

## Compact cylinders DMM/EMM, Multimount

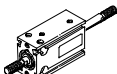
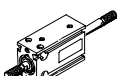
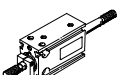
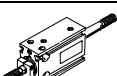
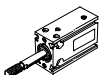
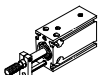
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# Compact cylinders DMM/EMM, Multimount

Product range overview

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| Function      | Version                                                                             | Type                                       | Piston Ø<br>[mm]   | Stroke<br>[mm]                | Position sensing |
|---------------|-------------------------------------------------------------------------------------|--------------------------------------------|--------------------|-------------------------------|------------------|
| Double-acting | Basic version                                                                       |                                            |                    |                               |                  |
|               |    | DMM<br>Piston rod at one end               | 10                 | 5, 10, 15, 20, 25, 30         | ■                |
|               |                                                                                     |                                            | 16                 | 5, 10, 15, 20, 25, 30, 40     |                  |
|               |                                                                                     |                                            | 20, 25, 32         | 5, 10, 15, 20, 25, 30, 40, 50 |                  |
|               |    | DMM-...-S2<br>Through piston rod           | 10                 | 5, 10, 15, 20, 25, 30         | ■                |
|               |                                                                                     |                                            | 16                 | 5, 10, 15, 20, 25, 30, 40     |                  |
|               |                                                                                     |                                            | 20, 25, 32         | 5, 10, 15, 20, 25, 30, 40, 50 |                  |
|               |    | DMM-...-S20<br>Through, hollow piston rod  | 16                 | 5, 10, 15, 20, 25, 30, 40     | ■                |
|               |                                                                                     |                                            | 20, 25, 32         | 5, 10, 15, 20, 25, 30, 40, 50 |                  |
|               | Non-rotating version                                                                |                                            |                    |                               |                  |
|               |    | DMML<br>Piston rod at one end              | 10                 | 5, 10, 15, 20, 25, 30         | ■                |
|               |                                                                                     |                                            | 16                 | 5, 10, 15, 20, 25, 30, 40     |                  |
|               |                                                                                     |                                            | 20, 25, 32         | 5, 10, 15, 20, 25, 30, 40, 50 |                  |
|               |   | DMML-...-S2<br>Through piston rod          | 10                 | 5, 10, 15, 20, 25, 30         | ■                |
|               |                                                                                     |                                            | 16                 | 5, 10, 15, 20, 25, 30, 40     |                  |
|               |                                                                                     |                                            | 20, 25, 32         | 5, 10, 15, 20, 25, 30, 40, 50 |                  |
|               |  | DMML-...-S20<br>Through, hollow piston rod | 16                 | 5, 10, 15, 20, 25, 30, 40     | ■                |
|               |                                                                                     |                                            | 20, 25, 32         | 5, 10, 15, 20, 25, 30, 40, 50 |                  |
| Single-acting | Basic version                                                                       |                                            |                    |                               |                  |
|               |  | EMM<br>Piston rod at one end, pushing      | 10, 16, 20, 25, 32 | 5, 10, 15                     | ■                |
|               |  | EMMZ<br>Piston rod at one end, pulling     | 10, 16, 20, 25, 32 | 5, 10, 15                     | ■                |
|               | Non-rotating version                                                                |                                            |                    |                               |                  |
|               |  | EMMML<br>Piston rod at one end, pushing    | 10, 16, 20, 25, 32 | 5, 10, 15                     | ■                |
|               |  | EMMMLZ<br>Piston rod at one end, pulling   | 10, 16, 20, 25, 32 | 5, 10, 15                     | ■                |

# Compact cylinders DMM/EMM, Multimount

Product range overview

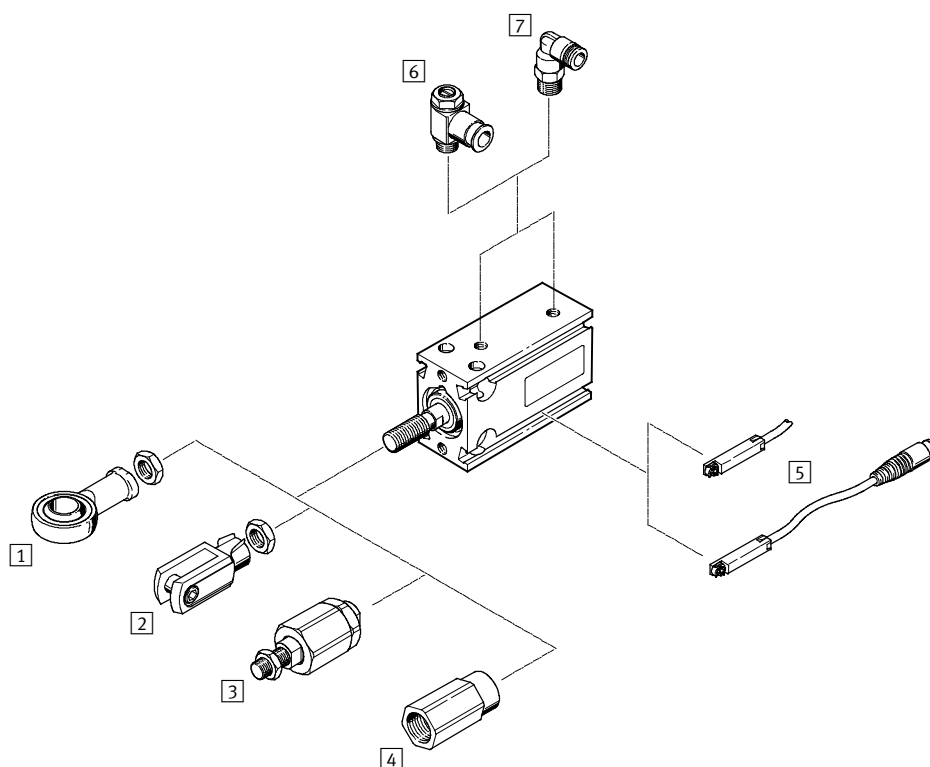
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| Type                                                 | Piston rod<br>with male thread | S6<br>Heat resistant up to 120 °C | → Page/Internet |
|------------------------------------------------------|--------------------------------|-----------------------------------|-----------------|
| <b>Basic version</b>                                 |                                |                                   |                 |
| <b>DMM</b><br>Piston rod at one<br>end               | ■                              | ■                                 | 7               |
| <b>DMM-...-S2</b><br>Through piston<br>rod           | ■                              | —                                 | 7               |
| <b>DMM-...-S20</b><br>Through, hollow<br>piston rod  | ■                              | —                                 | 7               |
| <b>Non-rotating version</b>                          |                                |                                   |                 |
| <b>DMML</b><br>Piston rod at one<br>end              | ■                              | ■                                 | 7               |
| <b>DMML-...-S2</b><br>Through piston<br>rod          | ■                              | —                                 | 7               |
| <b>DMML-...-S20</b><br>Through, hollow<br>piston rod | ■                              | —                                 | 7               |
| <b>Basic version</b>                                 |                                |                                   |                 |
| <b>EMM</b><br>Piston rod at one<br>end, pushing      | ■                              | ■                                 | 13              |
| <b>EMMZ</b><br>Piston rod at one<br>end, pulling     | ■                              | ■                                 | 13              |
| <b>Non-rotating version</b>                          |                                |                                   |                 |
| <b>EMML</b><br>Piston rod at one<br>end, pushing     | ■                              | ■                                 | 13              |
| <b>EMMLZ</b><br>Piston rod at one<br>end, pulling    | ■                              | ■                                 | 13              |

# Compact cylinders DMM/EMM, Multimount

Peripherals overview

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## Variants

### DMM

DMM-...-S2, DMM-...-S20

### DMML

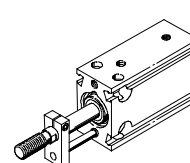
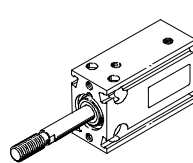
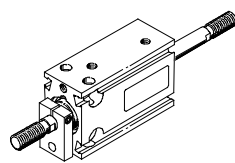
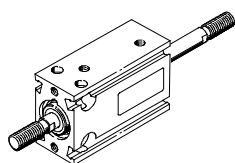
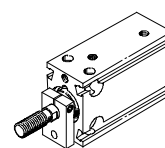
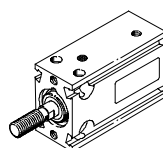
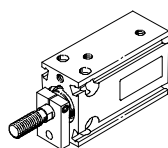
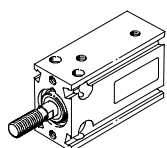
DMML-...-S2, DMML-...-S20

