

## Twin-piston drives DGTZ

**FESTO**



## Key features

### At a glance

#### Drive and guide in a single housing

- Minimal space requirement
- Minimal mounting time
- Drive available with one or two end plates
- Wide range of mounting options
- Perfect for use in the electronics industry: materials free of copper

#### Sturdy and precise

- High resistance to torsion
- Excellent rigidity
- Maintenance-free

#### High torque and transverse force absorption

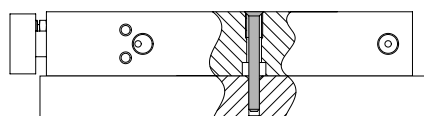
- Plain-bearing guide: high rigidity thanks to large-diameter guide rods and two plain-bearing bushes

#### Large stroke range

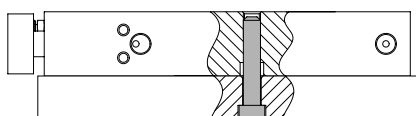
- Standard strokes of up to 100 mm
- Variable strokes of up to 200 mm

### Mounting options

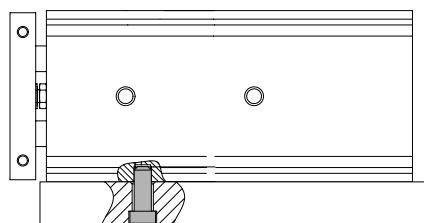
#### Flat from the top



#### Flat from underneath



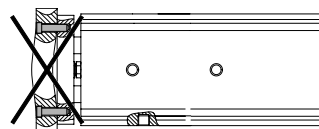
#### Flat from the side



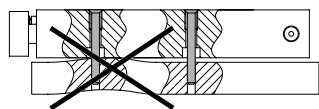
### Note

Make sure that the drives are mounted correctly

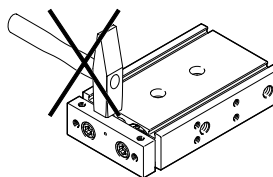
Additional information: [www.festo.com/sp](http://www.festo.com/sp) → User documentation



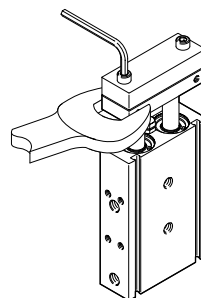
- Distortion-free



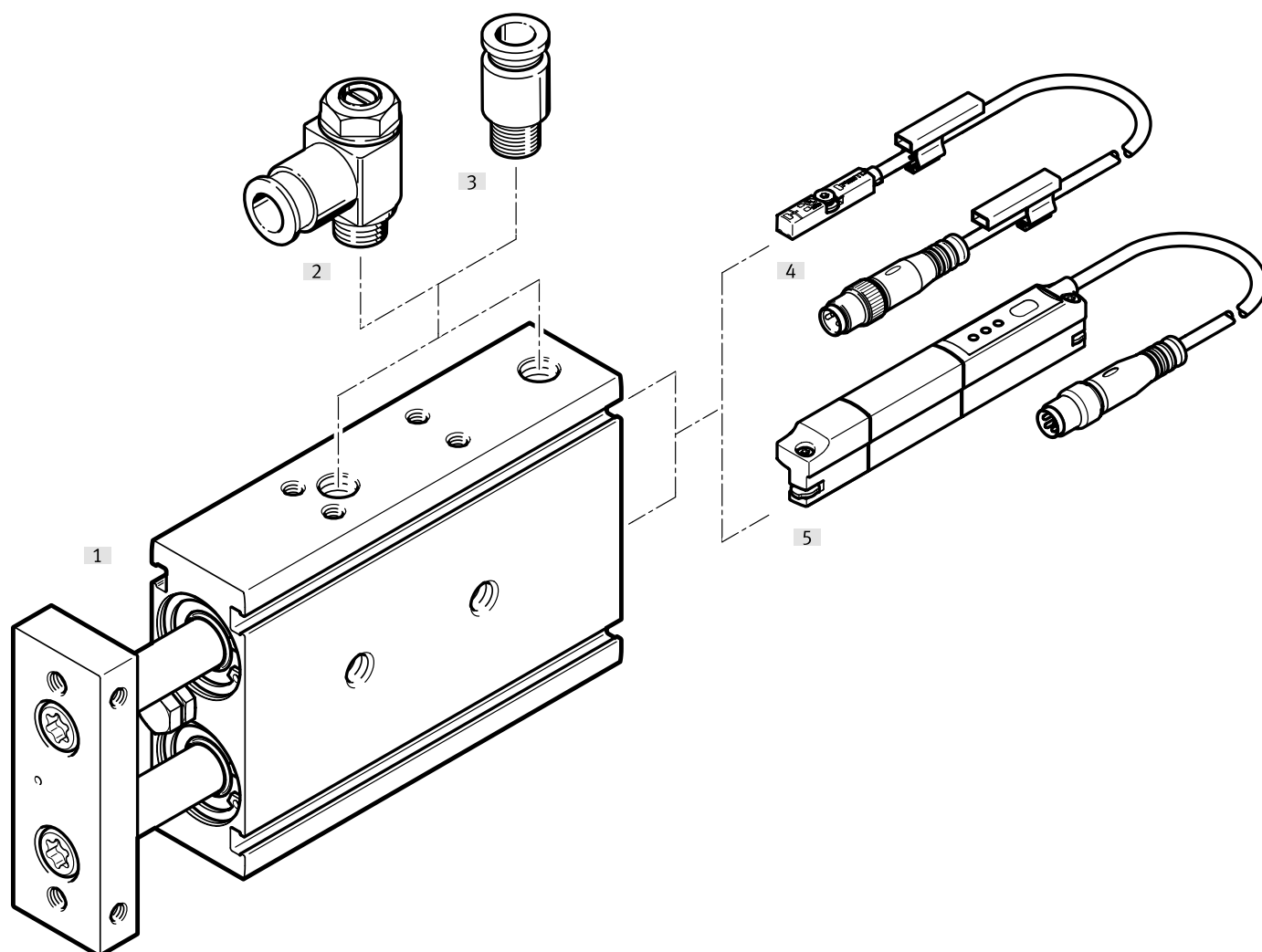
- On even surfaces



- Protect the end plate, the piston rods and the housing



## Peripherals overview



| Accessories     |                                 | Description                              | Piston Ø |            |        | → Page/Internet |
|-----------------|---------------------------------|------------------------------------------|----------|------------|--------|-----------------|
| Type/order code |                                 |                                          | 6        | 10, 16, 20 | 25, 32 |                 |
| [1]             | Twin-piston drives DGTZ         |                                          |          |            |        |                 |
| [2]             | One-way flow control valve GRLA | For regulating speed                     | ■        | ■          | ■      | 29              |
| [3]             | Push-in fitting QS              | For connecting tubing with standard O.D. | ■        | ■          | ■      | qs              |
| [4]             | Proximity switch SDBC-MSB       | For position sensing                     | ■        | ■          | –      | 26              |
|                 | Proximity switch SMT-10         |                                          | ■        | ■          | –      | 26              |
|                 | Proximity switch SME/SMT-8      |                                          | –        | –          | ■      | 29              |
| [5]             | Position transmitter SMAT/SDAT  | For detecting the current position       | –        | –          | ■      | 29              |

## Type codes

| 001  | Series        |  |
|------|---------------|--|
| DGTZ | Twin cylinder |  |

| 002 | Guide         |  |
|-----|---------------|--|
| GF  | Plain bearing |  |

| 003 | Piston diameter |  |
|-----|-----------------|--|
| 6   | 6               |  |
| 10  | 10              |  |
| 16  | 16              |  |
| 20  | 20              |  |
| 25  | 25              |  |
| 32  | 32              |  |

| 004 | Stroke |  |
|-----|--------|--|
| 10  | 10     |  |
| 20  | 20     |  |
| 30  | 30     |  |
| 40  | 40     |  |
| 50  | 50     |  |
| 60  | 60     |  |
| 70  | 70     |  |
| 80  | 80     |  |
| 90  | 90     |  |
| 100 | 100    |  |

| 005 | Stroke     |  |
|-----|------------|--|
| ... | 51 ... 200 |  |

| 006 | Piston rod design |  |
|-----|-------------------|--|
|     | One end plate     |  |
| J   | Two end plates    |  |

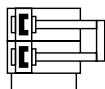
| 007 | Piston rod type    |  |
|-----|--------------------|--|
|     | At one end         |  |
| T   | Through piston rod |  |

| 008 | Cushioning                                    |  |
|-----|-----------------------------------------------|--|
| P   | Elastic cushioning rings/plates on both sides |  |

| 009 | Position sensing     |  |
|-----|----------------------|--|
| A   | For proximity sensor |  |

## Datasheet

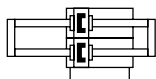
Function  
DGTZ-GF-...-P-A



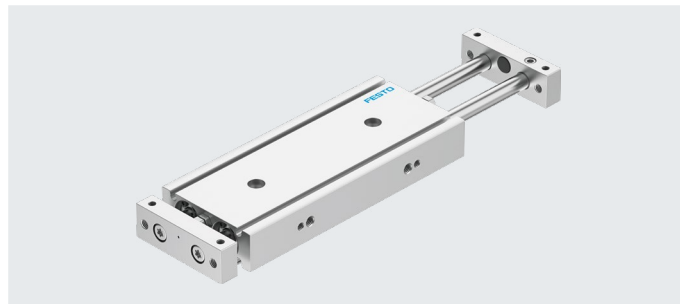
- $\varnothing$  - Diameter  
6 ... 32 mm
- $\text{I}$  - Stroke length  
10 ... 200 mm



Function  
DGTZ-GF-...-J-T-P-A



- $\varnothing$  - Diameter  
6 ... 32 mm
- $\text{I}$  - Stroke length  
10 ... 200 mm



| General technical data               |                                              |           |            |            |    |      |
|--------------------------------------|----------------------------------------------|-----------|------------|------------|----|------|
| Piston Ø                             | 6                                            | 10        | 16         | 20         | 25 | 32   |
| Design                               | Guide                                        |           |            |            |    |      |
| Operating mode                       | Double-acting                                |           |            |            |    |      |
| Guide                                | Plain-bearing guide                          |           |            |            |    |      |
| Pneumatic connection                 | M5                                           |           |            |            |    | G1/8 |
| Stroke                               | [mm]                                         | 10 ... 60 | 10 ... 150 | 10 ... 200 |    |      |
| Adjustable end-position range/length | [mm]                                         | 10        |            |            |    |      |
| Cushioning                           | Elastic cushioning rings/plates at both ends |           |            |            |    |      |
| Position sensing                     | Via proximity switch                         |           |            |            |    |      |
| Mounting position                    | Any                                          |           |            |            |    |      |

| Operating and environmental conditions       |       |                                                                                            |               |              |              |    |    |
|----------------------------------------------|-------|--------------------------------------------------------------------------------------------|---------------|--------------|--------------|----|----|
| Piston Ø                                     |       | 6                                                                                          | 10            | 16           | 20           | 25 | 32 |
| Operating medium                             |       | Compressed air to ISO 8573-1:2010 [7:4:4]                                                  |               |              |              |    |    |
| Note on the operating/pilot medium           |       | Lubricated operation possible (in which case lubricated operation will always be required) |               |              |              |    |    |
| Operating pressure                           |       |                                                                                            |               |              |              |    |    |
| One end plate                                | [MPa] | 0.2 ... 0.8                                                                                | 0.15 ... 0.8  | 0.1 ... 0.8  |              |    |    |
|                                              | [psi] | 29 ... 116                                                                                 | 21.75 ... 116 | 14.5 ... 116 |              |    |    |
|                                              | [bar] | 2 ... 8                                                                                    | 1.5 ... 8     | 1 ... 8      |              |    |    |
| Two end plates and through piston rod        | [MPa] | 0.2 ... 0.8                                                                                |               |              | 0.12 ... 0.8 |    |    |
|                                              | [psi] | 29 ... 116                                                                                 |               |              | 17.4 ... 116 |    |    |
|                                              | [bar] | 2 ... 8                                                                                    |               |              | 1.2 ... 8    |    |    |
| Ambient temperature                          | [°C]  | −10 ... +80                                                                                |               |              |              |    |    |
| Operating mode of the drive unit             |       | Yoke                                                                                       |               |              |              |    |    |
|                                              |       | Two yokes                                                                                  |               |              |              |    |    |
| Corrosion resistance class CRC <sup>1)</sup> |       | 1 - Low corrosion stress                                                                   |               |              |              |    |    |

