

## Guided drives DFM/DFM-B

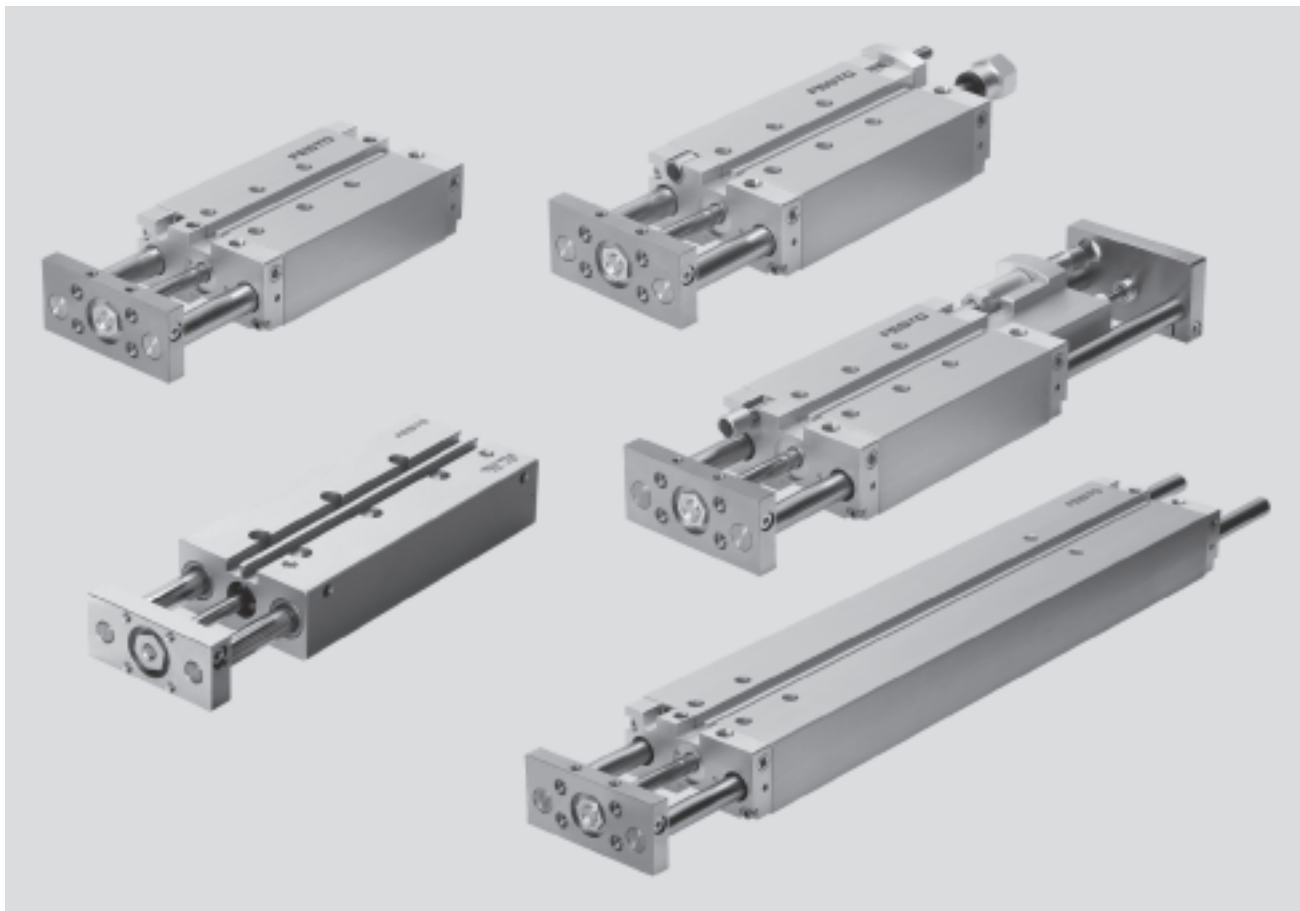
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## Guided drives DFM/DFM-B

Key features

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### Drive and guide unit in a single housing

- Minimal space requirement
- Minimal assembly time
- Choice of supply ports
- Versatile mounting options

### Sturdy and accurate

- Good protection against torsion
- Rigid construction
- Maintenance-free

### High resistance to torques and lateral forces

- With plain-bearing guide:  
It offers high rigidity thanks to its large-diameter guide rods and four plain-bearing bushes
- With recirculating ball bearing guide:  
For applications involving torque loads

### Wide choice of variants

- With adjustable end position
- With shock absorber
- Long-stroke version
- With pneumatic end-position cushioning PPV

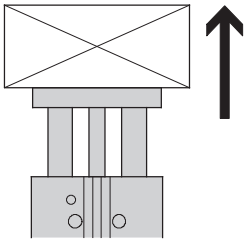
# Guided drives DFM/DFM-B

Key features

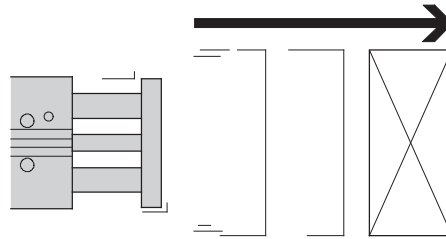
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## Use in conveyor systems

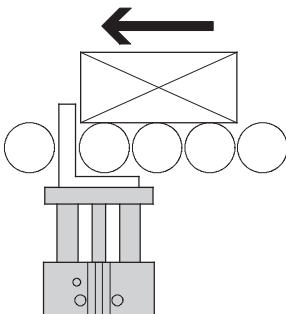
### Lifting



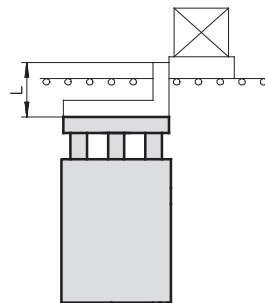
### Pushing



### Stopping



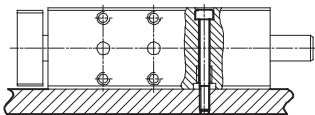
### Stopping via stop bracket



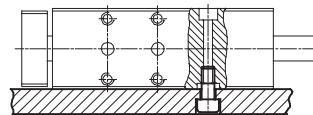
It is recommended to fit a buffer on the workpiece carrier.

## Mounting options

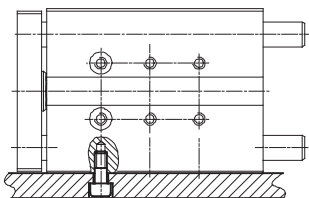
### Flat from above



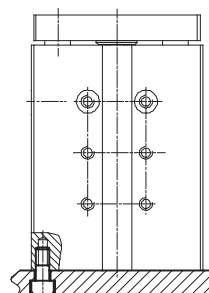
### Flat from below



### Side mounting from below



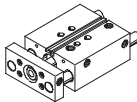
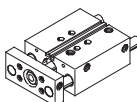
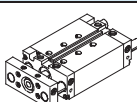
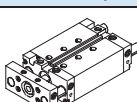
### On end



# Guided drives DFM/DFM-B

Product range overview

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| Function      | Version                                                                             | Type                           | Piston Ø            | Stroke                                                    | Variable stroke                                                                                  |
|---------------|-------------------------------------------------------------------------------------|--------------------------------|---------------------|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------|
|               |                                                                                     |                                | [mm]                | [mm]                                                      | [mm]                                                                                             |
| Double-acting | DFM basic version with recirculating ball bearing guide                             |                                |                     |                                                           |                                                                                                  |
|               |    | DFM<br>Piston rod at one end   | 12, 16              | 10, 20, 25, 30, 40, 50, 80, 100                           | –                                                                                                |
|               |                                                                                     |                                | 20, 25              | 20, 25, 30, 40, 50, 80, 100                               | –                                                                                                |
|               |                                                                                     |                                | 32                  | 20, 25, 30, 40, 50, 80, 100, 125, 160, 200                | –                                                                                                |
|               |                                                                                     |                                | 40, 50, 63, 80, 100 | 25, 50, 80, 100, 125, 160, 200                            | –                                                                                                |
|               | DFM basic version with plain-bearing guide                                          |                                |                     |                                                           |                                                                                                  |
|               |    | DFM<br>Piston rod at one end   | 12, 16              | 10, 20, 25, 30, 40, 50, 80, 100                           | –                                                                                                |
|               |                                                                                     |                                | 20, 25              | 20, 25, 30, 40, 50, 80, 100                               | –                                                                                                |
|               |                                                                                     |                                | 32                  | 20, 25, 30, 40, 50, 80, 100, 125, 160, 200                | –                                                                                                |
|               |                                                                                     |                                | 40, 50, 63, 80, 100 | 25, 50, 80, 100, 125, 160, 200                            | –                                                                                                |
|               | DFM-B with recirculating ball bearing guide                                         |                                |                     |                                                           |                                                                                                  |
|               |   | DFM-B<br>Piston rod at one end | 12, 16              | 10, 20, 25, 30, 40, 50, 80, 100, 125, 160, 200            | 10 ... 200    |
|               |                                                                                     |                                | 20, 25, 32          | 20, 25, 30, 40, 50, 80, 100, 125, 160, 200, 250, 320, 400 | 20 ... 400   |
|               |                                                                                     |                                | 40, 50, 63          | 25, 50, 80, 100, 125, 160, 200, 250, 320, 400             | 25 ... 400  |
|               |                                                                                     |                                |                     |                                                           |                                                                                                  |
|               | DFM-B with plain-bearing guide                                                      |                                |                     |                                                           |                                                                                                  |
|               |  | DFM-B<br>Piston rod at one end | 12, 16              | 10, 20, 25, 30, 40, 50, 80, 100, 125, 160, 200            | 10 ... 200  |
|               |                                                                                     |                                | 20, 25, 32          | 20, 25, 30, 40, 50, 80, 100, 125, 160, 200, 250, 320, 400 | 20 ... 400  |
|               |                                                                                     |                                | 40, 50, 63          | 25, 50, 80, 100, 125, 160, 200, 250, 320, 400             | 25 ... 400  |
|               |                                                                                     |                                |                     |                                                           |                                                                                                  |

# Guided drives DFM/DFM-B

Product range overview

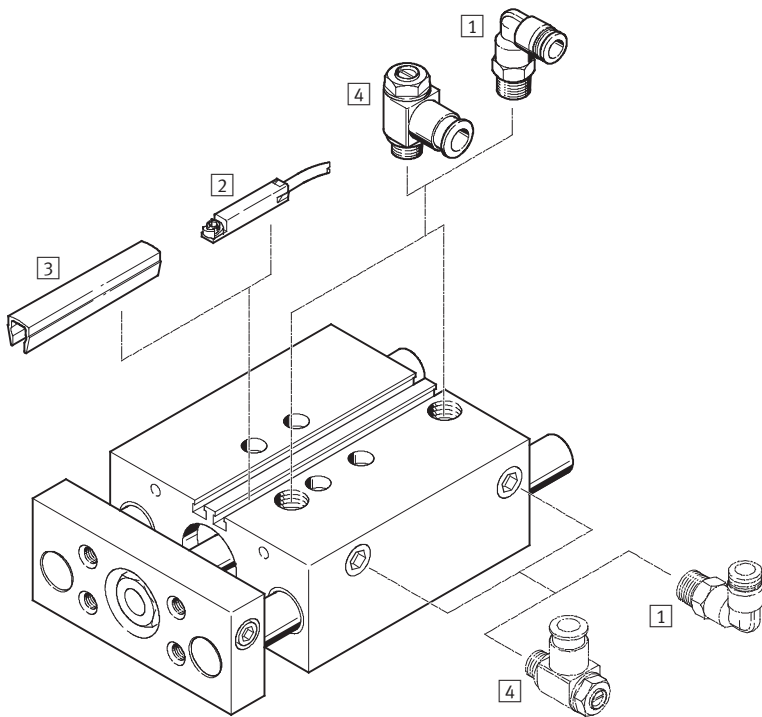
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| Type                                                           | Position sensing | Cushioning     |                            |                                                        | Heat-resistant seals                                                                  | Precision end-position adjustment |                        | → Page/Internet |
|----------------------------------------------------------------|------------------|----------------|----------------------------|--------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|------------------------|-----------------|
|                                                                |                  | Not adjustable | Adjustable for heavy loads | Self-adjusting end position adjustable for heavy loads |                                                                                       | Advanced end position             | Retracted end position |                 |
|                                                                | A                | P              | PPV                        | YSRW                                                   | S6  | AJ                                | EJ                     |                 |
| <b>DFM basic version with recirculating ball bearing guide</b> |                  |                |                            |                                                        |                                                                                       |                                   |                        |                 |
| <b>DFM</b><br>Piston rod at one end                            | ■                | ■              | –                          | –                                                      | –                                                                                     | –                                 | –                      | 8               |
| <b>DFM basic version with plain-bearing guide</b>              |                  |                |                            |                                                        |                                                                                       |                                   |                        |                 |
| <b>DFM</b><br>Piston rod at one end                            | ■                | ■              | –                          | –                                                      | –                                                                                     | –                                 | –                      | 8               |
| <b>DFM-B with recirculating ball bearing guide</b>             |                  |                |                            |                                                        |                                                                                       |                                   |                        |                 |
| <b>DFM-B</b><br>Piston rod at one end                          | ■                | ■              | ■<br>Ø 16 and above        | ■<br>Ø 20 and above                                    | –                                                                                     | ■                                 | ■<br>Ø 20 and above    | 30              |
| <b>DFM-B with plain-bearing guide</b>                          |                  |                |                            |                                                        |                                                                                       |                                   |                        |                 |
| <b>DFM-B</b><br>Piston rod at one end                          | ■                | ■              | ■                          | –                                                      | ■                                                                                     | ■                                 | ■                      | 30              |

## Guided drives DFM

Peripherals overview

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| Accessories |                                    |                                                                         |
|-------------|------------------------------------|-------------------------------------------------------------------------|
|             | Brief description                  | → Page/Internet                                                         |
| 1           | Push-in fitting<br>QS              | For connecting compressed air tubing with standard O.D.<br>quick star   |
| 2           | Proximity sensor<br>SME-/SMT-8     | Can be integrated in the profile barrel<br>60                           |
| 3           | Slot cover<br>ABP-5-S              | To protect the sensor cable and keep dirt out of the sensor slots<br>61 |
| 4           | One-way flow control valve<br>GRLA | To regulate speed<br>61                                                 |
| –           | Centring sleeves<br>ZBH            | 4 pieces included in scope of delivery<br>60                            |

# Guided drives DFM

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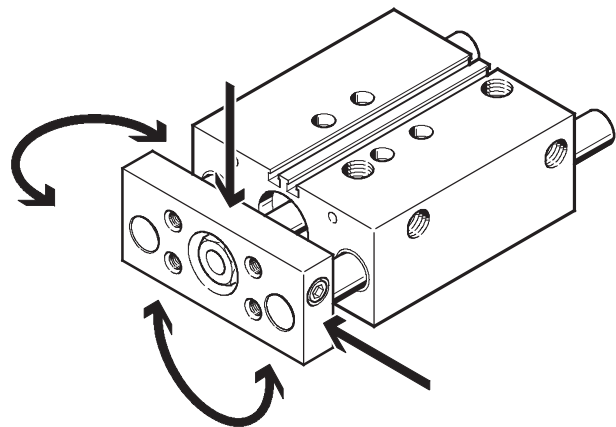
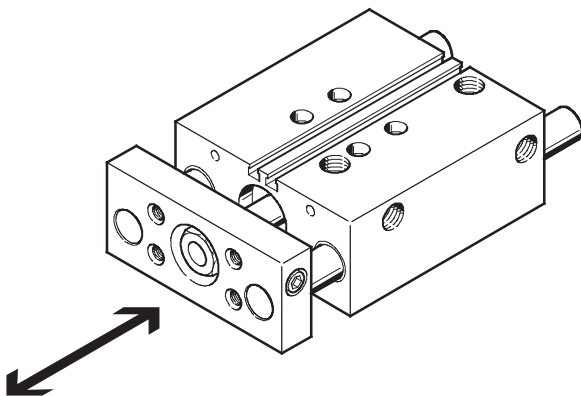
Type codes

|                         |                                               |     |   |    |   |    |   |   |   |   |   |  |
|-------------------------|-----------------------------------------------|-----|---|----|---|----|---|---|---|---|---|--|
|                         |                                               | DFM | – | 50 | – | 80 | – | P | – | A | – |  |
| <b>Type</b>             |                                               |     |   |    |   |    |   |   |   |   |   |  |
| Double-acting           |                                               |     |   |    |   |    |   |   |   |   |   |  |
| DFM                     | Guided drive                                  |     |   |    |   |    |   |   |   |   |   |  |
| <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>Guide</b>            |                                               |     |   |    |   |    |   |   |   |   |   |  |
| GF                      | Plain-bearing guide                           |     |   |    |   |    |   |   |   |   |   |  |
| KF                      | Recirculating ball bearing guide              |     |   |    |   |    |   |   |   |   |   |  |

## High functionality

Direction of movement

Excellent protection against torsion, high resistance to torques and lateral forces



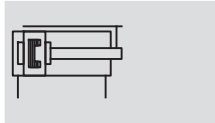
# Guided drives DFM

Technical data

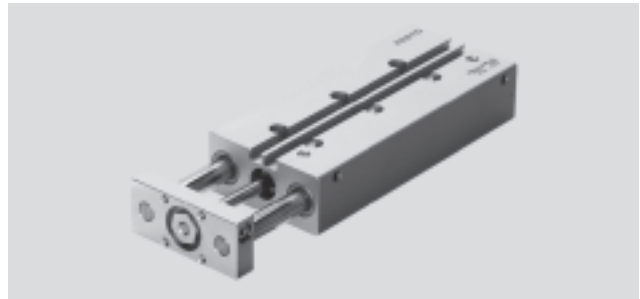
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Function

[www.festo.com/en/  
Spare\\_parts\\_service](http://www.festo.com/en/Spare_parts_service)



-N- Diameter  
12 ... 100 mm  
-T- Stroke length  
10 ... 200 mm



| General technical data           |                                                              |    |    |            |    |    |          |    |            |     |
|----------------------------------|--------------------------------------------------------------|----|----|------------|----|----|----------|----|------------|-----|
| Piston Ø                         | 12                                                           | 16 | 20 | 25         | 32 | 40 | 50       | 63 | 80         | 100 |
| Pneumatic connection             | M5                                                           | M5 | M5 | G¼         | G¼ | G¼ | G¼       | G¼ | G¾         | G¾  |
| Operating medium                 | Filtered compressed air, lubricated or unlubricated          |    |    |            |    |    |          |    |            |     |
| Operating pressure [bar]         | 2 ... 10                                                     |    |    | 1.5 ... 10 |    |    | 1 ... 10 |    | 0.5 ... 10 |     |
| Design                           | Piston                                                       |    |    |            |    |    |          |    |            |     |
|                                  | Piston rod                                                   |    |    |            |    |    |          |    |            |     |
|                                  | Guide rods with yoke                                         |    |    |            |    |    |          |    |            |     |
| Cushioning                       | Flexible cushioning rings/plates at both ends                |    |    |            |    |    |          |    |            |     |
| Position sensing                 | For proximity sensing                                        |    |    |            |    |    |          |    |            |     |
| Type of mounting                 | Via through-holes                                            |    |    |            |    |    |          |    |            |     |
|                                  | Via female threads                                           |    |    |            |    |    |          |    |            |     |
| Assembly position                | Any                                                          |    |    |            |    |    |          |    |            |     |
| Protection against torsion/guide | Guide rod with yoke/with plain-bearing or ball bearing guide |    |    |            |    |    |          |    |            |     |

Note: This product conforms to ISO 1179-1 and ISO 228-1

| Ambient conditions                           |                                                                    |                                     |
|----------------------------------------------|--------------------------------------------------------------------|-------------------------------------|
| Variant                                      | Plain-bearing guide GF                                             | Recirculating ball bearing guide KF |
| Ambient temperature <sup>1)</sup> [°C]       | -20 ... +80                                                        | -5 ... +60                          |
| Corrosion resistance class CRC <sup>2)</sup> | 2                                                                  | -                                   |
| ATEX                                         | Specified types → <a href="http://www.festo.com">www.festo.com</a> |                                     |

1) Note operating range of proximity sensors

2) Corrosion resistance class 1 according to Festo standard 940 070

Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers

Corrosion resistance class 2 according to Festo standard 940 070

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

| Speeds [m/s]              |     |     |     |     |     |     |     |     |     |     |
|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Piston Ø                  | 12  | 16  | 20  | 25  | 32  | 40  | 50  | 63  | 80  | 100 |
| Cushioning P              |     |     |     |     |     |     |     |     |     |     |
| Maximum speed, advancing  | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.6 | 0.6 | 0.4 | 0.4 |
| Maximum speed, retracting | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.6 | 0.6 | 0.4 | 0.4 |

| Forces [N]                             |    |     |     |     |     |     |      |      |      |      |
|----------------------------------------|----|-----|-----|-----|-----|-----|------|------|------|------|
| Piston Ø                               | 12 | 16  | 20  | 25  | 32  | 40  | 50   | 63   | 80   | 100  |
| Theoretical force at 6 bar, advancing  | 68 | 121 | 188 | 295 | 482 | 754 | 1178 | 1870 | 3016 | 4712 |
| Theoretical force at 6 bar, retracting | 51 | 90  | 141 | 247 | 415 | 686 | 1057 | 1750 | 2827 | 4418 |

# Guided drives DFM

Technical data

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| Impact energy [J]                       |      |      |      |      |      |      |      |      |      |      |
|-----------------------------------------|------|------|------|------|------|------|------|------|------|------|
| Piston Ø                                | 12   | 16   | 20   | 25   | 32   | 40   | 50   | 63   | 80   | 100  |
| Max. impact energy at the end positions | 0.09 | 0.10 | 0.14 | 0.35 | 0.40 | 0.52 | 0.64 | 0.70 | 0.75 | 1.00 |

Permissible impact velocity:

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

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

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

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

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

## Note

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

Maximum permissible load:

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

| DFM with plain-bearing guide GF |               |      |      |      |      |      |      |       |       |       |
|---------------------------------|---------------|------|------|------|------|------|------|-------|-------|-------|
| Stroke [mm]                     | Piston Ø [mm] |      |      |      |      |      |      |       |       |       |
|                                 | 12            | 16   | 20   | 25   | 32   | 40   | 50   | 63    | 80    | 100   |
| Product weight [g]              |               |      |      |      |      |      |      |       |       |       |
| 10                              | 338           | 449  | –    | –    | –    | –    | –    | –     | –     | –     |
| 20                              | 371           | 515  | 777  | 1250 | 1770 | –    | –    | –     | –     | –     |
| 25                              | 405           | 540  | 825  | 1270 | 1835 | 2145 | 3431 | 4472  | 6984  | 11000 |
| 30                              | 435           | 571  | 865  | 1340 | 1915 | –    | –    | –     | –     | –     |
| 40                              | 494           | 707  | 1060 | 1420 | 2120 | –    | –    | –     | –     | –     |
| 50                              | 540           | 770  | 1150 | 1630 | 2230 | 2520 | 4092 | 5213  | 8185  | 12589 |
| 80                              | 690           | 920  | 1350 | 1990 | 2795 | 2980 | 5016 | 6273  | 9743  | 14699 |
| 100                             | 775           | 1085 | 1595 | 2226 | 3092 | 3531 | 5434 | 6791  | 10482 | 15760 |
| 125                             | –             | –    | –    | –    | 3586 | 3915 | 6338 | 7865  | 11490 | 17094 |
| 160                             | –             | –    | –    | –    | 3630 | 4520 | 7219 | 8920  | 12910 | 18980 |
| 200                             | –             | –    | –    | –    | 4777 | 5389 | 8139 | 10172 | 14363 | 21148 |
| Moving load [g]                 |               |      |      |      |      |      |      |       |       |       |
| 10                              | 170           | 230  | –    | –    | –    | –    | –    | –     | –     | –     |
| 20                              | 190           | 250  | 400  | 650  | 1040 | –    | –    | –     | –     | –     |
| 25                              | 190           | 260  | 420  | 670  | 1070 | 1190 | 2050 | 2510  | 4140  | 6300  |
| 30                              | 200           | 280  | 440  | 690  | 1090 | –    | –    | –     | –     | –     |
| 40                              | 230           | 340  | 550  | 760  | 1150 | –    | –    | –     | –     | –     |
| 50                              | 250           | 370  | 580  | 800  | 1210 | 1330 | 2280 | 2740  | 4720  | 7110  |
| 80                              | 290           | 430  | 680  | 910  | 1480 | 1600 | 2720 | 3190  | 5460  | 8140  |
| 100                             | 320           | 470  | 740  | 990  | 1590 | 1720 | 2910 | 3370  | 5730  | 8520  |
| 125                             | –             | –    | –    | –    | 1840 | 1960 | 3300 | 3760  | 6080  | 9000  |
| 160                             | –             | –    | –    | –    | 2040 | 2170 | 3630 | 4090  | 6550  | 9670  |
| 200                             | –             | –    | –    | –    | 2280 | 2400 | 4000 | 4460  | 7100  | 10430 |

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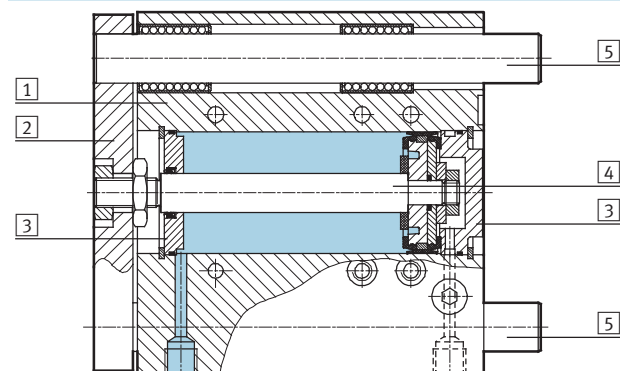
Technical data

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| DFM with recirculating ball bearing guide KF |               |     |      |      |      |      |      |      |       |       |
|----------------------------------------------|---------------|-----|------|------|------|------|------|------|-------|-------|
| Stroke<br>[mm]                               | Piston Ø [mm] |     |      |      |      |      |      |      |       |       |
|                                              | 12            | 16  | 20   | 25   | 32   | 40   | 50   | 63   | 80    | 100   |
| Product weight [g]                           |               |     |      |      |      |      |      |      |       |       |
| 10                                           | 320           | 424 | –    | –    | –    | –    | –    | –    | –     | –     |
| 20                                           | 340           | 481 | 732  | 1185 | 1583 | –    | –    | –    | –     | –     |
| 25                                           | 377           | 507 | 760  | 1215 | 1639 | 1953 | 3135 | 4155 | 6506  | 10520 |
| 30                                           | 403           | 535 | 810  | 1288 | 1711 | –    | –    | –    | –     | –     |
| 40                                           | 466           | 647 | 967  | 1425 | 1849 | –    | –    | –    | –     | –     |
| 50                                           | 508           | 704 | 1050 | 1534 | 1993 | 2342 | 3704 | 4880 | 7582  | 11980 |
| 80                                           | 560           | 878 | 1290 | 1871 | 2425 | 2867 | 4489 | 5791 | 8895  | 13612 |
| 100                                          | 723           | 988 | 1330 | 2089 | 2726 | 3166 | 4930 | 6337 | 9500  | 14587 |
| 125                                          | –             | –   | –    | –    | 3627 | 3616 | 5626 | 7860 | 10485 | 15820 |
| 160                                          | –             | –   | –    | –    | 3890 | 4161 | 6409 | 8110 | 11750 | 17545 |
| 200                                          | –             | –   | –    | –    | 4189 | 4798 | 7550 | 9300 | 13214 | 21124 |
| Moving load [g]                              |               |     |      |      |      |      |      |      |       |       |
| 10                                           | 150           | 200 | –    | –    | –    | –    | –    | –    | –     | –     |
| 20                                           | 160           | 220 | 360  | 590  | 860  | –    | –    | –    | –     | –     |
| 25                                           | 160           | 230 | 380  | 600  | 880  | 1000 | 1720 | 2180 | 3670  | 5700  |
| 30                                           | 170           | 240 | 390  | 620  | 900  | –    | –    | –    | –     | –     |
| 40                                           | 190           | 290 | 480  | 670  | 960  | –    | –    | –    | –     | –     |
| 50                                           | 200           | 300 | 500  | 700  | 980  | 1100 | 1880 | 2340 | 4090  | 6320  |
| 80                                           | 230           | 350 | 570  | 790  | 1160 | 1280 | 2180 | 2640 | 4630  | 7110  |
| 100                                          | 250           | 380 | 620  | 850  | 1240 | 1360 | 2310 | 2770 | 4840  | 7410  |
| 125                                          | –             | –   | –    | –    | 1400 | 1530 | 2580 | 3040 | 5090  | 7780  |
| 160                                          | –             | –   | –    | –    | 1540 | 1670 | 2810 | 3270 | 5450  | 8310  |
| 200                                          | –             | –   | –    | –    | 1710 | 1830 | 3070 | 3530 | 5860  | 8910  |

## Materials

Sectional view



| Variant                | Plain-bearing guide GF            | Recirculating ball bearing guide KF |
|------------------------|-----------------------------------|-------------------------------------|
| 1 Housing              | Wrought aluminium alloy, anodised | Wrought aluminium alloy, anodised   |
| 2 Yoke plate           | Tempered steel                    | Tempered steel                      |
| 3 Bearing and end caps | Wrought aluminium alloy, anodised | Wrought aluminium alloy, anodised   |
| 4 Piston rod           | High-alloy stainless steel        | High-alloy stainless steel          |
| 5 Guide rods           | High-alloy stainless steel        | Tempered steel                      |
| – Static seals         | Nitrile rubber                    | Nitrile rubber                      |
| – Dynamic seals        | Polyurethane                      | Polyurethane                        |
| – Lubricant            | Klüberplex BE 31-102              | Klüberplex BE 31-102                |
| Note on materials      | –                                 | Free of copper, PTFE and silicone   |