### EMM

EMMZ

### EMML

EMMLZ

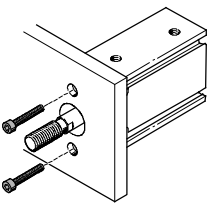
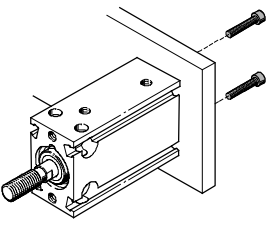
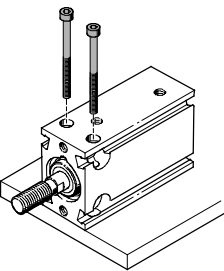
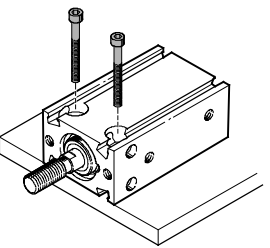


# Compact cylinders DMM/EMM, Multimount

Peripherals overview

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| Accessories |                                         |                                  |                                     |             |               |                 |
|-------------|-----------------------------------------|----------------------------------|-------------------------------------|-------------|---------------|-----------------|
|             | Brief description                       | DMM<br>DMM-...-S2<br>DMM-...-S20 | DMML<br>DMML-...-S2<br>DMML-...-S20 | EMM<br>EMMZ | EMML<br>EMMLZ | → Page/Internet |
| 1           | Rod eye<br>SGS                          | ■                                | ■                                   | ■           | ■             | 18              |
| 2           | Rod clevis<br>SG                        | ■                                | ■                                   | ■           | ■             | 18              |
| 3           | Self-aligning rod coupler<br>FK         | ■                                | ■                                   | ■           | ■             | 18              |
| 4           | Adapter<br>AD                           | ■<br>S20                         | ■<br>S20                            | –           | –             | 18              |
| 5           | Proximity sensor<br>SME/SMT-8           | ■                                | ■                                   | ■           | ■             | 18              |
| 6           | One-way flow control valve<br>GRLA/GRLZ | ■                                | ■                                   | ■           | ■             | 19              |
| 7           | Push-in connector<br>QS                 | ■                                | ■                                   | ■           | ■             | quick star      |

| Mounting options                                                                    |                                                                                     |                                                                                      |                                                                                       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Mounting at front                                                                   | Mounting at rear                                                                    | Vertical mounting                                                                    | Horizontal mounting                                                                   |
|  |  |  |  |

# Compact cylinders DMM/EMM, Multimount

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Type code

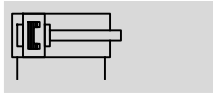
|                         |                                               |      |   |    |   |    |   |   |   |   |   |    |
|-------------------------|-----------------------------------------------|------|---|----|---|----|---|---|---|---|---|----|
|                         |                                               | DMML | – | 25 | – | 30 | – | P | – | A | – | S2 |
| <b>Type</b>             |                                               |      |   |    |   |    |   |   |   |   |   |    |
| Double-acting           |                                               |      |   |    |   |    |   |   |   |   |   |    |
| DMM                     | Basic version                                 |      |   |    |   |    |   |   |   |   |   |    |
| DMML                    | Non-rotating version                          |      |   |    |   |    |   |   |   |   |   |    |
| Single-acting           |                                               |      |   |    |   |    |   |   |   |   |   |    |
| EMM                     | Basic version                                 |      |   |    |   |    |   |   |   |   |   |    |
| EMMZ                    | Basic version, pulling                        |      |   |    |   |    |   |   |   |   |   |    |
| EMML                    | Non-rotating version                          |      |   |    |   |    |   |   |   |   |   |    |
| EMMLZ                   | Non-rotating version, pulling                 |      |   |    |   |    |   |   |   |   |   |    |
| <b>Piston Ø [mm]</b>    |                                               |      |   |    |   |    |   |   |   |   |   |    |
| <b>Stroke [mm]</b>      |                                               |      |   |    |   |    |   |   |   |   |   |    |
| <b>Cushioning</b>       |                                               |      |   |    |   |    |   |   |   |   |   |    |
| P                       | Flexible cushioning rings/plates at both ends |      |   |    |   |    |   |   |   |   |   |    |
| <b>Position sensing</b> |                                               |      |   |    |   |    |   |   |   |   |   |    |
| A                       | For proximity sensing                         |      |   |    |   |    |   |   |   |   |   |    |
| <b>Variant</b>          |                                               |      |   |    |   |    |   |   |   |   |   |    |
| S2                      | Through piston rod                            |      |   |    |   |    |   |   |   |   |   |    |
| S6                      | Heat resistant up to 120 °C                   |      |   |    |   |    |   |   |   |   |   |    |
| S20                     | Through, hollow piston rod                    |      |   |    |   |    |   |   |   |   |   |    |

# Compact cylinders DMM, Multimount

Technical data

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## Function



-  - Diameter  
10 ... 32 mm

-  - Stroke length  
5 ... 50 mm

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

## Variants



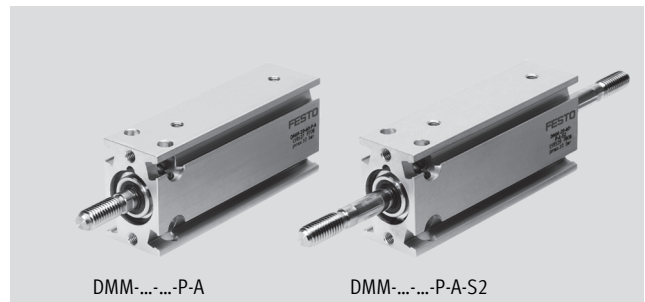
S2



S6

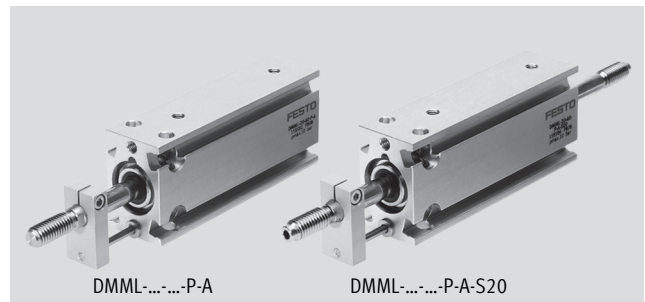


S20



DMM-...-P-A

DMM-...-P-A-S2



DMML-...-P-A

DMML-...-P-A-S20

| General technical data         |                                                                                                        |    |    |          |          |
|--------------------------------|--------------------------------------------------------------------------------------------------------|----|----|----------|----------|
| Piston Ø                       | 10                                                                                                     | 16 | 20 | 25       | 32       |
| Pneumatic connection           | M3                                                                                                     | M5 | M5 | M5       | G1/8     |
| End of piston rod Male thread  | M4                                                                                                     | M6 | M8 | M10x1.25 | M10x1.25 |
| Operating medium               | Compressed air in accordance with ISO 8573-1:2010 [7:4:4]                                              |    |    |          |          |
| Note on operating/pilot medium | Operation with lubricated medium possible (in which case lubricated operation will always be required) |    |    |          |          |
| Max. operating pressure [bar]  | 10                                                                                                     |    |    |          |          |
| Constructional design          | Piston                                                                                                 |    |    |          |          |
|                                | Piston rod                                                                                             |    |    |          |          |
| Cushioning                     | Flexible cushioning rings/plates at both ends                                                          |    |    |          |          |
| Position sensing               | For proximity sensing                                                                                  |    |    |          |          |
| Type of mounting               | Via through holes                                                                                      |    |    |          |          |
|                                | Via female thread                                                                                      |    |    |          |          |
| Mounting position              | Any                                                                                                    |    |    |          |          |

| Ambient conditions                     |               |            |
|----------------------------------------|---------------|------------|
| Variant                                | Basic version | S6         |
| Ambient temperature <sup>1)</sup> [°C] | -20 ... +80   | 0 ... +120 |

1) Note operating range of proximity sensors

# Compact cylinders DMM, Multimount

Technical data

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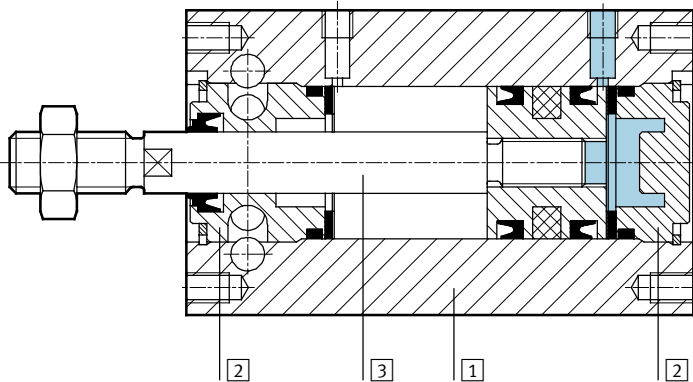
| Forces [N] and impact energy [J]       |     |     |     |     |     |
|----------------------------------------|-----|-----|-----|-----|-----|
| Piston Ø                               | 10  | 16  | 20  | 25  | 32  |
| Theoretical force at 6 bar, advancing  | 47  | 121 | 188 | 295 | 483 |
| S2/S20                                 | 40  | 104 | 158 | 247 | 415 |
| Theoretical force at 6 bar, retracting | 40  | 104 | 158 | 247 | 415 |
| S2/S20                                 | 40  | 104 | 158 | 247 | 415 |
| Max. impact energy at end positions    | 0.1 | 0.2 | 0.3 | 0.6 | 0.6 |

| Technical data – Protection against rotation     |      |      |      |       |      |
|--------------------------------------------------|------|------|------|-------|------|
| Piston Ø                                         | 10   | 16   | 20   | 25    | 32   |
| Max. torque at the piston rod <sup>1)</sup> [Nm] | 0.02 | 0.01 | 0.01 | 0.015 | 0.02 |

1) The max. torque must not be exceeded even when fitting attachments.

