

Mini slides DGSL



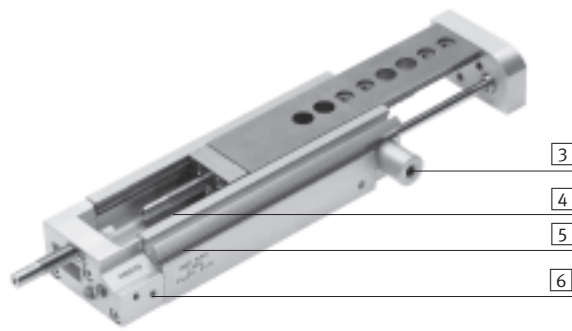
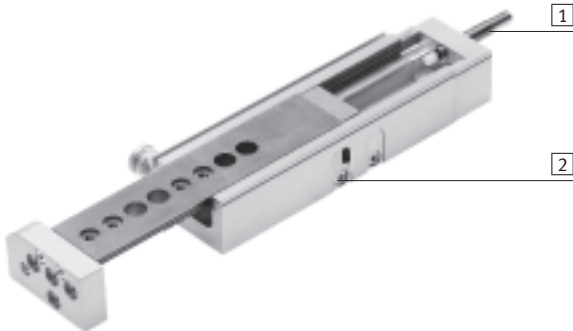
# Mini slides DGSL

Key features

## General information

- Double-acting drives
- Wide range of options for mounting on:
  - drives, grippers
- System product for handling and assembly technology
- Highly flexible thanks to versatile assembly and connection options on:
  - drive body, slide, yoke plate

## The technology in detail



### 1 Cushioning



- Choice of three types of cushioning:
  - Flexible cushioning without metal end stop (P)
  - Flexible cushioning with metal end stop (P1)
  - Hydraulic shock absorbers (Y3)

### 2 Coarse stroke adjustment



- The end stop for the front end position can be adjusted mechanically, e.g. to shorten the stroke

### 3 Clamping unit



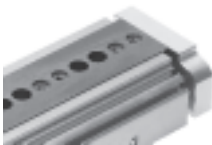
- Mechanical clamping, for fixing the slide in any position; frictional locking (C)

### 3 End position locking



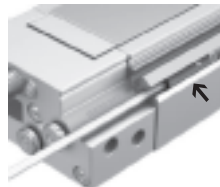
- Mechanical locking when the end position is reached, for fixing the slide in the unpressurised, retracted state; positive locking (E3)

### 4 Innovative guide unit



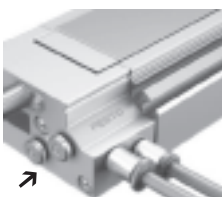
- Wide roller track, which provides extremely high rigidity
- High load capacity
- High precision
- Housing and steel slide form a guide: there are no accumulative tolerances

### 5 Position sensing



- Proximity sensors can be integrated, so there are no projecting parts
- Two slots for mounting
- Clearly visible from the side and from above