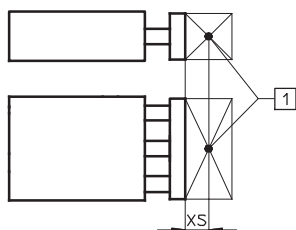
# Guided drives DFM

Technical data

FESTO

## Maximum effective load F [N]

Plain-bearing guide GF and recirculating ball bearing guide KF



1 Centre of gravity of effective load

| Piston Ø<br>[mm] | XS<br>[mm] | Stroke [mm] |    |     |     |     |     |     |     |     |     |     |
|------------------|------------|-------------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                  |            | 10          | 20 | 25  | 30  | 40  | 50  | 80  | 100 | 125 | 160 | 200 |
| 12               | GF         | 25          | 28 | 24  | 23  | 21  | 31  | 28  | 22  | 19  | –   | –   |
|                  | KF         | 25          | 27 | 23  | 21  | 20  | 23  | 22  | 20  | 19  | –   | –   |
| 16               | GF         | 50          | 63 | 56  | 53  | 51  | 73  | 67  | 55  | 49  | –   | –   |
|                  | KF         | 50          | 45 | 31  | 27  | 24  | 58  | 56  | 51  | 48  | –   | –   |
| 20               | GF         | 50          | –  | 67  | 64  | 61  | 110 | 103 | 86  | 77  | –   | –   |
|                  | KF         | 50          | –  | 45  | 39  | 35  | 91  | 88  | 80  | 75  | –   | –   |
| 25               | GF         | 50          | –  | 121 | 116 | 112 | 123 | 115 | 96  | 86  | –   | –   |
|                  | KF         | 50          | –  | 88  | 86  | 84  | 100 | 97  | 89  | 85  | –   | –   |
| 32               | GF         | 50          | –  | 188 | 180 | 173 | 161 | 150 | 166 | 150 | 168 | 146 |
|                  | KF         | 50          | –  | 120 | 118 | 116 | 112 | 109 | 134 | 128 | 144 | 135 |
| 40               | GF         | 50          | –  | –   | 180 | –   | –   | 150 | 166 | 150 | 168 | 146 |
|                  | KF         | 50          | –  | –   | 118 | –   | –   | 109 | 134 | 128 | 144 | 135 |
| 50               | GF         | 50          | –  | –   | 257 | –   | –   | 216 | 234 | 212 | 229 | 200 |
|                  | KF         | 50          | –  | –   | 182 | –   | –   | 168 | 201 | 193 | 211 | 199 |
| 63               | GF         | 50          | –  | –   | 257 | –   | –   | 216 | 234 | 212 | 229 | 200 |
|                  | KF         | 50          | –  | –   | 182 | –   | –   | 168 | 201 | 193 | 211 | 199 |
| 80               | GF         | 125         | –  | –   | 276 | –   | –   | 311 | 352 | 329 | 304 | 274 |
|                  | KF         | 125         | –  | –   | 220 | –   | –   | 275 | 329 | 318 | 306 | 291 |
| 100              | GF         | 125         | –  | –   | 452 | –   | –   | 509 | 568 | 533 | 494 | 446 |
|                  | KF         | 125         | –  | –   | 332 | –   | –   | 415 | 495 | 480 | 463 | 442 |

## Permissible torque load M [Nm]

Plain-bearing guide GF and recirculating ball bearing guide KF



| Piston Ø<br>[mm] | Stroke [mm] |      |      |       |      |      |       |       |       |       |       |
|------------------|-------------|------|------|-------|------|------|-------|-------|-------|-------|-------|
|                  | 10          | 20   | 25   | 30    | 40   | 50   | 80    | 100   | 125   | 160   | 200   |
| 12               | GF          | 0.60 | 0.50 | 0.48  | 0.45 | 0.65 | 0.60  | 0.45  | 0.40  | –     | –     |
|                  | KF          | 0.55 | 0.47 | 0.44  | 0.42 | 0.47 | 0.45  | 0.41  | 0.38  | –     | –     |
| 16               | GF          | 1.44 | 1.30 | 1.23  | 1.18 | 1.68 | 1.56  | 1.28  | 1.14  | –     | –     |
|                  | KF          | 1.03 | 0.71 | 0.62  | 0.55 | 1.34 | 1.29  | 1.18  | 1.12  | –     | –     |
| 20               | GF          | –    | 1.85 | 1.75  | 1.70 | 3.00 | 2.80  | 2.35  | 2.10  | –     | –     |
|                  | KF          | –    | 1.30 | 1.13  | 1.01 | 2.64 | 2.56  | 2.34  | 2.23  | –     | –     |
| 25               | GF          | –    | 4.15 | 3.95  | 3.80 | 4.20 | 3.90  | 3.25  | 2.90  | –     | –     |
|                  | KF          | –    | 3.00 | 2.92  | 2.85 | 3.40 | 3.30  | 3.02  | 2.89  | –     | –     |
| 32               | GF          | –    | 7.30 | 7.00  | 6.70 | 6.20 | 5.80  | 6.40  | 5.80  | 6.50  | 5.70  |
|                  | KF          | –    | 4.70 | 4.60  | 4.55 | 4.40 | 4.25  | 5.25  | 5.00  | 5.60  | 5.25  |
| 40               | GF          | –    | –    | 7.90  | –    | –    | 6.55  | 7.25  | 6.55  | 7.35  | 6.40  |
|                  | KF          | –    | –    | 5.20  | –    | –    | 4.80  | 5.90  | 5.65  | 6.35  | 5.95  |
| 50               | GF          | –    | –    | 14.15 | –    | –    | 11.85 | 12.85 | 11.65 | 12.55 | 11.00 |
|                  | KF          | –    | –    | 10.00 | –    | –    | 9.30  | 11.00 | 10.60 | 11.60 | 11.00 |
| 63               | GF          | –    | –    | 15.90 | –    | –    | 13.30 | 14.45 | 13.10 | 14.10 | 12.30 |
|                  | KF          | –    | –    | 11.30 | –    | –    | 10.50 | 12.50 | 12.00 | 13.20 | 12.40 |
| 80               | GF          | –    | –    | 21.40 | –    | –    | 24.20 | 27.20 | 25.50 | 23.50 | 21.30 |
|                  | KF          | –    | –    | 17.10 | –    | –    | 21.30 | 25.50 | 24.70 | 23.70 | 22.60 |
| 100              | GF          | –    | –    | 42.40 | –    | –    | 47.80 | 53.40 | 50.10 | 46.40 | 42.00 |
|                  | KF          | –    | –    | 25.70 | –    | –    | 32.20 | 38.40 | 37.20 | 35.90 | 34.20 |

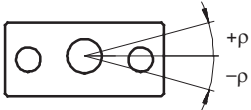
# Guided drives DFM

Technical data

FESTO

## Torsional backlash $p$

Plain-bearing guide GF and recirculating ball bearing guide KF in retracted state, without load



| Piston $\varnothing$   |    | 12   | 16   | 20   | 25   | 32   | 40   | 50   | 63   | 80   | 100  |
|------------------------|----|------|------|------|------|------|------|------|------|------|------|
| Torsional backlash [°] | GF | 0.09 | 0.09 | 0.07 | 0.07 | 0.06 | 0.06 | 0.05 | 0.05 | 0.03 | 0.03 |
|                        | KF | 0.08 | 0.08 | 0.07 | 0.07 | 0.05 | 0.05 | 0.05 | 0.05 | 0.03 | 0.03 |

## Deflection of piston rod

Bearing backlash plain-bearing guide GF and recirculating ball bearing guide KF (without load)

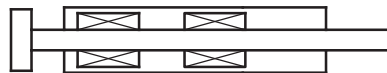
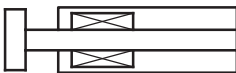
DFM-12 ... 20 stroke  $\leq 30$  mm

DFM-12 ... 20 stroke  $> 30$  mm

DFM-25 ... 100:

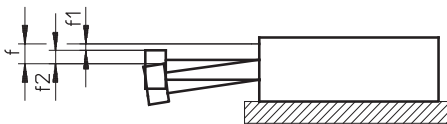
1 bearing per guide rod

2 bearings per guide rod



| Piston $\varnothing$  |    | 12   | 16   | 20   | 25   | 32   | 40   | 50   | 63   | 80   | 100  |
|-----------------------|----|------|------|------|------|------|------|------|------|------|------|
| Bearing backlash [mm] | GF | 0.11 | 0.11 | 0.11 | 0.10 | 0.13 | 0.13 | 0.12 | 0.12 | 0.12 | 0.12 |
|                       | KF | 0.10 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.07 | 0.07 |

Mean deflection  $f_1$  due to bearing backlash as a function of the stroke  $l$



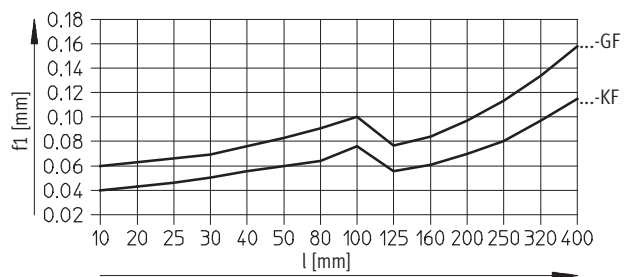
$$f = f_1 + f_2$$

$f$  = Total deflection of piston rod

$f_1$  = Deflection due to bearing backlash

$f_2$  = Deflection due to lateral force

DFM with 2 bearings per guide rod



# Guided drives DFM

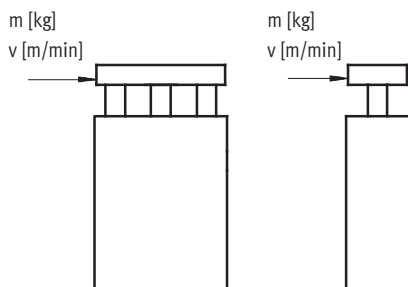
Technical data

FESTO

## Used as stopper cylinder

### Permissible impact energy

The permissible kinetic impact energy at the end stop must not be exceeded.



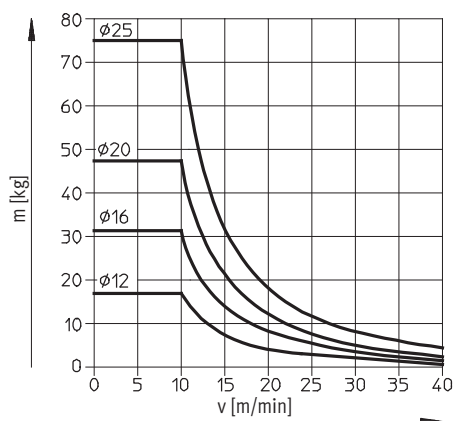
#### Note

Only guided drives with plain-bearing guide GF may be used in this way ( $l_{max.} = 50 \text{ mm}$ ).

### Impact mass $m$ as a function of the impact velocity $v$

DFM-12 ... 25-GF

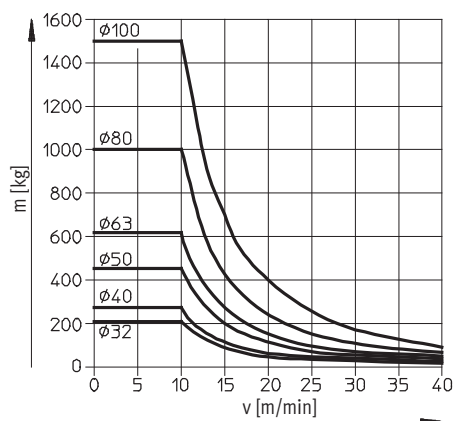
Stroke < 30 mm



The values in the above graph are based on the assumption that the workpiece carrier is fitted with a flexible buffer with a deformation of 1 mm. Only guided drives with plain-bearing guide GF and a stroke of < 30 mm may be used.

DFM-32 ... 100-GF

Stroke < 50 mm



The values in the above graph are based on the assumption that the workpiece carrier is fitted with a flexible buffer with a deformation of 2 mm. Only guided drives with plain-bearing guide GF and a stroke of < 50 mm may be used.

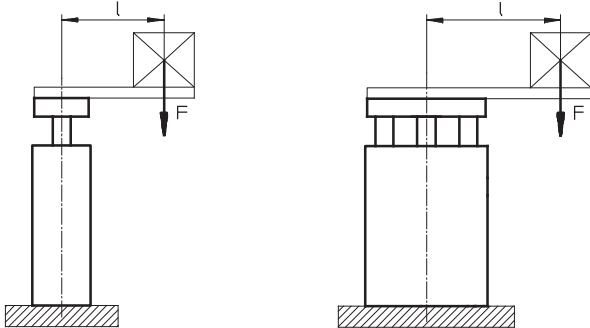
# Guided drives DFM

Technical data

FESTO

## Used as lifting cylinder

Permissible load with plain-bearing guide GF

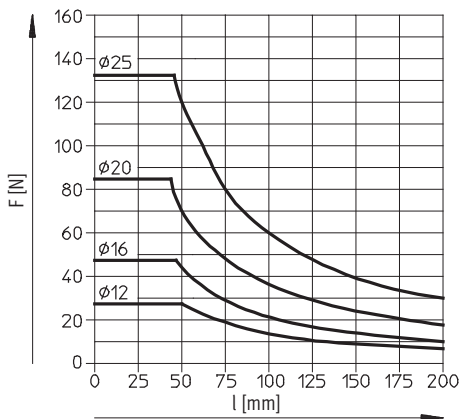


F = Longitudinal force [N]

L = Lever arm [mm]

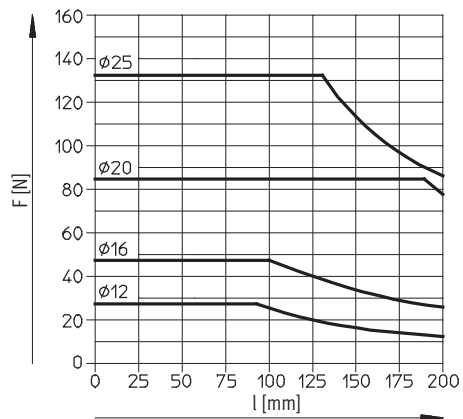
DFM-12 ... 25-GF

Stroke 30 mm



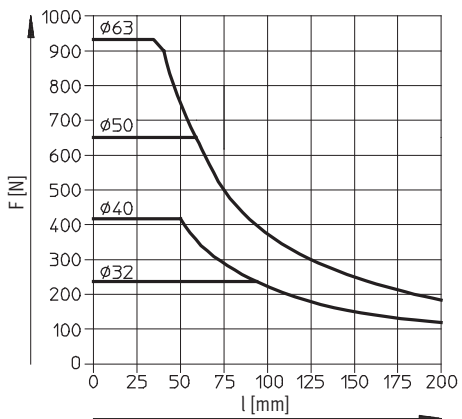
DFM-12 ... 25-GF

Stroke 40 ... 100 mm



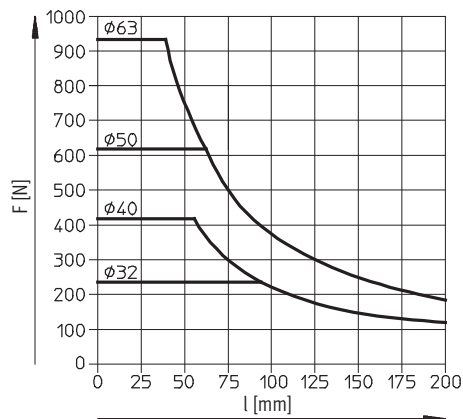
DFM-32 ... 63-GF

Stroke 50 mm



DFM-32 ... 63-GF

Stroke 80 ... 100 mm



# Guided drives DFM

Technical data

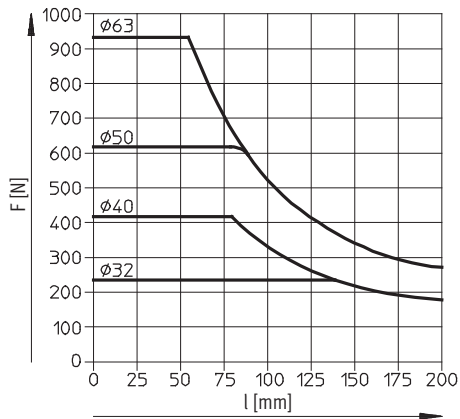
FESTO

## Used as lifting cylinder

Permissible load with plain-bearing guide GF

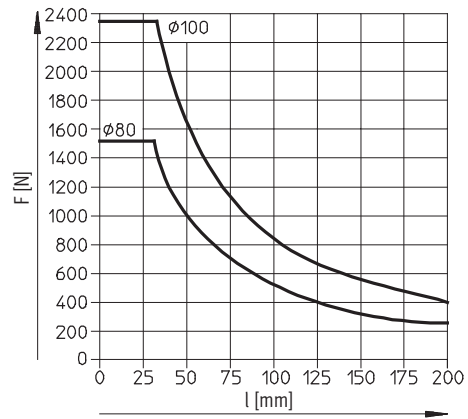
DFM-32 ... 63-GF

Stroke 125 ... 200 mm



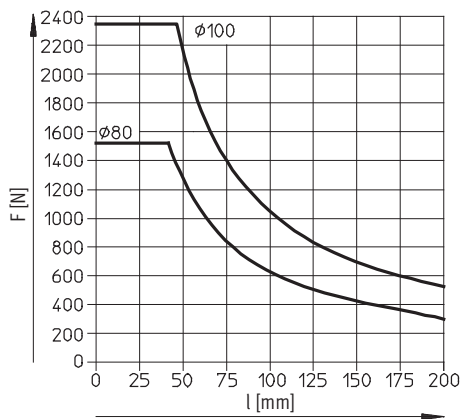
DFM-80 ... 100-GF

Stroke 25 mm



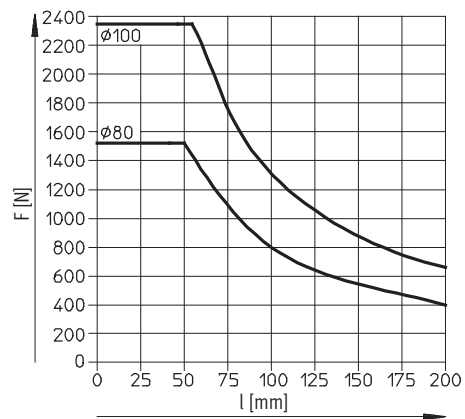
DFM-80 ... 100-GF

Stroke 50 mm



DFM-80 ... 100-GF

Stroke 80 ... 200 mm



# Guided drives DFM

Technical data

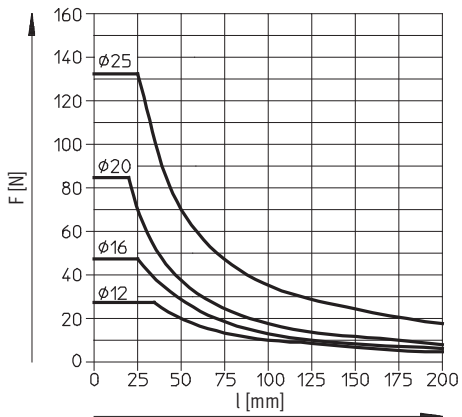
FESTO

## Used as lifting cylinder

Permissible load with recirculating ball bearing guide KF

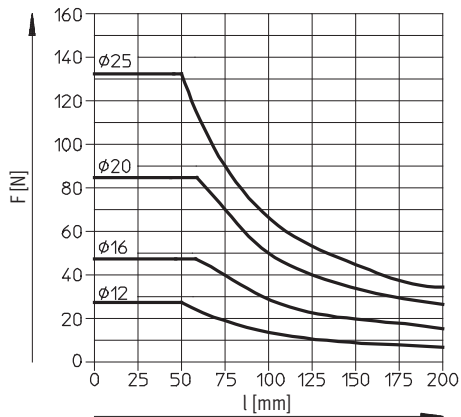
DFM-12 ... 25-KF

Stroke 30 mm



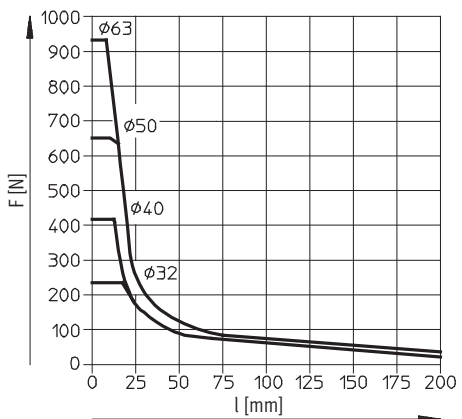
DFM-12 ... 25-KF

Stroke 40 ... 100 mm



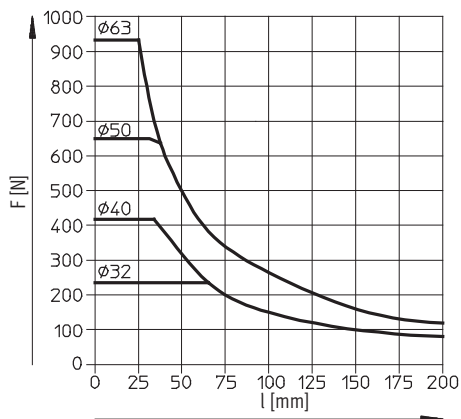
DFM-32 ... 63-KF

Stroke 50 mm



DFM-32 ... 63-KF

Stroke 80 ... 100 mm



# Guided drives DFM

Technical data

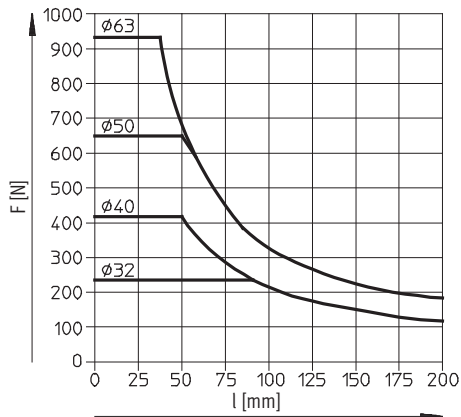
FESTO

## Used as lifting cylinder

Permissible load with recirculating ball bearing guide KF

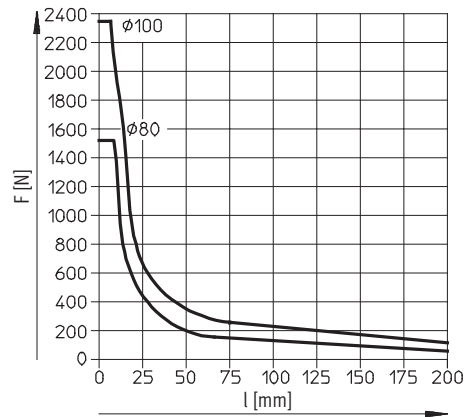
DFM-32 ... 63-KF

Stroke 125 ... 200 mm



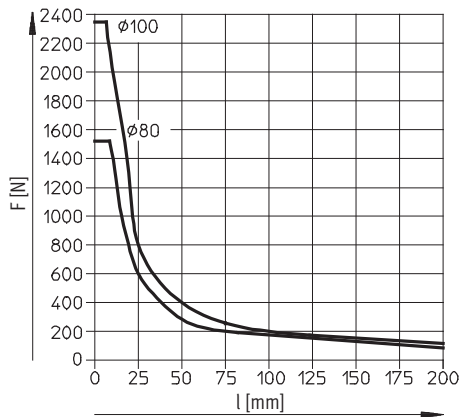
DFM-80 ... 100-KF

Stroke 25 mm



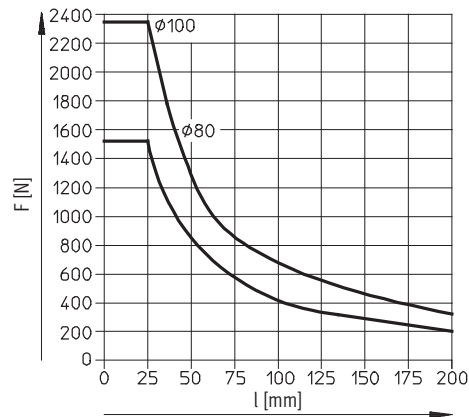
DFM-80 ... 100-KF

Stroke 50 mm



DFM-80 ... 100-KF

Stroke 80 ... 200 mm



# Guided drives DFM

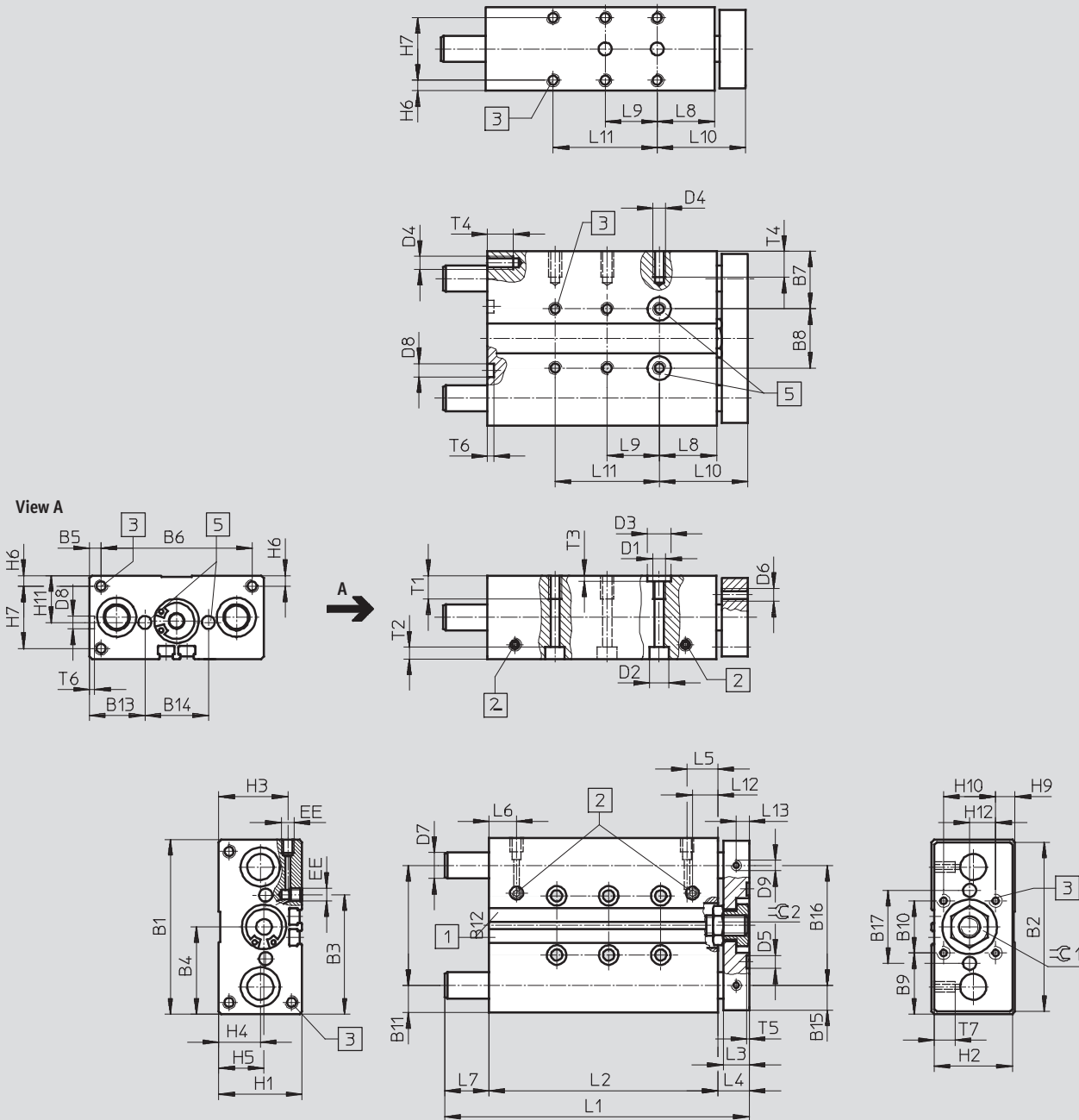
Technical data

FESTO

## Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Piston Ø 12 ... 16 mm



## Note

If the guide rods project beyond the housing when the unit is in its retracted end position (→ dimension L7), a recess must be provided in the

mounting surface if the unit is to be mounted against a surface in order to allow the guide rods to move freely.

