

## Linear drives DGC-N, NPT

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## Linear drives DGC-N, NPT

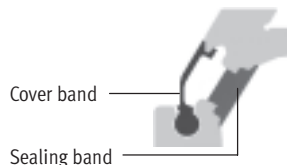
Key features

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### General information

- Compact – fitting length relative to stroke
- Loads and devices can be directly mounted on the slide
- Three types of cushioning available:
  - Elastic cushioning
  - Pneumatic cushioning
  - Hydraulic cushioning
- All settings accessible from one side:
  - Precision end-position adjustment
  - Position of proximity sensors
  - Mounting of drive
  - Speed regulation
  - Pneumatic end-position cushioning

- Sealing system



Advantages of the sealing system:

- Long strokes with no restrictions
- Virtually no leakage

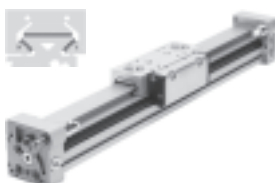
### Wide choice of variants

#### Basic design DGC-N-G



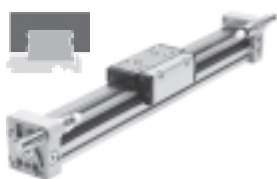
- Piston Ø 8 ... 63 mm
- Stroke lengths from 1 ... 8,500 mm
- Guide backlash = 0.2 mm
- For small loads
- Operating behaviour with torque load = average

#### Plain-bearing guide DGC-N-GF



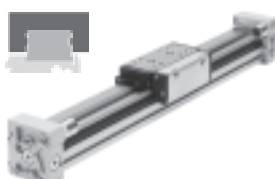
- Piston Ø 18 ... 63 mm
- Stroke lengths from 1 ... 8,500 mm
- Guide backlash = 0.05 mm
- For small and medium loads
- Operating behaviour with torque load = average

#### Recirculating ball bearing guide DGC-N-KF



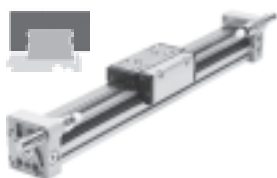
- Piston Ø 8 ... 63 mm
- Stroke lengths from 1 ... 8,500 mm
- Guide backlash = 0 mm
- For medium and large loads
- Precision mounting interface with stainless steel slide
- Operating behaviour under torque load = very good

#### Recirculating ball bearing guide with protected guide DGC-N-KF-GP



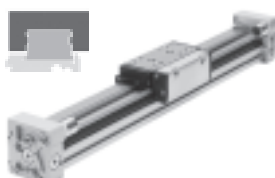
- Piston Ø 18 ... 40 mm
- Stroke lengths from 1 ... 8,500 mm
- Guide backlash = 0 mm
- The protected guide cleans the guide rail and protects the recirculating ball bearing guide by means of an additional wiper seal and lubrication unit

#### Passive guide axis DGC-N-FA



- Without drive
- Piston Ø 8 ... 63 mm
- Stroke lengths from 1 ... 8,500 mm
- Guide backlash = 0 mm
- Precision guide, suitable for DGC-N-KF. Can be used as machine component or as twin guide with DGC-N-KF

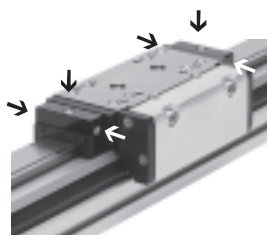
#### Passive guide axis with protected guide DGC-N-FA-GP



- Without drive
- Piston Ø 18 ... 40 mm
- Stroke lengths from 1 ... 8,500 mm
- Guide backlash = 0 mm
- The protected guide cleans the guide rail and protects the recirculating ball bearing guide by means of an additional wiper seal and lubrication unit

### Central lubrication system

For DGC-N-KF with recirculating ball bearing guide



The lubrication adapter enables the guide of the linear drive DGC-N-KF to be permanently lubricated in applications in humid or wet ambient conditions using semi or fully automatic relubrication devices. The adapters are suitable for oils and greases.

- For piston Ø 25, 32, 40, 63 mm
- Connections:
  - On both sides of the slide
  - In three places (front, top, rear) on each side

Technical data → 51

Order code C in the modular product system → 65

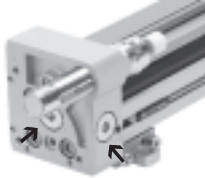
# Linear drives DGC-N, NPT

Key features

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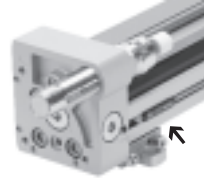
## Versatile

### 1 Supply ports



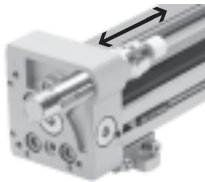
- Options on two sides (on the end face or at the front)
- For DGC-G/DGC-GF/DGC-KF
- For DGC-N-G/DGC-N-GF/DGC-N-KF

### 2 Proximity sensor G/H/I/J



- Proximity sensors can be integrated, which means there is no projection. Cable can be guided through the slot behind a second sensor
- For DGC-N-G/DGC-N-GF/DGC-N-KF

### 3 Precision end-position adjustment



- Between 0 ... 25 mm per side
- For DGC-N-GF/DGC-N-KF/DGC-N-FA

### 4 Profile mounting M



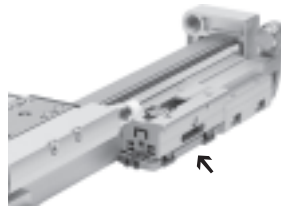
- Profile mounting remains on the base plate after the drive is dismantled. This means faster assembly and removal without repeat adjustment
- For DGC-N-G/DGC-N-GF/DGC-N-KF/DGC-N-FA

### 5 Mechanical end-position limiter YWZ



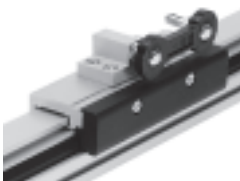
- For variable stroke adjustment, e.g. for format adjustments
- The end stop can be mounted at any position along the stroke
- For DGC-N-GF/DGC-N-KF/DGC-N-FA

### 6 Intermediate position module Z1/Z2/Z3



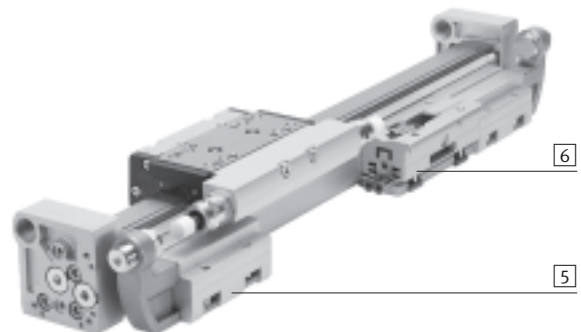
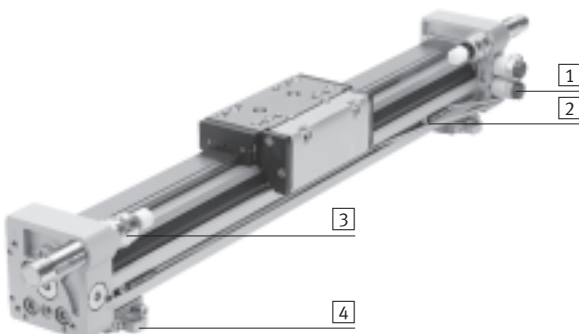
- Enables variable intermediate positions
- The intermediate position module can be mounted at any position along the stroke
- Precision repetition accuracy (0.02 mm) with high dynamic response
- For DGC-N-KF

## Moment compensator FK



- Compensates for inaccuracies during mounting of the linear drive and external guide
- Max. offset 2.5 mm
- For DGC-N-G

## Example

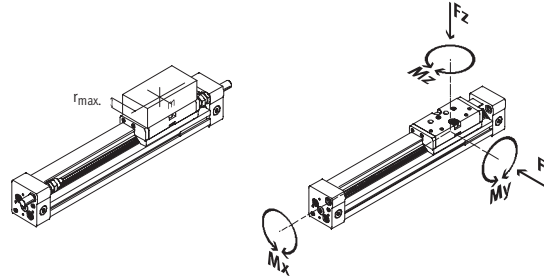


# Linear drives DGC-N, NPT

Key features

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## Product variants



|                                                                                     | Piston Ø | Theoretical force<br>at 6 bar | Max. perm. effective load <sup>1)</sup> m<br>[kg]/<br>at max. load distance r [mm] | Guide characteristics |           |            |            |            | → Page/<br>Internet |
|-------------------------------------------------------------------------------------|----------|-------------------------------|------------------------------------------------------------------------------------|-----------------------|-----------|------------|------------|------------|---------------------|
|                                                                                     | [mm]     | [N]                           |                                                                                    | Fy<br>[N]             | Fz<br>[N] | Mx<br>[Nm] | My<br>[Nm] | Mz<br>[Nm] |                     |
| Basic design DGC-N-G                                                                |          |                               |                                                                                    |                       |           |            |            |            |                     |
|    | 8        | 30                            | 0.06/25                                                                            | 150                   | 150       | 0.5        | 2          | 2          | 8                   |
|                                                                                     | 12       | 68                            | 0.1/35                                                                             | 300                   | 300       | 1.3        | 5          | 5          |                     |
|                                                                                     | 18       | 153                           | -/-                                                                                | 70                    | 340       | 1.9        | 12         | 4          |                     |
|                                                                                     | 25       | 295                           | -/-                                                                                | 180                   | 540       | 4          | 20         | 5          |                     |
|                                                                                     | 32       | 483                           | -/-                                                                                | 250                   | 800       | 9          | 40         | 12         |                     |
|                                                                                     | 40       | 754                           | -/-                                                                                | 370                   | 1,100     | 12         | 60         | 25         |                     |
|                                                                                     | 50       | 1,178                         | -/-                                                                                | 480                   | 1,600     | 20         | 150        | 37         |                     |
|                                                                                     | 63       | 1,870                         | -/-                                                                                | 650                   | 2,000     | 26         | 150        | 48         |                     |
| Plain-bearing guide DGC-N-GF                                                        |          |                               |                                                                                    |                       |           |            |            |            |                     |
|  | 18       | 153                           | 3/35                                                                               | 440                   | 540       | 3.4        | 20         | 8.5        | 24                  |
|                                                                                     | 25       | 295                           | 8/50                                                                               | 640                   | 1,300     | 8.5        | 40         | 20         |                     |
|                                                                                     | 32       | 483                           | 11/50                                                                              | 900                   | 1,800     | 15         | 70         | 33         |                     |
|                                                                                     | 40       | 754                           | 15/50                                                                              | 1,380                 | 2,000     | 28         | 110        | 54         |                     |
|                                                                                     | 50       | 1,178                         | 48/50                                                                              | 1,500                 | 2,870     | 54         | 270        | 103        |                     |
|                                                                                     | 63       | 1,870                         | 75/50                                                                              | 2,300                 | 4,460     | 96         | 450        | 187        |                     |
| Recirculating ball bearing guide DGC-N-KF/DGC-N-KF-GP                               |          |                               |                                                                                    |                       |           |            |            |            |                     |
|  | 8        | 30                            | 0.7/25                                                                             | 300                   | 300       | 1.7        | 4.5        | 4.5        | 42                  |
|                                                                                     | 12       | 68                            | 1.8/35                                                                             | 650                   | 650       | 3.5        | 10         | 10         |                     |
|                                                                                     | 18       | 153                           | 10/35                                                                              | 1,850                 | 1,850     | 16         | 51         | 51         |                     |
|                                                                                     | 25       | 295                           | 30/50                                                                              | 3,050                 | 3,050     | 36         | 97         | 97         |                     |
|                                                                                     | 32       | 483                           | 30/50                                                                              | 3,310                 | 3,310     | 54         | 150        | 150        |                     |
|                                                                                     | 40       | 754                           | 50/50                                                                              | 6,890                 | 6,890     | 144        | 380        | 380        |                     |
|                                                                                     | 50       | 1,178                         | 90/50                                                                              | 6,890                 | 6,890     | 144        | 634        | 634        |                     |
|                                                                                     | 63       | 1,870                         | 130/50                                                                             | 15,200                | 15,200    | 529        | 1,157      | 1,157      |                     |
| Passive guide axis without drive DGC-N-FA/DGC-N-FA-GP                               |          |                               |                                                                                    |                       |           |            |            |            |                     |
|  | 8        | 0                             | 0.7/25                                                                             | 300                   | 300       | 1.7        | 4.5        | 4.5        | dgc-fa              |
|                                                                                     | 12       | 0                             | 1.8/35                                                                             | 650                   | 650       | 3.5        | 10         | 10         |                     |
|                                                                                     | 18       | 0                             | 10/35                                                                              | 1,850                 | 1,850     | 16         | 51         | 51         |                     |
|                                                                                     | 25       | 0                             | 30/50                                                                              | 3,050                 | 3,050     | 36         | 97         | 97         |                     |
|                                                                                     | 32       | 0                             | 30/50                                                                              | 3,310                 | 3,310     | 54         | 150        | 150        |                     |
|                                                                                     | 40       | 0                             | 50/50                                                                              | 6,890                 | 6,890     | 144        | 380        | 380        |                     |
|                                                                                     | 50       | 0                             | 90/50                                                                              | 6,890                 | 6,890     | 144        | 634        | 634        |                     |
|                                                                                     | 63       | 0                             | 130/50                                                                             | 15,200                | 15,200    | 529        | 1,157      | 1,157      |                     |

1) At v = 0.5 m/s with shock absorber YSR or YSRW

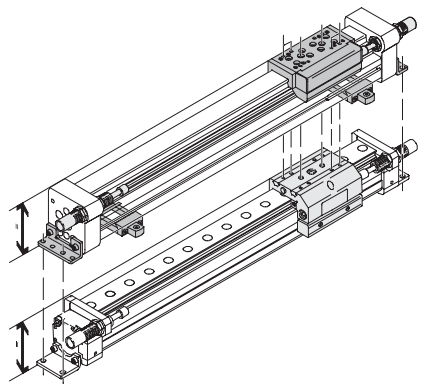
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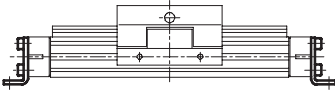
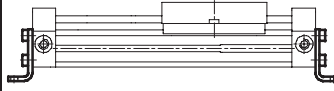
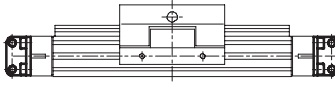
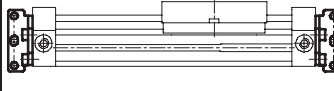
Key features



## Interchangeability with linear drive DGPL

Special foot mountings for the drive DGC enable the linear drive DGPL to be replaced with the linear drive DGC-N-GF/-KF with identical slide position and identical interfaces.



| Slide position | Linear drive DGPL                                                                  | Linear drive DGC-N-GF/-KF                                                           | Foot mounting required<br>→ Internet: hpc |
|----------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------|
| On the top     |   |   | Type<br>HPC-...-S0/<br>HPC-...-S          |
| At the rear    |  |  | Type<br>HPC-...-SH/<br>HPC-...-S          |

## Alternatives

Electromechanical drives

Toothed belt axes EGC-TB

Spindle axes EGC-BS



Advantages:  
Positioning drive for approaching  
several positions  
→ Internet: egc-tb



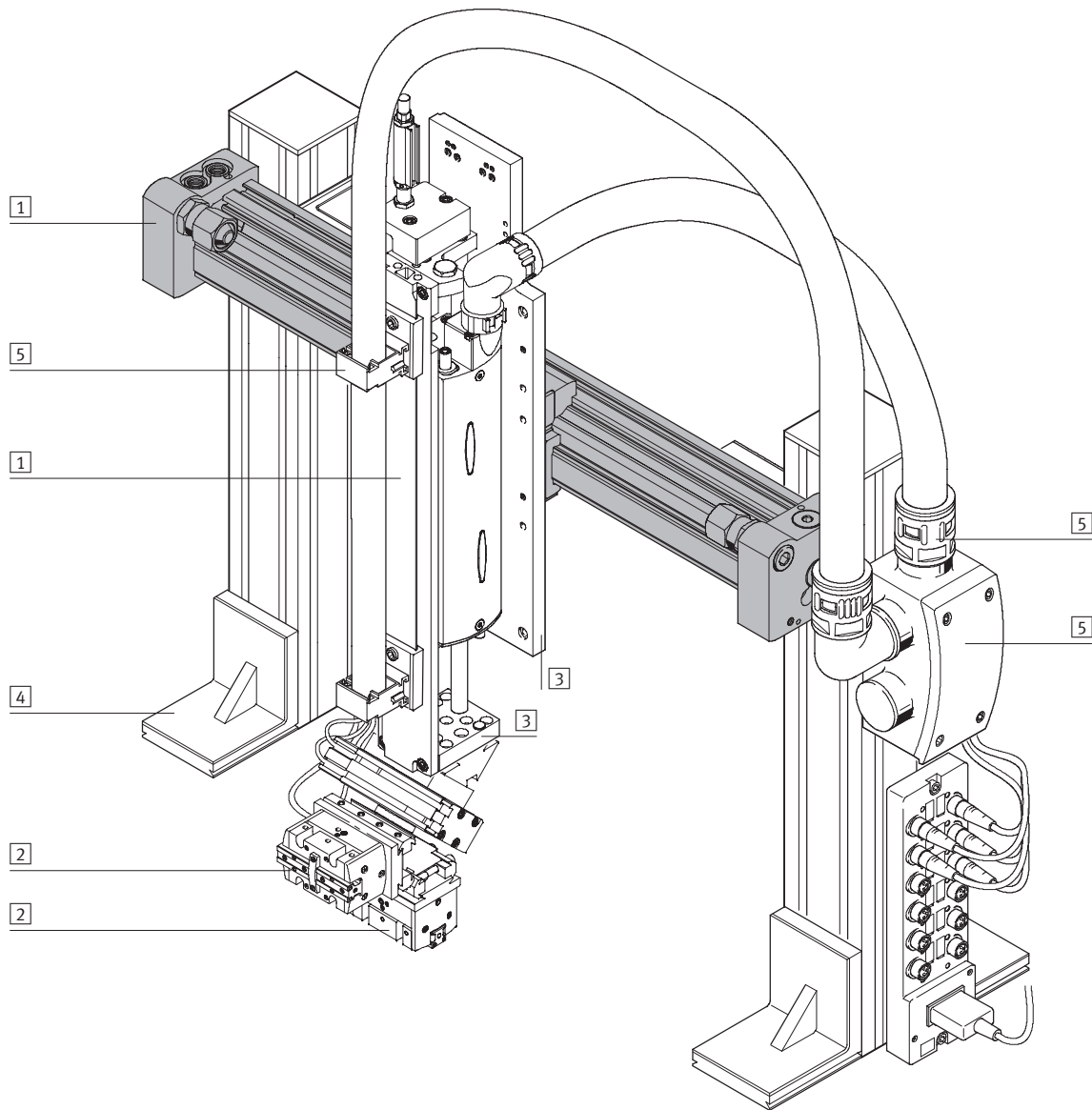
Positioning drive for approaching  
several positions  
→ Internet: egc-bs

# Linear drives DGC-N, NPT

Key features

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System product for handling and assembly technology



# Linear drives DGC-N, NPT

Key features



| System components and accessories |                                                                             |                        |
|-----------------------------------|-----------------------------------------------------------------------------|------------------------|
|                                   | Brief description                                                           | → Page/Internet        |
| 1 Drives                          | Wide range of combinations possible within handling and assembly technology | drive                  |
| 2 Grippers                        | Wide range of variations possible within handling and assembly technology   | gripper                |
| 3 Adapters                        | For drive/drive and drive/gripper connections                               | adapter kit            |
| 4 Basic components                | Profiles and profile connections as well as profile/drive connections       | basic component        |
| 5 Installation components         | For a clear, safe layout of electrical cables and tubing                    | installation component |
| – Axes                            | Wide range of combinations possible within handling and assembly technology | axis                   |
| – Motors                          | Servo and stepper motors, with or without gearing                           | motor                  |

# Linear drives DGC-N-G, NPT

Peripherals overview

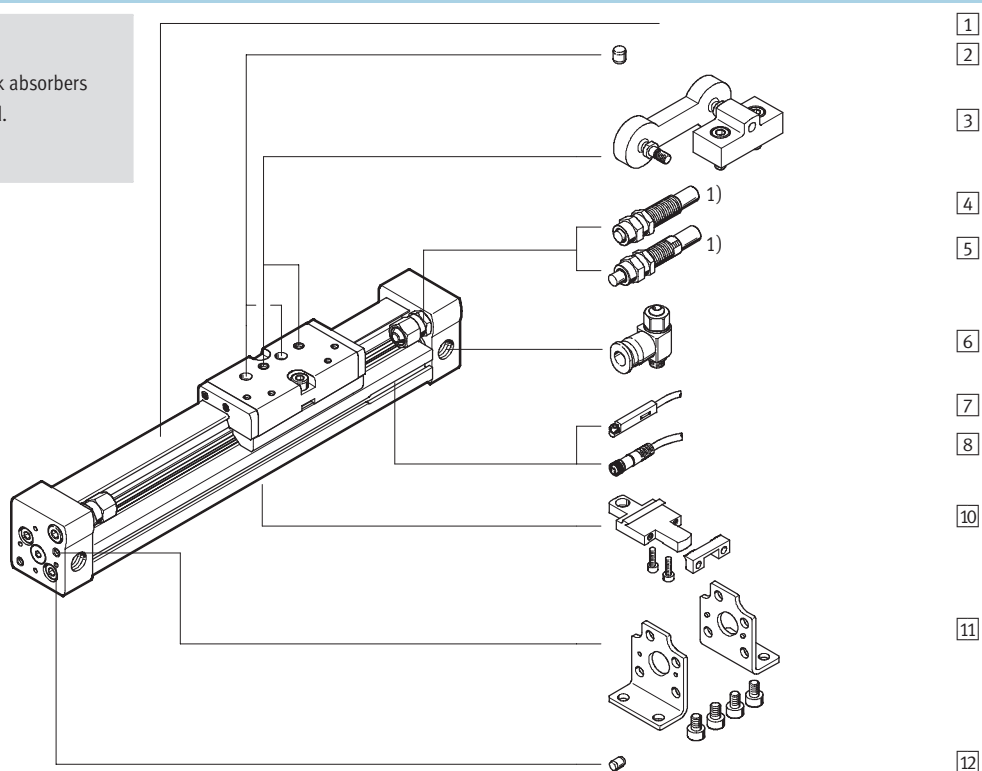
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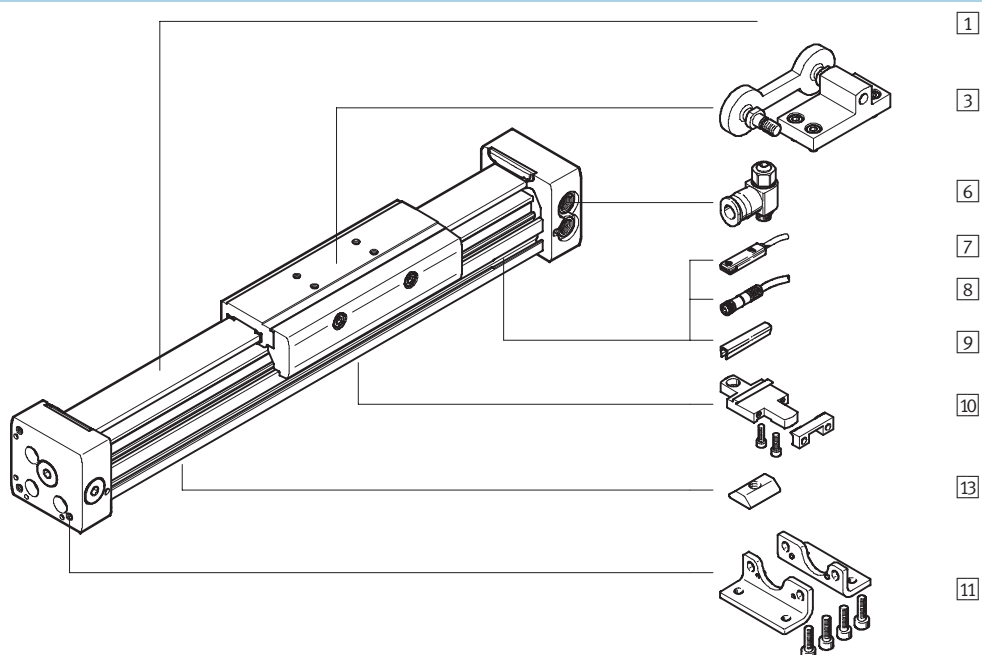
## DGC-N-8/-12

### Note

1) End stops or shock absorbers must not be removed.



## DGC-N-18 ... 63



# Linear drives DGC-N-G, NPT

Peripherals overview



| Variants and accessories             |              |                                                                                                       |                 |
|--------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|-----------------|
| Type                                 | For piston Ø | Brief description                                                                                     | → Page/Internet |
| 1 Linear drive<br>DGC-N-G            | 8 ... 63     | Linear drive without accessories, basic design.                                                       | 12              |
| 2 Centring pin <sup>1)</sup><br>ZBS  | 8, 12        | For centring loads and attachments on the slide.                                                      | 78              |
| 3 Moment compensator<br>FK           | 8 ... 63     | Compensates for inaccuracies in the mounting of the linear drive and external guide.                  | 72              |
| – Cushioning<br>P                    | 8, 12        | Non-adjustable, flexible cushioning. Used only at low speeds.                                         | 23              |
| – Cushioning<br>PPV                  | 18 ... 63    | Adjustable pneumatic end-position cushioning. Used at medium speeds.                                  | 23              |
| 4 Shock absorber<br>YSR              | 8, 12        | Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic.      | 23              |
| 5 Shock absorber<br>YSRW             | 8, 12        | Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic. | 78              |
| 6 One-way flow control valve<br>GRLA | 8 ... 63     | For regulating speed.                                                                                 | 78              |
| 7 Proximity sensor<br>G/H/I/J        | 8 ... 63     | For sensing the slide position.                                                                       | 79              |
| 8 Plug socket with cable<br>V        | 8 ... 63     | For proximity sensor.                                                                                 | 79              |
| 9 Slot cover<br>L                    | 18 ... 63    | For protecting against ingress of dirt and securing proximity sensor cables.                          | 78              |
| 10 Profile mounting<br>M             | 8 ... 63     | Simple and precise mounting option via dovetail connection.                                           | 70              |
| 11 Foot mounting<br>F                | 8 ... 63     | For mounting on end cap.                                                                              | 66              |
| 12 Centring pin <sup>1)</sup><br>ZBS | 8, 12        | For centring the drive without foot mountings (user-specific).                                        | 78              |
| 13 Slot nut<br>B                     | 25 ... 63    | For mounting attachments.                                                                             | 78              |

1) Included in the scope of delivery of the drive

# Linear drives DGC-N-G, NPT

Type codes

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|                         |                                            |     |   |   |   |    |   |      |   |   |   |     |   |   |
|-------------------------|--------------------------------------------|-----|---|---|---|----|---|------|---|---|---|-----|---|---|
|                         |                                            | DGC | – | N | – | 25 | – | 1000 | – | G | – | PPV | – | A |
| <b>Type</b>             |                                            |     |   |   |   |    |   |      |   |   |   |     |   |   |
| DGC                     | Linear drive                               |     |   |   |   |    |   |      |   |   |   |     |   |   |
| <b>Thread</b>           |                                            |     |   |   |   |    |   |      |   |   |   |     |   |   |
| N                       | NPT thread                                 |     |   |   |   |    |   |      |   |   |   |     |   |   |
| <b>Piston Ø [mm]</b>    |                                            |     |   |   |   |    |   |      |   |   |   |     |   |   |
| <b>Stroke [mm]</b>      |                                            |     |   |   |   |    |   |      |   |   |   |     |   |   |
| <b>Guide</b>            |                                            |     |   |   |   |    |   |      |   |   |   |     |   |   |
| G                       | Basic design                               |     |   |   |   |    |   |      |   |   |   |     |   |   |
| <b>Cushioning</b>       |                                            |     |   |   |   |    |   |      |   |   |   |     |   |   |
| P                       | Flexible cushioning, non-adjustable        |     |   |   |   |    |   |      |   |   |   |     |   |   |
| PPV                     | Adjustable end-position cushioning         |     |   |   |   |    |   |      |   |   |   |     |   |   |
| YSR                     | Linear shock absorber, self-adjusting      |     |   |   |   |    |   |      |   |   |   |     |   |   |
| YSRW                    | Progressive shock absorber, self-adjusting |     |   |   |   |    |   |      |   |   |   |     |   |   |
| <b>Position sensing</b> |                                            |     |   |   |   |    |   |      |   |   |   |     |   |   |
| A                       | Via proximity sensor                       |     |   |   |   |    |   |      |   |   |   |     |   |   |

# Linear drives DGC-N-G, NPT

Type codes

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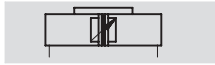
|                               |                                                           | + ZUB | - F |  |  | 2B | 2G |  | 2L |  |
|-------------------------------|-----------------------------------------------------------|-------|-----|--|--|----|----|--|----|--|
| <b>Accessories</b>            |                                                           |       |     |  |  |    |    |  |    |  |
| ZUB                           | Accessories enclosed separately                           |       |     |  |  |    |    |  |    |  |
| <b>Foot mounting</b>          |                                                           |       |     |  |  |    |    |  |    |  |
| F                             | Foot mounting                                             |       |     |  |  |    |    |  |    |  |
| <b>Profile mounting</b>       |                                                           |       |     |  |  |    |    |  |    |  |
| ...M                          | Profile mounting                                          |       |     |  |  |    |    |  |    |  |
| <b>Moment compensator</b>     |                                                           |       |     |  |  |    |    |  |    |  |
| FK                            | Moment compensator                                        |       |     |  |  |    |    |  |    |  |
| <b>Slot nut</b>               |                                                           |       |     |  |  |    |    |  |    |  |
| ...B                          | For mounting slot                                         |       |     |  |  |    |    |  |    |  |
| <b>Proximity sensor</b>       |                                                           |       |     |  |  |    |    |  |    |  |
| ...G                          | With cable, 2.5 m                                         |       |     |  |  |    |    |  |    |  |
| ...H                          | With plug                                                 |       |     |  |  |    |    |  |    |  |
| ...I                          | Contactless with cable, 2.5 m                             |       |     |  |  |    |    |  |    |  |
| ...J                          | Contactless with plug                                     |       |     |  |  |    |    |  |    |  |
| <b>Plug socket with cable</b> |                                                           |       |     |  |  |    |    |  |    |  |
| ...V                          | 2.5 m                                                     |       |     |  |  |    |    |  |    |  |
| <b>Slot cover</b>             |                                                           |       |     |  |  |    |    |  |    |  |
| ...L                          | For sensor slot                                           |       |     |  |  |    |    |  |    |  |
| <b>Manual</b>                 |                                                           |       |     |  |  |    |    |  |    |  |
| 0                             | Express waiver – no operating instructions to be included |       |     |  |  |    |    |  |    |  |

# Linear drives DGC-N-G, NPT

Technical data

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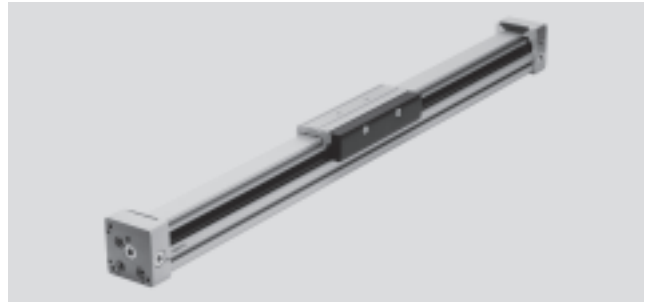
Function



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

Wearing parts kits  
→ 23

- Ø - Diameter  
8 ... 63 mm
- l - Stroke length  
1 ... 8,500 mm



| General technical data                     |                                        |                             |             |                         |      |         |             |         |
|--------------------------------------------|----------------------------------------|-----------------------------|-------------|-------------------------|------|---------|-------------|---------|
| Piston Ø                                   | 8                                      | 12                          | 18          | 25                      | 32   | 40      | 50          | 63      |
| Stroke [mm]                                | 1 ... 1,500                            | 1 ... 2,000                 | 1 ... 3,000 | 1 ... 8,500             |      |         | 1 ... 5,000 |         |
| Pneumatic connection                       | M5, suitable for 10-32 UNF             |                             |             | 1/8 NPT                 |      | 1/4 NPT |             | 3/8 NPT |
| Mode of operation                          | Double-acting                          |                             |             |                         |      |         |             |         |
| Design                                     | Rodless drive                          |                             |             |                         |      |         |             |         |
| Moment compensator principle               | Slotted cylinder, mechanically coupled |                             |             |                         |      |         |             |         |
| Guide                                      | Basic design                           |                             |             |                         |      |         |             |         |
| Mounting position                          | Any                                    |                             |             |                         |      |         |             |         |
| Cushioning<br>→ 15                         | P                                      | Non-adjustable at both ends |             | –                       |      |         |             |         |
|                                            | PPV                                    | –                           |             | Adjustable at both ends |      |         |             |         |
|                                            | YSR...                                 | Self-adjusting at both ends |             | –                       |      |         |             |         |
| Cushioning length with PPV cushioning [mm] | –                                      |                             | 16.5        | 15.5                    | 17.5 | 29.5    | 29.8        | 31.1    |
| Position sensing                           | Via proximity sensor                   |                             |             |                         |      |         |             |         |
| Type of mounting                           | Profile mounting                       |                             |             |                         |      |         |             |         |
|                                            | Foot mounting                          |                             |             |                         |      |         |             |         |
|                                            | Direct mounting                        |                             |             |                         |      |         |             |         |
| Max. speed [m/s]                           | 1                                      | 1.2                         | 3           |                         |      |         |             |         |

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

| Operating and environmental conditions       |                                                                    |    |             |    |    |           |    |    |
|----------------------------------------------|--------------------------------------------------------------------|----|-------------|----|----|-----------|----|----|
| Piston Ø                                     | 8                                                                  | 12 | 18          | 25 | 32 | 40        | 50 | 63 |
| Operating pressure [bar]                     | 2.5 ... 8                                                          |    | 2 ... 8     |    |    | 1.5 ... 8 |    |    |
| Operating medium                             | Filtered compressed air, lubricated or unlubricated                |    |             |    |    |           |    |    |
| Ambient temperature <sup>1)</sup> [°C]       | +5 ... +60                                                         |    | -10 ... +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 2 according to Festo standard 940 070

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

| Forces [N] and impact energy [J]   |      |    |     |     |     |     |       |       |
|------------------------------------|------|----|-----|-----|-----|-----|-------|-------|
| Piston Ø                           | 8    | 12 | 18  | 25  | 32  | 40  | 50    | 63    |
| Theoretical force at 6 bar         | 30   | 68 | 153 | 295 | 483 | 754 | 1,178 | 1,870 |
| Impact energy in the end positions | → 15 |    |     |     |     |     |       |       |

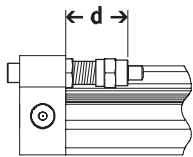
| Weight [g]                         |     |     |     |       |       |       |       |        |
|------------------------------------|-----|-----|-----|-------|-------|-------|-------|--------|
| Piston Ø                           | 8   | 12  | 18  | 25    | 32    | 40    | 50    | 63     |
| Basic weight with 0 mm stroke      | 170 | 290 | 546 | 1,004 | 2,126 | 4,121 | 9,050 | 14,040 |
| Additional weight per 10 mm stroke | 9   | 12  | 22  | 34    | 54    | 77    | 116   | 150    |
| Moving load                        | 36  | 65  | 178 | 287   | 508   | 1,312 | 2,850 | 4,330  |

# Linear drives DGC-N-G, NPT

Technical data

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## Adjustable end-position range d [mm]



### Note

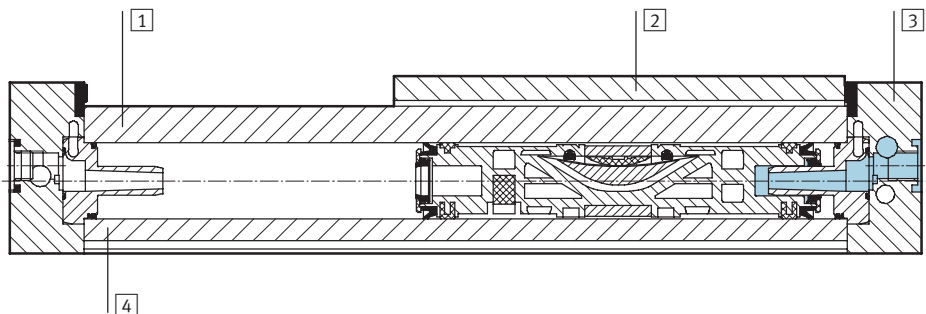
The permissible kinetic energy decreases if the stroke is reduced

with PPV adjustable cushioning at both ends.

| Piston Ø            | 8             | 12            | 18 | 25 | 32 | 40 | 50 | 63 |
|---------------------|---------------|---------------|----|----|----|----|----|----|
| Cushioning P/PPV    | 11.3 ... 16.3 | 12.7 ... 17.7 | –  |    |    |    |    |    |
| Cushioning YSR/YSRW | 12.8 ... 22.8 | 14 ... 24     | –  |    |    |    |    |    |

## Materials

### Sectional view



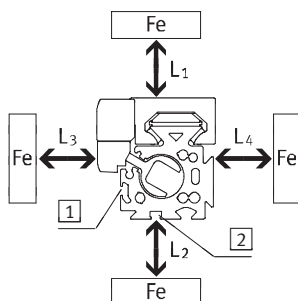
| Linear drives |                         |                    |
|---------------|-------------------------|--------------------|
| 1             | Guide rail              | Anodised aluminium |
| 2             | Slide                   | Anodised aluminium |
| 3             | End cap                 | Anodised aluminium |
| 4             | Cylinder barrel         | Anodised aluminium |
| –             | Piston seal             | Polyurethane       |
| –             | Sealing band/cover band | Polyurethane       |
| –             | Slide elements          | Polyacetal         |

## Influence of ferritic materials on proximity sensors

Ferritic materials (steel parts or panels) directly next to the proximity sensors can cause sensing

malfunctions. The following safety distances must be observed.