## Materials

Sectional view



| Compact cylinder | Basic version              | S6                         |
|------------------|----------------------------|----------------------------|
| 1 Housing        | Wrought aluminium alloy    | Wrought aluminium alloy    |
| 2 Plug cap       | Brass                      | Brass                      |
| 3 Piston rod     | High-alloy stainless steel | High-alloy stainless steel |
| – Seals          | Polyurethane               | Fluorocarbon rubber        |



# Compact cylinders DMM, Multimount

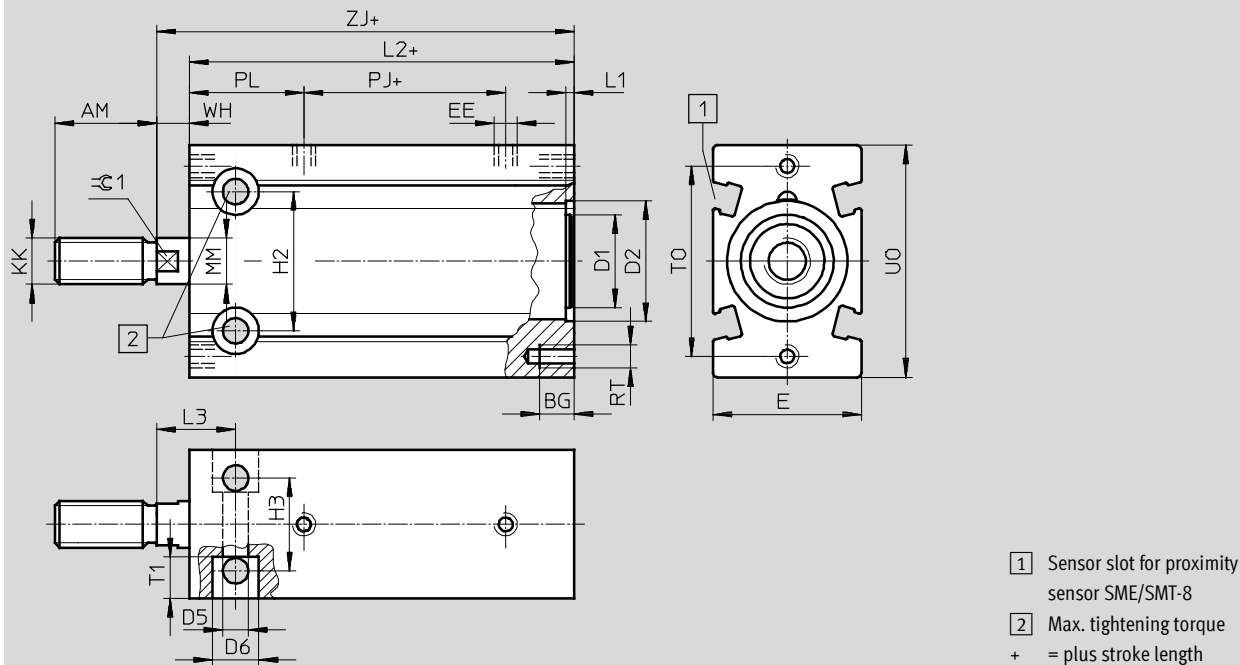
Technical data

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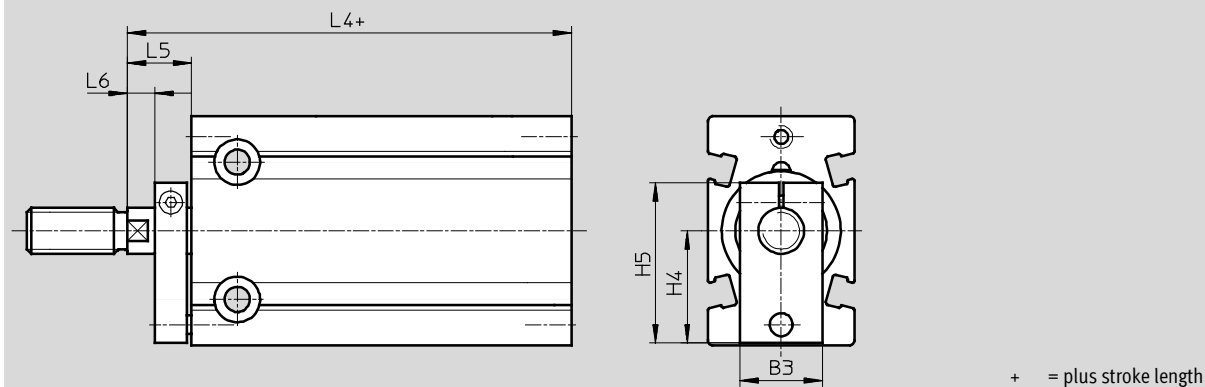
## Dimensions – Basic cylinder

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

### Basic version DMM



### Non-rotating version DMML



| Ø    | AM | B3 | BG   | D1   | D2   | D5     | D6     | E  | EE                            | H2 | H3 | H4   | H5   | KK       | L1  | L2 |
|------|----|----|------|------|------|--------|--------|----|-------------------------------|----|----|------|------|----------|-----|----|
| [mm] |    |    | +0.5 | Ø    | Ø H7 | Ø +0.2 | Ø +0.3 |    |                               |    |    |      |      |          |     |    |
| 10   | 12 | 14 | 5    | –    | 10.8 | 3.4    | 6      | 15 | M3                            | 13 | 9  | 11   | 19.5 | M4       | 0.9 | 48 |
| 16   | 16 | 15 | 6    | 12.9 | 17   | 4.3    | 7.5    | 20 | M5                            | 19 | 13 | 15.5 | 24   | M6       | 0.9 | 52 |
| 20   | 20 | 15 | 7.5  | 16   | 21   | 5.5    | 10     | 26 | M5                            | 24 | 16 | 19.5 | 29   | M8       | 1.9 | 55 |
| 25   | 22 | 18 | 7.5  | 20   | 26   | 5.5    | 10     | 32 | M5                            | 30 | 20 | 24.5 | 36   | M10x1.25 | 1.9 | 58 |
| 32   | 22 | 20 | 9    | 26   | 33   | 6.6    | 11     | 40 | G <sup>1</sup> / <sub>8</sub> | 40 | 24 | 30.5 | 45   | M10x1.25 | 1.9 | 62 |

| Ø    | L3   | L4 | L5 | L6 | MM | PJ   | PL   | RT | T1   | U0 | T0 | WH | ZJ | ≈C1 | Max. tightening torque |
|------|------|----|----|----|----|------|------|----|------|----|----|----|----|-----|------------------------|
| [mm] |      |    |    |    | Ø  |      |      |    |      |    |    |    |    | h13 | [Nm] +10%              |
| 10   | 11   | 57 | 9  | –  | 4  | 12   | 24   | M3 | 5    | 25 | 19 | 2  | 50 | –   | 1                      |
| 16   | 13.5 | 64 | 12 | 3  | 6  | 16.5 | 22   | M4 | 5.5  | 32 | 27 | 5  | 57 | 5   | 2.5                    |
| 20   | 16   | 68 | 13 | 4  | 8  | 16.8 | 25.7 | M5 | 8    | 40 | 33 | 6  | 61 | 7   | 3                      |
| 25   | 17   | 72 | 14 | 5  | 10 | 18.5 | 24.7 | M5 | 9    | 50 | 41 | 7  | 65 | 9   | 8                      |
| 32   | 19   | 77 | 15 | 6  | 12 | 19   | 26   | M6 | 11.5 | 62 | 52 | 8  | 70 | 10  | 9                      |

# Compact cylinders DMM, Multimount

Technical data

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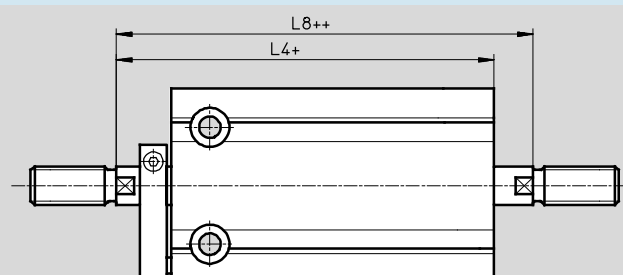
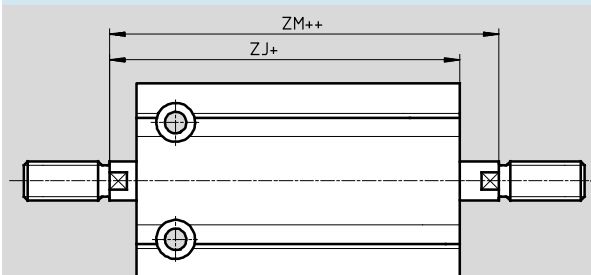
## Dimensions – Variants