# Guided drives DFM

Technical data

**FESTO**

| ∅<br>[mm] | B1 | B2 | B3   | B4   | B5  | B6 | B7   | B8 | B9   | B10 | B11  | B12 | B13  | B14  | B15 | B16 | B17 | D1 | D2<br>∅ | D3<br>∅<br>H7 |
|-----------|----|----|------|------|-----|----|------|----|------|-----|------|-----|------|------|-----|-----|-----|----|---------|---------------|
| 12        | 60 | 58 | 42.4 | 30   | 4.5 | 51 | 20.5 | 19 | 20   | 20  | 9.5  | 41  | 19.5 | 21   | 8.5 | 41  | 25  | M5 | 8       | 9             |
| 16        | 67 | 65 | 45.9 | 33.5 | 4.5 | 58 | 22   | 23 | 23.5 | 20  | 10.5 | 46  | 21.3 | 24.4 | –   | –   | 28  | M5 | 7.5     | 9             |

| ∅<br>[mm] | D4 | D5<br>∅<br>H7 | D6 | D7<br>∅          |                  | D8<br>∅<br>H7 | D9 | EE | H1 | H2 | H3   | H4 | H5   | H6 | H7 | H9  | H10 | H11 | H12 |
|-----------|----|---------------|----|------------------|------------------|---------------|----|----|----|----|------|----|------|----|----|-----|-----|-----|-----|
|           |    |               |    | GF               | KF               |               |    |    |    |    |      |    |      |    |    |     |     |     |     |
| 12        | M4 | 5             | M4 | 10 <sub>h8</sub> | 8 <sub>h6</sub>  | 5             | M4 | M5 | 28 | 26 | 24   | 14 | 14   | 4  | 20 | 4   | 20  | 14  | 10  |
| 16        | M5 | 5             | M5 | 12 <sub>h8</sub> | 10 <sub>h6</sub> | 5             | –  | M5 | 32 | 30 | 26.5 | 16 | 17.4 | 4  | 24 | 7.4 | 20  | 16  | 10  |

| ∅<br>[mm] | Stroke<br>[mm] | L1  | L2  | L3 | L4 | L5   | L6   | L7 | L8 | L9 | L10<br>±0.1 | L11 |
|-----------|----------------|-----|-----|----|----|------|------|----|----|----|-------------|-----|
| 12        | 10             | 59  | 46  | 10 | 13 | 11.4 | 9.5  | –  | 21 | –  | 34          | –   |
|           | 20             | 69  | 56  |    |    |      |      | –  |    | –  |             | –   |
|           | 25             | 74  | 61  |    |    |      |      | –  |    | 20 |             | –   |
|           | 30             | 79  | 66  |    |    |      |      | –  |    | 20 |             | –   |
|           | 40             | 95  | 76  |    |    |      |      | 6  |    | 20 |             | –   |
|           | 50             | 105 | 86  |    |    |      |      | 6  |    | 40 |             | –   |
|           | 80             | 135 | 116 |    |    |      |      | 6  |    | 40 |             | –   |
|           | 100            | 155 | 136 |    |    |      |      | 6  |    | 40 |             | 80  |
| 16        | 10             | 60  | 48  | 10 | 12 | 11.9 | 10.6 | –  | 22 | –  | 34          | –   |
|           | 20             | 70  | 58  |    |    |      |      | –  |    | –  |             | –   |
|           | 25             | 75  | 63  |    |    |      |      | –  |    | 20 |             | –   |
|           | 30             | 80  | 68  |    |    |      |      | –  |    | 20 |             | –   |
|           | 40             | 107 | 78  |    |    |      |      | 17 |    | 20 |             | –   |
|           | 50             | 117 | 88  |    |    |      |      | 17 |    | 40 |             | –   |
|           | 80             | 147 | 118 |    |    |      |      | 17 |    | 40 |             | –   |
|           | 100            | 167 | 138 |    |    |      |      | 17 |    | 40 |             | 80  |

| ∅<br>[mm] | Stroke<br>[mm] | L12  | L13 | T1 | T2  | T3  | T4 | T5  | T6  | T7 | ≈C1 | ≈C2 |
|-----------|----------------|------|-----|----|-----|-----|----|-----|-----|----|-----|-----|
| 12        | 10             | 11.4 | 5   | 9  | 9.4 | 2.1 | 8  | 1.2 | 1.2 | 8  | 10  | 10  |
|           | 20             |      |     |    |     |     |    |     |     |    |     |     |
|           | 25             |      |     |    |     |     |    |     |     |    |     |     |
|           | 30             |      |     |    |     |     |    |     |     |    |     |     |
|           | 40             |      |     |    |     |     |    |     |     |    |     |     |
|           | 50             |      |     |    |     |     |    |     |     |    |     |     |
|           | 80             |      |     |    |     |     |    |     |     |    |     |     |
|           | 100            |      |     |    |     |     |    |     |     |    |     |     |
| 16        | 10             | 11.9 | –   | 9  | 4.6 | 2.1 | 10 | 1.2 | 1.2 | –  | 14  | 14  |
|           | 20             |      |     |    |     |     |    |     |     |    |     |     |
|           | 25             |      |     |    |     |     |    |     |     |    |     |     |
|           | 30             |      |     |    |     |     |    |     |     |    |     |     |
|           | 40             |      |     |    |     |     |    |     |     |    |     |     |
|           | 50             |      |     |    |     |     |    |     |     |    |     |     |
|           | 80             |      |     |    |     |     |    |     |     |    |     |     |
|           | 100            |      |     |    |     |     |    |     |     |    |     |     |

# Guided drives DFM

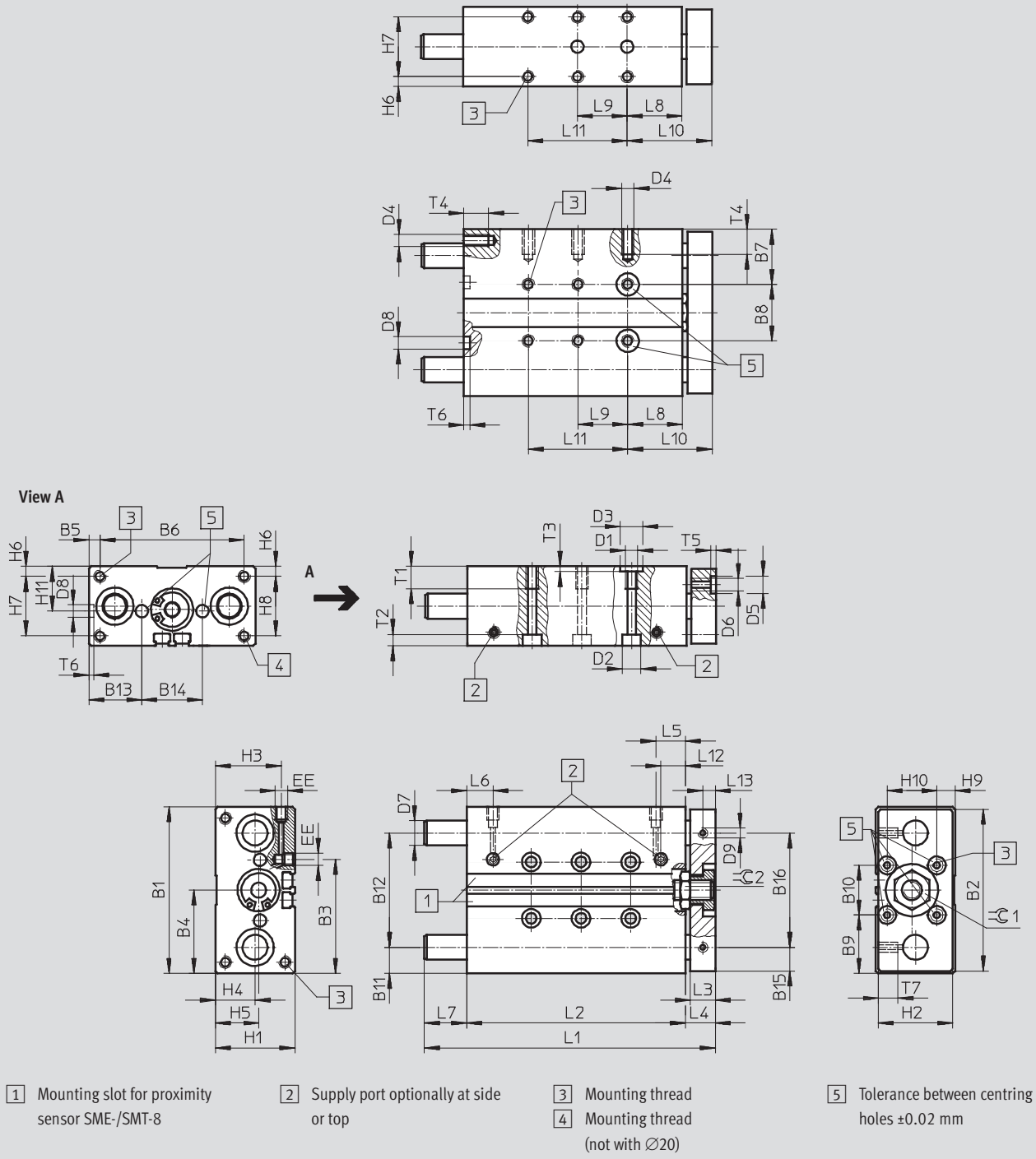
Technical data

FESTO

## Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Piston Ø 20 ... 25 mm



## Note

If the guide rods project beyond the housing when the unit is in its retracted end position (→ dimension L7), a recess must be provided in the

mounting surface if the unit is to be mounted against a surface in order to allow the guide rods to move freely.

# Guided drives DFM

Technical data

**FESTO**

| Ø<br>[mm] | B1 | B2 | B3   | B4   | B5   | B6 | B7   | B8 | B9   | B10 | B11  | B12 | B13 | B14 | D1 | D2<br>Ø | D3<br>Ø<br>H7 | D4 |
|-----------|----|----|------|------|------|----|------|----|------|-----|------|-----|-----|-----|----|---------|---------------|----|
| 20        | 83 | 81 | 53.6 | 41.5 | 6.5  | 70 | 26.5 | 30 | 26.5 | 30  | 12.5 | 58  | 26  | 31  | M6 | 9       | 9             | M5 |
| 25        | 95 | 93 | 70   | 47.5 | 15.5 | 64 | 30   | 35 | 27.5 | 40  | 13.5 | 68  | 29  | 37  | M6 | 9       | 9             | M6 |

| Ø<br>[mm] | D5<br>Ø<br>H7 | D6 | D7<br>Ø |      | D8<br>Ø<br>H7 | EE              | H1 | H2 | H3   | H4 | H5   | H6  | H7 | H8 | H9 | H10 | H11 |
|-----------|---------------|----|---------|------|---------------|-----------------|----|----|------|----|------|-----|----|----|----|-----|-----|
|           |               |    | GF      | KF   |               |                 |    |    |      |    |      |     |    |    |    |     |     |
| 20        | 9             | M5 | 14h8    | 12h6 | 7             | M5              | 36 | 34 | 29.5 | 17 | 17   | 4.5 | 27 | –  | 7  | 20  | 18  |
| 25        | 9             | M6 | 16h8    | 14h6 | 7             | G $\frac{3}{8}$ | 44 | 42 | 34.8 | 19 | 23.9 | 4.5 | 35 | 35 | 12 | 20  | 22  |

| Ø<br>[mm] | Stroke<br>[mm] | L1  | L2    | L3 | L4 | L5   | L6   | L7   | L8 | L9 | L10<br>±0.1 | L11 |
|-----------|----------------|-----|-------|----|----|------|------|------|----|----|-------------|-----|
| 20        | 20             | 75  | 61    | 12 | 14 | 14   | 10.5 | –    | 26 | –  | 40          | –   |
|           | 25             | 80  | 66    |    |    |      |      | –    |    | 20 |             | –   |
|           | 30             | 85  | 71    |    |    |      |      | –    |    | 20 |             | –   |
|           | 40             | 121 | 81    |    |    |      |      | 26   |    | 20 |             | –   |
|           | 50             | 131 | 91    |    |    |      |      | 26   |    | 40 |             | –   |
|           | 80             | 161 | 121   |    |    |      |      | 26   |    | 40 |             | –   |
|           | 100            | 181 | 141   |    |    |      |      | 26   |    | 40 |             | 80  |
|           | 100            | 181 | 141   |    |    |      |      | 26   |    | 40 |             | 80  |
| 25        | 20             | 93  | 65.6  | 12 | 14 | 17.5 | 9.5  | 13.4 | 26 | –  | 40          | –   |
|           | 25             | 98  | 70.6  |    |    |      |      | 13.4 |    | 20 |             | –   |
|           | 30             | 103 | 75.6  |    |    |      |      | 13.4 |    | 20 |             | –   |
|           | 40             | 123 | 85.6  |    |    |      |      | 23.4 |    | 20 |             | –   |
|           | 50             | 133 | 95.6  |    |    |      |      | 23.4 |    | 40 |             | –   |
|           | 80             | 163 | 125.6 |    |    |      |      | 23.4 |    | 40 |             | –   |
|           | 100            | 183 | 145.6 |    |    |      |      | 23.4 |    | 40 |             | 80  |
|           | 100            | 183 | 145.6 |    |    |      |      | 23.4 |    | 40 |             | 80  |

| Ø<br>[mm] | Stroke<br>[mm] | L12 | T1 | T2  | T3  | T4 | T5  | T6  | ≈C1 | ≈C2 |
|-----------|----------------|-----|----|-----|-----|----|-----|-----|-----|-----|
| 20        | 20             | 14  | 12 | 5.7 | 2.1 | 10 | 2.1 | 1.6 | 17  | 17  |
|           | 25             |     |    |     |     |    |     |     |     |     |
|           | 30             |     |    |     |     |    |     |     |     |     |
|           | 40             |     |    |     |     |    |     |     |     |     |
|           | 50             |     |    |     |     |    |     |     |     |     |
|           | 80             |     |    |     |     |    |     |     |     |     |
|           | 100            |     |    |     |     |    |     |     |     |     |
| 25        | 20             | 15  | 14 | 5.7 | 2.1 | 12 | 2.1 | 1.6 | 17  | 17  |
|           | 25             |     |    |     |     |    |     |     |     |     |
|           | 30             |     |    |     |     |    |     |     |     |     |
|           | 40             |     |    |     |     |    |     |     |     |     |
|           | 50             |     |    |     |     |    |     |     |     |     |
|           | 80             |     |    |     |     |    |     |     |     |     |
|           | 100            |     |    |     |     |    |     |     |     |     |

Note: This product conforms to ISO 1179-1 and ISO 228-1

# Guided drives DFM

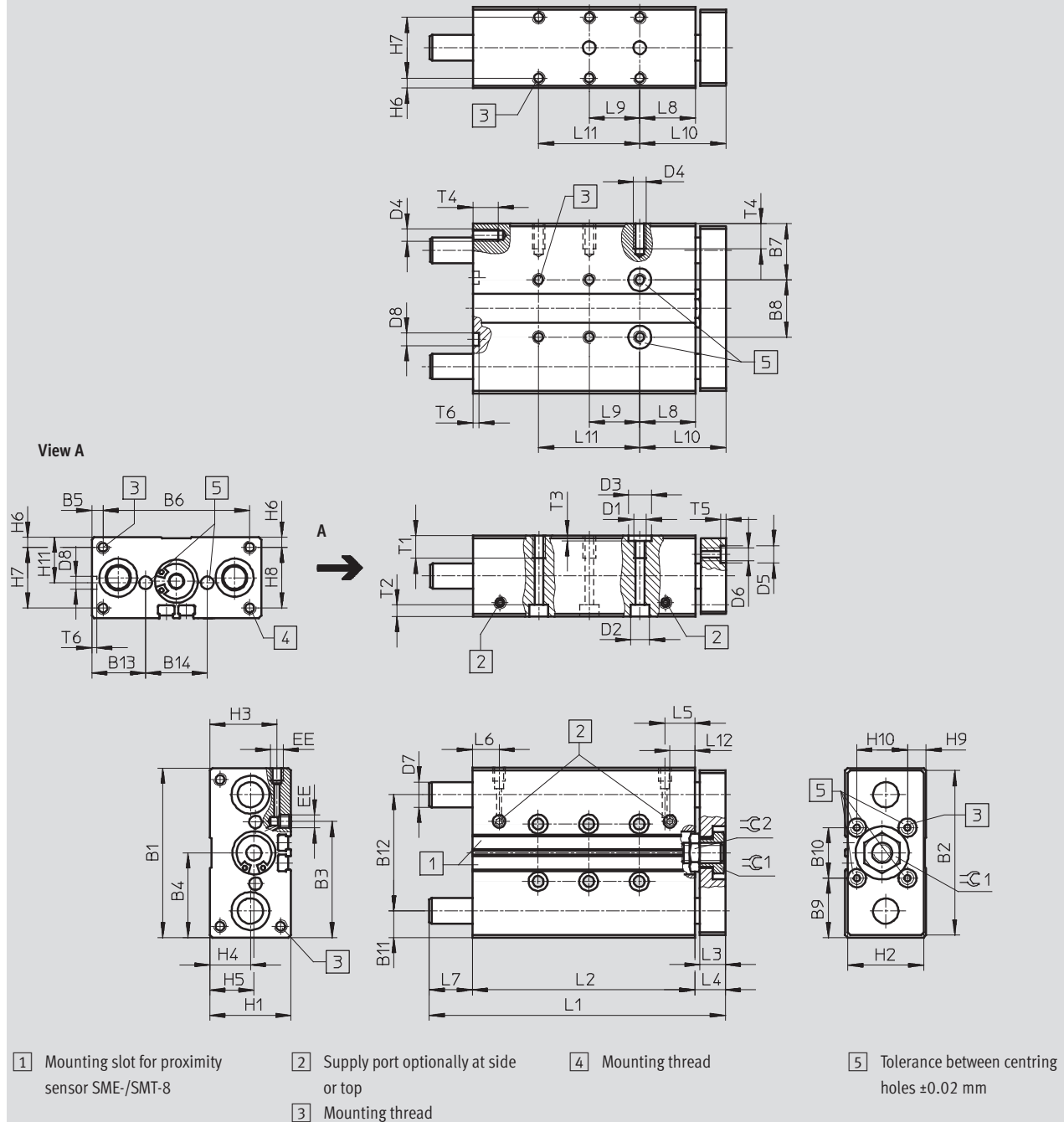
Technical data

FESTO

## Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Piston Ø 32 ... 63 mm



## Note

Since the guide rods project beyond the housing when the unit is in its retracted end position (→ dimension L7), a recess must be provided in the

mounting surface if the unit is to be mounted against a surface in order to allow the guide rods to move freely.

# Guided drives DFM

Technical data

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| Ø<br>[mm] | B1  | B2  | B3    | B4 | B5 | B6  | B7   | B8 | B9 | B10 | B11  | B12 | B13  | B14 | D1  | D2<br>Ø | D3<br>Ø<br>H7 | D4  |
|-----------|-----|-----|-------|----|----|-----|------|----|----|-----|------|-----|------|-----|-----|---------|---------------|-----|
| 32        | 110 | 108 | 81    | 55 | 20 | 70  | 33.5 | 43 | 35 | 40  | 16   | 78  | 32.5 | 45  | M8  | 11      | 12            | M6  |
| 40        | 120 | 118 | 94    | 60 | 15 | 90  | 34.5 | 51 | 35 | 50  | 16   | 88  | 32.5 | 55  | M8  | 11      | 12            | M8  |
| 50        | 148 | 146 | 116.5 | 74 | 19 | 110 | 42   | 64 | 44 | 60  | 19   | 110 | 40   | 68  | M8  | 11      | 12            | M8  |
| 63        | 162 | 160 | 139   | 81 | 9  | 144 | 41   | 80 | 41 | 80  | 18.4 | 125 | 39.5 | 83  | M10 | 15      | 12            | M10 |

| Ø<br>[mm] | D5<br>Ø<br>H7 | D6 | D7<br>Ø |      | D8<br>Ø<br>H7 | EE              | H1 | H2 | H3   | H4   | H5   | H6 | H7 | H8 | H9  | H10 | H11  |
|-----------|---------------|----|---------|------|---------------|-----------------|----|----|------|------|------|----|----|----|-----|-----|------|
|           |               |    | GF      | KF   |               |                 |    |    |      |      |      |    |    |    |     |     |      |
| 32        | 9             | M6 | 20h8    | 16h6 | 9             | G $\frac{1}{8}$ | 49 | 47 | 38.5 | 22   | 23.5 | 6  | 37 | 37 | 8.5 | 30  | 24.5 |
| 40        | 9             | M6 | 20h8    | 16h6 | 9             | G $\frac{1}{8}$ | 54 | 52 | 40.5 | 24   | 25   | 6  | 42 | 42 | 10  | 30  | 27   |
| 50        | 12            | M8 | 25h8    | 20h6 | 12            | G $\frac{1}{4}$ | 64 | 62 | 50.5 | 29.5 | 29.7 | 7  | 50 | 50 | 12  | 40  | 32   |
| 63        | 12            | M8 | 25h8    | 20h6 | 12            | G $\frac{1}{4}$ | 78 | 76 | 55   | 32   | 36.8 | 9  | 60 | 60 | 19  | 40  | 39   |

| Ø<br>[mm] | Stroke<br>[mm] | L1  | L2  | L3 | L4 | L5   | L6   | L7 | L8 | L9 | L10<br>±0.1 | L11 | L12  | T1 | T2  | T3  | T4 | T5  | T6  | ≈C1 | ≈C2 |
|-----------|----------------|-----|-----|----|----|------|------|----|----|----|-------------|-----|------|----|-----|-----|----|-----|-----|-----|-----|
| 32        | 20             | 101 | 68  | 14 | 16 | 17   | 12   | 17 | 29 | –  | 45          | –   | 17   | 15 | 6.8 | 2.6 | 12 | 2.1 | 2.1 | 17  | 22  |
|           | 25             | 106 | 73  |    |    |      |      | 17 |    | 20 |             | –   |      |    |     |     |    |     |     |     |     |
|           | 30             | 111 | 78  |    |    |      |      | 17 |    | 20 |             | –   |      |    |     |     |    |     |     |     |     |
|           | 40             | 121 | 88  |    |    |      |      | 17 |    | 20 |             | –   |      |    |     |     |    |     |     |     |     |
|           | 50             | 131 | 98  |    |    |      |      | 17 |    | 40 |             | –   |      |    |     |     |    |     |     |     |     |
|           | 80             | 179 | 128 |    |    |      |      | 35 |    | 40 |             | –   |      |    |     |     |    |     |     |     |     |
|           | 100            | 199 | 148 |    |    |      |      | 35 |    | 40 |             | 80  |      |    |     |     |    |     |     |     |     |
|           | 125            | 244 | 173 |    |    |      |      | 55 |    | 40 |             | 80  |      |    |     |     |    |     |     |     |     |
|           | 160            | 279 | 208 |    |    |      |      | 55 |    | 40 |             | 120 |      |    |     |     |    |     |     |     |     |
|           | 200            | 319 | 248 |    |    |      |      | 55 |    | 40 |             | 160 |      |    |     |     |    |     |     |     |     |
| 40        | 25             | 106 | 76  | 14 | 16 | 17.8 | 13.1 | 14 | 29 | 20 | 45          | –   | 17.8 | 15 | 6.8 | 2.6 | 16 | 2.1 | 2.1 | 17  | 22  |
|           | 50             | 131 | 101 |    |    |      |      | 14 |    | 40 |             | –   |      |    |     |     |    |     |     |     |     |
|           | 80             | 179 | 131 |    |    |      |      | 32 |    | 40 |             | –   |      |    |     |     |    |     |     |     |     |
|           | 100            | 199 | 151 |    |    |      |      | 32 |    | 40 |             | 80  |      |    |     |     |    |     |     |     |     |
|           | 125            | 244 | 176 |    |    |      |      | 52 |    | 40 |             | 80  |      |    |     |     |    |     |     |     |     |
|           | 160            | 279 | 211 |    |    |      |      | 52 |    | 40 |             | 120 |      |    |     |     |    |     |     |     |     |
|           | 200            | 319 | 251 |    |    |      |      | 52 |    | 40 |             | 160 |      |    |     |     |    |     |     |     |     |
| 50        | 25             | 118 | 77  | 16 | 18 | 17.8 | 14.2 | 23 | 32 | 20 | 50          | –   | 17.8 | 15 | 6.8 | 2.6 | 16 | 2.6 | 2.6 | 19  | 24  |
|           | 50             | 143 | 102 |    |    |      |      | 23 |    | 40 |             | –   |      |    |     |     |    |     |     |     |     |
|           | 80             | 194 | 132 |    |    |      |      | 44 |    | 40 |             | –   |      |    |     |     |    |     |     |     |     |
|           | 100            | 214 | 152 |    |    |      |      | 44 |    | 40 |             | 80  |      |    |     |     |    |     |     |     |     |
|           | 125            | 259 | 177 |    |    |      |      | 64 |    | 40 |             | 80  |      |    |     |     |    |     |     |     |     |
|           | 160            | 294 | 212 |    |    |      |      | 64 |    | 40 |             | 120 |      |    |     |     |    |     |     |     |     |
|           | 200            | 334 | 252 |    |    |      |      | 64 |    | 40 |             | 160 |      |    |     |     |    |     |     |     |     |
| 63        | 25             | 118 | 83  | 16 | 18 | 18.5 | 14.8 | 17 | 32 | 20 | 50          | –   | 18.5 | 20 | 9   | 2.6 | 20 | 2.6 | 2.6 | 19  | 24  |
|           | 50             | 143 | 108 |    |    |      |      | 17 |    | 40 |             | –   |      |    |     |     |    |     |     |     |     |
|           | 80             | 194 | 138 |    |    |      |      | 38 |    | 40 |             | 80  |      |    |     |     |    |     |     |     |     |
|           | 100            | 214 | 158 |    |    |      |      | 38 |    | 40 |             | 80  |      |    |     |     |    |     |     |     |     |
|           | 125            | 259 | 183 |    |    |      |      | 58 |    | 40 |             | 120 |      |    |     |     |    |     |     |     |     |
|           | 160            | 294 | 218 |    |    |      |      | 58 |    | 40 |             | 160 |      |    |     |     |    |     |     |     |     |
|           | 200            | 334 | 258 |    |    |      |      | 58 |    | 40 |             | 200 |      |    |     |     |    |     |     |     |     |

Note: This product conforms to ISO 1179-1 and ISO 228-1

# Guided drives DFM

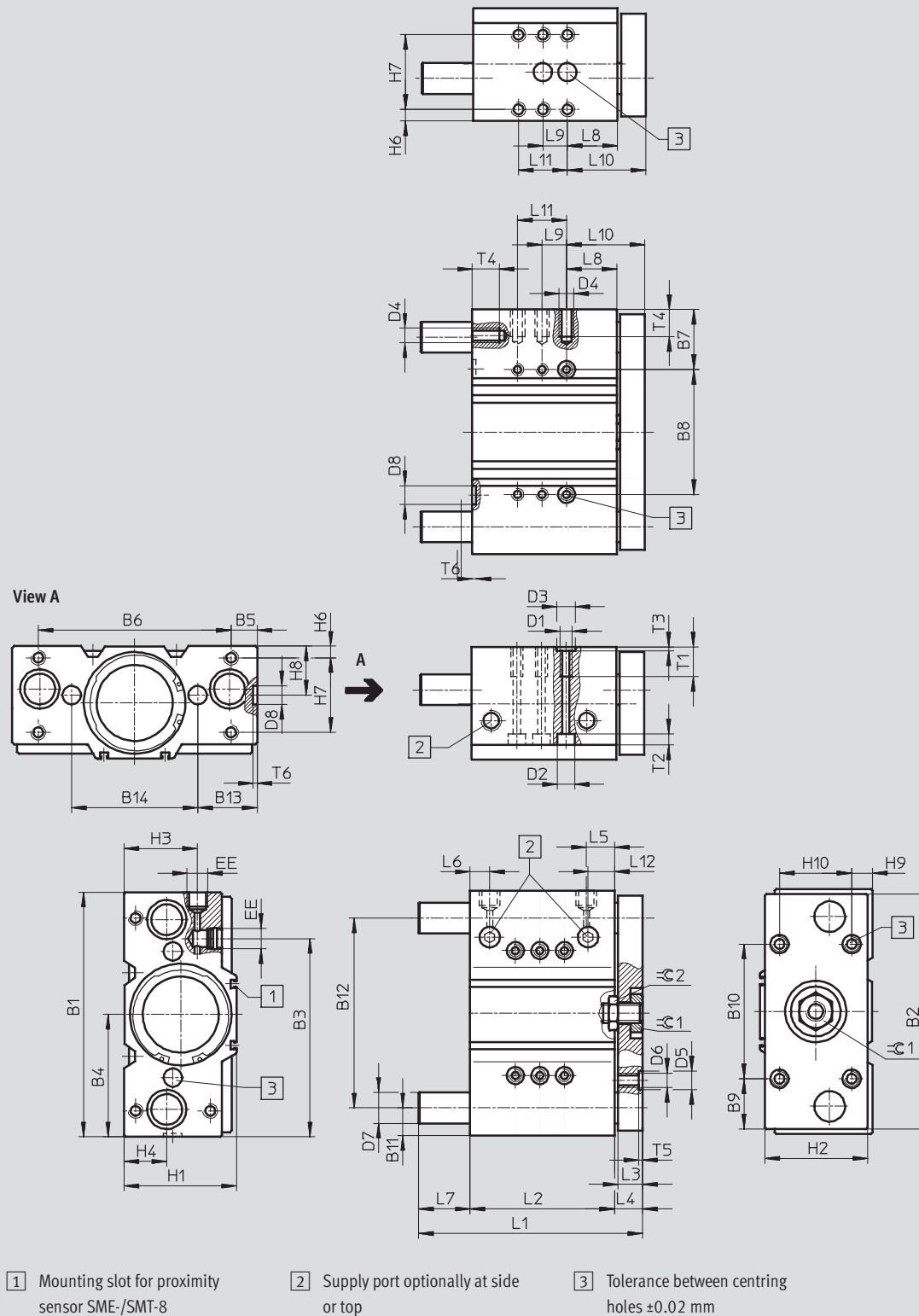
Technical data

FESTO

## Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Piston Ø 80 ... 100 mm



## Note

Since the guide rods project beyond the housing when the unit is in its retracted end position (→ dimension L7), a recess must be provided in the

mounting surface if the unit is to be mounted against a surface in order to allow the guide rods to move freely.