1) More information: [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

Datasheet

| Speeds [m/s]                                     |  |          |          |          |          |          |          |
|--------------------------------------------------|--|----------|----------|----------|----------|----------|----------|
| Stroke                                           |  | Piston ø |          |          |          |          |          |
| [mm]                                             |  | 6        | 10       | 16       | 20       | 25       | 32       |
| One end plate                                    |  |          |          |          |          |          |          |
| Advancing $v_{min}/v_{max}^{-1)}$                |  |          |          |          |          |          |          |
| 50                                               |  | 0.06/1   | –        |          |          |          |          |
| 150                                              |  | –        | 0.04/1   | –        |          |          |          |
| 200                                              |  | –        |          | 0.04/1   | 0.02/1   | 0.02/0.7 |          |
| Retracting $v_{min}/v_{max}^{-1)}$               |  |          |          |          |          |          |          |
| 50                                               |  | 0.07/1   | –        |          |          |          |          |
| 150                                              |  | –        | 0.05/1   | –        |          |          |          |
| 200                                              |  | –        |          | 0.03/1   | 0.02/1   | 0.02/0.8 | 0.02/0.6 |
| Two end plates and through piston rod            |  |          |          |          |          |          |          |
| Advancing and retracting $v_{min}/v_{max}^{-1)}$ |  |          |          |          |          |          |          |
| 50                                               |  | 0.06/0.5 | –        |          |          |          |          |
| 150                                              |  | –        | 0.04/0.5 | –        |          |          |          |
| 200                                              |  | –        |          | 0.03/0.5 | 0.02/0.5 | 0.01/0.5 |          |

1) To avoid damage to the cylinder, the speed must be throttled. This also applies during operation without additional load.  
The maximum speed must not be exceeded.

| Forces [N] and impact energy [J]                                       |  |      |      |      |     |         |
|------------------------------------------------------------------------|--|------|------|------|-----|---------|
| Piston ø                                                               |  | 6    | 10   | 16   | 20  | 25 32   |
| One end plate                                                          |  |      |      |      |     |         |
| Theoretical force at 0.6 MPa (6 bar, 87 psi), advancing                |  | 34   | 94   | 242  | 376 | 590 966 |
| Theoretical force at 0.6 MPa (6 bar, 87 psi), retracting               |  | 18.6 | 60   | 181  | 283 | 454 724 |
| Two end plates and through piston rod                                  |  |      |      |      |     |         |
| Theoretical force at 0.6 MPa (6 bar, 87 psi), advancing and retracting |  | 18.6 | 60   | 181  | 283 | 454 724 |
| Max. impact energy in the end positions                                |  | 0.01 | 0.08 | 0.15 | 0.2 | 0.3 0.4 |

Permissible impact velocity:

$$v = \sqrt{\frac{2 \cdot E}{m_1 + m_2}}$$

Maximum permissible mass:

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

v

E

m<sub>1</sub>

m<sub>2</sub>

permissible impact speed

Max. impact energy

Moving mass (drive)

Moving payload



**Note**

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

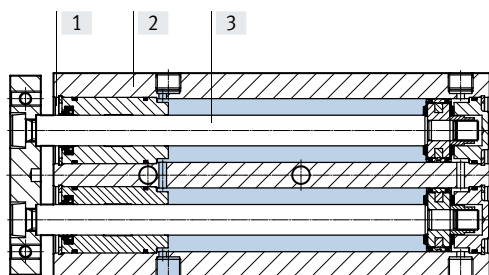
## Datasheet

| Weight [g] <sup>1)</sup>                |      |      |     |       |      |       |
|-----------------------------------------|------|------|-----|-------|------|-------|
| Piston Ø                                | 6    | 10   | 16  | 20    | 25   | 32    |
| One end plate                           |      |      |     |       |      |       |
| Basic weight with 0 mm stroke           | 65.5 | 115  | 236 | 374   | 563  | 966   |
| Additional weight per 10 mm stroke      | 16.5 | 20   | 27  | 37    | 53   | 83.5  |
| Moving mass with 0 mm stroke            | 15   | 35.5 | 80  | 138.5 | 209  | 421   |
| Additional moving mass per 10 mm stroke | 2    | 4.5  | 8   | 12.5  | 18   | 31.5  |
| Two end plates and through piston rod   |      |      |     |       |      |       |
| Basic weight with 0 mm stroke           | 112  | 201  | 370 | 595   | 882  | 1628  |
| Additional weight per 10 mm stroke      | 17   | 24.5 | 35  | 50    | 71   | 114   |
| Moving mass with 0 mm stroke            | 25.5 | 64   | 133 | 228   | 319  | 655.5 |
| Additional moving mass per 10 mm stroke | 4    | 9    | 16  | 25    | 35.6 | 62    |

1) The weights were determined mathematically and may deviate by ±15%.

## Materials

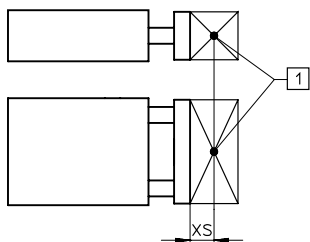
## Sectional view



## Linear drives

|                        |                                  |
|------------------------|----------------------------------|
| [1] Cover              | Wrought aluminium alloy          |
| [2] Housing            | Anodised wrought aluminium alloy |
| [3] Piston rod         | High-alloy stainless steel       |
| – Seals                | NBR                              |
|                        | HNBR                             |
|                        | TPE-U                            |
| Note on materials      | RoHS-compliant                   |
| LABS (PWIS) conformity | VDMA24364 zone III               |
| Cleanroom class        | Class 5 to ISO 14644-1           |

## Datasheet

Maximum payload  $F$  [N]

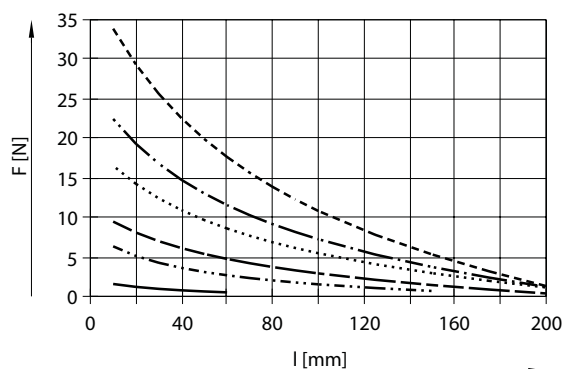
[1] Centre of gravity of payload

| Piston $\varnothing$ | 6 | 10 | 16 | 20 | 25 | 32 |
|----------------------|---|----|----|----|----|----|
| XS [mm]              | 5 | 5  | 20 | 20 | 20 | 20 |

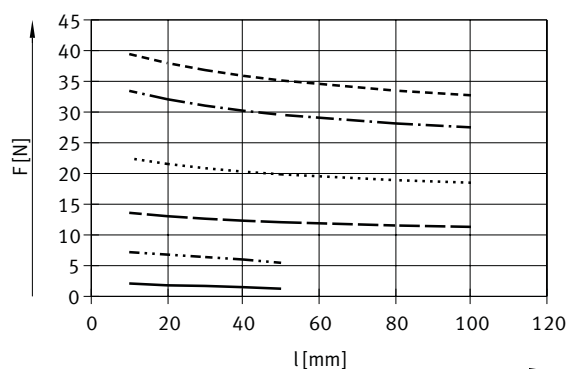
| Stroke [mm]                           | Piston $\varnothing$ |     |      |      |      |      |
|---------------------------------------|----------------------|-----|------|------|------|------|
|                                       | 6                    | 10  | 16   | 20   | 25   | 32   |
| One end plate                         |                      |     |      |      |      |      |
| 10                                    | 1.6                  | 6.3 | 9.5  | 16.5 | 22.4 | 33.9 |
| 20                                    | 1.2                  | 5.1 | 8.1  | 14.2 | 19.3 | 29.3 |
| 30                                    | 0.9                  | 4.3 | 7    | 12.4 | 16.8 | 25.6 |
| 40                                    | 0.8                  | 3.6 | 6.1  | 10.9 | 14.7 | 22.5 |
| 50                                    | 0.6                  | 3.1 | 5.4  | 9.7  | 13   | 19.9 |
| 60                                    | 0.5                  | 2.7 | 4.7  | 8.6  | 11.5 | 17.6 |
| 70                                    | –                    | 2.3 | 4.2  | 7.7  | 10.3 | 15.6 |
| 80                                    | –                    | 2   | 3.7  | 6.8  | 9.1  | 13.8 |
| 90                                    | –                    | –   | 3.3  | 6.1  | 8.1  | 12.2 |
| 100                                   | –                    | –   | 2.9  | 5.5  | 7.2  | 10.8 |
| Two end plates and through piston rod |                      |     |      |      |      |      |
| 10                                    | 2.1                  | 7.2 | 13.6 | 22.5 | 33.5 | 39.4 |
| 20                                    | 1.8                  | 6.8 | 13.1 | 21.6 | 32.1 | 38   |
| 30                                    | 1.7                  | 6.4 | 12.6 | 20.9 | 31   | 36.8 |
| 40                                    | 1.5                  | 6   | 12.3 | 20.3 | 30.2 | 35.9 |
| 50                                    | 1.3                  | 5.5 | 12.1 | 19.9 | 29.6 | 35.1 |
| 80                                    | –                    | –   | 11.5 | 18.9 | 28.2 | 33.5 |
| 100                                   | –                    | –   | 11.3 | 18.5 | 27.5 | 32.7 |

Maximum payload  $F$  [N] as a function of stroke  $l$  [mm]

## One end plate

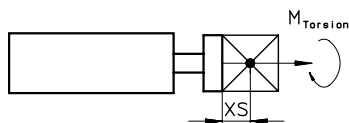


## Two end plates and through piston rod





## Datasheet

Permissible torque load  $M$  [Nm]

| Piston $\varnothing$ | 6 | 10 | 16 | 20 | 25 | 32 |
|----------------------|---|----|----|----|----|----|
| XS [mm]              | 5 | 5  | 20 | 20 | 20 | 20 |

| Stroke [mm] | Piston $\varnothing$ | 6 | 10 | 16 | 20 | 25 | 32 |
|-------------|----------------------|---|----|----|----|----|----|
|-------------|----------------------|---|----|----|----|----|----|

## One end plate

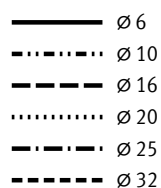
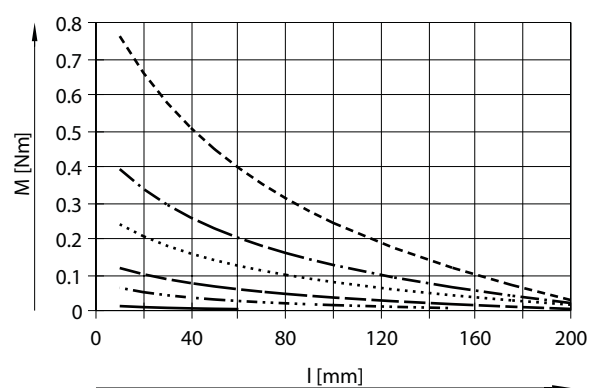
| Stroke [mm] | 6      | 10     | 16     | 20     | 25     | 32     |
|-------------|--------|--------|--------|--------|--------|--------|
| 10          | 0.0125 | 0.0633 | 0.1182 | 0.2396 | 0.3929 | 0.7621 |
| 20          | 0.0096 | 0.0511 | 0.1009 | 0.2064 | 0.3378 | 0.6602 |
| 30          | 0.0759 | 0.0425 | 0.0873 | 0.1798 | 0.2939 | 0.5768 |
| 40          | 0.0061 | 0.0360 | 0.0763 | 0.1582 | 0.2579 | 0.5072 |
| 50          | 0.0050 | 0.0308 | 0.0670 | 0.1399 | 0.2279 | 0.4479 |
| 60          | –      | 0.0267 | 0.0592 | 0.1245 | 0.2020 | 0.3968 |
| 70          | –      | 0.0231 | 0.0523 | 0.1111 | 0.1796 | 0.3517 |
| 80          | –      | 0.0202 | 0.0464 | 0.0991 | 0.1598 | 0.3116 |
| 90          | –      | –      | 0.0411 | 0.0887 | 0.1424 | 0.2756 |
| 100         | –      | –      | 0.0363 | 0.0791 | 0.1266 | 0.2432 |