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

S2 – Through piston rod

Basic version DMM

Non-rotating version DMML

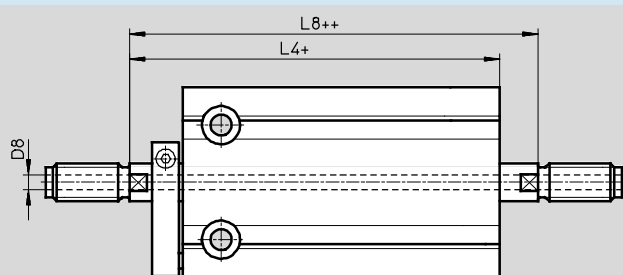
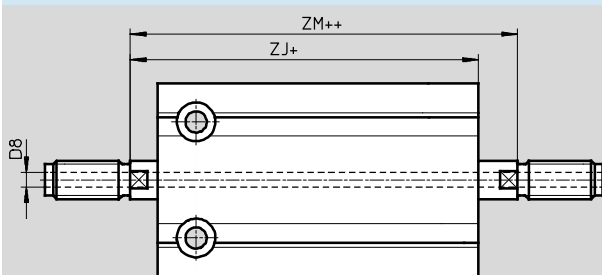


+ = plus stroke length  
++ = plus 2x stroke length

S20 – Through, hollow piston rod

Basic version DMM

Non-rotating version DMML



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

| Ø<br>[mm] | D8<br>Ø | L4 | L8 | ZJ | ZM |
|-----------|---------|----|----|----|----|
| 10        | –       | 57 | 59 | 50 | 52 |
| 16        | 2.3     | 64 | 69 | 57 | 62 |
| 20        | 3.2     | 68 | 74 | 61 | 67 |
| 25        | 3.8     | 72 | 79 | 65 | 72 |
| 32        | 4.5     | 77 | 85 | 70 | 78 |

# Compact cylinders DMM, Multimount

Technical data

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| Ordering data – Basic cylinder                                                    |                  |                              |                   |                             |                           |                              |
|-----------------------------------------------------------------------------------|------------------|------------------------------|-------------------|-----------------------------|---------------------------|------------------------------|
| Type                                                                              | Piston Ø<br>[mm] | Stroke <sup>1)</sup><br>[mm] | Basic version DMM |                             | Non-rotating version DMML |                              |
|                                                                                   |                  |                              | Part No.          | Type                        | Part No.                  | Type                         |
|  | 10               | 5                            | 158 502           | DMM-10-5-P-A                | 158 557                   | DMML-10-5-P-A                |
|                                                                                   |                  | 10                           | 158 503           | DMM-10-10-P-A               | 158 558                   | DMML-10-10-P-A               |
|                                                                                   |                  | 15                           | 158 504           | DMM-10-15-P-A               | 158 559                   | DMML-10-15-P-A               |
|                                                                                   |                  | 20                           | 158 505           | DMM-10-20-P-A               | 158 560                   | DMML-10-20-P-A               |
|                                                                                   |                  | 25                           | 158 506           | DMM-10-25-P-A               | 158 561                   | DMML-10-25-P-A               |
|                                                                                   |                  | 30                           | 158 507           | DMM-10-30-P-A               | 158 562                   | DMML-10-30-P-A               |
|                                                                                   | 16               | 5                            | 158 511           | DMM-16-5-P-A                | 158 566                   | DMML-16-5-P-A                |
|                                                                                   |                  | 10                           | 158 512           | DMM-16-10-P-A               | 158 567                   | DMML-16-10-P-A               |
|                                                                                   |                  | 15                           | 158 513           | DMM-16-15-P-A               | 158 568                   | DMML-16-15-P-A               |
|                                                                                   |                  | 20                           | 158 514           | DMM-16-20-P-A               | 158 569                   | DMML-16-20-P-A               |
|                                                                                   |                  | 25                           | 158 515           | DMM-16-25-P-A               | 158 570                   | DMML-16-25-P-A               |
|                                                                                   |                  | 30                           | 158 516           | DMM-16-30-P-A               | 158 571                   | DMML-16-30-P-A               |
|                                                                                   |                  | 40                           | 178 210           | DMM-16-40-P-A               | 178 328                   | DMML-16-40-P-A               |
|                                                                                   | 20               | 5                            | 158 521           | DMM-20-5-P-A                | 158 576                   | DMML-20-5-P-A                |
|                                                                                   |                  | 10                           | 158 522           | DMM-20-10-P-A               | 158 577                   | DMML-20-10-P-A               |
|                                                                                   |                  | 15                           | 158 523           | DMM-20-15-P-A               | 158 578                   | DMML-20-15-P-A               |
|                                                                                   |                  | 20                           | 158 524           | DMM-20-20-P-A               | 158 579                   | DMML-20-20-P-A               |
|                                                                                   |                  | 25                           | 158 525           | DMM-20-25-P-A               | 158 580                   | DMML-20-25-P-A               |
|                                                                                   |                  | 30                           | 158 526           | DMM-20-30-P-A               | 158 581                   | DMML-20-30-P-A               |
|                                                                                   |                  | 40                           | 158 527           | DMM-20-40-P-A               | 158 582                   | DMML-20-40-P-A               |
|                                                                                   |                  | 50                           | 158 528           | DMM-20-50-P-A               | 158 583                   | DMML-20-50-P-A               |
|                                                                                   | 25               | 5                            | 158 533           | DMM-25-5-P-A <sup>2)</sup>  | 158 588                   | DMML-25-5-P-A <sup>2)</sup>  |
|                                                                                   |                  | 10                           | 158 534           | DMM-25-10-P-A <sup>2)</sup> | 158 589                   | DMML-25-10-P-A <sup>2)</sup> |
|                                                                                   |                  | 15                           | 158 535           | DMM-25-15-P-A <sup>2)</sup> | 158 590                   | DMML-25-15-P-A <sup>2)</sup> |
|                                                                                   |                  | 20                           | 158 536           | DMM-25-20-P-A <sup>2)</sup> | 158 591                   | DMML-25-20-P-A <sup>2)</sup> |
|                                                                                   |                  | 25                           | 158 537           | DMM-25-25-P-A <sup>2)</sup> | 158 592                   | DMML-25-25-P-A <sup>2)</sup> |
|                                                                                   |                  | 30                           | 158 538           | DMM-25-30-P-A <sup>2)</sup> | 158 593                   | DMML-25-30-P-A <sup>2)</sup> |
|                                                                                   |                  | 40                           | 158 539           | DMM-25-40-P-A <sup>2)</sup> | 158 594                   | DMML-25-40-P-A <sup>2)</sup> |
|                                                                                   |                  | 50                           | 158 540           | DMM-25-50-P-A <sup>2)</sup> | 158 595                   | DMML-25-50-P-A <sup>2)</sup> |
|                                                                                   | 32               | 5                            | 158 545           | DMM-32-5-P-A <sup>2)</sup>  | 158 600                   | DMML-32-5-P-A <sup>2)</sup>  |
|                                                                                   |                  | 10                           | 158 546           | DMM-32-10-P-A <sup>2)</sup> | 158 601                   | DMML-32-10-P-A <sup>2)</sup> |
|                                                                                   |                  | 15                           | 158 547           | DMM-32-15-P-A <sup>2)</sup> | 158 602                   | DMML-32-15-P-A <sup>2)</sup> |
|                                                                                   |                  | 20                           | 158 548           | DMM-32-20-P-A <sup>2)</sup> | 158 603                   | DMML-32-20-P-A <sup>2)</sup> |
|                                                                                   |                  | 25                           | 158 549           | DMM-32-25-P-A <sup>2)</sup> | 158 604                   | DMML-32-25-P-A <sup>2)</sup> |
|                                                                                   |                  | 30                           | 158 550           | DMM-32-30-P-A <sup>2)</sup> | 158 605                   | DMML-32-30-P-A <sup>2)</sup> |
|                                                                                   |                  | 40                           | 158 551           | DMM-32-40-P-A <sup>2)</sup> | 158 606                   | DMML-32-40-P-A <sup>2)</sup> |
|                                                                                   |                  | 50                           | 158 552           | DMM-32-50-P-A <sup>2)</sup> | 158 607                   | DMML-32-50-P-A <sup>2)</sup> |