The distance depends on the position of the proximity sensor (see 1 and 2).



| Piston Ø    |        | 8  | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
|-------------|--------|----|----|----|----|----|----|----|----|
| Distance L1 | 1 [mm] | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
|             | 2 [mm] | –  | –  | 0  | 0  | 0  | 0  | 0  | 0  |
| Distance L2 | 1 [mm] | 20 | 10 | 10 | 10 | 0  | 0  | 0  | 0  |
|             | 2 [mm] | –  | –  | 25 | 25 | 25 | 25 | 25 | 25 |
| Distance L3 | 1 [mm] | 30 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
|             | 2 [mm] | –  | –  | 10 | 10 | 0  | 0  | 0  | 0  |
| Distance L4 | 1 [mm] | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
|             | 2 [mm] | –  | –  | 0  | 0  | 0  | 0  | 0  | 0  |

# Linear drives DGC-N-G, NPT

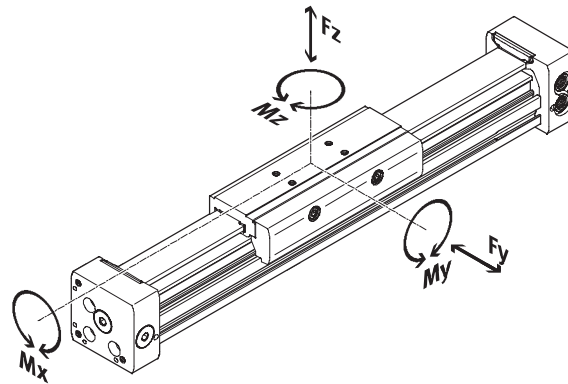
Technical data

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## Characteristic load values

The indicated forces and torques refer to the centre of the slide surface.

These values must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.



### Note

In order to avoid frictional restraint of the guide when using the basic drive DGC-N-G in a vertical position and with a high torque load, the variant with recirculating ball bearing guide DGC-N-KF → 42 is recommended.

If the drive is simultaneously subjected to several of the indicated forces and torques, the following equation must be satisfied in addition to the indicated maximum loads:

$$\frac{F_y}{F_{y_{\max}}} + \frac{F_z}{F_{z_{\max}}} + \frac{M_x}{M_{x_{\max}}} + \frac{M_y}{M_{y_{\max}}} + \frac{M_z}{M_{z_{\max}}} \leq 1$$

| Permissible forces and torques |      |     |     |     |     |     |       |       |       |
|--------------------------------|------|-----|-----|-----|-----|-----|-------|-------|-------|
| Piston Ø                       |      | 8   | 12  | 18  | 25  | 32  | 40    | 50    | 63    |
| F <sub>y</sub> <sub>max.</sub> | [N]  | 150 | 300 | 70  | 180 | 250 | 370   | 480   | 650   |
| F <sub>z</sub> <sub>max.</sub> | [N]  | 150 | 300 | 340 | 540 | 800 | 1,100 | 1,600 | 2,000 |
| M <sub>x</sub> <sub>max.</sub> | [Nm] | 0.5 | 1.3 | 1.9 | 4   | 9   | 12    | 20    | 26    |
| M <sub>y</sub> <sub>max.</sub> | [Nm] | 2   | 5   | 12  | 20  | 40  | 60    | 150   | 150   |
| M <sub>z</sub> <sub>max.</sub> | [Nm] | 2   | 5   | 4   | 5   | 12  | 25    | 37    | 48    |

### Note

ProDrive  
sizing software  
→ [www.festo.com](http://www.festo.com)

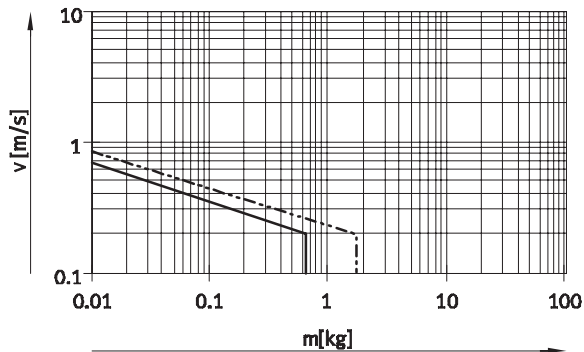
# Linear drives DGC-N-G, NPT

Technical data

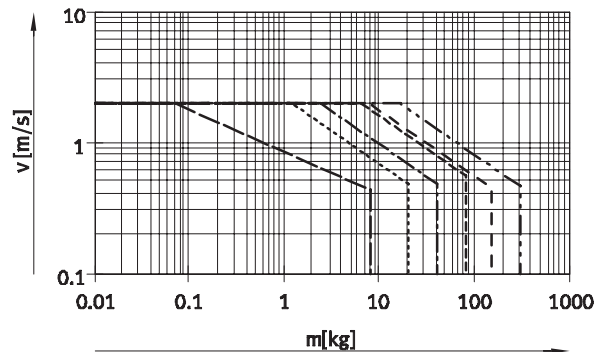
FESTO

## Maximum permissible piston speed $v$ as a function of effective load $m$

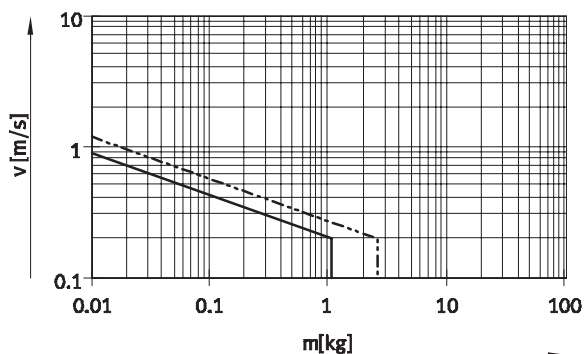
Piston  $\varnothing$  8/12 with P cushioning



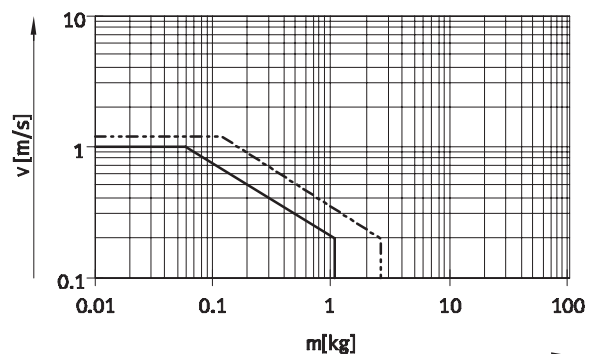
Piston  $\varnothing$  18 ... 63 with PPV cushioning



Piston  $\varnothing$  8/12 with YSR cushioning



Piston  $\varnothing$  8/12 with YSRW cushioning



|         |      |       |      |       |      |
|---------|------|-------|------|-------|------|
| —       | Ø 8  | ---   | Ø 18 | ----  | Ø 40 |
| - - - - | Ø 12 | ..... | Ø 25 | ----- | Ø 50 |
|         |      | ----- | Ø 32 | ----- | Ø 63 |

### Note

This data represents the maximum values that can be achieved. In practice, values fluctuate relative to

the position of the effective load and mounting position.

## Operating range of cushioning

The end-position cushioning must be adjusted to ensure jerk-free operation. If the operating conditions are outside the permissible range, the

load to be moved must be cushioned using suitable equipment (external shock absorbers), preferably at the centre of gravity of the load.

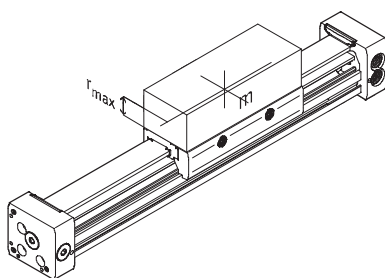
### Note

To avoid distortion in the slide, the bearing surfaces of the attachments

must maintain a flatness of at least 0.03 mm.

Specifications for horizontal mounting position:

| Piston $\varnothing$     | 8  | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
|--------------------------|----|----|----|----|----|----|----|----|
| Distance $r_{\max}$ [mm] | 25 | 35 | 35 | 50 | 50 | 50 | 50 | 50 |



# Linear drives DGC-N-G, NPT

Technical data

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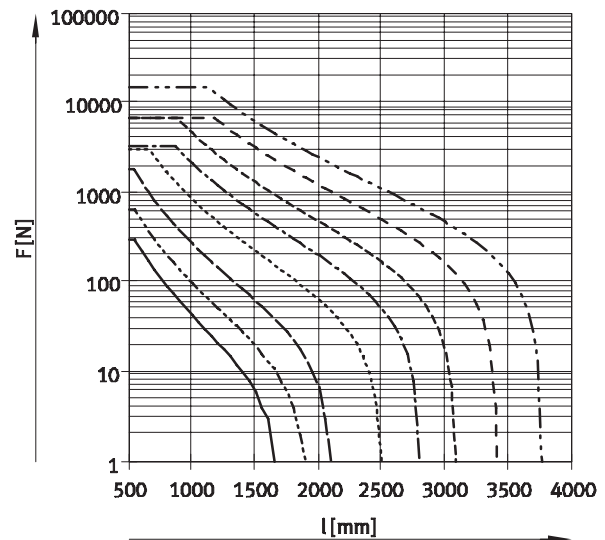
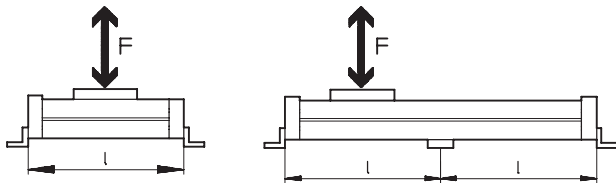
## Number of profile mountings MUC as a function of force due to weight F and support span l

In order to limit deflection in the case of large strokes, the drive may need to be supported. The following graphs

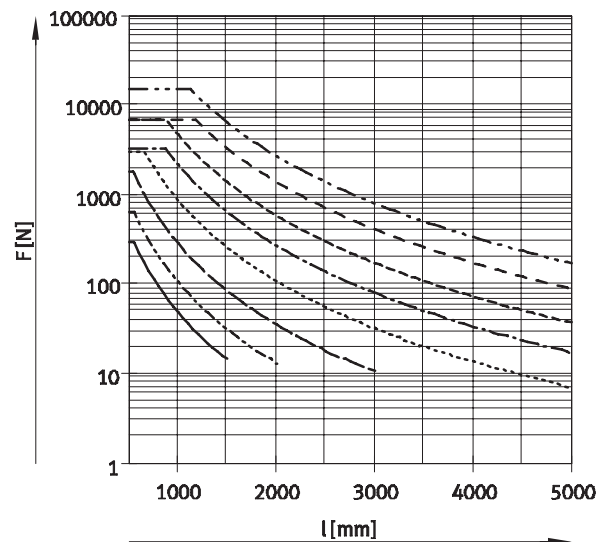
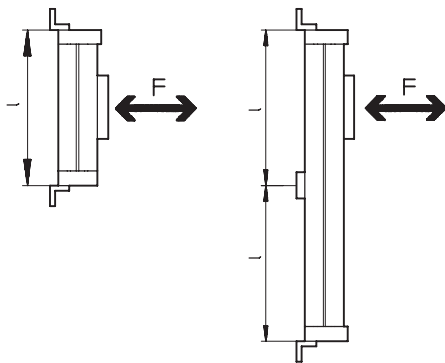
help to determine the maximum permissible support span as a

function of mounting position, force due to weight and normal force.

### Horizontal mounting position



### Vertical mounting position



### Example:

The drive DGC-N-25-1500 is subjected to a force of 300 N in a horizontal mounting position.

The drive has an overall length of:

$$\begin{aligned}
 l &= \text{stroke length} + L1 \\
 &= 1,500 \text{ mm} + 200 \text{ mm} \\
 &= 1,700 \text{ mm}
 \end{aligned}$$

According to the graph, the max. support span for the drive DGC-N-25 with a force of 300 N is 1,300 mm.

In this example, profile mountings are required as the max. support span (1,300 mm) is smaller than the overall length of the drive (1,700 mm).

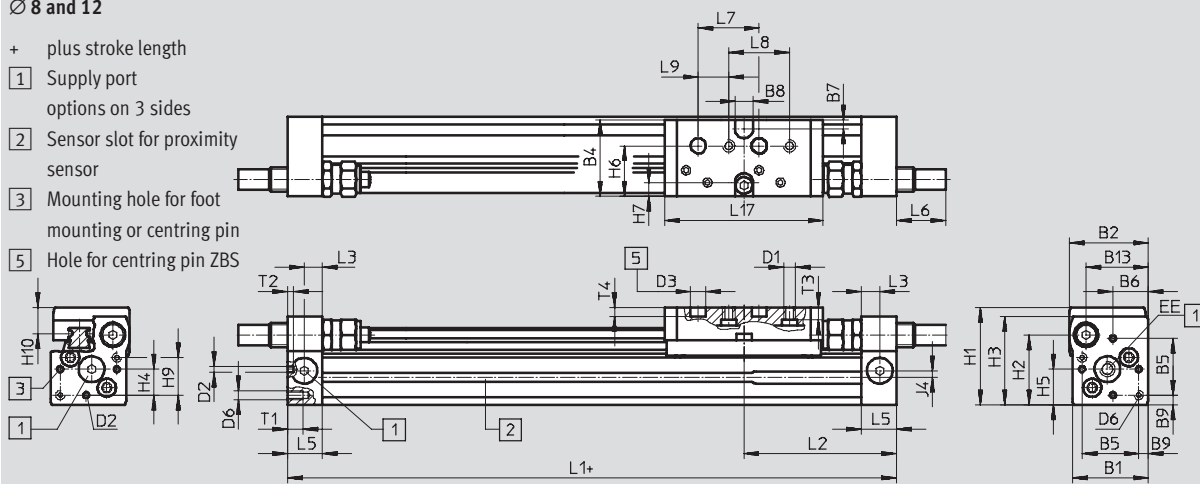
## Technical data

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

Ø 8 and 12

+ plus stroke length

- 1 Supply port options on 3 sides
- 2 Sensor slot for proximity sensor
- 3 Mounting hole for foot mounting or centring pin
- 5 Hole for centring pin ZBS



| Ø    | B1   | B2 | B4   | B5   | B6   | B7 | B8    | B9   | B13  | D1 | D2<br>Ø<br>H8 | D3<br>Ø<br>H7 | D6 |
|------|------|----|------|------|------|----|-------|------|------|----|---------------|---------------|----|
| [mm] |      |    |      |      |      |    | ±0.05 | ±0.1 |      |    |               |               |    |
| 8    | 25   | 26 | 25.5 | 18.6 | 11.7 | 3  | 6     | 3.2  | 20.5 | M4 | 2             | 5             | M3 |
| 12   | 30.2 | 31 | 30.5 | 20.6 | 13.5 | 3  | 8     | 4.8  | 25   | M4 | 2             | 5             | M4 |

| Ø<br>[mm] | EE <sup>1)</sup> | H1   | H2   | H3   | H4  | H5   | H6   | H7  | H9   | H10 | J4  | L1  | L2   |
|-----------|------------------|------|------|------|-----|------|------|-----|------|-----|-----|-----|------|
| 8         | M5               | 32   | 23   | 29   | 8.5 | 11.7 | 16.5 | 4.5 | 12.3 | 8.7 | 2.2 | 100 | 50.1 |
| 12        | M5               | 37.5 | 28.5 | 34.5 | 8.7 | 13.5 | 20.5 | 5   | 14.7 | 9.8 | 3   | 125 | 62.1 |

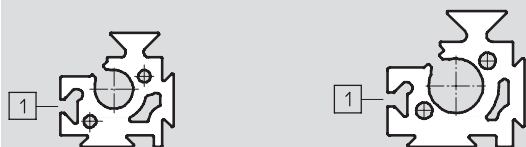
| Ø    | L3 | L5   | L6 |      |      | L7    | L8   | L9   | L17 | T1 | T2 | T3 | T4   | Stroke tolerance |
|------|----|------|----|------|------|-------|------|------|-----|----|----|----|------|------------------|
| [mm] |    |      | P  | YSR  | YSRW | ±0.03 | ±0.1 | ±0.1 |     |    |    |    | +0.2 |                  |
| 8    | 6  | 11.5 | 0  | 16   | 16.2 | 20    | 20   | 10   | 52  | 5  | 2  | 4  | 3    | 0 ... 1.7        |
| 12   | 8  | 16   | 0  | 11.3 | 12.3 | 20    | 20   | 10   | 65  | 6  | 2  | 5  | 3    |                  |

1) Suitable for 10-32 UNF

### Profile barrel

Ø 8

Ø 12



- 1 Sensor slot for proximity sensor

# Linear drives DGC-N-G, NPT

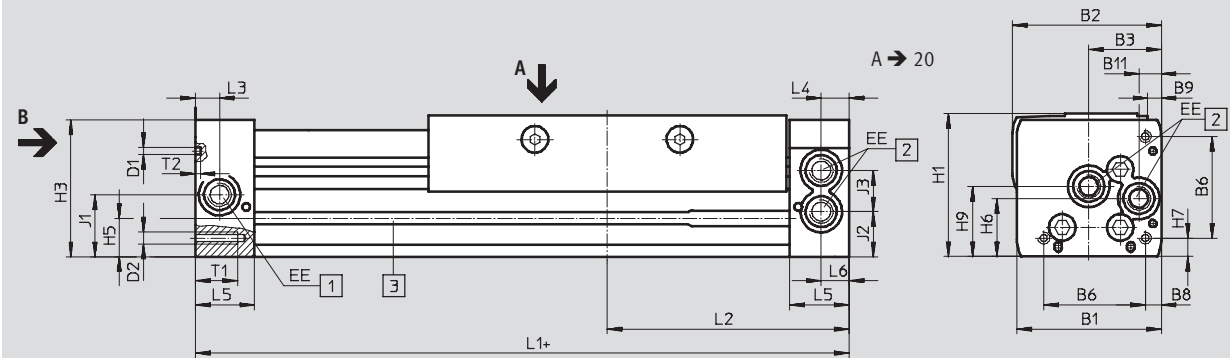
Technical data

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## Dimensions

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

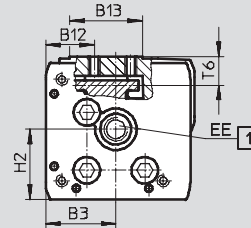
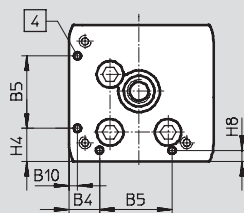
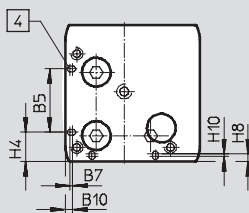
Ø 18 ... 40



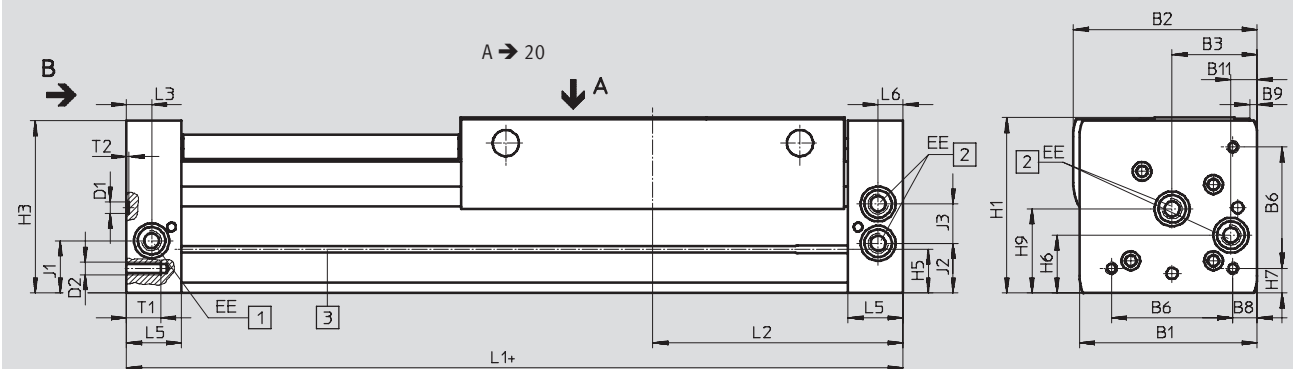
View B  
Ø 18

Ø 25 ... 40

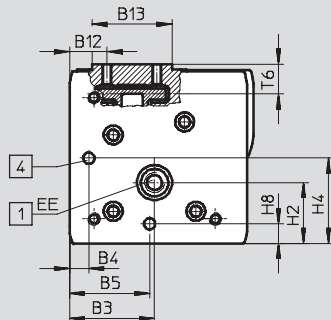
Ø 18 ... 40



Ø 50/63



View B



+ plus stroke length

[1] Supply port options on 2 sides

[2] Supply port options on 2 sides,  
for supply port at one end

[3] Sensor slot for proximity sensor

[4] Mounting hole for foot  
mounting HPC

# Linear drives DGC-N-G, NPT

Technical data

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| Ø    | B1   | B2   | B3   | B4    | B5    | B6   | B7  | B8   | B9  | B10 |
|------|------|------|------|-------|-------|------|-----|------|-----|-----|
| [mm] |      |      |      |       | ±0.05 |      |     |      |     |     |
| 18   | 44.5 | 46.3 | 19.5 | 8.8   | 21    | 31   | 0.3 | 3.8  | 3.3 | 2.4 |
| 25   | 59.8 | 61.6 | 30   | 12.65 | 30    | 42   |     | 6.65 | 5.6 | 3.5 |
| 32   | 73   | 75.5 | 38.5 | 5.7   | 63.1  | 57.5 |     | 8.5  | 5   | 14  |
| 40   | 91   | 94.5 | 45   | 17.2  | 55    | 65   |     | 12.2 | 5.3 | 8   |
| 50   | 113  | 127  | 60   | 8     | 52.8  | 81.6 |     | 12   | 0   | –   |
| 63   | 142  | 147  | 68   | 15.5  | 68    | 97   |     | 19.5 | 6   | –   |

| Ø    | B11  | B12   | B13 | D1              | D2  | EE               | H1   | H2   | H3    | H4   |
|------|------|-------|-----|-----------------|-----|------------------|------|------|-------|------|
| [mm] |      |       |     | Ø               |     |                  |      |      |       | ±0.2 |
| 18   | 5.5  | 19.3  | 20  | 2±0.05          | M4  | M5 <sup>1)</sup> | 49.8 | 23.1 | 48.3  | 10.3 |
| 25   | 9.3  | 20.15 | 30  | 3±0.05          | M5  | 1/8 NPT          | 58.5 | 29   | 56.5  | 13   |
| 32   | 14.9 | 20.5  | 35  | 3±0.05          | M6  | 1/8 NPT          | 73   | 30   | 71.5  | 5.7  |
| 40   | 16.5 | 19.8  | 45  | 4±0.05          | M6  | 1/4 NPT          | 88   | 41.5 | 85    | 17.2 |
| 50   | 21   | 24    | 64  | 9H <sup>7</sup> | M8  | 1/4 NPT          | 120  | 38.5 | 116   | 52.8 |
| 63   | 21   | 30    | 64  | 9H <sup>7</sup> | M10 | 3/8 NPT          | 140  | 48.5 | 137.5 | 68   |

| Ø    | H5   | H6   | H7   | H8   | H9   | H10 | J1   | J2   | J3   | L1  |
|------|------|------|------|------|------|-----|------|------|------|-----|
| [mm] |      |      |      |      |      |     |      |      |      |     |
| 18   | 13.4 | 20   | 5.3  | 2.4  | 25.2 | 0.4 | 20   | 16.5 | 11   | 150 |
| 25   | 15.8 | 24   | 7    | 4.5  | 29   |     | 26.1 | 18.6 | 17   | 200 |
| 32   | 17   | 27.7 | 8.5  | 14   | 35.2 |     | 30   | 22   | 18.5 | 250 |
| 40   | 25   | 36.5 | 12.2 | 8    | 44   |     | 35   | 26   | 26   | 300 |
| 50   | 29.3 | 36   | 12   | 8    | 53   |     | 30.5 | 30.5 | 28   | 350 |
| 63   | 34.8 | 46   | 19.5 | 15.5 | 67   |     | 41.5 | 39.5 | 31.5 | 400 |

| Ø    | L2    | L3   | L4   | L5   | L6   | T1   | T2                  | T6    | Stroke tolerance |
|------|-------|------|------|------|------|------|---------------------|-------|------------------|
| [mm] |       |      |      |      |      |      |                     |       |                  |
| 18   | 74.5  | 5.7  | 5.8  | 15   | 5.5  | 9    | 2                   | 10.7  | 0 ... 2.5        |
| 25   | 100   | 10.5 | 10.6 | 24.5 | 10.6 | 17.5 | 2                   | 12    |                  |
| 32   | 124.8 | 14.5 | 14.5 | 30.5 | 14.5 | 15   | 2                   | 13.8  |                  |
| 40   | 150   | 14.6 | 14.6 | 33.5 | 14.6 | 20   | 3                   | 16.8  |                  |
| 50   | 175   | 17   | –    | 41   | 17   | 24   | 2.1 <sup>+0.2</sup> | 20.75 |                  |
| 63   | 200   | 20   | –    | 44   | 20   | 27.5 | 2.1 <sup>+0.2</sup> | 20.75 |                  |

1) Suitable for 10-32 UNF

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

# Linear drives DGC-N-G, NPT

Technical data

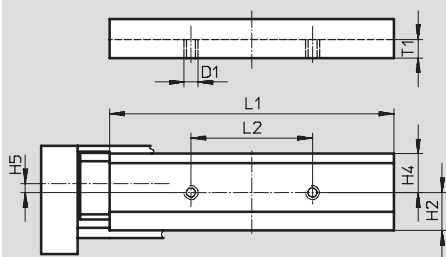
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## Dimensions

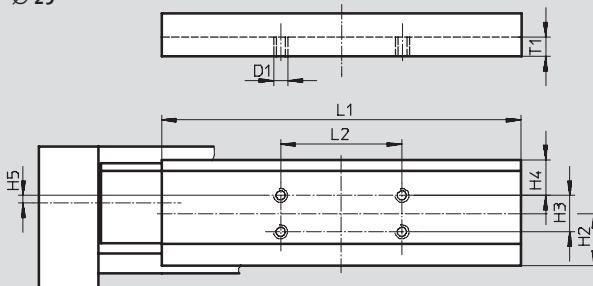
Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Slide – View A

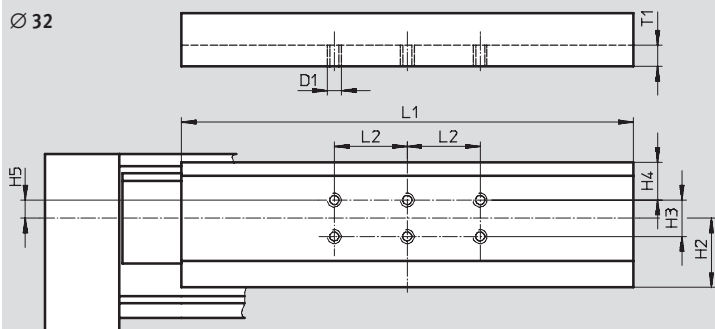
Ø 18



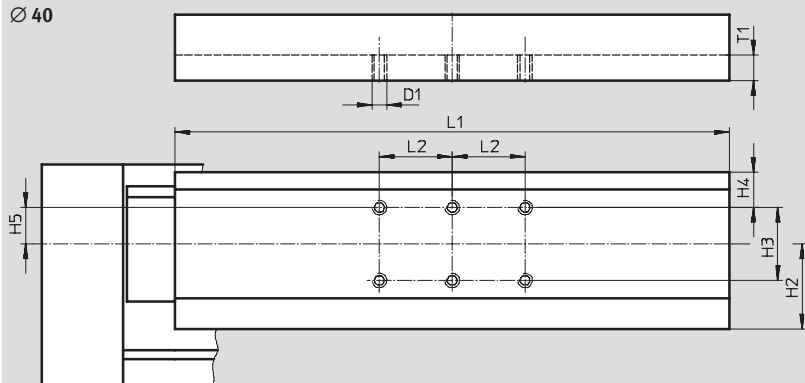
Ø 25



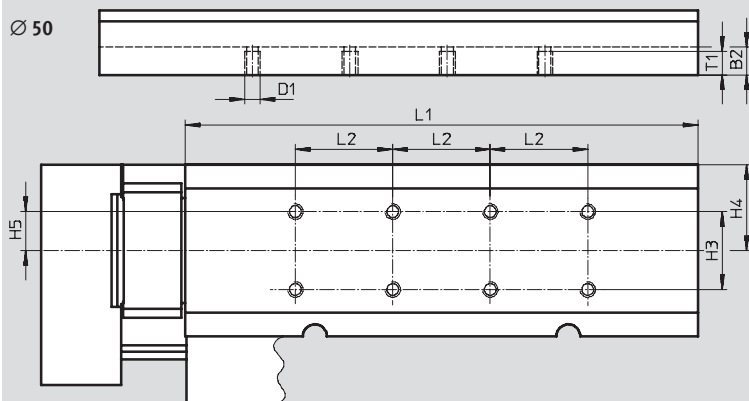
Ø 32



Ø 40



Ø 50



# Linear drives DGC-N-G, NPT

Technical data

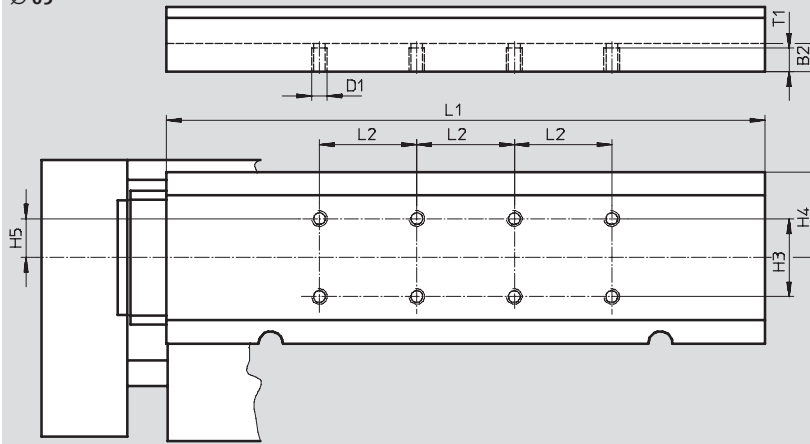
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## Dimensions