### 6 Compressed air connections

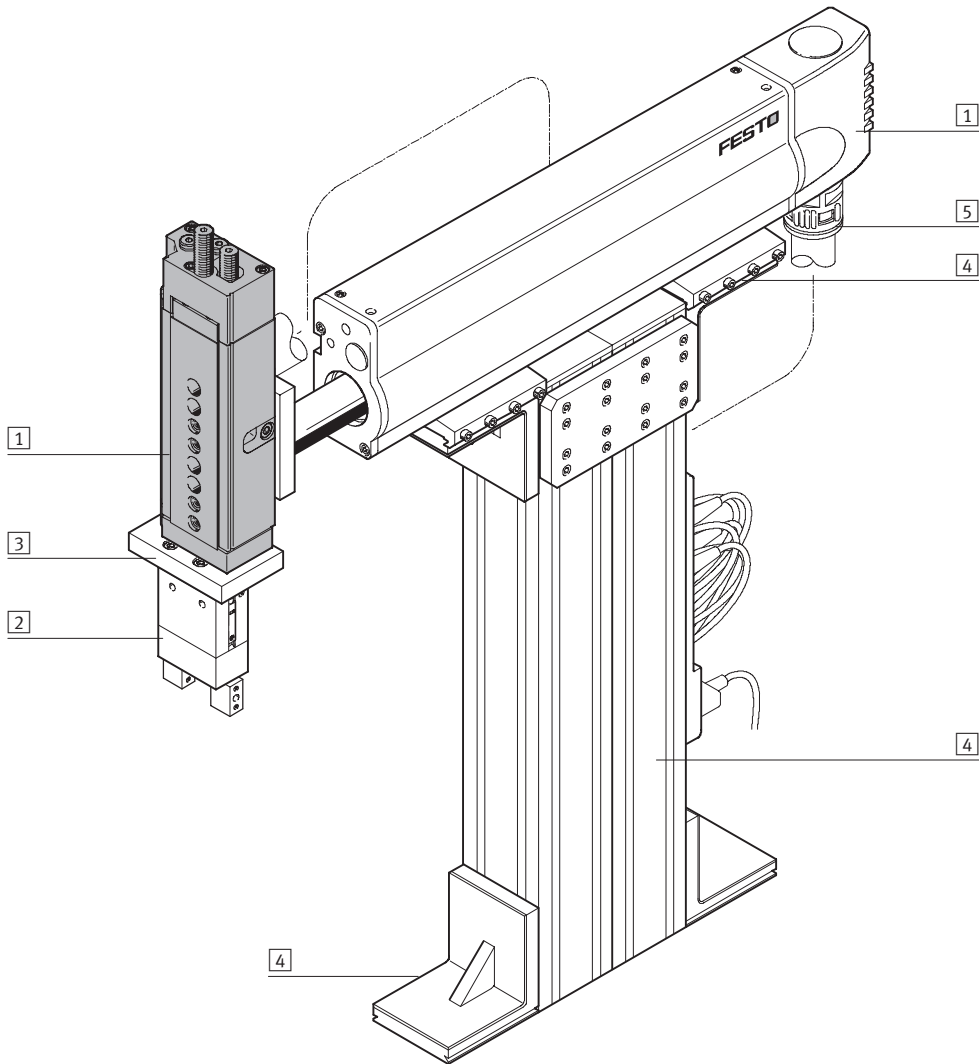


- Options on two sides:
  - On front face
  - At the side

# Mini slides DGSL

System example

System product for handling and assembly technology

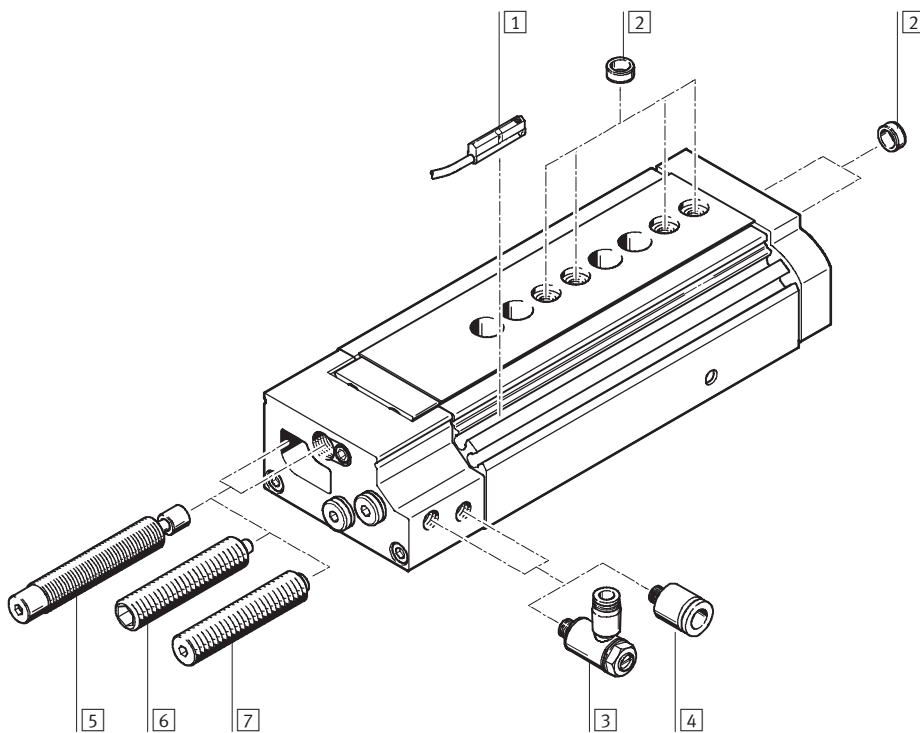



| System elements and accessories |                         |   |
|---------------------------------|-------------------------|---|
|                                 | Brief description       | → Page/Internet   |
| 1                               | Drives                  | Wide range of combinations possible for handling and assembly technology<br>drive             |
| 2                               | Gripper                 | Wide range of variations possible for handling and assembly technology<br>gripper             |
| 3                               | Adapter plate           | For drive/drive and drive/gripper connections<br>adapter kit                                  |
| 4                               | Basic components        | Profiles and profile connections as well as profile/drive connections<br>basic component      |
| 5                               | Installation components | For achieving a clean, safe layout for electrical cables and tubing<br>installation component |
| -                               | Axes                    | Wide range of combinations possible for handling and assembly technology<br>axes              |
| -                               | Motors                  | Servo and stepper motors, with or without gear unit<br>motor                                  |