1) Additional stroke lengths upon request

2) The scope of delivery includes a hexagonal nut for the piston rod thread

# Compact cylinders DMM, Multimount

Technical data

**FESTO**

| Ordering data – Variants                                                          |                  |                               |                   |                                  |                           |                                   |
|-----------------------------------------------------------------------------------|------------------|-------------------------------|-------------------|----------------------------------|---------------------------|-----------------------------------|
| Type                                                                              | Piston Ø<br>[mm] | Stroke <sup>1)</sup><br>[mm]  | Basic version DMM |                                  | Non-rotating version DMML |                                   |
|                                                                                   |                  |                               | Part No.          | Type                             | Part No.                  | Type                              |
| S2 – Through piston rod                                                           |                  |                               |                   |                                  |                           |                                   |
|  | 10               | 5, 10, 20, 25, 30             | 158 508           | DMM-10-...-P-A-S2                | 158 563                   | DMML-10-...-P-A-S2                |
|                                                                                   | 16               | 5, 10, 15, 20, 25, 30, 40     | 158 517           | DMM-16-...-P-A-S2                | 158 572                   | DMML-16-...-P-A-S2                |
|                                                                                   | 20               | 5, 10, 15, 20, 25, 30, 40, 50 | 158 529           | DMM-20-...-P-A-S2                | 158 584                   | DMML-20-...-P-A-S2                |
|                                                                                   | 25               | 5, 10, 15, 20, 25, 30, 40, 50 | 158 541           | DMM-25-...-P-A-S2 <sup>2)</sup>  | 158 596                   | DMML-25-...-P-A-S2 <sup>2)</sup>  |
|                                                                                   | 32               | 5, 10, 15, 20, 25, 30, 40, 50 | 158 553           | DMM-32-...-P-A-S2 <sup>2)</sup>  | 158 608                   | DMML-32-...-P-A-S2 <sup>2)</sup>  |
| S6 – Heat resistant up to 120 °C                                                  |                  |                               |                   |                                  |                           |                                   |
|  | 10               | 5, 10, 15, 20, 25, 30         | 158 509           | DMM-10-...-P-A-S6                | 158 564                   | DMML-10-...-P-A-S6                |
|                                                                                   | 16               | 5, 10, 15, 20, 25, 30, 40     | 158 518           | DMM-16-...-P-A-S6                | 158 573                   | DMML-16-...-P-A-S6                |
|                                                                                   | 20               | 5, 10, 15, 20, 25, 30, 40, 50 | 158 530           | DMM-20-...-P-A-S6                | 158 585                   | DMML-20-...-P-A-S6                |
|                                                                                   | 25               | 5, 10, 15, 20, 25, 30, 40, 50 | 158 542           | DMM-25-...-P-A-S6 <sup>2)</sup>  | 158 597                   | DMML-25-...-P-A-S6 <sup>2)</sup>  |
|                                                                                   | 32               | 5, 10, 15, 20, 25, 30, 40, 50 | 158 554           | DMM-32-...-P-A-S6 <sup>2)</sup>  | 158 609                   | DMML-32-...-P-A-S6 <sup>2)</sup>  |
| S20 – Through, hollow piston rod                                                  |                  |                               |                   |                                  |                           |                                   |
|  | 16               | 5, 10, 15, 20, 25, 30, 40     | 158 519           | DMM-16-...-P-A-S20               | 158 574                   | DMML-16-...-P-A-S20               |
|                                                                                   | 20               | 5, 10, 15, 20, 25, 30, 40, 50 | 158 531           | DMM-20-...-P-A-S20               | 158 586                   | DMML-20-...-P-A-S20               |
|                                                                                   | 25               | 5, 10, 15, 20, 25, 30, 40, 50 | 158 543           | DMM-25-...-P-A-S20 <sup>2)</sup> | 158 598                   | DMML-25-...-P-A-S20 <sup>2)</sup> |
|                                                                                   | 32               | 5, 10, 15, 20, 25, 30, 40, 50 | 158 555           | DMM-32-...-P-A-S20 <sup>2)</sup> | 158 610                   | DMML-32-...-P-A-S20 <sup>2)</sup> |

1) Additional stroke lengths upon request

2) The scope of delivery includes a hexagonal nut for the piston rod thread

# Compact cylinders EMM, Multimount

Technical data

FESTO

Function

EMM, EMML



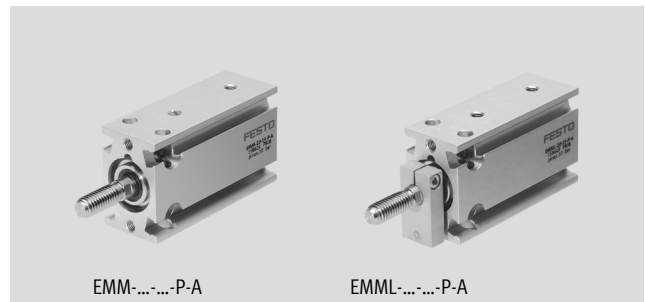
EMMZ, EMMLZ



Variants

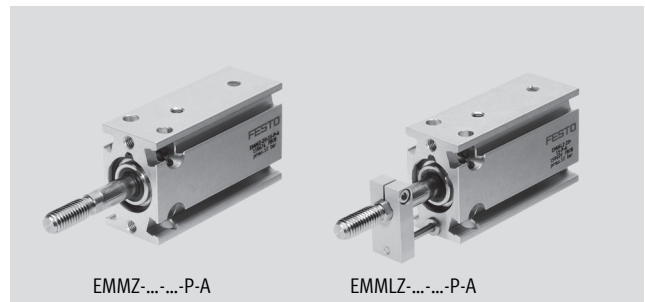


S6



EMM-...-P-A

EMML-...-P-A



EMMZ-...-P-A

EMMLZ-...-P-A

-  - Diameter  
10 ... 32 mm
-  - Stroke length  
5 ... 15 mm
-  - [www.festo.com](http://www.festo.com)

| General technical data              |                                                                                                        |     |     |          |          |
|-------------------------------------|--------------------------------------------------------------------------------------------------------|-----|-----|----------|----------|
| Piston Ø                            | 10                                                                                                     | 16  | 20  | 25       | 32       |
| Pneumatic connection                | M3                                                                                                     | M5  | M5  | M5       | G1/8     |
| End of piston rod Male thread       | M4                                                                                                     | M6  | M8  | M10x1.25 | M10x1.25 |
| Operating medium                    | Compressed air in accordance with ISO 8573-1:2010 [7:4:4]                                              |     |     |          |          |
| Note on operating/pilot medium      | Operation with lubricated medium possible (in which case lubricated operation will always be required) |     |     |          |          |
| Max. operating pressure [bar]       | 10                                                                                                     |     |     |          |          |
| Max. applied load <sup>1)</sup> [g] | 40                                                                                                     | 120 | 160 | 260      | 320      |
| Constructional design               | Piston                                                                                                 |     |     |          |          |
|                                     | Piston rod                                                                                             |     |     |          |          |
| Cushioning                          | Flexible cushioning rings/plates at both ends                                                          |     |     |          |          |
| Position sensing                    | For proximity sensing                                                                                  |     |     |          |          |
| Type of mounting                    | Via through holes                                                                                      |     |     |          |          |
|                                     | Via female thread                                                                                      |     |     |          |          |
| Mounting position                   | Any                                                                                                    |     |     |          |          |

1) At 6 bar. For other values see graph "Maximum permissible impact velocity v as a function of the applied load m" → 14

| Ambient conditions                     |               |            |
|----------------------------------------|---------------|------------|
| Variant                                | Basic version | S6         |
| Ambient temperature <sup>1)</sup> [°C] | -20 ... +80   | 0 ... +120 |

1) Note operating range of proximity sensors

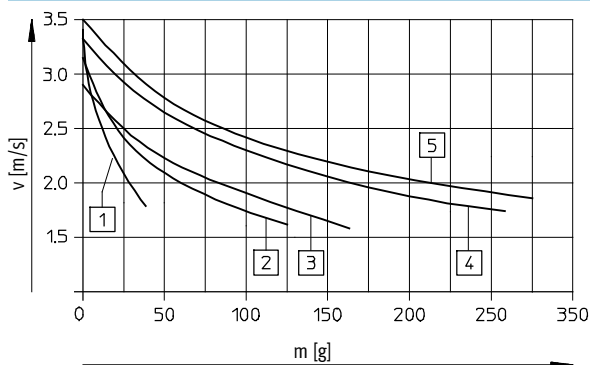
# Compact cylinders EMM, Multimount

Technical data

FESTO

| Forces [N] and impact energy [J]      |            |     |     |     |     |     |
|---------------------------------------|------------|-----|-----|-----|-----|-----|
| Piston Ø                              |            | 10  | 16  | 20  | 25  | 32  |
| Theoretical force at 6 bar, advancing | EMM/EMML   | 37  | 101 | 165 | 227 | 456 |
|                                       | EMMZ/EMMLZ | 30  | 84  | 135 | 179 | 388 |
| Max. impact energy at end positions   |            | 0.1 | 0.2 | 0.3 | 0.6 | 0.6 |

