

1 I Not with extended male thread K2

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

3 K10 Not with extended male thread K2  
Not with special piston rod thread K5  
Not with corrosion protection R3

4 S10 Not with low friction S11

5 S11 Not with constant motion S10

6 R3 Not with captive rating plate TL

## Transfer order code

- - - - - - - -

# Compact cylinders ADN, to ISO 21287

FESTO

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

| Mandatory data |          |          |           |                   |            |                  | → |
|----------------|----------|----------|-----------|-------------------|------------|------------------|---|
| Module No.     | Function | Piston Ø | Stroke    | Piston rod thread | Cushioning | Position sensing |   |
| 536 203        | ADN      | 12       | 1 ... 500 | A                 | P          | A                |   |
| 536 218        |          | 16       |           | I                 |            |                  |   |
| 536 233        |          | 20       |           |                   |            |                  |   |
| 536 250        |          | 25       |           |                   |            |                  |   |
| 536 267        |          | 32       |           |                   |            |                  |   |
| 536 288        |          | 40       |           |                   |            |                  |   |
| 536 309        |          | 50       |           |                   |            |                  |   |
| 536 330        |          | 63       |           |                   |            |                  |   |
| 536 351        |          | 80       |           |                   |            |                  |   |
| 536 372        |          | 100      |           |                   |            |                  |   |
| 536 393        | 125      |          |           |                   |            |                  |   |
| Order example  |          |          |           |                   |            |                  |   |
| 536 309        | ADN      | - 50     | - 350     | - A               | - P        | - A              |   |

| Ordering table |                                       |                                                     |                                                              |                 |                 |           |                 |      |          |               |
|----------------|---------------------------------------|-----------------------------------------------------|--------------------------------------------------------------|-----------------|-----------------|-----------|-----------------|------|----------|---------------|
| Size           | 12                                    | 16                                                  | 20                                                           | 25              | 32              | 40        | Condi-<br>tions | Code |          | Enter<br>code |
| M              | Module No.                            | 536 203                                             | 536 218                                                      | 536 233         | 536 250         | 536 267   | 536 288         |      |          |               |
|                | Function                              | Compact cylinder, double-acting, based on ISO 21287 |                                                              |                 |                 |           |                 | ADN  |          | ADN           |
|                | Piston Ø [mm]                         | 12                                                  | 16                                                           | 20              | 25              | 32        | 40              |      | -...     |               |
|                | Stroke [mm]                           | 1 ... 300                                           |                                                              |                 |                 | 1 ... 400 |                 |      | -...     |               |
|                | Piston rod thread                     | Male thread                                         |                                                              |                 |                 |           |                 |      | -A       |               |
|                |                                       | Female thread                                       |                                                              |                 |                 |           |                 | 1    | -I       |               |
|                | Cushioning                            | Flexible cushioning rings/pads at both ends         |                                                              |                 |                 |           |                 | -P   |          | -P            |
|                | Position sensing                      | Via proximity sensor                                |                                                              |                 |                 |           |                 | -A   |          | -A            |
| O              | Protection against torsion            | Square piston rod                                   |                                                              |                 |                 |           |                 | -Q   |          | -Q            |
|                | Type of piston rod                    | Through piston rod                                  |                                                              |                 |                 |           |                 | -S2  |          |               |
|                |                                       | –                                                   | Through, hollow piston rod<br>Restricted stroke<br>1 ... 200 |                 |                 |           | 1 ... 300       |      | -S20     |               |
|                | Male thread extended [mm]             | 1 ... 10                                            |                                                              |                 |                 | 1 ... 20  |                 |      | -...K2   |               |
|                | Special piston Male thread rod thread | M6                                                  | M8                                                           | M10x1.25<br>M10 | M10x1.25<br>M10 | M10       | M10             |      | -“...”K5 |               |
|                | Piston rod extended [mm]              | 1 ... 300                                           |                                                              |                 |                 | 1 ... 400 |                 | 2    | -...K8   |               |
|                | Temperature resistance                | Heat-resistant seals up to max. 120 °C              |                                                              |                 |                 |           |                 | -S6  |          |               |
|                | 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

Transfer order code

|  |     |   |  |   |  |   |   |   |   |
|--|-----|---|--|---|--|---|---|---|---|
|  | ADN | - |  | - |  | - | P | - | A |
|--|-----|---|--|---|--|---|---|---|---|

# Compact cylinders ADN, to ISO 21287

FESTO

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

| Options                    |                    |                      |                |                     |                        |                      |
|----------------------------|--------------------|----------------------|----------------|---------------------|------------------------|----------------------|
| Protection against torsion | Type of piston rod | Male thread extended | Special thread | Piston rod extended | Temperature resistance | Captive rating plate |
| Q                          | S2<br>S20          | ...K2                | "..."K5        | ...K8               | S6                     | TL                   |
| - Q                        | - S2               | - 15K2               | - "M16"K5      | - 50K8              | - S6                   | -                    |

| Ordering table |                            |                                                     |         |          |           |          |                 |          |               |
|----------------|----------------------------|-----------------------------------------------------|---------|----------|-----------|----------|-----------------|----------|---------------|
| Size           |                            | 50                                                  | 63      | 80       | 100       | 125      | Condi-<br>tions | Code     | Enter<br>code |
| M              | Module No.                 | 536 309                                             | 536 330 | 536 351  | 536 372   | 536 393  |                 |          |               |
|                | Function                   | Compact cylinder, double-acting, based on ISO 21287 |         |          |           |          |                 | ADN      | ADN           |
|                | Piston Ø [mm]              | 50                                                  | 63      | 80       | 100       | 125      |                 | -...     |               |
|                | Stroke [mm]                | 1 ... 400                                           |         |          | 1 ... 500 |          |                 | -...     |               |
|                | Piston rod thread          | Male thread                                         |         |          |           |          |                 | -A       |               |
|                |                            | Female thread                                       |         |          |           |          | 1               | -I       |               |
|                | Cushioning                 | Flexible cushioning rings/pads at both ends         |         |          |           |          |                 | -P       | -P            |
|                | Position sensing           | Via proximity sensor                                |         |          |           |          |                 | -A       | -A            |
| Q              | Protection against torsion | Square piston rod                                   |         |          |           |          |                 | -Q       | -Q            |
|                | Type of piston rod         | Through piston rod                                  |         |          |           |          |                 | -S2      |               |
|                |                            | Through, hollow piston rod                          |         |          |           |          |                 | -S20     |               |
|                |                            | Restricted stroke                                   |         |          |           |          |                 |          |               |
|                | [mm]                       | 1 ... 300                                           |         |          | 1 ... 400 |          |                 |          |               |
|                | Male thread extended       | Extended male piston rod thread                     |         |          |           |          |                 |          |               |
|                | [mm]                       | 1 ... 20                                            |         | 1 ... 30 |           | 1 ... 40 |                 | -...K2   |               |
|                | Special piston rod thread  | Male thread                                         | M12     | M12      | M16       | M16      | M20             | -“...”K5 |               |
|                | Piston rod extended        | Extended piston rod                                 |         |          |           |          |                 |          |               |
|                | [mm]                       | 1 ... 400                                           |         |          | 1 ... 500 |          | 2               | -...K8   |               |
|                | Temperature resistance     | Heat-resistant seals up to max. 120 °C              |         |          |           |          |                 | -S6      |               |
|                | Captive rating plate       | Laser etched rating plate                           |         |          |           |          |                 | -TL      |               |

<sup>1</sup> I Not with piston rod type S20  
Not with extended male thread K2

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

Transfer order code

- Q - - - - -

# Compact cylinders ADN, to ISO 21287

FESTO

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

| M Mandatory data |          |                                                                                          |           |                   |            |                  | O Options            |                |                     |                        |                       |                      |
|------------------|----------|------------------------------------------------------------------------------------------|-----------|-------------------|------------|------------------|----------------------|----------------|---------------------|------------------------|-----------------------|----------------------|
| Module No.       | Function | Piston  | Stroke    | Piston rod thread | Cushioning | Position sensing | Male thread extended | Special thread | Piston rod extended | Temperature resistance | Reinforced piston rod | Captive rating plate |
| 536 250          | ADN      | 25                                                                                       | 5 ... 500 | A                 | P          | A                | ...K2                | “ ... ”K5      | ...K8               | S6                     | S1                    | TL                   |
| 536 288          |          | 40                                                                                       |           | I                 |            |                  |                      |                |                     |                        |                       |                      |
| 536 330          |          | 63                                                                                       |           |                   |            |                  |                      |                |                     |                        |                       |                      |
| 536 372          |          | 100                                                                                      |           |                   |            |                  |                      |                |                     |                        |                       |                      |
| Order example    |          |                                                                                          |           |                   |            |                  |                      |                |                     |                        |                       |                      |
| 536 288          | ADN      | 40                                                                                       | 320       | I                 | P          | A                |                      |                | 50K8                | S6                     | S1                    | TL                   |

| Ordering table       |                              |                           |                                                      |            |          |            |                 |      |               |        |     |  |  |
|----------------------|------------------------------|---------------------------|------------------------------------------------------|------------|----------|------------|-----------------|------|---------------|--------|-----|--|--|
| Size                 |                              |                           | 25                                                   | 40         | 63       | 100        | Condi-<br>tions | Code | Enter<br>code |        |     |  |  |
| M                    | Module No.                   |                           | 536 250                                              |            | 536 288  |            | 536 330         |      | 536 372       |        |     |  |  |
|                      | Function                     |                           | Compact cylinder, double-acting, based on ISO 21287  |            |          |            |                 |      | ADN           |        | ADN |  |  |
|                      | Piston Ø                     | [mm]                      | 25                                                   | 40         | 63       | 100        |                 | -... |               |        |     |  |  |
|                      | Stroke                       | [mm]                      | 5 ... 300                                            | 10 ... 400 |          | 10 ... 500 |                 |      | -...          |        |     |  |  |
|                      | Piston rod thread            |                           | Male thread                                          |            |          |            |                 |      | -A            |        |     |  |  |
|                      |                              |                           | Female thread                                        |            |          |            |                 |      | [1]           | -I     |     |  |  |
|                      | Cushioning                   |                           | Flexible cushioning rings/pads at both ends          |            |          |            |                 |      | -P            |        | -P  |  |  |
|                      | Position sensing             |                           | Via proximity sensor                                 |            |          |            |                 |      | -A            |        | -A  |  |  |
| O                    | Male thread extended         |                           | Extended male piston rod thread                      |            |          |            |                 |      |               |        |     |  |  |
|                      |                              | [mm]                      | 1 ... 20                                             |            |          |            | 1 ... 30        |      | -...K2        |        |     |  |  |
|                      | Special piston<br>rod thread | Male thread               | M10x1.25                                             | M10x1.25   | M12x1.25 | M16x1.5    | -“...”K5        |      |               |        |     |  |  |
|                      |                              | Female thread             | M10                                                  | M12        | M16      | M20        |                 |      |               |        |     |  |  |
|                      | Piston rod extended          |                           | Extended piston rod                                  |            |          |            |                 |      |               |        |     |  |  |
|                      |                              | [mm]                      | 1 ... 300                                            | 1 ... 400  |          |            | 1 ... 500       |      | [2]           | -...K8 |     |  |  |
|                      | Temperature resistance       |                           | Heat-resistant seals up to max. 120 °C               |            |          |            |                 |      | -S6           |        |     |  |  |
|                      | Reinforced piston rod        |                           | Reinforced piston rod or extended piston rod bearing |            |          |            |                 |      | -S1           |        | -S1 |  |  |
| Captive rating plate |                              | Laser etched rating plate |                                                      |            |          |            |                 | -TL  |               |        |     |  |  |

[1] I Not with extended male thread K2

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

Transfer order code

|  |     |   |  |   |  |   |   |   |   |   |  |   |  |   |    |   |  |
|--|-----|---|--|---|--|---|---|---|---|---|--|---|--|---|----|---|--|
|  | ADN | - |  | - |  | - | P | - | A | - |  | - |  | - | S1 | - |  |
|--|-----|---|--|---|--|---|---|---|---|---|--|---|--|---|----|---|--|

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

FESTO

Type codes

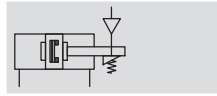
|                          |                                             |     |   |    |   |    |   |    |   |   |   |   |   |   |   |    |
|--------------------------|---------------------------------------------|-----|---|----|---|----|---|----|---|---|---|---|---|---|---|----|
|                 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

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

FESTO

Technical data

## Function



- $\varnothing$  - Diameter  
20 ... 100 mm
- $\text{I}$  - Stroke length  
10 ... 500 mm

## Variants



K2



K5



K8



## Note

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

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

| General technical data                                        |          |                                             |    |                 |                 |                 |                 |                   |                 |
|---------------------------------------------------------------|----------|---------------------------------------------|----|-----------------|-----------------|-----------------|-----------------|-------------------|-----------------|
| Piston Ø                                                      |          | 20                                          | 25 | 32              | 40              | 50              | 63              | 80                | 100             |
| Pneumatic connection                                          | Cylinder | M5                                          | M5 | G $\frac{1}{8}$ | G $\frac{1}{8}$ | G $\frac{1}{8}$ | G $\frac{1}{8}$ | G $\frac{1}{8}$   | G $\frac{1}{8}$ |
|                                                               | KP       | M5                                          | M5 | M5              | G $\frac{1}{8}$ | G $\frac{1}{8}$ | G $\frac{1}{8}$ | G $\frac{1}{8}$   | G $\frac{1}{8}$ |
| 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 clamped piston rod without load [mm] |          | 0.5                                         |    |                 |                 | 0.7             |                 |                   |                 |
| Constructional design                                         |          | Piston                                      |    |                 |                 |                 |                 |                   |                 |
|                                                               |          | Piston rod                                  |    |                 |                 |                 |                 |                   |                 |
|                                                               |          | Cylinder barrel                             |    |                 |                 |                 |                 |                   |                 |
| Cushioning                                                    |          | Flexible cushioning rings/pads at both ends |    |                 |                 |                 |                 |                   |                 |
| Position sensing                                              |          | Via proximity sensor                        |    |                 |                 |                 |                 |                   |                 |
| Type of mounting                                              |          | Via through-holes                           |    |                 |                 |                 |                 |                   |                 |
|                                                               |          | Via female threads                          |    |                 |                 |                 |                 |                   |                 |
|                                                               |          | Via accessories                             |    |                 |                 |                 |                 |                   |                 |
| Mounting position                                             |          | Any                                         |    |                 |                 |                 |                 |                   |                 |
| Clamping type with effective direction of action              |          | From both sides                             |    |                 |                 |                 |                 |                   |                 |

| Operating and environmental conditions       |                                                     |
|----------------------------------------------|-----------------------------------------------------|
| Operating medium                             | Filtered compressed air, lubricated or unlubricated |
| Operating pressure [bar]                     | 1.5 ... 10                                          |
| Min. release pressure [bar]                  | 3                                                   |
| Ambient temperature <sup>1)</sup> [°C]       | -10 ... +80                                         |
| Corrosion resistance class CRC <sup>2)</sup> | 2                                                   |

1) Note operating range of proximity sensors

2) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

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

FESTO

Technical data

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

Permissible impact velocity:

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

$v_{perm.}$  Permissible impact velocity

$E_{perm.}$  Max. impact energy

$m_{dead}$  Moving load (drive)

$m_{load}$  Moving work load



Note

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

Maximum permissible load:

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

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



Note

The specified holding force refers to a static load. If this value is exceeded, slippage may occur. Dynamic forces occurring during operation must not

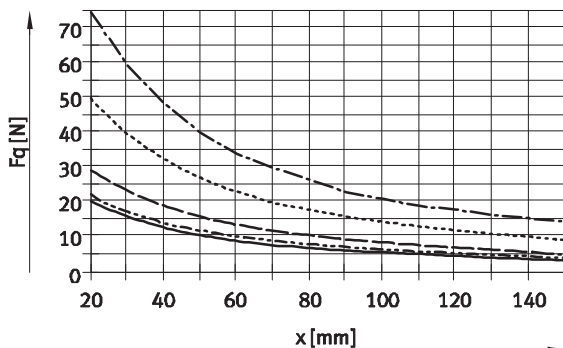
exceed the static holding force. The clamping unit is not backlash-free in the clamped condition if varying loads are applied to the piston rod.

Activation:

The clamping unit may only be released if the forces at the piston have reached equilibrium. Otherwise, there is a risk of accidents due to sudden

movement of the piston rod. Blocking off the air supply at both ends (e.g. with a 5/3-way valve) does not provide any safety.

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



— Ø 20  
 - - - Ø 25  
 . . . Ø 32/40  
 - . - Ø 50/63  
 - - - Ø 80/100

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

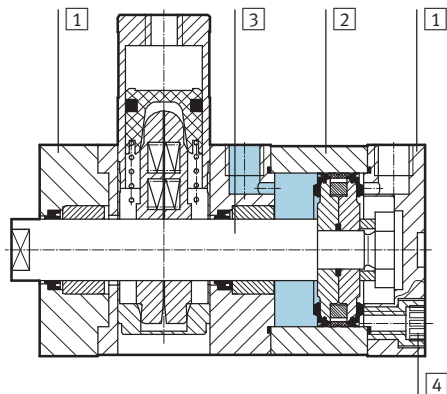
# Compact cylinders ADN-KP, standard port pattern, with clamping unit

Technical data

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## Materials

Sectional view



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



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

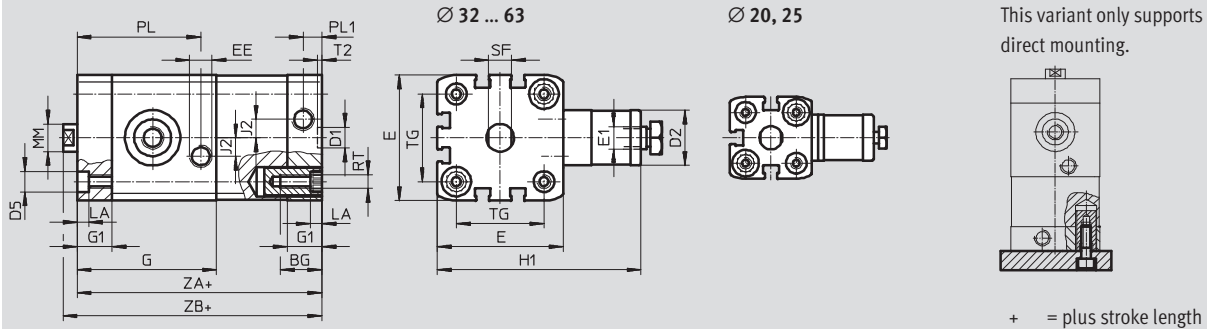
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Technical data

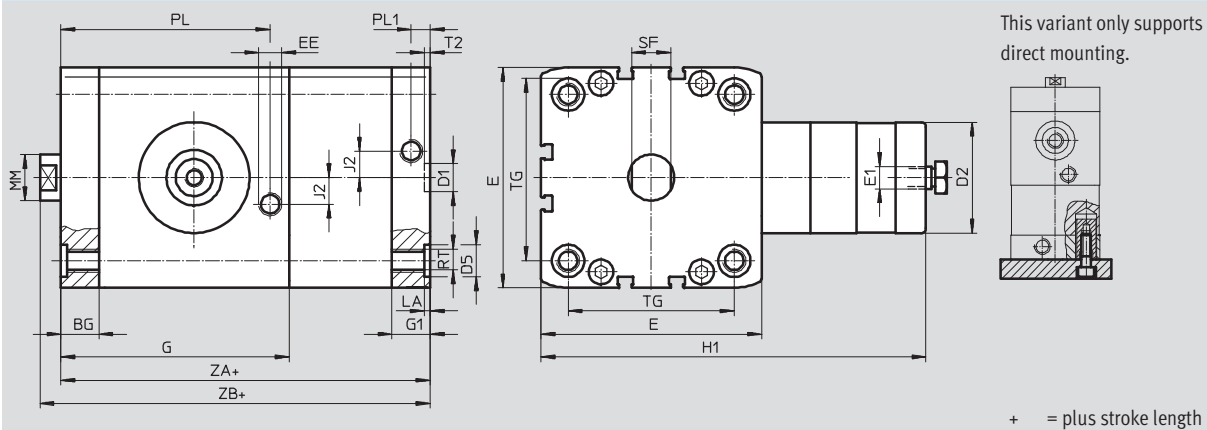
## Dimensions – Basic version

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

Ø 20 ... 63



Ø 80, 100



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

| Ø    | LA   | MM<br>Ø | PL   | PL1  | RT   | SF  | T2   | TG    | ZA    | ZB    |
|------|------|---------|------|------|------|-----|------|-------|-------|-------|
| [mm] | +0.2 | h8      | +0.2 | +0.2 |      | h13 | +0.2 | ±0.2  | ±0.3  | +1.2  |
| 20   | 5    | 10      | 42.8 | 6    | M5   | 9   | 2.1  | 22    | 74.8  | 80.8  |
| 25   |      |         | 44.6 |      |      |     |      | 26    | 77.6  | 83.1  |
| 32   |      |         | 49.6 |      |      |     |      | 32.5  | 85.4  | 91.4  |
| 40   |      | 16      | 53.6 | 8.2  | M6   | 13  |      | 38    | 90.4  | 96.5  |
| 50   |      | 20      | 60.6 |      |      | M8  |      | 17    | 46.5  | 97.4  |
| 63   |      |         | 70   |      | 56.5 |     |      | 110.8 | 118.9 |       |
| 80   | 2.6  | 25      | 90.7 | 10.5 | M10  | 21  | 2.6  | 72    | 136.5 | 145.4 |
| 100  |      |         | 88.6 |      |      |     |      | 89    | 145.1 | 154.1 |