# Mini slides DGSL

Peripherals overview

FESTO



 Note  
End stops must not be removed.

| Accessories |                                      |                 |
|-------------|--------------------------------------|-----------------|
|             | Brief description                    | → Page/Internet |
| 1           | Proximity sensor<br>SME/SMT-10       | 40              |
| 2           | Centring sleeve<br>ZBH               | 40              |
| 3           | One-way flow control valve<br>GRLA   | 40              |
| 4           | Push-in fitting<br>QSM               | 40              |
| 5           | Cushioning with shock absorber<br>Y3 | 40              |
| 6           | Cushioning with stop<br>P1           | 40              |
| 7           | Cushioning<br>P                      | -               |

# Mini slides DGSL

Type codes

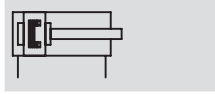
|                             |  |      |   |    |   |     |   |  |   |    |   |    |   |   |
|-----------------------------|--|------|---|----|---|-----|---|--|---|----|---|----|---|---|
|                             |  | DGSL | - | 10 | - | 100 | - |  | - | E3 | - | Y3 | - | A |
| <b>Type</b>                 |  |      |   |    |   |     |   |  |   |    |   |    |   |   |
| Double-acting               |  |      |   |    |   |     |   |  |   |    |   |    |   |   |
| DGSL                        | Mini slide   |      |   |    |   |     |   |  |   |    |   |    |   |   |
| <b>Size</b>                 |  |      |   |    |   |     |   |  |   |    |   |    |   |   |
| <b>Stroke [mm]</b>          |  |      |   |    |   |     |   |  |   |    |   |    |   |   |
| <b>Clamping unit</b>        |  |      |   |    |   |     |   |  |   |    |   |    |   |   |
| C                           | Integrated   |      |   |    |   |     |   |  |   |    |   |    |   |   |
| <b>End position locking</b> |  |      |   |    |   |     |   |  |   |    |   |    |   |   |
| E3                          | With piston rod in retracted position                  |      |   |    |   |     |   |  |   |    |   |    |   |   |
| <b>Cushioning</b>           |  |      |   |    |   |     |   |  |   |    |   |    |   |   |
| P                           | Flexible cushioning, without metal end stop, both ends |      |   |    |   |     |   |  |   |    |   |    |   |   |
| P1                          | Flexible cushioning, with metal end stop, both ends    |      |   |    |   |     |   |  |   |    |   |    |   |   |
| Y3                          | Progressive shock absorbers, both ends                 |      |   |    |   |     |   |  |   |    |   |    |   |   |
| <b>Position sensing</b>     |  |      |   |    |   |     |   |  |   |    |   |    |   |   |
| A                           | Via proximity sensor                                   |      |   |    |   |     |   |  |   |    |   |    |   |   |

# Mini slides DGSL

Technical data

FESTO

Function



- - Size  
4 ... 25

- - Stroke length  
10 ... 200 mm

Wearing parts kits  
→ 40

Technical data:

- DGSL-C (with clamping unit)
  - DGSL-E3 (with end position locking)
- 36



| General technical data |            | 4   | 6 | 8 | 10   | 12 | 16 | 20   | 25 |
|------------------------|------------|---|---|---|--|----|----|------|----|
| Size                   |            | 4   | 6 | 8 | 10   | 12 | 16 | 20   | 25 |
| Pneumatic connection   |            | M3  |   |   | M5   |    |    | G1/8 |    |
| Constructional design  |            | Scotch yoke system  |   |   |  |    |    |      |    |
| Guide                  |            | Ball bearing cage guide   |   |   |  |    |    |      |    |
| Type of mounting       |            | Via through-holes   |   |   |  |    |    |      |    |
|                        |            | Via female threads  |   |   |  |    |    |      |    |
| Cushioning             | P          | Flexible cushioning, without metal end stop, both ends          |   |   |  |    |    |      |    |
|                        | P1         | Flexible cushioning, with metal end stop, both ends, adjustable |   |   |  |    |    |      |    |
|                        | Y3         | -   |   |   | With progressive shock absorber, both ends |    |    |      |    |
| Position sensing       |            | Via proximity sensor  |   |   |  |    |    |      |    |
| Mounting position      |            | Any   |   |   |  |    |    |      |    |
| Max. advancing speed   | [m/s]      | 0.5   |   |   | 0.8  |    |    |      |    |
| Max. retracting speed  | [m/s]      | 0.5   |   |   | 0.8  |    |    |      |    |
| Repetition accuracy    | P1/Y3 [mm] | ±0.01   |   |   |  |    |    |      |    |
|                        | P [mm]     | 0.3   |   |   |  |    |    |      |    |

| Operating and environmental conditions |       | 4  | 6   | 8 | 10 | 12 | 16 | 20 | 25 |
|--|-------|--|-----|---|----|----|----|----|----|
| Size                                   |       | 4  | 6   | 8 | 10 | 12 | 16 | 20 | 25 |
| Operating medium                       |       | Dried compressed air, lubricated or unlubricated |     |   |    |    |    |    |    |
| Min. operating pressure                | [bar] | 2.5  | 1.5 |   |    | 1  |    |    |    |
| Max. operating pressure                | [bar] | 8  |     |   |    |    |    |    |    |
| Ambient temperature <sup>1)</sup>      | [°C]  | 0 ... +60  |     |   |    |    |    |    |    |