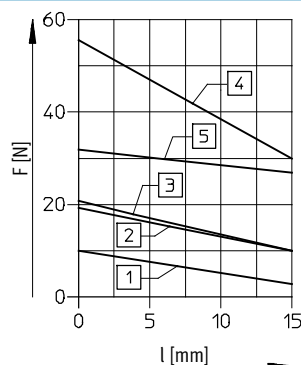
Maximum permissible impact velocity  $v$  as a function of the applied load  $m$



- 1 Ø 10 mm  
2 Ø 16 mm

- 3 Ø 20 mm  
4 Ø 25 mm

Minimum spring return force  $F$  as a function of the stroke  $l$



- 5 Ø 32 mm

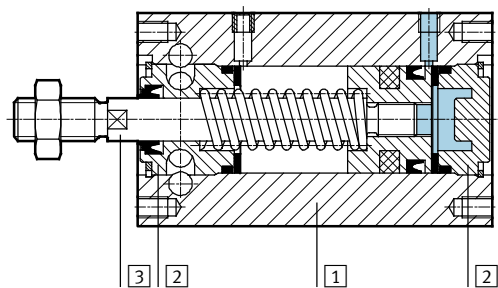
Technical data – Protection against rotation

| Piston Ø                                         | 10   | 16   | 20   | 25    | 32   |
|--------------------------------------------------|------|------|------|-------|------|
| Max. torque at the piston rod <sup>1)</sup> [Nm] | 0.02 | 0.01 | 0.01 | 0.015 | 0.02 |

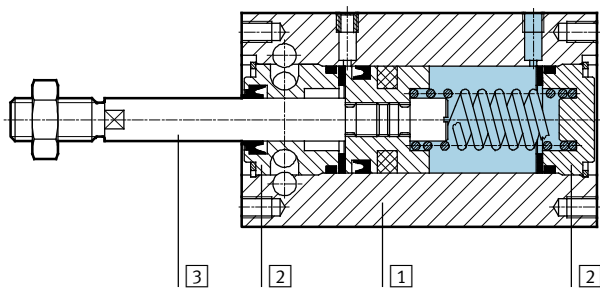
1) The max. torque must not be exceeded even when fitting attachments

## Materials

Sectional view EMM(L) – Pushing



Sectional view EMM(L)Z – Pulling



| Compact cylinder | Basic version              | S6                         |
|------------------|----------------------------|----------------------------|
| 1 Housing        | Wrought aluminium alloy    | Wrought aluminium alloy    |
| 2 Plug cap       | Brass                      | Brass                      |
| 3 Piston rod     | High-alloy stainless steel | High-alloy stainless steel |
| – Seals          | Polyurethane               | Fluorocarbon rubber        |

# Compact cylinders EMM, Multimount

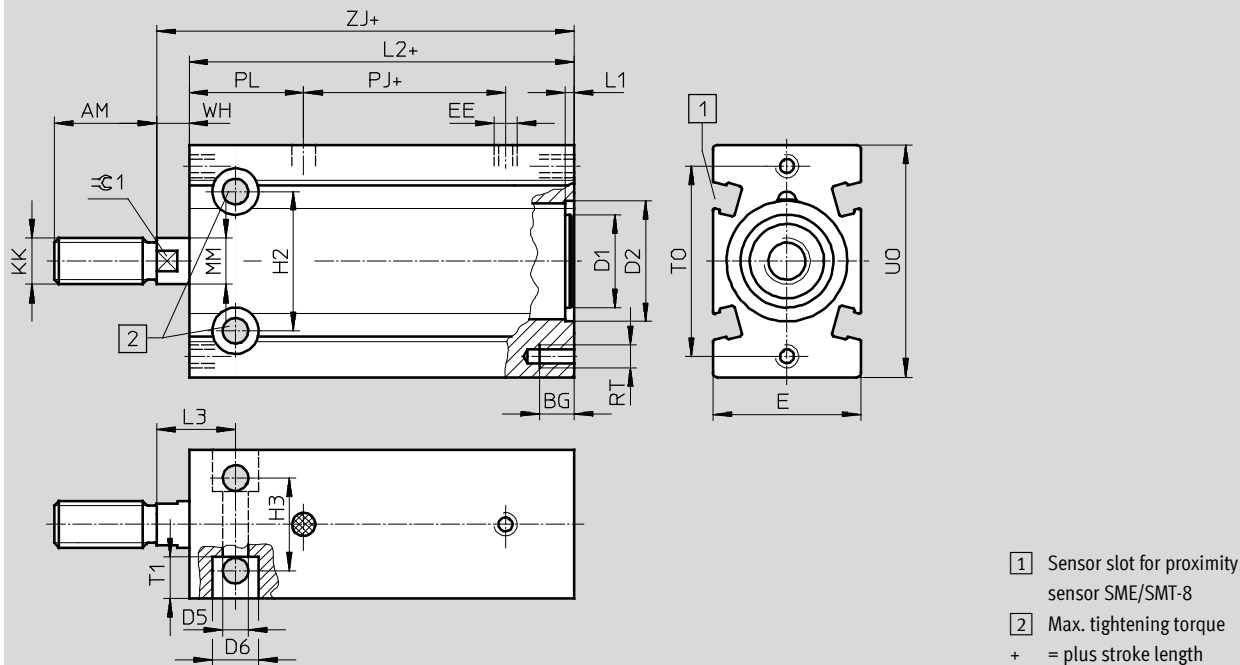
Technical data

**FESTO**

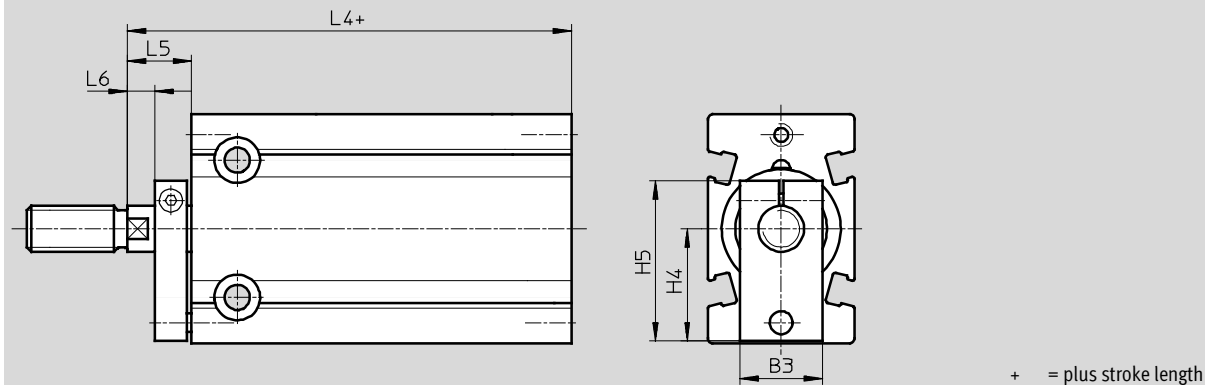
## Dimensions

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

### Basic version EMM – Pushing



### Non-rotating version EMML – Pushing



| Ø    | AM | B3 | BG   | D1   | D2   | D5     | D6     | E  | EE                            | H2 | H3 | H4   | H5   | KK       | L1  | L2 |
|------|----|----|------|------|------|--------|--------|----|-------------------------------|----|----|------|------|----------|-----|----|
| [mm] |    |    | +0.5 | Ø    | Ø H7 | Ø +0.2 | Ø +0.3 |    |                               |    |    |      |      |          |     |    |
| 10   | 12 | 14 | 5    | –    | 10.8 | 3.4    | 6      | 15 | M3                            | 13 | 9  | 11   | 19.5 | M4       | 0.9 | 48 |
| 16   | 16 | 15 | 6    | 12.9 | 17   | 4.3    | 7.5    | 20 | M5                            | 19 | 13 | 15.5 | 24   | M6       | 0.9 | 52 |
| 20   | 20 | 15 | 7.5  | 16   | 21   | 5.5    | 10     | 26 | M5                            | 24 | 16 | 19.5 | 29   | M8       | 1.9 | 55 |
| 25   | 22 | 18 | 7.5  | 20   | 26   | 5.5    | 10     | 32 | M5                            | 30 | 20 | 24.5 | 36   | M10x1.25 | 1.9 | 58 |
| 32   | 22 | 20 | 9    | 26   | 33   | 6.6    | 11     | 40 | G <sup>1</sup> / <sub>8</sub> | 40 | 24 | 30.5 | 45   | M10x1.25 | 1.9 | 62 |

| Ø    | L3   | L4 | L5 | L6 | MM | PJ   | PL   | RT | T1   | U0 | T0 | WH | ZJ | ≈C1 | Max. tightening torque |
|------|------|----|----|----|----|------|------|----|------|----|----|----|----|-----|------------------------|
| [mm] |      |    |    |    | Ø  |      |      |    |      |    |    |    |    | h13 | [Nm] +10%              |
| 10   | 11   | 57 | 9  | –  | 4  | 12   | 24   | M3 | 5    | 25 | 19 | 2  | 50 | –   | 1                      |
| 16   | 13.5 | 64 | 12 | 3  | 6  | 16.5 | 22   | M4 | 5.5  | 32 | 27 | 5  | 57 | 5   | 2.5                    |
| 20   | 16   | 68 | 13 | 4  | 8  | 16.8 | 25.7 | M5 | 8    | 40 | 33 | 6  | 61 | 7   | 3                      |
| 25   | 17   | 72 | 14 | 5  | 10 | 18.5 | 24.7 | M5 | 9    | 50 | 41 | 7  | 65 | 9   | 8                      |
| 32   | 19   | 77 | 15 | 6  | 12 | 19   | 26   | M6 | 11.5 | 62 | 52 | 8  | 70 | 10  | 9                      |