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

Slide – View A

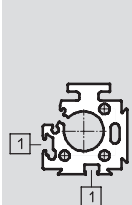
Ø 63



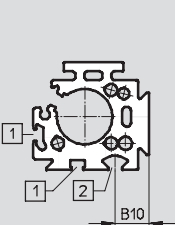
| Ø<br>[mm] | B2 | D1 | H2<br>±0.1 | H3<br>±0.1 | H4    | H5   | L1       | L2<br>±0.1 | T1   |
|-----------|----|----|------------|------------|-------|------|----------|------------|------|
| 18        | –  | M5 | 15.6       | –          | 16    | 2    | 117±0.05 | 50         | 7    |
| 25        | –  | M5 | 21.35      | 15         | 14.55 | 4.85 | 148±0.05 | 50         | 8    |
| 32        | –  | M5 | 28.5       | 15         | 15.5  | 7.5  | 186±0.05 | 30         | 8.6  |
| 40        | –  | M6 | 35         | 30         | 14.5  | 15   | 228±0.05 | 30         | 10.5 |
| 50        | 14 | M8 | –          | 40         | 44    | 20   | 263±0.1  | 50         | 13   |
| 63        | 14 | M8 | –          | 40         | 44    | 20   | 307±0.1  | 50         | 13   |

## Profile barrel

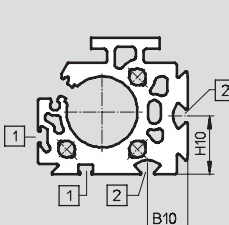
Ø 18



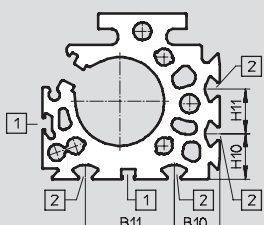
Ø 25



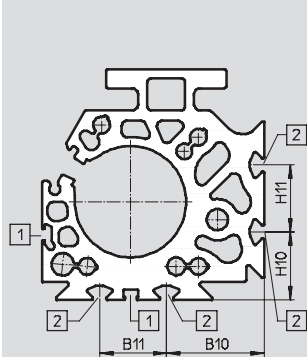
Ø 32



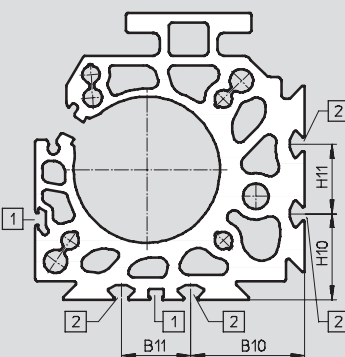
Ø 40



Ø 50



Ø 63



- 1 Sensor slot for proximity sensor
- 2 Mounting slot for slot nut

| Ø<br>[mm] | B10   | B11 | H10  | H11 |
|-----------|-------|-----|------|-----|
| 25        | 15.23 | –   | –    | –   |
| 32        | 18    | –   | 26.5 | –   |
| 40        | 20.5  | 40  | 20.5 | 20  |
| 50        | 43.8  | 30  | 30.5 | 30  |
| 63        | 49    | 30  | 37   | 30  |

# Linear drives DGC-N-G, NPT

Ordering data – Modular products

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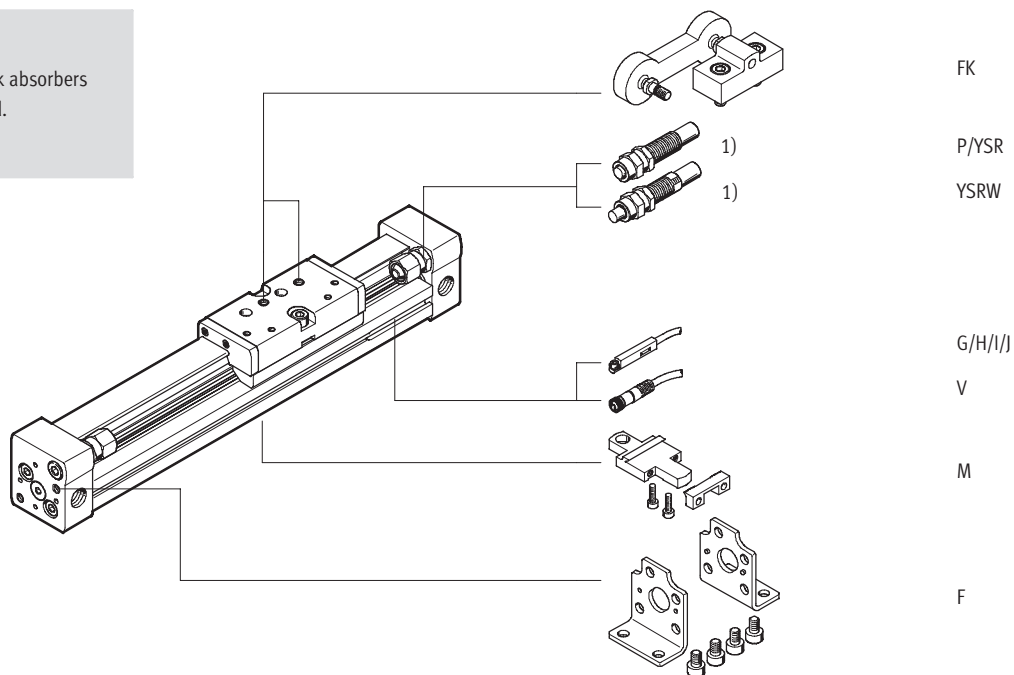
## Order code

Mandatory data/options

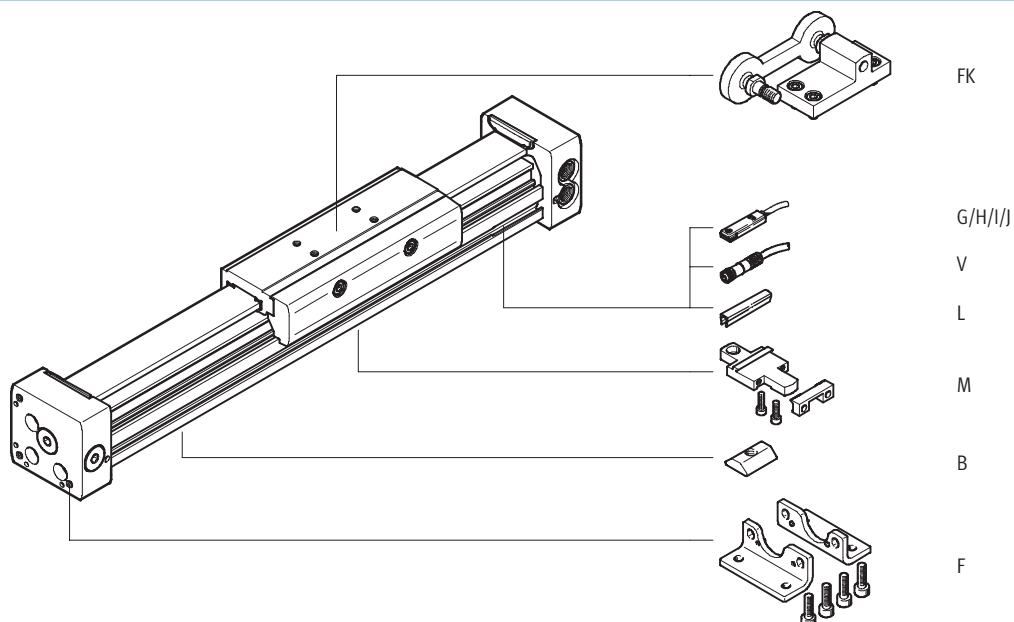
## DGC-N-8/-12

### Note

1) End stops or shock absorbers must not be removed.



## DGC-N-18 ... 63



# Linear drives DGC-N-G, NPT

Ordering data – Modular products

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| Ordering table   |                                    |                         |                                                                               |             |                      |             |         |         |             |            |      |            |    |
|------------------|------------------------------------|-------------------------|-------------------------------------------------------------------------------|-------------|----------------------|-------------|---------|---------|-------------|------------|------|------------|----|
| Size             |                                    | 8                       | 12                                                                            | 18          | 25                   | 32          | 40      | 50      | 63          | Conditions | Code | Enter code |    |
| [M]              | Module No.                         |                         | 530 906                                                                       | 530 907     | 532 446              | 532 447     | 532 448 | 532 449 | 532 450     | 532 451    |      |            |    |
|                  | Function                           |                         | Linear drive                                                                  |             |                      |             |         |         |             |            |      | DGC        |    |
|                  | Thread                             |                         | NPT thread                                                                    |             |                      |             |         |         |             |            |      | -N         |    |
|                  | Piston Ø                           | [mm]                    | 8                                                                             | 12          | 18                   | 25          | 32      | 40      | 50          | 63         |      | -...       |    |
|                  | Stroke                             | [mm]                    | 1 ... 1,500                                                                   | 1 ... 2,000 | 1 ... 3,000          | 1 ... 8,500 |         |         | 1 ... 5,000 |            |      | -...       |    |
|                  | Guide                              |                         | Basic design                                                                  |             |                      |             |         |         |             |            |      | -G         |    |
|                  | Cushioning                         | At both ends            | Flexible cushioning rings/pads                                                |             |                      | -           | -       | -       | -           | -          | -    |            | -P |
|                  |                                    | Adjustable at both ends | -                                                                             | -           | Pneumatic cushioning |             |         |         |             |            |      | -PPV       |    |
|                  |                                    | Self-adjusting          | Shock absorber                                                                |             | -                    | -           | -       | -       | -           | -          |      | -YSR       |    |
|                  |                                    |                         | Shock absorber, progressive                                                   |             | -                    | -           | -       | -       | -           | -          |      | -YSRW      |    |
| Position sensing |                                    | Via proximity sensor    |                                                                               |             |                      |             |         |         |             |            | -A   |            |    |
| [O]              | Accessories                        |                         | Enclosed separately (can be retrofitted)                                      |             |                      |             |         |         |             |            |      | ZUB-       |    |
|                  | Foot mounting                      |                         | 1                                                                             |             |                      |             |         |         |             |            |      | F          |    |
|                  | Profile mounting                   |                         | 1 ... 9                                                                       |             |                      |             |         |         |             |            |      | ...M       |    |
|                  | Moment compensator                 |                         | Moment compensator                                                            |             |                      |             |         |         |             |            |      | FK         |    |
|                  | Slot nut for mounting slot         |                         | -                                                                             | -           | -                    | 1 ... 9     |         |         |             |            | ...B |            |    |
|                  | Proximity sensor                   | Cable 2.5 m             | 1 ... 9                                                                       |             |                      |             |         |         |             |            |      | ...G       |    |
|                  |                                    | Plug M8                 | 1 ... 9                                                                       |             |                      |             |         |         |             |            |      | ...H       |    |
|                  | Proximity sensor, contactless, PNP | Cable 2.5 m             | 1 ... 9                                                                       |             |                      |             |         |         |             |            |      | ...I       |    |
|                  |                                    | Plug M8                 | 1 ... 9                                                                       |             |                      |             |         |         |             |            |      | ...J       |    |
|                  | Plug socket with cable             | M8, 2.5 m               | 1 ... 9                                                                       |             |                      |             |         |         |             |            |      | ...V       |    |
|                  | Slot cover for sensor slot         |                         | -                                                                             | -           | 1 ... 9              |             |         |         |             |            |      | ...L       |    |
|                  | Manual                             |                         | Express waiver – no operating instructions to be included (already available) |             |                      |             |         |         |             |            |      | -O         |    |

## Transfer order code

**DGC** - **N** -  -  - **G** -  - **A** **ZUB** -  -

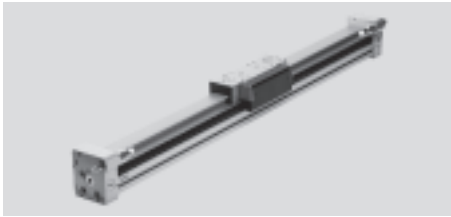
## Ordering data – Wearing parts kits

| Piston Ø | Part No. | Type     | Piston Ø | Part No. | Type   |
|----------|----------|----------|----------|----------|--------|
| 8        | 665 333  | DGC-8-G  | 32       | 684 488  | DGC-32 |
| 12       | 665 334  | DGC-12-G | 40       | 684 489  | DGC-40 |
| 18       | 684 486  | DGC-18   | 50       | 719 825  | DGC-50 |
| 25       | 684 487  | DGC-25   | 63       | 719 826  | DGC-63 |

# Linear drives DGC-N-GF, with plain-bearing guide, NPT

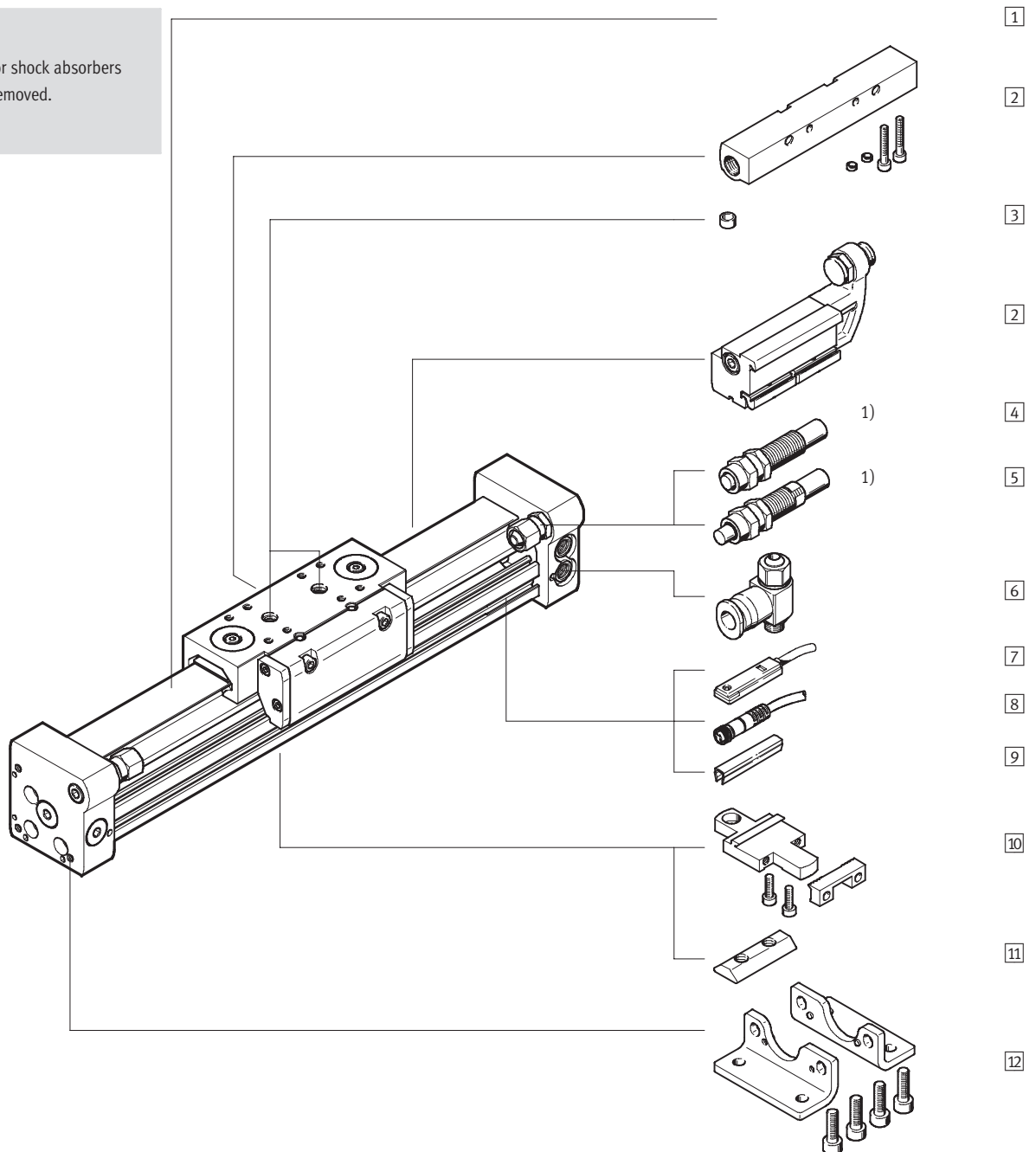
Peripherals overview

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## Note

1) End stops or shock absorbers must not be removed.



## Linear drives DGC-N-GF, with plain-bearing guide, NPT

Peripherals overview

| Variants and accessories                       |              |                                                                                                       |                 |
|------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|-----------------|
| Type                                           | For piston Ø | Brief description                                                                                     | → Page/Internet |
| 1 Linear drive<br>DGC-N-GF                     | 18 ... 63    | Linear drive without accessories, plain-bearing guide.                                                | 28              |
| 2 Mechanical end-position<br>limiter YWZ       | 18 ... 63    | For variable end-position adjustment, e.g. for format adjustments.                                    | 74              |
| 3 Centring pin/sleeve <sup>1)</sup><br>ZBS/ZBH | 18 ... 63    | For centring loads and attachments on the slide.                                                      | 78              |
| – Cushioning<br>PPV                            | 18 ... 63    | Adjustable pneumatic end-position cushioning. Used at medium speeds.                                  | 41              |
| 4 Shock absorber<br>YSR                        | 18 ... 63    | Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic.      | 41              |
| 5 Shock absorber<br>YSRW                       | 18 ... 63    | Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic. | 41              |
| 6 One-way flow control valve<br>GRLA           | 18 ... 63    | For regulating speed.                                                                                 | 78              |
| 7 Proximity sensor<br>G/H/I/J                  | 18 ... 63    | For sensing the slide position.                                                                       | 79              |
| 8 Plug socket with cable<br>V                  | 18 ... 63    | For proximity sensor.                                                                                 | 79              |
| 9 Slot cover<br>L                              | 18 ... 63    | For protecting against ingress of dirt and securing proximity sensor cables.                          | 78              |
| 10 Profile mounting<br>M                       | 18 ... 63    | Simple and precise mounting option via dovetail connection.                                           | 70              |
| 11 Slot nut<br>B                               | 25 ... 63    | For mounting attachments.                                                                             | 78              |
| 12 Foot mounting<br>F                          | 18 ... 63    | For mounting on end cap.                                                                              | 66              |

1) Included in the scope of delivery of the drive

# Linear drives DGC-N-GF, with plain-bearing guide, NPT

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Type codes

|                         |                                            |     |   |   |   |    |   |      |   |    |   |     |   |   |
|-------------------------|--------------------------------------------|-----|---|---|---|----|---|------|---|----|---|-----|---|---|
|                         |                                            | DGC | – | N | – | 25 | – | 1000 | – | GF | – | YSR | – | A |
| <b>Type</b>             |                                            |     |   |   |   |    |   |      |   |    |   |     |   |   |
| DGC                     | Linear drive                               |     |   |   |   |    |   |      |   |    |   |     |   |   |
| <b>Thread</b>           |                                            |     |   |   |   |    |   |      |   |    |   |     |   |   |
| N                       | NPT thread                                 |     |   |   |   |    |   |      |   |    |   |     |   |   |
| <b>Piston Ø [mm]</b>    |                                            |     |   |   |   |    |   |      |   |    |   |     |   |   |
| <b>Stroke [mm]</b>      |                                            |     |   |   |   |    |   |      |   |    |   |     |   |   |
| <b>Guide</b>            |                                            |     |   |   |   |    |   |      |   |    |   |     |   |   |
| GF                      | Plain-bearing guide                        |     |   |   |   |    |   |      |   |    |   |     |   |   |
| <b>Cushioning</b>       |                                            |     |   |   |   |    |   |      |   |    |   |     |   |   |
| PPV                     | Adjustable end-position cushioning         |     |   |   |   |    |   |      |   |    |   |     |   |   |
| YSR                     | Linear shock absorber, self-adjusting      |     |   |   |   |    |   |      |   |    |   |     |   |   |
| YSRW                    | Progressive shock absorber, self-adjusting |     |   |   |   |    |   |      |   |    |   |     |   |   |
| <b>Position sensing</b> |                                            |     |   |   |   |    |   |      |   |    |   |     |   |   |
| A                       | Via proximity sensor                       |     |   |   |   |    |   |      |   |    |   |     |   |   |

# Linear drives DGC-N-GF, with plain-bearing guide, NPT

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Type codes

→

+ ZUB

- F

2B

2G

2L

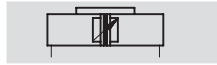
|                                        |                                                           |
|----------------------------------------|-----------------------------------------------------------|
| <b>Accessories</b>                     |                                                           |
| ZUB                                    | Accessories enclosed separately                           |
| <b>Foot mounting</b>                   |                                                           |
| F                                      | Foot mounting                                             |
| <b>Profile mounting</b>                |                                                           |
| ...M                                   | Profile mounting                                          |
| <b>Slot nut</b>                        |                                                           |
| ...B                                   | For mounting slot                                         |
| <b>Proximity sensor</b>                |                                                           |
| ...G                                   | With cable, 2.5 m                                         |
| ...H                                   | With plug                                                 |
| ...I                                   | Contactless with cable, 2.5 m                             |
| ...J                                   | Contactless with plug                                     |
| <b>Plug socket with cable</b>          |                                                           |
| ...V                                   | 2.5 m                                                     |
| <b>Slot cover</b>                      |                                                           |
| ...L                                   | For sensor slot                                           |
| <b>Mechanical end-position limiter</b> |                                                           |
| YWZ1                                   | Variable end position, at one end                         |
| YWZ2                                   | Variable end position, at both ends                       |
| <b>Manual</b>                          |                                                           |
| 0                                      | Express waiver – no operating instructions to be included |

# Linear drives DGC-N-GF, with plain-bearing guide, NPT

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Technical data

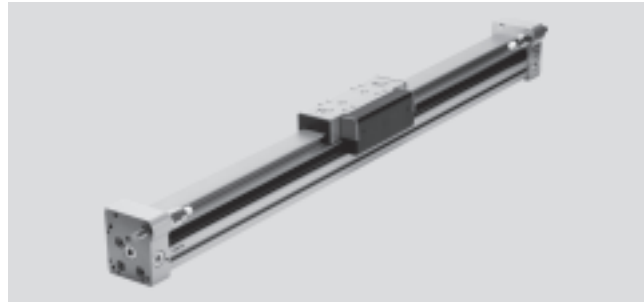
Function



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

Wearing parts kits  
→ 41

- Ø - Diameter  
18 ... 63 mm
- I - Stroke length  
1 ... 8,500 mm



| General technical data                     |                                        |                             |      |         |             |         |
|--------------------------------------------|----------------------------------------|-----------------------------|------|---------|-------------|---------|
| Piston Ø                                   | 18                                     | 25                          | 32   | 40      | 50          | 63      |
| Stroke [mm]                                | 1 ... 3,000                            | 1 ... 8,500                 |      |         | 1 ... 5,000 |         |
| Pneumatic connection                       | M5, suitable for 10-32 UNF             | 1/8 NPT                     |      | 1/4 NPT |             | 3/8 NPT |
| Mode of operation                          | Double-acting                          |                             |      |         |             |         |
| Design                                     | Rodless drive                          |                             |      |         |             |         |
| Moment compensator principle               | Slotted cylinder, mechanically coupled |                             |      |         |             |         |
| Guide                                      | Plain-bearing guide                    |                             |      |         |             |         |
| Mounting position                          | Any                                    |                             |      |         |             |         |
| Cushioning                                 | PPV                                    | Adjustable at both ends     |      |         |             |         |
| ➔ 31                                       | YSR...                                 | Self-adjusting at both ends |      |         |             |         |
| Cushioning length with PPV cushioning [mm] | 16.5                                   | 15.5                        | 17.5 | 29.5    | 29.8        | 31.1    |
| Position sensing                           | Via proximity sensor                   |                             |      |         |             |         |
| Type of mounting                           | Profile mounting                       |                             |      |         |             |         |
|                                            | Foot mounting                          |                             |      |         |             |         |
|                                            | Direct mounting                        |                             |      |         |             |         |
| Max. speed [m/s]                           | 3                                      |                             |      |         |             |         |

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

| Operating and environmental conditions       |                                                                    |    |    |           |    |    |
|----------------------------------------------|--------------------------------------------------------------------|----|----|-----------|----|----|
| Piston Ø                                     | 18                                                                 | 25 | 32 | 40        | 50 | 63 |
| Operating pressure [bar]                     | 2 ... 8                                                            |    |    | 1.5 ... 8 |    |    |
| Operating medium                             | Filtered compressed air, lubricated or unlubricated                |    |    |           |    |    |
| Ambient temperature <sup>1)</sup> [°C]       | −10 ... +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 2 according to Festo standard 940 070

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

| Forces [N] and impact energy [J]   |      |     |     |     |       |       |
|------------------------------------|------|-----|-----|-----|-------|-------|
| Piston Ø                           | 18   | 25  | 32  | 40  | 50    | 63    |
| Theoretical force at 6 bar         | 153  | 295 | 483 | 754 | 1,178 | 1,870 |
| Impact energy in the end positions | → 31 |     |     |     |       |       |

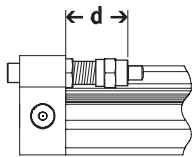
| Weight [g]                         |     |       |       |       |        |        |
|------------------------------------|-----|-------|-------|-------|--------|--------|
| Piston Ø                           | 18  | 25    | 32    | 40    | 50     | 63     |
| Basic weight with 0 mm stroke      | 763 | 1,609 | 2,532 | 5,252 | 10,065 | 16,308 |
| Additional weight per 10 mm stroke | 23  | 35    | 55    | 76    | 117    | 180    |
| Moving load                        | 267 | 526   | 824   | 1,725 | 3,319  | 5,226  |

# Linear drives DGC-N-GF, with plain-bearing guide, NPT

Technical data

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## Adjustable end-position range d [mm]



### Note

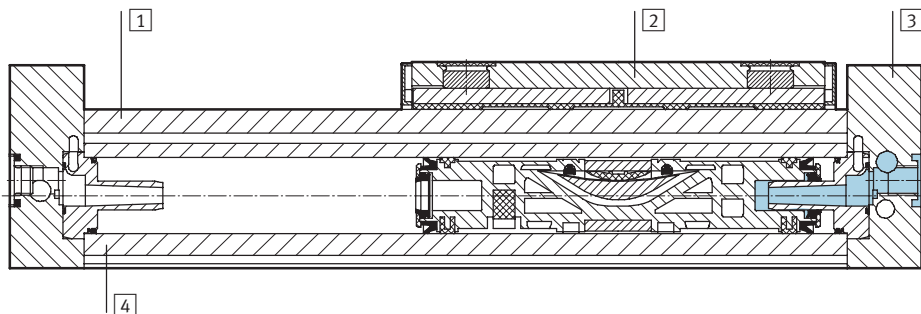
The permissible kinetic energy decreases if the stroke is reduced

with PPV adjustable cushioning at both ends.

| Piston Ø            | 18            | 25            | 32            | 40            | 50            | 63            |
|---------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Cushioning PPV      | 13.8 ... 15.8 | 21.1 ... 25.1 | 25.2 ... 30.2 | 28.7 ... 33.7 | 28.7 ... 33.7 | 38.8 ... 43.8 |
| Cushioning YSR/YSRW | 14.5 ... 24.5 | 22.5 ... 32.5 | 27.3 ... 37.3 | 31 ... 41     | 31 ... 56     | 41 ... 76     |

## Materials

### Sectional view



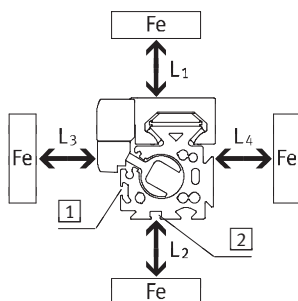
| Linear drives |                         |                    |
|---------------|-------------------------|--------------------|
| 1             | Guide rail              | Anodised aluminium |
| 2             | Slide                   | Anodised aluminium |
| 3             | End cap                 | Anodised aluminium |
| 4             | Cylinder barrel         | Anodised aluminium |
| –             | Piston seal             | Polyurethane       |
| –             | Sealing band/cover band | Polyurethane       |
| –             | Slide elements          | Polyacetal         |

## Influence of ferritic materials on proximity sensors

Ferritic materials (steel parts or panels) directly next to the proximity sensors can cause sensing

malfunctions. The following safety distances must be observed.

The distance depends on the position of the proximity sensor (see 1 and 2).



| Piston Ø    |        | 8  | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
|-------------|--------|----|----|----|----|----|----|----|----|
| Distance L1 | 1 [mm] | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
|             | 2 [mm] | –  | –  | 0  | 0  | 0  | 0  | 0  | 0  |
| Distance L2 | 1 [mm] | 20 | 10 | 10 | 10 | 0  | 0  | 0  | 0  |
|             | 2 [mm] | –  | –  | 25 | 25 | 25 | 25 | 25 | 25 |
| Distance L3 | 1 [mm] | 30 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
|             | 2 [mm] | –  | –  | 10 | 10 | 0  | 0  | 0  | 0  |
| Distance L4 | 1 [mm] | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
|             | 2 [mm] | –  | –  | 0  | 0  | 0  | 0  | 0  | 0  |

# Linear drives DGC-N-GF, with plain-bearing guide, NPT

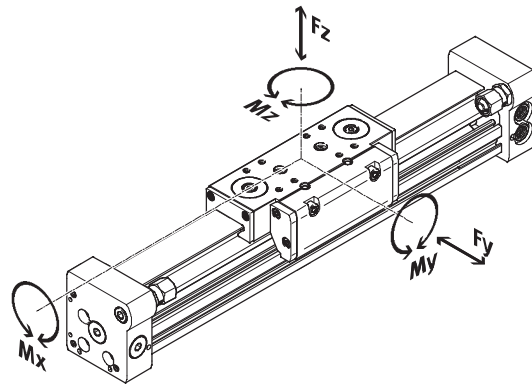
Technical data

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## Characteristic load values

The indicated forces and torques refer to the centre of the slide surface.

These values must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.



### Note

In order to avoid frictional restraint of the guide when using the drive DGC-N-GF with plain-bearing guide in a vertical position and with a high torque load, the variant with recirculating ball bearing guide DGC-N-KF → 42 is recommended.

If the drive is simultaneously subjected to several of the indicated forces and torques, the following equation must be satisfied in addition to the indicated maximum loads:

$$\frac{F_y}{F_{y_{\max.}}} + \frac{F_z}{F_{z_{\max.}}} + \frac{M_x}{M_{x_{\max.}}} + \frac{M_y}{M_{y_{\max.}}} + \frac{M_z}{M_{z_{\max.}}} \leq 1$$

| Permissible forces and torques in relation to a travel speed of 0.2 m/s |      |     |       |       |       |       |       |
|-------------------------------------------------------------------------|------|-----|-------|-------|-------|-------|-------|
| Piston Ø                                                                |      | 18  | 25    | 32    | 40    | 50    | 63    |
| F <sub>y</sub> max.                                                     | [N]  | 440 | 640   | 900   | 1,380 | 1,500 | 2,300 |
| F <sub>z</sub> max.                                                     | [N]  | 540 | 1,300 | 1,800 | 2,000 | 2,870 | 4,460 |
|                                                                         |      |     |       |       |       |       |       |
| M <sub>x</sub> max.                                                     | [Nm] | 3.4 | 8.5   | 15    | 28    | 54    | 96    |
| M <sub>y</sub> max.                                                     | [Nm] | 20  | 40    | 70    | 110   | 270   | 450   |
| M <sub>z</sub> max.                                                     | [Nm] | 8.5 | 20    | 33    | 54    | 103   | 187   |

### Note

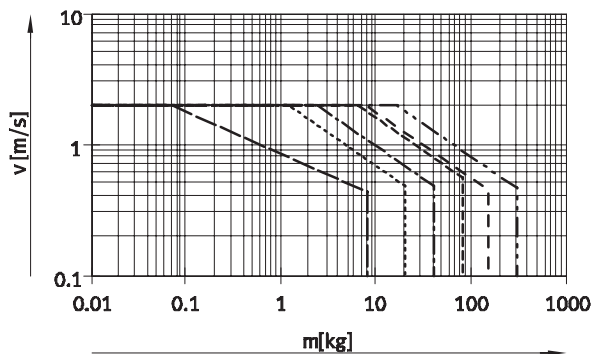
ProDrive  
sizing software  
→ [www.festo.com](http://www.festo.com)

# Linear drives DGC-N-GF, with plain-bearing guide, NPT

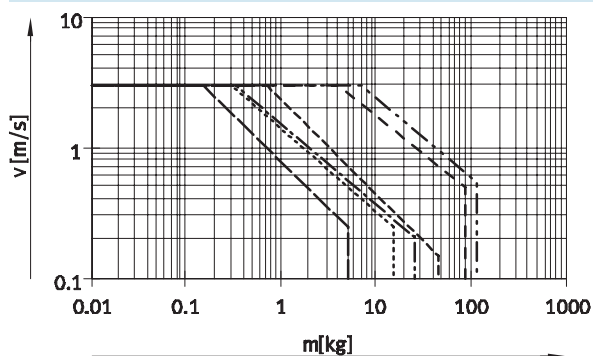
FESTO

Technical data

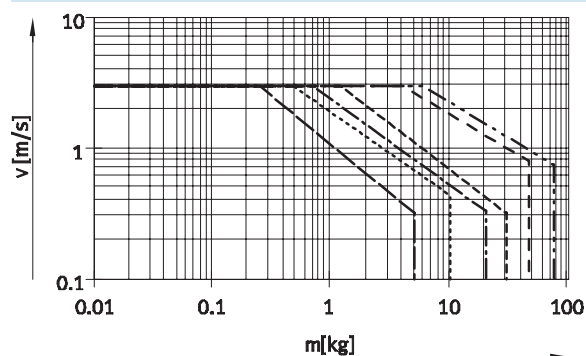
## Maximum permissible piston speed $v$ as a function of effective load $m$ With PPV cushioning



## With YSR cushioning



## With YSRW cushioning



- $\varnothing$  18      - - - - -  $\varnothing$  40  
 .....  $\varnothing$  25      - - - - -  $\varnothing$  50  
 - · - · -  $\varnothing$  32      - · - · -  $\varnothing$  63

### Note

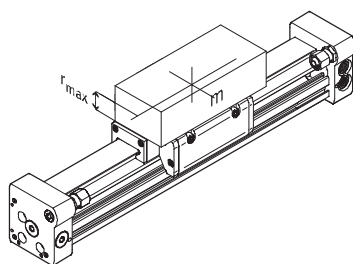
This data represents the maximum values that can be achieved. In practice, values fluctuate relative to

the position of the effective load and mounting position.