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

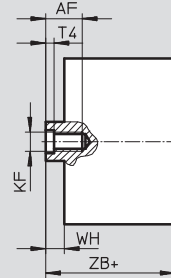
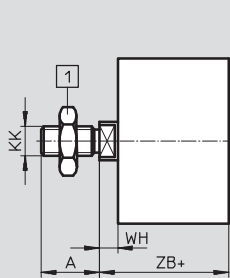
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Technical data

## Dimensions – Variants

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

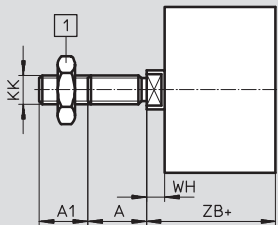
### Basic version



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

+ = plus stroke length

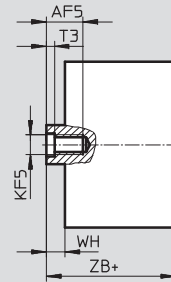
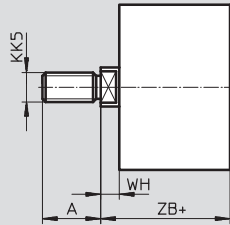
### K2 – Extended male piston rod thread



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

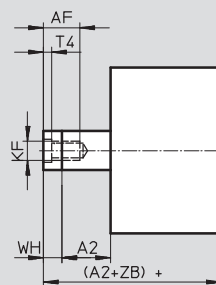
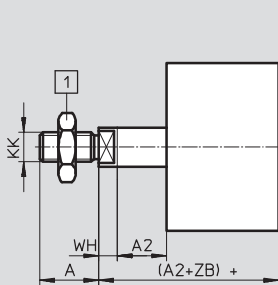
+ = plus stroke length

### K5 – Special piston rod thread



+ = plus stroke length

### K8 – Extended piston rod



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

+ = plus stroke length

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

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Technical data

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

| Ø<br>[mm] | KK       | KK5            | T3  | T4  | WH<br>+1.3 | ZB<br>+1.2 |
|-----------|----------|----------------|-----|-----|------------|------------|
| 20        | M8       | M10x1.25       | 2   | 2.6 | 5.5        | 80.8       |
| 25        |          | M10            |     |     |            | 83.1       |
| 32        | M10x1.25 | M10            | 2.6 | 3.3 | 6          | 91.4       |
| 40        |          | M12            |     |     | 6.1        | 96.5       |
| 50        | M12x1.25 | M12            | 3.3 | 4.7 | 8.2        | 105.6      |
| 63        |          | M16            |     |     | 8.1        | 118.9      |
| 80        | M16x1.5  | M16            | 4.7 | 6.1 | 8.9        | 145.4      |
| 100       |          | M20x1.5<br>M20 |     |     | 9          | 154.1      |

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

Ordering data – Modular products

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| M Mandatory data |          |          |            |               |                   |            |                  | → |
|------------------|----------|----------|------------|---------------|-------------------|------------|------------------|---|
| Module No.       | Function | Piston Ø | Stroke     | Clamping unit | Piston rod thread | Cushioning | Position sensing |   |
| 548 206          | ADN      | 20       | 10 ... 500 | KP            | A<br>I            | P          | A                |   |
| 548 207          |          |          |            |               |                   |            |                  |   |
| 548 208          |          |          |            |               |                   |            |                  |   |
| 548 209          |          |          |            |               |                   |            |                  |   |
| 548 210          |          |          |            |               |                   |            |                  |   |
| 548 211          |          |          |            |               |                   |            |                  |   |
| 548 212          |          |          |            |               |                   |            |                  |   |
| 548 213          |          | 100      |            |               |                   |            |                  |   |
| Order example    |          |          |            |               |                   |            |                  |   |
| 548 209          | ADN      | - 40     | - 350      | - KP          | - A               | - P        | - A              |   |

| Ordering table            |                                                                            |                 |                 |            |                 |            |               |     |
|---------------------------|----------------------------------------------------------------------------|-----------------|-----------------|------------|-----------------|------------|---------------|-----|
| Size                      | 20                                                                         | 25              | 32              | 40         | Condi-<br>tions | Code       | Enter<br>code |     |
| M Module No.              | 548 206                                                                    | 548 207         | 548 208         | 548 209    |                 |            |               |     |
| Function                  | Compact cylinder, double-acting, standard port pattern, with clamping unit |                 |                 |            |                 | ADN        |               | ADN |
| Piston Ø [mm]             | 20                                                                         | 25              | 32              | 40         |                 | -...       |               |     |
| Stroke [mm]               | 10 ... 300                                                                 |                 | 10 ... 400      |            |                 | -...       |               |     |
| Clamping unit             | Integrated                                                                 |                 |                 |            |                 | -KP        |               | -KP |
| Piston rod thread         | Male thread                                                                |                 |                 |            |                 | -A         |               |     |
|                           | Female thread                                                              |                 |                 |            |                 | [1] -I     |               |     |
| Cushioning                | Flexible cushioning rings/pads at both ends                                |                 |                 |            |                 | -P         |               | -P  |
| Position sensing          | Via proximity sensor                                                       |                 |                 |            |                 | -A         |               | -A  |
| 0 Male thread extended    | Extended male piston rod thread                                            |                 |                 |            |                 |            |               |     |
| [mm]                      | 1 ... 20                                                                   |                 |                 |            |                 | -...K2     |               |     |
| Special piston rod thread | Male thread                                                                | M10x1.25<br>M10 | M10x1.25<br>M10 | M10<br>M12 | M10<br>M12      | -“...”K5   |               |     |
|                           | Female thread                                                              | M5              | M5              | M6         | M6              |            |               |     |
| Piston rod extended       | 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

Transfer order code

ADN -  -  - KP -  - P - A

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

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Ordering data – Modular products

| Options              |                |                     |                      |
|----------------------|----------------|---------------------|----------------------|
| Male thread extended | Special thread | Piston rod extended | Captive rating plate |
| ...K2                | "..."K5        | ...K8               | TL                   |
| - 20K2               | - "M10"K5      | -                   | - TL                 |

| Ordering table       |                           |                           |                                                                            |            |                       |                       |          |               |  |
|----------------------|---------------------------|---------------------------|----------------------------------------------------------------------------|------------|-----------------------|-----------------------|----------|---------------|--|
| Size                 |                           | 50                        | 63                                                                         | 80         | 100                   | Condi-<br>tions       | Code     | Enter<br>code |  |
| M                    | Module No.                |                           | 548 210                                                                    | 548 211    | 548 212               | 548 213               |          |               |  |
|                      | Function                  |                           | Compact cylinder, double-acting, standard port pattern, with clamping unit |            |                       |                       | ADN      | ADN           |  |
|                      | Piston Ø                  | [mm]                      | 50                                                                         | 63         | 80                    | 100                   | -...     |               |  |
|                      | Stroke                    | [mm]                      | 10 ... 400                                                                 |            | 10 ... 500            |                       | -...     |               |  |
|                      | Clamping unit             |                           | Integrated                                                                 |            |                       |                       | -KP      | -KP           |  |
|                      | Piston rod thread         | Male thread               |                                                                            |            |                       |                       | -A       |               |  |
|                      |                           | Female thread             |                                                                            |            |                       | 1                     | -I       |               |  |
|                      | Cushioning                |                           | Flexible cushioning rings/pads at both ends                                |            |                       |                       | -P       | -P            |  |
|                      | Position sensing          |                           | Via proximity sensor                                                       |            |                       |                       | -A       | -A            |  |
| 0                    | Male thread extended      |                           | Extended male piston rod thread                                            |            |                       |                       |          |               |  |
|                      |                           | [mm]                      | 1 ... 20                                                                   |            | 1 ... 30              |                       | -...K2   |               |  |
|                      | Special piston rod thread | Male thread               | M12<br>M16                                                                 | M12<br>M16 | M16<br>M20<br>M20x1.5 | M16<br>M20<br>M20x1.5 | -“...”K5 |               |  |
|                      |                           | Female thread             | M8                                                                         | M8         | M10                   | M10                   |          |               |  |
|                      | Piston rod extended       |                           | Extended piston rod                                                        |            |                       |                       |          |               |  |
|                      | [mm]                      | 1 ... 400                 |                                                                            | 1 ... 500  |                       | 2                     | -...K8   |               |  |
| Captive rating plate |                           | Laser etched rating plate |                                                                            |            |                       |                       | -TL      |               |  |

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

Transfer order code

-  -  -  -

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

FESTO

Type codes

|                          |                                             |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
|--------------------------|---------------------------------------------|-----|---|----|---|-----|---|-----|---|---|---|---|---|---|---|----|
|                          |                                             | ADN | – | 20 | – | 100 | – | ELV | – | A | – | P | – | A | – | K2 |
| <b>Type</b>              |                                             |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| Double-acting            |                                             |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| ADN                      | Compact cylinder                            |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| <b>Piston Ø [mm]</b>     |                                             |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| <b>Stroke [mm]</b>       |                                             |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| <b>End position lock</b> |                                             |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| ELB                      | At both ends                                |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| ELV                      | At front                                    |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| ELH                      | At rear                                     |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| <b>Piston rod thread</b> |                                             |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| A                        | Male thread                                 |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| I                        | Female thread                               |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| <b>Cushioning</b>        |                                             |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| P                        | Flexible cushioning rings/pads at both ends |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| <b>Position sensing</b>  |                                             |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| A                        | Via proximity sensor                        |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| <b>Variant</b>           |                                             |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| K2                       | Extended male piston rod thread             |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| K5                       | Special piston rod thread                   |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| K8                       | Extended piston rod                         |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |
| TL                       | Captive rating plate                        |     |   |    |   |     |   |     |   |   |   |   |   |   |   |    |

**FESTO**

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

FESTO

Technical data

| Operating and environmental conditions       |                                                     |    |    |    |            |    |    |     |
|----------------------------------------------|-----------------------------------------------------|----|----|----|------------|----|----|-----|
| Piston Ø                                     | 20                                                  | 25 | 32 | 40 | 50         | 63 | 80 | 100 |
| Operating medium                             | Filtered compressed air, lubricated or unlubricated |    |    |    |            |    |    |     |
| Operating pressure [bar]                     | 2.5 ... 10                                          |    |    |    | 1.5 ... 10 |    |    |     |
| Ambient temperature <sup>1)</sup> [°C]       | -20 ... +80                                         |    |    |    |            |    |    |     |
| Corrosion resistance class CRC <sup>2)</sup> | 2                                                   |    |    |    |            |    |    |     |

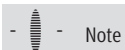
1) Note operating range of proximity sensors

2) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

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

## Sizing example



Note

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

### Given:

Installation position = Vertical

Workpiece load = 44 kg

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

### To be calculated:

Suitable piston Ø

### Analysis with 32 mm piston Ø:

Theoretical force at 6 bar, advancing = 483 N

50% of the theoretical force = 241.5 N

Static holding force with 32 mm piston Ø = 500 N

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

### Result:

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

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

Permissible impact velocity:

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

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

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

$m_{\text{dead}}$  Moving load (drive)

$m_{\text{load}}$  Moving work load

Maximum permissible load:

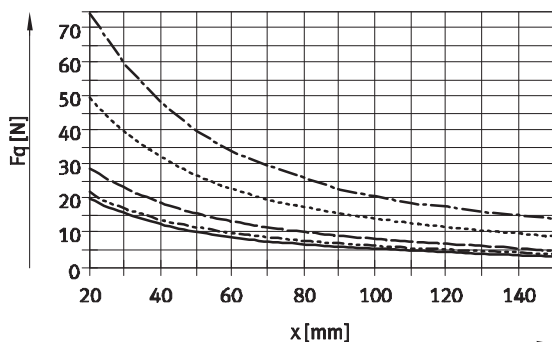
$$m_{\text{load}} = \frac{2 \times E_{\text{perm.}}}{v^2} - m_{\text{dead}}$$



Note

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

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



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



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

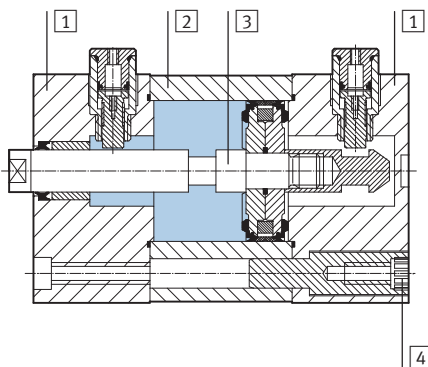
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Technical data

| Weight [g]                         |     |     |     |     |      |      |      |      |
|------------------------------------|-----|-----|-----|-----|------|------|------|------|
| Piston Ø                           | 20  | 25  | 32  | 40  | 50   | 63   | 80   | 100  |
| End position lock at both ends     |     |     |     |     |      |      |      |      |
| Product weight with 0 mm stroke    | 234 | 339 | 518 | 665 | 1334 | 1734 | 3300 | 4735 |
| Additional weight per 10 mm stroke | 22  | 26  | 29  | 38  | 51   | 59   | 79   | 98   |
| Moving load with 0 mm stroke       |     |     |     |     |      |      |      |      |
| Additional load per 10 mm stroke   | 6   | 6   | 9   | 9   | 16   | 16   | 25   | 25   |
| End position lock at front         |     |     |     |     |      |      |      |      |
| Product weight with 0 mm stroke    | 177 | 248 | 387 | 498 | 922  | 1228 | 2296 | 3448 |
| Additional weight per 10 mm stroke | 22  | 26  | 29  | 38  | 51   | 59   | 79   | 98   |
| Moving load with 0 mm stroke       |     |     |     |     |      |      |      |      |
| Additional load per 10 mm stroke   | 6   | 6   | 9   | 9   | 16   | 16   | 25   | 25   |
| End position lock at rear          |     |     |     |     |      |      |      |      |
| Product weight with 0 mm stroke    | 181 | 252 | 380 | 505 | 920  | 1217 | 2233 | 3409 |
| Additional weight per 10 mm stroke | 22  | 26  | 29  | 38  | 51   | 59   | 79   | 98   |
| Moving load with 0 mm stroke       |     |     |     |     |      |      |      |      |
| Additional load per 10 mm stroke   | 6   | 6   | 9   | 9   | 16   | 16   | 25   | 25   |

## Materials

Sectional view



| Compact cylinder |                 |                                                   |
|------------------|-----------------|---------------------------------------------------|
| 1                | Cover           | Anodised aluminium                                |
| 2                | Cylinder barrel | Anodised aluminium                                |
| 3                | Piston rod      | High-alloy steel                                  |
| 4                | Flange screws   | Ø 20 ... 63<br>Galvanised steel                   |
|                  |                 | Ø 80 ... 100<br>Standard screws, galvanised steel |
| –                | Seals           | Polyurethane, nitrile rubber                      |

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

FESTO

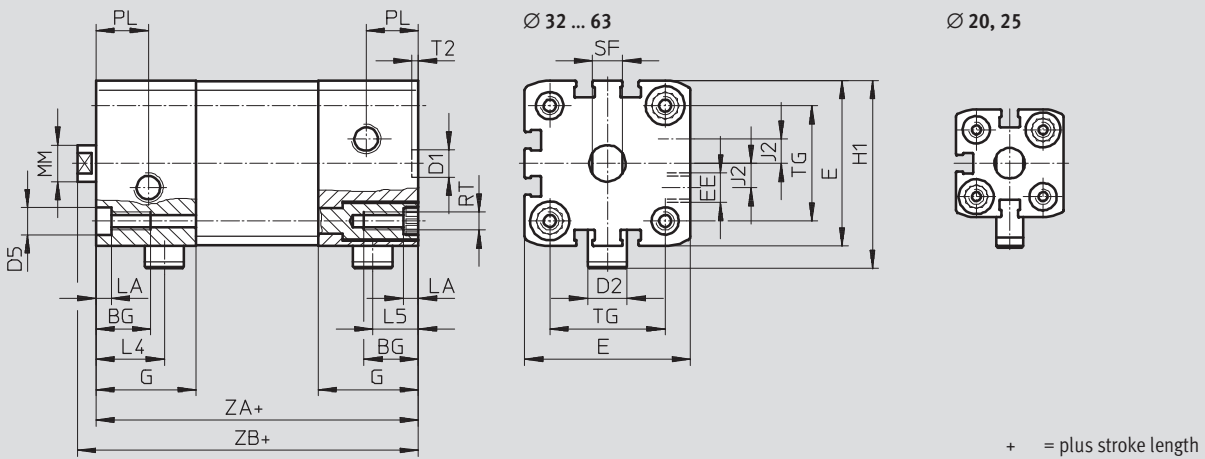
Technical data

## Dimensions – Basic version

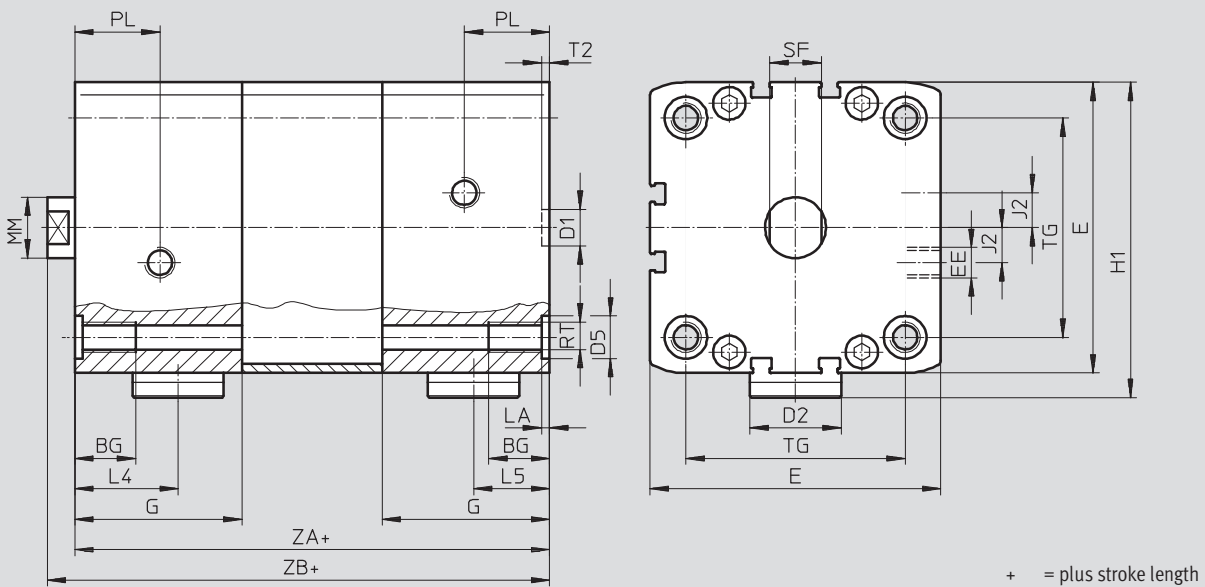
Download CAD data → [www.festo.com](http://www.festo.com)