# Compact cylinders EMM, Multimount

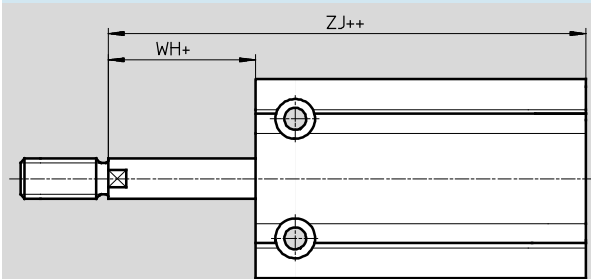
Technical data

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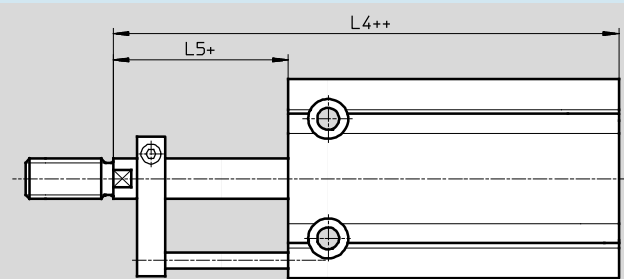
## Dimensions

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

### Basic version EMMZ – Pulling



### Non-rotating version EMMLZ – Pulling



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

| Ø    | L4 | L5 | WH | ZJ |
|------|----|----|----|----|
| [mm] |    |    |    |    |
| 10   | 57 | 9  | 2  | 50 |
| 16   | 64 | 12 | 5  | 57 |
| 20   | 68 | 13 | 6  | 61 |
| 25   | 72 | 14 | 7  | 65 |
| 32   | 77 | 15 | 8  | 70 |

## Ordering data – Basic cylinder, pushing

| Type | Piston Ø<br>[mm] | Stroke <sup>1)</sup><br>[mm] | Basic version EMM |                             | Non-rotating version EMML |                              |
|------|------------------|------------------------------|-------------------|-----------------------------|---------------------------|------------------------------|
|      |                  |                              | Part No.          | Type                        | Part No.                  | Type                         |
|      | 10               | 5                            | 158 612           | EMM-10-5-P-A                | 158 637                   | EMML-10-5-P-A                |
|      |                  | 10                           | 158 613           | EMM-10-10-P-A               | 158 638                   | EMML-10-10-P-A               |
|      |                  | 15                           | 158 614           | EMM-10-15-P-A               | 158 639                   | EMML-10-15-P-A               |
|      | 16               | 5                            | 158 617           | EMM-16-5-P-A                | 158 642                   | EMML-16-5-P-A                |
|      |                  | 10                           | 158 618           | EMM-16-10-P-A               | 158 643                   | EMML-16-10-P-A               |
|      |                  | 15                           | 158 619           | EMM-16-15-P-A               | 158 644                   | EMML-16-15-P-A               |
|      | 20               | 5                            | 158 622           | EMM-20-5-P-A                | 158 647                   | EMML-20-5-P-A                |
|      |                  | 10                           | 158 623           | EMM-20-10-P-A               | 158 648                   | EMML-20-10-P-A               |
|      |                  | 15                           | 158 624           | EMM-20-15-P-A               | 158 649                   | EMML-20-15-P-A               |
|      | 25               | 5                            | 158 627           | EMM-25-5-P-A <sup>2)</sup>  | 158 652                   | EMML-25-5-P-A <sup>2)</sup>  |
|      |                  | 10                           | 158 628           | EMM-25-10-P-A <sup>2)</sup> | 158 653                   | EMML-25-10-P-A <sup>2)</sup> |
|      |                  | 15                           | 158 629           | EMM-25-15-P-A <sup>2)</sup> | 158 654                   | EMML-25-15-P-A <sup>2)</sup> |
|      | 32               | 5                            | 158 632           | EMM-32-5-P-A <sup>2)</sup>  | 158 657                   | EMML-32-5-P-A <sup>2)</sup>  |
|      |                  | 10                           | 158 633           | EMM-32-10-P-A <sup>2)</sup> | 158 658                   | EMML-32-10-P-A <sup>2)</sup> |
|      |                  | 15                           | 158 634           | EMM-32-15-P-A <sup>2)</sup> | 158 659                   | EMML-32-15-P-A <sup>2)</sup> |

1) Additional stroke lengths upon request

2) The scope of delivery includes a hexagonal nut for the piston rod thread



# Compact cylinders EMM, Multimount

Technical data

FESTO

| Ordering data – Basic cylinder, pulling                                           |                  |                              |                    |                              |                            |                               |
|-----------------------------------------------------------------------------------|------------------|------------------------------|--------------------|------------------------------|----------------------------|-------------------------------|
| Type                                                                              | Piston Ø<br>[mm] | Stroke <sup>1)</sup><br>[mm] | Basic version EMMZ |                              | Non-rotating version EMMLZ |                               |
|                                                                                   |                  |                              | Part No.           | Type                         | Part No.                   | Type                          |
|  | 10               | 5                            | 158 662            | EMMZ-10-5-P-A                | 158 687                    | EMMLZ-10-5-P-A                |
|                                                                                   |                  | 10                           | 158 663            | EMMZ-10-10-P-A               | 158 688                    | EMMLZ-10-10-P-A               |
|                                                                                   |                  | 15                           | 158 664            | EMMZ-10-15-P-A               | 158 689                    | EMMLZ-10-15-P-A               |
|                                                                                   | 16               | 5                            | 158 667            | EMMZ-16-5-P-A                | 158 692                    | EMMLZ-16-5-P-A                |
|                                                                                   |                  | 10                           | 158 668            | EMMZ-16-10-P-A               | 158 693                    | EMMLZ-16-10-P-A               |
|                                                                                   |                  | 15                           | 158 669            | EMMZ-16-15-P-A               | 158 694                    | EMMLZ-16-15-P-A               |
|                                                                                   | 20               | 5                            | 158 672            | EMMZ-20-5-P-A                | 158 697                    | EMMLZ-20-5-P-A                |
|                                                                                   |                  | 10                           | 158 673            | EMMZ-20-10-P-A               | 158 698                    | EMMLZ-20-10-P-A               |
|                                                                                   |                  | 15                           | 158 674            | EMMZ-20-15-P-A               | 158 699                    | EMMLZ-20-15-P-A               |
|                                                                                   | 25               | 5                            | 158 677            | EMMZ-25-5-P-A <sup>2)</sup>  | 158 702                    | EMMLZ-25-5-P-A <sup>2)</sup>  |
|                                                                                   |                  | 10                           | 158 678            | EMMZ-25-10-P-A <sup>2)</sup> | 158 703                    | EMMLZ-25-10-P-A <sup>2)</sup> |
|                                                                                   |                  | 15                           | 158 679            | EMMZ-25-15-P-A <sup>2)</sup> | 158 704                    | EMMLZ-25-15-P-A <sup>2)</sup> |
|                                                                                   | 32               | 5                            | 158 682            | EMMZ-32-5-P-A <sup>2)</sup>  | 158 707                    | EMMLZ-32-5-P-A <sup>2)</sup>  |
|                                                                                   |                  | 10                           | 158 683            | EMMZ-32-10-P-A <sup>2)</sup> | 158 708                    | EMMLZ-32-10-P-A <sup>2)</sup> |
|                                                                                   |                  | 15                           | 158 684            | EMMZ-32-15-P-A <sup>2)</sup> | 158 709                    | EMMLZ-32-15-P-A <sup>2)</sup> |