## Operating range of cushioning

The end-position cushioning must be adjusted to ensure jerk-free operation. If the operating conditions are outside the permissible range, the

load to be moved must be cushioned using suitable equipment (external shock absorbers), preferably at the centre of gravity of the load.



### Note

To avoid distortion in the slide, the bearing surfaces of the attachments

must maintain a flatness of at least 0.03 mm.

| Piston $\varnothing$     | 8  | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
|--------------------------|----|----|----|----|----|----|----|----|
| Distance $r_{\max}$ [mm] | 25 | 35 | 35 | 50 | 50 | 50 | 50 | 50 |

# Linear drives DGC-N-GF, with plain-bearing guide, NPT

FESTO

Technical data

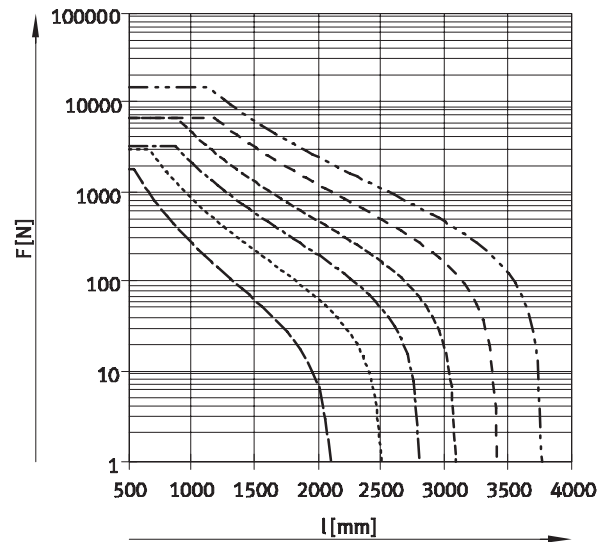
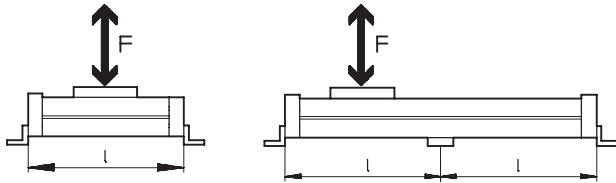
## Number of profile mountings MUC as a function of force due to weight $F$ and support span $l$

In order to limit deflection in the case of large strokes, the drive may need to be supported. The following graphs

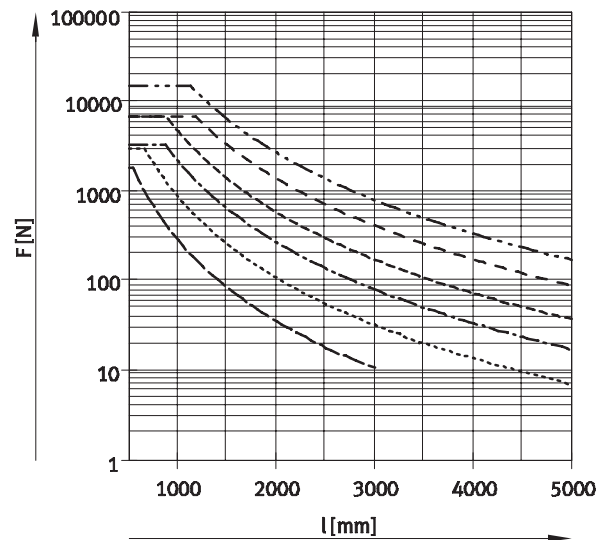
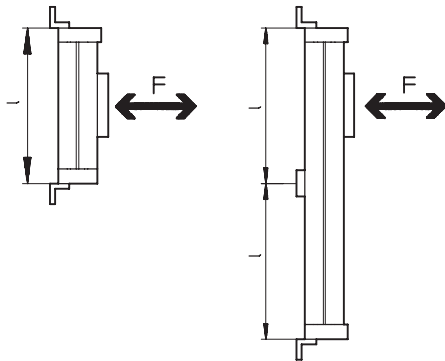
help to determine the maximum permissible support span as a function of mounting position, force

due to weight and normal force.

### Horizontal mounting position



### Vertical mounting position



|                |                |
|----------------|----------------|
| — Ø 18         | - - - Ø 40     |
| - · - · - Ø 25 | - · - · - Ø 50 |
| - · - - - Ø 32 | - · - - - Ø 63 |

### Example:

The drive DGC-N-25-1500 is subjected to a force of 300 N in a horizontal mounting position.

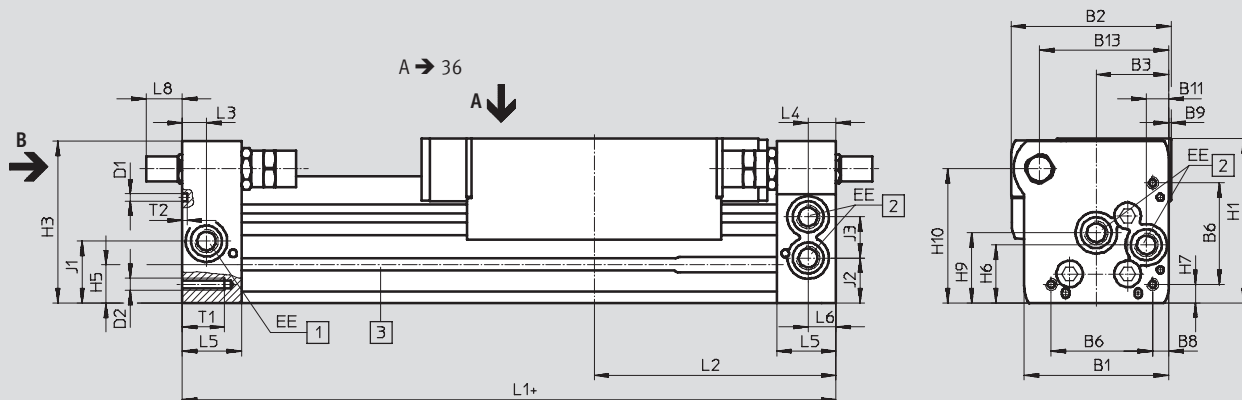
The drive has an overall length of:  
 $l = \text{stroke length} + L1$   
 (see dimensions)  
 $= 1,500 \text{ mm} + 200 \text{ mm}$   
 $= 1,700 \text{ mm}$

According to the graph, the max. support span for the drive DGC-N-25 with a force of 300 N is 1,300 mm.

In this example, profile mountings are required as the max. support span (1,300 mm) is smaller than the overall length of the drive (1,700 mm).

## Technical data

Ø 18 ... 40

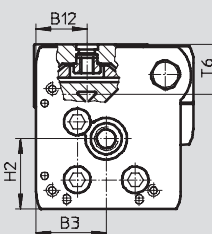
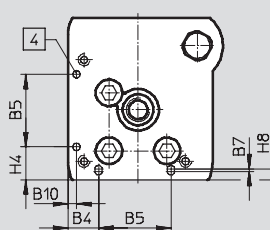
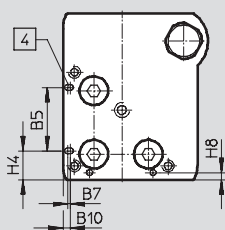


View B  
Ø 18

Ø 25 ... 40

Ø 18 ... 40

- + plus stroke length
- 1 Supply port optional on two faces
- 2 Supply port optional on two faces, for supplying from one end
- 3 Sensor slot for proximity sensor
- 4 Mounting hole for foot mounting HPC



| Ø    | J3   | L1  | L2    | L3   | L4   | L5   | L6   | L8  |      |      | T1   | T2 | T6   | Stroke tolerance |
|------|------|-----|-------|------|------|------|------|-----|------|------|------|----|------|------------------|
| [mm] |      |     |       |      |      |      |      | PPV | YSR  | YSRW |      |    |      |                  |
| 18   | 11   | 150 | 74.5  | 5.7  | 5.8  | 15   | 5.5  | 0   | 15.9 | 19.4 | 9    | 2  | 17.1 | 0 ... 2.5        |
| 25   | 17   | 200 | 100   | 10.5 | 10.6 | 24.5 | 10.6 | 0   | 12.5 | 15   | 17.5 | 2  | 20.5 |                  |
| 32   | 18.5 | 250 | 124.8 | 14.5 | 14.5 | 30.5 | 14.5 | 0   | 8.5  | 15.5 | 15   | 2  | 21.3 |                  |
| 40   | 26   | 300 | 150   | 14.6 | 14.6 | 33.5 | 14.6 | 0   | 12.8 | 21   | 20   | 3  | 30.7 |                  |

1) Suitable for 10-32 UNF

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

# Linear drives DGC-N-GF, with plain-bearing guide, NPT

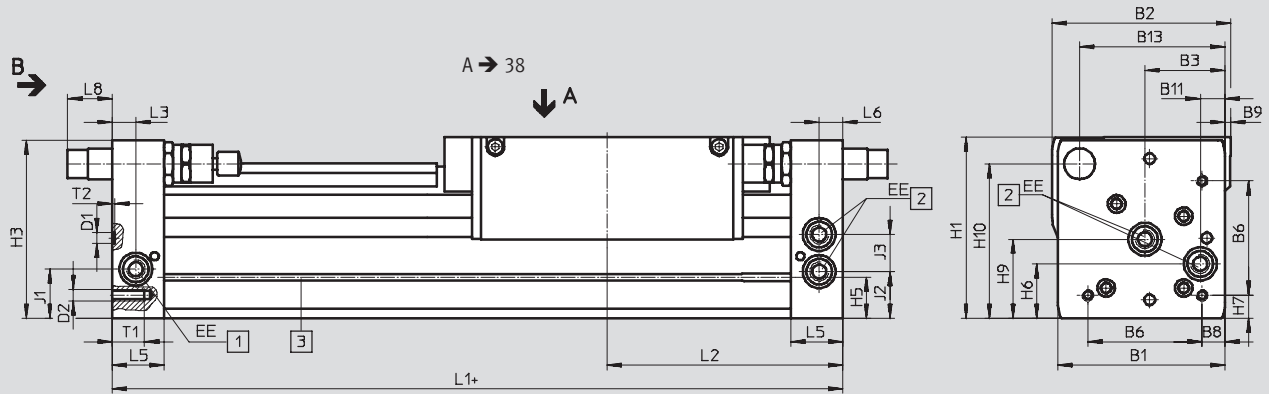
Technical data

FESTO

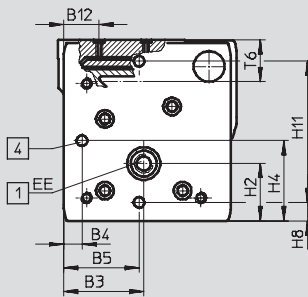
## Dimensions

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

Ø 50/63



View B



- + plus stroke length
- [1] Supply port options on 2 sides
- [2] Supply port options on 2 sides, for supply port at one end
- [3] Sensor slot for proximity sensor
- [4] Mounting hole for foot mounting HPC

## Linear drives DGC-N-GF, with plain-bearing guide, NPT

**FESTO**

Technical data

| Ø<br>[mm] | B1  | B2    | B3 | B4   | B5<br>±0.05 | B6   | B8   | B9 | B11 | B12 | B13   | D1<br>Ø<br>H7 | D2  |
|-----------|-----|-------|----|------|-------------|------|------|----|-----|-----|-------|---------------|-----|
| 50        | 113 | 126.5 | 60 | 8    | 52.8        | 81.6 | 12   | –  | 21  | 24  | 97    | 9             | M8  |
| 63        | 142 | 149   | 68 | 15.5 | 68          | 97   | 19.5 | 5  | 21  | 30  | 123.5 | 9             | M10 |

| Ø<br>[mm] | EE      | H1    | H2   | H3    | H4   | H5   | H6 | H7   | H8   | H9 | H10   | H11<br>±0.05 | J1   |
|-----------|---------|-------|------|-------|------|------|----|------|------|----|-------|--------------|------|
| 50        | 1/4 NPT | 124.5 | 38.5 | 122.5 | 52.8 | 29.3 | 36 | 12   | 8    | 53 | 104.5 | 100          | 30.5 |
| 63        | 3/8 NPT | 153.5 | 48.5 | 151   | 68   | 34.8 | 46 | 19.5 | 15.5 | 67 | 131   | 120          | 41.5 |

| Ø<br>[mm] | J2   | J3   | L1  | L2  | L3 | L5 | L6 | L8  |      |      | T1   | T2<br>+0.2 | T6   | Stroke tolerance |
|-----------|------|------|-----|-----|----|----|----|-----|------|------|------|------------|------|------------------|
|           |      |      |     |     |    |    |    | PPV | YSR  | YSRW |      |            |      |                  |
| 50        | 30.5 | 28   | 350 | 175 | 17 | 41 | 17 | 0   | 31   | 36.3 | 24   | 2.1        | 30.4 | 0 ... 2.5        |
| 63        | 39.5 | 31.5 | 400 | 200 | 20 | 44 | 20 | 0   | 38.3 | 48.3 | 27.5 | 2.1        | 36.2 |                  |

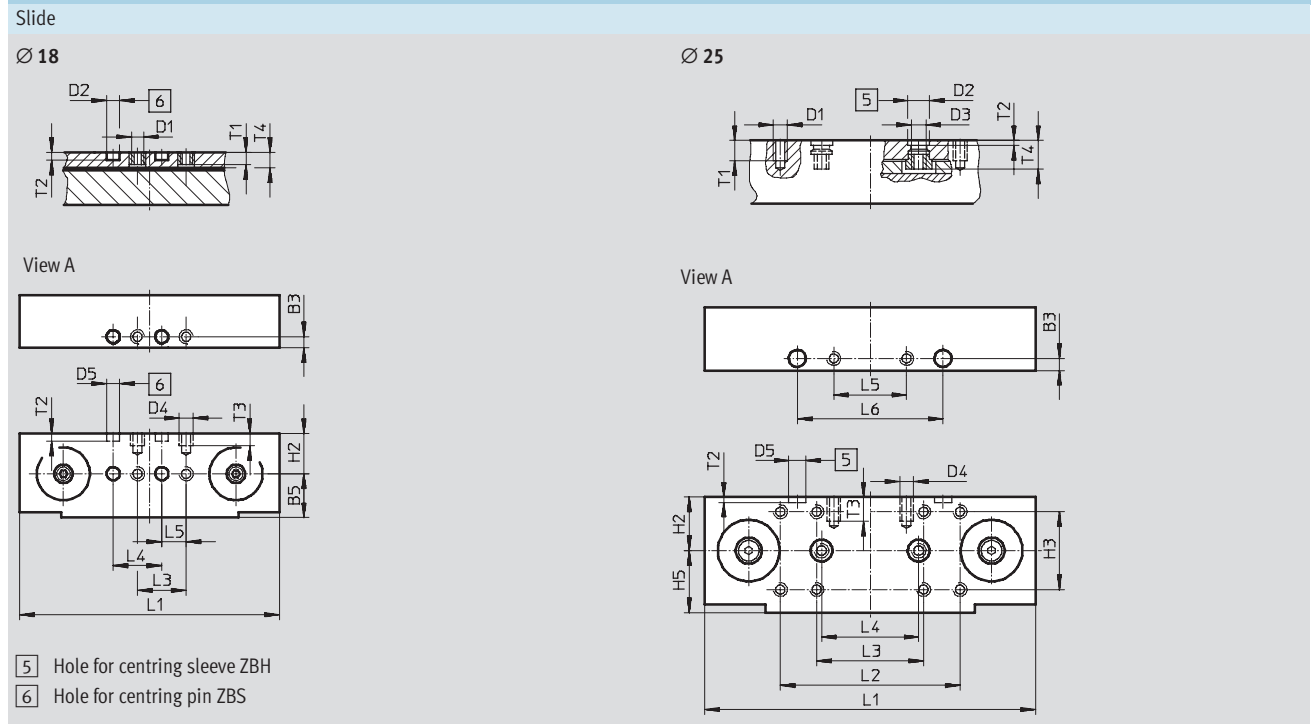
Note: This product conforms to ISO 1179-1 and to ISO 228-1

# Linear drives DGC-N-GF, with plain-bearing guide, NPT

FESTO

Technical data

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



| Ø    | B3    | D1 | D2<br>Ø<br>H7 | D3 | D4 | D5<br>Ø<br>H7 | H2   | H3     | H4<br>±0.03 | H5<br>±0.1 | L1<br>±0.1 |
|------|-------|----|---------------|----|----|---------------|------|--------|-------------|------------|------------|
| [mm] | ±0.05 |    |               |    |    |               |      |        |             |            |            |
| 18   | 4.5   | M5 | 5             | –  | M5 | 5             | 16.5 | –      | –           | 18         | 107        |
| 25   | 5     | M5 | 9             | M6 | M5 | 7             | 22   | 32±0.2 | –           | 25.5       | 136        |

| Ø    | L2   | L3     | L4<br>±0.03 | L5<br>±0.1 | L6<br>±0.05 | L7<br>±0.1 | T1  | T2      | T3 | T4   |
|------|------|--------|-------------|------------|-------------|------------|-----|---------|----|------|
| [mm] | ±0.1 |        |             |            |             |            |     |         |    |      |
| 18   | –    | 20±0.1 | 20          | 10         | –           | –          | 5   | 3.1±0.1 | 5  | 6.3  |
| 25   | 74   | 44±0.2 | 40          | 30         | 60          | –          | 8.5 | 2.1±0.2 | 10 | 11.8 |

# Linear drives DGC-GF, with plain-bearing guide

Technical data

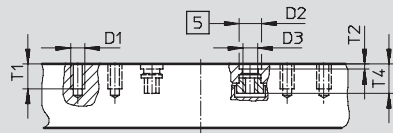
**FESTO**

## Dimensions

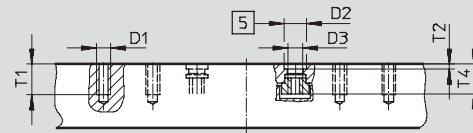
Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Slide

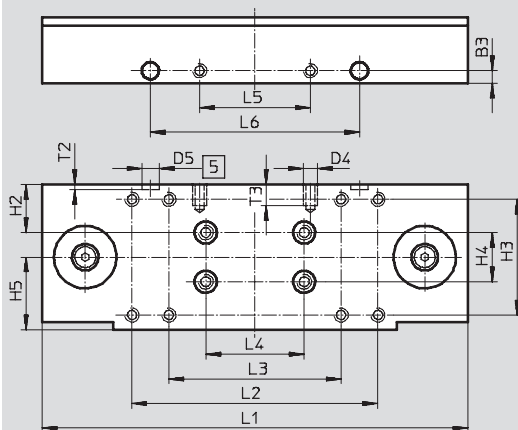
Ø 32



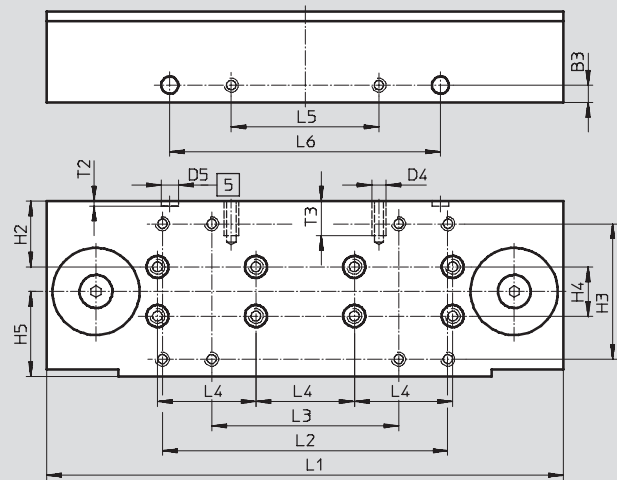
Ø 40



View A



View A



[5] Hole for centring sleeve ZBH

| Ø    | B3    | D1 | D2<br>Ø<br>H7 | D3 | D4 | D5<br>Ø<br>H7 | H2   | H3     | H4    | H5   | L1   |
|------|-------|----|---------------|----|----|---------------|------|--------|-------|------|------|
| [mm] | ±0.05 |    |               |    |    |               |      |        | ±0.03 | ±0.1 | ±0.1 |
| 32   | 5     | M5 | 9             | M6 | M5 | 7             | 19.5 | 47±0.2 | 20    | 29.5 | 173  |
| 40   | 7     | M5 | 9             | M6 | M6 | 7             | 26.8 | 55±0.2 | 20    | 34.7 | 210  |

| Ø    | L2   | L3     | L4    | L5   | L6    | L7   | T1   | T2      | T3  | T4   |
|------|------|--------|-------|------|-------|------|------|---------|-----|------|
| [mm] | ±0.1 |        | ±0.03 | ±0.1 | ±0.05 | ±0.1 |      |         |     |      |
| 32   | 100  | 70±0.2 | 40    | 45   | 85    | –    | 10   | 2.1±0.2 | 8.5 | 11.8 |
| 40   | 116  | 76±0.2 | 40    | 60   | 110   | –    | 12.5 | 2.1±0.2 | 14  | 12.1 |

# Linear drives DGC-N-GF, with plain-bearing guide, NPT

FESTO

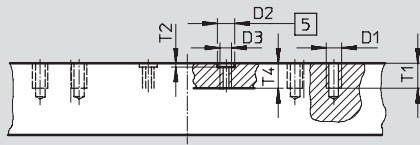
Technical data

## Dimensions

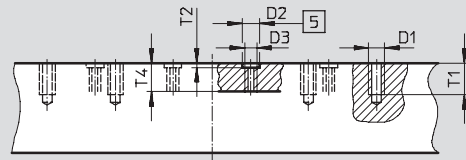
Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Slide

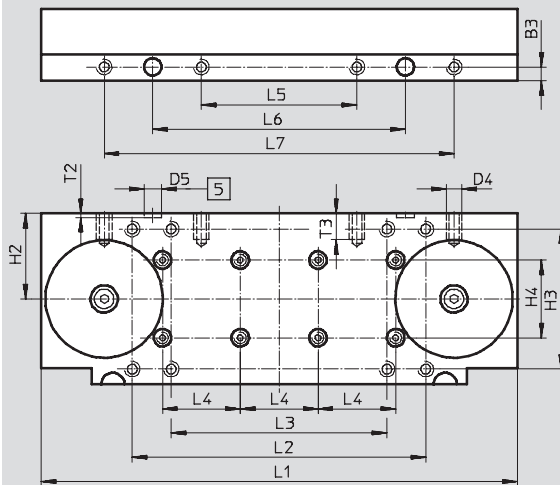
Ø 50



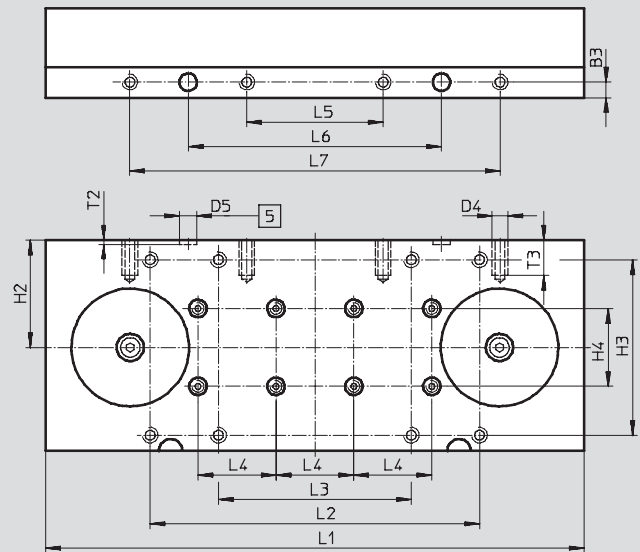
Ø 63



View A



View A



5 Hole for centring sleeve ZBH

| Ø    | B3    | D1 | D2<br>Ø<br>H7 | D3 | D4 | D5<br>Ø<br>H7 | H2 | H3     | H4    | H5   | L1   |
|------|-------|----|---------------|----|----|---------------|----|--------|-------|------|------|
| [mm] | ±0.05 |    |               |    |    |               |    |        | ±0.03 | ±0.1 | ±0.1 |
| 50   | 7     | M8 | 9             | M6 | M8 | 9             | 44 | 72±0.3 | 40    | –    | 245  |
| 63   | 8     | M8 | 9             | M6 | M8 | 9             | 55 | 90±0.3 | 40    | –    | 276  |

| Ø    | L2   | L3      | L4    | L5   | L6    | L7   | T1 | T2      | T3   | T4   |
|------|------|---------|-------|------|-------|------|----|---------|------|------|
| [mm] | ±0.1 |         | ±0.03 | ±0.1 | ±0.05 | ±0.1 |    |         |      |      |
| 50   | 151  | 111±0.2 | 40    | 80   | 130   | 180  | 13 | 2.1±0.2 | 13.5 | 13   |
| 63   | 169  | 99±0.2  | 40    | 70   | 130   | 190  | 16 | 2.1±0.2 | 18   | 14.5 |

# Linear drives DGC-N-GF, with plain-bearing guide, NPT

Technical data

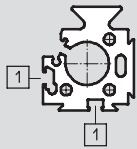
**FESTO**

## Dimensions

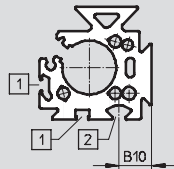
Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Profile barrel

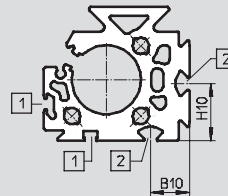
Ø 18



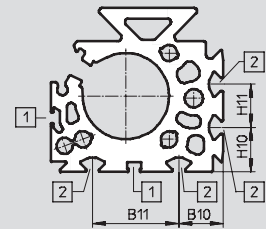
Ø 25



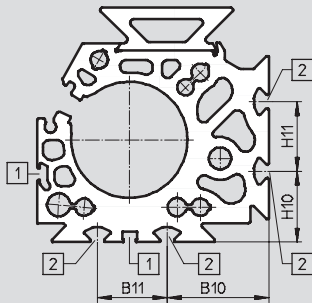
Ø 32



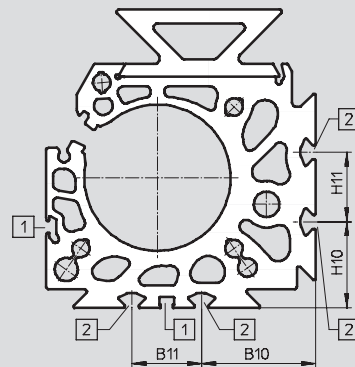
Ø 40



Ø 50



Ø 63



- 1 Sensor slot for proximity sensor
- 2 Mounting slot for slot nut

| Ø    | B10   | B11 | H10  | H11 |
|------|-------|-----|------|-----|
| [mm] |       |     |      |     |
| 25   | 15.23 | –   | –    | –   |
| 32   | 18    | –   | 26.5 | –   |
| 40   | 20.5  | 40  | 20.5 | 20  |
| 50   | 43.8  | 30  | 30.5 | 30  |
| 63   | 49    | 30  | 37   | 30  |

# Linear drives DGC-N-GF, with plain-bearing guide, NPT

Ordering data – Modular products

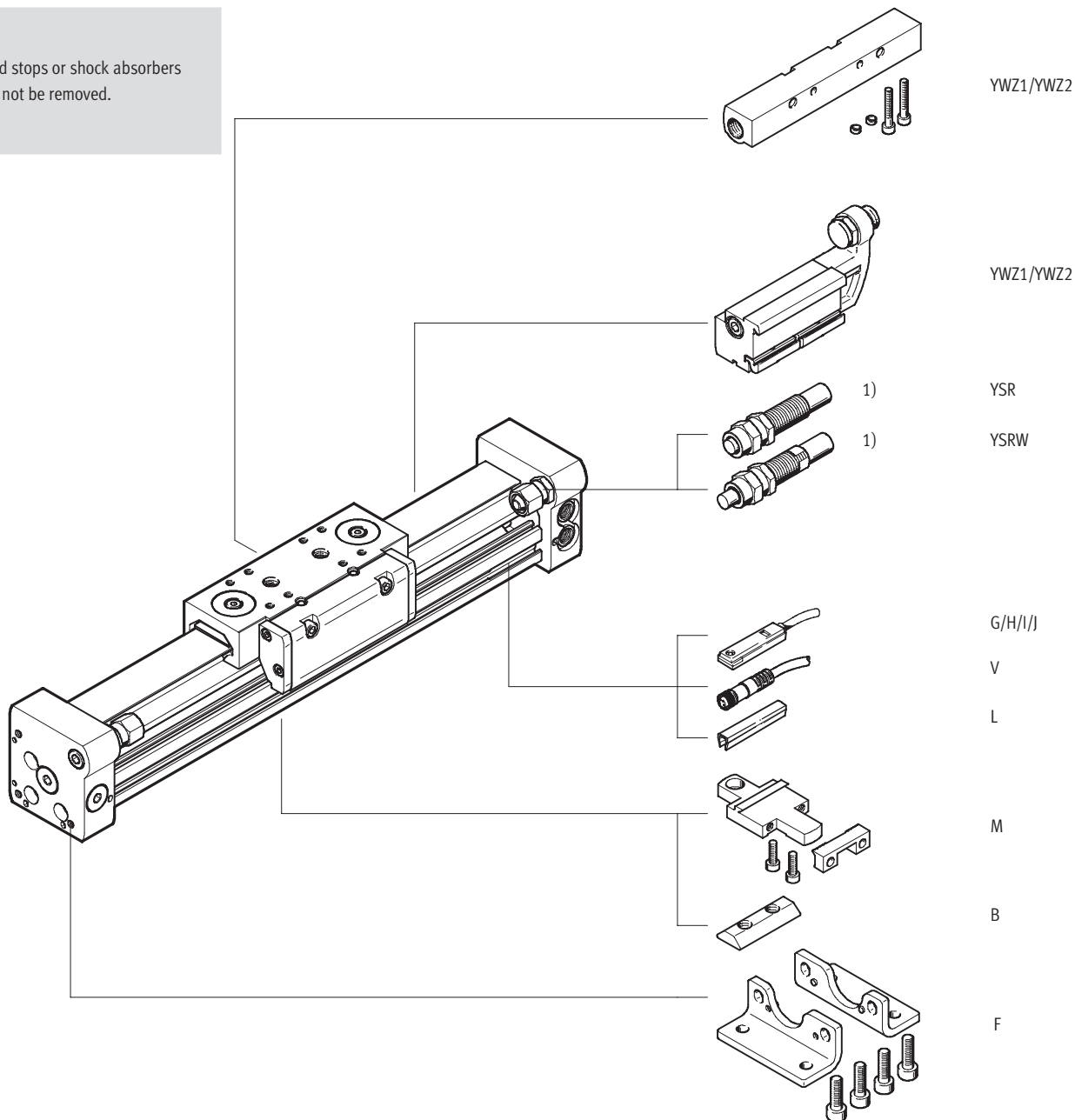
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## Order code

Mandatory data/options

### Note

1) End stops or shock absorbers must not be removed.