ELB – End position lock at both ends

Ø 20 ... 63

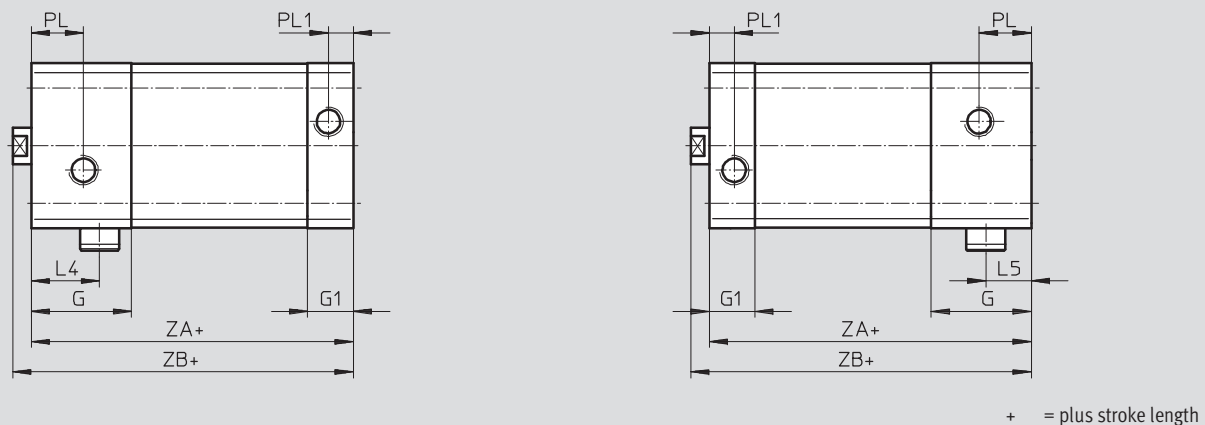


Ø 80 ... 100



ELV – End position lock at front

ELH – End position lock at rear



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

FESTO

Technical data

| Ø<br>[mm] | BG<br>min. | D1<br>Ø<br>H9 | D2<br>Ø   | D5<br>Ø<br>F9 | E          | EE   | G    | G1   | H1    | J2  | L4   | L5   |
|-----------|------------|---------------|-----------|---------------|------------|------|------|------|-------|-----|------|------|
| 20        | 18         | 9             | 9         | 9             | 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    | G1/8 | 33   | 15   | 58    | 6   | 22.5 | 15   |
| 40        |            |               |           |               | 54.5 +0.3  |      |      |      | 61.8  | 8   |      |      |
| 50        | 20         | 12            |           | 65.5 +0.3     | 43         |      | 77   |      | 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   |

| Ø    | LA   | MM<br>Ø | PL | PL1 | RT  | SF  | T2   | TG   | ZA<br>±0.3 |          | ZB<br>+1.2 |          |
|------|------|---------|----|-----|-----|-----|------|------|------------|----------|------------|----------|
| [mm] | +0.2 | h8      |    |     |     | h13 | +0.1 | ±0.2 | ELB        | ELV. ELH | ELB        | ELV. ELH |
| 20   | 5    | 10      | 6  | 6   | M5  | 9   | 2.1  | 22   | 63         | 50       | 68.8       | 55.5     |
| 25   |      | 12      | 16 | 8.2 | M6  | 10  |      | 26   | 74         | 56.5     | 79.5       | 62       |
| 32   |      |         |    |     |     |     |      | 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   | 2.6  | 20      | 28 |     | M10 | 17  |      | 72   | 131        | 92.5     | 139.9      | 101.4    |
| 100  |      |         |    | 89  |     |     |      | 138  | 102.5      | 147      | 111.5      |          |

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

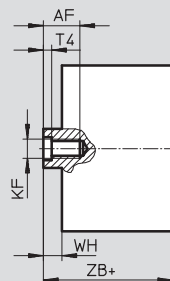
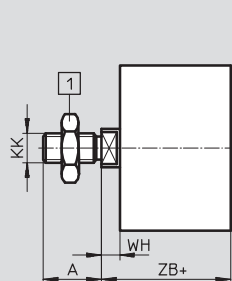
FESTO

Technical data

## Dimensions – Variants

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

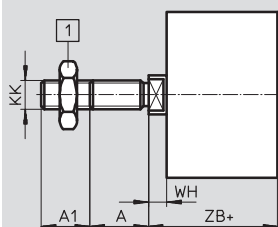
### Basic version



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

+ = plus stroke length

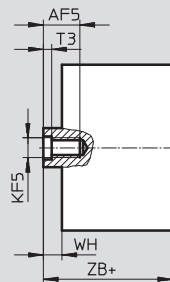
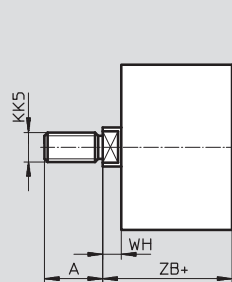
### K2 – Extended male piston rod thread



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

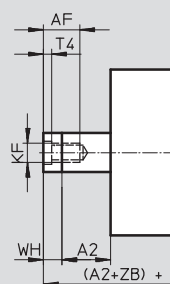
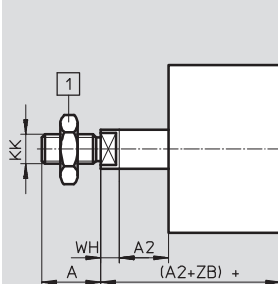
+ = plus stroke length

### K5 – Special piston rod thread



+ = plus stroke length

### K8 – Extended piston rod



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

+ = plus stroke length

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

**FESTO**

Technical data

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

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

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

FESTO

Ordering data – Modular products

| M Mandatory data → |          |          |            |                   |                   |            |                  |
|--------------------|----------|----------|------------|-------------------|-------------------|------------|------------------|
| Module No.         | Function | Piston Ø | Stroke     | End position lock | Piston rod thread | Cushioning | Position sensing |
| 548 214            | ADN      | 20       | 10 ... 500 | ELB               | A                 | P          | A                |
| 548 215            |          | 25       |            | ELV               | I                 |            |                  |
| 548 216            |          | 32       |            | ELH               |                   |            |                  |
| 548 217            |          | 40       |            |                   |                   |            |                  |
| 548 218            |          | 50       |            |                   |                   |            |                  |
| 548 219            |          | 63       |            |                   |                   |            |                  |
| 548 220            |          | 80       |            |                   |                   |            |                  |
| 548 221            |          | 100      |            |                   |                   |            |                  |
| Order example      |          |          |            |                   |                   |            |                  |
| 548 220            | ADN      | - 80     | - 450      | - ELV             | - I               | - P        | - A              |

| Ordering table   |                           |                                                                                |                 |                 |            |                 |          |               |
|------------------|---------------------------|--------------------------------------------------------------------------------|-----------------|-----------------|------------|-----------------|----------|---------------|
| Size             |                           | 20                                                                             | 25              | 32              | 40         | Condi-<br>tions | Code     | Enter<br>code |
| M                | Module No.                | 548 214                                                                        | 548 215         | 548 216         | 548 217    |                 |          |               |
|                  | Function                  | Compact cylinder, double-acting, standard port pattern, with end position lock |                 |                 |            |                 | ADN      | ADN           |
|                  | Piston Ø [mm]             | 20                                                                             | 25              | 32              | 40         |                 | -...     |               |
|                  | Stroke [mm]               | 10 ... 300                                                                     |                 | 10 ... 400      |            |                 | -...     |               |
|                  | End position lock         | At both ends                                                                   |                 |                 |            |                 | -ELB     |               |
|                  |                           | At front                                                                       |                 |                 |            |                 | -ELV     |               |
|                  |                           | At rear                                                                        |                 |                 |            |                 | -ELH     |               |
|                  | Piston rod thread         | Male thread                                                                    |                 |                 |            |                 | -A       |               |
|                  |                           | Female thread                                                                  |                 |                 |            | 1               | -I       |               |
|                  | Cushioning                | Flexible cushioning rings/pads at both ends                                    |                 |                 |            |                 | -P       | -P            |
| Position sensing | Via proximity sensor      |                                                                                |                 |                 |            | -A              | -A       |               |
| O                | Male thread extended [mm] | Extended male piston rod thread<br>1 ... 20                                    |                 |                 |            |                 | -...K2   |               |
|                  | Special piston rod thread | Male thread                                                                    | M10x1.25<br>M10 | M10x1.25<br>M10 | M10<br>M12 | M10<br>M12      | -“...”K5 |               |
|                  |                           | Female thread                                                                  | M5              | M5              | M6         | M6              |          |               |
|                  | Piston rod extended [mm]  | Extended piston rod<br>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

Transfer order code

|  |     |   |  |   |  |   |  |   |   |   |   |
|--|-----|---|--|---|--|---|--|---|---|---|---|
|  | ADN | - |  | - |  | - |  | - | P | - | A |
|--|-----|---|--|---|--|---|--|---|---|---|---|

**FESTO**

➔ **0 Options**

| Ordering table   |                           |                                             |                                                                                |         |            |                 |              |               |     |
|------------------|---------------------------|---------------------------------------------|--------------------------------------------------------------------------------|---------|------------|-----------------|--------------|---------------|-----|
| Size             |                           | 50                                          | 63                                                                             | 80      | 100        | Condi-<br>tions | Code         | Enter<br>code |     |
| M                | Module No.                |                                             | 548 218                                                                        | 548 219 | 548 220    | 548 221         |              |               |     |
|                  | Function                  |                                             | Compact cylinder, double-acting, standard port pattern, with end position lock |         |            |                 |              | ADN           | ADN |
|                  | Piston Ø                  | [mm]                                        | 50                                                                             | 63      | 80         | 100             |              | -...          |     |
|                  | Stroke                    | [mm]                                        | 10 ... 400                                                                     |         | 10 ... 500 |                 |              | -...          |     |
|                  | End position lock         | At both ends                                |                                                                                |         |            |                 | -ELB         |               |     |
|                  |                           | At front                                    |                                                                                |         |            |                 | -ELV         |               |     |
|                  |                           | At rear                                     |                                                                                |         |            |                 | -ELH         |               |     |
|                  | Piston rod thread         | Male thread                                 |                                                                                |         |            |                 | -A           |               |     |
|                  |                           | Female thread                               |                                                                                |         |            | <sup>1</sup>    | -I           |               |     |
|                  | Cushioning                | Flexible cushioning rings/pads at both ends |                                                                                |         |            |                 | -P           | -P            |     |
| Position sensing | Via proximity sensor      |                                             |                                                                                |         |            | -A              | -A           |               |     |
| O                | Male thread extended      |                                             | Extended male piston rod thread                                                |         |            |                 |              |               |     |
|                  |                           | [mm]                                        | 1 ... 20                                                                       |         | 1 ... 30   |                 |              | -...K2        |     |
|                  | Special piston rod thread | Male thread                                 | M12                                                                            | M12     | M16        | M16             |              | -“...”K5      |     |
|                  |                           |                                             | M16                                                                            | M16     | M20        | M20             |              |               |     |
|                  |                           | Female thread                               | M8                                                                             | M8      | M10        | M10             |              |               |     |
|                  | Piston rod extended       | [mm]                                        | Extended piston rod                                                            |         |            |                 |              |               |     |
|                  |                           |                                             | 1 ... 400                                                                      |         | 1 ... 500  |                 | <sup>2</sup> | -...K8        |     |
|                  | Captive rating plate      |                                             | Laser etched rating plate                                                      |         |            |                 | -TL          |               |     |

- Transfer order code

Transfer order code: - - - -

# Compact cylinders AEN, to ISO 21287

Type codes

FESTO

|                          |                                             |     |   |    |   |    |   |   |   |   |   |   |   |   |
|--------------------------|---------------------------------------------|-----|---|----|---|----|---|---|---|---|---|---|---|---|
|                          |                                             | AEN | – | 50 | – | 25 | – | A | – | P | – | A | – | Q |
| <b>Type</b>              |                                             |     |   |    |   |    |   |   |   |   |   |   |   |   |
| Single-acting            |                                             |     |   |    |   |    |   |   |   |   |   |   |   |   |
| AEN                      | Compact cylinder                            |     |   |    |   |    |   |   |   |   |   |   |   |   |
| <b>Piston Ø [mm]</b>     |                                             |     |   |    |   |    |   |   |   |   |   |   |   |   |
| <b>Stroke [mm]</b>       |                                             |     |   |    |   |    |   |   |   |   |   |   |   |   |
| <b>Piston rod thread</b> |                                             |     |   |    |   |    |   |   |   |   |   |   |   |   |
| A                        | Male thread                                 |     |   |    |   |    |   |   |   |   |   |   |   |   |
| I                        | Female thread                               |     |   |    |   |    |   |   |   |   |   |   |   |   |
| <b>Cushioning</b>        |                                             |     |   |    |   |    |   |   |   |   |   |   |   |   |
| P                        | Flexible cushioning rings/pads at both ends |     |   |    |   |    |   |   |   |   |   |   |   |   |
| <b>Position sensing</b>  |                                             |     |   |    |   |    |   |   |   |   |   |   |   |   |
| A                        | Via proximity sensor                        |     |   |    |   |    |   |   |   |   |   |   |   |   |
| <b>Variant</b>           |                                             |     |   |    |   |    |   |   |   |   |   |   |   |   |
| Z                        | Single-acting, pulling                      |     |   |    |   |    |   |   |   |   |   |   |   |   |
| Q                        | Square piston rod                           |     |   |    |   |    |   |   |   |   |   |   |   |   |
| K2                       | Extended male piston rod thread             |     |   |    |   |    |   |   |   |   |   |   |   |   |
| K5                       | Special piston rod thread                   |     |   |    |   |    |   |   |   |   |   |   |   |   |
| K8                       | Extended piston rod                         |     |   |    |   |    |   |   |   |   |   |   |   |   |
| K10                      | Smooth anodised piston rod                  |     |   |    |   |    |   |   |   |   |   |   |   |   |
| S6                       | Heat-resistant seals up to max. 120 °C      |     |   |    |   |    |   |   |   |   |   |   |   |   |
| TL                       | Captive rating plate                        |     |   |    |   |    |   |   |   |   |   |   |   |   |

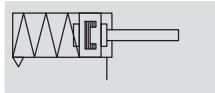


# Compact cylinders AEN, to ISO 21287

Technical data

**FESTO**

## Function



Ø - Diameter  
12 ... 100 mm

l - Stroke length  
1 ... 25 mm

 - [www.festo.com](http://www.festo.com)

## Variants



S6



K2



K5



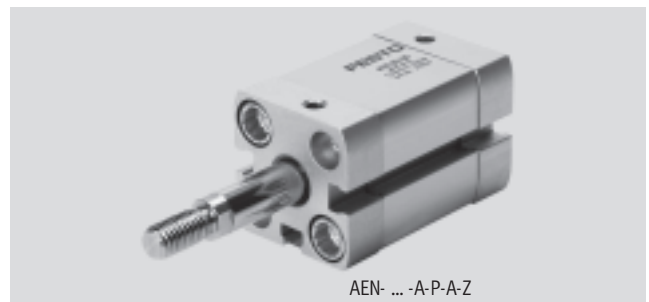
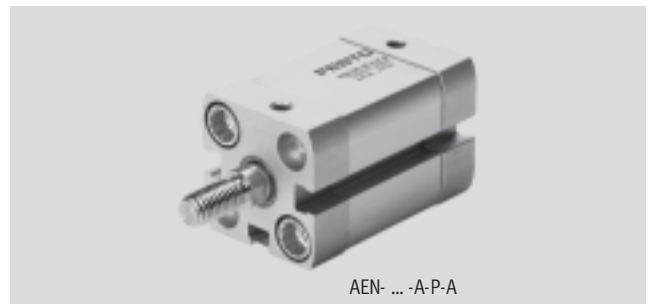
K8



K10



Q



| General technical data |                                             |    |    |    |                 |                 |                 |                 |                 |                 |                 |
|------------------------|---------------------------------------------|----|----|----|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Piston Ø               | 12                                          | 16 | 20 | 25 | 32              | 40              | 50              | 63              | 80              | 100             |                 |
| Pneumatic connection   | M5                                          | M5 | M5 | M5 | G $\frac{1}{8}$ | G $\frac{1}{8}$ | G $\frac{1}{8}$ | G $\frac{1}{8}$ | G $\frac{1}{8}$ | G $\frac{1}{8}$ | G $\frac{1}{8}$ |
| Piston rod thread      | Female                                      | M3 | M4 | M6 | M6              | M8              | M8              | M10             | M10             | M12             | M12             |
|                        | Male                                        | M5 | M6 | M8 | M8              | M10x1.25        | M10x1.25        | M12x1.25        | M12x1.25        | M16x1.5         | M16x1.5         |
| Constructional design  | Piston                                      |    |    |    |                 |                 |                 |                 |                 |                 |                 |
|                        | Piston rod                                  |    |    |    |                 |                 |                 |                 |                 |                 |                 |
|                        | Cylinder barrel                             |    |    |    |                 |                 |                 |                 |                 |                 |                 |
| Cushioning             | Flexible cushioning rings/pads at both ends |    |    |    |                 |                 |                 |                 |                 |                 |                 |
| Position sensing       | Via proximity sensor                        |    |    |    |                 |                 |                 |                 |                 |                 |                 |
| Type of mounting       | Via through-holes                           |    |    |    |                 |                 |                 |                 |                 |                 |                 |
|                        | Via female threads                          |    |    |    |                 |                 |                 |                 |                 |                 |                 |
|                        | Via accessories                             |    |    |    |                 |                 |                 |                 |                 |                 |                 |
| Mounting position      | Any                                         |    |    |    |                 |                 |                 |                 |                 |                 |                 |

| Operating and environmental conditions       |    |                                                     |            |            |    |            |            |    |    |     |  |
|----------------------------------------------|----|-----------------------------------------------------|------------|------------|----|------------|------------|----|----|-----|--|
| Piston Ø                                     | 12 | 16                                                  | 20         | 25         | 32 | 40         | 50         | 63 | 80 | 100 |  |
| Operating medium                             |    | Filtered compressed air, lubricated or unlubricated |            |            |    |            |            |    |    |     |  |
| Operating pressure<br>[bar]                  |    | 1.5 ... 10                                          |            | 1 ... 10   |    |            |            |    |    |     |  |
|                                              | Z  | 1.7 ... 10                                          | 2.2 ... 10 | 1.3 ... 10 |    | 0.7 ... 10 | 0.6 ... 10 |    |    |     |  |
|                                              | Q  | 1.5 ... 10                                          |            | 1 ... 10   |    |            |            |    |    |     |  |
| Ambient temperature <sup>1)</sup><br>[°C]    |    | −20 ... +80                                         |            |            |    |            |            |    |    |     |  |
|                                              | S6 | 0 ... +120                                          |            |            |    |            |            |    |    |     |  |
| Corrosion resistance class CRC <sup>2)</sup> |    | 2                                                   |            |            |    |            |            |    |    |     |  |

1) Note operating range of proximity sensors

2) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

# Compact cylinders AEN, to ISO 21287

Technical data

FESTO

| 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  | 59   | 95   | 161  | 260  | 440 | 700  | 1100 | 1780 | 2870 | 4510 |
| AEN-...-Z, pulling                     |      |      |      |      |     |      |      |      |      |      |
| Theoretical force at 6 bar, retracting | 40   | 65   | 115  | 210  | 380 | 632  | 980  | 1660 | 2700 | 4324 |
|                                        | 0.04 | 0.04 | 0.04 | 0.08 | 0.1 | 0.15 | 0.18 | 0.28 | 0.35 | 0.7  |

Permissible impact velocity:

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

$v_{perm.}$  Permissible impact velocity

$E_{perm.}$  Max. impact energy

$m_{dead}$  Moving load (drive)

$m_{load}$  Moving work load

- - - Note

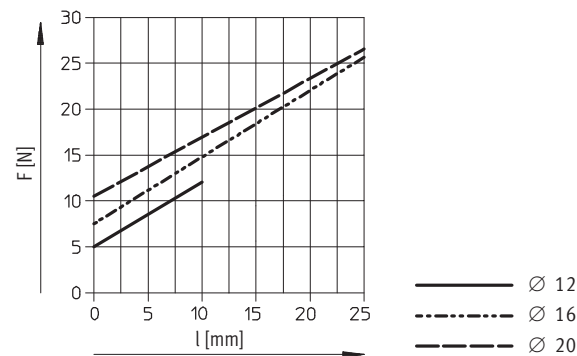
These specifications represent the maximum values which can be reached. Note the maximum permitted impact energy.