## Two end plates and through piston rod

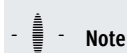
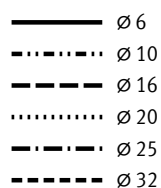
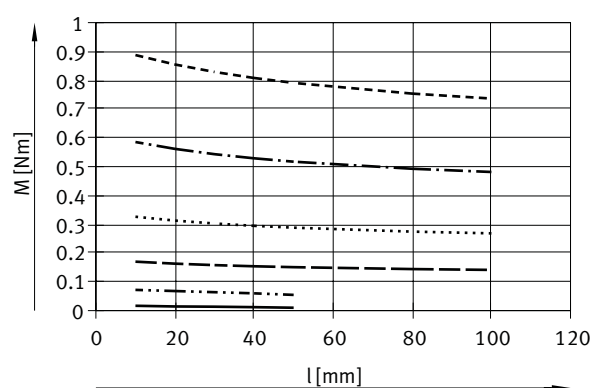
| Stroke [mm] | 6      | 10     | 16     | 20     | 25     | 32     |
|-------------|--------|--------|--------|--------|--------|--------|
| 10          | 0.0168 | 0.0720 | 0.1700 | 0.3260 | 0.5854 | 0.8874 |
| 20          | 0.0144 | 0.0680 | 0.1631 | 0.3126 | 0.5616 | 0.8546 |
| 30          | 0.0136 | 0.0640 | 0.1580 | 0.3025 | 0.5432 | 0.8287 |
| 40          | 0.0120 | 0.0600 | 0.1540 | 0.2944 | 0.5289 | 0.8078 |
| 50          | 0.0100 | 0.0546 | 0.1509 | 0.2880 | 0.5171 | 0.7907 |
| 80          | –      | –      | 0.1443 | 0.2743 | 0.4926 | 0.7535 |
| 100         | –      | –      | 0.1414 | 0.2683 | 0.4814 | 0.7364 |

Permissible torque load  $M$  [Nm] as a function of stroke  $l$  [mm]

## One end plate



## Two end plates and through piston rod



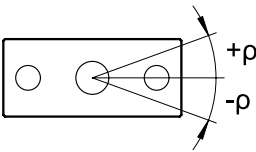
## Note

Design tool → [www.festo.com/engineeringtools](http://www.festo.com/engineeringtools)

Datasheet

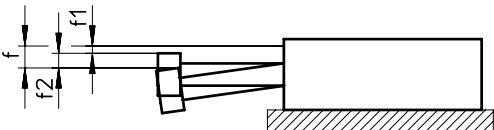
Torsional backlash  $\rho$

Plain-bearing guide GF in retracted state, without load



|                        |           |    |    |    |    |    |
|------------------------|-----------|----|----|----|----|----|
| Piston $\varnothing$   | 6         | 10 | 16 | 20 | 25 | 32 |
| Torsional backlash [°] | $\pm 0.1$ |    |    |    |    |    |

Deflection of the end plate

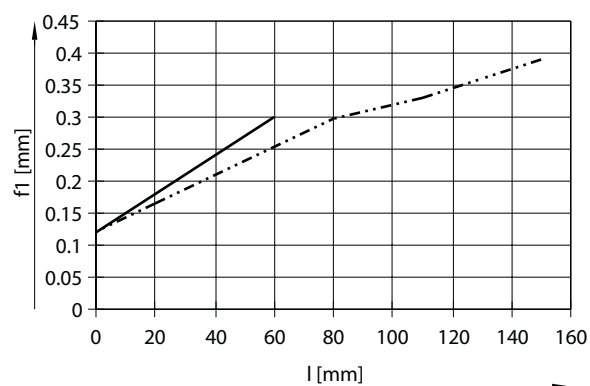


- $f = f_1 + f_2$
- $f$  = total deflection of the end plate
- $f_1$  = deflection due to average bearing clearance (GF)  
bearing clearance GF with production tolerance  $\pm 0.01$  mm
- $f_2$  = deflection due to transverse force

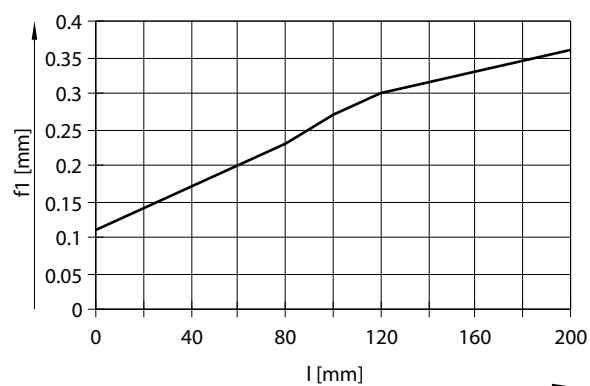
## Datasheet

Deflection  $f_1$  due to bearing clearance as a function of stroke  $l$  (with no load)

One end plate

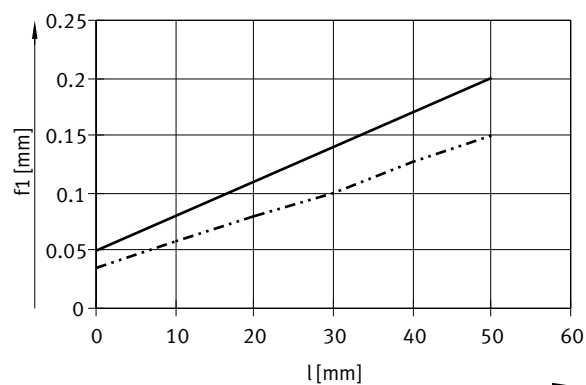


—  $\varnothing 6$   
 - - -  $\varnothing 10$

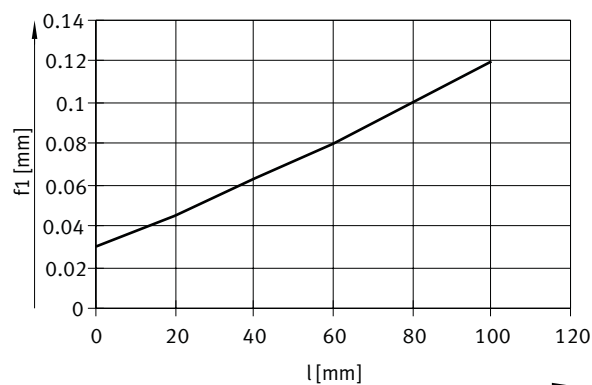


—  $\varnothing 16 \dots 32$

## Two end plates and through piston rod



—  $\varnothing 6$   
 - - -  $\varnothing 10$



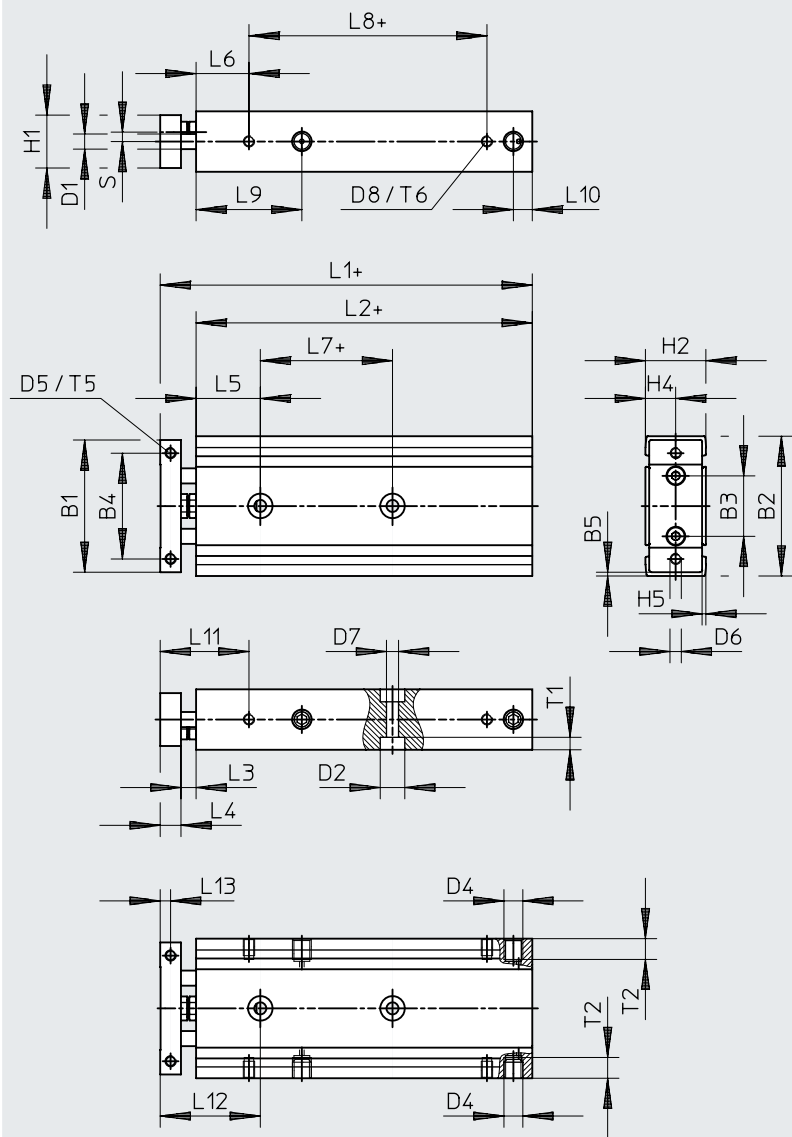
—  $\varnothing 16 \dots 32$

Datasheet

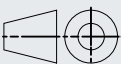
Dimensions – One end plate

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

Ø 6



+ = plus stroke length



## Datasheet

| Ø    | Stroke    | B1 | B2 | B3 | B4 | B5 | D1<br>Ø | D2<br>Ø | D4 | D5 | D6 | D7<br>Ø |
|------|-----------|----|----|----|----|----|---------|---------|----|----|----|---------|
| [mm] | [mm]      |    |    |    |    |    |         |         |    |    |    |         |
| 6    | 10 ... 60 | 35 | 37 | 16 | 28 | 1  | 4       | 6.5     | M5 | M3 | M3 | 3.2     |

| Ø    | Stroke    | D8 | H1 | H2 | H4 | H5 | L1                 | L2               | L3 | L4  | L5 | L6 |
|------|-----------|----|----|----|----|----|--------------------|------------------|----|-----|----|----|
| [mm] | [mm]      |    |    |    |    |    |                    |                  |    |     |    |    |
| 6    | 10 ... 50 | M3 | 14 | 16 | 8  | 1  | 48.5 <sup>1)</sup> | 39 <sup>1)</sup> | 4  | 5.5 | 17 | 14 |
|      | 51 ... 60 |    |    |    |    |    | 108.5              | 99               |    |     |    |    |

1) plus stroke length

| Ø    | Stroke    | L9 | L10 | L11  | L12  | L13 | S   | T1  | T2  | T5 | T6  |
|------|-----------|----|-----|------|------|-----|-----|-----|-----|----|-----|
| [mm] | [mm]      |    |     |      |      |     |     |     |     |    |     |
| 6    | 10 ... 60 | 28 | 5   | 23.5 | 26.5 | 2.8 | 2.5 | 3.3 | 5.5 | 6  | 4.5 |