# Linear drives DGC-N-GF, with plain-bearing guide, NPT

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Ordering data – Modular products

| Ordering table                     |                                                                               |                |                |                |                |                |                 |              |  |               |
|------------------------------------|-------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|--------------|--|---------------|
| Size                               | 18                                                                            | 25             | 32             | 40             | 50             | 63             | Condi-<br>tions | Code         |  | Enter<br>code |
| <b>[M]</b> Module No.              | <b>532 446</b>                                                                | <b>532 447</b> | <b>532 448</b> | <b>532 449</b> | <b>532 450</b> | <b>532 451</b> |                 |              |  |               |
| Function                           | Linear drive                                                                  |                |                |                |                |                |                 | <b>DGC</b>   |  | DGC           |
| Thread                             | NPT thread                                                                    |                |                |                |                |                |                 | <b>-N</b>    |  | -N            |
| Piston Ø [mm]                      | 18                                                                            | 25             | 32             | 40             | 50             | 63             |                 | <b>-...</b>  |  |               |
| Stroke [mm]                        | 1 ... 3,000                                                                   | 1 ... 8,500    |                |                | 1 ... 5,000    |                |                 | <b>-...</b>  |  |               |
| Guide                              | Plain-bearing guide                                                           |                |                |                |                |                |                 | <b>-GF</b>   |  | -GF           |
| Cushioning                         | Pneumatic cushioning, adjustable at both ends                                 |                |                |                |                |                |                 | <b>-PPV</b>  |  |               |
|                                    | Shock absorber, self-adjusting                                                |                |                |                |                |                |                 | <b>-YSR</b>  |  |               |
|                                    | Shock absorber, self-adjusting, progressive                                   |                |                |                |                |                |                 | <b>-YSRW</b> |  |               |
| Position sensing                   | Via proximity sensor                                                          |                |                |                |                |                |                 | <b>-A</b>    |  | -A            |
| <b>[O]</b> Accessories             | Enclosed separately (can be retrofitted)                                      |                |                |                |                |                |                 | <b>ZUB-</b>  |  | ZUB-          |
| Foot mounting                      | 1                                                                             |                |                |                |                |                |                 | <b>F</b>     |  |               |
| Profile mounting                   | 1 ... 9                                                                       |                |                |                |                |                |                 | <b>...M</b>  |  |               |
| Slot nut for mounting slot         | – 1 ... 9                                                                     |                |                |                |                |                |                 | <b>...B</b>  |  |               |
| Proximity sensor                   | Cable 2.5 m                                                                   |                |                |                |                |                |                 | <b>...G</b>  |  |               |
|                                    | Plug M8                                                                       |                |                |                |                |                |                 | <b>...H</b>  |  |               |
| Proximity sensor, contactless, PNP | Cable 2.5 m                                                                   |                |                |                |                |                |                 | <b>...I</b>  |  |               |
|                                    | Plug M8                                                                       |                |                |                |                |                |                 | <b>...J</b>  |  |               |
| Plug socket with cable             | M8, 2.5 m                                                                     |                |                |                |                |                |                 | <b>...V</b>  |  |               |
| Slot cover for sensor slot         | 1 ... 9                                                                       |                |                |                |                |                |                 | <b>...L</b>  |  |               |
| Mechanical end-position limiter    | Variable end position, at one end                                             |                |                |                |                |                | <b>[1]</b>      | <b>YWZ1</b>  |  |               |
|                                    | Variable end position, at both ends                                           |                |                |                |                |                | <b>[1]</b>      | <b>YWZ2</b>  |  |               |
| Manual                             | Express waiver – no operating instructions to be included (already available) |                |                |                |                |                |                 | <b>-O</b>    |  |               |

**[1] YWZ1, YWZ2** Only with cushioning YSR or YSRW

Transfer order code

**DGC** – **N** –  –  – **GF** –  – **A** **ZUB** –  –

| Ordering data – Wearing parts kits |          |        |  |          |          |        |
|------------------------------------|----------|--------|--|----------|----------|--------|
| Piston Ø                           | Part No. | Type   |  | Piston Ø | Part No. | Type   |
| 18                                 | 684 486  | DGC-18 |  | 40       | 684 489  | DGC-40 |
| 25                                 | 684 487  | DGC-25 |  | 50       | 719 825  | DGC-50 |
| 32                                 | 684 488  | DGC-32 |  | 63       | 719 826  | DGC-63 |

# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

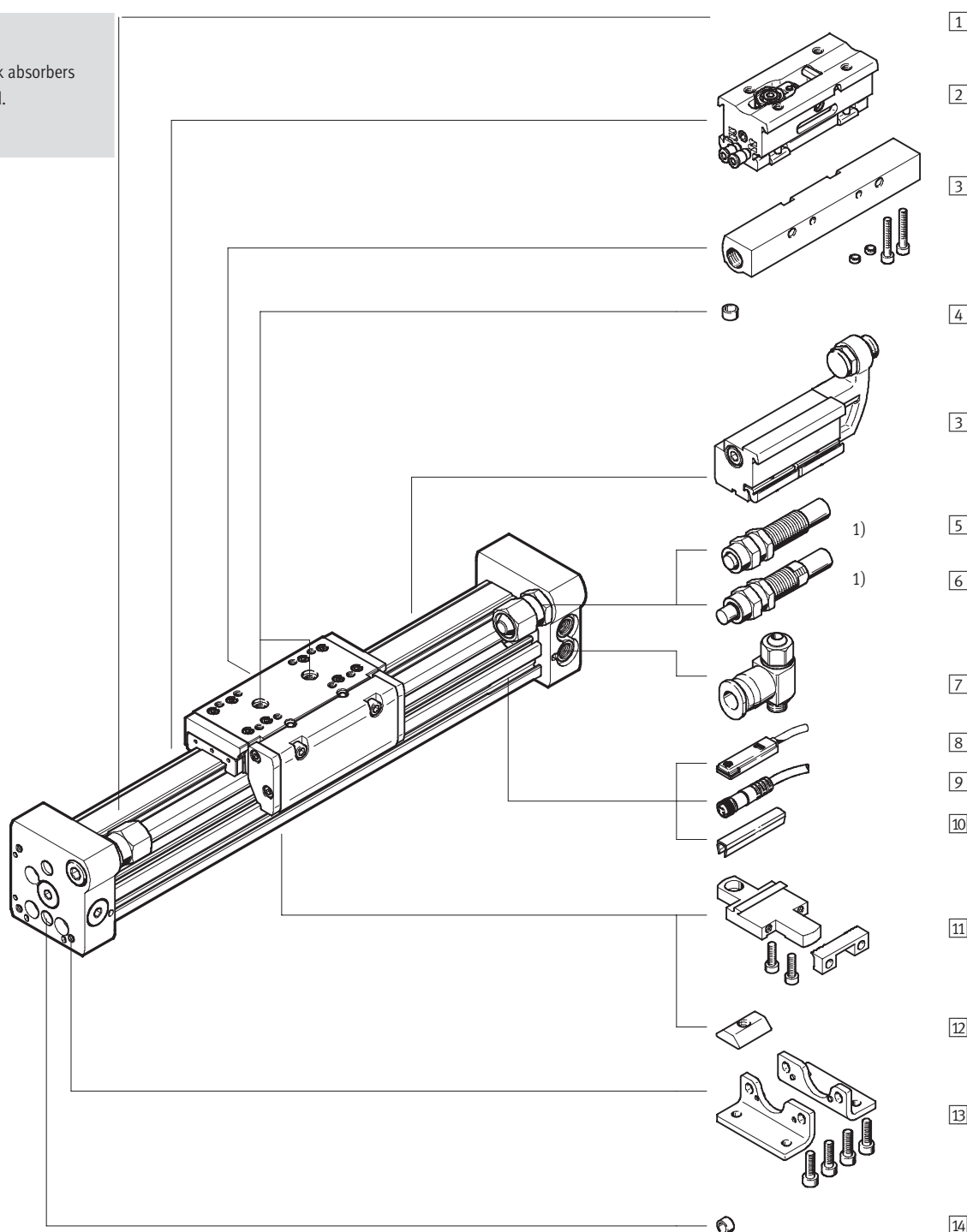
Peripherals overview

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## Note

1) End stops or shock absorbers must not be removed.



# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

Peripherals overview

| Variants and accessories                        |              |                                                                                                       |                 |
|-------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------|-----------------|
| Type                                            | For piston Ø | Brief description                                                                                     | → Page/Internet |
| 1 Linear drive<br>DGC-N-KF                      | 8 ... 63     | Linear drive without accessories, with recirculating ball bearing guide.                              | 46              |
| 2 Intermediate position<br>module Z1/Z2/Z3      | 25, 32, 40   | Enables up to three intermediate positions.                                                           | 76              |
| 3 Mechanical end-position<br>limiter YWZ        | 18 ... 63    | For variable end-position adjustment, e.g. for format adjustments.                                    | 74              |
| 4 Centring pin/sleeve <sup>1)</sup><br>ZBS/ZBH  | 8 ... 63     | For centring loads and attachments on the slide.                                                      | 78              |
| – Cushioning<br>P                               | 8, 12        | Non-adjustable, flexible cushioning. Used only at low speeds.                                         | 64              |
| – Cushioning<br>PPV                             | 18 ... 63    | Adjustable pneumatic end-position cushioning. Used at medium speeds.                                  | 64              |
| 5 Shock absorber<br>YSR                         | 8 ... 63     | Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic.      | 64              |
| 6 Shock absorber<br>YSRW                        | 8 ... 63     | Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic. | 64              |
| 7 One-way flow control valve<br>GRLA            | 8 ... 63     | For regulating speed.                                                                                 | 78              |
| 8 Proximity sensor<br>G/H/I/J                   | 8 ... 63     | For sensing the slide position.                                                                       | 79              |
| 9 Plug socket with cable<br>V                   | 8 ... 63     | For proximity sensor.                                                                                 | 79              |
| 10 Slot cover<br>L                              | 18 ... 63    | For protecting against ingress of dirt and securing proximity sensor cables.                          | 78              |
| 11 Profile mounting<br>M                        | 8 ... 63     | Simple and precise mounting option via dovetail connection.                                           | 70              |
| 12 Slot nut<br>B                                | 25 ... 63    | For mounting attachments.                                                                             | 78              |
| 13 Foot mounting<br>F                           | 8 ... 63     | For mounting on end cap.                                                                              | 66              |
| 14 Centring pin/sleeve <sup>1)</sup><br>ZBS/ZBH | 8 ... 63     | For centring the drive without foot mountings (user-specific).                                        | 78              |

1) Included in the scope of delivery of the drive

### Type codes

|                             |                                            | DGC | N | 25 | 1000 | KF | YSR | A |  |  |  |
|-----------------------------|--------------------------------------------|-----|---|----|------|----|-----|---|--|--|--|
| <b>Type</b>                 |                                            |     |   |    |      |    |     |   |  |  |  |
| DGC                         | Linear drive                               |     |   |    |      |    |     |   |  |  |  |
| <b>Thread</b>               |                                            |     |   |    |      |    |     |   |  |  |  |
| N                           | NPT thread                                 |     |   |    |      |    |     |   |  |  |  |
| <b>Piston Ø [mm]</b>        |                                            |     |   |    |      |    |     |   |  |  |  |
| <b>Stroke [mm]</b>          |                                            |     |   |    |      |    |     |   |  |  |  |
| <b>Guide</b>                |                                            |     |   |    |      |    |     |   |  |  |  |
| KF                          | Recirculating ball bearing guide           |     |   |    |      |    |     |   |  |  |  |
| <b>Cushioning</b>           |                                            |     |   |    |      |    |     |   |  |  |  |
| P                           | Elastic cushioning, non-adjustable         |     |   |    |      |    |     |   |  |  |  |
| PPV                         | Adjustable end-position cushioning         |     |   |    |      |    |     |   |  |  |  |
| YSR                         | Linear shock absorber, self-adjusting      |     |   |    |      |    |     |   |  |  |  |
| YSRW                        | Progressive shock absorber, self-adjusting |     |   |    |      |    |     |   |  |  |  |
| <b>Position sensing</b>     |                                            |     |   |    |      |    |     |   |  |  |  |
| A                           | Via proximity sensor                       |     |   |    |      |    |     |   |  |  |  |
| <b>Slide</b>                |                                            |     |   |    |      |    |     |   |  |  |  |
| GP                          | Protected recirculating ball bearing guide |     |   |    |      |    |     |   |  |  |  |
| <b>Lubrication function</b> |                                            |     |   |    |      |    |     |   |  |  |  |
|                             | Standard                                   |     |   |    |      |    |     |   |  |  |  |
| C                           | Lubrication adapter                        |     |   |    |      |    |     |   |  |  |  |
| <b>Additional slide</b>     |                                            |     |   |    |      |    |     |   |  |  |  |
| KL                          | Additional slide on left                   |     |   |    |      |    |     |   |  |  |  |
| KR                          | Additional slide on right                  |     |   |    |      |    |     |   |  |  |  |

# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

FESTO

Type codes

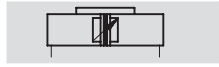
|                                        |                                                           | + ZUB | - F |  | 2B | 2G | 2V |  |  |  |  |
|----------------------------------------|-----------------------------------------------------------|-------|-----|--|----|----|----|--|--|--|--|
| <b>Accessories</b>                     |                                                           |       |     |  |    |    |    |  |  |  |  |
| ZUB                                    | Accessories enclosed separately                           |       |     |  |    |    |    |  |  |  |  |
| <b>Foot mounting</b>                   |                                                           |       |     |  |    |    |    |  |  |  |  |
| F                                      | Foot mounting                                             |       |     |  |    |    |    |  |  |  |  |
| <b>Profile mounting</b>                |                                                           |       |     |  |    |    |    |  |  |  |  |
| ...M                                   | Profile mounting                                          |       |     |  |    |    |    |  |  |  |  |
| <b>Slot nut</b>                        |                                                           |       |     |  |    |    |    |  |  |  |  |
| ...B                                   | For mounting slot                                         |       |     |  |    |    |    |  |  |  |  |
| <b>Proximity sensor</b>                |                                                           |       |     |  |    |    |    |  |  |  |  |
| ...G                                   | With cable, 2.5 m                                         |       |     |  |    |    |    |  |  |  |  |
| ...H                                   | With plug                                                 |       |     |  |    |    |    |  |  |  |  |
| ...I                                   | Contactless with cable, 2.5 m                             |       |     |  |    |    |    |  |  |  |  |
| ...J                                   | Contactless with plug                                     |       |     |  |    |    |    |  |  |  |  |
| <b>Connecting cable</b>                |                                                           |       |     |  |    |    |    |  |  |  |  |
| ...V                                   | 2.5 m                                                     |       |     |  |    |    |    |  |  |  |  |
| <b>Slot cover</b>                      |                                                           |       |     |  |    |    |    |  |  |  |  |
| ...L                                   | For sensor slot                                           |       |     |  |    |    |    |  |  |  |  |
| <b>Mechanical end-position limiter</b> |                                                           |       |     |  |    |    |    |  |  |  |  |
| YWZ1                                   | Variable end position, at one end                         |       |     |  |    |    |    |  |  |  |  |
| YWZ2                                   | Variable end position, at both ends                       |       |     |  |    |    |    |  |  |  |  |
| <b>Intermediate position</b>           |                                                           |       |     |  |    |    |    |  |  |  |  |
| Z1                                     | 1 intermediate position                                   |       |     |  |    |    |    |  |  |  |  |
| Z2                                     | 2 intermediate positions                                  |       |     |  |    |    |    |  |  |  |  |
| Z3                                     | 3 intermediate positions                                  |       |     |  |    |    |    |  |  |  |  |
| <b>Manual</b>                          |                                                           |       |     |  |    |    |    |  |  |  |  |
| 0                                      | Express waiver – no operating instructions to be included |       |     |  |    |    |    |  |  |  |  |

# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

FESTO

Technical data

Function



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

Wearing parts kits  
→ 64

- Ø - Diameter  
8 ... 63 mm
- l - Stroke length  
1 ... 8,500 mm



| General technical data                     |                                           |                             |             |                         |      |         |             |         |
|--------------------------------------------|-------------------------------------------|-----------------------------|-------------|-------------------------|------|---------|-------------|---------|
| Piston Ø                                   | 8                                         | 12                          | 18          | 25                      | 32   | 40      | 50          | 63      |
| Stroke [mm]                                | 1 ... 1,300                               | 1 ... 1,900                 | 1 ... 3,000 | 1 ... 8,500             |      |         | 1 ... 5,000 |         |
| Pneumatic connection                       | M5, suitable for 10-32 UNF                |                             |             | 1/8 NPT                 |      | 1/4 NPT |             | 3/8 NPT |
| Mode of operation                          | Double-acting                             |                             |             |                         |      |         |             |         |
| Design                                     | Rodless drive                             |                             |             |                         |      |         |             |         |
| Moment compensator principle               | Slotted cylinder, mechanically coupled    |                             |             |                         |      |         |             |         |
| Guide                                      | External recirculating ball bearing guide |                             |             |                         |      |         |             |         |
| Mounting position                          | Any                                       |                             |             |                         |      |         |             |         |
| Cushioning                                 | P                                         | Non-adjustable at both ends |             | –                       |      |         |             |         |
| ➔ 49                                       | PPV                                       | –                           |             | Adjustable at both ends |      |         |             |         |
|                                            | YSR...                                    | Self-adjusting at both ends |             |                         |      |         |             |         |
| Cushioning length with PPV cushioning [mm] | –                                         |                             | 16.5        | 15.5                    | 17.5 | 29.5    | 29.8        | 31.1    |
| Position sensing                           | Via proximity sensor                      |                             |             |                         |      |         |             |         |
| Type of mounting                           | Profile mounting                          |                             |             |                         |      |         |             |         |
|                                            | Foot mounting                             |                             |             |                         |      |         |             |         |
|                                            | Direct mounting                           |                             |             |                         |      |         |             |         |
| Max. speed [m/s]                           | 1                                         | 1.2                         | 3           |                         |      |         |             |         |
| Repetition accuracy [mm]                   | 0.02 (with shock absorber YSR/YSRW)       |                             |             |                         |      |         |             |         |

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

| Operating and environmental conditions       |                                                                    |    |         |    |    |           |    |    |
|----------------------------------------------|--------------------------------------------------------------------|----|---------|----|----|-----------|----|----|
| Piston Ø                                     | 8                                                                  | 12 | 18      | 25 | 32 | 40        | 50 | 63 |
| Operating pressure [bar]                     | 2.5 ... 8                                                          |    | 2 ... 8 |    |    | 1.5 ... 8 |    |    |
| Operating medium                             | Filtered compressed air, lubricated or unlubricated                |    |         |    |    |           |    |    |
| Ambient temperature <sup>1)</sup> [°C]       | −10 ... +60                                                        |    |         |    |    |           |    |    |
| Corrosion resistance class CRC <sup>2)</sup> | 1                                                                  |    |         |    |    |           |    |    |
| 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 subject to low corrosion stress. 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.

| Forces [N]                         |      |    |     |     |     |     |       |       |
|------------------------------------|------|----|-----|-----|-----|-----|-------|-------|
| Piston Ø                           | 8    | 12 | 18  | 25  | 32  | 40  | 50    | 63    |
| Theoretical force at 6 bar         | 30   | 68 | 153 | 295 | 483 | 754 | 1,178 | 1,870 |
| Impact energy in the end positions | → 49 |    |     |     |     |     |       |       |

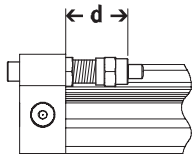
# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

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Technical data

| Weight [g]                         |     |     |     |       |       |       |        |        |
|------------------------------------|-----|-----|-----|-------|-------|-------|--------|--------|
| Piston Ø                           | 8   | 12  | 18  | 25    | 32    | 40    | 50     | 63     |
| Basic weight with 0 mm stroke      | 225 | 391 | 975 | 2,113 | 2,837 | 6,996 | 13,342 | 22,220 |
| Additional weight per 10 mm stroke | 11  | 16  | 31  | 49    | 74    | 117   | 153    | 236    |
| Moving load                        | 77  | 149 | 331 | 732   | 1,146 | 2,330 | 4,511  | 8,225  |

## Adjustable end-position range d [mm]



### Note

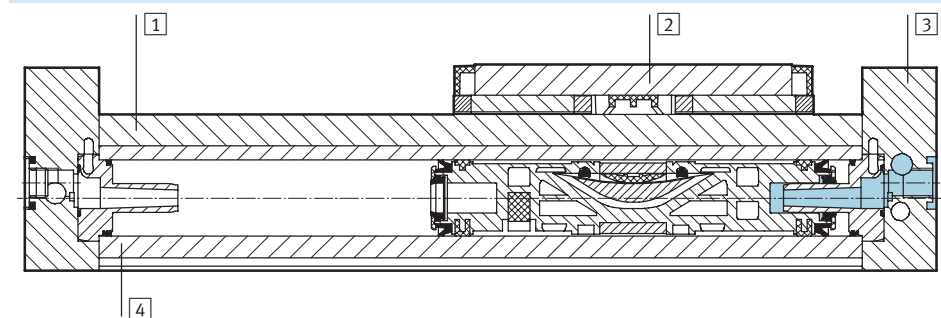
The permissible kinetic energy decreases if the stroke is reduced

with PPV adjustable cushioning at both ends.

| Piston Ø                              | 8             | 12            | 18            | 25            | 32            | 40            | 50            | 63            |
|---------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Cushioning P/PPV                      | 11.3 ... 16.3 | 12.7 ... 17.7 | 13.8 ... 15.8 | 21.1 ... 25.1 | 25.2 ... 30.2 | 28.7 ... 33.7 | 28.7 ... 33.7 | 38.8 ... 43.8 |
| Protected guide with cushioning P/PPV | –             | –             | 16.9 ... 18.9 | 23.6 ... 27.6 | 25.2 ... 30.2 | 34.7 ... 39.7 | –             | –             |
| Cushioning YSR/YSRW                   | 12.8 ... 22.8 | 14 ... 24     | 14.5 ... 34.5 | 22.5 ... 47.5 | 27.3 ... 52.3 | 31 ... 56     | 31 ... 56     | 41 ... 76     |

## Materials

Sectional view



| Linear drives |                         |                                   |
|---------------|-------------------------|-----------------------------------|
| 1             | Guide rail              | High-alloy steel                  |
| 2             | Slide                   | High-alloy steel                  |
| 3             | End cap                 | Anodised aluminium                |
| 4             | Cylinder barrel         | Anodised aluminium                |
| –             | Piston seal             | Polyurethane                      |
| –             | Sealing band/cover band | Polyurethane                      |
| –             | Note on materials       | Free of copper, PTFE and silicone |

# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

FESTO

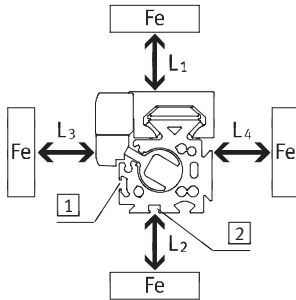
Technical data

## Influence of ferritic materials on proximity sensors

Ferritic materials (steel parts or panels) directly next to the proximity sensors can cause sensing

malfunctions. The following safety distances must be observed.

The distance depends on the position of the proximity sensor (see [1] and [2]).

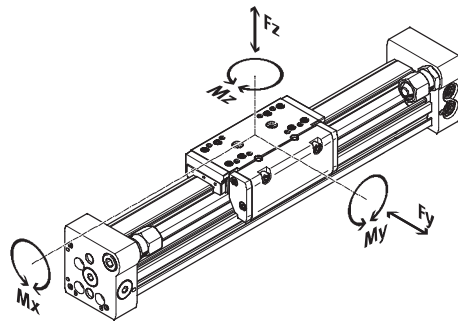


| Piston Ø    |          | 8  | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
|-------------|----------|----|----|----|----|----|----|----|----|
| Distance L1 | [1] [mm] | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
|             | [2] [mm] | –  | –  | 0  | 0  | 0  | 0  | 0  | 0  |
| Distance L2 | [1] [mm] | 20 | 10 | 10 | 10 | 0  | 0  | 0  | 0  |
|             | [2] [mm] | –  | –  | 25 | 25 | 25 | 25 | 25 | 25 |
| Distance L3 | [1] [mm] | 30 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
|             | [2] [mm] | –  | –  | 10 | 10 | 0  | 0  | 0  | 0  |
| Distance L4 | [1] [mm] | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  |
|             | [2] [mm] | –  | –  | 0  | 0  | 0  | 0  | 0  | 0  |

## Characteristic load values

The indicated forces and torques refer to the centre of the slide surface.

These values must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.



If the drive is simultaneously subjected to several of the indicated forces and torques, the following equation must be satisfied in addition to the indicated maximum loads:

$$\frac{F_y}{F_{y_{\max.}}} + \frac{F_z}{F_{z_{\max.}}} + \frac{M_x}{M_{x_{\max.}}} + \frac{M_y}{M_{y_{\max.}}} + \frac{M_z}{M_{z_{\max.}}} \leq 1$$

| Permissible forces and torques |      |     |     |       |       |       |       |       |        |
|--------------------------------|------|-----|-----|-------|-------|-------|-------|-------|--------|
| Piston Ø                       |      | 8   | 12  | 18    | 25    | 32    | 40    | 50    | 63     |
| F <sub>y</sub> <sub>max.</sub> | [N]  | 300 | 650 | 1,850 | 3,050 | 3,310 | 6,890 | 6,890 | 15,200 |
| F <sub>z</sub> <sub>max.</sub> | [N]  | 300 | 650 | 1,850 | 3,050 | 3,310 | 6,890 | 6,890 | 15,200 |
| M <sub>x</sub> <sub>max.</sub> | [Nm] | 1.7 | 3.5 | 16    | 36    | 54    | 144   | 144   | 529    |
| M <sub>y</sub> <sub>max.</sub> | [Nm] | 4.5 | 10  | 51    | 97    | 150   | 380   | 634   | 1,157  |
| M <sub>z</sub> <sub>max.</sub> | [Nm] | 4.5 | 10  | 51    | 97    | 150   | 380   | 634   | 1,157  |

## Note

ProDrive  
sizing software  
→ [www.festo.com](http://www.festo.com)

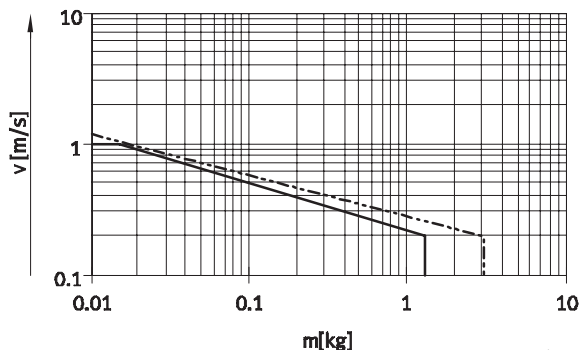
# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

FESTO

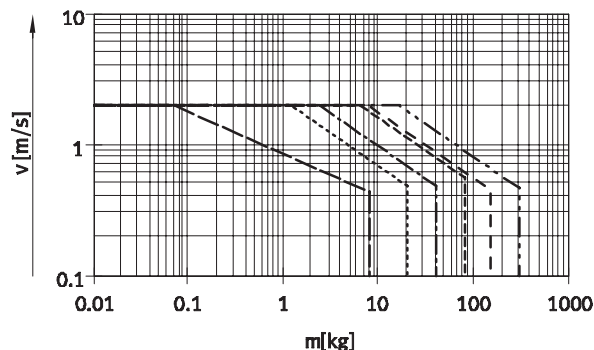
Technical data

## Maximum permissible piston speed $v$ as a function of effective load $m$

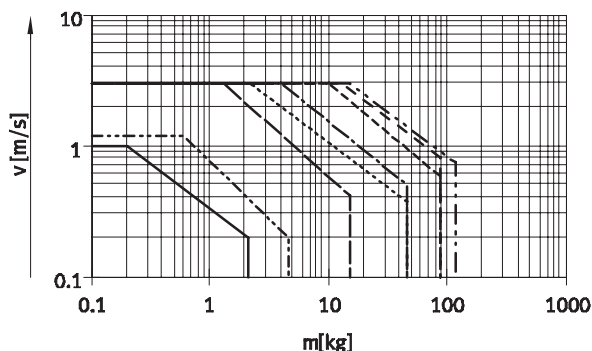
Piston  $\varnothing$  8/12 with P cushioning



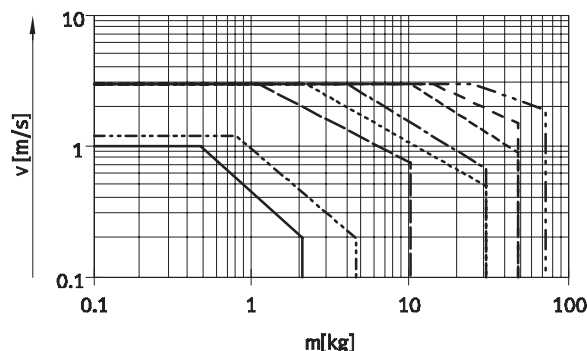
Piston  $\varnothing$  18 ... 63 with PPV cushioning



Piston  $\varnothing$  8 ... 63 with YSR cushioning



Piston  $\varnothing$  8 ... 63 with YSRW cushioning



|                        |                        |                      |
|------------------------|------------------------|----------------------|
| — $\varnothing$ 8      | — $\varnothing$ 18     | — $\varnothing$ 40   |
| - - $\varnothing$ 12   | - - $\varnothing$ 25   | - - $\varnothing$ 50 |
| - · - $\varnothing$ 32 | - · - $\varnothing$ 63 |                      |

### Note

This data represents the maximum values that can be achieved. In practice, values fluctuate relative to

the position of the effective load and mounting position.

## Operating range of cushioning

The end-position cushioning must be adjusted to ensure jerk-free operation. If the operating conditions are outside the permissible range, the

load to be moved must be cushioned using suitable equipment (shock absorbers, stops, etc.), preferably at the centre of gravity of the load.

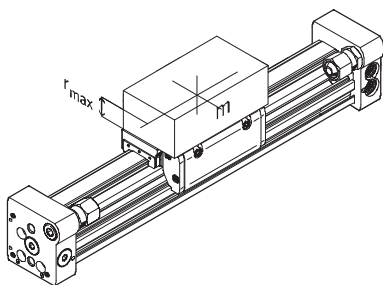
### Note

To avoid distortion in the slide, the bearing surfaces of the attachments

must maintain a flatness of at least 0.01 mm.

The specifications apply to a horizontal mounting position:

| Piston $\varnothing$     | 8  | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
|--------------------------|----|----|----|----|----|----|----|----|
| Distance $r_{\max}$ [mm] | 25 | 35 | 35 | 50 | 50 | 50 | 50 | 50 |



# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

FESTO

Technical data

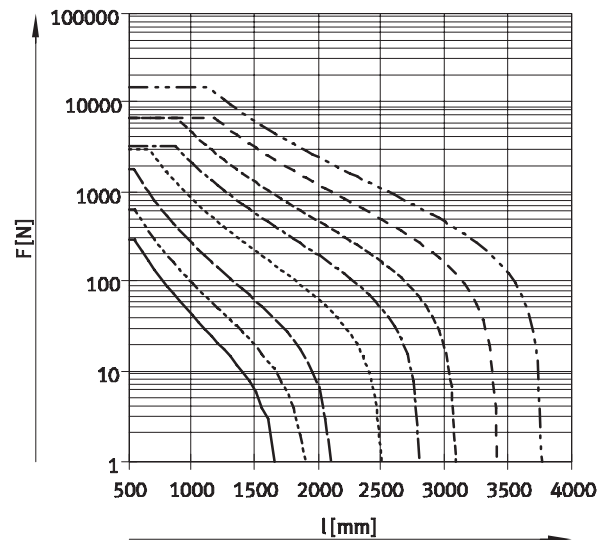
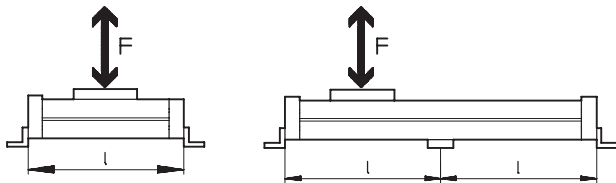
## Number of profile mountings MUC as a function of force due to weight F and support span l

In order to limit deflection in the case of large strokes, the drive may need to be supported. The following graphs

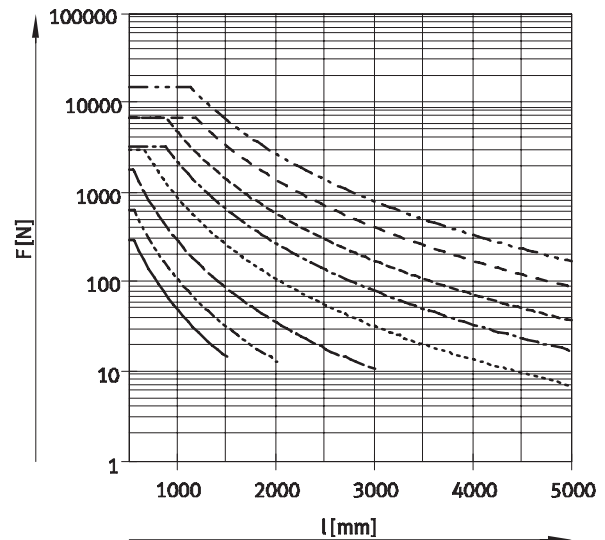
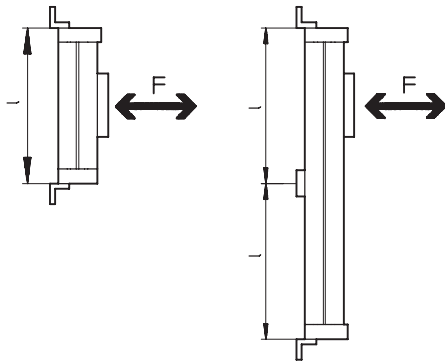
help to determine the maximum permissible support span as a

function of mounting position, force due to weight and normal force.

### Horizontal mounting position



### Vertical mounting position



### Example:

The drive DGC-N-25-1500 is subjected to a force of 300 N in a horizontal mounting position.

The drive has an overall length of:

$$\begin{aligned} l &= \text{stroke length} + L1 \\ &= 1,500 \text{ mm} + 200 \text{ mm} \\ &= 1,700 \text{ mm} \end{aligned}$$

According to the graph, the max. support span for the drive DGC-N-25 with a force of 300 N is 1,300 mm.

In this example, profile mountings are required as the max. support span (1,300 mm) is smaller than the overall length of the drive (1,700 mm).

## Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

Technical data

**FESTO**

### Central lubrication system

The lubrication adapter enables the guide of the linear drive DGC-N-KF to be permanently lubricated in applications in humid or wet ambient conditions using semi or fully automatic relubrication devices.

- For piston  $\varnothing$  25, 32, 40, 63
- The modules are suitable for oils and greases
- The dimensions of the linear drive DGC-N-KF are the same with and without central lubrication modules
- Both lubrication adapters must be connected
- There are three connection options on each side
- Can be used in combination with:
  - Standard slide GK
  - Additional slide KL, KR
- Cannot be used in combination with:
  - Protected recirculating ball bearing guide GP

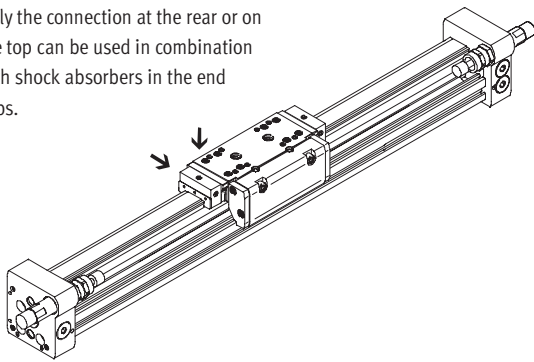
Slide dimensions

→ 60

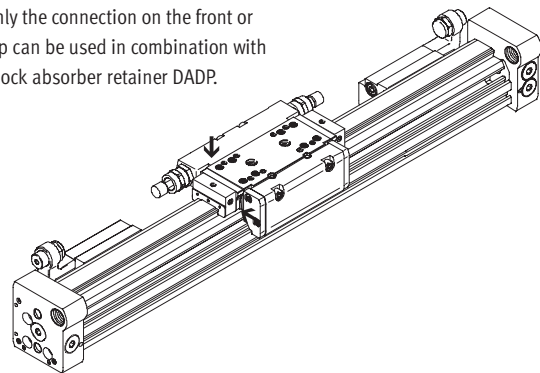
Order code C in the modular product system → 65

### Connection options

Only the connection at the rear or on the top can be used in combination with shock absorbers in the end caps.

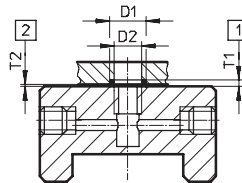


Only the connection on the front or top can be used in combination with shock absorber retainer DADP.



### Connection option for customer design

The drawing opposite shows the connection option on the top lubrication interface using a customer design.



D1 8<sup>+0.2</sup> mm

D2 6 mm

T1 0.6<sup>-0.05</sup> mm

T2 0.1<sup>+0.2</sup> mm

O-ring  $\varnothing$  6x1 mm (DIN 3771)

1 Slot depth for O-ring

2 Required air gap

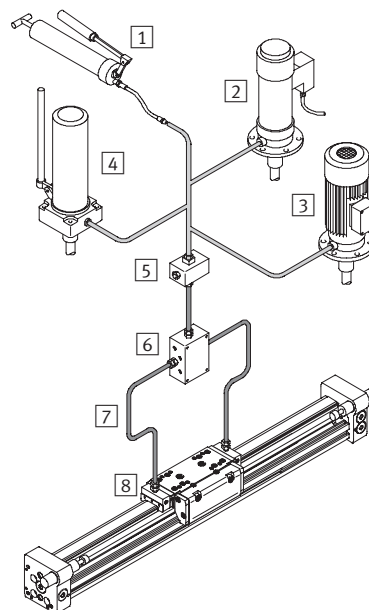
Additional dimensions → 60

### Structure of a central lubrication system

A central lubrication system requires various additional components. The illustration shows different options (using a hand pump, pneumatic container pump or electric container pump) required as a minimum for designing a central lubrication system. Festo does not sell these additional components, however they can be obtained from the following companies:

- Lincoln
- Bilomatik
- SKF (Vogel)

Festo recommends these companies because they can supply all the necessary components.