Maximum permissible load:

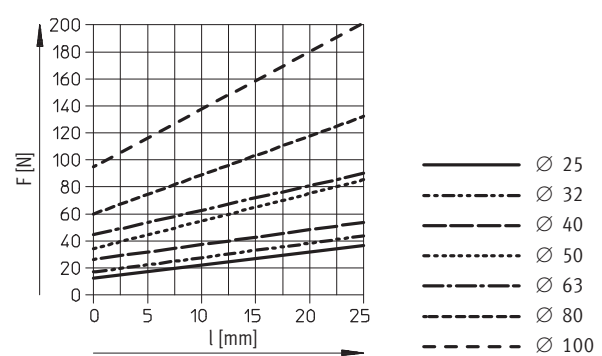
$$m_{load} = \frac{2 \times E_{perm.}}{v^2} - m_{dead}$$

## Spring return force F as a function of the stroke l

Ø 12 ... 20



Ø 25 ... 100



- - - Note

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

# Compact cylinders AEN, to ISO 21287

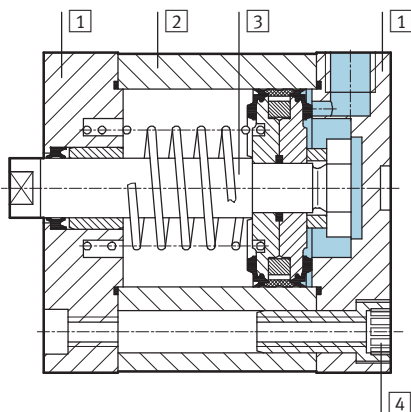
Technical data

**FESTO**

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

## Materials

Sectional view



| Compact cylinder |                 | Basic version      | S6                                |
|------------------|-----------------|--------------------|-----------------------------------|
| 1                | Cover           | Anodised 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 elastomer                  |

# Compact cylinders AEN, to ISO 21287

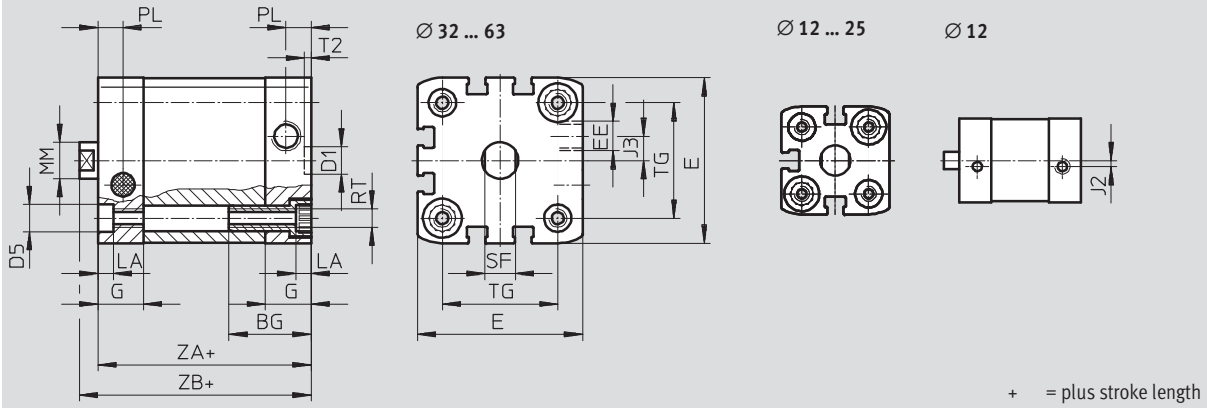
Technical data

FESTO

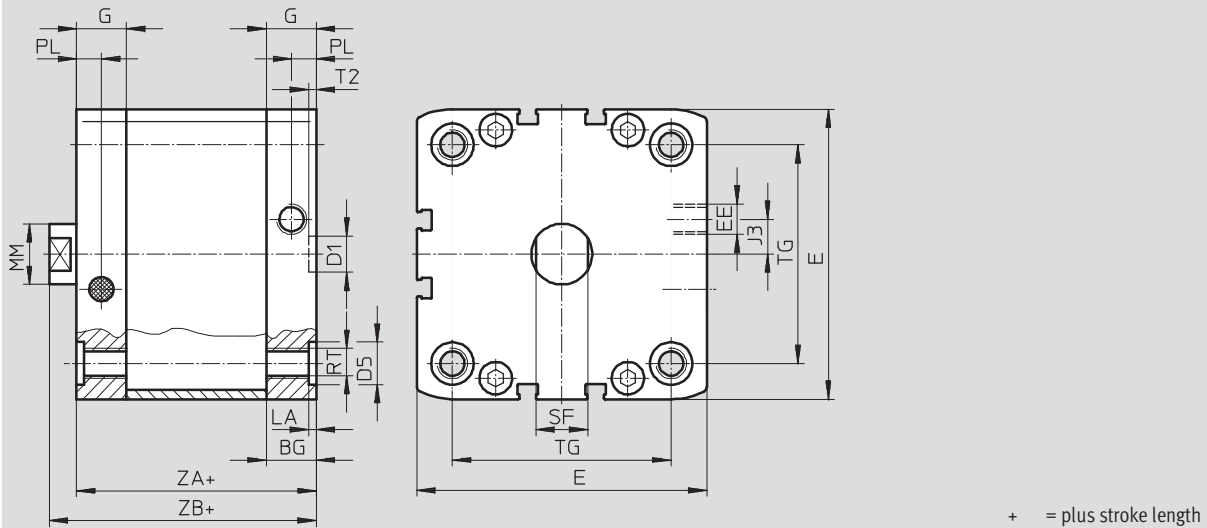
## Dimensions – Basic version

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

Ø 12 ... 63



Ø 80 ... 100



## Compact cylinders AEN, to ISO 21287

Technical data

**FESTO**

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

| Ø    | MM<br>Ø | PL   | RT  | SF  | T2   | TG   | ZA   | ZB   |
|------|---------|------|-----|-----|------|------|------|------|
| [mm] | h8      | +0.2 |     | h13 | +0.1 | ±0.2 | ±0.3 | +1.2 |
| 12   | 6       | 6    | M4  | 5   | 2.1  | 16   | 35   | 39.2 |
| 16   | 8       |      |     | 7   |      | 18   |      | 39.7 |
| 20   | 10      |      | M5  | 9   |      | 22   | 37   | 42.5 |
| 25   |         |      |     |     |      | 26   | 39   | 44.5 |
| 32   | 12      | 8.2  | M6  | 10  |      | 32.5 | 44   | 50   |
| 40   |         |      |     |     |      | 38   | 45   | 51.1 |
| 50   | 16      |      | M8  | 13  | 2.6  | 46.5 |      | 53.2 |
| 63   |         |      |     |     |      | 56.5 | 49   | 57.1 |
| 80   | 20      |      | M10 | 17  |      | 72   | 54   | 62.9 |
| 100  |         | 10.5 |     |     |      | 89   | 67   | 76   |

# Compact cylinders AEN, to ISO 21287

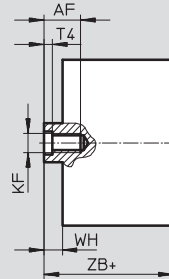
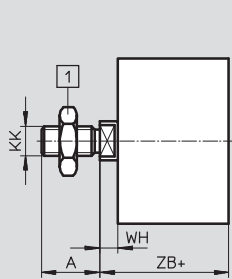
Technical data

**FESTO**

## Dimensions – Variants

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

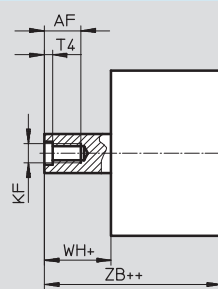
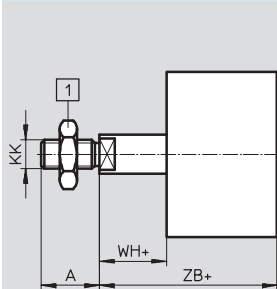
### Basic version



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

+ = plus stroke length

### Z – Pulling

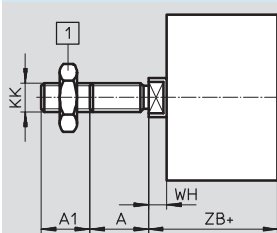


1 Hex nut to DIN 439-B  
only with  $\varnothing 32 \dots 100$

+ = plus stroke length

++ = plus 2x stroke length

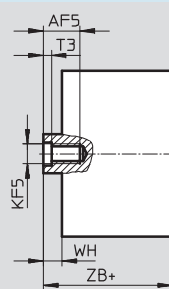
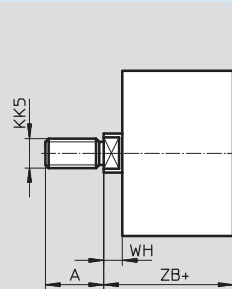
### K2 – Extended male piston rod thread



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

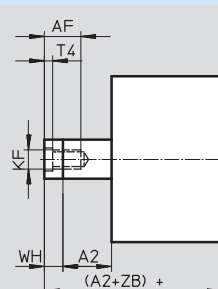
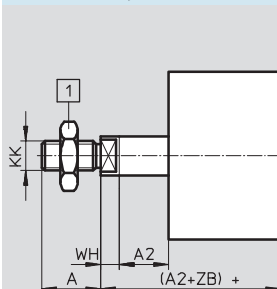
+ = plus stroke length

### K5 – Special piston rod thread



+ = plus stroke length

### K8 – Extended piston rod



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

+ = plus stroke length

## Compact cylinders AEN, to ISO 21287

Technical data

**FESTO**

| Ø    | 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 | 1 ... 400 | 14       | 12        | M6 | M5 |    |     |    |     |     |
| 25   |      | 19       | 16        |          |           | 14       | M8        | M6 |    |    |     |    |     |     |
| 32   | 22   |          |           |          |           |          |           |    | 20 | 16 | M10 | M8 |     |     |
| 40   |      |          | 28        |          |           | 1 ... 30 | 1 ... 500 | 20 |    |    |     |    | M12 | M10 |
| 50   |      |          |           |          |           |          |           |    |    |    |     |    |     |     |
| 63   |      |          |           |          |           |          |           |    |    |    |     |    |     |     |
| 80   |      |          |           |          |           |          |           |    |    |    |     |    |     |     |
| 100  |      |          |           |          |           |          |           |    |    |    |     |    |     |     |

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

# Compact cylinders AEN, to ISO 21287

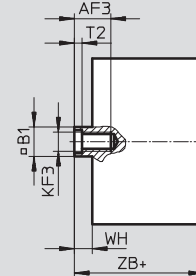
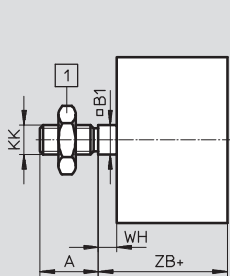
Technical data

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## Dimensions – Variants

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

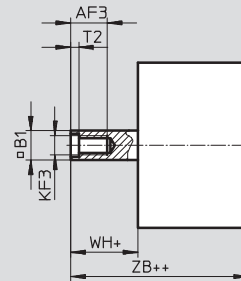
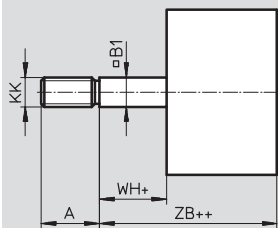
### Q – Square piston rod



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

+ = plus stroke length

### Q – Z – Pulling

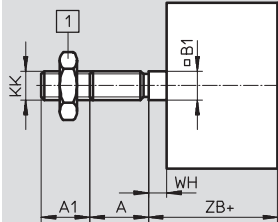


1 Hex nut to DIN 439-B  
only with  $\varnothing 32 \dots 100$

+ = plus stroke length

++ = plus 2x stroke length

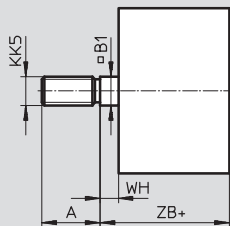
### Q-K2 – Square, extended male piston rod thread



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

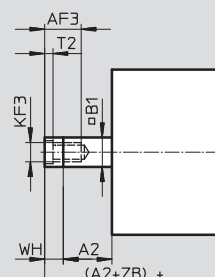
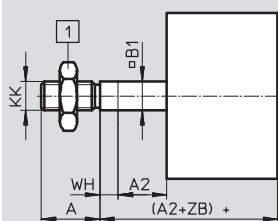
+ = plus stroke length

### Q-K5 – Square, special piston rod thread



+ = plus stroke length

### Q-K8 – Square, extended piston rod



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

+ = plus stroke length



## Compact cylinders AEN, to ISO 21287

Technical data

**FESTO**

| Ø    | A    | A1       | A2        | AF3       | B1<br>□ | KF3 |     |
|------|------|----------|-----------|-----------|---------|-----|-----|
| [mm] | −0.5 |          |           | min.      |         |     |     |
| 12   | 10   | 1 ... 10 | 1 ... 300 | 8         | 5.5     | M3  |     |
| 16   | 12   |          |           | 10        | 7       | M4  |     |
| 20   | 16   |          |           | 12        | 9       | M5  |     |
| 25   |      | 1 ... 20 | 1 ... 400 | 14        | 10      | M6  |     |
| 32   | 19   |          |           | 16        | 12      | M8  |     |
| 40   |      |          |           |           |         |     |     |
| 50   | 22   |          | 1 ... 30  | 1 ... 500 | 20      | 16  | M10 |
| 63   |      |          |           |           |         |     |     |
| 80   |      |          |           |           |         |     |     |
| 100  |      |          |           |           |         |     |     |

| Ø<br>[mm] | KK       | KK5      | T2  | WH<br>+1.3 | ZB<br>+1.2 |
|-----------|----------|----------|-----|------------|------------|
| 12        | M5       | M6       | 1.5 | 4.2        | 39.2       |
| 16        | M6       | M8       |     | 4.7        | 39.7       |
| 20        | M8       | M10x1.25 | 2   | 5.5        | 42.5       |
| 25        |          | M10      |     |            | 44.5       |
| 32        | M10x1.25 | M10      | 2.6 | 6          | 50         |
| 40        |          |          |     | 6.1        | 51.1       |
| 50        | M12x1.25 | M16      | 3.3 | 8.2        | 53.2       |
| 63        |          |          |     | 8.1        | 57.1       |
| 80        | M16x1.5  | M16      | 4.7 | 8.9        | 62.9       |
| 100       |          |          |     | 9          | 76         |

# Compact cylinders AEN, to ISO 21287

FESTO

Ordering data – Modular products, basic version and variants

| Mandatory data → |          |          |          |                |            |                  |
|------------------|----------|----------|----------|----------------|------------|------------------|
| Module No.       | Function | Piston Ø | Stroke   | Type of thread | Cushioning | Position sensing |
| 536 414          | AEN      | 12       | 1 ... 25 | A              | P          | A                |
| 536 415          |          | 16       |          | I              |            |                  |
| 536 416          |          | 20       |          |                |            |                  |
| 536 417          |          | 25       |          |                |            |                  |
| 536 418          |          | 32       |          |                |            |                  |
| 536 419          |          | 40       |          |                |            |                  |
| 536 420          |          | 50       |          |                |            |                  |
| 536 421          |          | 63       |          |                |            |                  |
| 536 422          |          | 80       |          |                |            |                  |
| 536 423          |          | 100      |          |                |            |                  |
| Order example    |          |          |          |                |            |                  |
| 536 423          | AEN      | - 100    | - 21     | - A            | - P        | - A              |

| Ordering table |                               |                                                     |          |                                             |                 |                 |            |               |          |
|----------------|-------------------------------|-----------------------------------------------------|----------|---------------------------------------------|-----------------|-----------------|------------|---------------|----------|
| Size           | 12                            | 16                                                  | 20       | 25                                          | 32              | Condi-<br>tions | Code       | Enter<br>code |          |
| M              | Module No.                    | 536 414                                             | 536 415  | 536 416                                     | 536 417         | 536 418         |            |               |          |
|                | Function                      | Compact cylinder, single-acting, based on ISO 21287 |          |                                             |                 |                 |            | AEN           |          |
|                | Piston Ø [mm]                 | 12                                                  | 16       | 20                                          | 25              | 32              |            | -...          |          |
|                | Stroke [mm]                   | 1 ... 10                                            | 1 ... 25 |                                             |                 |                 |            | -...          |          |
|                | Type of thread                | Male thread                                         |          |                                             |                 |                 |            | -A            |          |
|                |                               | Female thread                                       |          |                                             |                 |                 | 1          | -I            |          |
|                | Cushioning                    | Flexible cushioning rings/pads at both ends         |          |                                             |                 |                 |            | -P            |          |
|                | Position sensing              | Via proximity sensor                                |          |                                             |                 |                 |            | -A            |          |
| O              | Effective direction of action | Single-acting, pulling                              |          |                                             |                 |                 |            | -Z            |          |
|                | Male thread extended [mm]     | Extended male piston rod thread<br>1 ... 10         |          |                                             |                 |                 | 2          | -...K2        |          |
|                | Special piston rod thread     | Male thread                                         | M6       | M8                                          | M10x1.25<br>M10 | M10x1.25<br>M10 | M10<br>M12 | 2             | -“...”K5 |
|                |                               | Female thread                                       | –        | –                                           | M5              | M5              | M6         |               |          |
|                | Piston rod extended [mm]      | Extended piston rod<br>1 ... 10                     |          |                                             |                 |                 | 3          | -...K8        |          |
|                | Improved running performance  | –                                                   | –        | Smooth anodised aluminium coated piston rod |                 |                 |            | -K10          |          |
|                | Temperature resistance        | Heat-resistant seals up to max. 120 °C              |          |                                             |                 |                 |            | -S6           |          |
|                | Captive rating plate          | Laser etched rating plate                           |          |                                             |                 |                 |            | -TL           |          |

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

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

Transfer order code

|  |     |   |  |   |  |   |   |   |   |
|--|-----|---|--|---|--|---|---|---|---|
|  | AEN | – |  | – |  | – | P | – | A |
|--|-----|---|--|---|--|---|---|---|---|

# Compact cylinders AEN, to ISO 21287

Ordering data – Modular products, basic version and variants

**FESTO**

## → 0 Options

| Effective direction of action | Male thread extended | Special thread | Piston rod extended | Improved running performance | Temperature resistance | Captive rating plate |
|-------------------------------|----------------------|----------------|---------------------|------------------------------|------------------------|----------------------|
| Z                             | ...K2                | "..."K5        | ...K8               | K10                          | S6                     | TL                   |
| -                             | - 25K2               | -              | - 4K8               | -                            | - S6                   | - TL                 |

| Ordering table                         |                                                     |                |                |                |                |                 |                |                |
|----------------------------------------|-----------------------------------------------------|----------------|----------------|----------------|----------------|-----------------|----------------|----------------|
| Size                                   | 40                                                  | 50             | 63             | 80             | 100            | Condi-<br>tions | Code           | Enter<br>code  |
| <b>M</b> Module No.                    | <b>536 419</b>                                      | <b>536 420</b> | <b>536 421</b> | <b>536 422</b> | <b>536 423</b> |                 |                |                |
| Function                               | Compact cylinder, single-acting, based on ISO 21287 |                |                |                |                |                 | <b>AEN</b>     | AEN            |
| Piston Ø [mm]                          | 40                                                  | 50             | 63             | 80             | 100            |                 | -...           |                |
| Stroke [mm]                            | 1 ... 25                                            |                |                |                |                |                 | -...           |                |
| Type of thread                         | Male thread                                         |                |                |                |                |                 | <b>-A</b>      |                |
|                                        | Female thread                                       |                |                |                |                | <b>1</b>        | <b>-I</b>      |                |
| Cushioning                             | Flexible cushioning rings/pads at both ends         |                |                |                |                |                 | <b>-P</b>      | -P             |
| Position sensing                       | Via proximity sensor                                |                |                |                |                |                 | <b>-A</b>      | -A             |
| <b>0</b> Effective direction of action | Single-acting, pulling                              |                |                |                |                |                 | <b>-Z</b>      |                |
| Male thread extended [mm]              | Extended male piston rod thread                     |                |                |                | 1 ... 30       | <b>2</b>        | <b>-...K2</b>  |                |
|                                        | 1 ... 20                                            |                |                |                |                | <b>2</b>        | <b>-..."K5</b> |                |
| Special piston rod thread              | Male thread                                         | M10            | M12            | M12            | M16            | M16             | <b>2</b>       | <b>-..."K5</b> |
|                                        |                                                     | M12            | M16            | M16            | M20            | M20             |                |                |
| Female thread                          |                                                     |                |                |                | M20x1.5        | M20x1.5         | <b>2</b>       | <b>-..."K5</b> |
|                                        |                                                     | M6             | M8             | M8             | M10            | M10             |                |                |
| Piston rod extended [mm]               | Extended piston rod                                 |                |                |                |                | <b>3</b>        | <b>-...K8</b>  |                |
|                                        | 1 ... 25                                            |                |                |                |                |                 |                |                |
| Improved running performance           | Smooth anodised aluminium coated piston rod         |                |                |                |                |                 | <b>-K10</b>    |                |
| Temperature resistance                 | Heat-resistant seals up to max. 120 °C              |                |                |                |                |                 | <b>-S6</b>     |                |
| Captive rating plate                   | Laser etched rating plate                           |                |                |                |                |                 | <b>-TL</b>     |                |