# Guided drives DFM

Technical data

**FESTO**

| Ø<br>[mm] | B1  | B2  | B3    | B4  | B5   | B6  | B7   | B8  | B9 | B10 | B11  | B12 | B13  | B14 | D1  | D2<br>Ø | D3<br>Ø<br>H7 |
|-----------|-----|-----|-------|-----|------|-----|------|-----|----|-----|------|-----|------|-----|-----|---------|---------------|
| 80        | 200 | 192 | 162.5 | 100 | 21.5 | 157 | 48.5 | 103 | 41 | 110 | 22.5 | 155 | 48.5 | 103 | M10 | 15      | 12            |
| 100       | 240 | 232 | 201   | 120 | 21   | 198 | 54   | 132 | 56 | 120 | 26   | 188 | 57   | 126 | M12 | 18      | 15            |

| Ø<br>[mm] | D4  | D5<br>Ø<br>H7 | D6  | D7<br>Ø |      | D8<br>Ø<br>H7 | EE              | H1  | H2  | H3 | H4   | H6 | H7 | H8 | H9 | H10 |
|-----------|-----|---------------|-----|---------|------|---------------|-----------------|-----|-----|----|------|----|----|----|----|-----|
|           |     |               |     | GF      | KF   |               |                 |     |     |    |      |    |    |    |    |     |
| 80        | M10 | 12            | M10 | 30h8    | 25h6 | 12            | G $\frac{3}{8}$ | 92  | 84  | 61 | 35   | 9  | 62 | 40 | 16 | 60  |
| 100       | M12 | 15            | M12 | 35h8    | 30h6 | 15            | G $\frac{3}{8}$ | 112 | 104 | 66 | 39.5 | 10 | 68 | 44 | 16 | 80  |

| Ø<br>[mm] | Stroke<br>[mm] | L1  | L2  | L3 | L4 | L5 | L6 | L7 | L8 | L9 | L10<br>±0.1 | L11 | L12 | T1 | T2 | T3  | T4 | T5  | T6  | ≤C1 | ≤C2 |
|-----------|----------------|-----|-----|----|----|----|----|----|----|----|-------------|-----|-----|----|----|-----|----|-----|-----|-----|-----|
| 80        | 25             | 137 | 93  | 20 | 23 | 23 | 16 | 21 | 41 | 20 | 64          | –   | 23  | 20 | 9  | 2.6 | 20 | 2.6 | 2.6 | 27  | 30  |
|           | 50             | 183 | 118 |    |    |    |    | 42 |    | 40 |             | –   |     |    |    |     |    |     |     |     |     |
|           | 80             | 243 | 148 |    |    |    |    | 72 |    | 40 |             | –   |     |    |    |     |    |     |     |     |     |
|           | 100            | 263 | 168 |    |    |    |    | 72 |    | 40 |             | 80  |     |    |    |     |    |     |     |     |     |
|           | 125            | 288 | 193 |    |    |    |    | 72 |    | 40 |             | 80  |     |    |    |     |    |     |     |     |     |
|           | 160            | 323 | 228 |    |    |    |    | 72 |    | 40 |             | 120 |     |    |    |     |    |     |     |     |     |
|           | 200            | 363 | 268 |    |    |    |    | 72 |    | 40 |             | 160 |     |    |    |     |    |     |     |     |     |
| 100       | 25             | 150 | 109 | 20 | 23 | 29 | 20 | 18 | 13 | 40 | 36          | –   | 29  | 25 | 11 | 3.1 | 24 | 3.1 | 3.1 | 32  | 30  |
|           | 50             | 197 | 134 |    |    |    |    | 40 |    | 40 |             | 80  |     |    |    |     |    |     |     |     |     |
|           | 80             | 257 | 164 |    |    |    |    | 70 |    | 40 |             | 80  |     |    |    |     |    |     |     |     |     |
|           | 100            | 277 | 184 |    |    |    |    | 70 |    | 40 |             | 120 |     |    |    |     |    |     |     |     |     |
|           | 125            | 302 | 209 |    |    |    |    | 70 |    | 40 |             | 160 |     |    |    |     |    |     |     |     |     |
|           | 160            | 337 | 244 |    |    |    |    | 70 |    | 40 |             | 160 |     |    |    |     |    |     |     |     |     |
|           | 200            | 377 | 284 |    |    |    |    | 70 |    | 40 |             | 200 |     |    |    |     |    |     |     |     |     |

Note: This product conforms to ISO 1179-1 and ISO 228-1

# Guided drives DFM

Technical data

**FESTO**

| Ordering data – Plain-bearing guide GF |                 |                    |  |                |                   |  |                |                   |  |               |                   |
|----------------------------------------|-----------------|--------------------|--|----------------|-------------------|--|----------------|-------------------|--|---------------|-------------------|
|                                        | Part No. Type   |                    |  | Part No. Type  |                   |  | Part No. Type  |                   |  | Part No. Type |                   |
| Stroke [mm]                            | Piston Ø 12 mm  |                    |  | Piston Ø 16 mm |                   |  | Piston Ø 20 mm |                   |  |               |                   |
| 10                                     | 170 824         | DFM-12-10-P-A-GF   |  | 170 832        | DFM-16-10-P-A-GF  |  | –              | –                 |  | –             | –                 |
| 20                                     | 170 825         | DFM-12-20-P-A-GF   |  | 170 833        | DFM-16-20-P-A-GF  |  | 170 840        | DFM-20-20-P-A-GF  |  | 170 841       | DFM-20-25-P-A-GF  |
| 25                                     | 170 826         | DFM-12-25-P-A-GF   |  | 170 834        | DFM-16-25-P-A-GF  |  | 170 842        | DFM-20-30-P-A-GF  |  | 170 843       | DFM-20-40-P-A-GF  |
| 30                                     | 170 827         | DFM-12-30-P-A-GF   |  | 170 835        | DFM-16-30-P-A-GF  |  | 170 844        | DFM-20-50-P-A-GF  |  | 170 845       | DFM-20-80-P-A-GF  |
| 40                                     | 170 828         | DFM-12-40-P-A-GF   |  | 170 836        | DFM-16-40-P-A-GF  |  | 170 846        | DFM-20-100-P-A-GF |  | –             | –                 |
| 50                                     | 170 829         | DFM-12-50-P-A-GF   |  | 170 837        | DFM-16-50-P-A-GF  |  | –              | –                 |  | –             | –                 |
| 80                                     | 170 830         | DFM-12-80-P-A-GF   |  | 170 838        | DFM-16-80-P-A-GF  |  | –              | –                 |  | –             | –                 |
| 100                                    | 170 831         | DFM-12-100-P-A-GF  |  | 170 839        | DFM-16-100-P-A-GF |  | –              | –                 |  | –             | –                 |
| 125                                    | –               | –                  |  | –              | –                 |  | –              | –                 |  | –             | –                 |
| 160                                    | –               | –                  |  | –              | –                 |  | –              | –                 |  | –             | –                 |
| 200                                    | –               | –                  |  | –              | –                 |  | –              | –                 |  | –             | –                 |
|                                        |                 |                    |  |                |                   |  |                |                   |  |               |                   |
| Stroke [mm]                            | Piston Ø 25 mm  |                    |  | Piston Ø 32 mm |                   |  | Piston Ø 40 mm |                   |  |               |                   |
| 10                                     | –               | –                  |  | –              | –                 |  | –              | –                 |  | –             | –                 |
| 20                                     | 170 847         | DFM-25-20-P-A-GF   |  | 170 854        | DFM-32-20-P-A-GF  |  | –              | –                 |  | –             | –                 |
| 25                                     | 170 848         | DFM-25-25-P-A-GF   |  | 170 855        | DFM-32-25-P-A-GF  |  | 170 864        | DFM-40-25-P-A-GF  |  | –             | –                 |
| 30                                     | 170 849         | DFM-25-30-P-A-GF   |  | 170 856        | DFM-32-30-P-A-GF  |  | –              | –                 |  | –             | –                 |
| 40                                     | 170 850         | DFM-25-40-P-A-GF   |  | 170 857        | DFM-32-40-P-A-GF  |  | –              | –                 |  | –             | –                 |
| 50                                     | 170 851         | DFM-25-50-P-A-GF   |  | 170 858        | DFM-32-50-P-A-GF  |  | 170 865        | DFM-40-50-P-A-GF  |  | 170 866       | DFM-40-80-P-A-GF  |
| 80                                     | 170 852         | DFM-25-80-P-A-GF   |  | 170 859        | DFM-32-80-P-A-GF  |  | 170 867        | DFM-40-100-P-A-GF |  | 170 868       | DFM-40-125-P-A-GF |
| 100                                    | 170 853         | DFM-25-100-P-A-GF  |  | 170 860        | DFM-32-100-P-A-GF |  | 170 869        | DFM-40-160-P-A-GF |  | 170 870       | DFM-40-200-P-A-GF |
| 125                                    | –               | –                  |  | 170 861        | DFM-32-125-P-A-GF |  | –              | –                 |  | –             | –                 |
| 160                                    | –               | –                  |  | 170 862        | DFM-32-160-P-A-GF |  | –              | –                 |  | –             | –                 |
| 200                                    | –               | –                  |  | 170 863        | DFM-32-200-P-A-GF |  | –              | –                 |  | –             | –                 |
|                                        |                 |                    |  |                |                   |  |                |                   |  |               |                   |
| Stroke [mm]                            | Piston Ø 50 mm  |                    |  | Piston Ø 63 mm |                   |  | Piston Ø 80 mm |                   |  |               |                   |
| 10                                     | –               | –                  |  | –              | –                 |  | –              | –                 |  | –             | –                 |
| 20                                     | –               | –                  |  | –              | –                 |  | –              | –                 |  | –             | –                 |
| 25                                     | 170 871         | DFM-50-25-P-A-GF   |  | 170 878        | DFM-63-25-P-A-GF  |  | 170 885        | DFM-80-25-P-A-GF  |  | –             | –                 |
| 30                                     | –               | –                  |  | –              | –                 |  | –              | –                 |  | –             | –                 |
| 40                                     | –               | –                  |  | –              | –                 |  | –              | –                 |  | –             | –                 |
| 50                                     | 170 872         | DFM-50-50-P-A-GF   |  | 170 879        | DFM-63-50-P-A-GF  |  | 170 886        | DFM-80-50-P-A-GF  |  | 170 887       | DFM-80-80-P-A-GF  |
| 80                                     | 170 873         | DFM-50-80-P-A-GF   |  | 170 880        | DFM-63-80-P-A-GF  |  | 170 888        | DFM-80-100-P-A-GF |  | 170 889       | DFM-80-125-P-A-GF |
| 100                                    | 170 874         | DFM-50-100-P-A-GF  |  | 170 881        | DFM-63-100-P-A-GF |  | 170 890        | DFM-80-160-P-A-GF |  | 170 891       | DFM-80-200-P-A-GF |
| 125                                    | 170 875         | DFM-50-125-P-A-GF  |  | 170 882        | DFM-63-125-P-A-GF |  | –              | –                 |  | –             | –                 |
| 160                                    | 170 876         | DFM-50-160-P-A-GF  |  | 170 883        | DFM-63-160-P-A-GF |  | –              | –                 |  | –             | –                 |
| 200                                    | 170 877         | DFM-50-200-P-A-GF  |  | 170 884        | DFM-63-200-P-A-GF |  | –              | –                 |  | –             | –                 |
|                                        |                 |                    |  |                |                   |  |                |                   |  |               |                   |
| Stroke [mm]                            | Piston Ø 100 mm |                    |  |                |                   |  |                |                   |  |               |                   |
| 10                                     | –               | –                  |  |                |                   |  |                |                   |  |               |                   |
| 20                                     | –               | –                  |  |                |                   |  |                |                   |  |               |                   |
| 25                                     | 170 892         | DFM-100-25-P-A-GF  |  |                |                   |  |                |                   |  |               |                   |
| 30                                     | –               | –                  |  |                |                   |  |                |                   |  |               |                   |
| 40                                     | –               | –                  |  |                |                   |  |                |                   |  |               |                   |
| 50                                     | 170 893         | DFM-100-50-P-A-GF  |  |                |                   |  |                |                   |  |               |                   |
| 80                                     | 170 894         | DFM-100-80-P-A-GF  |  |                |                   |  |                |                   |  |               |                   |
| 100                                    | 170 895         | DFM-100-100-P-A-GF |  |                |                   |  |                |                   |  |               |                   |
| 125                                    | 170 896         | DFM-100-125-P-A-GF |  |                |                   |  |                |                   |  |               |                   |
| 160                                    | 170 897         | DFM-100-160-P-A-GF |  |                |                   |  |                |                   |  |               |                   |
| 200                                    | 170 898         | DFM-100-200-P-A-GF |  |                |                   |  |                |                   |  |               |                   |

# Guided drives DFM

Technical data

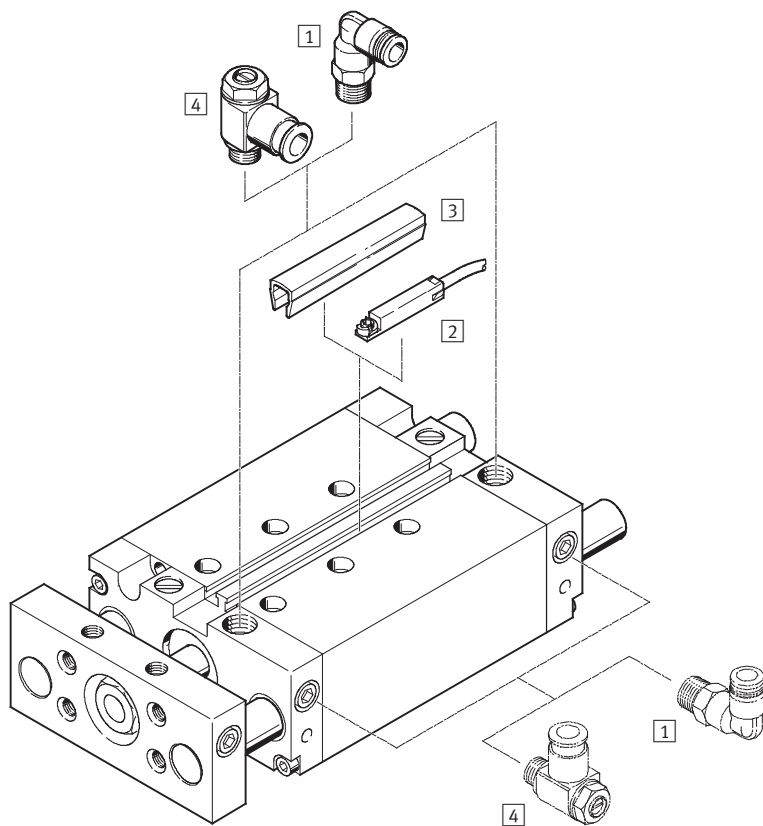
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| Ordering data – Recirculating ball bearing guide KF |                  |                    |                |                   |                   |                   |                  |                   |  |  |  |
|-----------------------------------------------------|------------------|--------------------|----------------|-------------------|-------------------|-------------------|------------------|-------------------|--|--|--|
|                                                     | Part No.    Type |                    |                | Part No.    Type  |                   |                   | Part No.    Type |                   |  |  |  |
| Stroke [mm]                                         | Piston Ø 12 mm   |                    |                | Piston Ø 16 mm    |                   |                   | Piston Ø 20 mm   |                   |  |  |  |
| 10                                                  | 170 899          | DFM-12-10-P-A-KF   |                | 170 907           | DFM-16-10-P-A-KF  |                   | –                | –                 |  |  |  |
| 20                                                  | 170 900          | DFM-12-20-P-A-KF   |                | 170 908           | DFM-16-20-P-A-KF  |                   | 170 915          | DFM-20-20-P-A-KF  |  |  |  |
| 25                                                  | 170 901          | DFM-12-25-P-A-KF   |                | 170 909           | DFM-16-25-P-A-KF  |                   | 170 916          | DFM-20-25-P-A-KF  |  |  |  |
| 30                                                  | 170 902          | DFM-12-30-P-A-KF   |                | 170 910           | DFM-16-30-P-A-KF  |                   | 170 917          | DFM-20-30-P-A-KF  |  |  |  |
| 40                                                  | 170 903          | DFM-12-40-P-A-KF   |                | 170 911           | DFM-16-40-P-A-KF  |                   | 170 918          | DFM-20-40-P-A-KF  |  |  |  |
| 50                                                  | 170 904          | DFM-12-50-P-A-KF   |                | 170 912           | DFM-16-50-P-A-KF  |                   | 170 919          | DFM-20-50-P-A-KF  |  |  |  |
| 80                                                  | 170 905          | DFM-12-80-P-A-KF   |                | 170 913           | DFM-16-80-P-A-KF  |                   | 170 920          | DFM-20-80-P-A-KF  |  |  |  |
| 100                                                 | 170 906          | DFM-12-100-P-A-KF  |                | 170 914           | DFM-16-100-P-A-KF |                   | 170 921          | DFM-20-100-P-A-KF |  |  |  |
| 125                                                 | –                | –                  |                | –                 | –                 |                   | –                | –                 |  |  |  |
| 160                                                 | –                | –                  |                | –                 | –                 |                   | –                | –                 |  |  |  |
| 200                                                 | –                | –                  | –              | –                 | –                 | –                 |                  |                   |  |  |  |
|                                                     |                  |                    |                |                   |                   |                   |                  |                   |  |  |  |
| Stroke [mm]                                         | Piston Ø 25 mm   |                    | Piston Ø 32 mm |                   | Piston Ø 40 mm    |                   |                  |                   |  |  |  |
| 10                                                  | –                | –                  | –              | –                 | –                 | –                 |                  |                   |  |  |  |
| 20                                                  | 170 922          | DFM-25-20-P-A-KF   | 170 929        | DFM-32-20-P-A-KF  | –                 | –                 |                  |                   |  |  |  |
| 25                                                  | 170 923          | DFM-25-25P-A-KF    | 170 930        | DFM-32-25-P-A-KF  | 170 939           | DFM-40-25-P-A-KF  |                  |                   |  |  |  |
| 30                                                  | 170 924          | DFM-25-30-P-A-KF   | 170 931        | DFM-32-30-P-A-KF  | –                 | –                 |                  |                   |  |  |  |
| 40                                                  | 170 925          | DFM-25-40-P-A-KF   | 170 932        | DFM-32-40-P-A-KF  | –                 | –                 |                  |                   |  |  |  |
| 50                                                  | 170 926          | DFM-25-50-P-A-KF   | 170 933        | DFM-32-50-P-A-KF  | 170 940           | DFM-40-50-P-A-KF  |                  |                   |  |  |  |
| 80                                                  | 170 927          | DFM-25-80-P-A-KF   | 170 934        | DFM-32-80-P-A-KF  | 170 941           | DFM-40-80-P-A-KF  |                  |                   |  |  |  |
| 100                                                 | 170 928          | DFM-25-100-P-A-KF  | 170 935        | DFM-32-100-P-A-KF | 170 942           | DFM-40-100-P-A-KF |                  |                   |  |  |  |
| 125                                                 | –                | –                  | 170 936        | DFM-32-125-P-A-KF | 170 943           | DFM-40-125-P-A-KF |                  |                   |  |  |  |
| 160                                                 | –                | –                  | 170 937        | DFM-32-160-P-A-KF | 170 944           | DFM-40-160-P-A-KF |                  |                   |  |  |  |
| 200                                                 | –                | –                  | 170 938        | DFM-32-200-P-A-KF | 170 945           | DFM-40-200-P-A-KF |                  |                   |  |  |  |
|                                                     |                  |                    |                |                   |                   |                   |                  |                   |  |  |  |
| Stroke [mm]                                         | Piston Ø 50 mm   |                    | Piston Ø 63 mm |                   | Piston Ø 80 mm    |                   |                  |                   |  |  |  |
| 10                                                  | –                | –                  | –              | –                 | –                 | –                 |                  |                   |  |  |  |
| 20                                                  | –                | –                  | –              | –                 | –                 | –                 |                  |                   |  |  |  |
| 25                                                  | 170 946          | DFM-50-25-P-A-KF   | 170 953        | DFM-63-25-P-A-KF  | 170 960           | DFM-80-25-P-A-KF  |                  |                   |  |  |  |
| 30                                                  | –                | –                  | –              | –                 | –                 | –                 |                  |                   |  |  |  |
| 40                                                  | –                | –                  | –              | –                 | –                 | –                 |                  |                   |  |  |  |
| 50                                                  | 170 947          | DFM-50-50-P-A-KF   | 170 954        | DFM-63-50-P-A-KF  | 170 961           | DFM-80-50-P-A-KF  |                  |                   |  |  |  |
| 80                                                  | 170 948          | DFM-50-80-P-A-KF   | 170 955        | DFM-63-80-P-A-KF  | 170 962           | DFM-80-80-P-A-KF  |                  |                   |  |  |  |
| 100                                                 | 170 949          | DFM-50-100-P-A-KF  | 170 956        | DFM-63-100-P-A-KF | 170 963           | DFM-80-100-P-A-KF |                  |                   |  |  |  |
| 125                                                 | 170 950          | DFM-50-125-P-A-KF  | 170 957        | DFM-63-125-P-A-KF | 170 964           | DFM-80-125-P-A-KF |                  |                   |  |  |  |
| 160                                                 | 170 951          | DFM-50-160-P-A-KF  | 170 958        | DFM-63-160-P-A-KF | 170 965           | DFM-80-160-P-A-KF |                  |                   |  |  |  |
| 200                                                 | 170 952          | DFM-50-200-P-A-KF  | 170 959        | DFM-63-200-P-A-KF | 170 966           | DFM-80-200-P-A-KF |                  |                   |  |  |  |
|                                                     |                  |                    |                |                   |                   |                   |                  |                   |  |  |  |
| Stroke [mm]                                         | Piston Ø 100 mm  |                    |                |                   |                   |                   |                  |                   |  |  |  |
| 10                                                  | –                | –                  |                |                   |                   |                   |                  |                   |  |  |  |
| 20                                                  | –                | –                  |                |                   |                   |                   |                  |                   |  |  |  |
| 25                                                  | 170 967          | DFM-100-25-P-A-KF  |                |                   |                   |                   |                  |                   |  |  |  |
| 30                                                  | –                | –                  |                |                   |                   |                   |                  |                   |  |  |  |
| 40                                                  | –                | –                  |                |                   |                   |                   |                  |                   |  |  |  |
| 50                                                  | 170 968          | DFM-100-50-P-A-KF  |                |                   |                   |                   |                  |                   |  |  |  |
| 80                                                  | 170 969          | DFM-100-80-P-A-KF  |                |                   |                   |                   |                  |                   |  |  |  |
| 100                                                 | 170 970          | DFM-100-100-P-A-KF |                |                   |                   |                   |                  |                   |  |  |  |
| 125                                                 | 170 971          | DFM-100-125-P-A-KF |                |                   |                   |                   |                  |                   |  |  |  |
| 160                                                 | 170 972          | DFM-100-160-P-A-KF |                |                   |                   |                   |                  |                   |  |  |  |
| 200                                                 | 170 973          | DFM-100-200-P-A-KF |                |                   |                   |                   |                  |                   |  |  |  |

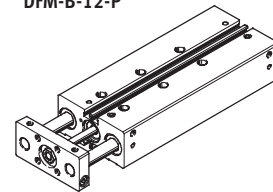
# Guided drives DFM-B

Peripherals overview

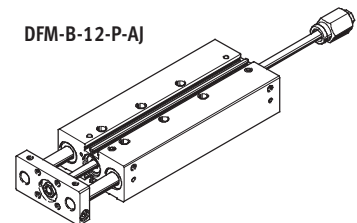
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DFM-B-12-P

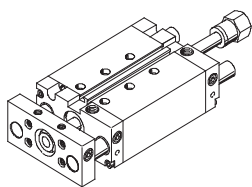


DFM-B-12-P-AJ

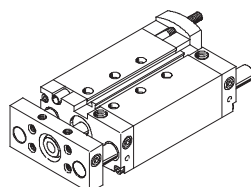


## Variants

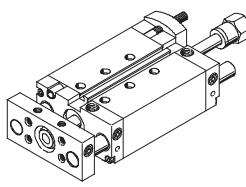
AJ



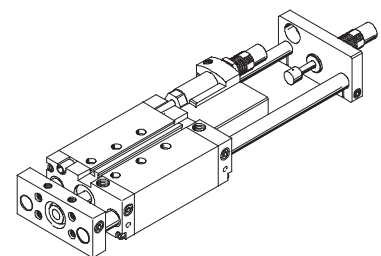
EJ



AJ + EJ



YSRW



## Accessories

|                                      | Brief description                                                 | → Page/Internet |
|--------------------------------------|-------------------------------------------------------------------|-----------------|
| 1 Push-in fitting<br>QS              | For connecting compressed air tubing with standard O.D.           | quick star      |
| 2 Proximity sensor<br>SME-/SMT-8     | Can be integrated in the profile barrel                           | 60              |
| 3 Slot cover<br>ABP-5-S              | To protect the sensor cable and keep dirt out of the sensor slots | 61              |
| 4 One-way flow control valve<br>GRLA | To regulate speed                                                 | 61              |
| - Centring sleeves<br>ZBH            | 4 or 6 pieces included in scope of delivery                       | 60              |

- Note

The proximity sensors SM...O-8E cannot be used with the DFM-B.

# Guided drives DFM-B

Type codes

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|                             |                                               |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
|-----------------------------|-----------------------------------------------|-----|---|----|---|----|---|---|---|---|---|---|---|----|---|----|---|----|---|-----|---|-----|---|---|
|                             |                                               | DFM | - | 50 | - | 80 | - | B | - | P | - | A | - | GF | - | S6 | - | AJ | - | ZUB | - | 10S | - | G |
| <b>Type</b>                 |                                               |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| DFM                         | Guided drive                                  |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| <b>Piston Ø [mm]</b>        |                                               |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| <b>Stroke [mm]</b>          |                                               |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| <b>Generation</b>           |                                               |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| B                           | Series                                        |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| <b>Cushioning</b>           |                                               |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| P                           | Flexible cushioning rings/plates at both ends |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| PPV                         | Pneumatic cushioning adjustable at both ends  |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| YSRW                        | Self-adjusting at both ends                   |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| <b>Position sensing</b>     |                                               |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| A                           | For proximity sensing                         |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| <b>Guide</b>                |                                               |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| GF                          | Plain-bearing guide                           |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| KF                          | Recirculating ball bearing guide              |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| <b>Variant</b>              |                                               |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| S6                          | Heat-resistant seals up to max. 120 °C        |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| <b>Precision adjustment</b> |                                               |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| AJ                          | Advanced end position                         |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| EJ                          | Retracted end position                        |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| <b>Accessories</b>          |                                               |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| ZUB                         | Supplied separately                           |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| <b>Slot cover</b>           |                                               |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| ...S                        | Sensor slot                                   |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| <b>Proximity sensor</b>     |                                               |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| ...G                        | With cable, 2.5 m                             |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |
| ...I                        | Contactless with cable, 2.5 m                 |     |   |    |   |    |   |   |   |   |   |   |   |    |   |    |   |    |   |     |   |     |   |   |

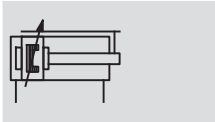
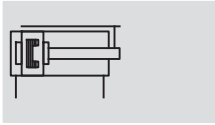
# Guided drives DFM-B

Technical data

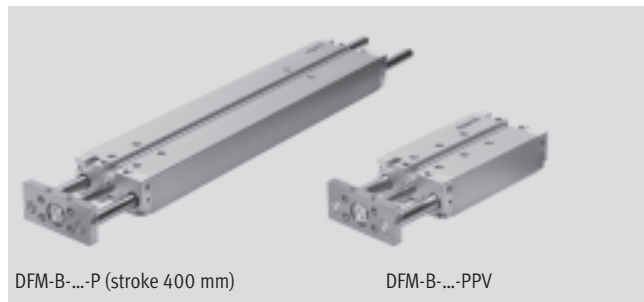
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Function

[www.festo.com/en/  
Spare\\_parts\\_service](http://www.festo.com/en/Spare_parts_service)

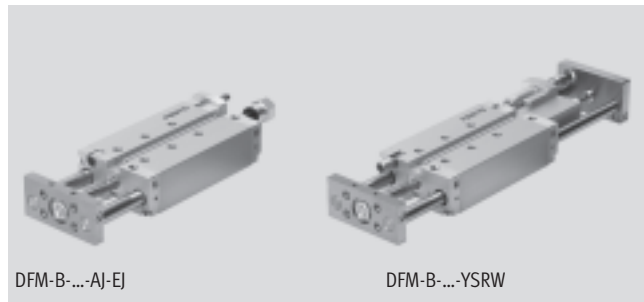


- N- Diameter  
12 ... 63 mm
- T- Stroke length  
10 ... 400 mm



DFM-B-...-P (stroke 400 mm)

DFM-B-...-PPV



DFM-B-...-AJ-EJ

DFM-B-...-YSRW

| General technical data           |                                                              |                                              |                             |            |            |            |          |          |
|----------------------------------|--------------------------------------------------------------|----------------------------------------------|-----------------------------|------------|------------|------------|----------|----------|
| Piston Ø                         | 12                                                           | 16                                           | 20                          | 25         | 32         | 40         | 50       | 63       |
| Pneumatic connection             | M5                                                           | M5                                           | M5                          | G½         | G½         | G½         | G¼       | G¼       |
| Operating medium                 | Filtered compressed air, lubricated or unlubricated          |                                              |                             |            |            |            |          |          |
| Operating pressure [bar]         | 2 ... 10                                                     | 2 ... 10                                     | 2 ... 10                    | 1.5 ... 10 | 1.5 ... 10 | 1.5 ... 10 | 1 ... 10 | 1 ... 10 |
| Design                           | Piston                                                       |                                              |                             |            |            |            |          |          |
|                                  | Piston rod                                                   |                                              |                             |            |            |            |          |          |
|                                  | Guide rods with yoke                                         |                                              |                             |            |            |            |          |          |
| Cushioning                       | Flexible cushioning rings/plates at both ends                |                                              |                             |            |            |            |          |          |
|                                  | –                                                            | Pneumatic cushioning adjustable at both ends |                             |            |            |            |          |          |
|                                  | –                                                            | –                                            | Self-adjusting at both ends |            |            |            |          |          |
| Cushioning length (PPV) [mm]     | –                                                            | 12                                           | 15                          | 15         | 16         | 17         | 19       | 19       |
| Position sensing                 | For proximity sensing                                        |                                              |                             |            |            |            |          |          |
| Type of mounting                 | Via through-holes                                            |                                              |                             |            |            |            |          |          |
|                                  | Via female threads                                           |                                              |                             |            |            |            |          |          |
| Assembly position                | Any                                                          |                                              |                             |            |            |            |          |          |
| Protection against torsion/guide | Guide rod with yoke/with plain-bearing or ball bearing guide |                                              |                             |            |            |            |          |          |
|                                  |                                                              |                                              |                             |            |            |            |          |          |
| Variant AJ, E and YSRW           |                                                              |                                              |                             |            |            |            |          |          |
| Setting range [mm]               | 0 ... 10                                                     |                                              |                             |            |            |            |          |          |
|                                  |                                                              |                                              |                             |            |            |            |          |          |
| Variant YSRW with shock absorber |                                                              |                                              |                             |            |            |            |          |          |
| Repetition accuracy [mm]         | –                                                            | –                                            | Max. 0.05                   |            |            |            |          |          |

Note: This product conforms to ISO 1179-1 and ISO 228-1

# Guided drives DFM-B

Technical data

**FESTO**

| Ambient conditions                           |                                                                    |                                     |                                  |            |
|----------------------------------------------|--------------------------------------------------------------------|-------------------------------------|----------------------------------|------------|
|                                              | Plain-bearing guide GF                                             | Recirculating ball bearing guide KF | Variant YSRW with shock absorber | S6         |
| Ambient temperature <sup>1)</sup> [°C]       | −20 ... +80                                                        | −5 ... +60                          | 0 ... +60                        | 0 ... +120 |
| Corrosion resistance class CRC <sup>2)</sup> | 2                                                                  | –                                   | –                                | 2          |
| ATEX                                         | Specified types → <a href="http://www.festo.com">www.festo.com</a> |                                     |                                  |            |

1) Note operating range of proximity sensors

2) Corrosion resistance class 1 according to Festo standard 940 070

Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers

Corrosion resistance class 2 according to Festo standard 940 070

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

| Speeds [m/s]                                                |     |     |     |     |     |     |     |     |
|-------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Piston Ø                                                    | 12  | 16  | 20  | 25  | 32  | 40  | 50  | 63  |
| Cushioning P, precision stroke adjustment AJ and EJ         |     |     |     |     |     |     |     |     |
| Maximum speed advancing, retracting                         | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.6 | 0.6 |
| Cushioning P, plain-bearing guide GF in combination with S6 |     |     |     |     |     |     |     |     |
| Maximum speed advancing, retracting                         | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 |
| Cushioning PPV, YSRW, PPV S6                                |     |     |     |     |     |     |     |     |
| Maximum speed advancing, retracting                         | –   | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1   | 1   |

| Forces [N]                                              |    |     |     |     |     |     |      |      |
|---------------------------------------------------------|----|-----|-----|-----|-----|-----|------|------|
| Piston Ø                                                | 12 | 16  | 20  | 25  | 32  | 40  | 50   | 63   |
| Cushioning P, PPV, YSRW, precision stroke adjustment EJ |    |     |     |     |     |     |      |      |
| Theoretical force at 6 bar, advancing                   | 68 | 121 | 188 | 295 | 482 | 754 | 1178 | 1870 |
| Theoretical force at 6 bar, retracting                  | 51 | 90  | 141 | 247 | 415 | 686 | 1057 | 1750 |
| Precision stroke adjustment AJ and AJ+EJ                |    |     |     |     |     |     |      |      |
| Theoretical force at 6 bar, advancing                   | 51 | 90  | 141 | 247 | 415 | 686 | 1057 | 1750 |
| Theoretical force at 6 bar, retracting                  | 51 | 90  | 141 | 247 | 415 | 686 | 1057 | 1750 |