- 1 Hand pump
- 2 Pneumatic container pump
- 3 Electric container pump
- 4 Manually operated container pump
- 5 Nipple block
- 6 Distributor block
- 7 Tubing or piping
- 8 Fittings

# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

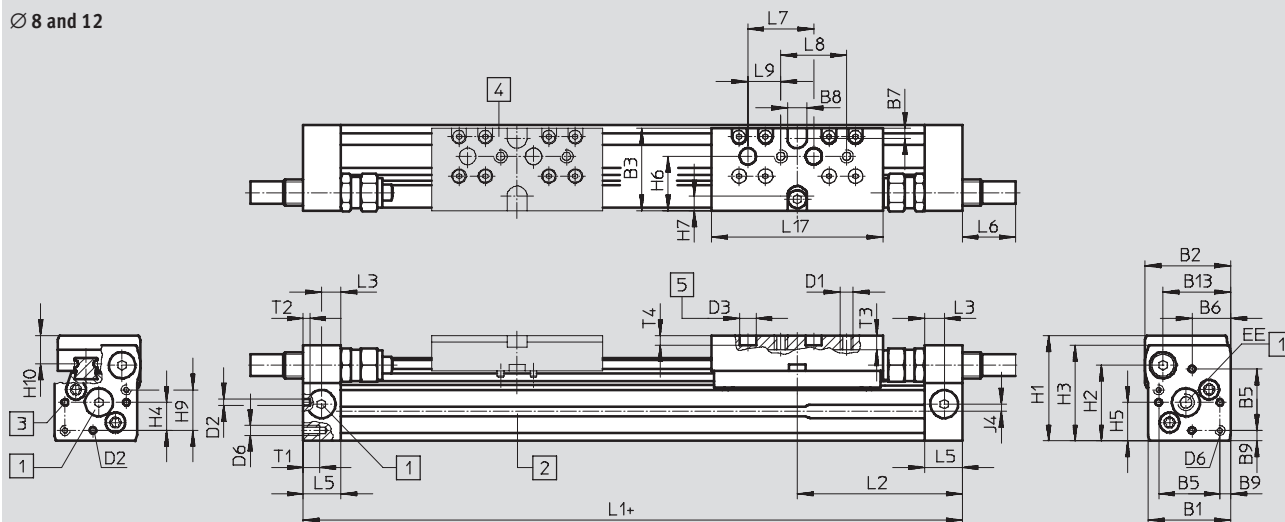
Technical data

FESTO

## Dimensions

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

Ø 8 and 12



+ plus stroke length

- 1 Supply port  
options on 3 sides
- 2 Sensor slot for proximity  
sensor
- 3 Mounting hole for foot  
mounting or centring pin
- 4 Additional slide KL
- 5 Hole for centring pin ZBS

# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

FESTO

Technical data

| Ø    | B1   | B2 | B3 | B5   | B6   | B7 | B8    | B9   | B13  | D1 | D2<br>Ø<br>H8 | D3<br>Ø<br>H7 | D6 |
|------|------|----|----|------|------|----|-------|------|------|----|---------------|---------------|----|
| [mm] |      |    |    |      |      |    | ±0.05 | ±0.1 |      |    |               |               |    |
| 8    | 25   | 26 | 25 | 18.6 | 11.7 | 3  | 6     | 3.2  | 20.5 | M4 | 2             | 5             | M3 |
| 12   | 30.2 | 31 | 31 | 20.6 | 13.5 | 3  | 8     | 4.8  | 25   | M4 | 2             | 5             | M4 |

| Ø    | EE <sup>1)</sup> | H1   | H2   | H3   | H4  | H5   | H6   | H7  | H9   | H10 | J4  | L1  | L2   |
|------|------------------|------|------|------|-----|------|------|-----|------|-----|-----|-----|------|
| [mm] |                  |      |      |      |     |      |      |     |      |     |     |     |      |
| 8    | M5               | 32   | 23   | 29   | 8.5 | 11.7 | 16.5 | 4.5 | 12.3 | 8.7 | 2.2 | 100 | 50.1 |
| 12   | M5               | 37.5 | 28.5 | 34.5 | 8.7 | 13.5 | 20.5 | 5   | 14.7 | 9.8 | 3   | 125 | 62.1 |

| Ø    | L3 | L5   | L6 |      |      | L7    | L8   | L9   | L17 | T1 | T2 | T3  | T4   | Stroke tolerance |
|------|----|------|----|------|------|-------|------|------|-----|----|----|-----|------|------------------|
| [mm] |    |      | P  | YSR  | YSRW | ±0.03 | ±0.1 | ±0.1 |     |    |    |     | +0.2 |                  |
| 8    | 6  | 11.5 | 0  | 16   | 16.2 | 20    | 20   | 10   | 52  | 5  | 2  | 4.3 | 3    | 0 ... 1.7        |
| 12   | 8  | 16   | 0  | 11.3 | 12.3 | 20    | 20   | 10   | 65  | 6  | 2  | 5   | 3    |                  |

1) Suitable for 10-32 UNF



# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

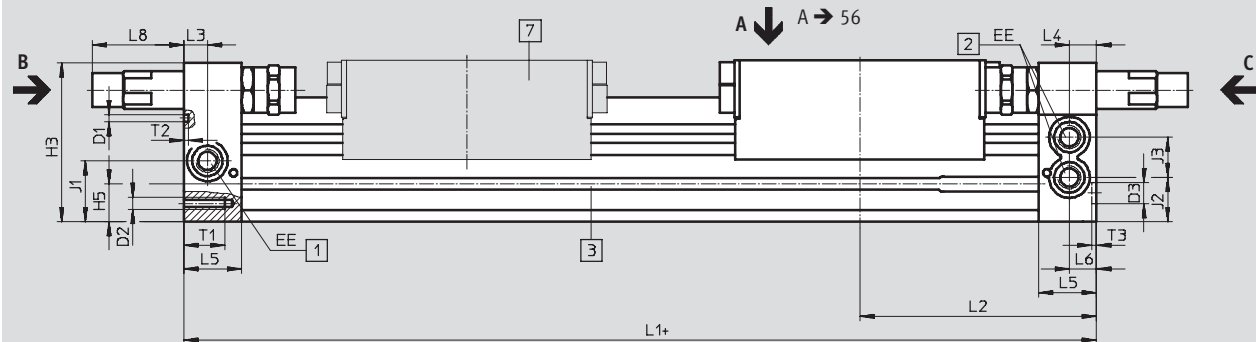
FESTO

Technical data

## Dimensions

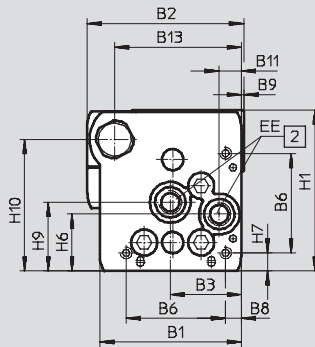
Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Ø 18 ... 40



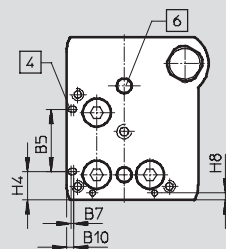
View C

Ø 18 ... 40

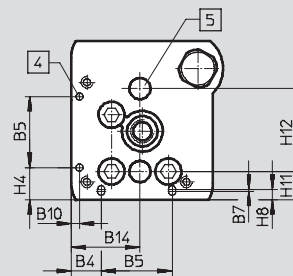


View B

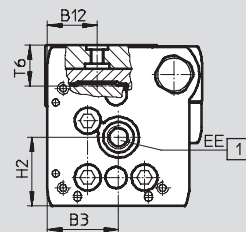
Ø 18



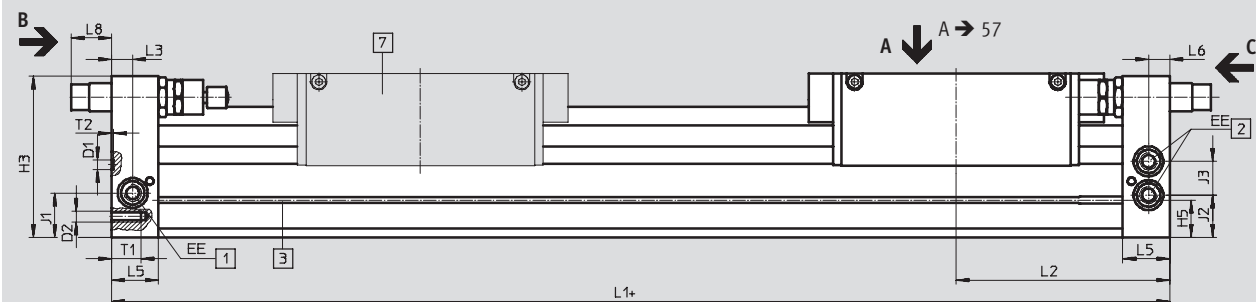
Ø 25 ... 40



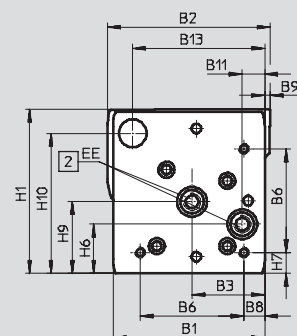
Ø 18 ... 40



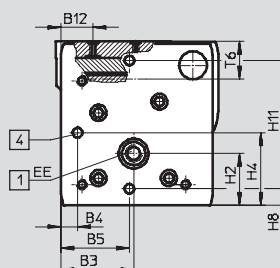
Ø 50/63



View C



View B



+ plus stroke length

- 1 Supply port options on 2 sides
- 2 Supply port options on 2 sides, for supply port at one end only
- 3 Sensor slot for proximity sensor
- 4 Mounting hole for foot mounting HPC
- 5 Hole for centring sleeve ZBH
- 6 Hole for centring pin ZBS
- 7 Additional slide

# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

FESTO

Technical data

| Ø<br>[mm] | B1   | B2    | B3   | B4    | B5<br>±0.05 | B6   | B7  | B8   | B9  | B10 | B11  | B12  |
|-----------|------|-------|------|-------|-------------|------|-----|------|-----|-----|------|------|
| 18        | 44.5 | 49.9  | 19.5 | 8.8   | 21          | 31   | 0.8 | 3.8  | 1   | 2.4 | 5.5  | 15.5 |
| 25        | 59.8 | 66    | 30   | 12.65 | 30          | 42   | 1   | 6.65 | 1   | 3.5 | 9.3  | 21   |
| 32        | 73   | 79    | 38.5 | 5.7   | 63.1        | 57.5 | –   | 8.5  | 1.5 | 14  | 14.9 | 18   |
| 40        | 91   | 98.5  | 45   | 17.2  | 55          | 65   | –   | 12.2 | 2   | 8   | 16.5 | 24.8 |
| 50        | 113  | 126.5 | 60   | 8     | 52.8        | 81.6 | –   | 12   | –   | –   | 21   | 24   |
| 63        | 142  | 149   | 68   | 15.5  | 68          | 97   | –   | 19.5 | 5   | –   | 21   | 30   |

| Ø<br>[mm] | B13   | B14  | D1<br>Ø | D2  | D3<br>Ø<br>H7 | EE               | H1    | H2   | H3    | H4<br>±0.2 | H5   | H6   |
|-----------|-------|------|---------|-----|---------------|------------------|-------|------|-------|------------|------|------|
| 18        | 39    | 19.5 | 2±0.05  | M4  | 5             | M5 <sup>1)</sup> | 56.3  | 23.1 | 55    | 9.6        | 13.4 | 20   |
| 25        | 53    | 29   | 3±0.05  | M5  | 9             | 1/8 NPT          | 68    | 29   | 67    | 13.65      | 15.8 | 24   |
| 32        | 65    | 38.5 | 3±0.05  | M6  | 9             | 1/8 NPT          | 78.5  | 30   | 77    | 5.7        | 17   | 27.7 |
| 40        | 80.5  | 45   | 4±0.05  | M6  | 9             | 1/4 NPT          | 99.5  | 41.5 | 97.5  | 17.2       | 25   | 36.5 |
| 50        | 97    | –    | 9H7     | M8  | –             | 1/4 NPT          | 124.5 | 38.5 | 122.5 | 52.8       | 29.3 | 36   |
| 63        | 123.5 | –    | 9H7     | M10 | –             | 3/8 NPT          | 153.5 | 48.5 | 151   | 68         | 34.8 | 46   |

| Ø<br>[mm] | H7   | H8   | H9   | H10   | H11        | H12<br>±0.05 | J1   | J2   | J3   | L1  |       |
|-----------|------|------|------|-------|------------|--------------|------|------|------|-----|-------|
|           |      |      |      |       |            |              |      |      |      | KF  | KF-GP |
| 18        | 4.6  | 2.4  | 25.2 | 46    | 8.5±0.15   | 30           | 20   | 16.5 | 11   | 150 | 157   |
| 25        | 7.65 | 4.5  | 29   | 55.5  | 12±0.15    | 35           | 26.1 | 18.6 | 17   | 200 | 205   |
| 32        | 8.5  | 14   | 35.2 | 63.8  | 11.45±0.15 | 50           | 30   | 22   | 18.5 | 250 | 250   |
| 40        | 12.2 | 8    | 44   | 81.5  | 15±0.15    | 60           | 35   | 26   | 26   | 300 | 312   |
| 50        | 12   | 8    | 53   | 104.5 | 100±0.05   | –            | 30.5 | 30.5 | 28   | 350 | –     |
| 63        | 19.5 | 15.5 | 67   | 131   | 120±0.05   | –            | 41.5 | 39.5 | 31.5 | 400 | –     |

| Ø<br>[mm] | L2    |       | L3   | L4   | L5   | L6   | L8  |      |      | T1   | T2                  | T3                  | T6    | Stroke tolerance |
|-----------|-------|-------|------|------|------|------|-----|------|------|------|---------------------|---------------------|-------|------------------|
|           | KF    | KF-GP |      |      |      |      | PPV | YSR  | YSRW |      |                     |                     |       |                  |
| 18        | 74.5  | 78    | 5.7  | 5.8  | 15   | 5.5  | 0   | 29.9 | 32.4 | 9    | 2                   | 3.1 <sup>+0.2</sup> | 15    | 0 ... 2.5        |
| 25        | 100   | 102.5 | 10.5 | 10.6 | 24.5 | 10.6 | 0   | 35.6 | 38.6 | 17.5 | 2                   | 2.1 <sup>+0.2</sup> | 17.3  |                  |
| 32        | 124.8 | 124.8 | 14.5 | 14.5 | 30.5 | 14.5 | 0   | 19.5 | 28   | 15   | 2                   | 2.1 <sup>+0.2</sup> | 20    |                  |
| 40        | 150   | 156   | 14.6 | 14.6 | 33.5 | 14.6 | 0   | 38.5 | 43.5 | 20   | 3                   | 2.1 <sup>+0.2</sup> | 25.7  |                  |
| 50        | 175   | –     | 17   | –    | 41   | 17   | 0   | 31   | 36.3 | 24   | 2.1 <sup>+0.2</sup> | –                   | 28.75 |                  |
| 63        | 200   | –     | 20   | –    | 44   | 20   | 0   | 38.3 | 48.3 | 27.5 | 2.1 <sup>+0.2</sup> | –                   | 36.1  |                  |

1) Suitable for 10-32 UNF

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

# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

FESTO

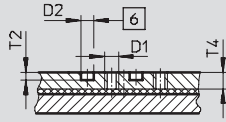
Technical data

## Dimensions

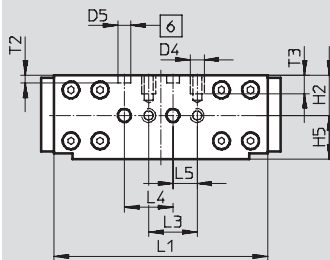
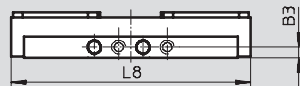
Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

### Slide

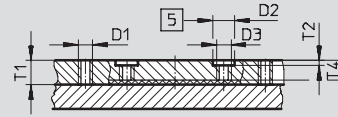
Ø 18



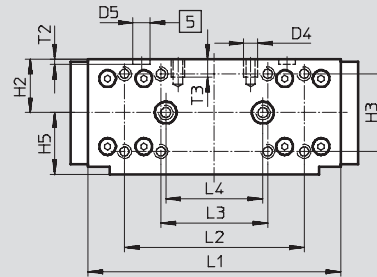
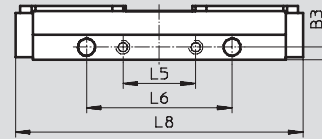
View A



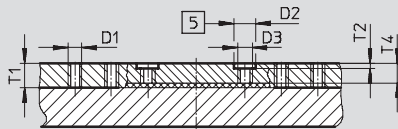
Ø 25



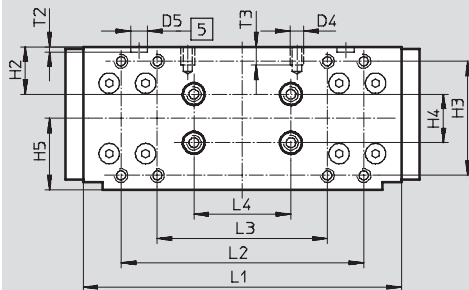
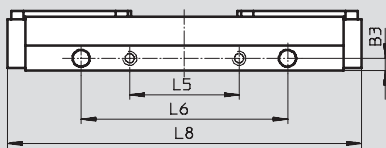
View A



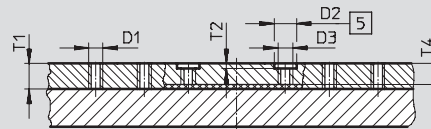
Ø 32



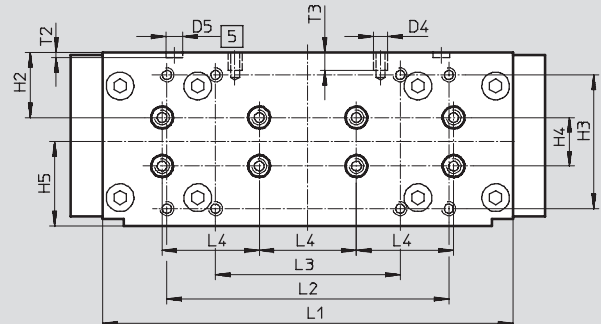
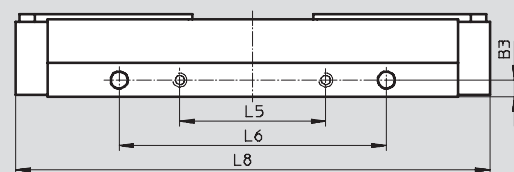
View A



Ø 40



View A



- 5 Hole for centring sleeve ZBH
- 6 Hole for centring pin ZBS

# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

Technical data

**FESTO**

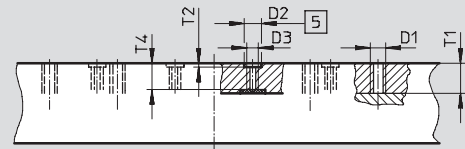
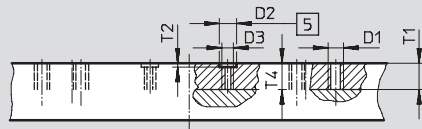
## Dimensions

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

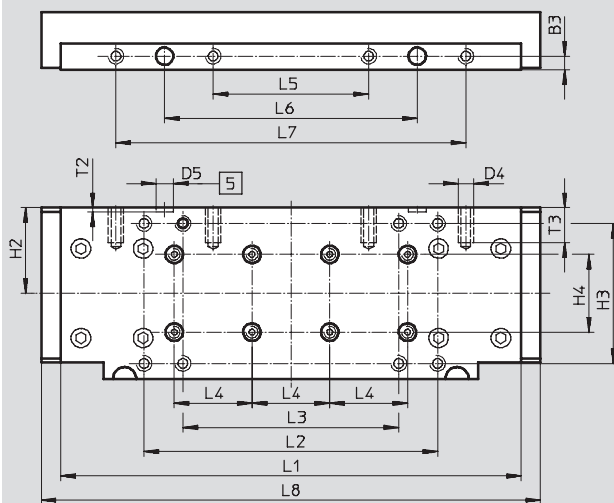
Slide

Ø 50

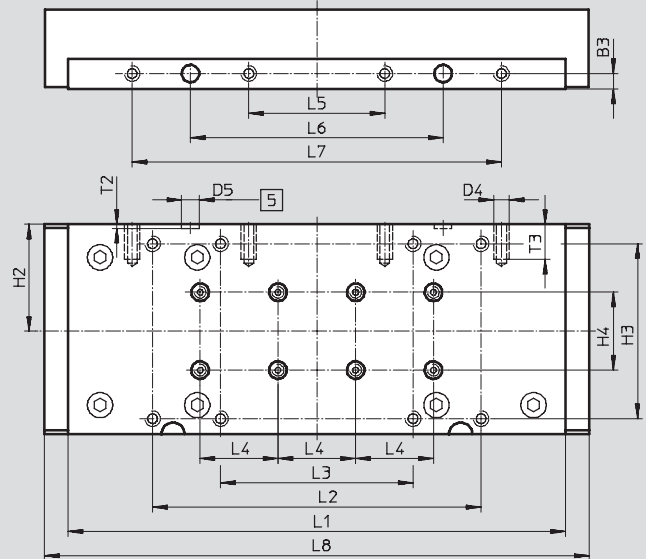
Ø 63



View A



View A



- 5 Hole for centring sleeve ZBH
- 6 Hole for centring pin ZBS

| Ø    | B3    | D1 | D2<br>Ø<br>H7 | D3 | D4 | D5<br>Ø<br>H7 | H2   | H3     | H4<br>±0.03 | H5<br>±0.1 | L1      |
|------|-------|----|---------------|----|----|---------------|------|--------|-------------|------------|---------|
| [mm] | ±0.05 |    |               |    |    |               |      |        |             |            |         |
| 18   | 4.5   | M5 | 5             | –  | M5 | 5             | 16.5 | –      | –           | 18         | 88±0.1  |
| 25   | 5     | M5 | 9             | M6 | M5 | 7             | 22   | 32±0.2 | –           | 25.5       | 104±0.2 |
| 32   | 5     | M5 | 9             | M6 | M5 | 7             | 19.5 | 47±0.2 | 20          | 29.5       | 131±0.2 |
| 40   | 7     | M5 | 9             | M6 | M6 | 7             | 26.8 | 55±0.2 | 20          | 34.7       | 169±0.2 |
| 50   | 7     | M8 | 9             | M6 | M8 | 9             | 44   | 72±0.3 | 40          | –          | 237±0.1 |
| 63   | 8     | M8 | 9             | M6 | M8 | 9             | 55   | 90±0.3 | 40          | –          | 256±0.1 |

| Ø    | L2  | L3      | L4<br>±0.03 | L5<br>±0.1 | L6<br>±0.05 | L7<br>±0.1 | L8    | T1   | T2      | T3  | T4   |
|------|-----|---------|-------------|------------|-------------|------------|-------|------|---------|-----|------|
| [mm] |     |         |             |            |             |            |       |      |         |     |      |
| 18   | –   | 20±0.1  | 20          | 10         | –           | –          | 99    | –    | 3.1±0.1 | 7.5 | 6.7  |
| 25   | 74  | 44±0.2  | 40          | 30         | 60          | –          | 118.5 | 10   | 2.1±0.2 | 7.5 | 8    |
| 32   | 100 | 70±0.2  | 40          | 45         | 85          | –          | 145.7 | 10   | 2.1±0.2 | 7.5 | 8    |
| 40   | 116 | 76±0.2  | 40          | 60         | 110         | –          | 195.4 | 10.5 | 2.1±0.2 | 7.5 | 8.5  |
| 50   | 151 | 111±0.2 | 40          | 80         | 130         | 180        | 256.8 | 13.5 | 2.1±0.2 | 18  | 13.5 |
| 63   | 169 | 99±0.2  | 40          | 70         | 130         | 190        | 280   | 15.5 | 2.1±0.2 | 18  | 13.6 |

# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

Technical data

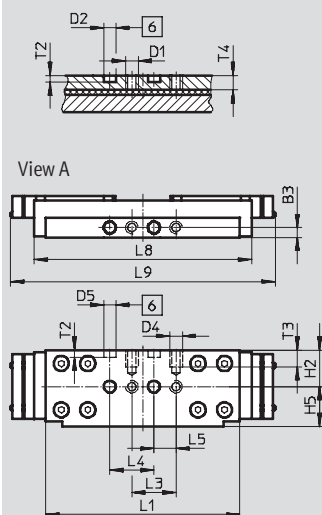
FESTO

## Dimensions

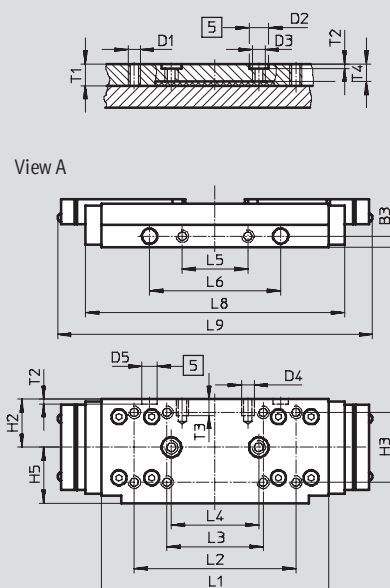
Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Slide, variant GP – Protected recirculating ball bearing guide

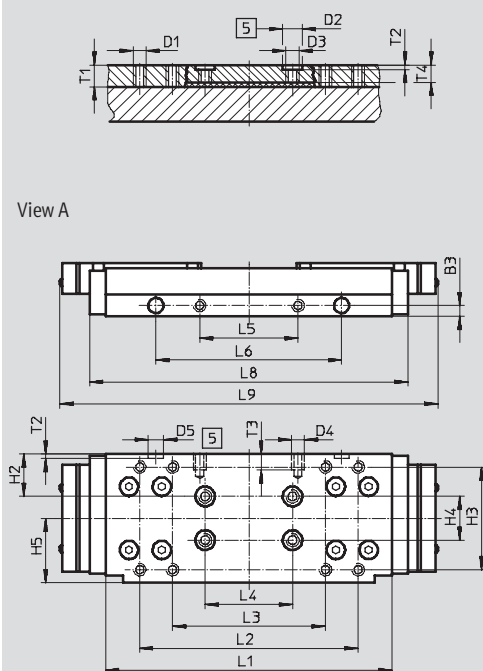
Ø 18



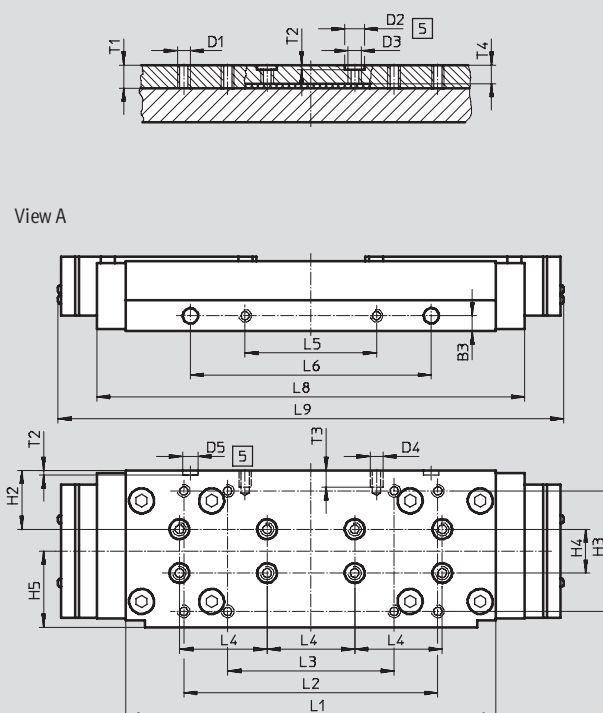
Ø 25



Ø 32



Ø 40



5 Hole for centring sleeve ZBH

6 Hole for centring pin ZBS

## Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

**FESTO**

Technical data

| Ø<br>[mm] | B3<br>±0.05 | D1 | D2<br>Ø<br>H7 | D3 | D4 | D5<br>Ø<br>H7 | H2   | H3     |
|-----------|-------------|----|---------------|----|----|---------------|------|--------|
| 18        | 4.5         | M5 | 5             | –  | M5 | 5             | 16.5 | –      |
| 25        | 5           | M5 | 9             | M6 | M5 | 7             | 22   | 32±0.2 |
| 32        | 5           | M5 | 9             | M6 | M5 | 7             | 19.5 | 47±0.2 |
| 40        | 7           | M5 | 9             | M6 | M6 | 7             | 26.8 | 55±0.2 |

| Ø<br>[mm] | H4<br>±0.03 | H5<br>±0.1 | L1      | L2<br>±0.2 | L3     | L4<br>±0.03 | L5<br>±0.1 | L6<br>±0.05 |
|-----------|-------------|------------|---------|------------|--------|-------------|------------|-------------|
| 18        | –           | 18         | 88±0.1  | –          | 20±0.1 | 20          | 10         | –           |
| 25        | –           | 25.5       | 104±0.2 | 74         | 44±0.2 | 40          | 30         | 60          |
| 32        | 20          | 29.5       | 131±0.2 | 100        | 70±0.2 | 40          | 45         | 85          |
| 40        | 20          | 34.7       | 169±0.2 | 116        | 76±0.2 | 40          | 60         | 110         |

| Ø<br>[mm] | L7<br>±0.1 | L8    | L9  | T1   | T2      | T3  | T4  |
|-----------|------------|-------|-----|------|---------|-----|-----|
| 18        | –          | 99    | 120 | –    | 3.1±0.1 | 7.5 | 6.7 |
| 25        | –          | 118.5 | 144 | 10   | 2.1±0.2 | 7.5 | 8   |
| 32        | –          | 145.7 | 173 | 10   | 2.1±0.2 | 7.5 | 8   |
| 40        | –          | 195.4 | 231 | 10.5 | 2.1±0.2 | 7.5 | 8.5 |

## Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

Technical data

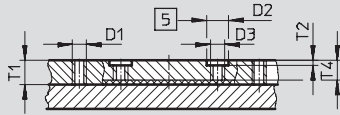
**FESTO**

### Dimensions

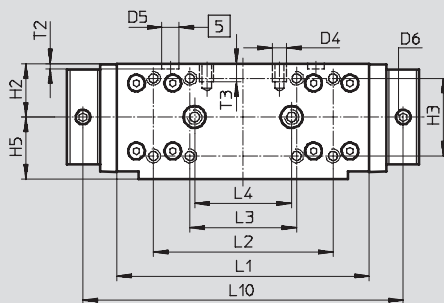
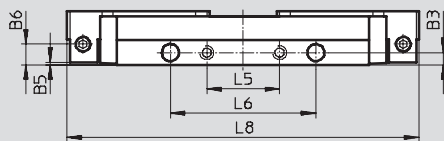
Download CAD Data → [www.festo.com/us/cad](http://www.festo.com/us/cad)

Slide, variant C – Lubrication adapter

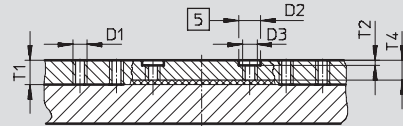
Ø 25



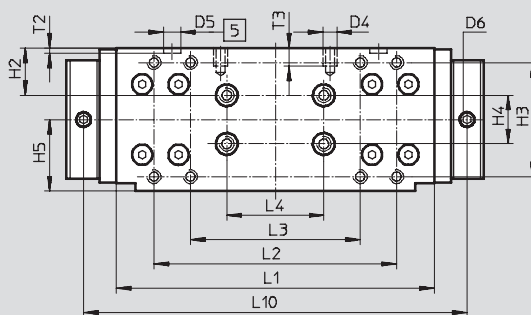
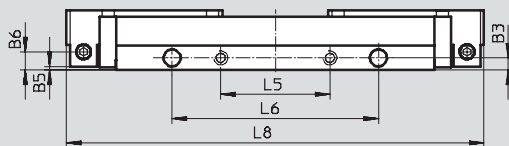
View A



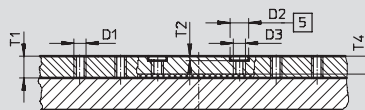
Ø 32



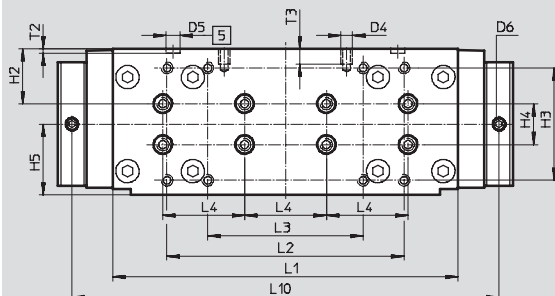
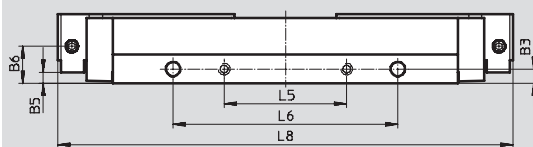
View A



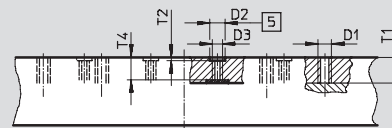
Ø 40



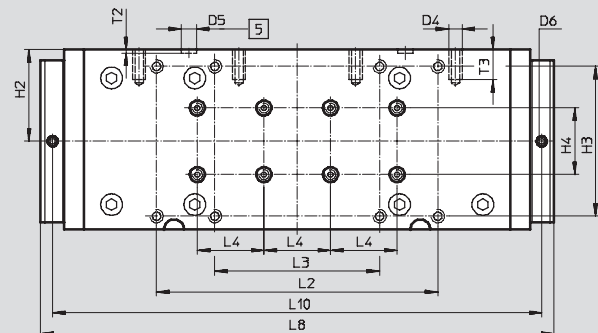
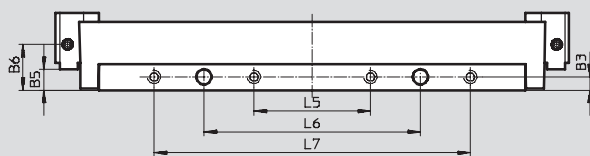
View A