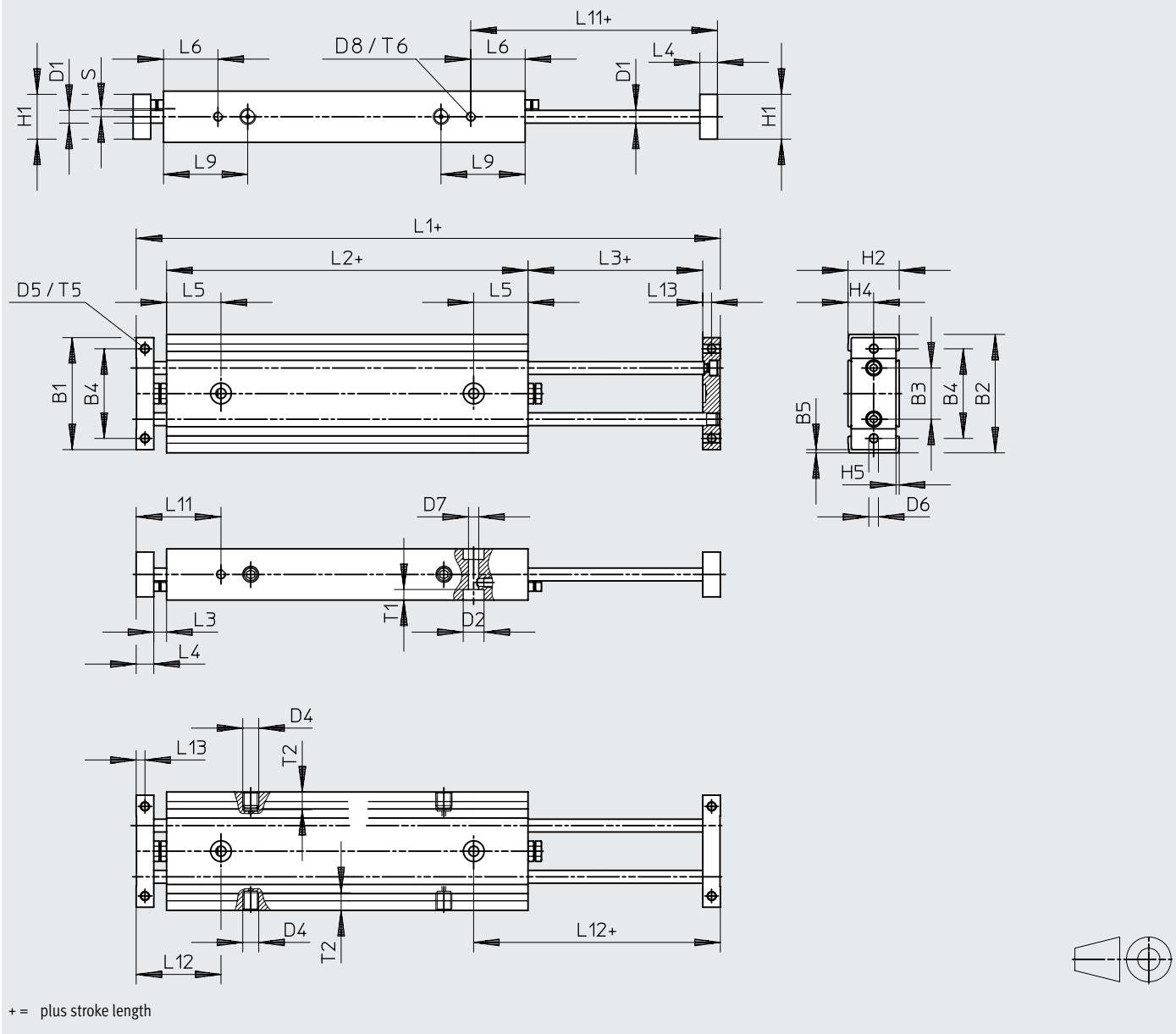
|            |    |  |  |  |  |  |    |  |  |  |  |
|------------|----|--|--|--|--|--|----|--|--|--|--|
| Piston Ø 6 |    |  |  |  |  |  |    |  |  |  |  |
| Stroke     |    |  |  |  |  |  |    |  |  |  |  |
| [mm]       | L7 |  |  |  |  |  | L8 |  |  |  |  |
| 10         | 15 |  |  |  |  |  | 23 |  |  |  |  |
| 20         | 20 |  |  |  |  |  | 33 |  |  |  |  |
| 30         | 25 |  |  |  |  |  | 43 |  |  |  |  |
| 40         | 30 |  |  |  |  |  | 53 |  |  |  |  |
| 50         | 35 |  |  |  |  |  | 63 |  |  |  |  |
| 51 ... 60  | 35 |  |  |  |  |  | 63 |  |  |  |  |

Datasheet

Dimensions – Two end plates and through piston rod

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Ø 6



## Datasheet

| ∅    | Stroke    | B1 | B2 | B3 | B4 | B5 | D1<br>∅ | D2<br>∅ | D4 | D5 | D6 | D7<br>∅ | D8 | H1 | H2 | H4 | H5 |
|------|-----------|----|----|----|----|----|---------|---------|----|----|----|---------|----|----|----|----|----|
| [mm] | [mm]      |    |    |    |    |    |         |         |    |    |    |         |    |    |    |    |    |
| 6    | 10 ... 60 | 35 | 37 | 16 | 28 | 1  | 4       | 6.5     | M5 | M3 | M3 | 3.2     | M3 | 14 | 16 | 8  | 1  |

| ∅    | Stroke    | L1                | L2  | L3 | L4  | L5 | L6 | L9 | L11  | L12  | L13  | S   | T1  | T2  | T5 | T6  |
|------|-----------|-------------------|-----|----|-----|----|----|----|------|------|------|-----|-----|-----|----|-----|
| [mm] | [mm]      |                   |     |    |     |    |    |    |      |      |      |     |     |     |    |     |
| 6    | 10        | 103               | 73  | 4  | 5.5 | 17 | 17 | 27 | 26.5 | 26.5 | 2.75 | 2.5 | 3.3 | 5.5 | 6  | 4.5 |
|      | 20        | 123               | 83  |    |     |    |    |    |      |      |      |     |     |     |    |     |
|      | 30        | 143               | 93  |    |     |    |    |    |      |      |      |     |     |     |    |     |
|      | 40        | 163               | 103 |    |     |    |    |    |      |      |      |     |     |     |    |     |
|      | 50        | 183               | 113 |    |     |    |    |    |      |      |      |     |     |     |    |     |
|      | 51 ... 60 | 143 <sup>1)</sup> | 123 |    |     |    |    |    |      |      |      |     |     |     |    |     |

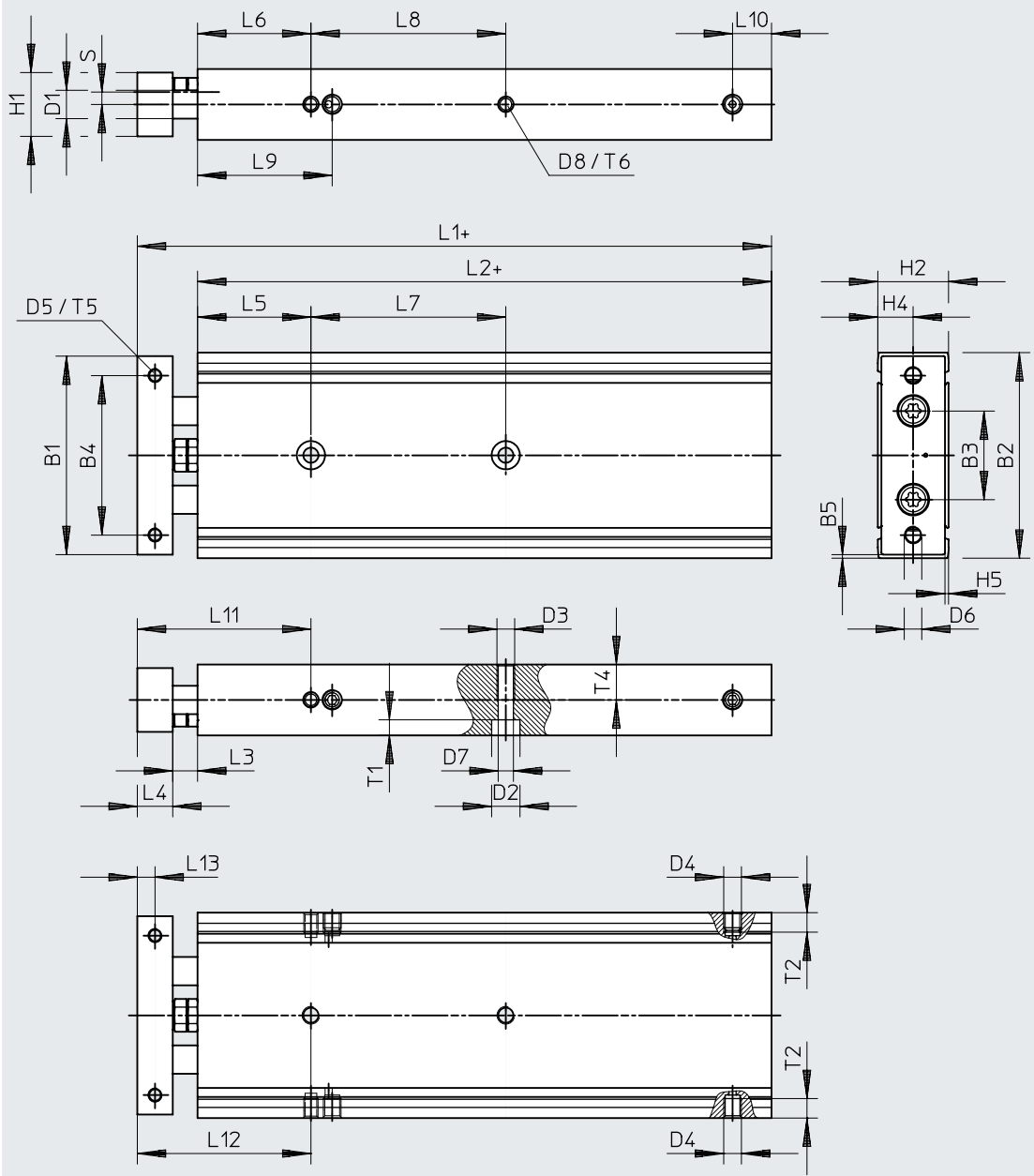
1) plus stroke length

Datasheet

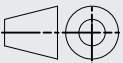
Dimensions – One end plate

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Ø 10 ... 16



+ = plus stroke length





## Datasheet

| Ø    | Stroke     | B1 | B2 | B3 | B4 | B5 | D1<br>Ø | D2<br>Ø | D3 | D4 | D5 | D6 | D7<br>Ø |
|------|------------|----|----|----|----|----|---------|---------|----|----|----|----|---------|
| [mm] | [mm]       |    |    |    |    |    |         |         |    |    |    |    |         |
| 10   | 10 ... 150 | 44 | 46 | 20 | 35 | 1  | 6       | 6.5     | M4 | M5 | M3 | M4 | 3.4     |
| 16   | 10 ... 200 | 56 | 58 | 25 | 45 | 1  | 8       | 8       | M5 | M5 | M4 | M5 | 4.3     |

| Ø    | Stroke      | D8 | H1 | H2 | H4  | H5 | L1               | L2               | L3 | L4 | L5 | L6 | L9 |
|------|-------------|----|----|----|-----|----|------------------|------------------|----|----|----|----|----|
| [mm] | [mm]        |    |    |    |     |    |                  |                  |    |    |    |    |    |
| 10   | 10 ... 80   | M3 | 15 | 17 | 8.5 | 1  | 60 <sup>1)</sup> | 46 <sup>1)</sup> | 6  | 8  | 23 | 23 | 34 |
|      | 81 ... 100  |    |    |    |     |    | 164              | 150              |    |    |    |    |    |
|      | 101 ... 125 |    |    |    |     |    | 189              | 175              |    |    |    |    |    |
|      | 126 ... 150 |    |    |    |     |    | 214              | 200              |    |    |    |    |    |
| 16   | 10 ... 100  | M4 | 18 | 20 | 10  | 1  | 79 <sup>1)</sup> | 62 <sup>1)</sup> | 7  | 10 | 32 | 32 | 38 |
|      | 101 ... 125 |    |    |    |     |    | 204              | 187              |    |    |    |    |    |
|      | 126 ... 150 |    |    |    |     |    | 229              | 212              |    |    |    |    |    |
|      | 151 ... 175 |    |    |    |     |    | 254              | 237              |    |    |    |    |    |
|      | 176 ... 200 |    |    |    |     |    | 279              | 262              |    |    |    |    |    |

1) plus stroke length

| Ø    | Stroke     | L10 | L11 | L12 | L13 | S   | T1  | T2  | T4 | T5 | T6  |
|------|------------|-----|-----|-----|-----|-----|-----|-----|----|----|-----|
| [mm] | [mm]       |     |     |     |     |     |     |     |    |    |     |
| 10   | 10 ... 80  | 5   | 37  | 37  | 4   | 2.5 | 3.3 | 5.5 | 7  | 6  | 4.5 |
|      | 81 ... 150 | 9   |     |     |     |     |     |     |    |    |     |
| 16   | 10 ... 200 | 11  | 49  | 49  | 5   | 3.5 | 4.4 | 5.5 | 9  | 7  | 5.5 |