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

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

### Transfer order code

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

# Compact cylinders AEN, to ISO 21287

FESTO

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

| Mandatory data |          |          |          |                |            |                  | → |
|----------------|----------|----------|----------|----------------|------------|------------------|---|
| Module No.     | Function | Piston Ø | Stroke   | Type of thread | Cushioning | Position sensing |   |
| 536 415        | AEN      | 16       | 1 ... 25 | A              | P          | A                |   |
| 536 416        |          | 20       |          | I              |            |                  |   |
| 536 417        |          | 25       |          |                |            |                  |   |
| 536 418        |          | 32       |          |                |            |                  |   |
| 536 419        |          | 40       |          |                |            |                  |   |
| 536 420        |          | 50       |          |                |            |                  |   |
| 536 421        |          | 63       |          |                |            |                  |   |
| 536 422        |          | 80       |          |                |            |                  |   |
| 536 423        |          | 100      |          |                |            |                  |   |
| Order example  |          |          |          |                |            |                  |   |
| 536 423        | AEN      | - 100    | - 21     | - A            | - P        | - A              |   |

| Ordering table                        |                                                     |                 |                 |         |                 |          |               |
|---------------------------------------|-----------------------------------------------------|-----------------|-----------------|---------|-----------------|----------|---------------|
| Size                                  | 16                                                  | 20              | 25              | 32      | Condi-<br>tions | Code     | Enter<br>code |
| M Module No.                          | 536 415                                             | 536 416         | 536 417         | 536 418 |                 |          |               |
| Function                              | Compact cylinder, single-acting, based on ISO 21287 |                 |                 |         |                 | AEN      | AEN           |
| Piston Ø [mm]                         | 16                                                  | 20              | 25              | 32      |                 | -...     |               |
| Stroke [mm]                           | 1 ... 25                                            |                 |                 |         |                 | -...     |               |
| Type of thread                        | Male thread                                         |                 |                 |         |                 | -A       |               |
|                                       | Female thread                                       |                 |                 |         | 1               | -I       |               |
| Cushioning                            | Flexible cushioning rings/pads at both ends         |                 |                 |         |                 | -P       | -P            |
| Position sensing                      | Via proximity sensor                                |                 |                 |         |                 | -A       | -A            |
| O Effective direction of action       | Single-acting, pulling                              |                 |                 |         |                 | -Z       |               |
| Protection against torsion            | Square piston rod                                   |                 |                 |         |                 | -Q       | -Q            |
| Male thread extended [mm]             | Extended male piston rod thread                     |                 |                 |         |                 | -...K2   |               |
| Special piston Male thread rod thread | M8                                                  | M10x1.25<br>M10 | M10x1.25<br>M10 | M10     |                 | -“...”K5 |               |
| Piston rod extended [mm]              | Extended piston rod                                 |                 |                 |         | 2               | -...K8   |               |
| Temperature resistance                | Heat-resistant seals up to max. 120 °C              |                 |                 |         |                 | -S6      |               |
| Captive rating plate                  | Laser etched rating plate                           |                 |                 |         |                 | -TL      |               |

1 I Not with extended male thread K2

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

Transfer order code

|  |     |   |  |   |  |   |   |   |   |
|--|-----|---|--|---|--|---|---|---|---|
|  | AEN | - |  | - |  | - | P | - | A |
|--|-----|---|--|---|--|---|---|---|---|

# Compact cylinders AEN, to ISO 21287

FESTO

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

| Options                       |                            |                      |                |                     |                        |                      |
|-------------------------------|----------------------------|----------------------|----------------|---------------------|------------------------|----------------------|
| Effective direction of action | Protection against torsion | Male thread extended | Special thread | Piston rod extended | Temperature resistance | Captive rating plate |
| Z                             | Q                          | ...K2                | "..."K5        | ...K8               | S6                     | TL                   |
| - Z                           | - Q                        | - 25K2               | -              | - 4K8               | -                      | - TL                 |

| Ordering table                         |                                                     |                |                |                |                |                 |            |  |               |
|----------------------------------------|-----------------------------------------------------|----------------|----------------|----------------|----------------|-----------------|------------|--|---------------|
| Size                                   | 40                                                  | 50             | 63             | 80             | 100            | Condi-<br>tions | Code       |  | Enter<br>code |
| <b>M</b> Module No.                    | <b>536 419</b>                                      | <b>536 420</b> | <b>536 421</b> | <b>536 422</b> | <b>536 423</b> |                 |            |  |               |
| Function                               | Compact cylinder, single-acting, based on ISO 21287 |                |                |                |                |                 | <b>AEN</b> |  | AEN           |
| Piston Ø [mm]                          | 40                                                  | 50             | 63             | 80             | 100            |                 | -...       |  |               |
| Stroke [mm]                            | 1 ... 25                                            |                |                |                |                |                 | -...       |  |               |
| Type of thread                         | Male thread                                         |                |                |                |                |                 | -A         |  |               |
|                                        | Female thread                                       |                |                |                |                | <sup>1</sup>    | -I         |  |               |
| Cushioning                             | Flexible cushioning rings/pads at both ends         |                |                |                |                |                 | -P         |  | -P            |
| Position sensing                       | Via proximity sensor                                |                |                |                |                |                 | -A         |  | -A            |
| <b>0</b> Effective direction of action | Single-acting, pulling                              |                |                |                |                |                 | -Z         |  |               |
| Protection against torsion             | Square piston rod                                   |                |                |                |                |                 | -Q         |  | -Q            |
| Male thread extended [mm]              | Extended male piston rod thread                     |                |                |                |                |                 | -...K2     |  |               |
| Special piston rod thread              | Male thread                                         | M10            | M12            | M12            | M16            | M16             | -..."K5    |  |               |
| Piston rod extended [mm]               | Extended piston rod                                 |                |                |                |                |                 | -...K8     |  |               |
| Temperature resistance                 | Heat-resistant seals up to max. 120 °C              |                |                |                |                | <sup>2</sup>    | -S6        |  |               |
| Captive rating plate                   | Laser etched rating plate                           |                |                |                |                |                 | -TL        |  |               |

<sup>1</sup> I Not with extended male thread K2

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

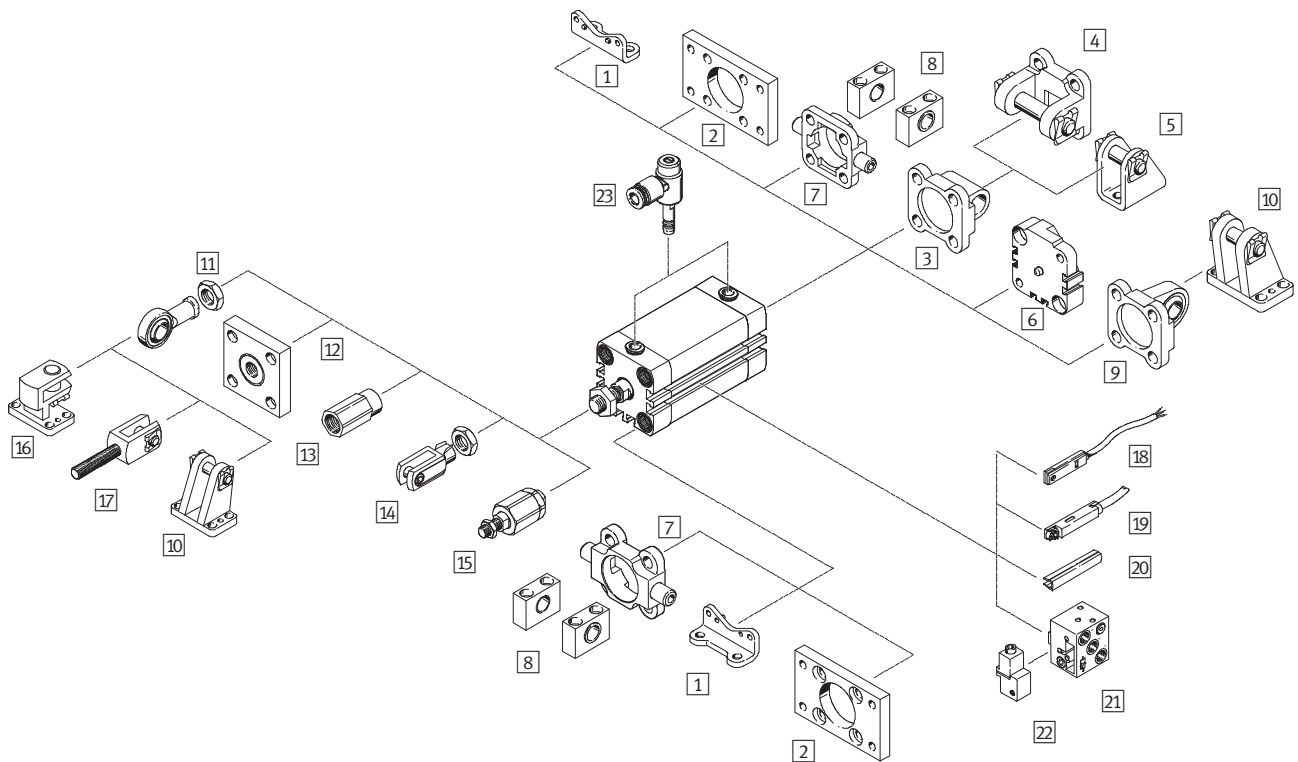
Transfer order code

-  - Q  -  -  -  -  -

# Compact cylinders ADNP, to ISO 21287, with polymer end caps

Peripherals overview

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## Compact cylinders ADNP, to ISO 21287, with polymer end caps

Peripherals overview

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| Mounting attachments and accessories  |                                                                                                    |                 |
|---------------------------------------|----------------------------------------------------------------------------------------------------|-----------------|
|                                       | Brief description                                                                                  | → Page/Internet |
| 1 Foot mounting<br>HNA                | For bearing or end caps                                                                            | 77              |
| 2 Flange mounting<br>FNC              | For bearing or end caps                                                                            | 78              |
| 3 Swivel flange<br>SNCL               | For end caps                                                                                       | 79              |
| 4 Swivel flange<br>SNCB               | For swivel flange SNCL                                                                             | 83              |
| 5 Clevis foot<br>LBN/CRLBN            | For swivel flange SNCL                                                                             | 82              |
| 6 Multi-position kit<br>DPNA          | For connecting two cylinders with identical piston $\varnothing$ to form a multi-position cylinder | 81              |
| 7 Trunnion flange<br>ZNCF/CRZNG       | For bearing caps                                                                                   | 84              |
| 8 Trunnion support<br>LNZG            | For trunnion flange ZNCF/CRZNG                                                                     | 85              |
| 9 Swivel flange<br>SNCS               | For end caps                                                                                       | 80              |
| 10 Clevis foot<br>LBG                 | For swivel flange SNCS                                                                             | 80              |
| 11 Rod eye<br>SGS/CRSGS               | With spherical bearing                                                                             | 86              |
| 12 Coupling piece<br>KSG/KSZ          | For compensating radial deviations                                                                 | 86              |
| 13 Adapter<br>AD                      | For mounting a vacuum suction cup on a hollow cylinder piston rod                                  | 86              |
| 14 Rod clevis<br>SG/CRSG              | Permits a swivelling movement of the cylinder in one plane                                         | 86              |
| 15 Self-aligning rod coupler<br>FK    | For compensating radial and angular deviations                                                     | 86              |
| 16 Right-angle clevis foot<br>LQG     | For rod eye SGS                                                                                    | 87              |
| 17 Rod clevis<br>SGA                  | With male thread                                                                                   | 86              |
| 18 Proximity sensor<br>SME/SMT-8      | Can be integrated in the sensor slot of the cylinder profile barrel                                | 89              |
| 19 Proximity sensor<br>SME/SMT-8M     | Can be integrated in the sensor slot of the cylinder profile barrel                                | 89              |
| 20 Slot cover<br>ABP-5-S              | For protecting the sensor cable and keeping dirt out of the sensor slots                           | 89              |
| 21 Proximity sensor<br>SMPO-8E        | Pneumatic output signal                                                                            | 89              |
| 22 Mounting kit<br>SMB-8E             | For proximity sensor SMPO-8E                                                                       | 89              |
| 23 One-way flow control valve<br>VFOC | For speed regulation                                                                               | 88              |

## Compact cylinders ADNP, to ISO 21287, with polymer end caps

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Type codes

|                          |                                                                                               |      |   |    |   |    |   |   |   |   |   |   |   |      |
|--------------------------|-----------------------------------------------------------------------------------------------|------|---|----|---|----|---|---|---|---|---|---|---|------|
|                          |                                                                                               | ADNP | – | 20 | – | 50 | – | A | – | P | – | A | – | QS-4 |
| <b>Type</b>              |                                                                                               |      |   |    |   |    |   |   |   |   |   |   |   |      |
| Double-acting            |                                                                                               |      |   |    |   |    |   |   |   |   |   |   |   |      |
| ADNP                     | Compact cylinder                                                                              |      |   |    |   |    |   |   |   |   |   |   |   |      |
| <b>Piston Ø [mm]</b>     |                                                                                               |      |   |    |   |    |   |   |   |   |   |   |   |      |
| <b>Stroke [mm]</b>       |                                                                                               |      |   |    |   |    |   |   |   |   |   |   |   |      |
| <b>Piston rod thread</b> |                                                                                               |      |   |    |   |    |   |   |   |   |   |   |   |      |
| A                        | Male thread                                                                                   |      |   |    |   |    |   |   |   |   |   |   |   |      |
| I                        | Female thread                                                                                 |      |   |    |   |    |   |   |   |   |   |   |   |      |
| <b>Cushioning</b>        |                                                                                               |      |   |    |   |    |   |   |   |   |   |   |   |      |
| P                        | Flexible cushioning rings/pads at both ends                                                   |      |   |    |   |    |   |   |   |   |   |   |   |      |
| <b>Position sensing</b>  |                                                                                               |      |   |    |   |    |   |   |   |   |   |   |   |      |
| A                        | Via proximity sensor                                                                          |      |   |    |   |    |   |   |   |   |   |   |   |      |
| <b>Connection</b>        |                                                                                               |      |   |    |   |    |   |   |   |   |   |   |   |      |
| QS-4                     | Integrated push-in fitting for connecting compressed air tubing with standard external Ø 4 mm |      |   |    |   |    |   |   |   |   |   |   |   |      |
| QS-6                     | Integrated push-in fitting for connecting compressed air tubing with standard external Ø 6 mm |      |   |    |   |    |   |   |   |   |   |   |   |      |

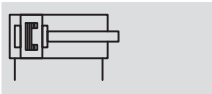


# Compact cylinders ADNP, to ISO 21287, with polymer end caps

FESTO

Technical data

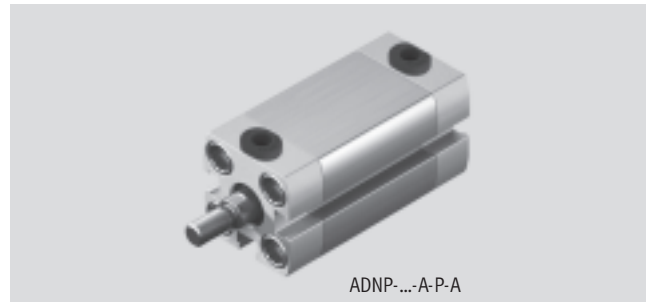
Function



- Ø - Diameter  
20 ... 50 mm

- | - Stroke length  
5 ... 80 mm

- T - [www.festo.com](http://www.festo.com)



ADNP-...-A-P-A



ADNP-...-I-P-A

| General technical data |                    |                                             |      |          |          |          |
|------------------------|--------------------|---------------------------------------------|------|----------|----------|----------|
| Piston Ø               |                    | 20                                          | 25   | 32       | 40       | 50       |
| Pneumatic connection   |                    | QS-4                                        | QS-4 | QS-6     | QS-6     | QS-6     |
| Piston rod thread      | Female             | M6                                          | M6   | M8       | M8       | M10      |
|                        | Male               | M8                                          | M8   | M10x1.25 | M10x1.25 | M10x1.25 |
| Constructional design  | Piston             |                                             |      |          |          |          |
|                        | Piston rod         |                                             |      |          |          |          |
|                        | Cylinder barrel    |                                             |      |          |          |          |
| Cushioning             |                    | Flexible cushioning rings/pads at both ends |      |          |          |          |
| Position sensing       |                    | Via proximity sensor                        |      |          |          |          |
| Type of mounting       | Via through-holes  |                                             |      |          |          |          |
|                        | Via female threads |                                             |      |          |          |          |
|                        | Via accessories    |                                             |      |          |          |          |
| Mounting position      |                    | Any                                         |      |          |          |          |

| Operating and environmental conditions       |                                                     |
|----------------------------------------------|-----------------------------------------------------|
| Operating medium                             | Filtered compressed air, lubricated or unlubricated |
| Operating pressure [bar]                     | 0.6 ... 10                                          |
| Ambient temperature <sup>1)</sup> [°C]       | -10 ... +60                                         |
| Corrosion resistance class CRC <sup>2)</sup> | 2                                                   |

1) Note operating range of proximity sensors

2) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

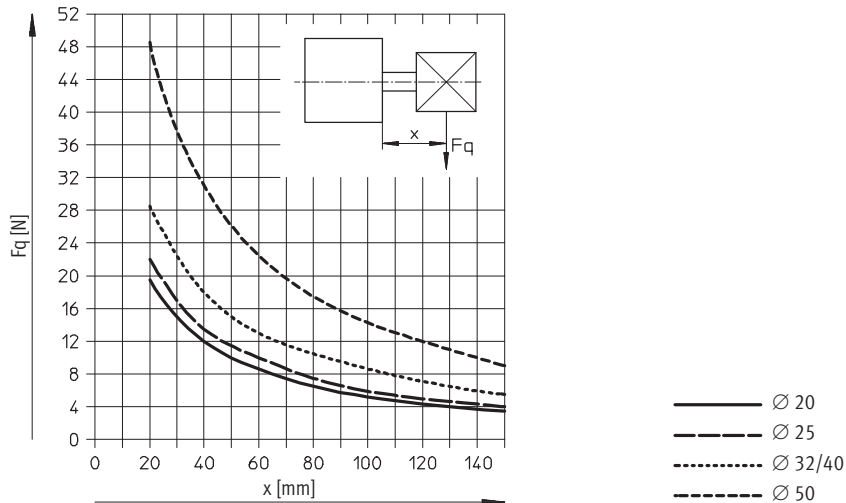
# Compact cylinders ADNP, to ISO 21287, with polymer end caps

FESTO

Technical data

| Forces [N] and impact energy [J]        |      |      |      |      |      |
|-----------------------------------------|------|------|------|------|------|
| Piston Ø                                | 20   | 25   | 32   | 40   | 50   |
| Theoretical force at 6 bar, advancing   | 188  | 295  | 483  | 754  | 1178 |
| Theoretical force at 6 bar, retracting  | 141  | 247  | 415  | 686  | 1057 |
| Max. impact energy at the end positions | 0.16 | 0.24 | 0.32 | 0.56 | 0.80 |

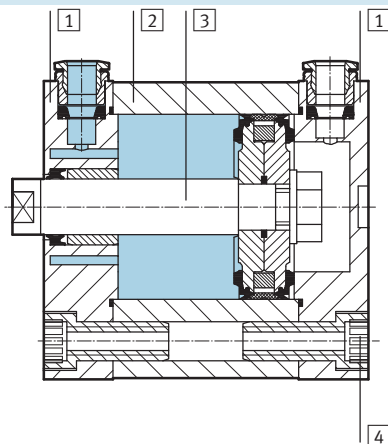
## Max. lateral force $F_q$ as a function of the projection $x$



| Weight [g]                         |     |     |     |     |     |
|------------------------------------|-----|-----|-----|-----|-----|
| Piston Ø                           | 20  | 25  | 32  | 40  | 50  |
| Product weight with 0 mm stroke    | 115 | 116 | 204 | 240 | 380 |
| Additional weight per 10 mm stroke | 17  | 19  | 24  | 32  | 41  |
| Moving load with 0 mm stroke       | 20  | 20  | 45  | 55  | 94  |
| Additional load per 10 mm stroke   | 2   | 2   | 3   | 3   | 6   |

## Materials

Sectional view



| Compact cylinder |                 |                                                          |
|------------------|-----------------|----------------------------------------------------------|
| 1                | Cover           | Polyarylamide                                            |
| 2                | Cylinder barrel | Smooth anodised aluminium                                |
| 3                | Piston rod      | Smooth anodised aluminium, steel insert with male thread |
| 4                | Flange screws   | Galvanised steel                                         |
| -                | Seals           | Polyurethane, nitrile rubber                             |