# Guided drives DFM-B

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| Impact energy [J]                          |       |       |       |       |       |       |       |        |
|--------------------------------------------|-------|-------|-------|-------|-------|-------|-------|--------|
| Piston Ø                                   | 12    | 16    | 20    | 25    | 32    | 40    | 50    | 63     |
| Cushioning P                               |       |       |       |       |       |       |       |        |
| Max. impact energy at the end positions    | 0.09  | 0.15  | 0.2   | 0.35  | 0.40  | 0.7   | 1.0   | 1.3    |
| Max. impact energy at the end positions S6 | 0.035 | 0.075 | 0.1   | 0.15  | 0.2   | 0.35  | 0.5   | 0.65   |
| Cushioning YSRW                            |       |       |       |       |       |       |       |        |
| Max. energy absorption per stroke          | –     | –     | 4     | 8     | 12    | 35    | 35    | 70     |
| Max. energy absorption per hour            | –     | –     | 21000 | 30000 | 41000 | 68000 | 68000 | 100000 |

Permissible impact velocity:

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

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

## Note

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

Maximum permissible load:

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

| DFM-B with plain-bearing guide GF, cushioning P, PPV |               |      |      |      |      |      |       |       |
|------------------------------------------------------|---------------|------|------|------|------|------|-------|-------|
| Stroke [mm]                                          | Piston Ø [mm] |      |      |      |      |      |       |       |
|                                                      | 12            | 16   | 20   | 25   | 32   | 40   | 50    | 63    |
| Product weight [g]                                   |               |      |      |      |      |      |       |       |
| 10                                                   | 385           | 621  | –    | –    | –    | –    | –     | –     |
| 20                                                   | 432           | 680  | 1026 | 1474 | 2163 | –    | –     | –     |
| 25                                                   | 452           | 706  | 1068 | 1530 | 2238 | 2606 | 4290  | 5568  |
| 30                                                   | 476           | 736  | 1109 | 1586 | 2337 | –    | –     | –     |
| 40                                                   | 523           | 795  | 1215 | 1726 | 2489 | –    | –     | –     |
| 50                                                   | 570           | 854  | 1298 | 1838 | 2640 | 3047 | 5019  | 6457  |
| 80                                                   | 712           | 1033 | 1572 | 2218 | 3210 | 3663 | 5909  | 7503  |
| 100                                                  | 803           | 1148 | 1733 | 2435 | 3502 | 3981 | 6376  | 8116  |
| 125                                                  | 962           | 1352 | 2000 | 2800 | 4018 | 4534 | 7151  | 9050  |
| 160                                                  | 1128          | 1560 | 2293 | 3193 | 4549 | 5118 | 8017  | 10137 |
| 200                                                  | 1318          | 1797 | 2628 | 3642 | 5158 | 5786 | 9007  | 11379 |
| 250                                                  | –             | –    | 3237 | 4430 | 6259 | 6962 | 10813 | 13509 |
| 320                                                  | –             | –    | 3823 | 5215 | 7322 | 8129 | 12545 | 15682 |
| 400                                                  | –             | –    | 4493 | 6113 | 8537 | 9462 | 14525 | 18165 |
| Moving load [g]                                      |               |      |      |      |      |      |       |       |
| 10                                                   | 201           | 283  | –    | –    | –    | –    | –     | –     |
| 20                                                   | 216           | 302  | 506  | 715  | 1147 | –    | –     | –     |
| 25                                                   | 223           | 312  | 520  | 734  | 1176 | 1305 | 2217  | 2640  |
| 30                                                   | 230           | 322  | 534  | 753  | 1230 | –    | –     | –     |
| 40                                                   | 245           | 342  | 586  | 823  | 1289 | –    | –     | –     |
| 50                                                   | 260           | 362  | 615  | 861  | 1347 | 1476 | 2567  | 2990  |
| 80                                                   | 304           | 423  | 724  | 1022 | 1644 | 1776 | 3002  | 3426  |
| 100                                                  | 333           | 463  | 781  | 1098 | 1764 | 1893 | 3189  | 3613  |
| 125                                                  | 420           | 579  | 917  | 1289 | 2059 | 2188 | 3586  | 4009  |
| 160                                                  | 472           | 649  | 1016 | 1422 | 2264 | 2393 | 3913  | 4336  |
| 200                                                  | 530           | 730  | 1129 | 1573 | 2499 | 2627 | 4286  | 4710  |
| 250                                                  | –             | –    | 1489 | 2017 | 3164 | 3293 | 5351  | 5774  |
| 320                                                  | –             | –    | 1688 | 2283 | 3574 | 3703 | 6005  | 6428  |
| 400                                                  | –             | –    | 1914 | 2587 | 4042 | 4171 | 6752  | 7176  |

# Guided drives DFM-B

Technical data

**FESTO**

| DFM-B with plain-bearing guide GF, cushioning P, PPV, variant S6 |               |      |      |      |      |      |       |       |
|------------------------------------------------------------------|---------------|------|------|------|------|------|-------|-------|
| Stroke<br>[mm]                                                   | Piston Ø [mm] |      |      |      |      |      |       |       |
|                                                                  | 12            | 16   | 20   | 25   | 32   | 40   | 50    | 63    |
| Product weight [g]                                               |               |      |      |      |      |      |       |       |
| 0                                                                | 283           | 488  | 745  | 1080 | 1594 | 1847 | 3124  | 3992  |
| 10                                                               | 328           | 548  | –    | –    | –    | –    | –     | –     |
| 20                                                               | 376           | 607  | 907  | 1298 | 1889 | –    | –     | –     |
| 25                                                               | 395           | 633  | 949  | 1354 | 1964 | 2257 | 3735  | 4762  |
| 30                                                               | 419           | 663  | 990  | 1410 | 2063 | –    | –     | –     |
| 40                                                               | 466           | 722  | 1096 | 1550 | 2215 | –    | –     | –     |
| 50                                                               | 514           | 781  | 1179 | 1662 | 2366 | 2698 | 4464  | 5651  |
| 80                                                               | 656           | 959  | 1452 | 2042 | 2936 | 3314 | 5354  | 6696  |
| 100                                                              | 747           | 1074 | 1614 | 2259 | 3228 | 3632 | 5821  | 7310  |
| 125                                                              | 905           | 1279 | 1880 | 2624 | 3745 | 4186 | 6596  | 8244  |
| 160                                                              | 1072          | 1486 | 2173 | 3017 | 4276 | 4770 | 7462  | 9331  |
| 200                                                              | 1261          | 1724 | 2508 | 3466 | 4884 | 5437 | 8452  | 10573 |
| 250                                                              | –             | –    | 3118 | 4254 | 5985 | 6613 | 10258 | 12703 |
| 320                                                              | –             | –    | 3704 | 5039 | 7048 | 7780 | 11990 | 14876 |
| 400                                                              | –             | –    | 4374 | 5937 | 8264 | 9114 | 19970 | 17359 |
| Moving load [g]                                                  |               |      |      |      |      |      |       |       |
| 0                                                                | 130           | 188  | 329  | 463  | 755  | 810  | 1428  | 1601  |
| 10                                                               | 145           | 208  | –    | –    | –    | –    | –     | –     |
| 20                                                               | 159           | 229  | 386  | 539  | 873  | –    | –     | –     |
| 25                                                               | 167           | 239  | 400  | 558  | 902  | 956  | 1662  | 1834  |
| 30                                                               | 174           | 249  | 414  | 577  | 956  | –    | –     | –     |
| 40                                                               | 188           | 269  | 467  | 647  | 1015 | –    | –     | –     |
| 50                                                               | 203           | 289  | 495  | 685  | 1073 | 1127 | 2012  | 2184  |
| 80                                                               | 247           | 349  | 604  | 847  | 1373 | 1427 | 2447  | 2620  |
| 100                                                              | 276           | 389  | 661  | 922  | 1490 | 1544 | 2634  | 2806  |
| 125                                                              | 364           | 506  | 797  | 1113 | 1785 | 1840 | 3031  | 3203  |
| 160                                                              | 415           | 576  | 896  | 1246 | 1990 | 2045 | 3358  | 3530  |
| 200                                                              | 474           | 657  | 1010 | 1397 | 2225 | 2279 | 3731  | 3904  |
| 250                                                              | –             | –    | 1370 | 1842 | 2890 | 2944 | 4796  | 4968  |
| 320                                                              | –             | –    | 1568 | 2107 | 3300 | 3354 | 5450  | 5622  |
| 400                                                              | –             | –    | 1794 | 2411 | 3768 | 3823 | 6197  | 6370  |

# Guided drives DFM-B

Technical data

**FESTO**

| DFM-B with recirculating ball bearing guide KF, cushioning P, PPV |               |      |      |      |      |      |       |       |
|-------------------------------------------------------------------|---------------|------|------|------|------|------|-------|-------|
| Stroke<br>[mm]                                                    | Piston Ø [mm] |      |      |      |      |      |       |       |
|                                                                   | 12            | 16   | 20   | 25   | 32   | 40   | 50    | 63    |
| Product weight [g]                                                |               |      |      |      |      |      |       |       |
| 10                                                                | 345           | 543  | –    | –    | –    | –    | –     | –     |
| 20                                                                | 388           | 596  | 935  | 1395 | 1932 | –    | –     | –     |
| 25                                                                | 405           | 619  | 974  | 1447 | 1998 | 2366 | 3907  | 5185  |
| 30                                                                | 427           | 647  | 1012 | 1499 | 2079 | –    | –     | –     |
| 40                                                                | 470           | 700  | 1105 | 1624 | 2213 | –    | –     | –     |
| 50                                                                | 513           | 754  | 1181 | 1729 | 2346 | 2753 | 4523  | 5961  |
| 80                                                                | 641           | 916  | 1428 | 2074 | 2817 | 3270 | 5272  | 6865  |
| 100                                                               | 723           | 1020 | 1577 | 2276 | 3073 | 3552 | 5682  | 7423  |
| 125                                                               | 852           | 1190 | 1809 | 2599 | 3490 | 4006 | 6327  | 8226  |
| 160                                                               | 1002          | 1378 | 2079 | 2966 | 3958 | 4526 | 7094  | 9214  |
| 200                                                               | 1174          | 1593 | 2388 | 3384 | 4494 | 5121 | 7971  | 10343 |
| 250                                                               | –             | –    | 2905 | 4073 | 5369 | 6072 | 9419  | 12115 |
| 320                                                               | –             | –    | 3445 | 4805 | 6305 | 7112 | 10953 | 14091 |
| 400                                                               | –             | –    | 4063 | 5642 | 7376 | 8301 | 12707 | 16347 |
| Moving load [g]                                                   |               |      |      |      |      |      |       |       |
| 10                                                                | 168           | 239  | –    | –    | –    | –    | –     | –     |
| 20                                                                | 178           | 254  | 437  | 631  | 933  | –    | –     | –     |
| 25                                                                | 183           | 261  | 447  | 646  | 954  | 1082 | 1830  | 2254  |
| 30                                                                | 188           | 268  | 458  | 661  | 990  | –    | –     | –     |
| 40                                                                | 198           | 283  | 498  | 716  | 1030 | –    | –     | –     |
| 50                                                                | 208           | 297  | 520  | 746  | 1071 | 1199 | 2067  | 2491  |
| 80                                                                | 238           | 341  | 602  | 873  | 1271 | 1400 | 2361  | 2785  |
| 100                                                               | 259           | 370  | 646  | 934  | 1352 | 1481 | 2492  | 2915  |
| 125                                                               | 316           | 452  | 748  | 1083 | 1548 | 1677 | 2758  | 3182  |
| 160                                                               | 352           | 503  | 824  | 1189 | 1690 | 1819 | 2986  | 3410  |
| 200                                                               | 392           | 561  | 911  | 1310 | 1852 | 1981 | 3247  | 3671  |
| 250                                                               | –             | –    | 1180 | 1656 | 2291 | 2420 | 3953  | 4377  |
| 320                                                               | –             | –    | 1332 | 1868 | 2575 | 2703 | 4410  | 4833  |
| 400                                                               | –             | –    | 1505 | 2111 | 2899 | 3027 | 4931  | 5355  |

# Guided drives DFM-B

Technical data

FESTO

## Additional weights with precision stroke adjustment AJ – GF, KF

When using the precision stroke adjustment AJ, the following weight must be taken into account in addition to the load specified from page 32:

| Product weight [g] precision stroke adjustment AJ (piston rod + stop) |               |       |       |       |       |       |       |       |
|-----------------------------------------------------------------------|---------------|-------|-------|-------|-------|-------|-------|-------|
| Stroke [mm]                                                           | Piston Ø [mm] |       |       |       |       |       |       |       |
|                                                                       | 12            | 16    | 20    | 25    | 32    | 40    | 50    | 63    |
| 10                                                                    | 55.4          | 58.8  | –     | –     | –     | –     | –     | –     |
| 20                                                                    | 57.6          | 61    | 75.6  | 115.4 | 185.7 | –     | –     | –     |
| 25                                                                    | 58.7          | 62.1  | 77.6  | 118.5 | 190.2 | 188.7 | 350.7 | 350.5 |
| 30                                                                    | 59.9          | 63.3  | 79.6  | 121.6 | 194.7 | –     | –     | –     |
| 40                                                                    | 62.1          | 65.5  | 83.6  | 127.8 | 203.6 | –     | –     | –     |
| 50                                                                    | 64.3          | 67.7  | 87.5  | 134   | 212.5 | 211   | 390.4 | 390.2 |
| 80                                                                    | 71            | 74.4  | 99.5  | 152.6 | 239.3 | 237.8 | 438   | 437.8 |
| 100                                                                   | 75.5          | 78.9  | 107.5 | 165   | 257.2 | 255.7 | 469.8 | 469.6 |
| 125                                                                   | 81.1          | 84.5  | 117.3 | 180.5 | 279.5 | 278   | 509.5 | 509.3 |
| 160                                                                   | 88.9          | 92.3  | 131.2 | 202.5 | 310.8 | 309.3 | 565.1 | 564.9 |
| 200                                                                   | 97.8          | 101.2 | 147.1 | 227   | 346.5 | 345   | 628.6 | 628.4 |
| 250                                                                   | –             | –     | 167   | 258.1 | 391.2 | 389.7 | 708.1 | 707.9 |
| 320                                                                   | –             | –     | 194.8 | 301.5 | 453.8 | 452.3 | 819.2 | 819   |
| 400                                                                   | –             | –     | 226.5 | 351.1 | 525.2 | 523.7 | 946.3 | 946.1 |

| Moving load [g] precision stroke adjustment AJ (piston rod + stop) |               |      |       |       |       |       |       |       |
|--------------------------------------------------------------------|---------------|------|-------|-------|-------|-------|-------|-------|
| Stroke [mm]                                                        | Piston Ø [mm] |      |       |       |       |       |       |       |
|                                                                    | 12            | 16   | 20    | 25    | 32    | 40    | 50    | 63    |
| 10                                                                 | 51.5          | 52.3 | –     | –     | –     | –     | –     | –     |
| 20                                                                 | 53.7          | 54.5 | 76    | 116.6 | 185.9 | –     | –     | –     |
| 25                                                                 | 54.8          | 55.6 | 78    | 119.7 | 190.4 | 190   | 351.7 | 351.7 |
| 30                                                                 | 56            | 56.8 | 80    | 122.8 | 194.9 | –     | –     | –     |
| 40                                                                 | 58.2          | 59   | 84    | 129   | 203.8 | –     | –     | –     |
| 50                                                                 | 60.4          | 61.2 | 87.9  | 135.2 | 212.7 | 212.7 | 391.4 | 391.4 |
| 80                                                                 | 67.1          | 67.9 | 99.9  | 153.8 | 239.5 | 239.5 | 439   | 439   |
| 100                                                                | 71.6          | 72.4 | 107.8 | 166.2 | 257.4 | 257.4 | 470.8 | 470.8 |
| 125                                                                | 77.2          | 78   | 117.7 | 181.7 | 279.7 | 279.7 | 510.5 | 510.5 |
| 160                                                                | 85            | 85.8 | 131.6 | 203.4 | 311   | 311   | 566.1 | 566.1 |
| 200                                                                | 93.9          | 94.7 | 147.5 | 228.2 | 346.7 | 346.7 | 629.6 | 629.6 |
| 250                                                                | –             | –    | 167.4 | 259.3 | 391.4 | 391.4 | 709.1 | 709.1 |
| 320                                                                | –             | –    | 195.2 | 302.7 | 454   | 454   | 820.2 | 820.2 |
| 400                                                                | –             | –    | 226.9 | 352.3 | 525.4 | 525.4 | 947.3 | 947.3 |

# Guided drives DFM-B

Technical data

FESTO

## Additional weights with precision stroke adjustment EJ – GF, KF

When using the precision stroke adjustment EJ, the following weight must be taken into account in addition to the load specified from page 32:

| Product weight [g] precision stroke adjustment EJ (piston rod + stop) |               |       |       |       |       |       |
|-----------------------------------------------------------------------|---------------|-------|-------|-------|-------|-------|
| Stroke [mm]                                                           | Piston Ø [mm] |       |       |       |       |       |
|                                                                       | 20            | 25    | 32    | 40    | 50    | 63    |
| 20                                                                    | 55.7          | 117.1 | 134.1 | –     | –     | –     |
| 25                                                                    | 56.4          | 119.1 | 136.1 | 153.9 | 302.8 | 354   |
| 30                                                                    | 57.2          | 121   | 138   | –     | –     | –     |
| 40                                                                    | 58.8          | 125   | 142   | –     | –     | –     |
| 50                                                                    | 60.3          | 129   | 146   | 163.8 | 318.3 | 369.5 |
| 80                                                                    | 65            | 140.9 | 157.9 | 175.7 | 336.9 | 388.1 |
| 100                                                                   | 68.1          | 148.8 | 165.8 | 183.6 | 349.4 | 400.6 |
| 125                                                                   | 71.9          | 158.8 | 175.8 | 193.6 | 364.9 | 416.1 |
| 160                                                                   | 77.4          | 172.7 | 189.7 | 207.5 | 386.6 | 437.8 |
| 200                                                                   | 83.6          | 188.5 | 205.5 | 223.3 | 411.4 | 462.6 |
| 250                                                                   | 91.3          | 208.4 | 225.4 | 243.2 | 442.4 | 493.6 |
| 320                                                                   | 102.2         | 236.2 | 253.2 | 271   | 485.9 | 537.1 |
| 400                                                                   | 114.6         | 268   | 285   | 302.8 | 535.5 | 586.7 |

| DFM-B with recirculating ball bearing guide KF, cushioning YSRW |               |      |       |       |       |       |
|-----------------------------------------------------------------|---------------|------|-------|-------|-------|-------|
| Stroke [mm]                                                     | Piston Ø [mm] |      |       |       |       |       |
|                                                                 | 20            | 25   | 32    | 40    | 50    | 63    |
| Product weight [g]                                              |               |      |       |       |       |       |
| 20                                                              | 1684          | 2641 | 3717  | –     | –     | –     |
| 25                                                              | 1733          | 2707 | 3801  | 4995  | 7594  | 10816 |
| 30                                                              | 1780          | 2773 | 3884  | –     | –     | –     |
| 40                                                              | 1874          | 2903 | 4053  | –     | –     | –     |
| 50                                                              | 1970          | 3035 | 4222  | 5455  | 8275  | 11657 |
| 80                                                              | 2257          | 3429 | 4720  | 5999  | 9092  | 12629 |
| 100                                                             | 2444          | 3687 | 5047  | 6352  | 9614  | 13298 |
| 125                                                             | 2677          | 4008 | 5458  | 6801  | 10294 | 14137 |
| 160                                                             | 3015          | 4473 | 6050  | 7446  | 11255 | 15319 |
| 200                                                             | 3401          | 5004 | 6728  | 8183  | 12354 | 16670 |
| 250                                                             | 3855          | 5641 | 7545  | 9074  | 13700 | 18340 |
| 320                                                             | 4530          | 6569 | 8730  | 10363 | 15623 | 20704 |
| 400                                                             | 5302          | 7631 | 10085 | 11837 | 17821 | 23405 |
| Moving load [g]                                                 |               |      |       |       |       |       |
| 20                                                              | 874           | 1323 | 1933  | –     | –     | –     |
| 25                                                              | 894           | 1350 | 1969  | 2386  | 3735  | 4996  |
| 30                                                              | 914           | 1378 | 2005  | –     | –     | –     |
| 40                                                              | 953           | 1432 | 2077  | –     | –     | –     |
| 50                                                              | 993           | 1487 | 2149  | 2566  | 4021  | 5282  |
| 80                                                              | 1111          | 1650 | 2365  | 2782  | 4365  | 5625  |
| 100                                                             | 1190          | 1759 | 2509  | 2926  | 4594  | 5855  |
| 125                                                             | 1289          | 1896 | 2690  | 3106  | 4880  | 6141  |
| 160                                                             | 1427          | 2087 | 2942  | 3359  | 5281  | 6542  |
| 200                                                             | 1585          | 2305 | 3230  | 3647  | 5739  | 7000  |
| 250                                                             | 1782          | 2578 | 3590  | 4007  | 6312  | 7572  |
| 320                                                             | 2059          | 2959 | 4095  | 4512  | 7114  | 8374  |
| 400                                                             | 2375          | 3396 | 4671  | 5088  | 8030  | 9290  |

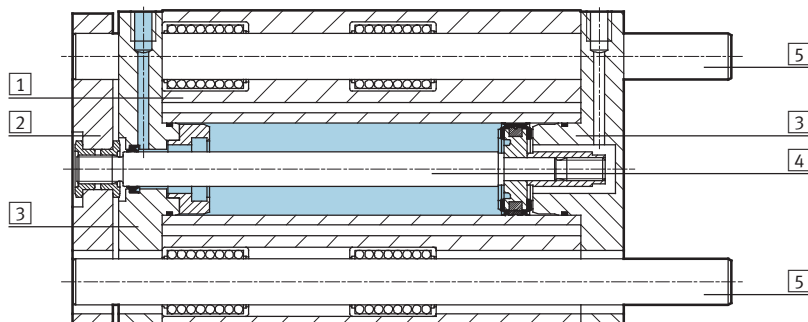
# Guided drives DFM-B

Technical data

FESTO

## Materials

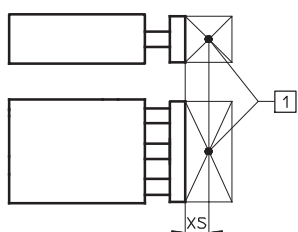
Sectional view



| Variant                | Plain-bearing guide GF            | Recirculating ball bearing guide KF | S6                                |
|------------------------|-----------------------------------|-------------------------------------|-----------------------------------|
| 1 Housing              | Wrought aluminium alloy, anodised | Wrought aluminium alloy, anodised   | Wrought aluminium alloy, anodised |
| 2 Yoke plate           | Tempered steel                    | Tempered steel                      | Wrought aluminium alloy           |
| 3 Bearing and end caps | Wrought aluminium alloy, anodised | Wrought aluminium alloy, anodised   | Wrought aluminium alloy, anodised |
| 4 Piston rod           | High-alloy stainless steel        | High-alloy stainless steel          | High-alloy stainless steel        |
| 5 Guide rods           | High-alloy steel                  | Tempered steel                      | High-alloy steel                  |
| – Static seals         | Nitrile rubber                    | Nitrile rubber                      | Fluoro rubber                     |
| – Dynamic seals        | Polyurethane                      | Polyurethane                        | Fluoro rubber                     |
| – Lubricant            | Klüberplex BE 31-102              | Klüberplex BE 31-102                | Mobiltemp SHC 100                 |
| Note on materials      | –                                 | Free of copper, PTFE and silicone   | –                                 |

## Maximum effective load F [N]

Plain-bearing guide GF and recirculating ball bearing guide KF



1 Centre of gravity of effective load

| Piston Ø<br>[mm] |    | XS<br>[mm] | Stroke [mm] |     |     |     |     |     |     |     |     |     |     |     |     |     |
|------------------|----|------------|-------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                  |    |            | 10          | 20  | 25  | 30  | 40  | 50  | 80  | 100 | 125 | 160 | 200 | 250 | 320 | 400 |
| 12               | GF | 25         | 53          | 47  | 45  | 43  | 39  | 36  | 28  | 25  | 23  | 20  | 15  | –   | –   | –   |
|                  | KF |            | 47          | 42  | 40  | 38  | 35  | 32  | 26  | 23  | 20  | 16  | 13  | –   | –   | –   |
| 16               | GF | 50         | 95          | 86  | 83  | 79  | 73  | 67  | 55  | 49  | 37  | 30  | 25  | –   | –   | –   |
|                  | KF |            | 75          | 69  | 66  | 64  | 58  | 56  | 51  | 48  | 30  | 21  | 17  | –   | –   | –   |
| 20               | GF | 50         | –           | 99  | 96  | 92  | 110 | 103 | 86  | 77  | 71  | 63  | 55  | 47  | 41  | 35  |
|                  | KF |            | –           | 80  | 77  | 75  | 91  | 88  | 80  | 75  | 65  | 56  | 47  | 40  | 34  | 29  |
| 25               | GF | 50         | –           | 121 | 116 | 112 | 123 | 115 | 96  | 86  | 86  | 76  | 67  | 53  | 45  | 39  |
|                  | KF |            | –           | 88  | 86  | 84  | 100 | 97  | 89  | 85  | 80  | 66  | 56  | 46  | 38  | 32  |
| 32               | GF | 50         | –           | 188 | 180 | 173 | 161 | 150 | 166 | 150 | 168 | 146 | 127 | 106 | 91  | 78  |
|                  | KF |            | –           | 120 | 118 | 116 | 112 | 109 | 134 | 128 | 144 | 135 | 126 | 135 | 125 | 100 |
| 40               | GF | 50         | –           | –   | 180 | –   | –   | 150 | 166 | 150 | 168 | 146 | 127 | 106 | 91  | 78  |
|                  | KF |            | –           | –   | 118 | –   | –   | 109 | 134 | 128 | 144 | 135 | 126 | 135 | 125 | 100 |
| 50               | GF | 50         | –           | –   | 257 | –   | –   | 216 | 234 | 212 | 229 | 200 | 174 | 145 | 124 | 105 |
|                  | KF |            | –           | –   | 182 | –   | –   | 168 | 201 | 193 | 211 | 199 | 188 | 179 | 158 | 130 |
| 63               | GF | 50         | –           | –   | 257 | –   | –   | 216 | 234 | 212 | 229 | 200 | 174 | 145 | 124 | 105 |
|                  | KF |            | –           | –   | 182 | –   | –   | 168 | 201 | 193 | 211 | 199 | 188 | 179 | 158 | 130 |

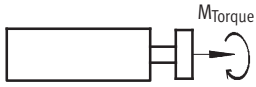
# Guided drives DFM-B

Technical data

FESTO

## Permissible torque load M [Nm]

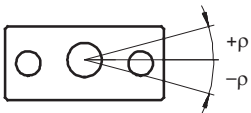
Plain-bearing guide GF and recirculating ball bearing guide KF



| Piston Ø<br>[mm] |    | Stroke [mm] |      |       |      |      |       |       |       |       |       |       |       |      |      |
|------------------|----|-------------|------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|------|------|
|                  |    | 10          | 20   | 25    | 30   | 40   | 50    | 80    | 100   | 125   | 160   | 200   | 250   | 320  | 400  |
| 12               | GF | 1.10        | 0.95 | 0.90  | 0.85 | 0.80 | 0.75  | 0.60  | 0.50  | 0.45  | 0.40  | 0.30  | –     | –    | –    |
|                  | KF | 0.95        | 0.85 | 0.80  | 0.75 | 0.70 | 0.65  | 0.50  | 0.45  | 0.40  | 0.30  | 0.25  | –     | –    | –    |
| 16               | GF | 2.20        | 2.00 | 1.90  | 1.80 | 1.70 | 1.50  | 1.30  | 1.10  | 0.85  | 0.70  | 0.60  | –     | –    | –    |
|                  | KF | 1.70        | 1.60 | 1.50  | 1.45 | 1.35 | 1.30  | 1.20  | 1.10  | 0.70  | 0.50  | 0.40  | –     | –    | –    |
| 20               | GF | –           | 2.90 | 2.80  | 2.70 | 3.20 | 3.00  | 2.50  | 2.20  | 2.10  | 1.80  | 1.60  | 1.40  | 1.20 | 1.00 |
|                  | KF | –           | 2.30 | 2.20  | 2.15 | 2.60 | 2.55  | 2.30  | 2.20  | 1.90  | 1.60  | 1.40  | 1.20  | 1.00 | 0.85 |
| 25               | GF | –           | 4.15 | 3.95  | 3.80 | 4.20 | 3.90  | 3.25  | 2.90  | 2.90  | 2.60  | 2.30  | 1.80  | 1.50 | 1.30 |
|                  | KF | –           | 3.00 | 2.92  | 2.85 | 3.40 | 3.30  | 3.02  | 2.89  | 2.70  | 2.20  | 1.90  | 1.50  | 1.30 | 1.10 |
| 32               | GF | –           | 7.30 | 7.00  | 6.70 | 6.20 | 5.80  | 6.40  | 5.80  | 6.50  | 5.70  | 5.00  | 4.10  | 3.50 | 3.00 |
|                  | KF | –           | 4.70 | 4.60  | 4.55 | 4.40 | 4.25  | 5.25  | 5.00  | 5.60  | 5.25  | 4.90  | 5.20  | 4.80 | 3.90 |
| 40               | GF | –           | –    | 7.90  | –    | –    | 6.55  | 7.25  | 6.55  | 7.35  | 6.40  | 5.55  | 4.60  | 4.0  | 3.40 |
|                  | KF | –           | –    | 5.20  | –    | –    | 4.80  | 5.90  | 5.65  | 6.35  | 5.95  | 5.55  | 5.95  | 5.50 | 4.40 |
| 50               | GF | –           | –    | 14.15 | –    | –    | 11.85 | 12.85 | 11.65 | 12.55 | 11.00 | 9.60  | 7.98  | 6.82 | 5.78 |
|                  | KF | –           | –    | 10.00 | –    | –    | 9.30  | 11.00 | 10.6  | 11.60 | 11.00 | 10.30 | 9.82  | 8.67 | 7.17 |
| 63               | GF | –           | –    | 15.90 | –    | –    | 13.30 | 14.45 | 13.10 | 14.10 | 12.30 | 10.70 | 9.06  | 7.75 | 6.56 |
|                  | KF | –           | –    | 11.30 | –    | –    | 10.50 | 12.50 | 12.00 | 13.20 | 12.40 | 11.70 | 11.16 | 9.85 | 8.15 |