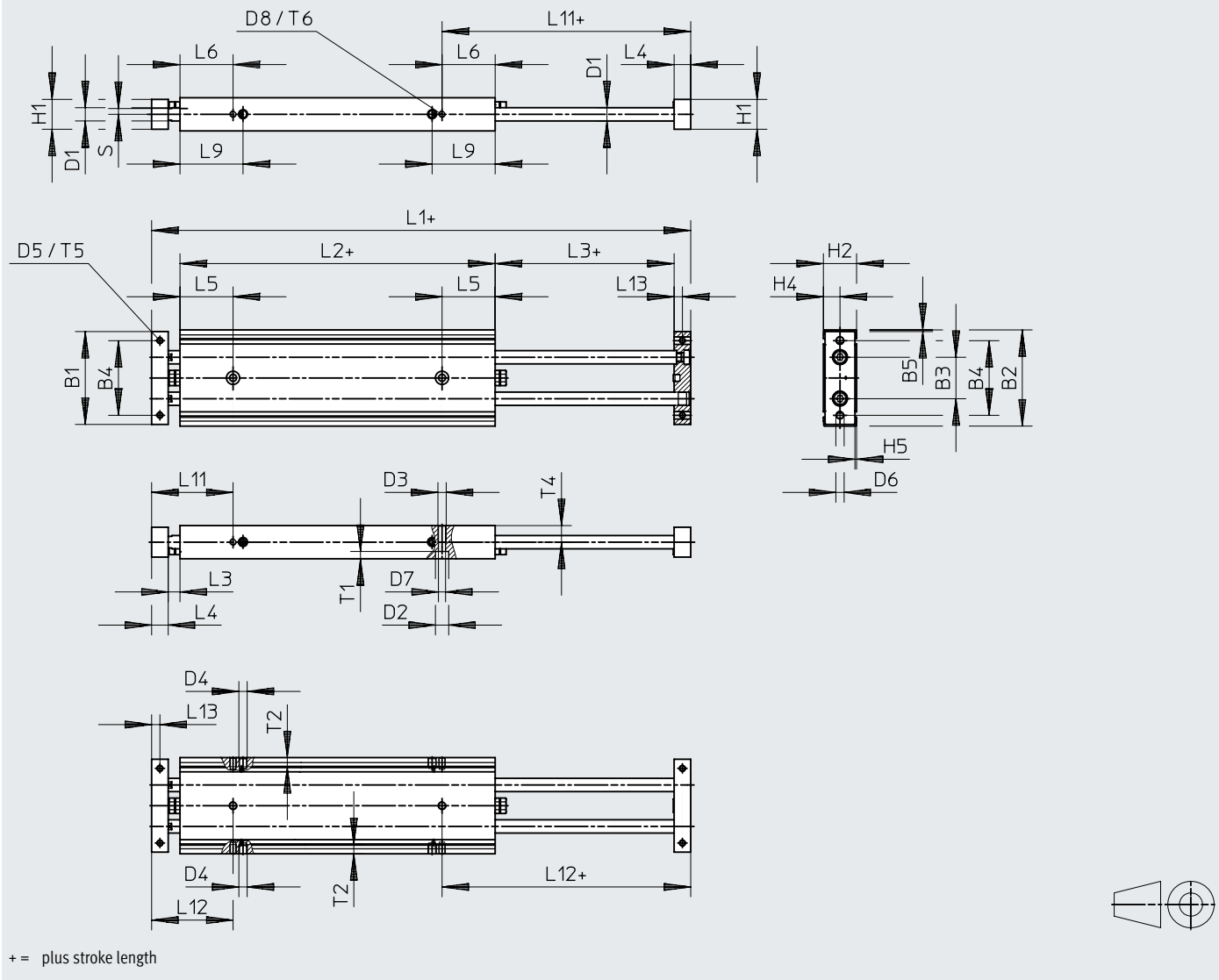
| Piston Ø 10 |    |    | Piston Ø 16 |    |    |
|-------------|----|----|-------------|----|----|
| Stroke      |    |    | Stroke      |    |    |
| [mm]        | L7 | L8 | [mm]        | L7 | L8 |
| 10          | 20 |    | 10          | 20 |    |
| 20          | 30 |    | 20          | 25 |    |
| 30          | 40 |    | 30          | 35 |    |
| 40          | 40 |    | 40          | 35 |    |
| 50          | 40 |    | 50          | 35 |    |
| 60          | 50 |    | 60          | 45 |    |
| 70          | 50 |    | 70          | 45 |    |
| 80          | 50 |    | 80          | 45 |    |
| 81 ... 100  | 60 |    | 90          | 55 |    |
| 101 ... 125 | 70 |    | 100         | 55 |    |
| 126 ... 150 | 80 |    | 101 ... 125 | 65 |    |
|             |    |    | 126 ... 150 | 75 |    |
|             |    |    | 151 ... 175 | 85 |    |
|             |    |    | 176 ... 200 | 85 |    |

Datasheet

Dimensions – Two end plates and through piston rod

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Ø 10 ... 16



## Datasheet

| ∅    | Stroke     | B1 | B2 | B3 | B4 | B5 | D1<br>∅ | D2<br>∅ | D3 | D4 | D5 | D6 | D7<br>∅ | D8 | H1 | H2 | H4  | H5 |
|------|------------|----|----|----|----|----|---------|---------|----|----|----|----|---------|----|----|----|-----|----|
| [mm] | [mm]       |    |    |    |    |    |         |         |    |    |    |    |         |    |    |    |     |    |
| 10   | 10 ... 150 | 44 | 46 | 20 | 35 | 1  | 6       | 6.5     | M4 | M5 | M3 | M4 | 3.4     | M3 | 15 | 17 | 8.5 | 1  |
| 16   | 10 ... 200 | 56 | 58 | 25 | 45 | 1  | 8       | 8       | M5 | M5 | M4 | M5 | 4.3     | M4 | 18 | 20 | 10  | 1  |

| ∅    | Stroke      | L1                | L2  | L3 | L4 | L5 | L6 | L9 | L11 | L12 | L13 | S   | T1  | T2  | T4 | T5 | T6  |
|------|-------------|-------------------|-----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|----|----|-----|
| [mm] | [mm]        |                   |     |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
| 10   | 10          | 125               | 86  | 6  | 8  | 23 | 23 | 34 | 37  | 37  | 4   | 2.5 | 3.3 | 5.5 | 7  | 6  | 4.5 |
|      | 20          | 145               | 96  |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 30          | 165               | 106 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 40          | 185               | 116 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 50          | 205               | 126 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 51 ... 75   | 180 <sup>1)</sup> | 151 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 76 ... 100  | 205 <sup>1)</sup> | 176 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 101 ... 125 | 230 <sup>1)</sup> | 201 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
| 16   | 126 ... 150 | 255 <sup>1)</sup> | 226 | 7  | 10 | 32 | 32 | 38 | 49  | 49  | 5   | 3.5 | 4.4 | 5.5 | 9  | 7  | 5.5 |
|      | 10          | 145               | 100 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 20          | 165               | 110 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 30          | 185               | 120 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 40          | 205               | 130 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 50          | 225               | 140 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 80          | 285               | 170 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 100         | 325               | 190 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 101 ... 125 | 250 <sup>1)</sup> | 215 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 126 ... 150 | 275 <sup>1)</sup> | 240 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 151 ... 175 | 300 <sup>1)</sup> | 265 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |
|      | 176 ... 200 | 325 <sup>1)</sup> | 290 |    |    |    |    |    |     |     |     |     |     |     |    |    |     |

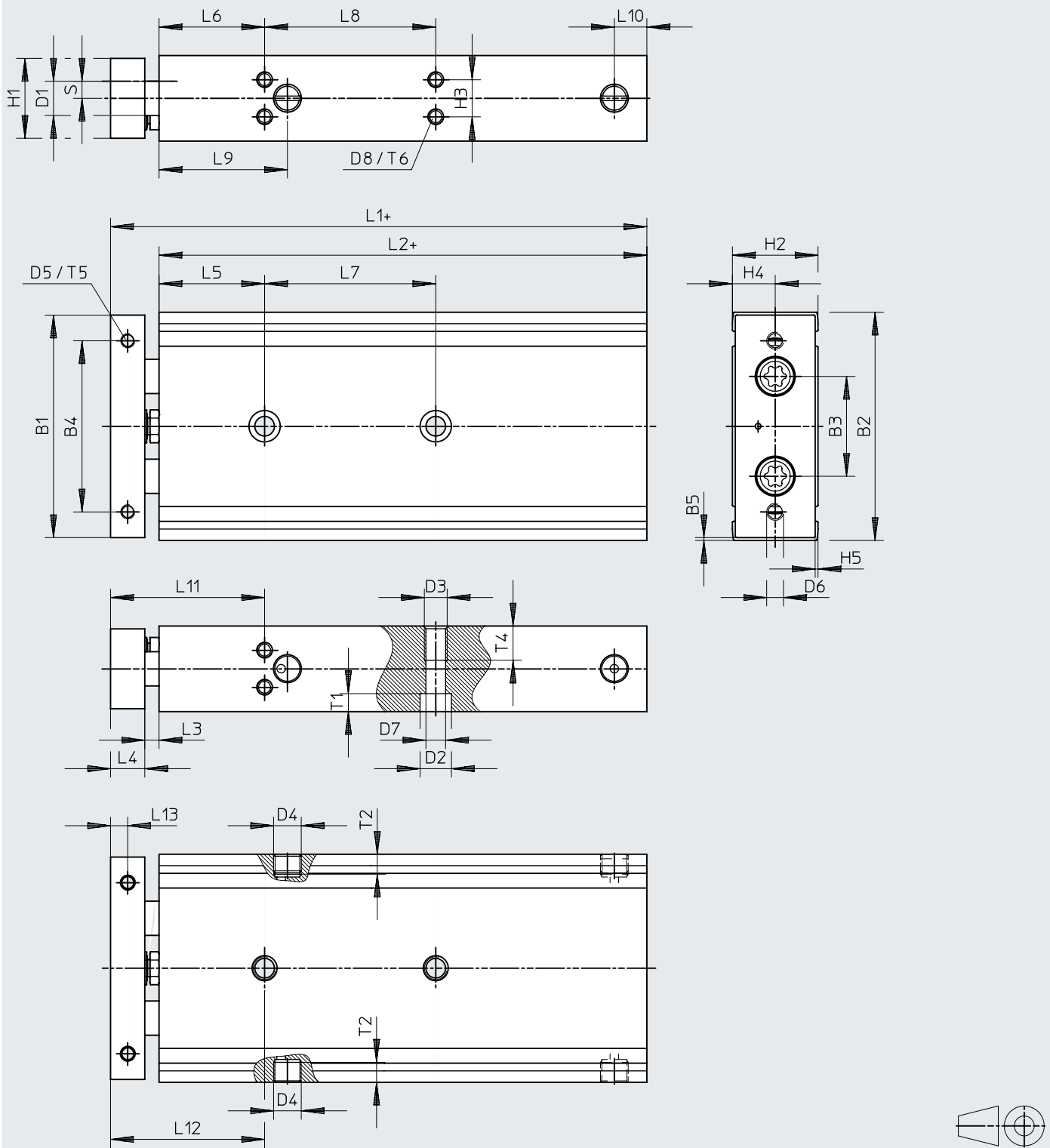
1) plus stroke length

Datasheet

Dimensions – One end plate

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Ø 20 ... 32



+ = plus stroke length

| Ø    | Stroke     | B1 | B2 | B3 | B4 | B5 | D1<br>Ø | D2<br>Ø | D3 | D4   | D5 | D6 | D7<br>Ø |
|------|------------|----|----|----|----|----|---------|---------|----|------|----|----|---------|
| [mm] | [mm]       |    |    |    |    |    |         |         |    |      |    |    |         |
| 20   | 10 ... 200 | 62 | 64 | 29 | 50 | 1  | 10      | 9.5     | M6 | M5   | M4 | M5 | 5.5     |
| 25   |            | 78 | 80 | 35 | 60 | 1  | 12      | 11      | M8 | G1/8 | M5 | M6 | 6.9     |
| 32   |            | 94 | 96 | 45 | 75 | 1  | 16      | 11      | M8 | G1/8 | M5 | M6 | 6.9     |

## Datasheet

| Ø    | Stroke      | D8 | H1 | H2 | H3  | H4   | H5 | L1                 | L2                 | L3 | L4 | L5 | L6 |
|------|-------------|----|----|----|-----|------|----|--------------------|--------------------|----|----|----|----|
| [mm] | [mm]        |    |    |    |     |      |    |                    |                    |    |    |    |    |
| 20   | 10 ... 100  | M4 | 23 | 25 | 9.5 | 12.5 | 1  | 86.5 <sup>1)</sup> | 69.5 <sup>1)</sup> | 5  | 12 | 37 | 37 |
|      | 101 ... 125 |    |    |    |     |      |    | 211.5              | 194.5              |    |    |    |    |
|      | 126 ... 150 |    |    |    |     |      |    | 236.5              | 219.5              |    |    |    |    |
|      | 151 ... 175 |    |    |    |     |      |    | 261.5              | 244.5              |    |    |    |    |
|      | 176 ... 200 |    |    |    |     |      |    | 286.5              | 269.5              |    |    |    |    |
| 25   | 10 ... 100  | M5 | 28 | 30 | 13  | 15   | 1  | 88 <sup>1)</sup>   | 71 <sup>1)</sup>   | 5  | 12 | 37 | 37 |
|      | 101 ... 125 |    |    |    |     |      |    | 213                | 196                |    |    |    |    |
|      | 126 ... 150 |    |    |    |     |      |    | 238                | 221                |    |    |    |    |
|      | 151 ... 175 |    |    |    |     |      |    | 263                | 246                |    |    |    |    |
|      | 176 ... 200 |    |    |    |     |      |    | 288                | 271                |    |    |    |    |
| 32   | 10 ... 100  | M5 | 36 | 38 | 20  | 19   | 1  | 97 <sup>1)</sup>   | 76 <sup>1)</sup>   | 5  | 16 | 39 | 39 |
|      | 101 ... 125 |    |    |    |     |      |    | 222                | 201                |    |    |    |    |
|      | 126 ... 150 |    |    |    |     |      |    | 247                | 226                |    |    |    |    |
|      | 151 ... 175 |    |    |    |     |      |    | 272                | 251                |    |    |    |    |
|      | 176 ... 200 |    |    |    |     |      |    | 297                | 276                |    |    |    |    |