# Compact cylinders ADNP, to ISO 21287, with polymer end caps

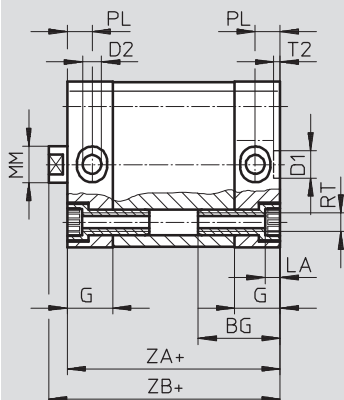
FESTO

Technical data

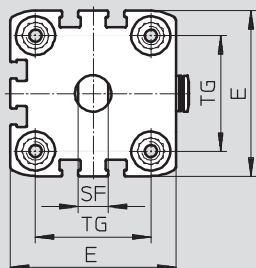
## Dimensions – Basic version

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

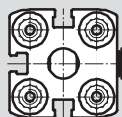
Ø 20 ... 50



Ø 32 ... 63



Ø 20, 25



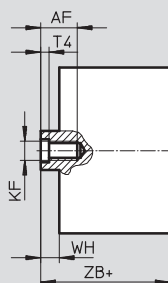
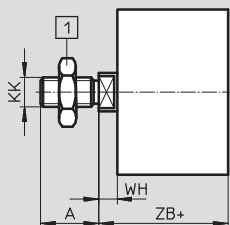
+ = plus stroke length

| Ø<br>[mm] | BG<br>min. | D1<br>Ø<br>H9 | D2<br>Ø | E<br>+0.3 | G  | LA | MM<br>Ø<br>h8 | PL<br>+0.2 | RT | SF<br>h13 | T2<br>+0.1 | TG<br>±0.2 | ZA<br>±0.3 | ZB<br>+1.3 |
|-----------|------------|---------------|---------|-----------|----|----|---------------|------------|----|-----------|------------|------------|------------|------------|
| 20        | 19.5       | 9             | 4       | 35.5      | 12 | 5  | 10            | 6          | M5 | 9         | 2.1        | 22         | 37         | 42.5       |
| 25        |            |               |         | 39.5      |    |    | 10            | 6          | M5 | 9         |            | 26         | 39         | 44.5       |
| 32        | 26         | 9             | 6       | 47        | 15 | 5  | 12            | 8.2        | M6 | 10        | 2.1        | 32.5       | 44         | 50         |
| 40        |            |               |         | 54.5      |    |    | 12            |            |    |           |            | 38         | 45         | 51.1       |
| 50        | 27         | 12            | 6       | 65.5      | 15 | 5  | 16            | 8.2        | M8 | 13        | 2.6        | 46.5       | 53.2       | 53.2       |

## Dimensions – Variants

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

Basic version



1 Hex nut to DIN 439-B  
only with Ø 32 ... 50

+ = plus stroke length

| Ø<br>[mm] | A    | AF   | KF  | KK       | T4  | WH   | ZB   |
|-----------|------|------|-----|----------|-----|------|------|
|           | -0.5 | min. |     |          |     | +1.3 | +1.2 |
| 20        | 16   | 14   | M6  | M8       | 2.6 | 5.5  | 42.5 |
| 25        |      |      |     |          |     | 5.5  | 44.5 |
| 32        | 19   | 16   | M8  | M10x1.25 | 3.3 | 6    | 50   |
| 40        |      |      |     |          |     | 6.1  | 51.1 |
| 50        | 22   | 20   | M10 | M12x1.25 | 4.7 | 8.2  | 53.2 |

# Compact cylinders ADNP, to ISO 21287, with polymer end caps

FESTO

Technical data

| Ordering data                                                                     |                  |                |                          |                       |                        |                       |
|-----------------------------------------------------------------------------------|------------------|----------------|--------------------------|-----------------------|------------------------|-----------------------|
| Type                                                                              | Piston Ø<br>[mm] | Stroke<br>[mm] | Female piston rod thread |                       | Male piston rod thread |                       |
|                                                                                   |                  |                | Part No.                 | Type                  | Part No.               | Type                  |
|  | 20               | 5              | 539 435                  | ADNP-20-5-I-P-A-QS-4  | 539 390                | ADNP-20-5-A-P-A-QS-4  |
|                                                                                   |                  | 10             | 539 436                  | ADNP-20-10-I-P-A-QS-4 | 539 391                | ADNP-20-10-A-P-A-QS-4 |
|                                                                                   |                  | 15             | 539 437                  | ADNP-20-15-I-P-A-QS-4 | 539 392                | ADNP-20-15-A-P-A-QS-4 |
|                                                                                   |                  | 20             | 539 438                  | ADNP-20-20-I-P-A-QS-4 | 539 393                | ADNP-20-20-A-P-A-QS-4 |
|                                                                                   |                  | 25             | 539 439                  | ADNP-20-25-I-P-A-QS-4 | 539 394                | ADNP-20-25-A-P-A-QS-4 |
|                                                                                   |                  | 30             | 539 440                  | ADNP-20-30-I-P-A-QS-4 | 539 395                | ADNP-20-30-A-P-A-QS-4 |
|                                                                                   |                  | 40             | 539 441                  | ADNP-20-40-I-P-A-QS-4 | 539 396                | ADNP-20-40-A-P-A-QS-4 |
|                                                                                   |                  | 50             | 539 442                  | ADNP-20-50-I-P-A-QS-4 | 539 397                | ADNP-20-50-A-P-A-QS-4 |
|                                                                                   |                  | 60             | 539 443                  | ADNP-20-60-I-P-A-QS-4 | 539 398                | ADNP-20-60-A-P-A-QS-4 |
|                                                                                   | 25               | 5              | 539 444                  | ADNP-25-5-I-P-A-QS-4  | 539 399                | ADNP-25-5-A-P-A-QS-4  |
|                                                                                   |                  | 10             | 539 445                  | ADNP-25-10-I-P-A-QS-4 | 539 400                | ADNP-25-10-A-P-A-QS-4 |
|                                                                                   |                  | 15             | 539 446                  | ADNP-25-15-I-P-A-QS-4 | 539 401                | ADNP-25-15-A-P-A-QS-4 |
|                                                                                   |                  | 20             | 539 447                  | ADNP-25-20-I-P-A-QS-4 | 539 402                | ADNP-25-20-A-P-A-QS-4 |
|                                                                                   |                  | 25             | 539 448                  | ADNP-25-25-I-P-A-QS-4 | 539 403                | ADNP-25-25-A-P-A-QS-4 |
|                                                                                   |                  | 30             | 539 449                  | ADNP-25-30-I-P-A-QS-4 | 539 404                | ADNP-25-30-A-P-A-QS-4 |
|                                                                                   |                  | 40             | 539 450                  | ADNP-25-40-I-P-A-QS-4 | 539 405                | ADNP-25-40-A-P-A-QS-4 |
|                                                                                   |                  | 50             | 539 451                  | ADNP-25-50-I-P-A-QS-4 | 539 406                | ADNP-25-50-A-P-A-QS-4 |
|                                                                                   |                  | 60             | 539 452                  | ADNP-25-60-I-P-A-QS-4 | 539 407                | ADNP-25-60-A-P-A-QS-4 |
|                                                                                   | 32               | 10             | 539 453                  | ADNP-32-10-I-P-A-QS-6 | 539 408                | ADNP-32-10-A-P-A-QS-6 |
|                                                                                   |                  | 15             | 539 454                  | ADNP-32-15-I-P-A-QS-6 | 539 409                | ADNP-32-15-A-P-A-QS-6 |
|                                                                                   |                  | 20             | 539 455                  | ADNP-32-20-I-P-A-QS-6 | 539 410                | ADNP-32-20-A-P-A-QS-6 |
|                                                                                   |                  | 25             | 539 456                  | ADNP-32-25-I-P-A-QS-6 | 539 411                | ADNP-32-25-A-P-A-QS-6 |
|                                                                                   |                  | 30             | 539 457                  | ADNP-32-30-I-P-A-QS-6 | 539 412                | ADNP-32-30-A-P-A-QS-6 |
|                                                                                   |                  | 40             | 539 458                  | ADNP-32-40-I-P-A-QS-6 | 539 413                | ADNP-32-40-A-P-A-QS-6 |
|                                                                                   |                  | 50             | 539 459                  | ADNP-32-50-I-P-A-QS-6 | 539 414                | ADNP-32-50-A-P-A-QS-6 |
|                                                                                   |                  | 60             | 539 460                  | ADNP-32-60-I-P-A-QS-6 | 539 415                | ADNP-32-60-A-P-A-QS-6 |
|                                                                                   |                  | 80             | 539 461                  | ADNP-32-80-I-P-A-QS-6 | 539 416                | ADNP-32-80-A-P-A-QS-6 |
|                                                                                   | 40               | 10             | 539 462                  | ADNP-40-10-I-P-A-QS-6 | 539 417                | ADNP-40-10-A-P-A-QS-6 |
|                                                                                   |                  | 15             | 539 463                  | ADNP-40-15-I-P-A-QS-6 | 539 418                | ADNP-40-15-A-P-A-QS-6 |
|                                                                                   |                  | 20             | 539 464                  | ADNP-40-20-I-P-A-QS-6 | 539 419                | ADNP-40-20-A-P-A-QS-6 |
|                                                                                   |                  | 25             | 539 465                  | ADNP-40-25-I-P-A-QS-6 | 539 420                | ADNP-40-25-A-P-A-QS-6 |
|                                                                                   |                  | 30             | 539 466                  | ADNP-40-30-I-P-A-QS-6 | 539 421                | ADNP-40-30-A-P-A-QS-6 |
|                                                                                   |                  | 40             | 539 467                  | ADNP-40-40-I-P-A-QS-6 | 539 422                | ADNP-40-40-A-P-A-QS-6 |
|                                                                                   |                  | 50             | 539 468                  | ADNP-40-50-I-P-A-QS-6 | 539 423                | ADNP-40-50-A-P-A-QS-6 |
|                                                                                   |                  | 60             | 539 469                  | ADNP-40-60-I-P-A-QS-6 | 539 424                | ADNP-40-60-A-P-A-QS-6 |
|                                                                                   |                  | 80             | 539 470                  | ADNP-40-80-I-P-A-QS-6 | 539 425                | ADNP-40-80-A-P-A-QS-6 |
|                                                                                   | 50               | 10             | 539 471                  | ADNP-50-10-I-P-A-QS-6 | 539 426                | ADNP-50-10-A-P-A-QS-6 |
|                                                                                   |                  | 15             | 539 472                  | ADNP-50-15-I-P-A-QS-6 | 539 427                | ADNP-50-15-A-P-A-QS-6 |
|                                                                                   |                  | 20             | 539 473                  | ADNP-50-20-I-P-A-QS-6 | 539 428                | ADNP-50-20-A-P-A-QS-6 |
|                                                                                   |                  | 25             | 539 474                  | ADNP-50-25-I-P-A-QS-6 | 539 429                | ADNP-50-25-A-P-A-QS-6 |
|                                                                                   |                  | 30             | 539 475                  | ADNP-50-30-I-P-A-QS-6 | 539 430                | ADNP-50-30-A-P-A-QS-6 |
|                                                                                   |                  | 40             | 539 476                  | ADNP-50-40-I-P-A-QS-6 | 539 431                | ADNP-50-40-A-P-A-QS-6 |
|                                                                                   |                  | 50             | 539 477                  | ADNP-50-50-I-P-A-QS-6 | 539 432                | ADNP-50-50-A-P-A-QS-6 |
|                                                                                   |                  | 60             | 539 478                  | ADNP-50-60-I-P-A-QS-6 | 539 433                | ADNP-50-60-A-P-A-QS-6 |
|                                                                                   |                  | 80             | 539 479                  | ADNP-50-80-I-P-A-QS-6 | 539 434                | ADNP-50-80-A-P-A-QS-6 |

# Compact cylinders ADN/AEN, to ISO 21287

Accessories

**FESTO**

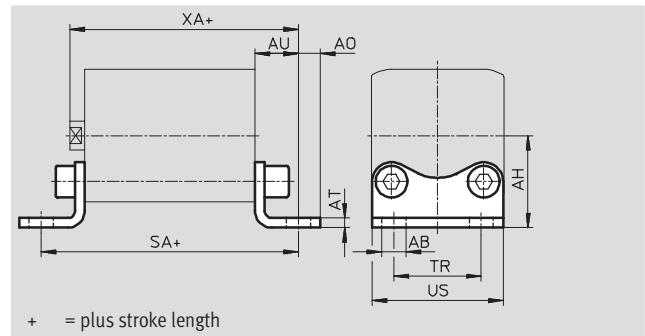
## Foot mounting HNA

Material:

HNA: Galvanised steel

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

Free of copper, PTFE and silicone



| Dimensions and ordering data |         |      |      |      |      |     |      |      |      |      |      |
|------------------------------|---------|------|------|------|------|-----|------|------|------|------|------|
| For Ø                        | AB<br>Ø | AH   | AO   | AT   | AU   | SA  | TR   | US   | XA   |      |      |
| [mm]                         | H14     | JS14 |      | ±0.5 | ±0.2 |     | ±0.2 | −0.5 |      |      |      |
| 12                           | 5.8     | 21   | 5    | 3    | 13   | 61  | 16   | 26   | 52.2 |      |      |
| 16                           |         | 22   | 4.75 |      |      |     | 18   | 27.5 | 52.9 |      |      |
| 20                           | 7       | 27   | 6.25 | 4    | 16   | 69  | 22   | 34.5 | 58.7 |      |      |
| 25                           |         | 29   |      |      |      |     | 26   | 38.5 | 60.7 |      |      |
| 32                           |         | 33.5 |      |      |      |     | 7    | 32   | 46   | 66.2 |      |
| 40                           | 10      | 38   | 9    | 5    | 18   | 81  | 36   | 54   | 69.2 |      |      |
| 50                           |         | 45   | 8    |      |      |     | 21   | 87   | 45   | 64   | 74.2 |
| 63                           |         | 50   |      |      |      |     |      |      |      |      |      |
| 80                           | 12      | 63   | 10.5 | 6    | 26   | 106 | 63   | 63   | 89   |      |      |
| 100                          | 14.5    | 74   | 12.5 |      |      |     | 27   | 121  | 75   | 110  | 103  |

| For Ø | Basic version     |               |          |         | R3 – High corrosion protection |               |          |            |
|-------|-------------------|---------------|----------|---------|--------------------------------|---------------|----------|------------|
|       | CRC <sup>1)</sup> | Weight<br>[g] | Part No. | Type    | CRC <sup>1)</sup>              | Weight<br>[g] | Part No. | Type       |
| [mm]  |                   |               |          |         |                                |               |          |            |
| 12    | 2                 | 25            | 537 237  | HNA-12  | 3                              | 25            | 537 252  | HNA-12-R3  |
| 16    | 2                 | 30            | 537 238  | HNA-16  | 3                              | 30            | 537 253  | HNA-16-R3  |
| 20    | 2                 | 50            | 537 239  | HNA-20  | 3                              | 50            | 537 254  | HNA-20-R3  |
| 25    | 2                 | 55            | 537 240  | HNA-25  | 3                              | 55            | 537 255  | HNA-25-R3  |
| 32    | 2                 | 70            | 537 241  | HNA-32  | 3                              | 70            | 537 256  | HNA-32-R3  |
| 40    | 2                 | 90            | 537 242  | HNA-40  | 3                              | 90            | 537 257  | HNA-40-R3  |
| 50    | 2                 | 160           | 537 243  | HNA-50  | 3                              | 160           | 537 258  | HNA-50-R3  |
| 63    | 2                 | 180           | 537 244  | HNA-63  | 3                              | 180           | 537 259  | HNA-63-R3  |
| 80    | 2                 | 380           | 537 249  | HNA-80  | 3                              | 380           | 537 260  | HNA-80-R3  |
| 100   | 2                 | 470           | 537 250  | HNA-100 | 3                              | 470           | 537 261  | HNA-100-R3 |

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Corrosion resistance class 3 to Festo standard 940 070

Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface

## Compact cylinders ADN/AEN, to ISO 21287

Accessories

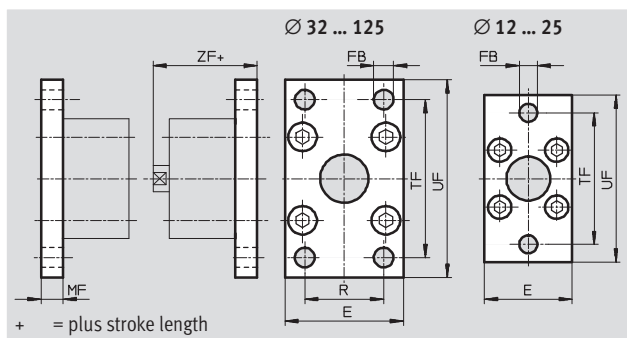
**FESTO**

### Flange mounting FNC

Material:

Galvanised steel

Free of copper, PTFE and silicone



| Dimensions and ordering data |     |         |    |    |     |     |      |                   |        |                |                |
|------------------------------|-----|---------|----|----|-----|-----|------|-------------------|--------|----------------|----------------|
| For Ø                        | E   | FB<br>Ø | MF | R  | TF  | UF  | ZF   | CRC <sup>1)</sup> | Weight | Part No.       | Type           |
| [mm]                         |     |         |    |    |     | ±1  |      |                   | [g]    |                |                |
| 12                           | 28  | 5.5     | 8  | -  | 40  | 50  | 47.2 | 2                 | 80     | <b>537 245</b> | <b>FNC-12</b>  |
| 16                           | 29  |         |    |    | 43  | 55  | 47.9 | 2                 | 90     | <b>537 246</b> | <b>FNC-16</b>  |
| 20                           | 36  | 6.6     |    |    | 55  | 70  | 50.7 | 2                 | 145    | <b>537 247</b> | <b>FNC-20</b>  |
| 25                           | 40  |         |    |    | 60  | 76  | 52.7 | 2                 | 170    | <b>537 248</b> | <b>FNC-25</b>  |
| 32                           | 45  | 7       | 10 | 32 | 64  | 80  | 60.2 | 2                 | 240    | <b>174 376</b> | <b>FNC-32</b>  |
| 40                           | 54  | 9       |    | 36 | 72  | 90  | 61.2 | 2                 | 280    | <b>174 377</b> | <b>FNC-40</b>  |
| 50                           | 65  |         | 12 | 45 | 90  | 110 | 65.2 | 2                 | 520    | <b>174 378</b> | <b>FNC-50</b>  |
| 63                           | 75  |         |    | 50 | 100 | 120 | 69.2 | 2                 | 690    | <b>174 379</b> | <b>FNC-63</b>  |
| 80                           | 93  | 12      | 16 | 63 | 126 | 150 | 79   | 2                 | 1650   | <b>174 380</b> | <b>FNC-80</b>  |
| 100                          | 110 | 14      |    | 75 | 150 | 175 | 92   | 2                 | 2400   | <b>174 381</b> | <b>FNC-100</b> |
| 125                          | 132 | 16      | 20 | 90 | 180 | 210 | 112  | 2                 | 3750   | <b>174 382</b> | <b>FNC-125</b> |

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

# Compact cylinders ADN/AEN, to ISO 21287

Accessories

**FESTO**

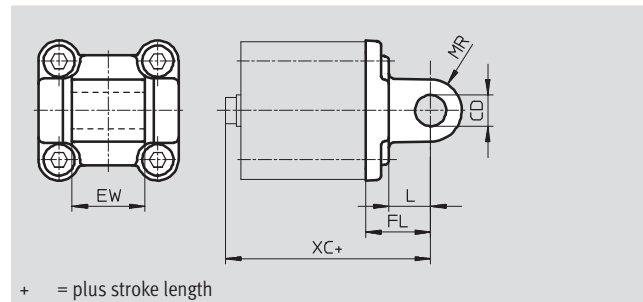
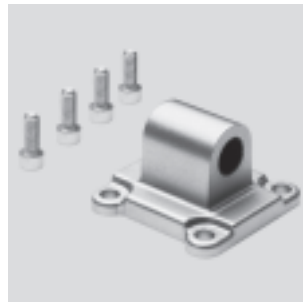
## Swivel flange SNCL

Material:

SNCL: Die-cast aluminium

SNCL-...-R3: Die-cast aluminium with protective coating

Free of copper, PTFE and silicone



| Dimensions and ordering data |         |                         |      |    |    |      |
|------------------------------|---------|-------------------------|------|----|----|------|
| For Ø                        | CD      | EW                      | FL   | L  | MR | XC   |
| [mm]                         | Ø<br>H9 |                         | ±0.2 |    |    |      |
| 12                           | 6       | 12 <sub>h12</sub>       | 16   | 10 | 6  | 55.2 |
| 16                           |         |                         |      |    |    | 55.9 |
| 20                           | 8       | 16 <sub>h12</sub>       | 20   | 14 | 8  | 62.7 |
| 25                           |         |                         |      |    |    | 64.7 |
| 32                           | 10      | 26 <sub>-0.2/-0.6</sub> | 22   | 13 | 10 | 72.2 |
| 40                           | 12      | 28 <sub>-0.2/-0.6</sub> | 25   | 16 | 12 | 75.2 |
| 50                           |         | 32 <sub>-0.2/-0.6</sub> | 27   |    |    | 80.2 |
| 63                           | 16      | 40 <sub>-0.2/-0.6</sub> | 32   | 21 | 16 | 89.2 |
| 80                           |         | 50 <sub>-0.2/-0.6</sub> | 36   | 22 |    | 99   |
| 100                          | 20      | 60 <sub>-0.2/-0.6</sub> | 41   | 27 | 20 | 117  |
| 125                          | 25      | 70 <sub>-0.2/-0.6</sub> | 50   | 30 |    | 142  |

| For Ø | Basic version     |            |          |          | R3 – High corrosion protection |            |          |            |
|-------|-------------------|------------|----------|----------|--------------------------------|------------|----------|------------|
|       | CRC <sup>1)</sup> | Weight [g] | Part No. | Type     | CRC <sup>1)</sup>              | Weight [g] | Part No. | Type       |
| [mm]  |                   |            |          |          |                                |            |          |            |
| 12    | 2                 | 20         | 537 790  | SNCL-12  | 3                              | 20         | 537 794  | SNCL-12-R3 |
| 16    | 2                 | 25         | 537 791  | SNCL-16  | 3                              | 25         | 537 795  | SNCL-16-R3 |
| 20    | 2                 | 40         | 537 792  | SNCL-20  | 3                              | 40         | 537 796  | SNCL-20-R3 |
| 25    | 2                 | 45         | 537 793  | SNCL-25  | 3                              | 45         | 537 797  | SNCL-25-R3 |
| 32    | 2                 | 85         | 174 404  | SNCL-32  | –                              | –          | –        | –          |
| 40    | 2                 | 115        | 174 405  | SNCL-40  | –                              | –          | –        | –          |
| 50    | 2                 | 180        | 174 406  | SNCL-50  | –                              | –          | –        | –          |
| 63    | 2                 | 270        | 174 407  | SNCL-63  | –                              | –          | –        | –          |
| 80    | 2                 | 480        | 174 408  | SNCL-80  | –                              | –          | –        | –          |
| 100   | 2                 | 700        | 174 409  | SNCL-100 | –                              | –          | –        | –          |
| 125   | 2                 | 1300       | 174 410  | SNCL-125 | –                              | –          | –        | –          |

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Corrosion resistance class 3 to Festo standard 940 070

Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface

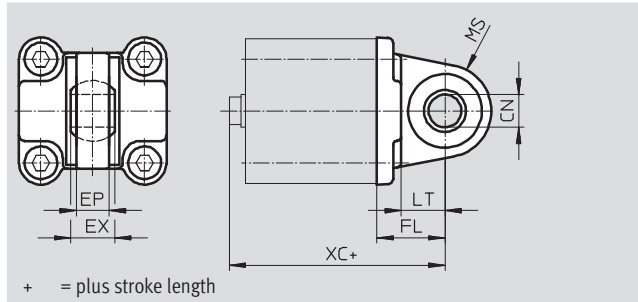
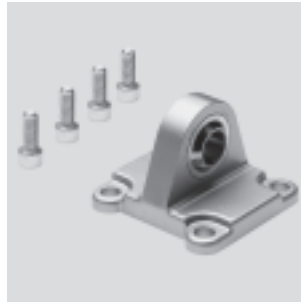
# Compact cylinders ADN/AEN, to ISO 21287

Accessories

FESTO

## Swivel flange SNCS

Material:  
Die-cast aluminium



| Dimensions and ordering data |         |      |    |      |    |    |      |                   |        |          |          |
|------------------------------|---------|------|----|------|----|----|------|-------------------|--------|----------|----------|
| For Ø                        | CN      | EP   | EX | FL   | LT | MS | XC   | CRC <sup>1)</sup> | Weight | Part No. | Type     |
| [mm]                         | Ø<br>H7 | ±0.2 |    | ±0.2 |    |    |      |                   | [g]    |          |          |
| 32                           | 10      | 10.5 | 14 | 22   | 13 | 15 | 72.2 | 2                 | 85     | 174 397  | SNCS-32  |
| 40                           | 12      | 12   | 16 | 25   | 16 | 17 | 75.2 | 2                 | 125    | 174 398  | SNCS-40  |
| 50                           | 16      | 15   | 21 | 27   | 16 | 20 | 80.2 | 2                 | 210    | 174 399  | SNCS-50  |
| 63                           | 16      | 15   | 21 | 32   | 21 | 22 | 89.2 | 2                 | 280    | 174 400  | SNCS-63  |
| 80                           | 20      | 18   | 25 | 36   | 22 | 27 | 99   | 2                 | 540    | 174 401  | SNCS-80  |
| 100                          | 20      | 18   | 25 | 41   | 27 | 29 | 117  | 2                 | 700    | 174 402  | SNCS-100 |
| 125                          | 30      | 25   | 37 | 50   | 30 | 39 | 142  | 2                 | 1410   | 174 403  | SNCS-125 |

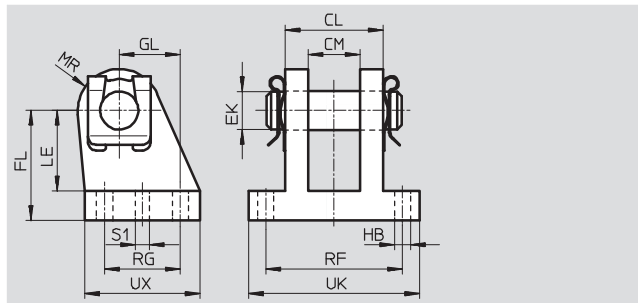
1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

## Clevis foot LBG

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

Material:  
Nodular graphite cast iron  
Free of copper, PTFE and silicone



| Dimensions and ordering data |    |      |    |    |    |     |    |    |     |    |      |     |      |                   |        |
|------------------------------|----|------|----|----|----|-----|----|----|-----|----|------|-----|------|-------------------|--------|
| For Ø                        | CL | CM   | EK | FL | GL | HB  | LE | MR | RF  | RG | S1   | UK  | UX   | CRC <sup>1)</sup> | Weight |
| [mm]                         |    |      | Ø  |    |    | Ø   |    |    |     |    | Ø    |     |      |                   | [g]    |
| 32                           | 28 | 14.1 | 10 | 32 | 16 | 6.8 | 24 | 12 | 42  | 20 | 4.8  | 56  | 36   | 2                 | 220    |
| 40                           | 30 | 16.1 | 12 | 36 | 20 | 6.8 | 26 | 14 | 44  | 26 | 5.8  | 58  | 41.5 | 2                 | 300    |
| 50                           | 40 | 21.1 | 16 | 45 | 25 | 9.2 | 33 | 15 | 56  | 31 | 5.8  | 70  | 47   | 2                 | 540    |
| 63                           | 40 | 21.1 | 16 | 50 | 25 | 9   | 38 | 17 | 56  | 31 | 7.8  | 70  | 47   | 2                 | 580    |
| 80                           | 50 | 25.1 | 20 | 63 | 30 | 11  | 49 | 18 | 70  | 36 | 7.8  | 89  | 57   | 2                 | 1050   |
| 100                          | 50 | 25.1 | 20 | 71 | 41 | 11  | 56 | 22 | 70  | 46 | 9.8  | 89  | 67.5 | 2                 | 1375   |
| 125                          | 80 | 37.2 | 30 | 90 | 60 | 14  | 70 | 26 | 106 | 70 | 11.8 | 128 | 96   | 2                 | 4140   |

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents



## Compact cylinders ADN/AEN, to ISO 21287

Accessories

**FESTO**

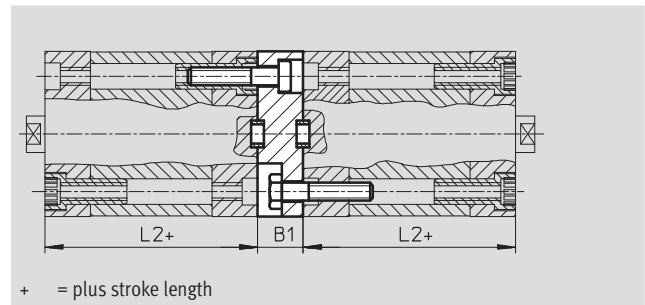
### Multi-position kit DPNA

Material:

Flange: Aluminium

Screws: Galvanised steel

Free of copper, PTFE and silicone



Note

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

| Dimensions and ordering data |    |      |                               |                   |          |          |
|------------------------------|----|------|-------------------------------|-------------------|----------|----------|
| For Ø                        | L2 | B1   | Max.<br>overall stroke length | CRC <sup>1)</sup> | Part No. | Type     |
| [mm]                         |    |      | [mm]                          |                   |          |          |
| 12                           | 35 | 13   | 600                           | 2                 | 537 263  | DPNA-12  |
| 16                           |    |      | 600                           | 2                 | 537 264  | DPNA-16  |
| 20                           |    |      | 600                           | 2                 | 537 265  | DPNA-20  |
| 25                           |    |      | 600                           | 2                 | 537 266  | DPNA-25  |
| 32                           | 44 | 15   | 800                           | 2                 | 537 267  | DPNA-32  |
| 40                           | 45 |      | 800                           | 2                 | 537 268  | DPNA-40  |
| 50                           |    |      | 800                           | 2                 | 537 269  | DPNA-50  |
| 63                           | 49 |      |                               | 800               | 2        | 537 270  |
| 80                           | 54 | 17   | 1000                          | 2                 | 537 271  | DPNA-80  |
| 100                          | 67 | 19.5 | 1000                          | 2                 | 537 272  | DPNA-100 |

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

## Compact cylinders ADN/AEN, to ISO 21287

Accessories

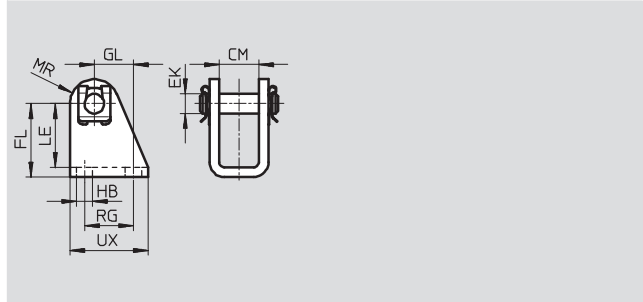
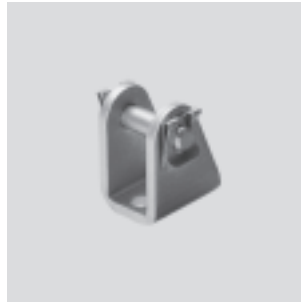
**FESTO**

### Clevis foot LBN

Material:

Galvanised steel

Free of copper, PTFE and silicone



| Dimensions and ordering data |      |         |              |    |         |    |    |    |    |                   |               |                        |
|------------------------------|------|---------|--------------|----|---------|----|----|----|----|-------------------|---------------|------------------------|
| For Ø                        | CM   | EK<br>Ø | FL           | GL | HB<br>Ø | LE | MR | RG | UX | CRC <sup>1)</sup> | Weight<br>[g] | Part No. Type          |
| [mm]                         |      |         |              |    |         |    |    |    |    |                   |               |                        |
| 12/16                        | 12.1 | 6       | 27 +0.3/-0.2 | 13 | 5.5     | 24 | 7  | 15 | 25 | 2                 | 40            | <b>6 058 LBN-12/16</b> |
| 20/25                        | 16.1 | 8       | 30 +0.4/-0.2 | 16 | 6.6     | 26 | 10 | 20 | 32 | 2                 | 81            | <b>6 059 LBN-20/25</b> |

1) Corrosion resistance class 2 to Festo standard 940 070

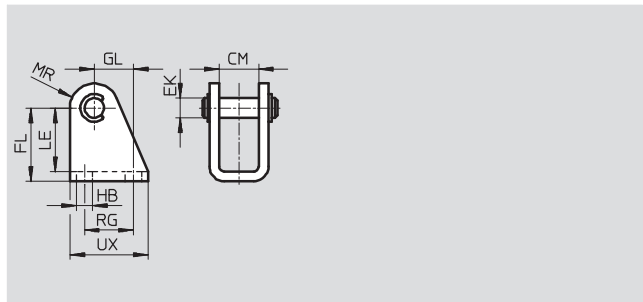
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

### Clevis foot CRLBN, stainless steel

Material:

High-alloy steel

Free of copper, PTFE and silicone



| Dimensions and ordering data |      |         |              |    |         |    |    |    |    |                   |               |                            |
|------------------------------|------|---------|--------------|----|---------|----|----|----|----|-------------------|---------------|----------------------------|
| For Ø                        | CM   | EK<br>Ø | FL           | GL | HB<br>Ø | LE | MR | RG | UX | CRC <sup>1)</sup> | Weight<br>[g] | Part No. Type              |
| [mm]                         |      |         |              |    |         |    |    |    |    |                   |               |                            |
| 12/16                        | 12.1 | 6       | 27 +0.3/-0.2 | 13 | 5.5     | 24 | 7  | 15 | 25 | 4                 | 55            | <b>161 862 CRLBN-12/16</b> |
| 20/25                        | 16.1 | 8       | 30 +0.4/-0.2 | 16 | 6.6     | 26 | 10 | 20 | 32 | 4                 | 62            | <b>161 863 CRLBN-20/25</b> |

1) Corrosion resistance class 4 to Festo standard 940 070

Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required

# Compact cylinders ADN/AEN, to ISO 21287

Accessories

**FESTO**

## Swivel flange

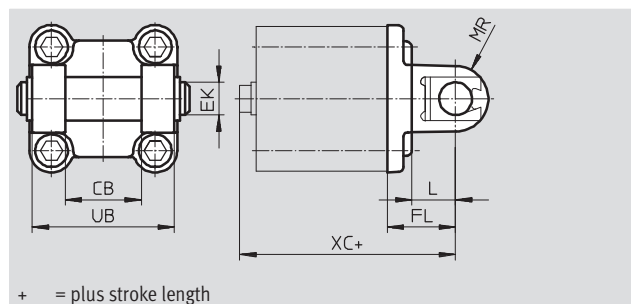
**SNCB/SNCB-...-R3**

Material:

SNCB: Die-cast aluminium

SNCB-...-R3: Die-cast aluminium with protective coating, high corrosion protection

Free of copper, PTFE and silicone



| Dimensions and ordering data |     |         |      |    |     |     |     |
|------------------------------|-----|---------|------|----|-----|-----|-----|
| For Ø                        | CB  | EK<br>Ø | FL   | L  | MR  | UB  | XC  |
| [mm]                         | H14 | e8      | ±0.2 |    |     | h14 |     |
| 32                           | 26  | 10      | 22   | 13 | 8.5 | 45  | 72  |
| 40                           | 28  | 12      | 25   | 16 | 12  | 52  | 76  |
| 50                           | 32  | 12      | 27   | 16 | 12  | 60  | 80  |
| 63                           | 40  | 16      | 32   | 21 | 16  | 70  | 89  |
| 80                           | 50  | 16      | 36   | 22 | 16  | 90  | 99  |
| 100                          | 60  | 20      | 41   | 27 | 20  | 110 | 117 |
| 125                          | 70  | 25      | 50   | 30 | 25  | 130 | 142 |

| For Ø<br>[mm] | Basic version     |               |                |                 | R3 – High corrosion protection |               |                |                    |
|---------------|-------------------|---------------|----------------|-----------------|--------------------------------|---------------|----------------|--------------------|
|               | CRC <sup>1)</sup> | Weight<br>[g] | Part No.       | Type            | CRC <sup>1)</sup>              | Weight<br>[g] | Part No.       | Type               |
| 32            | 2                 | 100           | <b>174 390</b> | <b>SNCB-32</b>  | 3                              | 100           | <b>176 944</b> | <b>SNCB-32-R3</b>  |
| 40            | 2                 | 150           | <b>174 391</b> | <b>SNCB-40</b>  | 3                              | 150           | <b>176 945</b> | <b>SNCB-40-R3</b>  |
| 50            | 2                 | 225           | <b>174 392</b> | <b>SNCB-50</b>  | 3                              | 225           | <b>176 946</b> | <b>SNCB-50-R3</b>  |
| 63            | 2                 | 365           | <b>174 393</b> | <b>SNCB-63</b>  | 3                              | 365           | <b>176 947</b> | <b>SNCB-63-R3</b>  |
| 80            | 2                 | 610           | <b>174 394</b> | <b>SNCB-80</b>  | 3                              | 610           | <b>176 948</b> | <b>SNCB-80-R3</b>  |
| 100           | 2                 | 925           | <b>174 395</b> | <b>SNCB-100</b> | 3                              | 925           | <b>176 949</b> | <b>SNCB-100-R3</b> |
| 125           | 2                 | 1785          | <b>174 396</b> | <b>SNCB-125</b> | 3                              | 1785          | <b>176 950</b> | <b>SNCB-125-R3</b> |

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Corrosion resistance class 3 to Festo standard 940 070

Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface

# Compact cylinders ADN/AEN, to ISO 21287

Accessories

FESTO

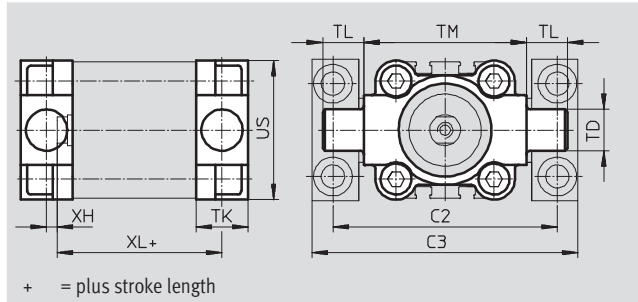
## Trunnion flange ZNCF/CRZNG

Material:

ZNCF: Special steel casting

CRZNG: Electrolytically polished  
special steel casting

Free of copper, PTFE and silicone



| Dimensions and ordering data |     |     |         |    |    |     |     |    |     |
|------------------------------|-----|-----|---------|----|----|-----|-----|----|-----|
| For Ø                        | C2  | C3  | TD      | TK | TL | TM  | US  | XH | XL  |
| [mm]                         |     |     | Ø<br>e9 |    |    |     |     |    |     |
| 32                           | 71  | 86  | 12      | 16 | 12 | 50  | 45  | 2  | 52  |
| 40                           | 87  | 105 | 16      | 20 | 16 | 63  | 54  | 4  | 55  |
| 50                           | 99  | 117 | 16      | 24 | 16 | 75  | 64  | 4  | 57  |
| 63                           | 116 | 136 | 20      | 24 | 20 | 90  | 75  | 4  | 61  |
| 80                           | 136 | 156 | 20      | 28 | 20 | 110 | 93  | 5  | 81  |
| 100                          | 164 | 189 | 25      | 38 | 25 | 132 | 110 | 10 | 86  |
| 125                          | 192 | 217 | 25      | 50 | 25 | 160 | 131 | 14 | 106 |

| For Ø | Basic version     |        |          |          | R3 – High corrosion protection |        |          |           |
|-------|-------------------|--------|----------|----------|--------------------------------|--------|----------|-----------|
|       | CRC <sup>1)</sup> | Weight | Part No. | Type     | CRC <sup>1)</sup>              | Weight | Part No. | Type      |
| [mm]  |                   | [g]    |          |          |                                | [g]    |          |           |
| 32    | 2                 | 130    | 174 411  | ZNCF-32  | 4                              | 150    | 161 852  | CRZNG-32  |
| 40    | 2                 | 240    | 174 412  | ZNCF-40  | 4                              | 260    | 161 853  | CRZNG-40  |
| 50    | 2                 | 390    | 174 413  | ZNCF-50  | 4                              | 430    | 161 854  | CRZNG-50  |
| 63    | 2                 | 600    | 174 414  | ZNCF-63  | 4                              | 640    | 161 855  | CRZNG-63  |
| 80    | 2                 | 1150   | 174 415  | ZNCF-80  | 4                              | 1300   | 161 856  | CRZNG-80  |
| 100   | 2                 | 2030   | 174 416  | ZNCF-100 | 4                              | 2400   | 161 857  | CRZNG-100 |
| 125   | 2                 | 3490   | 174 417  | ZNCF-125 | 4                              | 3600   | 185 362  | CRZNG-125 |