## Torsional backlash p

Plain-bearing guide GF and recirculating ball bearing guide KF in retracted state, without load



| Piston Ø               |    | 12   | 16   | 20   | 25   | 32   | 40   | 50   | 63   |
|------------------------|----|------|------|------|------|------|------|------|------|
| Torsional backlash [°] | GF | 0.09 | 0.09 | 0.07 | 0.07 | 0.06 | 0.06 | 0.05 | 0.05 |
|                        | KF | 0.08 | 0.08 | 0.07 | 0.07 | 0.05 | 0.05 | 0.05 | 0.05 |

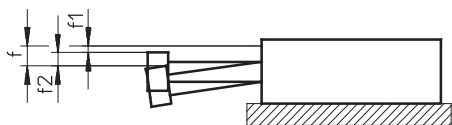
# Guided drives DFM-B

Technical data

FESTO

## Deflection of piston rod

Mean deflection  $f_1$  due to bearing backlash as a function of the stroke  $l$



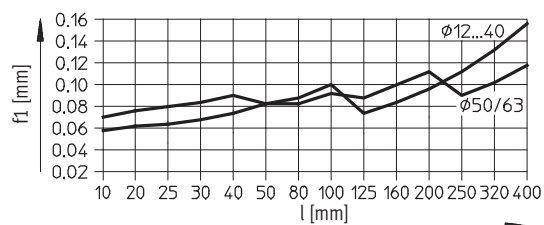
$$f = f_1 + f_2$$

$f$  = Total deflection of piston rod

$f_1$  = Deflection due to bearing backlash

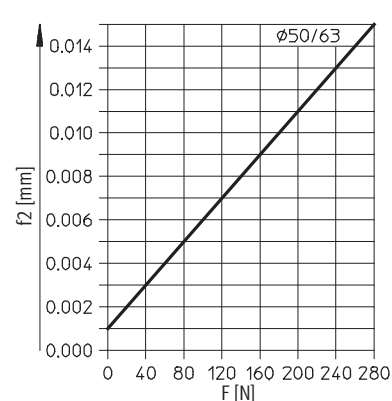
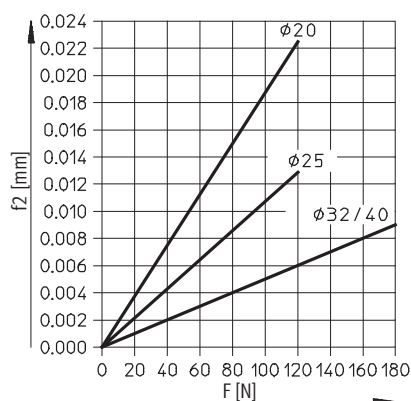
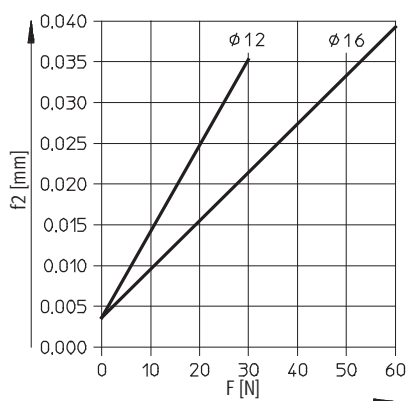
$f_2$  = Deflection due to lateral force

DFM-GF with 2 bearings per guide rod

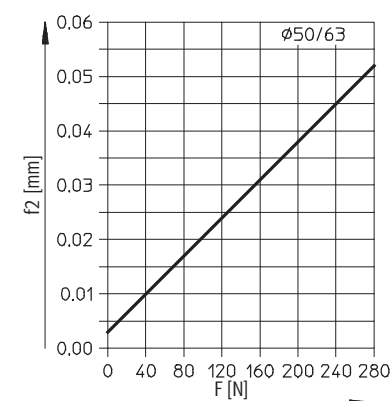
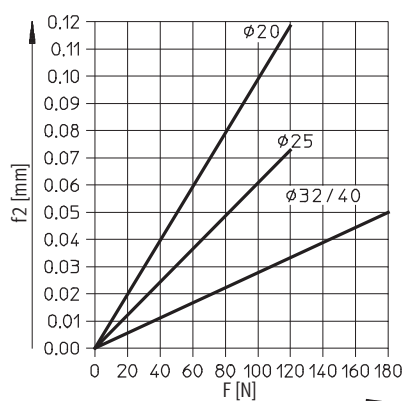
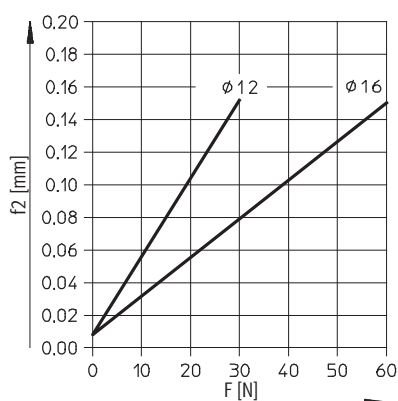


## Deflection $f_2$ due to lateral force $F$ as a function of the stroke with plain-bearing guide GF

Stroke 50 mm



Stroke 100 mm



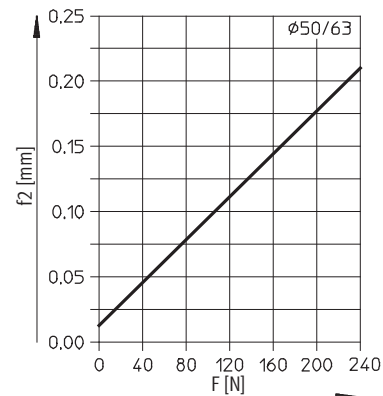
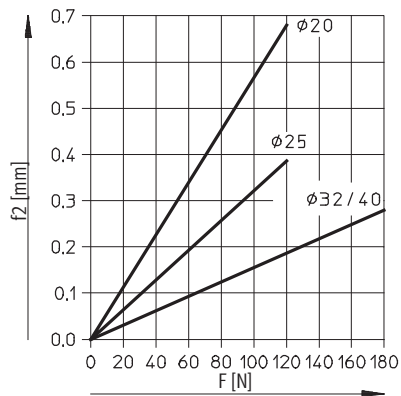
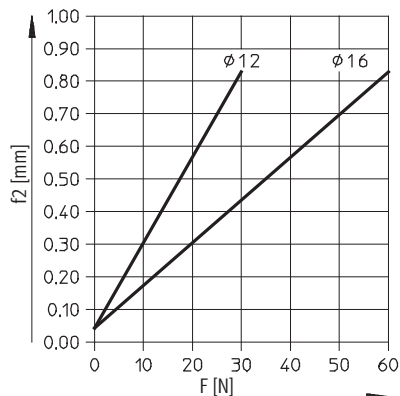
# Guided drives DFM-B

Technical data

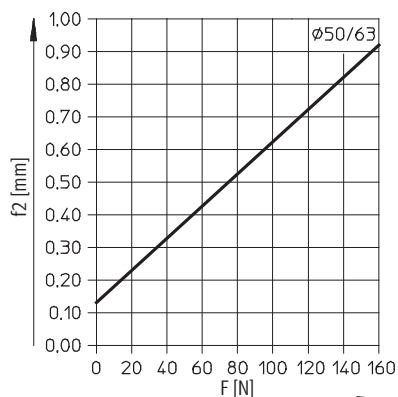
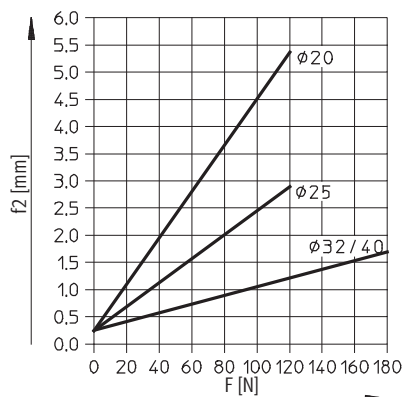
FESTO

Deflection  $f_2$  due to lateral force  $F$  as a function of the stroke with plain-bearing guide GF

Stroke 200 mm



Stroke 400 mm



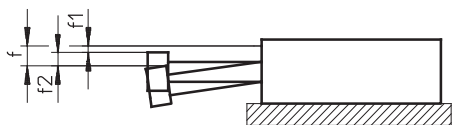
# Guided drives DFM-B

Technical data

FESTO

## Deflection of piston rod

Mean deflection  $f_1$  due to bearing backlash as a function of the stroke  $l$



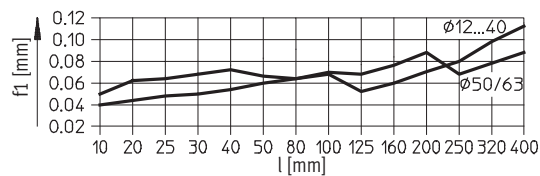
$$f = f_1 + f_2$$

$f$  = Total deflection of piston rod

$f_1$  = Deflection due to bearing backlash

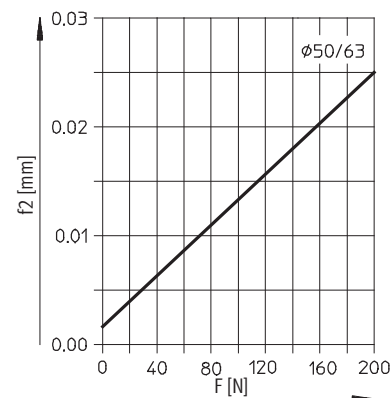
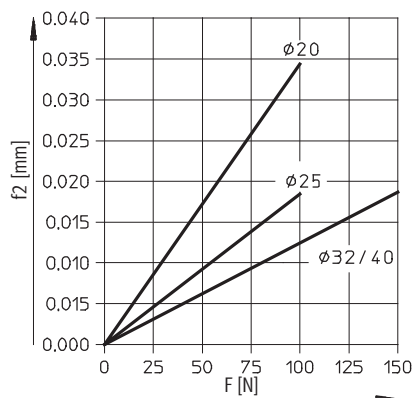
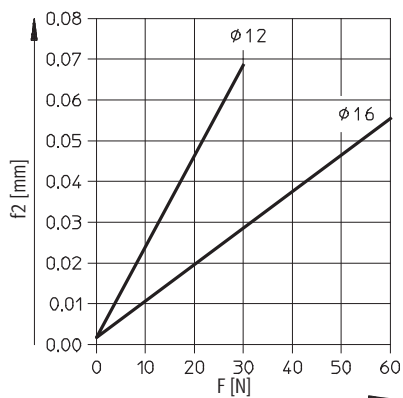
$f_2$  = Deflection due to lateral force

DFM-KF with 2 bearings per guide rod

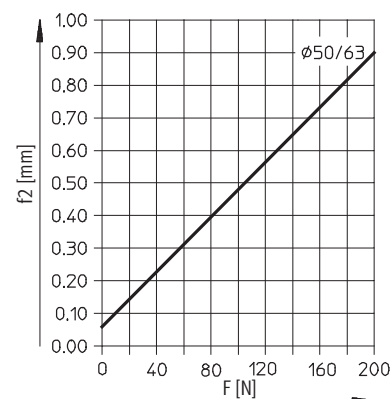
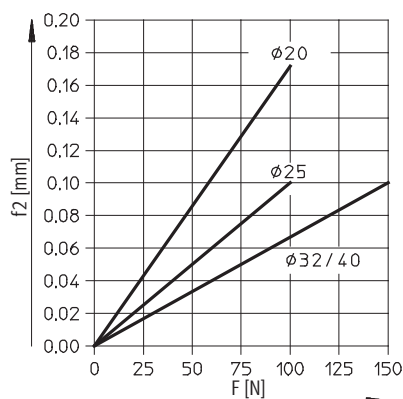
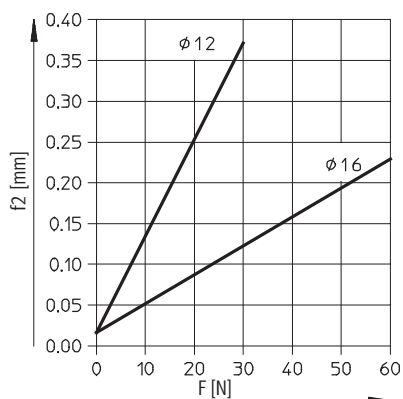


## Deflection $f_2$ due to lateral force $F$ as a function of the stroke with recirculating ball bearing guide KF

Stroke 50 mm



Stroke 100 mm



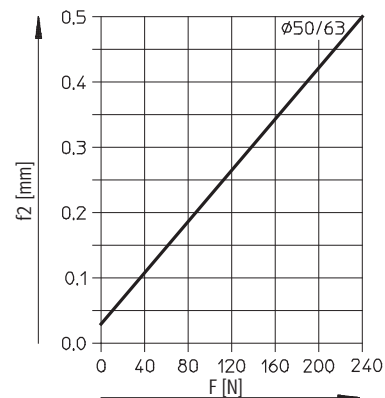
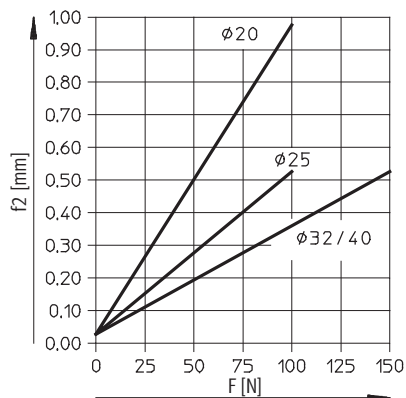
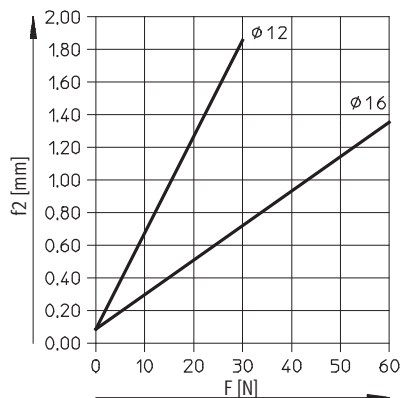
# Guided drives DFM-B

Technical data

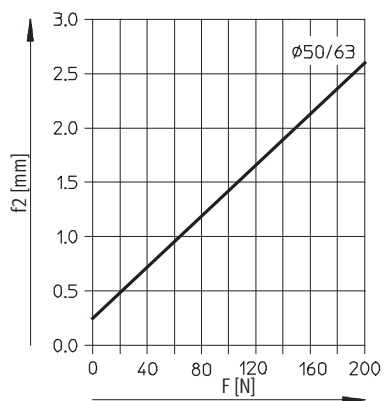
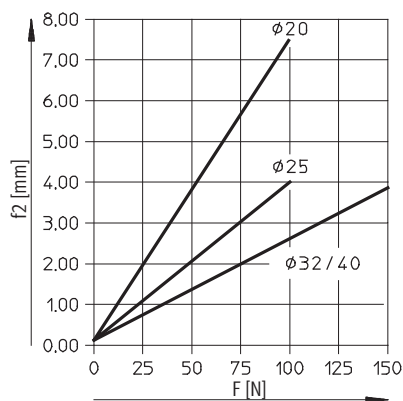
FESTO

Deflection  $f_2$  due to lateral force  $F$  as a function of the stroke with recirculating ball bearing guide KF

Stroke 200 mm



Stroke 400 mm

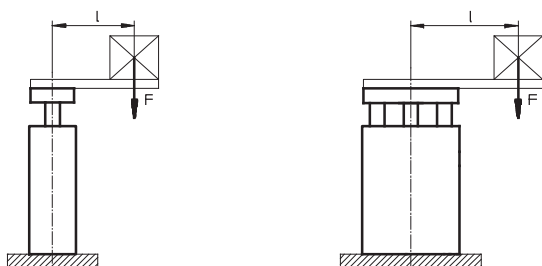


# Guided drives DFM-B

Technical data

**FESTO**

## Used as lifting cylinder



### Note

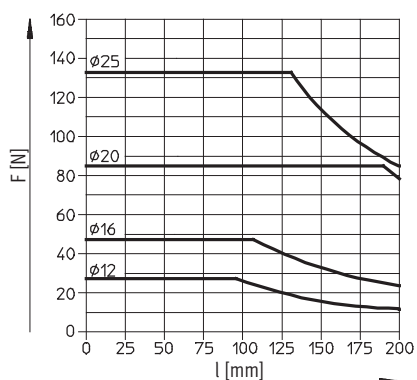
Additional graphs → starting on page 14.

F = Longitudinal force [N]

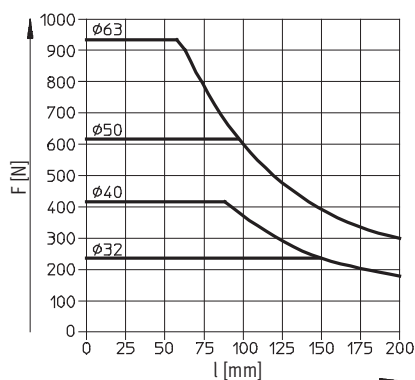
L = Lever arm [mm]

## Permissible load with plain-bearing guide GF

Stroke 40 ... 400 mm

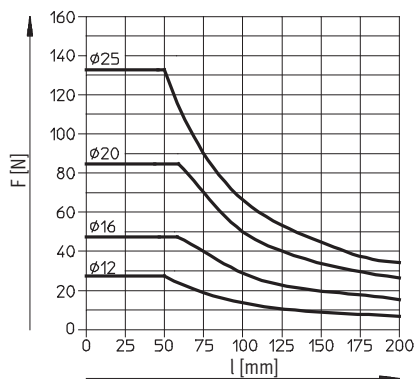


Stroke 250 ... 400 mm

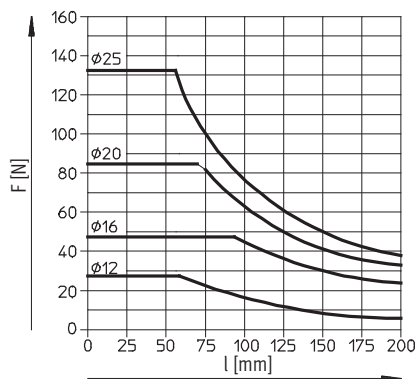


## Permissible load with recirculating ball bearing guide KF

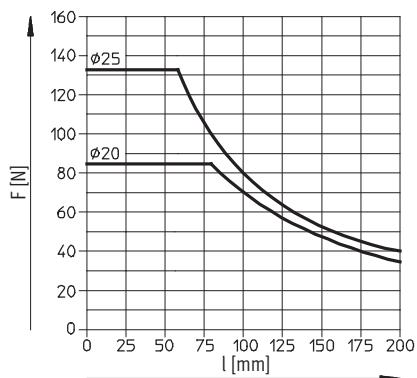
Stroke 40 ... 100 mm



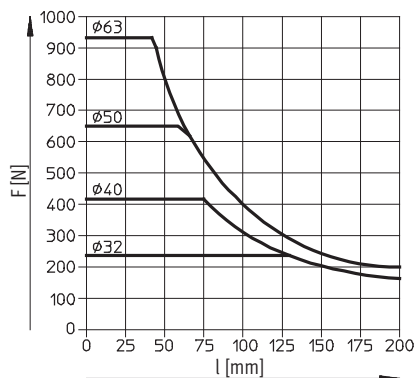
Stroke 125 ... 200 mm



Stroke 250 ... 400 mm



Stroke 200 ... 400 mm



# Guided drives DFM-B

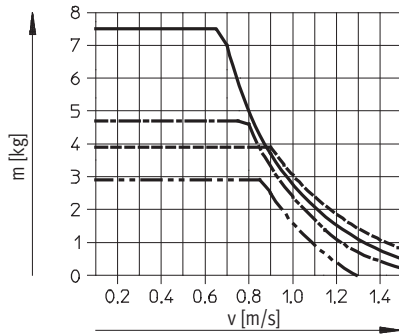
Technical data

FESTO

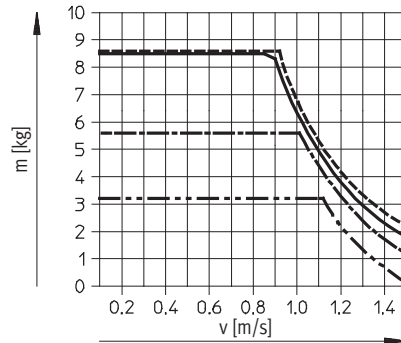
## Permissible load $m$ as a function of the permissible speed $v$

Horizontal operation, cushioning YSRW

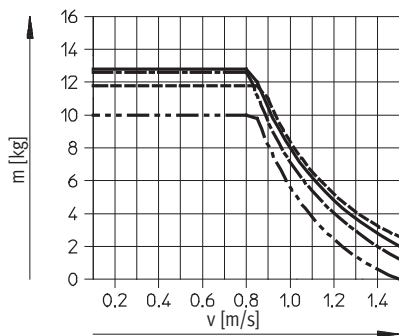
DFM-20...-B-YSRW



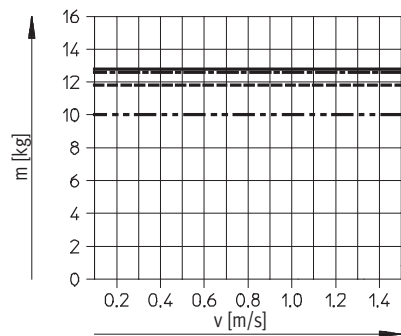
DFM-25...-B-YSRW



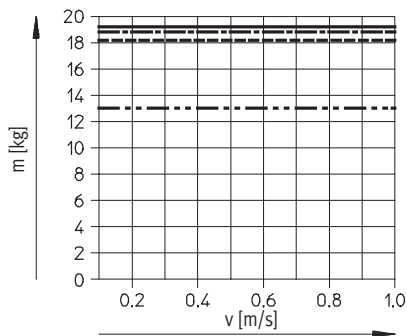
DFM-32...-B-YSRW



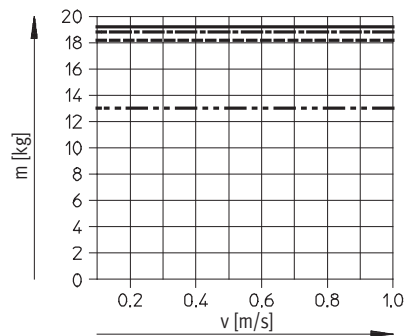
DFM-40...-B-YSRW



DFM-50...-B-YSRW



DFM-63...-B-YSRW



- 25 mm stroke
- 100 mm stroke
- · - · - 200 mm stroke
- 400 mm stroke

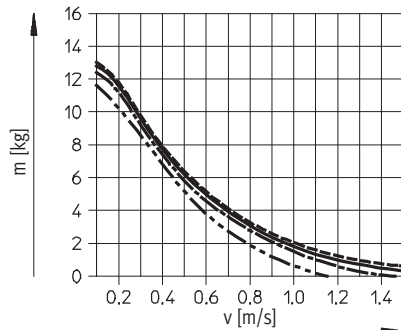
# Guided drives DFM-B

Technical data

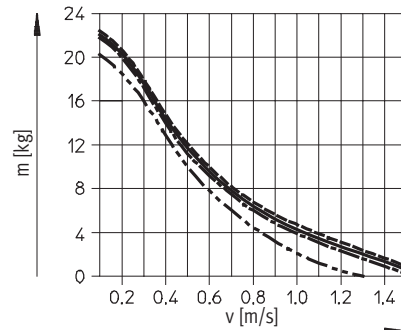
FESTO

## Vertical operation, cushioning YSRW

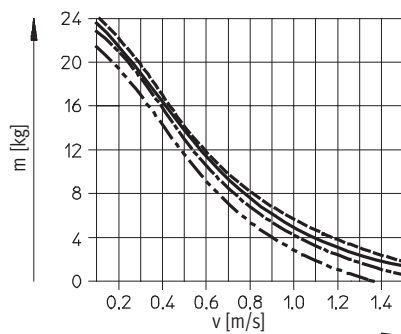
DFM-20-...-B-YSRW



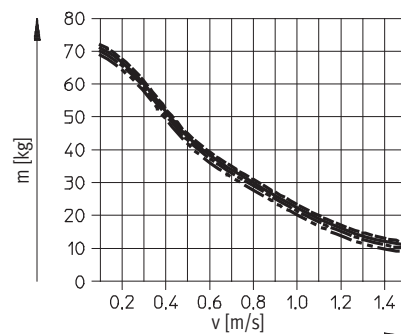
DFM-25-...-B-YSRW



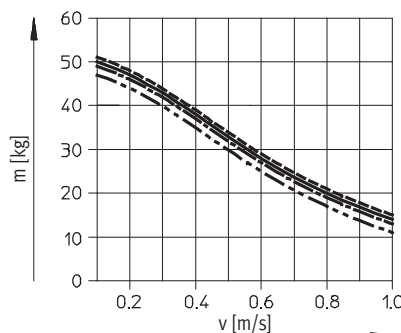
DFM-32-...-B-YSRW



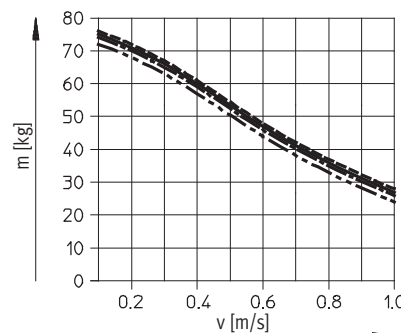
DFM-40-...-B-YSRW



DFM-50-...-B-YSRW



DFM-63-...-B-YSRW



- 25 mm stroke
- 100 mm stroke
- · - · - 200 mm stroke
- 400 mm stroke

# Guided drives DFM-B

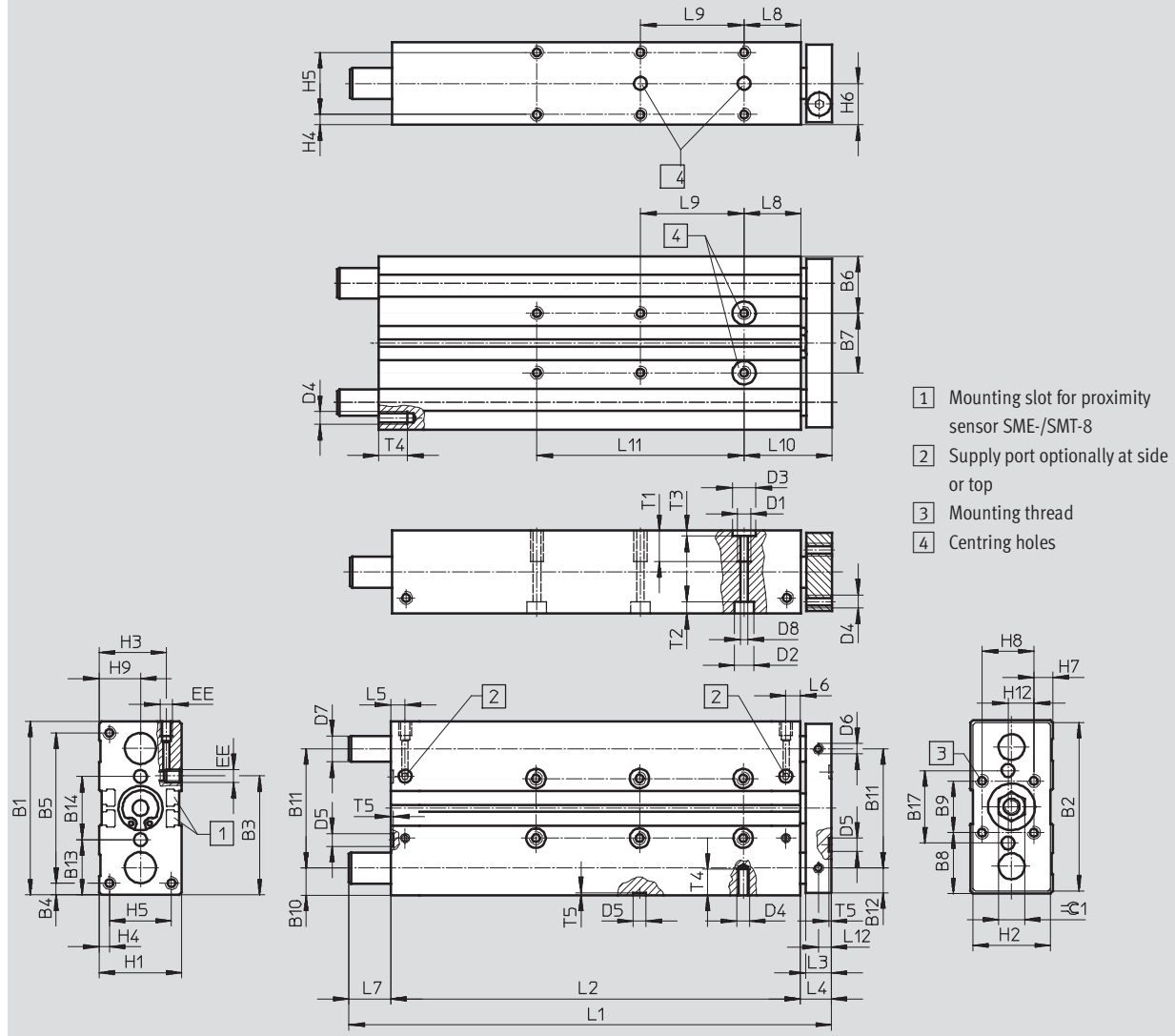
Technical data

FESTO

## Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Piston Ø 12, 16 mm



| Ø    | B1 | B2 | B3   | B4  | B5 | B6   | B7                  | B8   | B9 | B10  | B11 | B12 | B13  | B14                 | B17 | D1 |
|------|----|----|------|-----|----|------|---------------------|------|----|------|-----|-----|------|---------------------|-----|----|
| [mm] |    |    |      |     |    |      | ±0.02 <sup>1)</sup> |      |    |      |     |     |      | ±0.02 <sup>1)</sup> |     |    |
| 12   | 60 | 58 | 40.7 | 4.5 | 51 | 20.5 | 19                  | 20   | 20 | 9.5  | 41  | 8.5 | 19.5 | 21                  | 25  | M5 |
| 16   | 67 | 65 | 45   | 4.5 | 58 | 22   | 23                  | 23.5 | 20 | 10.5 | 46  | 9.5 | 21.3 | 24.4                | 28  | M5 |

1) Tolerance between centring holes

| Ø    | D2  | D3 | D4 | D5 | D6 | D7               |                  | D8  | EE | H1 | H2 | H3   | H4 | H5 | H6 | H7  |
|------|-----|----|----|----|----|------------------|------------------|-----|----|----|----|------|----|----|----|-----|
| [mm] | Ø   | Ø  |    | Ø  | Ø  | GF               | KF               | Ø   |    |    |    |      |    |    |    |     |
| 12   | 8   | 9  | M4 | 5  | M4 | 10 <sub>h8</sub> | 8 <sub>h6</sub>  | 4.3 | M5 | 28 | 26 | 24   | 4  | 20 | 14 | 4   |
| 16   | 7.5 | 9  | M5 | 5  | M4 | 12 <sub>h8</sub> | 10 <sub>h6</sub> | 4.3 | M5 | 32 | 30 | 26.5 | 4  | 24 | 16 | 7.4 |

| Ø    | H8 | H9 | H12 | L2 | L3 | L4 | L5   | L6   | L8 | L10 | L12 | T1 | T2  | T3  | T4 | T5  | ≈C1 |
|------|----|----|-----|----|----|----|------|------|----|-----|-----|----|-----|-----|----|-----|-----|
| [mm] |    |    |     |    |    |    |      |      |    |     |     |    |     |     |    |     |     |
| 12   | 20 | 14 | 10  | 40 | 10 | 13 | 14.8 | 11.2 | 21 | 34  | 5   | 10 | 9.4 | 2.1 | 8  | 1.2 | 10  |
| 16   | 20 | 16 | 10  | 58 | 10 | 12 | 9.8  | 9.3  | 22 | 34  | 5   | 12 | 4.6 | 2.1 | 10 | 1.2 | 10  |

# Guided drives DFM-B

Technical data

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| Stroke<br>[mm] | Piston Ø [mm] |     |    |                           |     |     |     |    |                           |     |
|----------------|---------------|-----|----|---------------------------|-----|-----|-----|----|---------------------------|-----|
|                | 12            |     |    |                           |     | 16  |     |    |                           |     |
|                | L1            | L2  | L7 | L9<br>±0.02 <sup>1)</sup> | L11 | L1  | L2  | L7 | L9<br>±0.02 <sup>1)</sup> | L11 |
| 10             | 74            | 50  | 11 | –                         | –   | 80  | 68  | –  | –                         | –   |
| 20             | 84            | 60  | 11 | –                         | –   | 90  | 78  | –  | –                         | –   |
| 25             | 89            | 65  | 11 | 20                        | –   | 95  | 83  | –  | 20                        | –   |
| 30             | 94            | 70  | 11 | 20                        | –   | 100 | 88  | –  | 20                        | –   |
| 40             | 104           | 80  | 11 | 20                        | –   | 110 | 98  | –  | 20                        | –   |
| 50             | 114           | 90  | 11 | 40                        | –   | 120 | 108 | –  | 40                        | –   |
| 80             | 144           | 120 | 11 | 40                        | –   | 150 | 138 | –  | 40                        | –   |
| 100            | 164           | 140 | 11 | 40                        | 80  | 170 | 158 | –  | 40                        | 80  |
| 125            | 230           | 165 | 52 | 40                        | 80  | 229 | 183 | 34 | 40                        | 80  |
| 160            | 265           | 200 | 52 | 40                        | 120 | 264 | 218 | 34 | 40                        | 120 |
| 200            | 305           | 240 | 52 | 40                        | 160 | 304 | 258 | 34 | 40                        | 160 |

1) Tolerance between centring holes

## Note

If the guide rods project beyond the housing when the unit is in its retracted end position (→ dimension L7), a recess must be provided in the

mounting surface if the unit is to be mounted against a surface in order to allow the guide rods to move freely.