1) plus stroke length

| Ø    | Stroke     | L9   | L10  | L11 | L12 | L13 | S | T1  | T2  | T4 | T5 | T6  |
|------|------------|------|------|-----|-----|-----|---|-----|-----|----|----|-----|
| [mm] | [mm]       |      |      |     |     |     |   |     |     |    |    |     |
| 20   | 10 ... 200 | 42.5 | 12   | 54  | 54  | 6   | 6 | 5.3 | 5.5 | 10 | 8  | 5.5 |
| 25   |            | 45   | 11.4 | 54  | 54  | 6   | 6 | 6.3 | 7   | 12 | 9  | 7.5 |
| 32   |            | 49.5 | 11.6 | 60  | 60  | 8   | 8 | 6.3 | 7   | 12 | 10 | 7.5 |

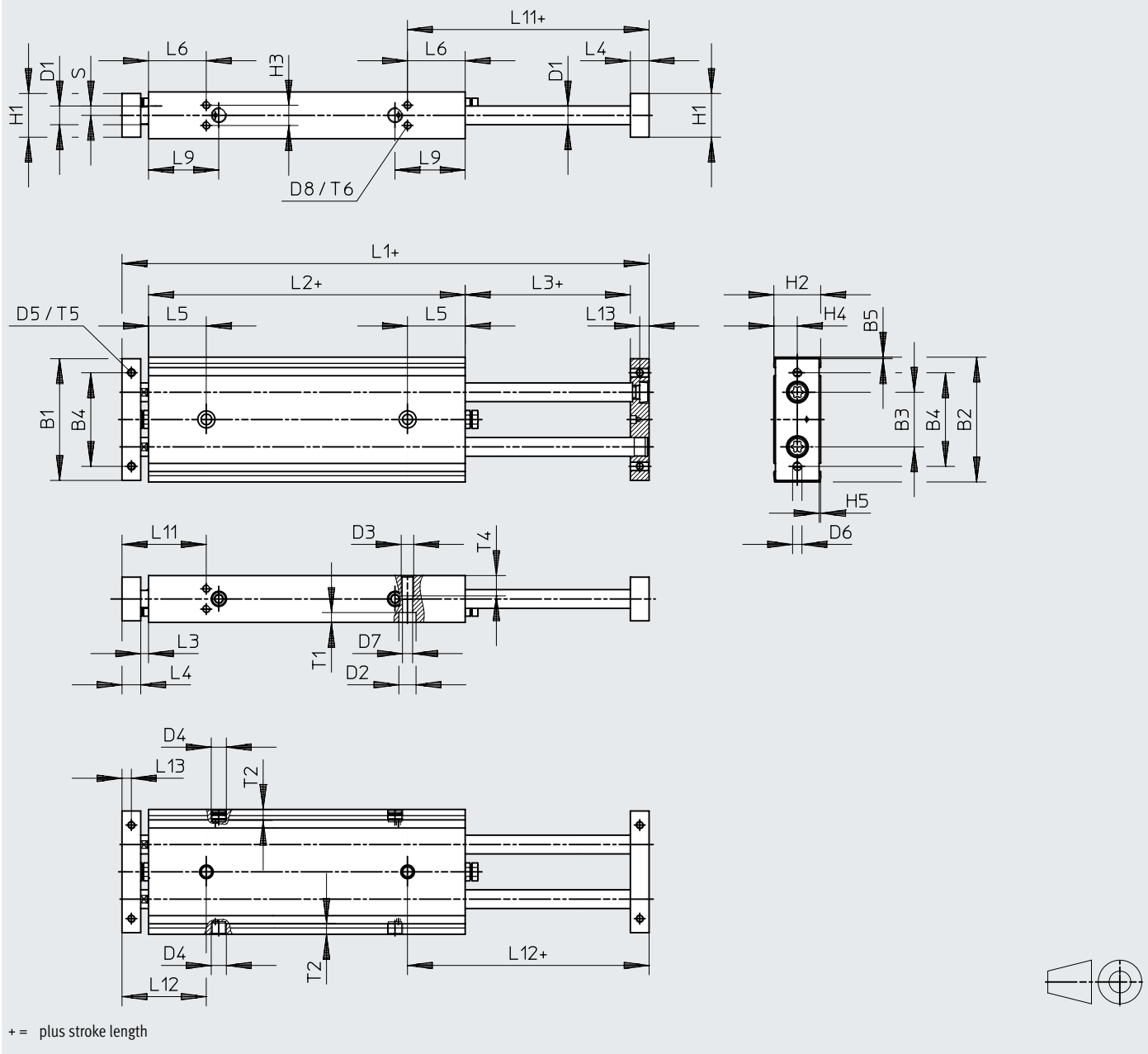
| Piston Ø 20, 25 |     |    | Piston Ø 32 |     |    |
|-----------------|-----|----|-------------|-----|----|
| Stroke          |     |    | Stroke      |     |    |
| [mm]            | L7  | L8 | [mm]        | L7  | L8 |
| 10              | 25  |    | 10          | 30  |    |
| 20              | 30  |    | 20          | 40  |    |
| 30              | 40  |    | 30          | 50  |    |
| 40              | 40  |    | 40          | 50  |    |
| 50              | 40  |    | 50          | 50  |    |
| 60              | 60  |    | 60          | 70  |    |
| 70              | 60  |    | 70          | 70  |    |
| 80              | 60  |    | 80          | 70  |    |
| 90              | 60  |    | 90          | 70  |    |
| 100             | 60  |    | 100         | 70  |    |
| 101 ... 125     | 80  |    | 101 ... 125 | 90  |    |
| 126 ... 150     | 80  |    | 126 ... 150 | 90  |    |
| 151 ... 175     | 100 |    | 151 ... 175 | 110 |    |
| 176 ... 200     | 100 |    | 176 ... 200 | 110 |    |

Datasheet

Dimensions – Two end plates and through piston rod

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∅ 20 ... 32



| ∅    | Stroke     | B1 | B2 | B3 | B4 | B5 | D1<br>∅ | D2<br>∅ | D3 | D4   | D5 | D6 |
|------|------------|----|----|----|----|----|---------|---------|----|------|----|----|
| [mm] | [mm]       |    |    |    |    |    |         |         |    |      |    |    |
| 20   | 10 ... 200 | 62 | 64 | 29 | 50 | 1  | 10      | 9.5     | M6 | M5   | M4 | M5 |
| 25   |            | 78 | 80 | 35 | 60 | 1  | 12      | 11      | M8 | G1/8 | M5 | M6 |
| 32   |            | 94 | 96 | 45 | 75 | 1  | 16      | 11      | M8 | G1/8 | M5 | M6 |

## Datasheet

| ∅<br>[mm] | Stroke<br>[mm] | D7<br>∅ | D8 | H1 | H2 | H3  | H4   | H5 | L1                | L2  | L3 | L4 |
|-----------|----------------|---------|----|----|----|-----|------|----|-------------------|-----|----|----|
| 20        | 10             | 5.5     | M4 | 23 | 25 | 9.5 | 12.5 | 1  | 156               | 111 | 5  | 12 |
|           | 20             |         |    |    |    |     |      |    | 176               | 121 |    |    |
|           | 30             |         |    |    |    |     |      |    | 196               | 131 |    |    |
|           | 40             |         |    |    |    |     |      |    | 216               | 141 |    |    |
|           | 50             |         |    |    |    |     |      |    | 236               | 151 |    |    |
|           | 80             |         |    |    |    |     |      |    | 296               | 181 |    |    |
|           | 100            |         |    |    |    |     |      |    | 336               | 201 |    |    |
|           | 101 ... 125    |         |    |    |    |     |      |    | 261 <sup>1)</sup> | 226 |    |    |
|           | 126 ... 150    |         |    |    |    |     |      |    | 286 <sup>1)</sup> | 251 |    |    |
|           | 151 ... 175    |         |    |    |    |     |      |    | 311 <sup>1)</sup> | 276 |    |    |
|           | 176 ... 200    |         |    |    |    |     |      |    | 336 <sup>1)</sup> | 301 |    |    |
| 25        | 10             | 6.9     | M5 | 28 | 30 | 13  | 15   | 1  | 158               | 113 | 5  | 12 |
|           | 20             |         |    |    |    |     |      |    | 178               | 123 |    |    |
|           | 30             |         |    |    |    |     |      |    | 198               | 133 |    |    |
|           | 40             |         |    |    |    |     |      |    | 218               | 143 |    |    |
|           | 50             |         |    |    |    |     |      |    | 238               | 153 |    |    |
|           | 80             |         |    |    |    |     |      |    | 298               | 183 |    |    |
|           | 100            |         |    |    |    |     |      |    | 338               | 203 |    |    |
|           | 101 ... 125    |         |    |    |    |     |      |    | 263 <sup>1)</sup> | 228 |    |    |
|           | 126 ... 150    |         |    |    |    |     |      |    | 288 <sup>1)</sup> | 253 |    |    |
|           | 151 ... 175    |         |    |    |    |     |      |    | 313 <sup>1)</sup> | 278 |    |    |
|           | 176 ... 200    |         |    |    |    |     |      |    | 338 <sup>1)</sup> | 303 |    |    |
| 32        | 10             | 6.9     | M5 | 36 | 38 | 20  | 19   | 1  | 180               | 127 | 5  | 16 |
|           | 20             |         |    |    |    |     |      |    | 200               | 137 |    |    |
|           | 30             |         |    |    |    |     |      |    | 220               | 147 |    |    |
|           | 40             |         |    |    |    |     |      |    | 240               | 157 |    |    |
|           | 50             |         |    |    |    |     |      |    | 260               | 167 |    |    |
|           | 80             |         |    |    |    |     |      |    | 320               | 197 |    |    |
|           | 100            |         |    |    |    |     |      |    | 360               | 217 |    |    |
|           | 101 ... 125    |         |    |    |    |     |      |    | 285 <sup>1)</sup> | 242 |    |    |
|           | 126 ... 150    |         |    |    |    |     |      |    | 310 <sup>1)</sup> | 267 |    |    |
|           | 151 ... 175    |         |    |    |    |     |      |    | 335 <sup>1)</sup> | 292 |    |    |
|           | 176 ... 200    |         |    |    |    |     |      |    | 360 <sup>1)</sup> | 317 |    |    |

1) plus stroke length

| ∅<br>[mm] | Stroke<br>[mm] | L5 | L6 | L9   | L11 | L12 | L13 | S | T1  | T2  | T4 | T5 | T6  |
|-----------|----------------|----|----|------|-----|-----|-----|---|-----|-----|----|----|-----|
| 20        | 10 ... 200     | 37 | 37 | 42.5 | 54  | 54  | 6   | 6 | 5.3 | 5.5 | 10 | 8  | 5.5 |
| 25        |                | 37 | 37 | 45   | 54  | 54  | 6   | 6 | 6.3 | 7   | 12 | 9  | 7.5 |
| 32        |                | 39 | 39 | 49.5 | 60  | 60  | 8   | 8 | 6.3 | 7   | 12 | 10 | 7.5 |