Ø 63



View A



[5] Hole for centring sleeve ZBH

## Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

**FESTO**

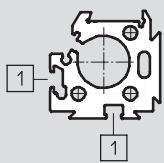
Technical data

| Ø<br>[mm] | B3<br>±0.05 | B5<br>±0.05 | B6   | D1 | D2<br>Ø<br>H7 | D3 | D4 | D5<br>Ø<br>H7 | D6   | H2   | H3     | H4<br>±0.03 | H5<br>±0.1 |
|-----------|-------------|-------------|------|----|---------------|----|----|---------------|------|------|--------|-------------|------------|
| 25        | 5           | 1           | 8.5  | M5 | 9             | M6 | M5 | 7             | M6x1 | 22   | 32±0.2 | –           | 25.5       |
| 32        | 5           | 1.5         | 7.5  | M5 | 9             | M6 | M5 | 7             | M6x1 | 19.5 | 47±0.2 | 20          | 29.5       |
| 40        | 7           | 18.2        | 18.2 | M5 | 9             | M6 | M6 | 7             | M6x1 | 26.8 | 55±0.2 | 20          | 34.7       |
| 63        | 8           | 12.5        | 27.5 | M8 | 9             | M6 | M8 | 9             | M6x1 | 55   | 90±0.3 | 40          | –          |

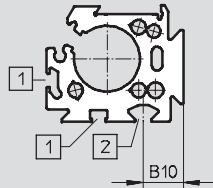
| Ø<br>[mm] | L1      | L2<br>±0.2 | L3<br>±0.2 | L4<br>±0.03 | L5<br>±0.1 | L6<br>±0.05 | L7<br>±0.1 | L8    | L10   | T1   | T2<br>±0.2 | T3  | T4   |
|-----------|---------|------------|------------|-------------|------------|-------------|------------|-------|-------|------|------------|-----|------|
| 25        | 104±0.2 | 74         | 44         | 40          | 30         | 60          | –          | 145   | 132   | 10   | 2.1        | 7.5 | 8    |
| 32        | 131±0.2 | 100        | 70         | 40          | 45         | 85          | –          | 172   | 158   | 10   | 2.1        | 7.5 | 8    |
| 40        | 169±0.2 | 116        | 76         | 40          | 60         | 110         | –          | 223   | 209   | 10.5 | 2.1        | 7.5 | 8.5  |
| 63        | 256±0.1 | 169        | 99         | 40          | 70         | 130         | 190        | 308.4 | 293.8 | 15.5 | 2.1        | 18  | 13.6 |

### Profile barrel

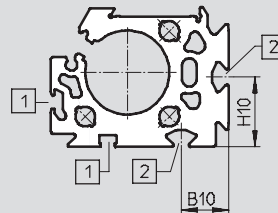
Ø 18



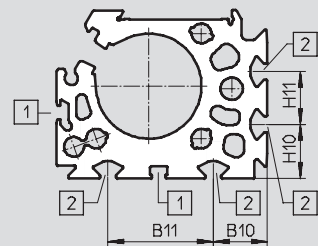
Ø 25



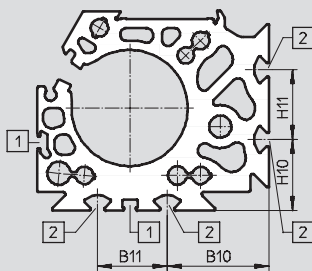
Ø 32



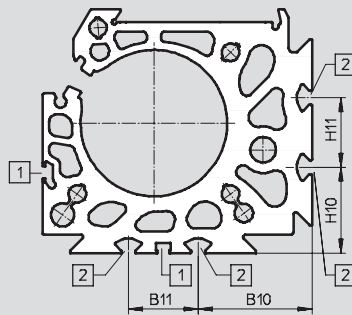
Ø 40



Ø 50



Ø 63



- 1 Sensor slot for proximity sensor
- 2 Mounting slot for slot nut

| Ø<br>[mm] | B10   | B11 | H10  | H11 |
|-----------|-------|-----|------|-----|
| 25        | 15.23 | –   | –    | –   |
| 32        | 18    | –   | 26.5 | –   |
| 40        | 20.5  | 40  | 20.5 | 20  |
| 50        | 43.8  | 30  | 30.5 | 30  |
| 63        | 49    | 30  | 37   | 30  |

# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

FESTO

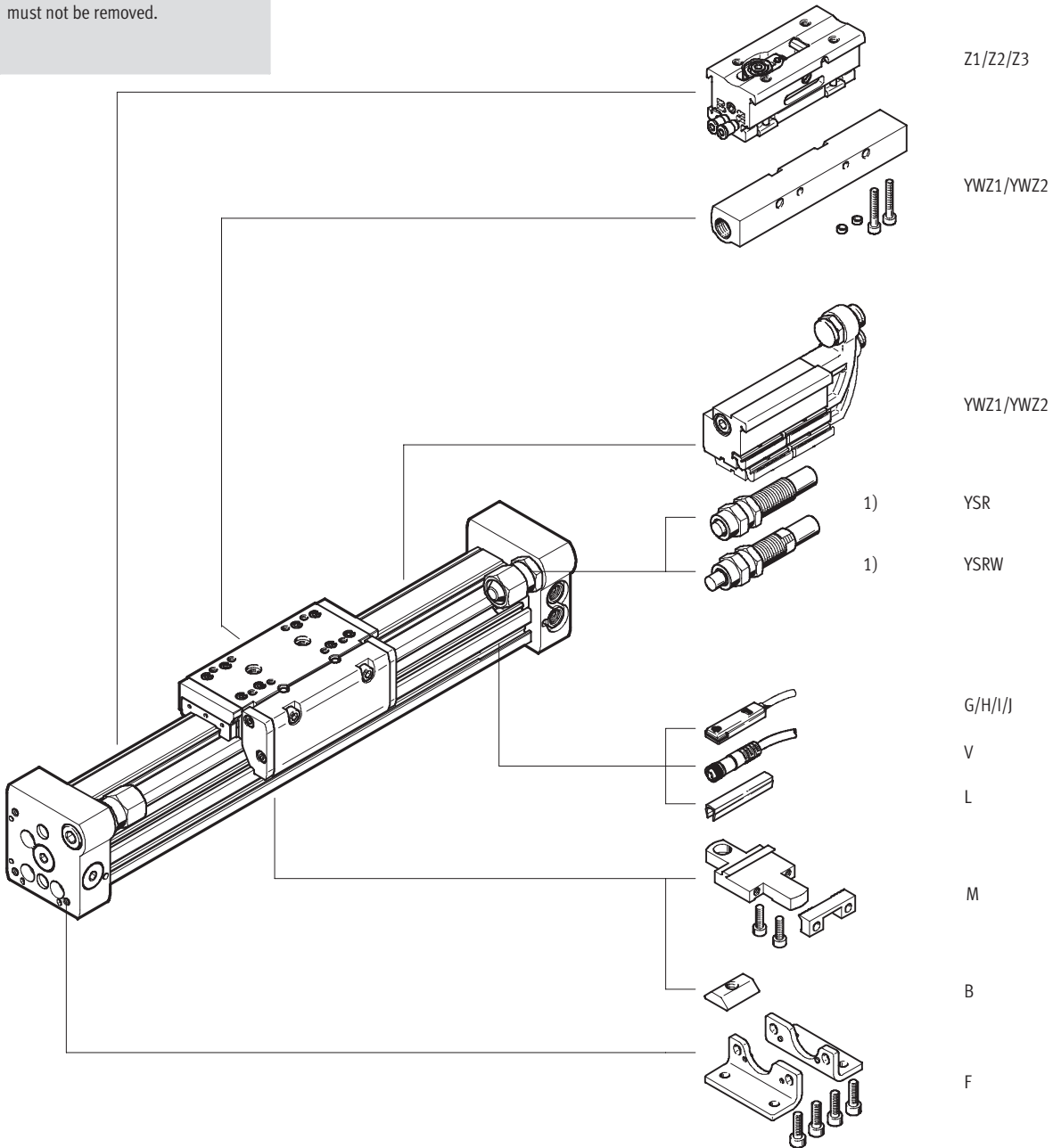
Ordering data – Modular products

## Order code

Mandatory data/options

### Note

1) End stops or shock absorbers must not be removed.



# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

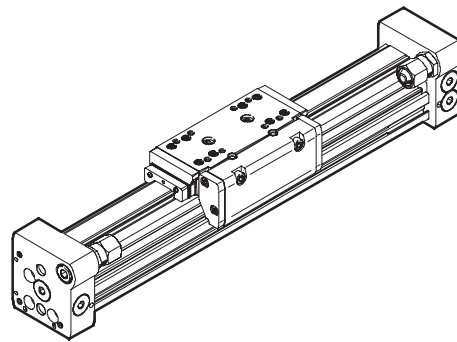
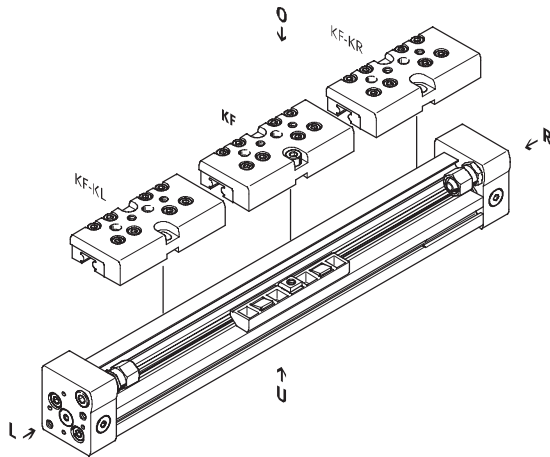
FESTO

Ordering data – Modular products

## Order code

KL/KR – With additional slide

GP – With protected recirculating ball bearing guide



## Effective stroke reduction when ordering an additional slide KL or KR

With a guide axis DGC with additional slide, the effective stroke is reduced

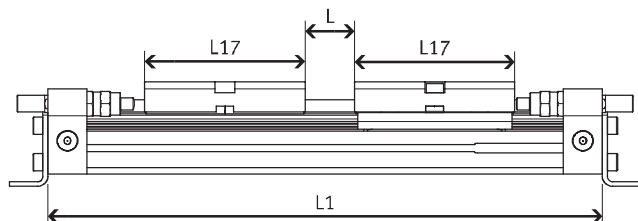
by the length of the additional slide and the distance between both slides.

Given:

DGC-N-12-500-...

L = 20 mm

L17 = 65 mm



| Ø<br>[mm] | 8  | 12 | 18 | 25    | 32    | 40    | 50    | 63  |
|-----------|----|----|----|-------|-------|-------|-------|-----|
| L17       | 52 | 65 | 99 | 118.5 | 145.7 | 195.4 | 256.8 | 280 |

The effective stroke is reduced to

415 mm = 500 mm – 20 mm – 65 mm

# Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

FESTO

Ordering data – Modular products

| Ordering table |                  |                                             |                |                                               |             |         |         |             |         |            |       |            |
|----------------|------------------|---------------------------------------------|----------------|-----------------------------------------------|-------------|---------|---------|-------------|---------|------------|-------|------------|
| Size           |                  | 8                                           | 12             | 18                                            | 25          | 32      | 40      | 50          | 63      | Conditions | Code  | Enter code |
| [M]            | Module No.       | 530 906                                     | 530 907        | 532 446                                       | 532 447     | 532 448 | 532 449 | 532 450     | 532 451 |            |       |            |
|                | Function         | Linear drive                                |                |                                               |             |         |         |             |         |            | DGC   | DGC        |
|                | Thread           | NPT thread                                  |                |                                               |             |         |         |             |         |            | -N    | -N         |
|                | Piston Ø [mm]    | 8                                           | 12             | 18                                            | 25          | 32      | 40      | 50          | 63      |            | -...  |            |
|                | Stroke [mm]      | 1 ...<br>1,300                              | 1 ...<br>1,900 | 1 ...<br>3,000                                | 1 ... 8,500 |         |         | 1 ... 5,000 |         |            | -...  |            |
|                | Guide            | Recirculating ball bearing guide            |                |                                               |             |         |         |             |         |            | -KF   | -KF        |
|                | Cushioning       | Elastic cushioning rings/pads at both ends  |                |                                               |             |         |         |             |         |            | -P    |            |
|                |                  |                                             |                | Pneumatic cushioning, adjustable at both ends |             |         |         |             |         |            | -PPV  |            |
|                |                  | Shock absorber, self-adjusting              |                |                                               |             |         |         |             |         |            | -YSR  |            |
|                |                  | Shock absorber, self-adjusting, progressive |                |                                               |             |         |         |             |         |            | -YSRW |            |
| ↓              | Position sensing | Via proximity sensor                        |                |                                               |             |         |         |             |         |            | -A    | -A         |

Transfer order code

**DGC**  - **N**  -  -  - **KF**  -  - **A**  -

## Linear drives DGC-N-KF, with recirculating ball bearing guide, NPT

**FESTO**

Ordering data – Modular products

| Ordering table |                                                                               |                                          |         |                                            |                          |    |    |    |                     |            |      |            |  |  |
|----------------|-------------------------------------------------------------------------------|------------------------------------------|---------|--------------------------------------------|--------------------------|----|----|----|---------------------|------------|------|------------|--|--|
| Size           |                                                                               | 8                                        | 12      | 18                                         | 25                       | 32 | 40 | 50 | 63                  | Conditions | Code | Enter code |  |  |
| 0              | Slide                                                                         | –                                        | –       | Protected recirculating ball bearing guide |                          |    | –  | –  | 1                   | -GP        |      |            |  |  |
|                | Lubrication function                                                          | Standard                                 |         |                                            |                          |    |    |    |                     |            |      |            |  |  |
|                |                                                                               | –                                        | –       | –                                          | Lubrication adapter      |    |    | –  | Lubrication adapter | 5          | -C   |            |  |  |
|                | Additional slide on left                                                      | Additional slide, standard, on left      |         |                                            |                          |    |    |    |                     | 2          | -KL  |            |  |  |
|                | Additional slide on right                                                     | Additional slide, standard, on right     |         |                                            |                          |    |    |    |                     | 2          | -KR  |            |  |  |
|                | Accessories                                                                   | Enclosed separately (can be retrofitted) |         |                                            |                          |    |    |    |                     |            | ZUB- | ZUB-       |  |  |
|                | Foot mounting                                                                 | 1                                        |         |                                            |                          |    |    |    |                     |            | F    |            |  |  |
|                | Profile mounting                                                              | 1 ... 9                                  |         |                                            |                          |    |    |    |                     |            | ...M |            |  |  |
|                | Slot nut for mounting slot                                                    | –                                        | –       | –                                          | 1 ... 9                  |    |    |    | ...B                |            |      |            |  |  |
|                | Proximity sensor                                                              | Cable, 2.5 m                             | 1 ... 9 |                                            |                          |    |    |    |                     |            |      | ...G       |  |  |
|                |                                                                               | Plug M8                                  | 1 ... 9 |                                            |                          |    |    |    |                     |            |      | ...H       |  |  |
|                | Proximity sensor, contactless, PNP                                            | Cable, 2.5 m                             | 1 ... 9 |                                            |                          |    |    |    |                     |            |      | ...I       |  |  |
|                |                                                                               | Plug M8                                  | 1 ... 9 |                                            |                          |    |    |    |                     |            |      | ...J       |  |  |
|                | Connecting cable                                                              | M8, 2.5 m                                | 1 ... 9 |                                            |                          |    |    |    |                     |            |      | ...V       |  |  |
|                | Slot cover for sensor slot                                                    | –                                        | –       | 1 ... 9                                    |                          |    |    |    |                     | ...L       |      |            |  |  |
|                | Mechanical end-position limiter                                               | –                                        | –       | Variable end position, at one end          |                          |    |    |    |                     | 3          | YWZ1 |            |  |  |
|                |                                                                               | –                                        | –       | Variable end position, at both ends        |                          |    |    |    |                     | 3          | YWZ2 |            |  |  |
|                | Intermediate position                                                         | –                                        | –       | –                                          | 1 intermediate position  |    |    | –  | –                   | 4          | -Z1  |            |  |  |
|                |                                                                               | –                                        | –       | –                                          | 2 intermediate positions |    |    | –  | –                   | 4          | -Z2  |            |  |  |
| –              |                                                                               | –                                        | –       | 3 intermediate positions                   |                          |    | –  | –  | 4                   | -Z3        |      |            |  |  |
| Manual         | Express waiver – no operating instructions to be included (already available) |                                          |         |                                            |                          |    |    |    |                     | -O         |      |            |  |  |

- 1 **GP** Not with cushioning YSR and YSRW
- 2 **KL, KR** Not with additional slide on left KL or additional slide on right KR  
With a linear drive DGC with additional slide, the effective stroke is reduced by the length of the additional slide and the distance between both slides  
Not with cushioning PPV
- 3 **YWZ1, YWZ2** Only with cushioning YSR or YSRW
- 4 **Z1, Z2, Z3** Only with cushioning YSR or YSRW and mechanical end-position limiter YWZ1 or YWZ2
- 5 **C** Not with slide GP

Transfer order code

–  –  –  **ZUB** –  –  –

| Ordering data – Wearing parts kits |          |           |          |          |        |
|------------------------------------|----------|-----------|----------|----------|--------|
| Piston Ø                           | Part No. | Type      | Piston Ø | Part No. | Type   |
| 8                                  | 665 335  | DGC-8-KF  | 32       | 684 488  | DGC-32 |
| 12                                 | 665 336  | DGC-12-KF | 40       | 684 489  | DGC-40 |
| 18                                 | 684 486  | DGC-18    | 50       | 719 825  | DGC-50 |
| 25                                 | 684 487  | DGC-25    | 63       | 719 826  | DGC-63 |

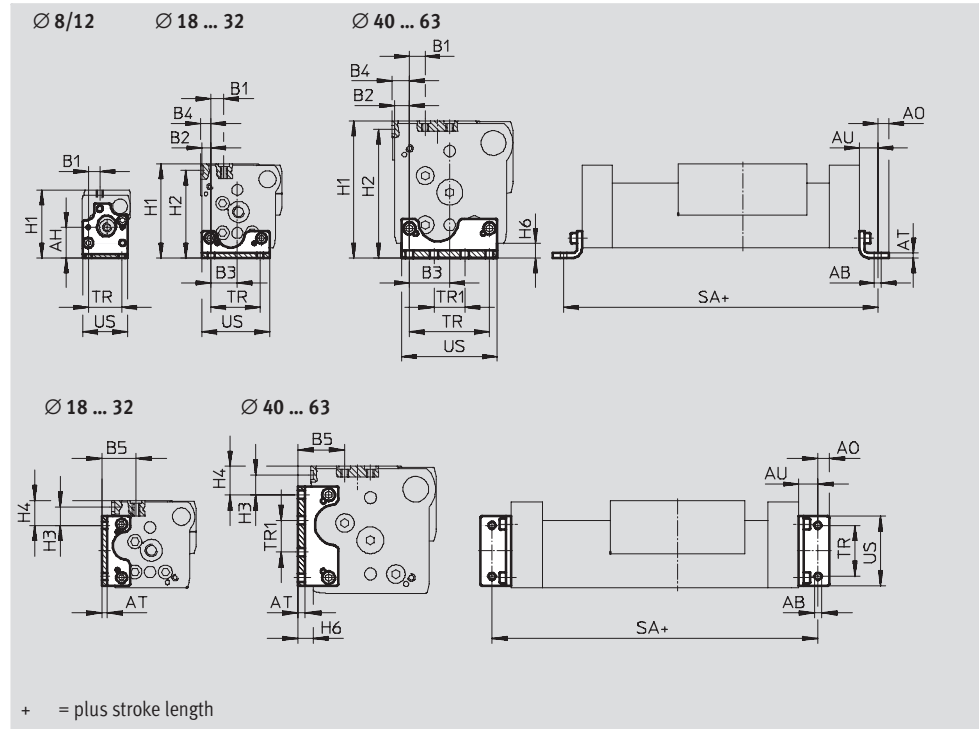
# Linear drives DGC

Accessories

FESTO

Foot mounting HPC  
(order code: F)

Material:  
Galvanised steel



| Dimensions and ordering data |     |      |      |    |       |      |       |      |       |      |      |       |       |      |       |
|------------------------------|-----|------|------|----|-------|------|-------|------|-------|------|------|-------|-------|------|-------|
| For Ø                        | AB  | AH   | A0   | AT | AU    | B1   |       | B2   | B3    | B4   |      | B5    |       | H1   |       |
| [mm]                         | Ø   |      |      |    |       | G    | GF/KF |      |       | GF   | KF   | G     | GF/KF | G    | GF/KF |
| 8                            | 3.4 | 16.7 | 3    | 2  | 9     | 6    | 6     | –    | –     | –    | –    | –     | –     | 37   | 37    |
| 12                           | 4.5 | 18.5 | 4.5  | 2  | 11.5  | 5.4  | 5.4   | –    | –     | –    | –    | –     | –     | 42.5 | 42.5  |
| 18                           | 5.5 | –    | 6.75 | 3  | 13.25 | 15   | 11.2  | 4.3  | 15.2  | –    | 5.3  | 27    | 23.2  | 57.5 | 64    |
| 25                           | 5.5 | –    | 9    | 4  | 15    | 12.5 | 13.35 | 7.65 | 21.35 | –    | 8.65 | 28.65 | 29.5  | 67   | 76.5  |
| 32                           | 6.6 | –    | 10   | 5  | 19    | 11.5 | 9     | 9    | 29.5  | –    | 10.5 | 29.5  | 27    | 82   | 87.5  |
| 40                           | 6.6 | –    | 10   | 6  | 20    | 7.6  | 12.6  | 12.2 | 32.8  | –    | 14.2 | 31.8  | 36.8  | 100  | 111.5 |
| 50                           | 9   | –    | 11   | 8  | 25    | 12.5 | 12.5  | 11.5 | 48.5  | 11.5 | 11.5 | 41    | 41    | 137  | 141.5 |
| 63                           | 11  | –    | 13.5 | 8  | 28    | 17.5 | 17.5  | 12.5 | 55.5  | 6.5  | 17.5 | 49    | 49    | 159  | 172.5 |

| For Ø | H2    | H3    | H4   |       | H6  | SA    | TR   | TR1  | US   | Weight | Part No. | Type   |
|-------|-------|-------|------|-------|-----|-------|------|------|------|--------|----------|--------|
| [mm]  | GF/KF | GF/KF | G    | GF/KF |     |       | ±0.1 | ±0.1 |      | [g]    |          |        |
| 8     | –     | –     | –    | –     | 5   | 118   | 18   | –    | 24.4 | 25     | 526 385  | HPC-8  |
| 12    | –     | –     | –    | –     | 5   | 148   | 20   | –    | 29.6 | 41     | 526 388  | HPC-12 |
| 18    | 59.5  | 16    | 14   | 21.2  | 7.7 | 176.5 | 30   | –    | 38.6 | 58     | 533 667  | HPC-18 |
| 25    | 71.5  | 14.35 | 9.85 | 19.35 | 8.5 | 230   | 40   | –    | 55   | 131    | 533 668  | HPC-25 |
| 32    | 82.5  | 8     | 7.5  | 13    | 9   | 288   | 56.5 | 19.5 | 68   | 239    | 533 669  | HPC-32 |
| 40    | 104.5 | 15.3  | 10.8 | 22.3  | 12  | 340   | 65   | 25   | 78   | 348    | 533 670  | HPC-40 |
| 50    | 134.5 | 23.4  | 25.9 | 30.4  | 17  | 400   | 82.6 | 47.4 | 102  | 754    | 545 236  | HPC-50 |
| 63    | 164.5 | 22    | 24   | 30    | 19  | 456   | 111  | 39   | 133  | 1,245  | 545 237  | HPC-63 |

# Linear drives DGC

Accessories

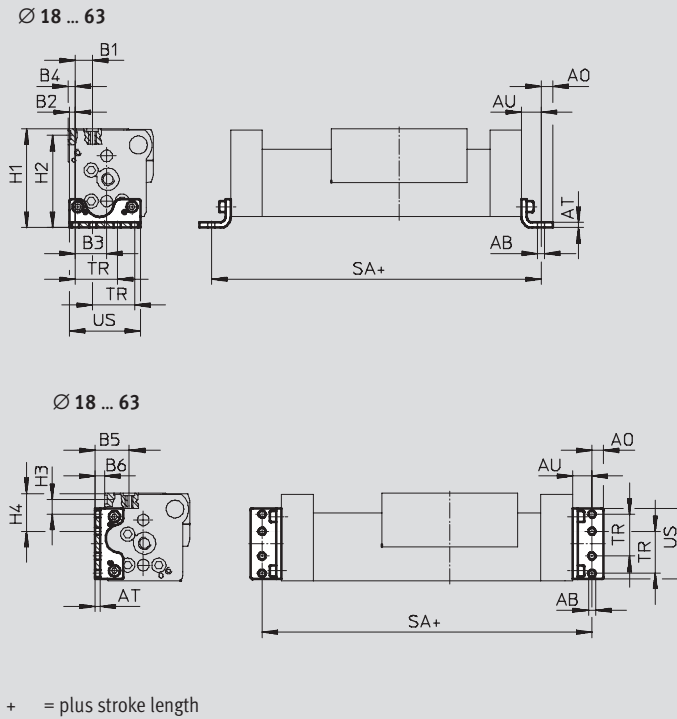
**FESTO**

## Foot mounting HPC-S

(when replacing linear drive DGPL with linear drive DGC-GF/-KF)

Material:

Galvanised steel



### Dimensions and ordering data

| For Ø | AB  | AO   | AT | AU    | B1    | B2   | B3    | B4   | B5   | B6  |
|-------|-----|------|----|-------|-------|------|-------|------|------|-----|
| [mm]  | Ø   |      |    |       |       |      |       |      |      |     |
| 18    | 5.5 | 4.75 | 3  | 13.25 | 12    | 3.5  | 15.6  | 4.5  | 24   | 7.5 |
| 25    | 5.5 | 6    | 3  | 13    | 16.25 | 4.75 | 24.25 | 5.75 | 29.5 | 7.5 |
| 32    | 6.6 | 7    | 4  | 17    | 9     | 9    | 29.5  | 10.5 | 27   | 7.5 |
| 50    | 9   | 11   | 8  | 25    | 12.5  | 11.5 | 48.5  | 11.5 | 38   | 14  |
| 63    | 11  | 13.5 | 8  | 28    | 17.5  | 12.5 | 55.5  | 17.5 | 37   | 2   |

| For Ø | H1    | H2    | H3    | H4    | SA             | TR   | US  | Weight | Part No. | Type     |
|-------|-------|-------|-------|-------|----------------|------|-----|--------|----------|----------|
| [mm]  |       |       |       |       |                | ±0.1 |     | [g]    |          |          |
| 18    | 64    | 59.5  | 15.9  | 28    | 176.5+0.9/-0.2 | 24   | 40  | 54     | 535 600  | HPC-18-S |
| 25    | 75.5  | 70.5  | 11.45 | 29.75 | 226+0.9/-0.2   | 32.5 | 55  | 89     | 535 601  | HPC-25-S |
| 32    | 87.5  | 82.5  | 8     | 31.5  | 284+0.9/-0.2   | 38   | 68  | 180    | 538 413  | HPC-32-S |
| 50    | 138.5 | 131.5 | 23.4  | 48    | 400+1.7/-0.2   | 65   | 102 | 754    | 545 238  | HPC-50-S |
| 63    | 160.5 | 152.5 | 22    | 66    | 456+1.7/-0.2   | 75   | 133 | 1,138  | 545 239  | HPC-63-S |

# Linear drives DGC

Accessories

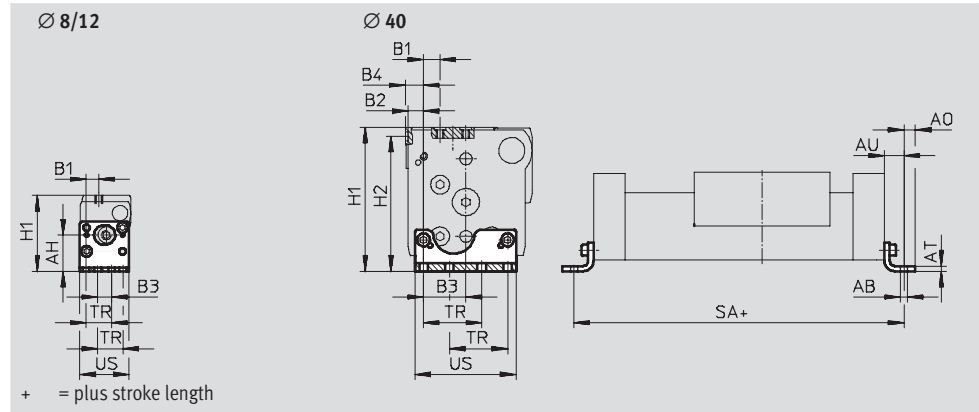
FESTO

## Foot mounting HPC-SO

(when replacing linear drive DGPL with linear drive DGC-GF/-KF)

Material:

Galvanised steel



| Dimensions and ordering data |         |      |     |    |      |      |      |      |
|------------------------------|---------|------|-----|----|------|------|------|------|
| For Ø                        | AB<br>Ø | AH   | AO  | AT | AU   | B1   | B2   | B3   |
| [mm]                         |         |      |     |    |      |      |      |      |
| 8                            | 3.4     | 18.7 | 3   | 2  | 9    | 6.5  | –    | 7    |
| 12                           | 3.4     | 23.5 | 3   | 2  | 9    | 9.3  | –    | 9.4  |
| 40                           | 6.6     | –    | 8.5 | 5  | 17.5 | 12.5 | 12.3 | 32.7 |

| For Ø | B4   | H1    | H2   | SA  | TR   | US   | Weight | Part No. | Type      |
|-------|------|-------|------|-----|------|------|--------|----------|-----------|
| [mm]  |      |       |      |     | ±0.1 |      | [g]    |          |           |
| 8     | –    | 39    | –    | 118 | 13   | 25.4 | 25     | 529 346  | HPC-8-SO  |
| 12    | –    | 47.5  | –    | 143 | 18.6 | 33.8 | 42     | 529 348  | HPC-12-SO |
| 40    | 14.3 | 104.5 | 97.5 | 335 | 45   | 78   | 264    | 536 745  | HPC-40-SO |

## Linear drives DGC

Accessories

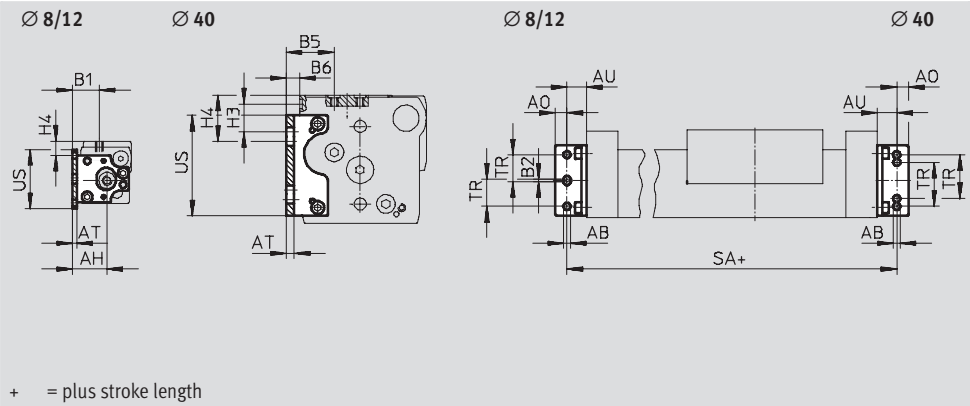
**FESTO**

### Foot mounting HPC-SH

(when replacing linear drive DGPL with linear drive DGC-GF/-KF)

Material:

Galvanised steel



| Dimensions and ordering data |         |      |     |    |      |      |     |    |
|------------------------------|---------|------|-----|----|------|------|-----|----|
| For Ø                        | AB<br>Ø | AH   | AO  | AT | AU   | B1   | B2  | B5 |
| [mm]                         |         |      |     |    |      |      |     |    |
| 8                            | 3.4     | 17.8 | 3   | 2  | 9    | 13.8 | 1.5 | –  |
| 12                           | 3.4     | 21.1 | 3   | 2  | 9    | 16.5 | 1.4 | –  |
| 40                           | 6.6     | –    | 8.5 | 5  | 17.5 | –    | –   | 36 |

| For Ø | B6  | H3   | H4   | SA  | TR   | US   | Weight | Part No. | Type      |
|-------|-----|------|------|-----|------|------|--------|----------|-----------|
| [mm]  |     |      |      |     | ±0.1 |      | [g]    |          |           |
| 8     | –   | –    | 7.25 | 118 | 13   | 30.5 | 25     | 529 347  | HPC-8-SH  |
| 12    | –   | –    | 4.5  | 143 | 18.6 | 41.8 | 41     | 529 349  | HPC-12-SH |
| 40    | 9.2 | 21.6 | 36   | 335 | 45   | 78   | 275    | 536 746  | HPC-40-SH |