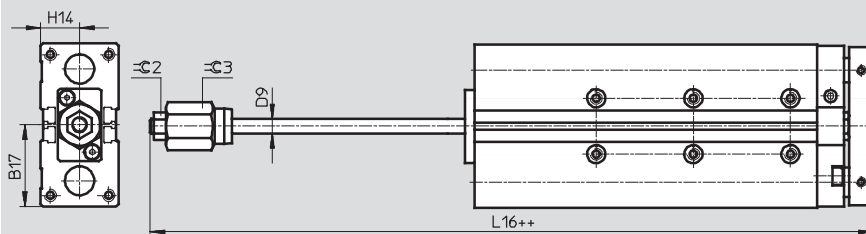
When using a variable stroke, the dimensions L1, L2, L7, L9 and L11 correspond to the next longest standard stroke.

## Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

AJ – Precision stroke adjustment, advanced end position

Ø 12, 16 mm



++ = plus 2 stroke lengths

| Ø<br>[mm] | B17  | D9<br>Ø | H14 | L16   | ⌀2 | ⌀3 |
|-----------|------|---------|-----|-------|----|----|
| 12        | 30.5 | 6       | 14  | 90.6  | 10 | 17 |
| 16        | 33.5 | 6       | 16  | 107.9 | 10 | 17 |

# Guided drives DFM-B

Technical data

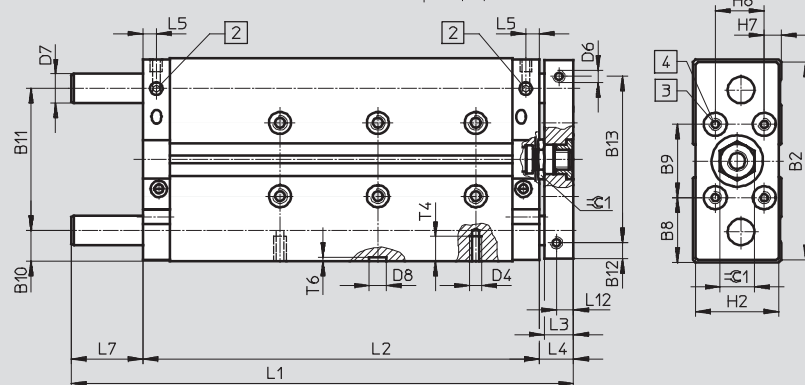
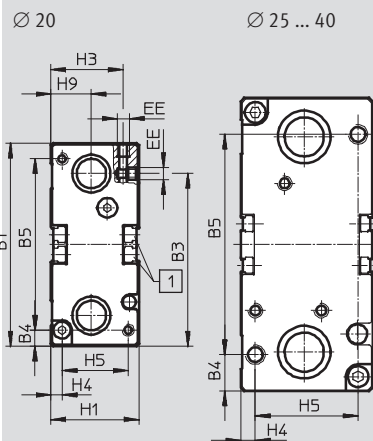
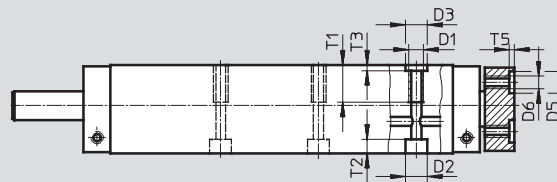
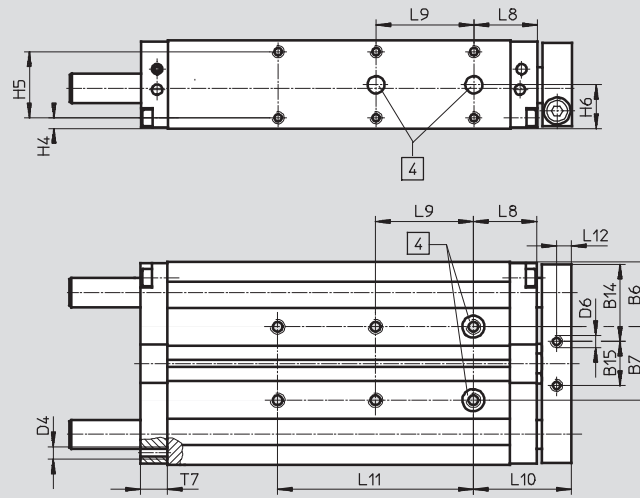
FESTO

## Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Piston Ø 20 ... 40 mm

- 1 Mounting slot for proximity sensor SME-/SMT-8
- 2 Supply port optionally at side or top
- 3 Mounting thread
- 4 Centring holes



# Guided drives DFM-B

Technical data

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| Ø<br>[mm] | B1  | B2  | B3   | B4   | B5 | B6   | B7<br>±0.02 <sup>1)</sup> | B8   | B9<br>±0.02 <sup>1)</sup> | B10  | B11 | B12  | B13 | B14  | B15 | D1 | D2<br>Ø |
|-----------|-----|-----|------|------|----|------|---------------------------|------|---------------------------|------|-----|------|-----|------|-----|----|---------|
| 20        | 83  | 81  | 70.5 | 6.5  | 70 | 26.5 | 30                        | 26.5 | 30                        | 12.5 | 58  | 6.5  | 68  | 31.5 | 18  | M6 | 9       |
| 25        | 95  | 93  | 67   | 15.5 | 64 | 30   | 35                        | 27.5 | 40                        | 13.5 | 68  | 12.5 | 68  | 32.5 | 28  | M6 | 9       |
| 32        | 110 | 108 | 77   | 20   | 70 | 33.5 | 43                        | 35   | 40                        | 16   | 78  | 15   | 78  | 41   | 26  | M8 | 11      |
| 40        | 120 | 118 | 86   | 15   | 90 | 34.5 | 51                        | 35   | 50                        | 16   | 88  | 15   | 88  | 41   | 36  | M8 | 11      |

1) Tolerance between centring holes

| Ø<br>[mm] | D3<br>Ø<br>H7 | D4 | D5<br>Ø<br>H7 | D6<br>Ø | D7<br>Ø |    | D8<br>Ø<br>H7 | EE              | H1 | H2 | H3   | H4  | H5 | H6   | H7  | H8 |
|-----------|---------------|----|---------------|---------|---------|----|---------------|-----------------|----|----|------|-----|----|------|-----|----|
|           |               |    |               |         | GF      | KF |               |                 |    |    |      |     |    |      |     |    |
| 20        | 9             | M5 | 9             | M5      | 14      | 12 | 7             | M5              | 36 | 34 | 29.5 | 4.5 | 27 | 18   | 7   | 20 |
| 25        | 9             | M6 | 9             | M6      | 16      | 14 | 7             | G $\frac{1}{8}$ | 44 | 42 | 34.8 | 4.5 | 35 | 22   | 12  | 20 |
| 32        | 12            | M6 | 9             | M6      | 20      | 16 | 9             | G $\frac{1}{8}$ | 49 | 47 | 39   | 6   | 37 | 24.5 | 8.5 | 30 |
| 40        | 12            | M8 | 9             | M6      | 20      | 16 | 9             | G $\frac{1}{8}$ | 54 | 52 | 41.5 | 6   | 42 | 27   | 10  | 30 |

| Ø<br>[mm] | H9   | L2 | L3 | L4 | L5  | L8 | L10 | L12 | T1 | T2  | T3  | T4 | T5  | T6  | T7 | ≈C1 |
|-----------|------|----|----|----|-----|----|-----|-----|----|-----|-----|----|-----|-----|----|-----|
| 20        | 16.5 | 62 | 12 | 14 | 5.5 | 26 | 40  | 6   | 12 | 5.7 | 2.1 | 10 | 2.1 | 1.6 | 11 | 14  |
| 25        | 19   | 70 | 12 | 14 | 8.5 | 26 | 40  | 6   | 15 | 5.7 | 2.1 | 12 | 2.1 | 1.6 | 15 | 17  |
| 32        | 21   | 75 | 14 | 16 | 8.5 | 29 | 45  | 7   | 20 | 6.8 | 2.6 | 11 | 2.1 | 2.1 | 15 | 17  |
| 40        | 26   | 76 | 14 | 16 | 8.5 | 29 | 45  | 7   | 20 | 6.8 | 2.6 | 16 | 2.1 | 2.1 | 15 | 17  |

| Stroke<br>[mm] | Piston Ø [mm] |     |     |                           |     |     |     |     |                           |     |     |     |     |                           |     |     |     |     |                           |     |
|----------------|---------------|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|
|                | 20            |     |     |                           |     | 25  |     |     |                           |     | 32  |     |     |                           |     | 40  |     |     |                           |     |
|                | L1            | L2  | L7  | L9<br>±0.02 <sup>1)</sup> | L11 | L1  | L2  | L7  | L9<br>±0.02 <sup>1)</sup> | L11 | L1  | L2  | L7  | L9<br>±0.02 <sup>1)</sup> | L11 | L1  | L2  | L7  | L9<br>±0.02 <sup>1)</sup> | L11 |
| 20             | 105           | 82  | 9   | 20                        | –   | 111 | 90  | 7   | 20                        | –   | 118 | 95  | 7   | 20                        | –   | –   | 96  | –   | –                         | –   |
| 25             | 110           | 87  | 9   | 20                        | –   | 116 | 95  | 7   | 20                        | –   | 123 | 100 | 7   | 20                        | –   | 123 | 101 | 6   | 20                        | –   |
| 30             | 115           | 92  | 9   | 20                        | –   | 121 | 100 | 7   | 20                        | –   | 133 | 105 | 12  | 20                        | –   | –   | 106 | –   | –                         | –   |
| 40             | 135           | 102 | 19  | 20                        | –   | 141 | 110 | 17  | 20                        | –   | 143 | 115 | 12  | 20                        | –   | –   | 116 | –   | –                         | –   |
| 50             | 145           | 112 | 19  | 40                        | –   | 151 | 120 | 17  | 40                        | –   | 153 | 125 | 12  | 40                        | –   | 153 | 126 | 11  | 40                        | –   |
| 80             | 185           | 142 | 29  | 40                        | 80  | 196 | 150 | 32  | 40                        | 80  | 208 | 155 | 37  | 40                        | –   | 208 | 156 | 36  | 40                        | –   |
| 100            | 205           | 162 | 29  | 40                        | 80  | 216 | 170 | 32  | 40                        | 80  | 228 | 175 | 37  | 40                        | 80  | 228 | 176 | 36  | 40                        | 80  |
| 125            | 257           | 187 | 56  | 40                        | 80  | 271 | 195 | 62  | 40                        | 80  | 283 | 200 | 67  | 40                        | 80  | 283 | 201 | 66  | 40                        | 80  |
| 160            | 292           | 222 | 56  | 40                        | 120 | 306 | 230 | 62  | 40                        | 120 | 318 | 235 | 67  | 40                        | 120 | 318 | 236 | 66  | 40                        | 120 |
| 200            | 332           | 262 | 56  | 40                        | 160 | 346 | 270 | 62  | 40                        | 160 | 358 | 275 | 67  | 40                        | 160 | 358 | 276 | 66  | 40                        | 160 |
| 250            | 472           | 312 | 146 | 40                        | 200 | 476 | 320 | 142 | 40                        | 200 | 483 | 325 | 142 | 40                        | 200 | 483 | 326 | 141 | 40                        | 200 |
| 320            | 542           | 382 | 146 | 40                        | 240 | 546 | 390 | 142 | 40                        | 240 | 553 | 395 | 142 | 40                        | 240 | 553 | 396 | 141 | 40                        | 240 |
| 400            | 622           | 462 | 146 | 40                        | 320 | 626 | 470 | 142 | 40                        | 320 | 633 | 475 | 142 | 40                        | 320 | 633 | 476 | 141 | 40                        | 320 |

1) Tolerance between centring holes

Note: This product conforms to ISO 1179-1 and ISO 228-1

## Note

If the guide rods project beyond the housing when the unit is in its retracted end position (→ dimension L7), a recess must be provided in the

mounting surface if the unit is to be mounted against a surface in order to allow the guide rods to move freely.

When using a variable stroke, the dimensions L1, L2, L7, L9 and L11 correspond to the next longest standard stroke.

# Guided drives DFM-B

Technical data

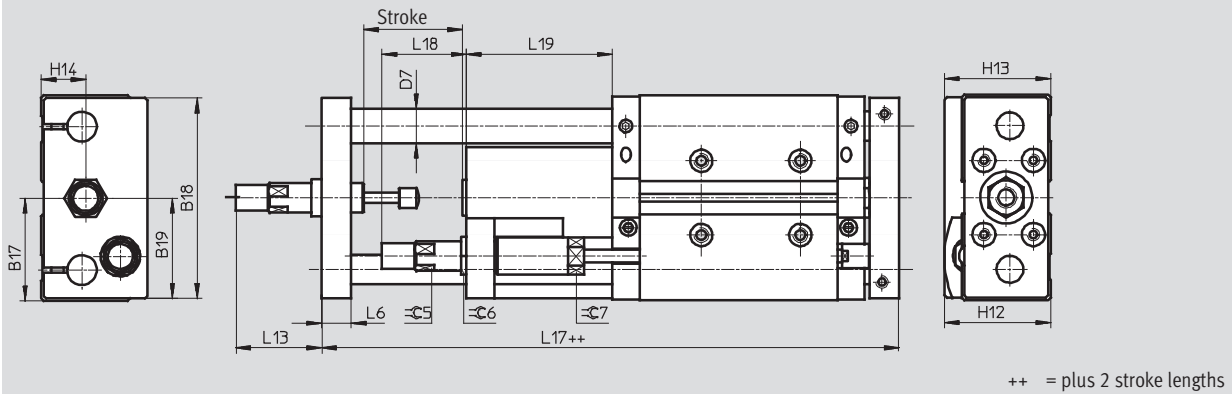
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## Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

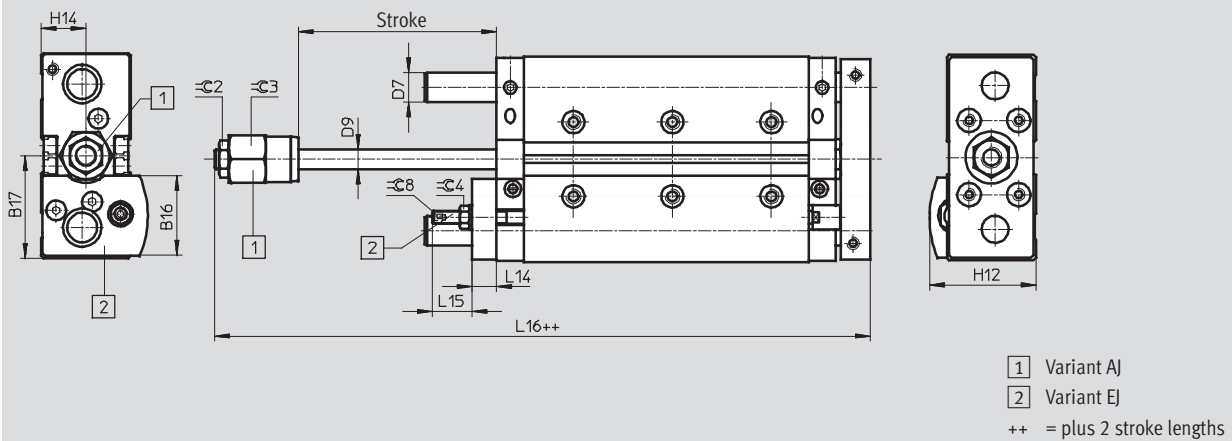
YSRW – Self-adjusting cushioning

Ø 20 ... 40 mm



AJ/EJ – Precision stroke adjustment, advanced end position and retracted end position

Ø 20 ... 40 mm



## Guided drives DFM-B

Technical data

**FESTO**

| Ø<br>[mm] | B16  | B17  | B18 | B19  | D7<br>Ø |    | D9<br>Ø | H12  | H13  | H14  | L6 | L13  | L14 |
|-----------|------|------|-----|------|---------|----|---------|------|------|------|----|------|-----|
|           |      |      |     |      | GF      | KF |         |      |      |      |    |      |     |
| 20        | 32.5 | 41.5 | 81  | 40.5 | 14      | 12 | 8       | 43   | 43   | 18   | 12 | 36.5 | 10  |
| 25        | 38.6 | 47.5 | 90  | 45   | 16      | 14 | 10      | 49.5 | 50.5 | 22   | 14 | 43   | 12  |
| 32        | 43.4 | 55   | 105 | 52.5 | 20      | 16 | 12      | 56.5 | 56   | 24.5 | 16 | 52   | 12  |
| 40        | 46.2 | 60   | 116 | 58   | 20      | 16 | 12      | 62.5 | 63.5 | 27   | 16 | 72   | 12  |

| Ø<br>[mm] | L15  | L16   | L17   | L18  | L19 | ≈G2 | ≈G3 | ≈G4 | ≈G5 | ≈G6 | ≈G7 | ≈G8 |
|-----------|------|-------|-------|------|-----|-----|-----|-----|-----|-----|-----|-----|
| 20        | 16   | 110   | 153.5 | 34   | 59  | 13  | 19  | 8   | 11  | 15  | 13  | 2.5 |
| 25        | 23.5 | 119.5 | 176.5 | 37.5 | 71  | 17  | 24  | 13  | 13  | 17  | 16  | 4   |
| 32        | 18.5 | 129.5 | 190.5 | 48.5 | 76  | 17  | 30  | 13  | 15  | 17  | 19  | 4   |
| 40        | 18.5 | 132   | 209.5 | 55.5 | 95  | 17  | 30  | 13  | 20  | 22  | 27  | 4   |

# Guided drives DFM-B

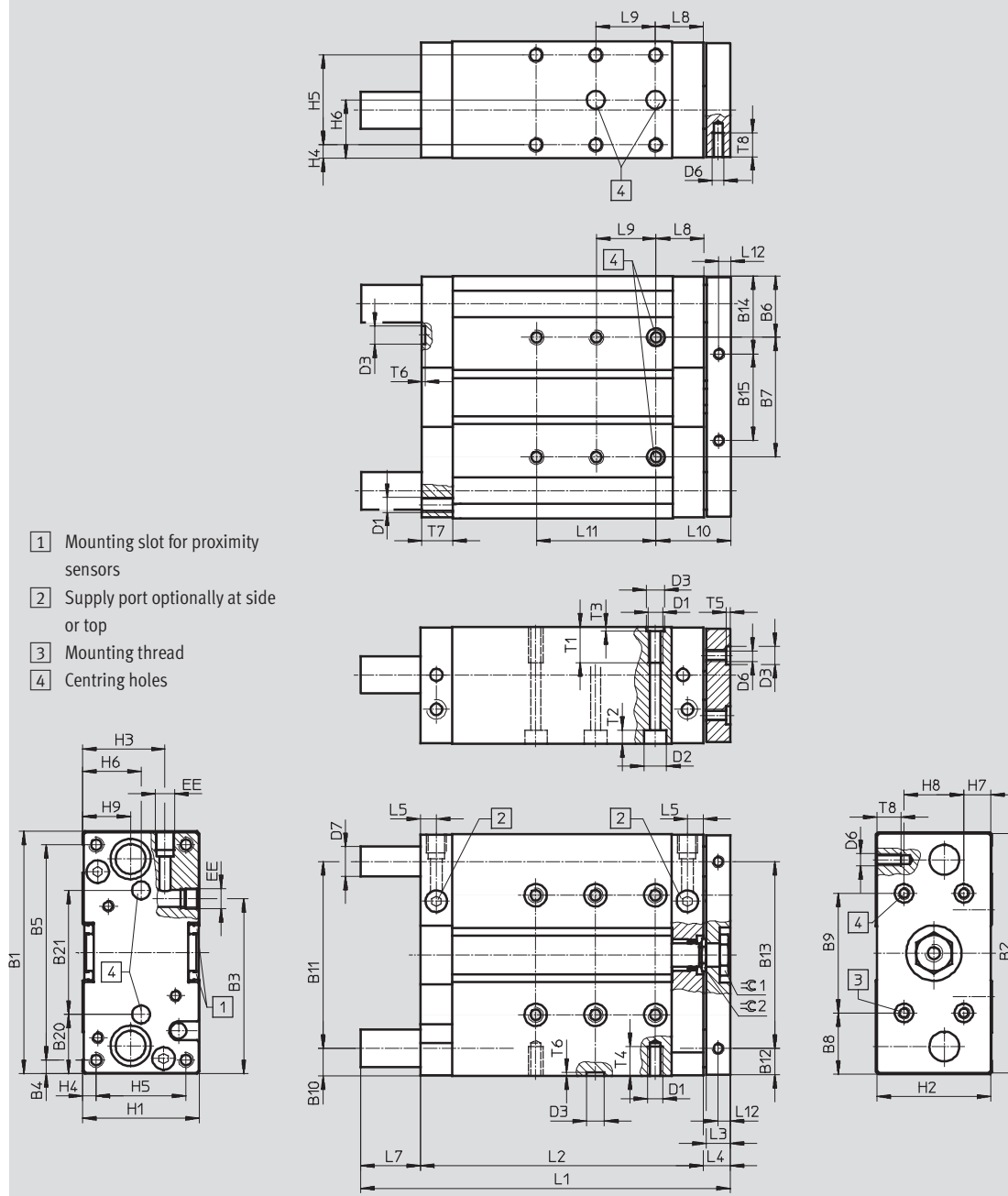
Technical data

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## Dimensions

Piston  $\varnothing$  50 ... 63 mm

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)



# Guided drives DFM-B

Technical data

**FESTO**

| Ø<br>[mm] | B1  | B2  | B3    | B4 | B5  | B6 | B7<br>±0.02 <sup>1)</sup> | B8 | B9<br>±0.02 <sup>1)</sup> | B10  | B11 | B12  | B13 | B14 | B15 | B20  | B21<br>±0.02 <sup>1)</sup> |
|-----------|-----|-----|-------|----|-----|----|---------------------------|----|---------------------------|------|-----|------|-----|-----|-----|------|----------------------------|
| 50        | 148 | 146 | 104.5 | 19 | 110 | 42 | 64                        | 44 | 60                        | 19   | 110 | 18   | 110 | 52  | 42  | 40   | 68                         |
| 63        | 162 | 160 | 117   | 9  | 144 | 41 | 80                        | 41 | 80                        | 18.5 | 125 | 17.5 | 125 | 51  | 58  | 39.5 | 83                         |

| Ø<br>[mm] | D1  | D2<br>Ø<br>H7 | D3<br>Ø<br>H7 | D6<br>Ø | D7<br>Ø |    | EE              | H1 | H2 | H3   | H4 | H5 | H6 | H7 | H8 |
|-----------|-----|---------------|---------------|---------|---------|----|-----------------|----|----|------|----|----|----|----|----|
|           |     |               |               |         | GF      | KF |                 |    |    |      |    |    |    |    |    |
| 50        | M8  | 11            | 12            | M8      | 25      | 20 | G $\frac{3}{4}$ | 64 | 62 | 48.5 | 7  | 50 | 32 | 12 | 40 |
| 63        | M10 | 15            | 12            | M8      | 25      | 20 | G $\frac{3}{4}$ | 78 | 76 | 55   | 9  | 60 | 39 | 19 | 40 |

| Ø<br>[mm] | H9 | L2 | L3 | L4 | L5   | L8 | L10 | L12 | T1 | T2  | T3  | T4 | T5  | T6  | T7 | T8 | ≈C1 | ≈C2 |
|-----------|----|----|----|----|------|----|-----|-----|----|-----|-----|----|-----|-----|----|----|-----|-----|
| 50        | 29 | 88 | 16 | 18 | 10.5 | 32 | 50  | 8   | 20 | 9.8 | 2.6 | 16 | 2.6 | 2.6 | 21 | 16 | 24  | 19  |
| 63        | 32 | 89 | 16 | 18 | 10.5 | 32 | 50  | 8   | 24 | 9   | 2.6 | 20 | 2.6 | 2.6 | 21 | 16 | 24  | 19  |

| Stroke<br><br>[mm] | Piston Ø [mm] |     |     |                           |     |     |     |     |                           |     |     |
|--------------------|---------------|-----|-----|---------------------------|-----|-----|-----|-----|---------------------------|-----|-----|
|                    | 50            |     |     |                           |     | 63  |     |     |                           |     |     |
|                    | L1            | L2  | L7  | L9<br>±0.02 <sup>1)</sup> | L11 | L1  | L2  | L7  | L9<br>±0.02 <sup>1)</sup> | L11 |     |
| 25                 | 137           | 113 | 6   | 20                        | –   | 137 | 114 | 5   | 20                        | –   |     |
| 50                 | 177           | 138 | 21  | 40                        |     | 177 | 139 | 20  | 40                        |     |     |
| 80                 | 227           | 168 | 41  |                           |     | 227 | 169 | 40  |                           |     | 80  |
| 100                | 247           | 188 |     |                           |     | 247 | 189 |     |                           |     |     |
| 125                | 293           | 213 | 62  |                           | 80  | 293 | 214 | 61  |                           | 120 |     |
| 160                | 328           | 248 |     |                           | 120 | 328 | 249 |     | 61                        |     |     |
| 200                | 368           | 288 |     |                           | 160 | 368 | 289 |     |                           |     | 61  |
| 250                | 495           | 338 | 139 | 200                       | 495 | 339 | 138 | 240 |                           |     |     |
| 320                | 565           | 408 |     | 240                       | 565 | 409 |     |     | 138                       | 320 |     |
| 400                | 645           | 488 |     | 320                       | 645 | 489 |     |     |                           |     | 138 |

1) Tolerance between centring holes

Note: This product conforms to ISO 1179-1 and ISO 228-1

## Note

Since the guide rods project beyond the housing when the unit is in its retracted end position (→ dimension L7), a recess must be provided in the

mounting surface if the unit is to be mounted against a surface in order to allow the guide rods to move freely.

When using a variable stroke, the dimensions L1, L2, L7, L9 and L11 correspond to the next longest standard stroke.