## Datasheet

| Ordering data – One end plate |         |                    | Part no. | Type               |
|-------------------------------|---------|--------------------|----------|--------------------|
| Stroke [mm]                   | Ø 6 mm  |                    | -        |                    |
| 10                            | 8100542 | DGTZ-GF-6-10-P-A   |          |                    |
| 20                            | 8100543 | DGTZ-GF-6-20-P-A   |          |                    |
| 30                            | 8100544 | DGTZ-GF-6-30-P-A   |          |                    |
| 40                            | 8100545 | DGTZ-GF-6-40-P-A   |          |                    |
| 50                            | 8100546 | DGTZ-GF-6-50-P-A   |          |                    |
| 51 ... 60 <sup>1)</sup>       | 8116420 | DGTZ-GF-6-...-P-A  |          |                    |
|                               |         |                    |          |                    |
| Stroke [mm]                   | Ø 10 mm |                    |          |                    |
| 10                            | 8100554 | DGTZ-GF-10-10-P-A  |          |                    |
| 20                            | 8100555 | DGTZ-GF-10-20-P-A  |          |                    |
| 30                            | 8100556 | DGTZ-GF-10-30-P-A  |          |                    |
| 40                            | 8100557 | DGTZ-GF-10-40-P-A  |          |                    |
| 50                            | 8100558 | DGTZ-GF-10-50-P-A  |          |                    |
| 60                            | 8100559 | DGTZ-GF-10-60-P-A  |          |                    |
| 70                            | 8100560 | DGTZ-GF-10-70-P-A  |          |                    |
| 80                            | 8100561 | DGTZ-GF-10-80-P-A  |          |                    |
| 81 ... 150 <sup>1)</sup>      | 8116418 | DGTZ-GF-10-...-P-A |          |                    |
|                               |         |                    |          |                    |
| Stroke [mm]                   | Ø 16 mm |                    | Ø 20 mm  |                    |
| 10                            | 8100570 | DGTZ-GF-16-10-P-A  | 8100607  | DGTZ-GF-20-10-P-A  |
| 20                            | 8100571 | DGTZ-GF-16-20-P-A  | 8100608  | DGTZ-GF-20-20-P-A  |
| 30                            | 8100572 | DGTZ-GF-16-30-P-A  | 8100609  | DGTZ-GF-20-30-P-A  |
| 40                            | 8100573 | DGTZ-GF-16-40-P-A  | 8100610  | DGTZ-GF-20-40-P-A  |
| 50                            | 8100574 | DGTZ-GF-16-50-P-A  | 8100611  | DGTZ-GF-20-50-P-A  |
| 60                            | 8100575 | DGTZ-GF-16-60-P-A  | 8100612  | DGTZ-GF-20-60-P-A  |
| 70                            | 8100576 | DGTZ-GF-16-70-P-A  | 8100613  | DGTZ-GF-20-70-P-A  |
| 80                            | 8100577 | DGTZ-GF-16-80-P-A  | 8100614  | DGTZ-GF-20-80-P-A  |
| 90                            | 8100578 | DGTZ-GF-16-90-P-A  | 8100615  | DGTZ-GF-20-90-P-A  |
| 100                           | 8100579 | DGTZ-GF-16-100-P-A | 8100616  | DGTZ-GF-20-100-P-A |
| 101 ... 200 <sup>1)</sup>     | 8116417 | DGTZ-GF-16-...-P-A | 8116415  | DGTZ-GF-20-...-P-A |
|                               |         |                    |          |                    |
| Stroke [mm]                   | Ø 25 mm |                    | Ø 32 mm  |                    |
| 10                            | 8100637 | DGTZ-GF-25-10-P-A  | 8100657  | DGTZ-GF-32-10-P-A  |
| 20                            | 8100638 | DGTZ-GF-25-20-P-A  | 8100658  | DGTZ-GF-32-20-P-A  |
| 30                            | 8100639 | DGTZ-GF-25-30-P-A  | 8100659  | DGTZ-GF-32-30-P-A  |
| 40                            | 8100640 | DGTZ-GF-25-40-P-A  | 8100660  | DGTZ-GF-32-40-P-A  |
| 50                            | 8100641 | DGTZ-GF-25-50-P-A  | 8100661  | DGTZ-GF-32-50-P-A  |
| 60                            | 8100642 | DGTZ-GF-25-60-P-A  | 8100662  | DGTZ-GF-32-60-P-A  |
| 70                            | 8100643 | DGTZ-GF-25-70-P-A  | 8100663  | DGTZ-GF-32-70-P-A  |
| 80                            | 8100644 | DGTZ-GF-25-80-P-A  | 8100664  | DGTZ-GF-32-80-P-A  |
| 90                            | 8100645 | DGTZ-GF-25-90-P-A  | 8100665  | DGTZ-GF-32-90-P-A  |
| 100                           | 8100646 | DGTZ-GF-25-100-P-A | 8100666  | DGTZ-GF-32-100-P-A |
| 101 ... 200 <sup>1)</sup>     | 8116422 | DGTZ-GF-25-...-P-A | 8116424  | DGTZ-GF-32-...-P-A |

1) Strokes freely selectable in 1 mm increments.



## Datasheet

| Ordering data – Two end plates and through piston rod |         |                        | Part no. | Type |
|-------------------------------------------------------|---------|------------------------|----------|------|
| Stroke [mm]                                           | Ø 6 mm  |                        |          |      |
| 10                                                    | 8103467 | DGTZ-GF-6-10-J-T-P-A   |          |      |
| 20                                                    | 8103468 | DGTZ-GF-6-20-J-T-P-A   |          |      |
| 30                                                    | 8103469 | DGTZ-GF-6-30-J-T-P-A   |          |      |
| 40                                                    | 8103470 | DGTZ-GF-6-40-J-T-P-A   |          |      |
| 50                                                    | 8103471 | DGTZ-GF-6-50-J-T-P-A   |          |      |
| 51 ... 60 <sup>1)</sup>                               | 8150885 | DGTZ-GF-6-...-J-T-P-A  |          |      |
| Stroke [mm]                                           | Ø 10 mm |                        |          |      |
| 10                                                    | 8103497 | DGTZ-GF-10-10-J-T-P-A  |          |      |
| 20                                                    | 8103498 | DGTZ-GF-10-20-J-T-P-A  |          |      |
| 30                                                    | 8103499 | DGTZ-GF-10-30-J-T-P-A  |          |      |
| 40                                                    | 8103500 | DGTZ-GF-10-40-J-T-P-A  |          |      |
| 50                                                    | 8103501 | DGTZ-GF-10-50-J-T-P-A  |          |      |
| 51 ... 150 <sup>1)</sup>                              | 8150886 | DGTZ-GF-10-...-J-T-P-A |          |      |
| Stroke [mm]                                           | Ø 16 mm |                        |          |      |
| 10                                                    | 8103427 | DGTZ-GF-16-10-J-T-P-A  |          |      |
| 20                                                    | 8103428 | DGTZ-GF-16-20-J-T-P-A  |          |      |
| 30                                                    | 8103429 | DGTZ-GF-16-30-J-T-P-A  |          |      |
| 40                                                    | 8103430 | DGTZ-GF-16-40-J-T-P-A  |          |      |
| 50                                                    | 8103431 | DGTZ-GF-16-50-J-T-P-A  |          |      |
| 80                                                    | 8103432 | DGTZ-GF-16-80-J-T-P-A  |          |      |
| 100                                                   | 8103433 | DGTZ-GF-16-100-J-T-P-A |          |      |
| 101 ... 200 <sup>1)</sup>                             | 8150887 | DGTZ-GF-16-...-J-T-P-A |          |      |
| Stroke [mm]                                           | Ø 20 mm |                        |          |      |
| 10                                                    | 8103487 | DGTZ-GF-20-10-J-T-P-A  |          |      |
| 20                                                    | 8103488 | DGTZ-GF-20-20-J-T-P-A  |          |      |
| 30                                                    | 8103489 | DGTZ-GF-20-30-J-T-P-A  |          |      |
| 40                                                    | 8103490 | DGTZ-GF-20-40-J-T-P-A  |          |      |
| 50                                                    | 8103491 | DGTZ-GF-20-50-J-T-P-A  |          |      |
| 80                                                    | 8103492 | DGTZ-GF-20-80-J-T-P-A  |          |      |
| 100                                                   | 8103493 | DGTZ-GF-20-100-J-T-P-A |          |      |
| 101 ... 200 <sup>1)</sup>                             | 8150888 | DGTZ-GF-20-...-J-T-P-A |          |      |
| Stroke [mm]                                           | Ø 25 mm |                        |          |      |
| 10                                                    | 8103457 | DGTZ-GF-25-10-J-T-P-A  |          |      |
| 20                                                    | 8103458 | DGTZ-GF-25-20-J-T-P-A  |          |      |
| 30                                                    | 8103459 | DGTZ-GF-25-30-J-T-P-A  |          |      |
| 40                                                    | 8103460 | DGTZ-GF-25-40-J-T-P-A  |          |      |
| 50                                                    | 8103461 | DGTZ-GF-25-50-J-T-P-A  |          |      |
| 80                                                    | 8103462 | DGTZ-GF-25-80-J-T-P-A  |          |      |
| 100                                                   | 8103463 | DGTZ-GF-25-100-J-T-P-A |          |      |
| 101 ... 200 <sup>1)</sup>                             | 8150889 | DGTZ-GF-25-...-J-T-P-A |          |      |
| Stroke [mm]                                           | Ø 32 mm |                        |          |      |
| 10                                                    | 8103513 | DGTZ-GF-32-10-J-T-P-A  |          |      |
| 20                                                    | 8103514 | DGTZ-GF-32-20-J-T-P-A  |          |      |
| 30                                                    | 8103515 | DGTZ-GF-32-30-J-T-P-A  |          |      |
| 40                                                    | 8103516 | DGTZ-GF-32-40-J-T-P-A  |          |      |
| 50                                                    | 8103517 | DGTZ-GF-32-50-J-T-P-A  |          |      |
| 80                                                    | 8103518 | DGTZ-GF-32-80-J-T-P-A  |          |      |
| 100                                                   | 8103519 | DGTZ-GF-32-100-J-T-P-A |          |      |
| 101 ... 200 <sup>1)</sup>                             | 8150890 | DGTZ-GF-32-...-J-T-P-A |          |      |

1) Strokes freely selectable in 1 mm increments.

## Accessories

## Proximity switches for piston diameter 6 ... 20

## Ordering data – Proximity switch for C-slot, magneto-resistive

Datasheets → Internet: sdbc

|                                                                                  | Type of mounting                | Switching output       | Electrical connection, outlet direction of connection | Cable length [m] | Part no.       | Type                           |
|----------------------------------------------------------------------------------|---------------------------------|------------------------|-------------------------------------------------------|------------------|----------------|--------------------------------|
| <b>N/O</b>                                                                       |                                 |                        |                                                       |                  |                |                                |
|  | Inserted in the slot from above | PNP                    | Cable, 3-core, lengthwise                             | 2                | <b>8139723</b> | <b>SDBC-MSB-1L-PU-K-2-LE</b>   |
|                                                                                  |                                 |                        | Plug M8x1, 3-pin, in-line                             | 0.3              | <b>8139726</b> | <b>SDBC-MSB-1L-PU-K-0.3-M8</b> |
|                                                                                  |                                 | NPN                    | Cable, 3-core, lengthwise                             | 2                | <b>8139724</b> | <b>SDBC-MSB-1L-NU-K-2-LE</b>   |
|                                                                                  |                                 |                        | Plug M8x1, 3-pin, in-line                             | 0.3              | <b>8139727</b> | <b>SDBC-MSB-1L-NU-K-0.3-M8</b> |
|                                                                                  |                                 | Non-contacting, 2-wire | Cable, 2-core, lengthwise                             | 2                | <b>8139725</b> | <b>SDBC-MSB-1L-ZU-K-2-LE</b>   |
|                                                                                  |                                 |                        |                                                       |                  |                |                                |

## Ordering data – Proximity switch for C-slot, magneto-resistive

Datasheets → Internet: smt

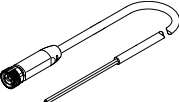
|                                                                                  | Type of mounting                | Switching output       | Electrical connection, outlet direction of connection | Cable length [m] | Part no.      | Type                              |
|----------------------------------------------------------------------------------|---------------------------------|------------------------|-------------------------------------------------------|------------------|---------------|-----------------------------------|
| <b>N/O</b>                                                                       |                                 |                        |                                                       |                  |               |                                   |
|  | Inserted in the slot from above | PNP                    | Cable, 3-core, lengthwise                             | 2.5              | <b>551373</b> | <b>SMT-10M-PS-24V-E-2.5-L-OE</b>  |
|                                                                                  |                                 |                        | Cable, 3-core, crosswise                              | 2.5              | <b>551374</b> | <b>SMT-10M-PS-24V-E-2.5-Q-OE</b>  |
|                                                                                  |                                 |                        | Plug M8x1, 3-pin, in-line                             | 0.3              | <b>551375</b> | <b>SMT-10M-PS-24V-E-0.3-L-M8D</b> |
|                                                                                  |                                 |                        | Plug M8x1, 3-pin, crosswise                           | 0.3              | <b>551376</b> | <b>SMT-10M-PS-24V-E-0.3-Q-M8D</b> |
|                                                                                  |                                 | NPN                    | Cable, 3-core, lengthwise                             | 2.5              | <b>551377</b> | <b>SMT-10M-NS-24V-E-2.5-L-OE</b>  |
|                                                                                  |                                 |                        | Cable, 3-core, crosswise                              | 2.5              | <b>551378</b> | <b>SMT-10M-NS-24V-E-2.5-Q-OE</b>  |
|                                                                                  |                                 |                        | Plug M8x1, 3-pin, in-line                             | 0.3              | <b>551379</b> | <b>SMT-10M-NS-24V-E-0.3-L-M8D</b> |
|                                                                                  |                                 |                        | Plug M8x1, 3-pin, crosswise                           | 0.3              | <b>551380</b> | <b>SMT-10M-NS-24V-E-0.3-Q-M8D</b> |
|                                                                                  |                                 | Non-contacting, 2-wire | Cable, 2-core, lengthwise                             | 2.5              | <b>551382</b> | <b>SMT-10M-ZS-24V-E-2.5-L-OE</b>  |
|                                                                                  |                                 |                        | Cable, 2-core, crosswise                              | 2.5              | <b>551383</b> | <b>SMT-10M-ZS-24V-E-2.5-Q-OE</b>  |