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Corrosion resistance class 4 to Festo standard 940 070

Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required

## Compact cylinders ADN/AEN, to ISO 21287

Accessories

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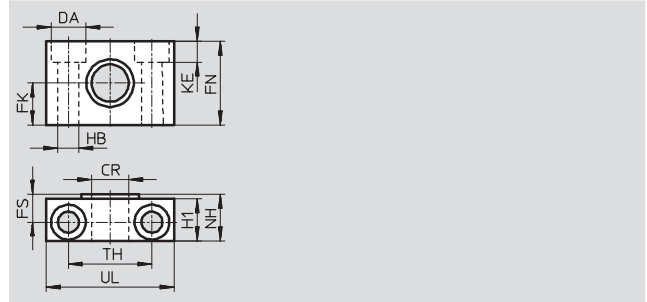
### Trunnion support LN2G

Material:

Trunnion support: Anodised aluminium

Plain bearing: Plastic

Free of copper, PTFE and silicone



| Dimensions and ordering data |       |       |        |    |      |      |       |     |      |      |    |                   |        |               |                     |
|------------------------------|-------|-------|--------|----|------|------|-------|-----|------|------|----|-------------------|--------|---------------|---------------------|
| For Ø                        | CR    | DA    | FK     | FN | FS   | H1   | HB    | KE  | NH   | TH   | UL | CRC <sup>1)</sup> | Weight | Part No.      | Type                |
| [mm]                         | Ø D11 | Ø H13 | Ø ±0.1 |    |      |      | Ø H13 |     |      | ±0.2 |    |                   | [g]    |               |                     |
| 32                           | 12    | 11    | 15     | 30 | 10.5 | 15   | 6.6   | 6.8 | 18   | 32   | 46 | 2                 | 125    | <b>32 959</b> | <b>LN2G-32</b>      |
| 40, 50                       | 16    | 15    | 18     | 36 | 12   | 18   | 9     | 9   | 21   | 36   | 55 | 2                 | 400    | <b>32 960</b> | <b>LN2G-40/50</b>   |
| 63, 80                       | 20    | 18    | 20     | 40 | 13   | 20   | 11    | 11  | 23   | 42   | 65 | 2                 | 480    | <b>32 961</b> | <b>LN2G-63/80</b>   |
| 100, 125                     | 25    | 20    | 25     | 50 | 16   | 24.5 | 14    | 13  | 28.5 | 50   | 75 | 2                 | 960    | <b>32 962</b> | <b>LN2G-100/125</b> |

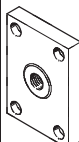
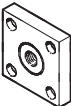
1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

# Compact cylinders ADN/AEN, to ISO 21287

Accessories

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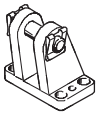
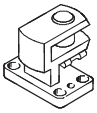
| Ordering data – Piston rod attachments                                              |                |          |                 | Technical data → Internet: piston-rod attachment                                  |                |          |              |
|-------------------------------------------------------------------------------------|----------------|----------|-----------------|-----------------------------------------------------------------------------------|----------------|----------|--------------|
| Designation                                                                         | For Ø          | Part No. | Type            | Designation                                                                       | For Ø          | Part No. | Type         |
| Rod eye SGS                                                                         |                |          |                 | Rod clevis SGA used in combination with rod eye SGS                               |                |          |              |
|    | 12             | –        |                 |  | 12, 16, 20, 25 | –        |              |
|                                                                                     | 16             | 9 254    | SGS-M6          |                                                                                   | 32, 40         | 32 954   | SGA-M10x1,25 |
|                                                                                     | 20, 25         | 9 255    | SGS-M8          |                                                                                   | 50, 63         | 10 767   | SGA-M12x1,25 |
|                                                                                     | 32, 40         | 9 261    | SGS-M10x1,25    |                                                                                   | 80, 100        | 10 768   | SGA-M16x1,25 |
|                                                                                     | 50, 63         | 9 262    | SGS-M12x1,25    |                                                                                   | 125            | 10 769   | SGA-M20x1,25 |
|                                                                                     | 80, 100        | 9 263    | SGS-M16x1,5     |                                                                                   |                |          |              |
|                                                                                     | 125            | 9 264    | SGS-M20x1,5     |                                                                                   |                |          |              |
|                                                                                     |                |          |                 | Self-aligning rod coupler FK                                                      |                |          |              |
|    | 12             |          | 30 984          | FK-M5                                                                             |                |          |              |
|                                                                                     | 16             |          | 2 061           | FK-M6                                                                             |                |          |              |
|                                                                                     | 20, 25         |          | 2 062           | FK-M8                                                                             |                |          |              |
|                                                                                     | 32, 40         |          | 6 140           | FK-M10x1,25                                                                       |                |          |              |
|                                                                                     | 50, 63         |          | 6 141           | FK-M12x1,25                                                                       |                |          |              |
|                                                                                     | 80, 100        |          | 6 142           | FK-M16x1,5                                                                        |                |          |              |
|                                                                                     | 125            |          | 6 143           | FK-M20x1,5                                                                        |                |          |              |
|                                                                                     |                |          |                 | Coupling piece KSZ                                                                |                |          |              |
|   | 12             |          | –               |                                                                                   |                |          |              |
|                                                                                     | 16             |          | 36 123          | KSZ-M6                                                                            |                |          |              |
|                                                                                     | 20, 25         |          | 36 124          | KSZ-M8                                                                            |                |          |              |
|                                                                                     | 32, 40         |          | 36 125          | KSZ-M10x1,25                                                                      |                |          |              |
|                                                                                     | 50, 63         |          | 36 126          | KSZ-M12x1,25                                                                      |                |          |              |
|                                                                                     | 80, 100        |          | 36 127          | KSZ-M16x1,5                                                                       |                |          |              |
|                                                                                     | 125            |          | 36 128          | KSZ-M20x1,5                                                                       |                |          |              |
|                                                                                     |                |          |                 |                                                                                   |                |          |              |
| Coupling piece KSG                                                                  |                |          |                 |                                                                                   |                |          |              |
|   | 12, 16, 20, 25 | –        |                 |                                                                                   |                |          |              |
|                                                                                     | 32, 40         | 32 963   | KSG-M10x1,25    |                                                                                   |                |          |              |
|                                                                                     | 50, 63         | 32 964   | KSG-M12x1,25    |                                                                                   |                |          |              |
|                                                                                     | 80, 100        | 32 965   | KSG-M16x1,5     |                                                                                   |                |          |              |
|                                                                                     | 125            | 32 966   | KSG-M20x1,5     |                                                                                   |                |          |              |
|                                                                                     |                |          |                 |                                                                                   |                |          |              |
| Adapter AD                                                                          |                |          |                 |                                                                                   |                |          |              |
|  | 12             |          | –               |                                                                                   |                |          |              |
|                                                                                     | 16             | 157 328  | AD-M6-M5        |                                                                                   |                |          |              |
|                                                                                     |                | 157 329  | AD-M6-1/8       |                                                                                   |                |          |              |
|                                                                                     |                | 157 330  | AD-M6-1/4       |                                                                                   |                |          |              |
|                                                                                     | 20             | 157 331  | AD-M8-1/8       |                                                                                   |                |          |              |
|                                                                                     | 25             | 157 332  | AD-M8-1/4       |                                                                                   |                |          |              |
|                                                                                     | 32             | 157 333  | AD-M10x1,25-1/8 |                                                                                   |                |          |              |
|                                                                                     | 40             | 157 334  | AD-M10x1,25-1/4 |                                                                                   |                |          |              |
|                                                                                     | 50             | 160 256  | AD-M12x1,25-1/4 |                                                                                   |                |          |              |
|                                                                                     | 63             | 160 257  | AD-M12x1,25-3/8 |                                                                                   |                |          |              |

# Compact cylinders ADN/AEN, to ISO 21287

Accessories

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| Ordering data – Corrosion and acid resistant piston rod attachments               |         |          |                | Technical data → Internet: crsg                                                   |         |          |               |
|-----------------------------------------------------------------------------------|---------|----------|----------------|-----------------------------------------------------------------------------------|---------|----------|---------------|
| Designation                                                                       | For Ø   | Part No. | Type           | Designation                                                                       | For Ø   | Part No. | Type          |
| Rod eye CRSGS                                                                     |         |          |                | Rod clevis CRSG                                                                   |         |          |               |
|  | 12      | –        |                |  | 12      | –        |               |
|                                                                                   | 16      | 195 580  | CRSGS-M6       |                                                                                   | 16, 20  | 13 567   | CRSG-M6       |
|                                                                                   | 20, 25  | 195 581  | CRSGS-M8       |                                                                                   | 20, 25  | 13 568   | CRSG-M8       |
|                                                                                   | 32, 40  | 195 582  | CRSGS-M10x1,25 |                                                                                   | 32, 40  | 13 569   | CRSG-M10x1,25 |
|                                                                                   | 50, 63  | 195 583  | CRSGS-M12x1,25 |                                                                                   | 50, 63  | 13 570   | CRSG-M12x1,25 |
|                                                                                   | 80, 100 | 195 584  | CRSGS-M16x1,5  |                                                                                   | 80, 100 | 13 571   | CRSG-M16x1,5  |
|                                                                                   | 125     | 195 585  | CRSGS-M20x1,5  |                                                                                   | 125     | 13 572   | CRSG-M20x1,5  |

| Ordering data – Mounting attachments                                              |         |          |         | Technical data → Internet: clevis foot                                            |         |          |         |
|-----------------------------------------------------------------------------------|---------|----------|---------|-----------------------------------------------------------------------------------|---------|----------|---------|
| Designation                                                                       | For Ø   | Part No. | Type    | Designation                                                                       | For Ø   | Part No. | Type    |
| Clevis foot LBG for rod eye SGS                                                   |         |          |         | Right-angle clevis foot LQG for rod eye SGS                                       |         |          |         |
|  | 32, 40  | 31 761   | LBG-32  |  | 32, 40  | 31 768   | LQG-32  |
|                                                                                   | 50, 63  | 31 762   | LBG-40  |                                                                                   | 50, 63  | 31 769   | LQG-40  |
|                                                                                   | 80, 100 | 31 763   | LBG-50  |                                                                                   | 80, 100 | 31 770   | LQG-50  |
|                                                                                   |         | 31 764   | LBG-63  |                                                                                   |         | 31 771   | LQG-63  |
|                                                                                   | 125     | 31 765   | LBG-80  |                                                                                   | 125     | 31 772   | LQG-80  |
|                                                                                   |         | 31 766   | LBG-100 |                                                                                   |         | 31 773   | LQG-100 |

| Ordering data – One-way flow control valves                                         |                         |                 |              | Technical data ➔ Internet: grla |                  |
|-------------------------------------------------------------------------------------|-------------------------|-----------------|--------------|---------------------------------|------------------|
|                                                                                     | Connection              |                 | Material     | Part No.                        | Type             |
|                                                                                     | For Ø                   | For tubing O.D. |              |                                 |                  |
| For exhaust air                                                                     |                         |                 |              |                                 |                  |
|  | 12, 16, 20, 25          | 3               | Metal design | 193 137                         | GRLA-M5-QS-3-D   |
|                                                                                     |                         | 4               |              | 193 138                         | GRLA-M5-QS-4-D   |
|                                                                                     |                         | 6               |              | 193 139                         | GRLA-M5-QS-6-D   |
|                                                                                     | 32, 40, 50, 63, 80, 100 | 3               |              | 193 142                         | GRLA-1/8-QS-3-D  |
|                                                                                     |                         | 4               |              | 193 143                         | GRLA-1/8-QS-4-D  |
|                                                                                     |                         | 6               |              | 193 144                         | GRLA-1/8-QS-6-D  |
|                                                                                     |                         | 8               |              | 193 145                         | GRLA-1/8-QS-8-D  |
|                                                                                     | 125                     | 6               |              | 193 146                         | GRLA-1/4-QS-6-D  |
|                                                                                     |                         | 8               |              | 193 147                         | GRLA-1/4-QS-8-D  |
|                                                                                     |                         | 10              |              | 193 148                         | GRLA-1/4-QS-10-D |

# Compact cylinders ADN/AEN, to ISO 21287

Accessories

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| Ordering data – One-way flow control valves                                       |                         |                 |              | Technical data → Internet: grlz |                 |
|-----------------------------------------------------------------------------------|-------------------------|-----------------|--------------|---------------------------------|-----------------|
|                                                                                   | Connection              |                 | Material     | Part No.                        | Type            |
|                                                                                   | For Ø                   | For tubing O.D. |              |                                 |                 |
| For supply air                                                                    |                         |                 |              |                                 |                 |
|  | 12, 16, 20, 25          | 3               | Metal design | 193 153                         | GRLZ-M5-QS-3-D  |
|                                                                                   |                         | 4               |              | 193 154                         | GRLZ-M5-QS-4-D  |
|                                                                                   |                         | 6               |              | 193 155                         | GRLZ-M5-QS-6-D  |
|                                                                                   | 32, 40, 50, 63, 80, 100 | 3               |              | 193 156                         | GRLZ-1/8-QS-3-D |
|                                                                                   |                         | 4               |              | 193 157                         | GRLZ-1/8-QS-4-D |
|                                                                                   |                         | 6               |              | 193 158                         | GRLZ-1/8-QS-6-D |
|                                                                                   |                         | 8               |              | 193 159                         | GRLZ-1/8-QS-8-D |
|                                                                                   |                         | 125             |              | –                               | 151 195         |

| Ordering data – One-way flow control valves for cylinder ADNP                     |            |  | Technical data ➔ Internet: vfoc |              |
|-----------------------------------------------------------------------------------|------------|--|---------------------------------|--------------|
|                                                                                   | Connection |  | Part No.                        | Type         |
|                                                                                   | For Ø      |  |                                 |              |
| Inline                                                                            |            |  |                                 |              |
|  | 20, 25     |  | 540 362                         | VFOC-E-S4-Q4 |
|                                                                                   | 32, 40, 50 |  | 540 363                         | VFOC-E-S6-Q6 |

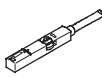
| Ordering data – Proximity sensors for T-slot, magneto-resistive                     |                                                                    |               |                       |                  | Technical data → Internet: <a href="#">smt</a> |                         |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------|---------------|-----------------------|------------------|------------------------------------------------|-------------------------|
|                                                                                     | Type of mounting                                                   | Switch output | Electrical connection | Cable length [m] | Part No.                                       | Type                    |
| N/O contact                                                                         |                                                                    |               |                       |                  |                                                |                         |
|  | Insertable in the slot from above, flush with cylinder profile     | PNP           | Cable, 3-wire         | 2.5              | 543 867                                        | SMT-8M-PS-24V-K-2,5-OE  |
|                                                                                     |                                                                    |               | Plug M8x1, 3-pin      | 0.3              | 543 866                                        | SMT-8M-PS-24V-K-0,3-M8D |
|                                                                                     |                                                                    |               | Plug M12x1, 3-pin     | 0.3              | 543 869                                        | SMT-8M-PS-24V-K-0,3-M12 |
|                                                                                     |                                                                    | NPN           | Cable, 3-wire         | 2.5              | 543 870                                        | SMT-8M-NS-24V-K-2,5-OE  |
|                                                                                     |                                                                    |               | Plug M8x1, 3-pin      | 0.3              | 543 871                                        | SMT-8M-NS-24V-K-0,3-M8D |
|  | Insertable in the slot lengthwise, flush with the cylinder profile | PNP           | Cable, 3-wire         | 2.5              | 175 436                                        | SMT-8-PS-K-LED-24-B     |
|                                                                                     |                                                                    |               | Plug M8x1, 3-pin      | 0.3              | 175 484                                        | SMT-8-PS-S-LED-24-B     |
|                                                                                     |                                                                    |               |                       |                  |                                                |                         |
| N/C contact                                                                         |                                                                    |               |                       |                  |                                                |                         |
|  | Insertable in the slot from above, flush with cylinder profile     | PNP           | Cable, 3-wire         | 7.5              | 543 873                                        | SMT-8M-PO-24V-K7,5-OE   |



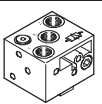
## Compact cylinders ADN/AEN, to ISO 21287

Accessories

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| Ordering data – Proximity sensors for T-slot, magnetic reed                       |                                                                    |               |                       |                  | Technical data → Internet: sme |                         |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------|---------------|-----------------------|------------------|--------------------------------|-------------------------|
|                                                                                   | Type of mounting                                                   | Switch output | Electrical connection | Cable length [m] | Part No.                       | Type                    |
| N/O contact                                                                       |                                                                    |               |                       |                  |                                |                         |
|  | Insertable in the slot from above, flush with cylinder profile     | Contacting    | Cable, 3-wire         | 2.5              | 543 862                        | SME-8M-DS-24V-K-2,5-OE  |
|                                                                                   |                                                                    |               |                       | 5.0              | 543 863                        | SME-8M-DS-24V-K-5,0-OE  |
|                                                                                   |                                                                    |               | Plug M8x1, 3-pin      | 2.5              | 543 872                        | SME-8M-ZS-24V-K-2,5-OE  |
|                                                                                   |                                                                    |               |                       | 0.3              | 543 861                        | SME-8M-DS-24V-K-0,3-M8D |
|  | Insertable in the slot lengthwise, flush with the cylinder profile | Contacting    | Cable, 3-wire         | 2.5              | 150 855                        | SME-8-K-LED-24          |
|                                                                                   |                                                                    |               | Plug M8x1, 3-pin      | 0.3              | 150 857                        | SME-8-S-LED-24          |
|                                                                                   |                                                                    |               |                       |                  |                                |                         |
| N/C contact                                                                       |                                                                    |               |                       |                  |                                |                         |
|  | Insertable in the slot lengthwise, flush with the cylinder profile | Contacting    | Cable, 3-wire         | 7.5              | 160 251                        | SME-8-O-K-LED-24        |

| Ordering data – Connecting cables                                                   |                               |                              |                  | Technical data → Internet: nebu |                      |
|-------------------------------------------------------------------------------------|-------------------------------|------------------------------|------------------|---------------------------------|----------------------|
|                                                                                     | Electrical connection, left   | Electrical connection, right | Cable length [m] | Part No.                        | Type                 |
|    | Straight socket, M8x1, 3-pin  | Cable, open end, 3-wire      | 2.5              | 541 333                         | NEBU-M8G3-K-2.5-LE3  |
|                                                                                     |                               |                              | 5                | 541 334                         | NEBU-M8G3-K-5-LE3    |
|                                                                                     | Straight socket, M12x1, 5-pin | Cable, open end, 3-wire      | 2.5              | 541 363                         | NEBU-M12G5-K-2.5-LE3 |
|                                                                                     |                               |                              | 5                | 541 364                         | NEBU-M12G5-K-5-LE3   |
|  | Angled socket, M8x1, 3-pin    | Cable, open end, 3-wire      | 2.5              | 541 338                         | NEBU-M8W3-K-2.5-LE3  |
|                                                                                     |                               |                              | 5                | 541 341                         | NEBU-M8W3-K-5-LE3    |
|                                                                                     | Angled socket, M12x1, 5-pin   | Cable, open end, 3-wire      | 2.5              | 541 367                         | NEBU-M12W5-K-2.5-LE3 |
|                                                                                     |                               |                              | 5                | 541 370                         | NEBU-M12W5-K-5-LE3   |

| Ordering data – Rectangular proximity sensors, pneumatic                            |                      |  | Technical data → Internet: smpo |         |
|-------------------------------------------------------------------------------------|----------------------|--|---------------------------------|---------|
|                                                                                     | Pneumatic connection |  | Part No.                        | Type    |
| <b>3/2-way valve, normally closed</b>                                               |                      |  |                                 |         |
|  | Female thread M5     |  | 178 563                         | SMPO-8E |

| Ordering data – Mounting kits for proximity sensors SMPO-8E                         |                   |  | Technical data → Internet: smb |        |
|-------------------------------------------------------------------------------------|-------------------|--|--------------------------------|--------|
|                                                                                     | Assembly          |  | Part No.                       | Type   |
|  | Clamped in T-slot |  | 178 230                        | SMB-8E |

| Ordering data – Slot cover for T-slot                                               |                       |          |  |          |         |
|-------------------------------------------------------------------------------------|-----------------------|----------|--|----------|---------|
|                                                                                     | Assembly              | Length   |  | Part No. | Type    |
|  | Insertable from above | 2x 0.5 m |  | 151 680  | ABP-5-S |