# Guided drives DFM-B

Technical data

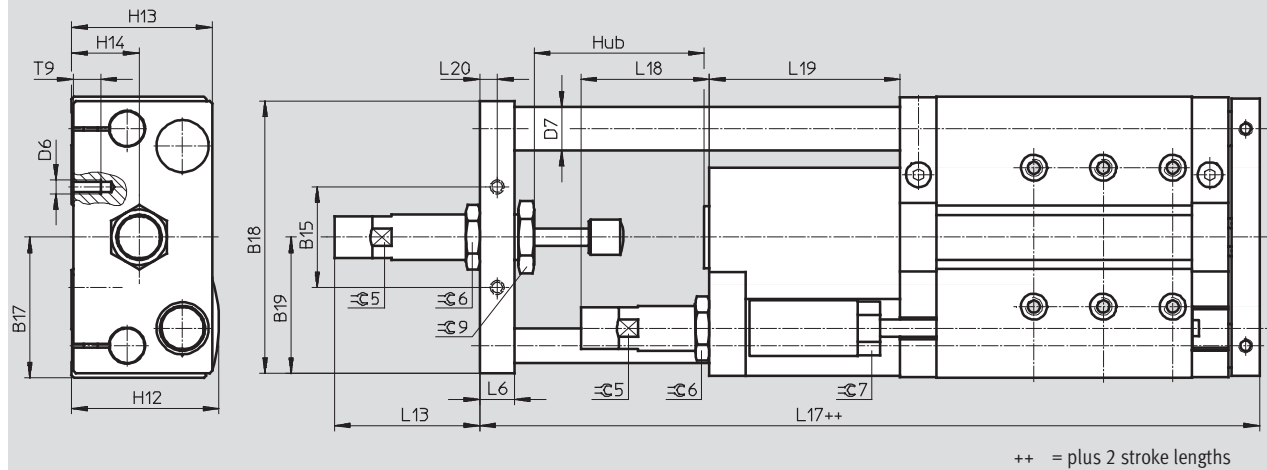
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## Dimensions

Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

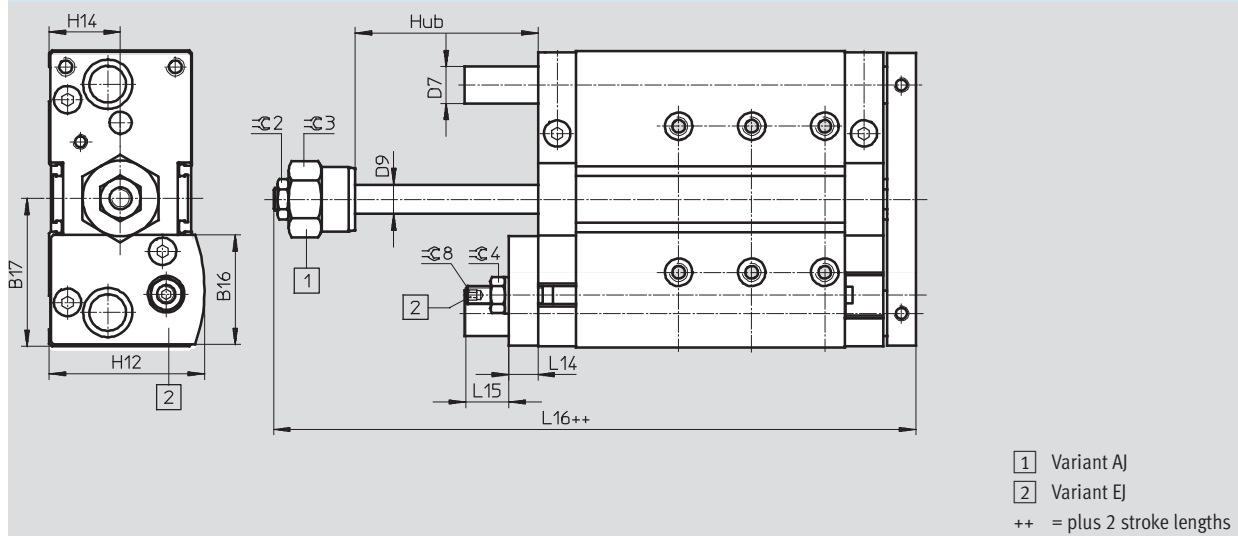
YSRW – Self-adjusting cushioning

Ø 50 ... 63 mm



AJ/EJ – Precision stroke adjustment, advanced end position and retracted end position

Ø 50 ... 63 mm



## Guided drives DFM-B

Technical data

**FESTO**

| Ø    | B15 | B16  | B17 | B18 | B19  | D6 | D7<br>Ø |    | D9<br>Ø | H12 | H13 | H14 | L6 | L13  | L14 |
|------|-----|------|-----|-----|------|----|---------|----|---------|-----|-----|-----|----|------|-----|
| [mm] |     |      |     |     |      |    | GF      | KF |         |     |     |     |    |      |     |
| 50   | 42  | 57.6 | 74  | 157 | 72   | M8 | 25      | 20 | 16      | 74  | 71  | 32  | 16 | 67.6 | 16  |
| 63   | 58  | 60   | 81  | 144 | 78.5 | M8 | 25      | 20 | 16      | 81  | 81  | 39  | 20 | 83.3 | 16  |

| Ø    | L15  | L16   | L17   | L18  | L19 | L20 | T9 | ≈C2 | ≈C3 | ≈C4 | ≈C5 | ≈C6 | ≈C7 | ≈C8 | ≈C9 |
|------|------|-------|-------|------|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| [mm] |      |       |       |      |     |     |    |     |     |     |     |     |     |     |     |
| 50   | 24.5 | 152.1 | 226.4 | 58.5 | 93  | 8   | 16 | 19  | 36  | 17  | 20  | 27  | 22  | 5   | 30  |
| 63   | 23.5 | 151.8 | 249.2 | 74   | 110 | 10  | 16 | 19  | 36  | 17  | 24  | 32  | 27  | 5   | 36  |

# Guided drives DFM-B, with plain-bearing guide GF

FESTO

Ordering data – Modular products

| Mandatory data → |        |      |            |            |            |                  |       |
|------------------|--------|------|------------|------------|------------|------------------|-------|
| Module No.       | Design | Size | Stroke     | Generation | Cushioning | Position sensing | Guide |
| 529 119          | DFM    | 12   | 10 ... 400 | B          | P<br>PPV   | A                | GF    |
| 529 120          |        | 16   |            |            |            |                  |       |
| 532 316          |        | 20   |            |            |            |                  |       |
| 532 317          |        | 25   |            |            |            |                  |       |
| 532 318          |        | 32   |            |            |            |                  |       |
| 532 319          |        | 40   |            |            |            |                  |       |
| 534 769          |        | 50   |            |            |            |                  |       |
| 534 770          |        | 63   |            |            |            |                  |       |
| Ordering example |        |      |            |            |            |                  |       |
| 532 319          | DFM    | - 40 | - 400      | - B        | - P        | - A              | - GF  |

| Ordering table   |                       |                                               |         |            |         |         |            |         |         |                 |      |               |     |
|------------------|-----------------------|-----------------------------------------------|---------|------------|---------|---------|------------|---------|---------|-----------------|------|---------------|-----|
| Size             |                       | 12                                            | 16      | 20         | 25      | 32      | 40         | 50      | 63      | Condi-<br>tions | Code | Enter<br>code |     |
| M                | Module No.            | 529 119                                       | 529 120 | 532 316    | 532 317 | 532 318 | 532 319    | 534 769 | 534 770 |                 |      |               |     |
|                  | Design                | Guided drive                                  |         |            |         |         |            |         |         |                 |      | DFM           | DFM |
|                  | Size                  | 12                                            | 16      | 20         | 25      | 32      | 40         | 50      | 63      |                 | -... |               |     |
|                  | Stroke [mm]           | 10                                            | 10      | —          | —       | —       | —          | —       | —       |                 |      | -...          |     |
|                  |                       | 20                                            | 20      | 20         | 20      | 20      | —          | —       | —       |                 |      | -...          |     |
|                  |                       | 25                                            | 25      | 25         | 25      | 25      | 25         | 25      | 25      |                 |      | -...          |     |
|                  |                       | 30                                            | 30      | 30         | 30      | 30      | —          | —       | —       |                 |      | -...          |     |
|                  |                       | 40                                            | 40      | 40         | 40      | 40      | —          | —       | —       |                 |      | -...          |     |
|                  |                       | 50                                            | 50      | 50         | 50      | 50      | 50         | 50      | 50      |                 |      | -...          |     |
|                  |                       | 80                                            | 80      | 80         | 80      | 80      | 80         | 80      | 80      |                 |      | -...          |     |
|                  |                       | 100                                           | 100     | 100        | 100     | 100     | 100        | 100     | 100     |                 |      | -...          |     |
|                  |                       | 125                                           | 125     | 125        | 125     | 125     | 125        | 125     | 125     |                 |      | -...          |     |
|                  |                       | 160                                           | 160     | 160        | 160     | 160     | 160        | 160     | 160     |                 |      | -...          |     |
|                  |                       | 200                                           | 200     | 200        | 200     | 200     | 200        | 200     | 200     |                 |      | -...          |     |
|                  |                       | —                                             | —       | 250        | 250     | 250     | 250        | 250     | 250     |                 |      | -...          |     |
|                  |                       | —                                             | —       | 320        | 320     | 320     | 320        | 320     | 320     |                 |      | -...          |     |
|                  |                       | —                                             | —       | 400        | 400     | 400     | 400        | 400     | 400     |                 |      | -...          |     |
|                  | Variable stroke [mm]  | 10 ... 200                                    |         | 20 ... 400 |         |         | 25 ... 400 |         |         | 1               | -... |               |     |
|                  | Generation            | B series                                      |         |            |         |         |            |         |         |                 |      | -B            | -B  |
|                  | Cushioning            | Flexible cushioning rings/plates at both ends |         |            |         |         |            |         |         |                 |      | -P            |     |
| —                |                       | Pneumatic cushioning adjustable at both ends  |         |            |         |         |            |         |         | 2               | -PPV |               |     |
| Position sensing | For proximity sensing |                                               |         |            |         |         |            |         |         |                 | -A   | -A            |     |
| Guide            | Plain-bearing guide   |                                               |         |            |         |         |            |         |         |                 | -GF  | -GF           |     |

1 ... Not in combination with precision adjustment AJ

2 PPV Not in combination with precision adjustment AJ, EJ

Transfer order code

DFM - 40 - 400 - B - P - A - GF

# Guided drives DFM-B, with plain-bearing guide GF

FESTO

Ordering data – Modular products

| Options               |                                                     |                                                      |             |                            |                             |                                          |
|-----------------------|-----------------------------------------------------|------------------------------------------------------|-------------|----------------------------|-----------------------------|------------------------------------------|
| Temperature-resistant | Precision adjustment in the end positions, advanced | Precision adjustment in the end positions, retracted | Accessories | Slot cover for sensor slot | Proximity sensor with cable | Proximity sensor, contactless with cable |
| S6                    | AJ                                                  | EJ                                                   | ZUB         | ...S                       | ...G                        | ...I                                     |
| - S6                  | - AJ                                                | - EJ                                                 | ZUB         | - 10S                      | 10G                         | 10I                                      |

| Ordering table               |                                                      |                                        |          |                                |    |    |    |    |    |                 |      |               |      |
|------------------------------|------------------------------------------------------|----------------------------------------|----------|--------------------------------|----|----|----|----|----|-----------------|------|---------------|------|
| Size                         |                                                      | 12                                     | 16       | 20                             | 25 | 32 | 40 | 50 | 63 | Condi-<br>tions | Code | Enter<br>code |      |
| 0                            | Temperature-resistant                                | Heat-resistant seals up to max. 120 °C |          |                                |    |    |    |    |    | 3               | S6   |               |      |
|                              | Precision adjustment in the end positions, advanced  | Precision adjustment advanced          |          |                                |    |    |    |    |    |                 | -AJ  |               |      |
|                              | Precision adjustment in the end positions, retracted | –                                      | –        | Precision adjustment retracted |    |    |    |    |    |                 | -EJ  |               |      |
|                              | Accessories                                          | Supplied separately                    |          |                                |    |    |    |    |    |                 | ZUB- |               | ZUB- |
|                              | Slot cover for sensor slot                           | 1 ... 10                               |          |                                |    |    |    |    |    |                 | ...S |               |      |
|                              | Proximity sensor                                     | With cable 2.5 m                       | 1 ... 10 |                                |    |    |    |    |    |                 |      |               | ...G |
| Contactless with cable 2.5 m |                                                      | 1 ... 10                               |          |                                |    |    |    |    |    |                 | ...I |               |      |

3 S6 Not in combination with precision adjustment AJ, EJ

Transfer order code

-  -  -  ZUB -

# Guided drives DFM-B, with recirculating ball bearing guide KF

FESTO

Ordering data – Modular products

| Mandatory data → |        |      |            |            |                  |                  |       |
|------------------|--------|------|------------|------------|------------------|------------------|-------|
| Module No.       | Design | Size | Stroke     | Generation | Cushioning       | Position sensing | Guide |
| 529 119          | DFM    | 12   | 10 ... 400 | B          | P<br>PPV<br>YSRW | A                | KF    |
| 529 120          |        | 16   |            |            |                  |                  |       |
| 532 316          |        | 20   |            |            |                  |                  |       |
| 532 317          |        | 25   |            |            |                  |                  |       |
| 532 318          |        | 32   |            |            |                  |                  |       |
| 532 319          |        | 40   |            |            |                  |                  |       |
| 534 769          |        | 50   |            |            |                  |                  |       |
| 534 770          |        | 63   |            |            |                  |                  |       |
| Ordering example |        |      |            |            |                  |                  |       |
| 532 319          | DFM    | - 40 | - 400      | - B        | - P              | - A              | - KF  |

| Ordering table   |                                  |                                               |                                            |            |         |         |            |         |         |                 |      |               |
|------------------|----------------------------------|-----------------------------------------------|--------------------------------------------|------------|---------|---------|------------|---------|---------|-----------------|------|---------------|
| Size             |                                  | 12                                            | 16                                         | 20         | 25      | 32      | 40         | 50      | 63      | Condi-<br>tions | Code | Enter<br>code |
| M                | Module No.                       | 529 119                                       | 529 120                                    | 532 316    | 532 317 | 532 318 | 532 319    | 534 769 | 534 770 |                 |      |               |
|                  | Design                           | Guided drive                                  |                                            |            |         |         |            |         |         |                 | DFM  | DFM           |
|                  | Size                             | 12                                            | 16                                         | 20         | 25      | 32      | 40         | 50      | 63      |                 | -... |               |
|                  | Stroke [mm]                      | 10                                            | 10                                         | —          | —       | —       | —          | —       | —       |                 | -... |               |
|                  |                                  | 20                                            | 20                                         | 20         | 20      | 20      | —          | —       | —       |                 | -... |               |
|                  |                                  | 25                                            | 25                                         | 25         | 25      | 25      | 25         | 25      | 25      |                 | -... |               |
|                  |                                  | 30                                            | 30                                         | 30         | 30      | 30      | —          | —       | —       |                 | -... |               |
|                  |                                  | 40                                            | 40                                         | 40         | 40      | 40      | —          | —       | —       |                 | -... |               |
|                  |                                  | 50                                            | 50                                         | 50         | 50      | 50      | 50         | 50      | 50      |                 | -... |               |
|                  |                                  | 80                                            | 80                                         | 80         | 80      | 80      | 80         | 80      | 80      |                 | -... |               |
|                  |                                  | 100                                           | 100                                        | 100        | 100     | 100     | 100        | 100     | 100     |                 | -... |               |
|                  |                                  | 125                                           | 125                                        | 125        | 125     | 125     | 125        | 125     | 125     |                 | -... |               |
|                  |                                  | 160                                           | 160                                        | 160        | 160     | 160     | 160        | 160     | 160     |                 | -... |               |
|                  |                                  | 200                                           | 200                                        | 200        | 200     | 200     | 200        | 200     | 200     |                 | -... |               |
|                  |                                  | —                                             | —                                          | 250        | 250     | 250     | 250        | 250     | 250     |                 | -... |               |
|                  |                                  | —                                             | —                                          | 320        | 320     | 320     | 320        | 320     | 320     |                 | -... |               |
|                  |                                  | —                                             | —                                          | 400        | 400     | 400     | 400        | 400     | 400     |                 | -... |               |
|                  | Variable stroke [mm]             | 10 ... 200                                    |                                            | 20 ... 400 |         |         | 25 ... 400 |         |         | 1               | -... |               |
|                  | Generation                       | B series                                      |                                            |            |         |         |            |         |         |                 | -B   | -B            |
|                  | Cushioning                       | Flexible cushioning rings/plates at both ends |                                            |            |         |         |            |         |         |                 | -P   |               |
| —                |                                  | Pneumatic cushioning adjustable at both ends  |                                            |            |         |         |            |         | 2       | -PPV            |      |               |
| —                |                                  | —                                             | Shock absorber with progressive cushioning |            |         |         |            | 3       | -YSRW   |                 |      |               |
| Position sensing | For proximity sensing            |                                               |                                            |            |         |         |            |         |         | -A              | -A   |               |
| Guide            | Recirculating ball bearing guide |                                               |                                            |            |         |         |            |         |         | -KF             | -KF  |               |

1 ... Not in combination with precision adjustment AJ, cushioning YSRW

3 YSRW Not with precision adjustment AJ, EJ, since already integrated

2 PPV Not in combination with precision adjustment AJ, EJ

Transfer order code

DFM - 40 - 400 - B - P - A - KF

# Guided drives DFM-B, with recirculating ball bearing guide KF

FESTO

Ordering data – Modular products

| Options                                             |                                                      |             |                            |                             |                                          |
|-----------------------------------------------------|------------------------------------------------------|-------------|----------------------------|-----------------------------|------------------------------------------|
| Precision adjustment in the end positions, advanced | Precision adjustment in the end positions, retracted | Accessories | Slot cover for sensor slot | Proximity sensor with cable | Proximity sensor, contactless with cable |
| AJ                                                  | EJ                                                   | ZUB         | ...S                       | ...G                        | ...I                                     |
| - AJ                                                | - EJ                                                 | ZUB         | - 10S                      | 10G                         | 10I                                      |

| Ordering table |                                                      |                               |          |                                |    |    |    |    |    |                 |      |               |  |
|----------------|------------------------------------------------------|-------------------------------|----------|--------------------------------|----|----|----|----|----|-----------------|------|---------------|--|
| Size           |                                                      | 12                            | 16       | 20                             | 25 | 32 | 40 | 50 | 63 | Condi-<br>tions | Code | Enter<br>code |  |
| 0              | Precision adjustment in the end positions, advanced  | Precision adjustment advanced |          |                                |    |    |    |    |    |                 | -AJ  |               |  |
|                | Precision adjustment in the end positions, retracted | —                             | —        | Precision adjustment retracted |    |    |    |    |    |                 | -EJ  |               |  |
|                | Accessories                                          | Supplied separately           |          |                                |    |    |    |    |    |                 | ZUB- | ZUB-          |  |
|                | Slot cover for sensor slot                           | 1 ... 10                      |          |                                |    |    |    |    |    |                 | ...S |               |  |
|                | Proximity sensor                                     | With cable 2.5 m              | 1 ... 10 |                                |    |    |    |    |    |                 |      | ...G          |  |
|                |                                                      | Contactless with cable 2.5 m  | 1 ... 10 |                                |    |    |    |    |    |                 |      | ...I          |  |

Transfer order code

-  -  ZUB -

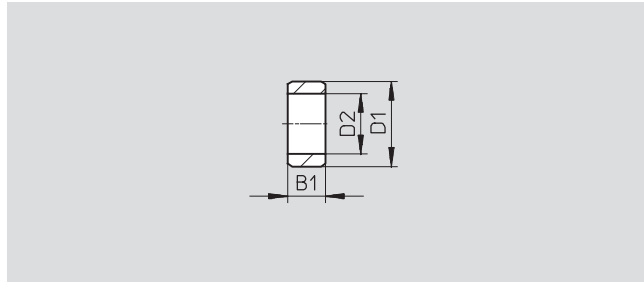
# Guided drives DFM/DFM-B

Accessories

**FESTO**

## Centring sleeve ZBH

Material:  
High-alloy steel



| Dimensions and ordering data (repeat order) |         |      |                   |        |                |               |                  |
|---------------------------------------------|---------|------|-------------------|--------|----------------|---------------|------------------|
| B1                                          | D1      | D2   | CRC <sup>1)</sup> | Weight | Part No.       | Type          | PU <sup>2)</sup> |
| -0.2                                        | Ø<br>h7 | Ø    |                   | [g]    |                |               |                  |
| 2.4                                         | 5       | 3.2  | 2                 | 1      | <b>189 652</b> | <b>ZBH-5</b>  | <b>10</b>        |
| 3                                           | 7       | 5.3  | 2                 | 1      | <b>186 717</b> | <b>ZBH-7</b>  | <b>10</b>        |
| 4                                           | 9       | 6.4  | 2                 | 1      | <b>150 927</b> | <b>ZBH-9</b>  | <b>10</b>        |
| 5                                           | 12      | 10.3 | 2                 | 1      | <b>189 653</b> | <b>ZBH-12</b> | <b>10</b>        |
| 6                                           | 15      | 12.4 | 2                 | 1      | <b>191 409</b> | <b>ZBH-15</b> | <b>10</b>        |

1) Corrosion resistance class 2 according to Festo standard 940 070

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

2) Packaging unit quantity

| Centring sleeves included in scope of delivery |                  |                    |                |
|------------------------------------------------|------------------|--------------------|----------------|
| DFM                                            | Piston Ø<br>[mm] | Centring sleeves   |                |
|                                                |                  | for housing        | for yoke plate |
|                                                | 12               | 2x ZBH-5, 2x ZBH-9 | 2x ZBH-5       |
|                                                | 16               | 2x ZBH-5, 2x ZBH-9 | 2x ZBH-5       |
|                                                | 20               | 2x ZBH-7, 2x ZBH-9 | 2x ZBH-9       |
|                                                | 25               | 2x ZBH-7, 2x ZBH-9 | 2x ZBH-9       |
|                                                | 32               | 2x ZBH-9, 2x ZBH-9 | 2x ZBH-9       |
|                                                | 40               | 2x ZBH-9, 2x ZBH-9 | 2x ZBH-9       |
|                                                | 50               | 2x ZBH-12          | 2x ZBH-12      |
|                                                | 63               | 2x ZBH-12          | 2x ZBH-12      |
|                                                | 80               | 2x ZBH-12          | 2x ZBH-12      |
|                                                | 100              | 2x ZBH-15          | 2x ZBH-15      |

| Centring sleeves included in scope of delivery |                  |                     |                |
|------------------------------------------------|------------------|---------------------|----------------|
| DFM-B                                          | Piston Ø<br>[mm] | Centring sleeves    |                |
|                                                |                  | for housing         | for yoke plate |
|                                                | 12               | 2x ZBH-5, 2x ZBH-9  | 2x ZBH-5       |
|                                                | 16               | 2x ZBH-5, 2x ZBH-9  | 2x ZBH-5       |
|                                                | 20               | 2x ZBH-7, 2x ZBH-9  | 2x ZBH-9       |
|                                                | 25               | 2x ZBH-7, 2x ZBH-9  | 2x ZBH-9       |
|                                                | 32               | 2x ZBH-9, 2x ZBH-12 | 2x ZBH-9       |
|                                                | 40               | 2x ZBH-9, 2x ZBH-12 | 2x ZBH-9       |
|                                                | 50               | 2x ZBH-12           | 2x ZBH-12      |
|                                                | 63               | 2x ZBH-12           | 2x ZBH-12      |
|                                                | -                | -                   | -              |
|                                                | -                | -                   | -              |

| 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                            | <b>543 867</b>                 | <b>SMT-8M-PS-24V-K-2,5-OE</b>  |
|                                                                                     |                                                                    |               | Plug M8x1, 3-pin      | 0.3                            | <b>543 866</b>                 | <b>SMT-8M-PS-24V-K-0,3-M8D</b> |
|                                                                                     |                                                                    |               | Plug M12x1, 3-pin     | 0.3                            | <b>543 869</b>                 | <b>SMT-8M-PS-24V-K-0,3-M12</b> |
|                                                                                     |                                                                    | NPN           | Cable, 3-wire         | 2.5                            | <b>543 870</b>                 | <b>SMT-8M-NS-24V-K-2,5-OE</b>  |
| Plug M8x1, 3-pin                                                                    | 0.3                                                                |               | <b>543 871</b>        | <b>SMT-8M-NS-24V-K-0,3-M8D</b> |                                |                                |
|  | Insertable in the slot lengthwise, flush with the cylinder profile | PNP           | Cable, 3-wire         | 2.5                            | <b>175 436</b>                 | <b>SMT-8-PS-K-LED-24-B</b>     |
|                                                                                     |                                                                    |               | Plug M8x1, 3-pin      | 0.3                            | <b>175 484</b>                 | <b>SMT-8-PS-S-LED-24-B</b>     |
|                                                                                     |                                                                    |               |                       |                                |                                |                                |
| N/C contact                                                                         |                                                                    |               |                       |                                |                                |                                |
|  | Insertable in the slot from above, flush with cylinder profile     | PNP           | Cable, 3-wire         | 7.5                            | <b>543 873</b>                 | <b>SMT-8M-PO-24V-K7,5-OE</b>   |

## Guided drives DFM/DFM-B

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              | <b>543 862</b>                 | <b>SME-8M-DS-24V-K-2,5-OE</b>  |
|                                                                                   |                                                                    |               |                       | 5.0              | <b>543 863</b>                 | <b>SME-8M-DS-24V-K-5,0-OE</b>  |
|                                                                                   |                                                                    |               | Cable, 3-wire         | 2.5              | <b>543 872</b>                 | <b>SME-8M-ZS-24V-K-2,5-OE</b>  |
|                                                                                   |                                                                    |               | Plug M8x1, 3-pin      | 0.3              | <b>543 861</b>                 | <b>SME-8M-DS-24V-K-0,3-M8D</b> |
|  | Insertable in the slot lengthwise, flush with the cylinder profile | Contacting    | Cable, 3-wire         | 2.5              | <b>150 855</b>                 | <b>SME-8-K-LED-24</b>          |
|                                                                                   |                                                                    |               | Plug M8x1, 3-pin      | 0.3              | <b>150 857</b>                 | <b>SME-8-S-LED-24</b>          |
|                                                                                   |                                                                    |               |                       |                  |                                |                                |
| N/C contact                                                                       |                                                                    |               |                       |                  |                                |                                |
|  | Insertable in the slot lengthwise, flush with the cylinder profile | Contacting    | Cable, 3-wire         | 7.5              | <b>160 251</b>                 | <b>SME-8-O-K-LED-24</b>        |

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

| Ordering data – One-way flow control valves                                         |            |                 |              | Technical data → Internet: grla |                  |
|-------------------------------------------------------------------------------------|------------|-----------------|--------------|---------------------------------|------------------|
|                                                                                     | Connection |                 | Material     | Part No.                        | Type             |
|                                                                                     | Thread     | For tubing O.D. |              |                                 |                  |
|  | M5         | 3               | Metal design | 193 137                         | GRLA-M5-QS-3-D   |
|                                                                                     |            | 4               |              | 193 138                         | GRLA-M5-QS-4-D   |
|                                                                                     |            | 6               |              | 193 139                         | GRLA-M5-QS-6-D   |
|                                                                                     | 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  |
|                                                                                     | G1/4       | 6               |              | 193 146                         | GRLA-1/4-QS-6-D  |
|                                                                                     |            | 8               |              | 193 147                         | GRLA-1/4-QS-8-D  |
|                                                                                     |            | 10              |              | 193 148                         | GRLA-1/4-QS-10-D |
|                                                                                     | G3/8       | 6               |              | 193 149                         | GRLA-3/8-QS-6-D  |
|                                                                                     |            | 8               |              | 193 150                         | GRLA-3/8-QS-8-D  |
|                                                                                     |            | 10              |              | 193 151                         | GRLA-3/8-QS-10-D |

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# Festo North America

## Festo Regional Contact Center

5300 Explorer Drive  
Mississauga, Ontario L4W 5G4  
Canada

### USA Customers:

For ordering assistance,

**Call:** 1.800.99.FESTO (1.800.993.3786)

**Fax:** 1.800.96.FESTO (1.800.963.3786)

**Email:** [customer.service@us.festo.com](mailto:customer.service@us.festo.com)

For technical support,

**Call:** 1.866.GO.FESTO (1.866.463.3786)

**Fax:** 1.800.96.FESTO (1.800.963.3786)

**Email:** [product.support@us.festo.com](mailto:product.support@us.festo.com)

### Canadian Customers:

**Call:** 1.877.GO.FESTO (1.877.463.3786)

**Fax:** 1.877.FX.FESTO (1.877.393.3786)

**Email:** [festo.canada@ca.festo.com](mailto:festo.canada@ca.festo.com)

## USA Headquarters

Festo Corporation  
395 Moreland Road  
P.O. Box 18023  
Hauppauge, NY 11788, USA  
[www.festo.com/us](http://www.festo.com/us)

## USA Sales Offices

### Appleton

North 922 Tower View Drive, Suite N  
Greenville, WI 54942, USA

### Boston

120 Presidential Way, Suite 330  
Woburn, MA 01801, USA

### Chicago

1441 East Business Center Drive  
Mt. Prospect, IL 60056, USA

### Dallas

1825 Lakeway Drive, Suite 600  
Lewisville, TX 75057, USA

### Detroit – Automotive Engineering Center

2601 Cambridge Court, Suite 320  
Auburn Hills, MI 48326, USA

### New York

395 Moreland Road  
Hauppauge, NY 11788, USA

### Silicon Valley

4935 Southfront Road, Suite F  
Livermore, CA 94550, USA

## United States



**USA Headquarters, East:** Festo Corp., 395 Moreland Road, Hauppauge, NY 11788

Phone: 1.631.435.0800; Fax: 1.631.435.8026;

Email: [info@festo-usa.com](mailto:info@festo-usa.com)

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

## Canada



**Headquarters:** Festo Inc., 5300 Explorer Drive, Mississauga, Ontario L4W 5G4

Phone: 1.905.624.9000; Fax: 1.905.624.9001;

Email: [festo.canada@ca.festo.com](mailto:festo.canada@ca.festo.com)

[www.festo.ca](http://www.festo.ca)

## Mexico



**Headquarters:** Festo Pneumatic, S.A., Av. Ceylán 3, Col. Tequesquahuac,  
54020 Tlalneapantla, Edo. de México

Phone: 011 52 [55] 53 21 66 00; Fax: 011 52 [55] 53 21 66 65;

Email: [festo.mexico@mx.festo.com](mailto:festo.mexico@mx.festo.com)

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

## Central USA

Festo Corporation  
1441 East Business  
Center Drive  
Mt. Prospect, IL 60056, USA  
Phone: 1.847.759.2600  
Fax: 1.847.768.9480



## Western USA

Festo Corporation  
4935 Southfront Road,  
Suite F  
Livermore, CA 94550, USA  
Phone: 1.925.371.1099  
Fax: 1.925.245.1286



## Festo Worldwide

Argentina Australia Austria Belarus Belgium Brazil Bulgaria Canada Chile China Colombia Croatia Czech Republic Denmark  
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[www.festo.com](http://www.festo.com)