## Ordering data – Proximity switch for C-slot, magneto-resistive

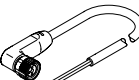
Datasheets → Internet: smt

|                                                                                    | Type of mounting                  | Switching output | Electrical connection, Outlet direction of connection | Cable length [m] | Part no.       | Type                             |
|------------------------------------------------------------------------------------|-----------------------------------|------------------|-------------------------------------------------------|------------------|----------------|----------------------------------|
| <b>N/O</b>                                                                         |                                   |                  |                                                       |                  |                |                                  |
|  | Inserted into the slot lengthwise | PNP              | Cable, 3-core, crosswise                              | 2.5              | <b>547862</b>  | <b>SMT-10G-PS-24V-E-2.5Q-OE</b>  |
|                                                                                    |                                   |                  | Plug M8x1, 3-pin, crosswise                           | 0.3              | <b>547863</b>  | <b>SMT-10G-PS-24V-E-0,3Q-M8D</b> |
|                                                                                    |                                   | NPN              | Cable, 3-core, crosswise                              | 2.5              | <b>8065030</b> | <b>SMT-10G-NS-24V-E-2.5Q-OE</b>  |
|                                                                                    |                                   |                  | Plug M8x1, 3-pin, crosswise                           | 0.3              | <b>8065029</b> | <b>SMT-10G-NS-24V-E-0.3Q-M8D</b> |

## Connecting cables NEBA, straight

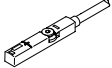
|                                                                                    | Electrical connection 1, connection technology | Electrical connection 2, connection technology | Electrical connection 2, number of pins/cores | Cable length | Part no.       | Type                         |
|------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|--------------|----------------|------------------------------|
|  | M8x1 A-coded to EN 61076-2-104                 | Open end                                       | 3                                             | 2.5 m        | <b>8078223</b> | <b>NEBA-M8G3-U-2.5-N-LE3</b> |
|                                                                                    |                                                |                                                |                                               | 5 m          | <b>8078224</b> | <b>NEBA-M8G3-U-5-N-LE3</b>   |

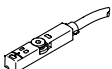
## Connecting cables NEBA, angled

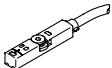
|                                                                                    | Electrical connection 1, connection technology | Electrical connection 2, connection technology | Electrical connection 2, number of pins/cores | Cable length | Part no.       | Type                         |
|------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|--------------|----------------|------------------------------|
|  | M8x1 A-coded to EN 61076-2-104                 | Open end                                       | 3                                             | 2.5 m        | <b>8078230</b> | <b>NEBA-M8W3-U-2.5-N-LE3</b> |
|                                                                                    |                                                |                                                |                                               | 5 m          | <b>8078231</b> | <b>NEBA-M8W3-U-5-N-LE3</b>   |

## Accessories

## Proximity switches for piston diameter 25 ... 32

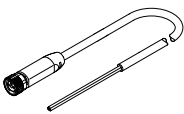
| Ordering data – Proximity switch for T-slot, magnetic reed                        |                                                                  |                  |                       |                  |          |                         | Datasheets → Internet: sme |
|----------------------------------------------------------------------------------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

| Ordering data – Proximity switch for T-slot, magneto-resistive                    |                                                                                |                  |                       |                  |          |                           | Datasheets → Internet: smt |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------|-----------------------|------------------|----------|---------------------------|----------------------------|
|                                                                                   | Type of mounting                                                               | Switching output | Electrical connection | Cable length [m] | Part no. | Type                      |                            |
| N/O                                                                               |                                                                                |                  |                       |                  |          |                           |                            |
|  | Inserted in the slot from above, flush with the cylinder profile, short design | PNP              | Cable, 3-core         | 2.5              | 574335   | SMT-8M-A-PS-24V-E-2.5-OE  |                            |
|                                                                                   |                                                                                |                  | Cable, 3-core         | 5                | 574336   | SMT-8M-A-PS-24V-E-5.0-OE  |                            |
|                                                                                   |                                                                                |                  | Plug M8x1, 3-pin      | 0.3              | 574334   | SMT-8M-A-PS-24V-E-0.3-M8D |                            |
|                                                                                   |                                                                                |                  | 1x M12 plug, 3-pin    | 0.3              | 574337   | SMT-8M-A-PS-24V-E-0.3-M12 |                            |
|                                                                                   |                                                                                | NPN              | Cable, 3-core         | 2.5              | 574338   | SMT-8M-A-NS-24V-E-2.5-OE  |                            |
|                                                                                   |                                                                                |                  | 1x M8 plug, 3-pin     | 0.3              | 574339   | SMT-8M-A-NS-24V-E-0.3-M8D |                            |

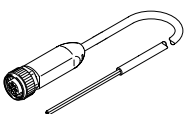
|                                                                                    |                                                                                |     |               |     |        |                          |  |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|-----|---------------|-----|--------|--------------------------|--|
| N/C                                                                                |                                                                                |     |               |     |        |                          |  |
|  | Inserted in the slot from above, flush with the cylinder profile, short design | PNP | Cable, 3-core | 7.5 | 574340 | SMT-8M-A-PO-24V-E-7.5-OE |  |

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

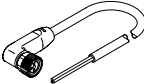
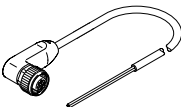
## Connecting cables NEBA, straight, M8 connection

|                                                                                     | Electrical connection 1, connection technology | Electrical connection 2, connection technology | Electrical connection 2, number of pins/cores | Cable length | Part no. | Type                  |
|-------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|--------------|----------|-----------------------|
|  | M8x1 A-coded to EN 61076-2-104                 | Open end                                       | 3                                             | 2.5 m        | 8078223  | NEBA-M8G3-U-2.5-N-LE3 |
|                                                                                     |                                                |                                                |                                               | 5 m          | 8078224  | NEBA-M8G3-U-5-N-LE3   |

## Connecting cables NEBA, straight, M12 connection

|                                                                                     | Electrical connection 1, connection technology | Electrical connection 2, connection technology | Electrical connection 2, number of pins/cores | Cable length | Part no. | Type                   |
|-------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|--------------|----------|------------------------|
|  | M12x1, A-coded to EN 61076-2-101               | Open end                                       | 3                                             | 2.5 m        | 8078236  | NEBA-M12G5-U-2.5-N-LE3 |
|                                                                                     |                                                |                                                |                                               | 5 m          | 8078237  | NEBA-M12G5-U-5-N-LE3   |

## Accessories

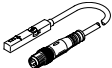
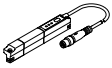
| Connecting cables NEBA, angled, M8 connection                                    |                                                |                                                |                                               |              |          |                        |
|----------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|--------------|----------|------------------------|
|                                                                                  | Electrical connection 1, connection technology | Electrical connection 2, connection technology | Electrical connection 2, number of pins/cores | Cable length | Part no. | Type                   |
|  | M8x1 A-coded to EN 61076-2-104                 | Open end                                       | 3                                             | 2.5 m        | 8078230  | NEBA-M8W3-U-2.5-N-LE3  |
|                                                                                  |                                                |                                                |                                               | 5 m          | 8078231  | NEBA-M8W3-U-5-N-LE3    |
| Connecting cables NEBA, angled, M12 connection                                   |                                                |                                                |                                               |              |          |                        |
|                                                                                  | Electrical connection 1, connection technology | Electrical connection 2, connection technology | Electrical connection 2, number of pins/cores | Cable length | Part no. | Type                   |
|  | M12x1, A-coded to EN 61076-2-101               | Open end                                       | 3                                             | 2.5 m        | 8078245  | NEBA-M12W5-U-2.5-N-LE3 |
|                                                                                  |                                                |                                                |                                               | 5 m          | 8078246  | NEBA-M12W5-U-5-N-LE3   |

## Accessories

## Position transmitters for piston diameter 25 ... 32

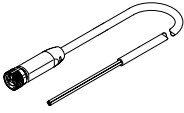
The position transmitter continuously senses the position of the piston.

It has an analogue output with an output signal that is proportional to the piston position.

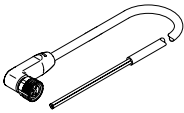
| Ordering data – Position transmitter for T-slot                                   |                          |                     |                      |                                 |                           |                  | Datasheets → Internet: position transmitter |                                   |
|-----------------------------------------------------------------------------------|--------------------------|---------------------|----------------------|---------------------------------|---------------------------|------------------|---------------------------------------------|-----------------------------------|
|                                                                                   | Position measuring range | Analogue output [V] | Analogue output [mA] | Type of mounting                | Electrical connection     | Cable length [m] | Part no.                                    | Type                              |
|  | 0 ... 40                 | 0 ... 10            | –                    | Inserted in the slot from above | Plug M8x1, 4-pin, in-line | 0.3              | 553744                                      | SMAT-8M-U-E-0.3-M8D <sup>1)</sup> |
|                                                                                   | 0 ... 50                 | –                   | 4 ... 20             | Inserted in the slot from above | Plug M8x1, 4-pin, in-line | 0.3              | 1531265                                     | SDAT-MHS-M50-1L-SA-E-0.3-M8       |
|  | 0 ... 80                 | –                   | 4 ... 20             | Inserted in the slot from above | Plug M8x1, 4-pin, in-line | 0.3              | 1531266                                     | SDAT-MHS-M80-1L-SA-E-0.3-M8       |
|                                                                                   | 0 ... 100                | –                   | 4 ... 20             | Inserted in the slot from above | Plug M8x1, 4-pin, in-line | 0.3              | 1531267                                     | SDAT-MHS-M100-1L-SA-E-0.3-M8      |
|                                                                                   | 0 ... 125                | –                   | 4 ... 20             | Inserted in the slot from above | Plug M8x1, 4-pin, in-line | 0.3              | 1531268                                     | SDAT-MHS-M125-1L-SA-E-0.3-M8      |
|                                                                                   | 0 ... 160                | –                   | 4 ... 20             | Inserted in the slot from above | Plug M8x1, 4-pin, in-line | 0.3              | 1531269                                     | SDAT-MHS-M160-1L-SA-E-0.3-M8      |
|                                                                                   |                          |                     |                      |                                 |                           |                  |                                             |                                   |

1) Only with piston diameter 25

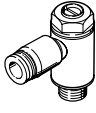
## Connecting cables NEBA, straight, M8 connection

|                                                                                    | Electrical connection 1, connection technology | Electrical connection 2, connection technology | Electrical connection 2, number of pins/cores | Cable length | Part no. | Type                  |
|------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|--------------|----------|-----------------------|
|  | M8x1 A-coded to EN 61076-2-104                 | Open end                                       | 4                                             | 2.5 m        | 8078227  | NEBA-M8G4-U-2.5-N-LE4 |
|                                                                                    |                                                |                                                |                                               | 5 m          | 8078228  | NEBA-M8G4-U-5-N-LE4   |

## Connecting cables NEBA, angled, M8 connection

|                                                                                     | Electrical connection 1, connection technology | Electrical connection 2, connection technology | Electrical connection 2, number of pins/cores | Cable length | Part no. | Type                  |
|-------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|--------------|----------|-----------------------|
|  | M8x1 A-coded to EN 61076-2-104                 | Open end                                       | 4                                             | 2.5 m        | 8078233  | NEBA-M8W4-U-2.5-N-LE4 |
|                                                                                     |                                                |                                                |                                               | 5 m          | 8078234  | NEBA-M8W4-U-5-N-LE4   |

## Ordering data – One-way flow control valves

|                                                                                     |            |                 | Datasheets → Internet: grla |          |                 |
|-------------------------------------------------------------------------------------|------------|-----------------|-----------------------------|----------|-----------------|
|                                                                                     | Connection |                 | Material                    | Part no. | Type            |
|                                                                                     | Thread     | For tubing O.D. |                             |          |                 |
|  | M5         | 3               | Metal design                | 193137   | GRLA-M5-QS-3-D  |
|                                                                                     |            | 4               |                             | 193138   | GRLA-M5-QS-4-D  |
|                                                                                     |            | 6               |                             | 193139   | GRLA-M5-QS-6-D  |
|                                                                                     | G1/8       | 3               |                             | 193142   | GRLA-1/8-QS-3-D |
|                                                                                     |            | 4               |                             | 193143   | GRLA-1/8-QS-4-D |
|                                                                                     |            | 6               |                             | 193144   | GRLA-1/8-QS-6-D |
|                                                                                     |            | 8               |                             | 193145   | GRLA-1/8-QS-8-D |
|                                                                                     |            |                 |                             |          |                 |