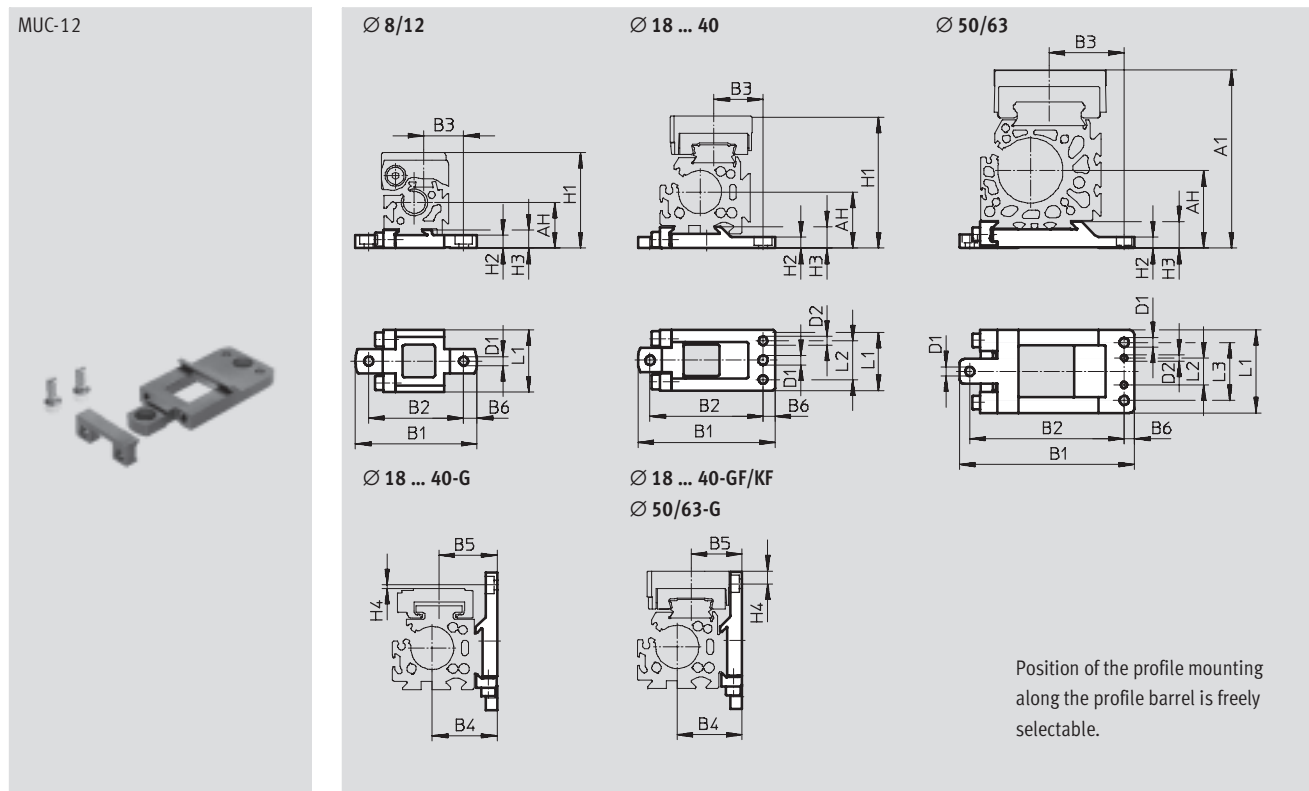
# Linear drives DGC

Accessories

FESTO

**Profile mounting MUC**  
(order code: M)

Material:  
High-alloy steel



| Dimensions and ordering data |      |           |           |       |       |      |
|------------------------------|------|-----------|-----------|-------|-------|------|
| For Ø                        | AH   | B1        | B2        | B3    |       | B4   |
| [mm]                         |      |           |           | G     | GF/KF |      |
| 8                            | 17.7 | 47        | 36.7      | 15.35 | 15.35 | –    |
| 12                           | 18.5 | 52.5      | 42.2      | 16.5  | 16.5  | –    |
| 18                           | 27.2 | 67.8±0.2  | 56±0.15   | 30.5  | 28.7  | 27.2 |
| 25                           | 32.5 | 79.5±0.2  | 65.5±0.15 | 32.5  | 28.5  | 37.5 |
| 32                           | 37.5 | 94±0.2    | 80±0.15   | 35    | 35    | 47.5 |
| 40                           | 47   | 110.5±0.2 | 96±0.15   | 43    | 43    | 57   |
| 50                           | 61   | 145±0.5   | 125±0.2   | 56    | 56    | 77   |
| 63                           | 75   | 169±0.5   | 149±0.2   | 72.5  | 72.5  | 87   |

| For Ø | B5   |       | B6  | D1<br>Ø<br>H13 | D2<br>Ø<br>H7 | H1   |       |
|-------|------|-------|-----|----------------|---------------|------|-------|
| [mm]  | G    | GF/KF |     |                |               | G    | GF/KF |
| 8     | –    | –     | 5.1 | 3.5            | –             | 37   | 37    |
| 12    | –    | –     | 5.1 | 3.5            | –             | 42.5 | 42.5  |
| 18    | 25   | 23.2  | 5.7 | 5.5            | 5             | 57.5 | 64    |
| 25    | 33.5 | 29.5  | 7   | 5.5            | 5             | 67   | 76.5  |
| 32    | 37   | 37    | 7   | 5.5            | 5             | 82   | 87.5  |
| 40    | 46.8 | 46.8  | 7   | 6.5            | 6             | 100  | 111.5 |
| 50    | 61   | 61    | 7   | 9              | 6             | 137  | 141.5 |
| 63    | 69   | 69    | 10  | 9              | 6             | 159  | 172.5 |

# Linear drives DGC

Accessories

**FESTO**

| Dimensions and ordering data |               |                |      |       |              |
|------------------------------|---------------|----------------|------|-------|--------------|
| For Ø                        | H2            | H3             | H4   |       | L1           |
| [mm]                         |               |                | G    | GF/KF |              |
| 8                            | 5             | 7              | –    | –     | 24           |
| 12                           | 4.5           | 7              | –    | –     | 24           |
| 18                           | 5.7 $\pm$ 0.2 | 9.9 $\pm$ 0.1  | 0.1  | 6.4   | 33 $\pm$ 0.1 |
| 25                           | 6.5 $\pm$ 0.2 | 12.5 $\pm$ 0.1 | 2.07 | 7.43  | 35 $\pm$ 0.1 |
| 32                           | 6.5 $\pm$ 0.2 | 13 $\pm$ 0.1   | 1.5  | 4     | 45 $\pm$ 0.1 |
| 40                           | 8.5 $\pm$ 0.2 | 16 $\pm$ 0.1   | 0.2  | 11.3  | 60 $\pm$ 0.1 |
| 50                           | 11            | 23.5           | 4.7  | 9.2   | 80 $\pm$ 0.4 |
| 63                           | 11            | 25.5           | 1.5  | 15    | 80 $\pm$ 0.4 |

| For Ø | L2         | L3        | Weight | Part No.       | Type          |
|-------|------------|-----------|--------|----------------|---------------|
| [mm]  | $\pm$ 0.05 | $\pm$ 0.2 | [g]    |                |               |
| 8     | –          | –         | 28     | <b>526 384</b> | <b>MUC-8</b>  |
| 12    | –          | –         | 32     | <b>526 387</b> | <b>MUC-12</b> |
| 18    | 20.5       | –         | 78     | <b>531 752</b> | <b>MUC-18</b> |
| 25    | 22.5       | –         | 113    | <b>531 753</b> | <b>MUC-25</b> |
| 32    | 30         | –         | 174    | <b>531 754</b> | <b>MUC-32</b> |
| 40    | 44         | –         | 346    | <b>531 755</b> | <b>MUC-40</b> |
| 50    | 26         | 56        | 874    | <b>531 756</b> | <b>MUC-50</b> |
| 63    | 26         | 56        | 1,080  | <b>531 757</b> | <b>MUC-63</b> |

# Linear drives DGC

Accessories

FESTO

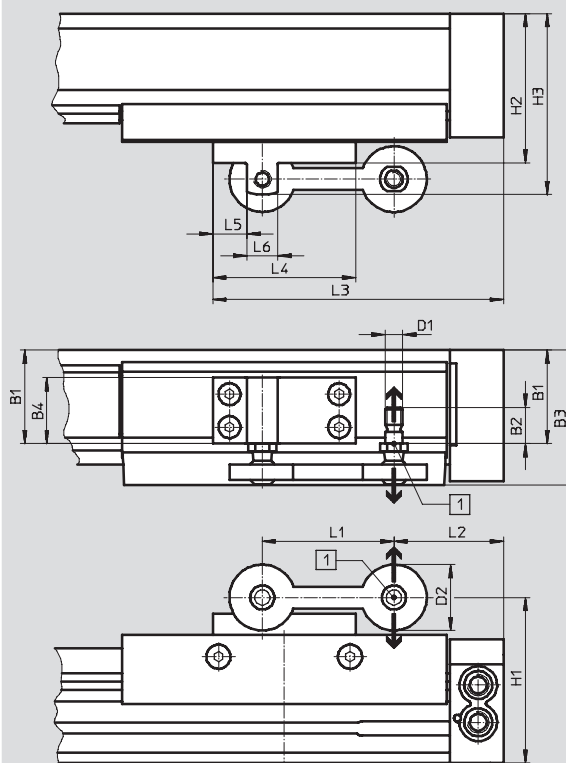
**Driver FK**  
(order code: FK)  
for DGC-G

Materials:  
Plate: Wrought aluminium alloy

Joint: Polyamide  
Ball pin: High-alloy steel



For  $\varnothing 8 \dots 40$

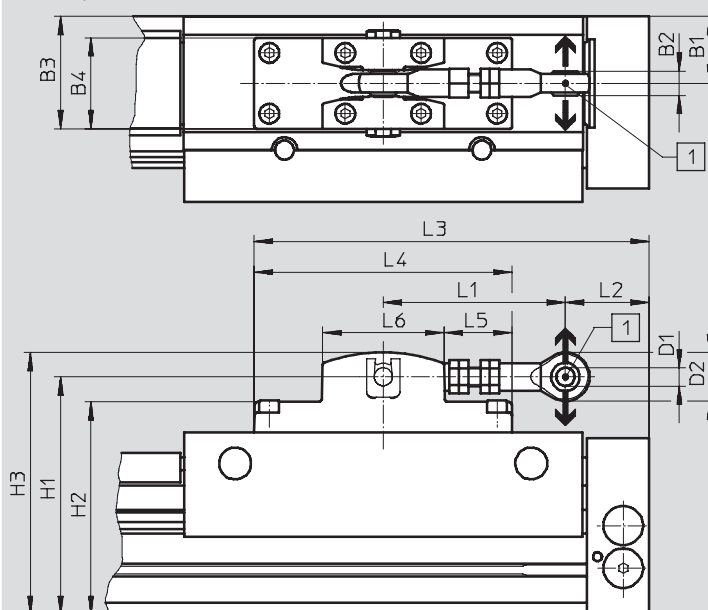


## Note

Compensation possible in direction of arrow.

- 1 Radial deflection:  
with  $\varnothing 8 \dots 40$ :  $\pm 2.5$  mm  
with  $\varnothing 50/63$ :  $\pm 4$  mm

For  $\varnothing 50/63$



# Linear drives DGC

Accessories

**FESTO**

| Dimensions and ordering data |                                                     |                                             |               |                     |
|------------------------------|-----------------------------------------------------|---------------------------------------------|---------------|---------------------|
| For Ø                        | Max. offset between linear drive and external guide | Max. permissible load in direction of force |               | Ambient temperature |
| [mm]                         | [mm]                                                | [N]                                         |               | [°C]                |
| 8                            | ±2.5                                                | 550                                         | Backlash-free | -10 ... +60         |
| 12                           |                                                     | 550                                         | Backlash-free |                     |
| 18                           |                                                     | 1,400                                       | Backlash-free |                     |
| 25                           |                                                     | 1,400                                       | Backlash-free |                     |
| 32                           |                                                     | 1,400                                       | Backlash-free |                     |
| 40                           |                                                     | 1,400                                       | Backlash-free |                     |
| 50                           | ±4                                                  | 5,000                                       | Low-backlash  |                     |
| 63                           |                                                     | 5,000                                       | Low-backlash  |                     |

| For Ø | B1    | B2   | B3    | B4 | D1               | D2 | H1    | H2    | H3    | L1          |
|-------|-------|------|-------|----|------------------|----|-------|-------|-------|-------------|
| [mm]  |       |      |       |    |                  |    |       |       |       |             |
| 8     | 17.5  | 10.2 | 30    | 16 | M5               | 20 | 43.5  | 42    | 48    | 40          |
| 12    | 18.5  | 10.2 | 31    | 16 | M5               | 20 | 49    | 47.5  | 53.5  | 40          |
| 18    | 29.3  | 16.5 | 47.8  | 20 | M8               | 30 | 66.8  | 59.8  | 73.8  | 60          |
| 25    | 42.65 | 16.5 | 61.15 | 30 | M8               | 30 | 75.5  | 68    | 82.5  | 60          |
| 32    | 43    | 16.5 | 61.5  | 30 | M8               | 30 | 90    | 82.5  | 97    | 60          |
| 40    | 57.3  | 16.5 | 75.8  | 45 | M8               | 30 | 105   | 97.5  | 113   | 60          |
| 50    | 44    | 16   | 74    | 60 | 12 <sup>H7</sup> | 32 | 156.5 | 140   | 172.4 | 120 ... 125 |
| 63    | 50    | 16   | 80    | 60 | 12 <sup>H7</sup> | 32 | 176.5 | 161.5 | 192.4 | 120 ... 125 |

| For Ø | L2        | L3    | L4  | L5   | L6 | CRC <sup>1)</sup> | Weight | Part No. | Type      |
|-------|-----------|-------|-----|------|----|-------------------|--------|----------|-----------|
| [mm]  |           |       |     |      |    |                   | [g]    |          |           |
| 8     | 5.1       | 62.6  | 35  | 13   | 9  | 1                 | 29     | 529 350  | FKC-8/12  |
| 12    | 17.1      | 74.6  | 35  | 13   | 9  | 1                 | 29     | 529 350  | FKC-8/12  |
| 18    | 24.5      | 107   | 65  | 15.5 | 14 | 1                 | 97     | 538 714  | FKC-18    |
| 25    | 50        | 132.5 | 65  | 15.5 | 14 | 1                 | 119    | 538 715  | FKC-25    |
| 32    | 77.5      | 162   | 75  | 17.5 | 14 | 1                 | 122    | 538 961  | FKC-32    |
| 40    | 103       | 187.5 | 75  | 17.5 | 14 | 1                 | 180    | 538 962  | FKC-40    |
| 50    | 50 ... 55 | 260   | 170 | 45   | 80 | 1                 | 1,200  | 545 240  | FKC-50/63 |
| 63    | 75 ... 80 | 260   | 170 | 45   | 80 | 1                 | 1,200  | 545 240  | FKC-50/63 |

1) Corrosion resistance class 1 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

# Linear drives DGC

Accessories

FESTO

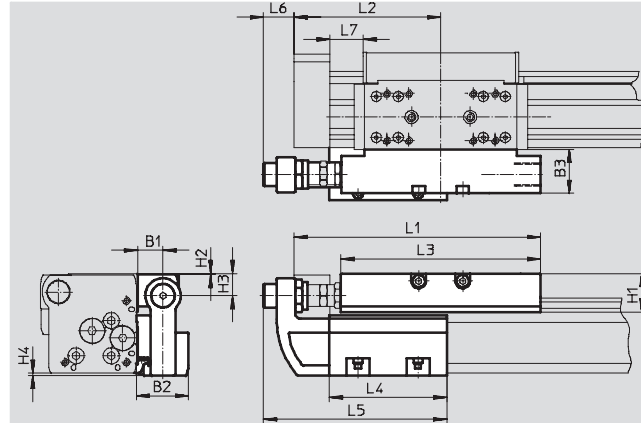
## Shock absorber retainer DADP Stop KYC

(order code: YWZ1 or YWZ2)

For DGC-GF, DGC-KF, DGC-FA

Materials: Stop  
Housing: Anodised aluminium  
Stop bracket: Stainless steel casting  
Clamp: High-alloy steel  
Free of copper and PTFE

Materials: Shock absorber retainer  
Housing: Anodised aluminium  
Free of copper and PTFE



### Note

Shock absorber not included in scope of delivery.  
Existing shock absorbers can be removed from the end caps of the linear unit and installed in the shock absorber retainer.

| Dimensions    |    |      |      |    |      |     |      |     |
|---------------|----|------|------|----|------|-----|------|-----|
| For Ø<br>[mm] |    | B1   | B2   | B3 | H1   | H2  | H3   | H4  |
| 18            | GF | 16   | 34.5 | 29 | 20.7 | 0.2 | 12.5 | 0.7 |
|               | KF |      |      |    |      |     |      |     |
| 25            | GF | 16.5 | 35   | 28 | 25.5 | 0.5 | 15   | 1.4 |
|               | KF |      |      | 30 |      |     |      |     |
| 32            | GF | 16.5 | 35   | 28 | 25.5 | 0.5 | 15   | 1.7 |
|               | KF |      |      | 30 |      |     |      |     |
| 40            | GF | 16   | 35.7 | 29 | 32   | 0.5 | 21.5 | 1.6 |
|               | KF |      |      | 35 | 37   |     |      | 2   |
| 50            | GF | 25   | 50   | 41 | 40.5 | 0.5 | 24   | 0   |
|               | KF |      |      |    |      |     |      |     |
| 63            | GF | 25   | 50   | 40 | 51.5 | 1.5 | 33   | 0   |
|               | KF |      |      |    |      |     |      |     |

| For Ø [mm] |    | L1    | L2    | L3  | L4  | L5    | L6   | L7 min. |
|------------|----|-------|-------|-----|-----|-------|------|---------|
| 18         | GF | 128   | 74.5  | 107 | 80  | 118.5 | 23.5 | 14.5    |
|            | KF |       |       |     |     |       |      |         |
| 25         | GF | 168   | 100   | 136 | 80  | 125   | 20.5 | 22.5    |
|            | KF |       |       |     |     |       |      |         |
| 32         | GF | 206.8 | 124.8 | 164 | 120 | 165   | 14.5 | 42.8    |
|            | KF |       |       |     |     |       |      | 27.3    |
| 40         | GF | 255   | 150   | 210 | 156 | 220.5 | 31   | 30.8    |
|            | KF |       |       |     |     |       |      | 31      |
| 50         | GF | 301   | 175   | 252 | 170 | 238   | 27   | 31      |
|            | KF |       |       |     |     |       |      |         |
| 63         | GF | 328   | 200   | 256 | 200 | 268   | 24   | 41      |
|            | KF |       |       |     |     |       |      |         |

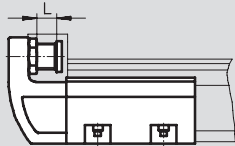
# Linear drives DGC

Accessories

**FESTO**

## Technical data and ordering codes

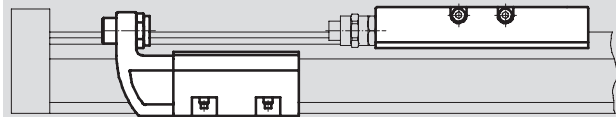
### Precision adjustment



#### Note

The stop KYC can be used in both directions.

### Installation example



#### Note

The stop KYC can be mounted at any position within the stroke.

| For Ø<br>[mm]           | Max. impact force<br>[N] | Ambient temperature<br>[°C] | CRC <sup>1)</sup> | Weight<br>[g] | Part No. | Type           |
|-------------------------|--------------------------|-----------------------------|-------------------|---------------|----------|----------------|
| Shock absorber retainer |                          |                             |                   |               |          |                |
| 18                      | GF 1,100                 | -10 ... +80                 | 2                 | 140           | 541 725  | DADP-DGC-18-GF |
|                         | KF                       |                             |                   | 130           | 541 729  | DADP-DGC-18-KF |
| 25                      | GF 1,400                 |                             |                   | 205           | 541 726  | DADP-DGC-25-GF |
|                         | KF                       |                             |                   | 180           | 541 730  | DADP-DGC-25-KF |
| 32                      | GF 1,700                 |                             |                   | 225           | 541 727  | DADP-DGC-32-GF |
|                         | KF                       |                             |                   | 215           | 541 731  | DADP-DGC-32-KF |
| 40                      | GF 3,500                 |                             |                   | 380           | 541 728  | DADP-DGC-40-GF |
|                         | KF                       |                             |                   | 460           | 541 732  | DADP-DGC-40-KF |
| 50                      | GF 3,500                 |                             |                   | 890           | 545 244  | DADP-DGC-50    |
|                         | KF                       |                             |                   |               |          |                |
| 63                      | GF 4,300                 |                             |                   | 1,080         | 545 245  | DADP-DGC-63    |
|                         | KF                       |                             |                   |               |          |                |

1) Corrosion resistance class 2 to Festo standard 940 070

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

| For Ø<br>[mm] | Precision adjustment L<br>[mm] | Ambient temperature<br>[°C] | CRC <sup>1)</sup> | Weight<br>[g] | Part No. | Type   |
|---------------|--------------------------------|-----------------------------|-------------------|---------------|----------|--------|
| Stop          |                                |                             |                   |               |          |        |
| 18            | 10                             | -10 ... +80                 | 2                 | 400           | 541 691  | KYC-18 |
| 25            | 10                             |                             |                   | 560           | 541 692  | KYC-25 |
| 32            | 10                             |                             |                   | 790           | 541 693  | KYC-32 |
| 40            | 15                             |                             |                   | 1,525         | 541 694  | KYC-40 |
| 50            | 15                             |                             |                   | 2,270         | 545 242  | KYC-50 |
| 63            | 15                             |                             |                   | 2,950         | 545 243  | KYC-63 |

1) Corrosion resistance class 2 to Festo standard 940 070

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



New

## Variants Z1/Z2/Z3 for Ø 40

### Linear drives DGC

Accessories

FESTO

#### Intermediate position module DADM

(order code: Z1, Z2 or Z3)

For DGC-KF

Materials:

Housing: Anodised aluminium

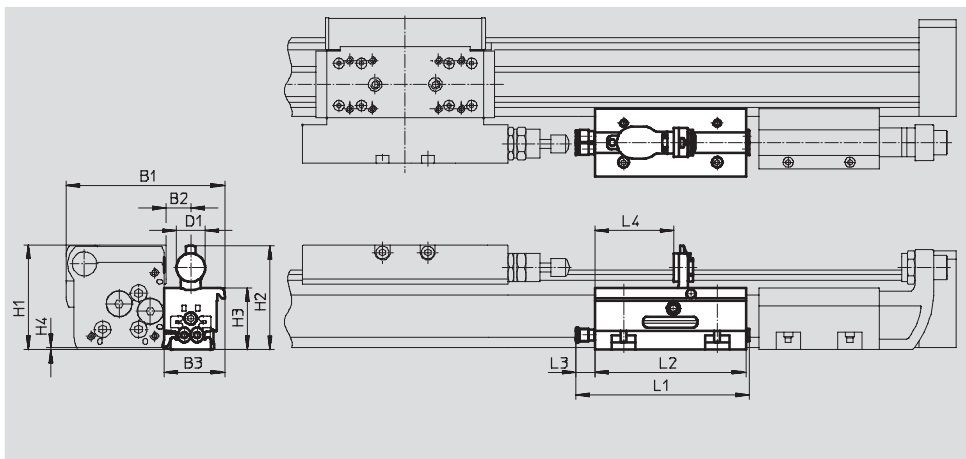
Stop screw, nut:

Galvanised steel

Clamp, lever:

High-alloy steel

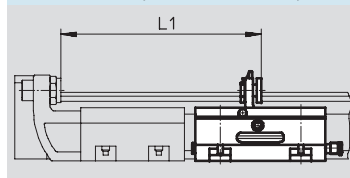
Free of copper and PTFE



| Dimensions |       |      |    |    |       |       |    |     |     |     |      |      |
|------------|-------|------|----|----|-------|-------|----|-----|-----|-----|------|------|
| For Ø [mm] | B1    | B2   | B3 | D1 | H1    | H2    | H3 | H4  | L1  | L2  | L3   | L4   |
| 25         | 105   | 16.5 | 40 | 19 | 69.4  | 68.6  | 41 | 1.4 | 116 | 100 | 13.4 | 52.2 |
| 32         | 117.5 | 16.5 | 40 | 19 | 80.2  | 79.7  | 52 | 1.7 | 116 | 100 | 13.4 | 52.2 |
| 40         | 137.5 | 16   | 41 | 27 | 101.6 | 101.1 | 63 | 2.1 | 186 | 170 | 13.4 | 76.5 |

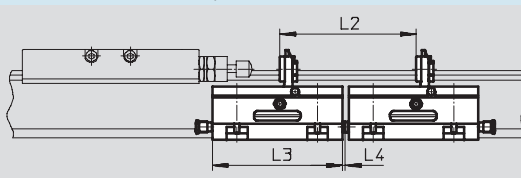
#### Minimum distance

between end stop and intermediate position



| For Ø [mm] | L1    |
|------------|-------|
| 25         | 145.3 |
| 32         | 185.3 |
| 40         | 271.5 |

between two intermediate positions



| For Ø [mm] | L2  | L3  | L4  |
|------------|-----|-----|-----|
| 25         | 105 | 100 | 2.5 |
| 32         | 105 | 100 | 2.5 |
| 40         | 175 | 170 | 2.5 |

#### Note

- Shock absorber not included in scope of delivery. Existing shock absorbers can be removed from the end caps of the linear drive and installed in the shock absorber retainer. Under no circumstances may the

linear drive and the intermediate position module be operated without a shock absorber.

- A shock absorber retainer DADP and a stop KYC are additionally needed when using an intermediate position module.

- The projection (dimension H4) must be noted when using the drive in combination with the intermediate position module DADM. Mounting via foot mountings HP or profile mountings MUC is recommended in this case.

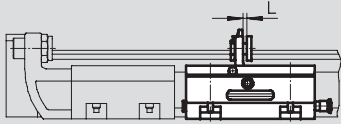
- The position of the stop lever can be detected using proximity sensors SME/SMT-10 → 79.

## Linear drives DGC

Accessories

**FESTO**

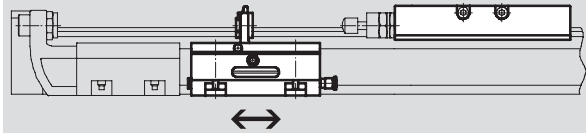
### Precision adjustment L



#### Note

The intermediate position module DADM can be used in both directions.  
 A shock absorber retainer DADP and a stop KYC are additionally needed when using an intermediate position module.

### Installation example



#### Note

The intermediate position module DADM can be mounted at any position within the stroke.

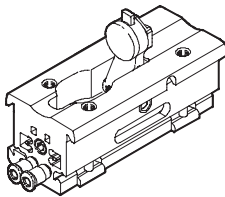
### Technical data

| For Ø                                        | [mm]  | 25                              | 32   | 40   |
|----------------------------------------------|-------|---------------------------------|------|------|
| Pneumatic connection                         |       | QS-4                            |      |      |
| Operating pressure                           | [bar] | 2.5 ... 8                       |      |      |
| Mounting position                            |       | Any                             |      |      |
| Impact velocity                              | [m/s] | → 49                            |      |      |
| Swivel time                                  | [ms]  | ≤100                            | ≤100 | ≤300 |
| Precision adjustment L                       | [mm]  | 2                               | 2    | 4    |
| Repetition accuracy                          | [mm]  | 0.02                            |      |      |
| Position sensing                             |       | For proximity sensor SME/SMT-10 |      |      |
| Weight                                       | [g]   | 430                             | 530  | 970  |
| Ambient temperature                          | [°C]  | -10 ... +60                     |      |      |
| Corrosion resistance class CRC <sup>1)</sup> |       | 2                               |      |      |
| Note on material                             |       | Free of copper and PTFE         |      |      |
|                                              |       | Conforms to RoHS                |      |      |

1) Corrosion resistance class 2 to Festo standard 940 070

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

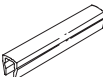
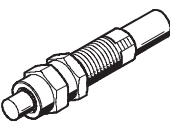
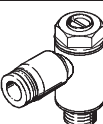
### Ordering codes

|                                                                                     | For Ø<br>[mm] | Part No. | Type          |
|-------------------------------------------------------------------------------------|---------------|----------|---------------|
|  | 25            | 541 700  | DADM-DGC-25-A |
|                                                                                     | 32            | 541 701  | DADM-DGC-32-A |
|                                                                                     | 40            | 541 702  | DADM-DGC-40-A |

# Linear drives DGC

Accessories

**FESTO**

| Ordering data                                                                       |                                                                              |                                                               |            |          |                  |                  |  |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------|------------|----------|------------------|------------------|--|
|                                                                                     | For Ø                                                                        | Remarks                                                       | Order code | Part No. | Type             | PU <sup>1)</sup> |  |
| Slot nut NST <span>Technical data → Internet: hmbn</span>                           |                                                                              |                                                               |            |          |                  |                  |  |
|    | 25 ... 40                                                                    | For mounting slot                                             | B          | 547 264  | HMBN-5-1M5       | 10               |  |
|                                                                                     | 50, 63                                                                       |                                                               |            | 186 566  | HMBN-5-2M5       |                  |  |
| Centring pin/sleeve ZBS/ZBH <span>Technical data → Internet: zbs, zbh</span>        |                                                                              |                                                               |            |          |                  |                  |  |
|    | 8 ... 18                                                                     | For slide                                                     | –          | 150 928  | ZBS-5            | 10               |  |
|                                                                                     | 25 ... 63                                                                    |                                                               |            | 150 927  | ZBH-9            |                  |  |
|                                                                                     | 8, 12                                                                        | For end cap                                                   | –          | 525 273  | ZBS-2            |                  |  |
|                                                                                     | 18                                                                           |                                                               |            | 150 928  | ZBS-5            |                  |  |
|                                                                                     | 25 ... 63                                                                    |                                                               |            | 150 927  | ZBH-9            |                  |  |
| Slot cover ABP-S <span>Technical data → Internet: abp</span>                        |                                                                              |                                                               |            |          |                  |                  |  |
|    | 18 ... 63                                                                    | For sensor slot<br>each 0.5 m                                 | L          | 151 680  | ABP-5-S          | 2                |  |
| Shock absorber YSRW <span>Technical data → Internet: ysrw</span>                    |                                                                              |                                                               |            |          |                  |                  |  |
|  | 8                                                                            | For DGC basic version and<br>recirculating ball bearing guide | YSRW       | 540 344  | YSRW-DGC-8       | 1                |  |
|                                                                                     | 12                                                                           |                                                               |            | 540 345  | YSRW-DGC-12      |                  |  |
|                                                                                     | 18                                                                           |                                                               |            | 540 346  | YSRW-DGC-18-GF   |                  |  |
|                                                                                     | 25                                                                           |                                                               |            | 540 348  | YSRW-DGC-25-GF   |                  |  |
|                                                                                     | 32                                                                           |                                                               |            | 540 350  | YSRW-DGC-32-GF   |                  |  |
|                                                                                     | 40                                                                           | For DGC with plain-bearing guide                              |            | 540 352  | YSRW-DGC-40-GF   |                  |  |
|                                                                                     | 50                                                                           |                                                               |            | 540 353  | YSRW-DGC-40/50   |                  |  |
|                                                                                     | 63                                                                           |                                                               |            | 543 069  | YSRW-DGC-63      |                  |  |
|                                                                                     | 18                                                                           | For DGC with recirculating ball<br>bearing guide              |            | 540 347  | YSRW-DGC-18-KF   |                  |  |
|                                                                                     | 25                                                                           |                                                               |            | 540 349  | YSRW-DGC-25-KF   |                  |  |
|                                                                                     | 32                                                                           |                                                               |            | 540 351  | YSRW-DGC-32-KF   |                  |  |
|                                                                                     | 40                                                                           |                                                               |            | 540 353  | YSRW-DGC-40/50   |                  |  |
|                                                                                     | 50                                                                           |                                                               |            |          |                  |                  |  |
|                                                                                     | 63                                                                           |                                                               |            | 543 069  | YSRW-DGC-63      |                  |  |
|                                                                                     | One-way flow control valve GRLA <span>Technical data → Internet: grla</span> |                                                               |            |          |                  |                  |  |
|  | 8 ... 18                                                                     | Metal design                                                  | –          | 193 137  | GRLA-M5-QS-3-D   | 1                |  |
|                                                                                     | 25, 32                                                                       |                                                               |            | 193 138  | GRLA-M5-QS-4-D   |                  |  |
|                                                                                     |                                                                              |                                                               |            | 193 142  | GRLA-1/8-QS-3-D  |                  |  |
|                                                                                     |                                                                              |                                                               |            | 193 143  | GRLA-1/8-QS-4-D  |                  |  |
|                                                                                     |                                                                              |                                                               |            | 193 144  | GRLA-1/8-QS-6-D  |                  |  |
|                                                                                     |                                                                              |                                                               |            | 193 145  | GRLA-1/8-QS-8-D  |                  |  |
|                                                                                     | 40, 50                                                                       |                                                               |            | 193 146  | GRLA-1/4-QS-6-D  |                  |  |
|                                                                                     |                                                                              |                                                               |            | 193 147  | GRLA-1/4-QS-8-D  |                  |  |
|                                                                                     |                                                                              |                                                               |            | 193 148  | GRLA-1/4-QS-10-D |                  |  |
|                                                                                     | 63                                                                           |                                                               |            | 193 149  | GRLA-3/8-QS-6-D  |                  |  |
|                                                                                     |                                                                              |                                                               |            | 193 150  | GRLA-3/8-QS-8-D  |                  |  |
|                                                                                     |                                                                              |                                                               |            | 193 151  | GRLA-3/8-QS-10-D |                  |  |

1) Packaging unit quantity

## Linear drives DGC

Accessories

**FESTO**

### Proximity sensors for piston Ø 8/12 and intermediate position module DADM

| Ordering data – Proximity sensors for C-slot, magneto-resistive                   |                                   |               |                                             |                  |          | Technical data → Internet: smt |
|-----------------------------------------------------------------------------------|-----------------------------------|---------------|---------------------------------------------|------------------|----------|--------------------------------|
|                                                                                   | Type of mounting                  | Switch output | Electrical connection, connection direction | Cable length [m] | Part No. | Type                           |
| N/O contact                                                                       |                                   |               |                                             |                  |          |                                |
|  | Insertable in the slot lengthwise | PNP           | Plug M8x1, 3-pin, in-line                   | 0.3              | 173 220  | SMT-10-PS-SL-LED-24            |
|                                                                                   |                                   |               | Cable, 3-wire, in-line                      | 2.5              | 173 218  | SMT-10-PS-KL-LED-24            |

| Ordering data – Proximity sensors for C-slot, magnetic reed                       |                                   |               |                                             |                  |          | Technical data → Internet: sme |
|-----------------------------------------------------------------------------------|-----------------------------------|---------------|---------------------------------------------|------------------|----------|--------------------------------|
|                                                                                   | Type of mounting                  | Switch output | Electrical connection, connection direction | Cable length [m] | Part No. | Type                           |
| N/O contact                                                                       |                                   |               |                                             |                  |          |                                |
|  | Insertable in the slot lengthwise | Contacting    | Plug M8x1, 3-pin, in-line                   | 0.3              | 173 212  | SME-10-SL-LED-24               |
|                                                                                   |                                   |               | Cable, 3-wire, in-line                      | 2.5              | 173 210  | SME-10-KL-LED-24               |

### Proximity sensors for piston Ø 18 ... 63

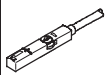
| Ordering data – Proximity sensors for T-slot, magneto-resistive                     |                                                                    |               |                       |                  | Technical data → Internet: smt |                         |
|-------------------------------------------------------------------------------------|--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

# Linear drives DGC

Accessories

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## Proximity sensors for piston Ø 18 ... 63

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

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

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