1) Additional stroke lengths upon request

2) The scope of delivery includes a hexagonal nut for the piston rod thread

| Ordering data – Pushing variants                                                    |                  |                              |                   |                                 |                           |                                  |
|-------------------------------------------------------------------------------------|------------------|------------------------------|-------------------|---------------------------------|---------------------------|----------------------------------|
| Type                                                                                | Piston Ø<br>[mm] | Stroke <sup>1)</sup><br>[mm] | Basic version EMM |                                 | Non-rotating version EMML |                                  |
|                                                                                     |                  |                              | Part No.          | Type                            | Part No.                  | Type                             |
| S6 – Heat resistant up to 120 °C                                                    |                  |                              |                   |                                 |                           |                                  |
|  | 10               | 5, 10, 15                    | 158 615           | EMM-10-...-P-A-S6               | 158 640                   | EMML-10-...-P-A-S6               |
|                                                                                     | 16               | 5, 10, 15                    | 158 620           | EMM-16-...-P-A-S6               | 158 645                   | EMML-16-...-P-A-S6               |
|                                                                                     | 20               | 5, 10, 15                    | 158 625           | EMM-20-...-P-A-S6               | 158 650                   | EMML-20-...-P-A-S6               |
|                                                                                     | 25               | 5, 10, 15                    | 158 630           | EMM-25-...-P-A-S6 <sup>2)</sup> | 158 655                   | EMML-25-...-P-A-S6 <sup>2)</sup> |
|                                                                                     | 32               | 5, 10, 15                    | 158 635           | EMM-32-...-P-A-S6 <sup>2)</sup> | 158 660                   | EMML-32-...-P-A-S6 <sup>2)</sup> |

1) Additional stroke lengths upon request

2) The scope of delivery includes a hexagonal nut for the piston rod thread

| Ordering data – Pulling variants                                                    |                  |                              |                    |                                  |                            |                                   |
|-------------------------------------------------------------------------------------|------------------|------------------------------|--------------------|----------------------------------|----------------------------|-----------------------------------|
| Type                                                                                | Piston Ø<br>[mm] | Stroke <sup>1)</sup><br>[mm] | Basic version EMMZ |                                  | Non-rotating version EMMLZ |                                   |
|                                                                                     |                  |                              | Part No.           | Type                             | Part No.                   | Type                              |
| S6 – Heat resistant up to 120 °C                                                    |                  |                              |                    |                                  |                            |                                   |
|  | 10               | 5, 10, 15                    | 158 665            | EMMZ-10-...-P-A-S6               | 158 690                    | EMMLZ-10-...-P-A-S6               |
|                                                                                     | 16               | 5, 10, 15                    | 158 670            | EMMZ-16-...-P-A-S6               | 158 695                    | EMMLZ-16-...-P-A-S6               |
|                                                                                     | 20               | 5, 10, 15                    | 158 675            | EMMZ-20-...-P-A-S6               | 158 700                    | EMMLZ-20-...-P-A-S6               |
|                                                                                     | 25               | 5, 10, 15                    | 158 680            | EMMZ-25-...-P-A-S6 <sup>2)</sup> | 158 705                    | EMMLZ-25-...-P-A-S6 <sup>2)</sup> |
|                                                                                     | 32               | 5, 10, 15                    | 158 685            | EMMZ-32-...-P-A-S6 <sup>2)</sup> | 158 710                    | EMMLZ-32-...-P-A-S6 <sup>2)</sup> |

1) Additional stroke lengths upon request

2) The scope of delivery includes a hexagonal nut for the piston rod thread

## Compact cylinders DMM/EMM, Multimount

Accessories

**FESTO**

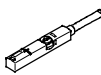
| Ordering data – Piston rod attachments                                            |       |          |              | Technical data → Internet: piston-rod attachment                                  |       |          |                 |  |  |  |
|-----------------------------------------------------------------------------------|-------|----------|--------------|-----------------------------------------------------------------------------------|-------|----------|-----------------|--|--|--|
| Designation                                                                       | For Ø | Part No. | Type         | Designation                                                                       | For Ø | Part No. | Type            |  |  |  |
| Rod eye SGS                                                                       |       |          |              | Self-aligning rod coupler FK                                                      |       |          |                 |  |  |  |
|  | 10    | 9 253    | SGS-M4       |  | 10    | 6 528    | FK-M4           |  |  |  |
|                                                                                   | 16    | 9 254    | SGS-M6       |                                                                                   | 16    | 2 061    | FK-M6           |  |  |  |
|                                                                                   | 20    | 9 255    | SGS-M8       |                                                                                   | 20    | 2 062    | FK-M8           |  |  |  |
|                                                                                   | 25    | 9 261    | SGS-M10x1,25 |                                                                                   | 25    | 6 140    | FK-M10x1,25     |  |  |  |
|                                                                                   | 32    |          |              |                                                                                   |       |          |                 |  |  |  |
|                                                                                   |       |          |              |                                                                                   |       |          |                 |  |  |  |
| Rod clevis SG                                                                     |       |          |              | Adapter AD                                                                        |       |          |                 |  |  |  |
|  | 10    | 6 532    | SG-M4        |  | 16    | 157 328  | AD-M6-M5        |  |  |  |
|                                                                                   | 16    | 3 110    | SG-M6        |                                                                                   |       | 157 329  | AD-M6-1/8       |  |  |  |
|                                                                                   | 20    | 3 111    | SG-M8        |                                                                                   |       | 157 330  | AD-M6-1/4       |  |  |  |
|                                                                                   | 25    | 6 144    | SG-M10x1,25  |                                                                                   | 20    | 157 331  | AD-M8-1/8       |  |  |  |
|                                                                                   | 32    |          |              |                                                                                   |       | 157 332  | AD-M8-1/4       |  |  |  |
|                                                                                   |       |          |              |                                                                                   | 25    | 157 333  | AD-M10x1,25-1/8 |  |  |  |
|                                                                                   |       |          |              |                                                                                   |       | 157 334  | AD-M10x1,25-1/4 |  |  |  |
|                                                                                   |       |          |              |                                                                                   | 32    |          |                 |  |  |  |

| Ordering data – Proximity sensors for T-slot, magneto-resistive                     |                                                                    |               |                       |                  |          | Technical data → Internet: smt |  |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------|---------------|-----------------------|------------------|----------|--------------------------------|--|
|                                                                                     | Type of mounting                                                   | Switch output | Electrical connection | Cable length [m] | Part No. | Type                           |  |
| N/O contact                                                                         |                                                                    |               |                       |                  |          |                                |  |
|  | Insertable in the slot from above, flush with cylinder profile     | 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 DMM/EMM, Multimount

Accessories

**FESTO**

| Ordering data – Proximity sensors for T-slot, magnetic reed                       |                                                                    |               |                       |                  | Technical data → Internet: sme |                        |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------|---------------|-----------------------|------------------|--------------------------------|------------------------|
|                                                                                   | Type of mounting                                                   | Switch output | Electrical connection | Cable length [m] | Part No.                       | Type                   |
| N/O contact                                                                       |                                                                    |               |                       |                  |                                |                        |
|  | Insertable in the slot from above, flush with cylinder profile     | Contacting    | Cable, 3-wire         | 2.5              | 543 862                        | SME-8M-DS-24V-K-2,5-OE |
|                                                                                   |                                                                    |               |                       | 5.0              | 543 863                        | SME-8M-DS-24V-K-5,0-OE |
|                                                                                   |                                                                    |               | Cable, 2-wire         | 2.5              | 543 872                        | SME-8M-ZS-24V-K-2,5-OE |
|                                                                                   |                                                                    |               |                       | Plug M8x1, 3-pin | 0.3                            | 543 861                |
|  | 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 – One-way flow control valves                                         |                |               |              | Technical data → Internet: grl |                  |                  |  |
|-------------------------------------------------------------------------------------|----------------|---------------|--------------|--------------------------------|------------------|------------------|--|
|                                                                                     | Connection     |               | Material     | Part No.                       | Type             |                  |  |
|                                                                                     | Thread         | For tubing OD |              |                                |                  |                  |  |
| For exhaust air                                                                     |                |               |              |                                |                  |                  |  |
|  | M3             | 3             | Metal design | 175 041                        | GRLA-M3-QS-3     |                  |  |
|                                                                                     | M5             | 3             |              | 193 137                        | GRLA-M5-QS-3-D   |                  |  |
|                                                                                     |                | 4             |              | 193 138                        | GRLA-M5-QS-4-D   |                  |  |
|                                                                                     |                | 6             |              | 193 139                        | GRLA-M5-QS-6-D   |                  |  |
|                                                                                     |                | G1/8          |              | 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  |                  |  |
|                                                                                     |                |               |              |                                |                  |                  |  |
|                                                                                     | For supply air |               |              |                                |                  |                  |  |
|  | M3             | 3             | Metal design | 175 043                        | GR LZ-M3-QS-3    |                  |  |
|                                                                                     | M5             | 3             |              | 193 153                        | GR LZ-M5-QS-3-D  |                  |  |
|                                                                                     |                | 4             |              | 193 154                        | GR LZ-M5-QS-4-D  |                  |  |
|                                                                                     |                | 6             |              | 193 155                        | GR LZ-M5-QS-6-D  |                  |  |
|                                                                                     |                | G1/8          |              | 3                              | 193 156          | GR LZ-1/8-QS-3-D |  |
|                                                                                     | 4              |               |              | 193 157                        | GR LZ-1/8-QS-4-D |                  |  |
|                                                                                     | 6              |               |              | 193 158                        | GR LZ-1/8-QS-6-D |                  |  |
|                                                                                     | 8              |               |              | 193 159                        | GR LZ-1/8-QS-8-D |                  |  |