1) Note operating range of proximity sensors

| Piston-Ø, Forces and impact energy     |         | 4     | 6    | 8    | 10   | 12   | 16   | 20   | 25   |
|--|---------|-------|------|------|------|------|------|------|------|
| Size                                   |         | 4     | 6    | 8    | 10   | 12   | 16   | 20   | 25   |
| Piston-Ø                               | [mm]    | 6     | 8    | 10   | 12   | 16   | 20   | 25   | 32   |
| Theoretical force at 6 bar, advancing  | [N]     | 17    | 30   | 47   | 68   | 121  | 188  | 295  | 483  |
| Theoretical force at 6 bar, retracting | [N]     | 13    | 23   | 40   | 51   | 104  | 158  | 247  | 415  |
| Impact energy at end positions         | P [Nm]  | 0.015 | 0.05 | 0.08 | 0.12 | 0.25 | 0.35 | 0.45 | 0.55 |
|  | P1 [Nm] | 0.005 | 0.02 | 0.03 | 0.04 | 0.06 | 0.12 | 0.2  | 0.25 |
|  | Y3 [Nm] | -     | -    | 0.8  | 1.3  | 2.5  | 4    | 8    | 12   |

# Mini slides DGSL

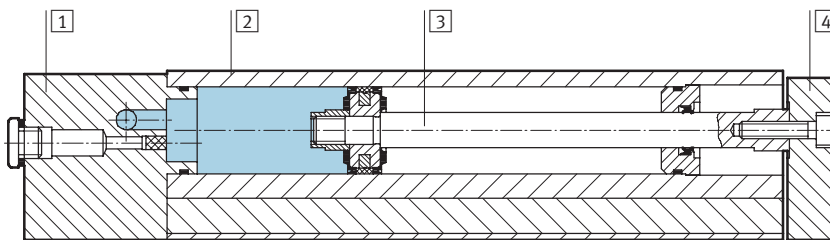
Technical data

FESTO

| Weight [g]                                  |        |     |     |     |     |      |      |      |      |
|---|--------|-----|-----|-----|-----|------|------|------|------|
| Size  | Stroke | 4   | 6   | 8   | 10  | 12   | 16   | 20   | 25   |
| Product weight without cushioning component |        |     |     |     |     |      |      |      |      |
|   | 10     | 82  | 158 | 235 | 396 | 604  | 896  | 1535 | 2520 |
|   | 20     | 93  | 179 | 263 | 434 | 660  | 954  | 1649 | 2670 |
|   | 30     | 104 | 197 | 289 | 470 | 711  | 1008 | 1746 | 2824 |
|   | 40     | –   | 215 | 313 | 507 | 762  | 1072 | 1857 | 2983 |
|   | 50     | –   | 232 | 370 | 548 | 813  | 1143 | 1991 | 3137 |
|   | 80     | –   | –   | 454 | 727 | 1112 | 1365 | 2295 | 4019 |
|   | 100    | –   | –   | –   | 813 | 1229 | 1712 | 2921 | 4519 |
|   | 150    | –   | –   | –   | –   | 1499 | 2034 | 3620 | 5344 |
|   | 200    | –   | –   | –   | –   | –    | –    | 4248 | 6139 |
| Moving load without cushioning component    |        |     |     |     |     |      |      |      |      |
|   | 10     | 31  | 68  | 101 | 163 | 256  | 403  | 660  | 998  |
|   | 20     | 34  | 76  | 111 | 180 | 279  | 432  | 710  | 1052 |
|   | 30     | 38  | 83  | 121 | 194 | 299  | 459  | 750  | 1115 |
|   | 40     | –   | 90  | 130 | 208 | 320  | 486  | 801  | 1181 |
|   | 50     | –   | 99  | 152 | 226 | 340  | 519  | 858  | 1244 |
|   | 80     | –   | –   | 185 | 299 | 456  | 618  | 998  | 1567 |
|   | 100    | –   | –   | –   | 334 | 507  | 776  | 1254 | 1761 |
|   | 150    | –   | –   | –   | –   | 614  | 910  | 1566 | 2102 |
|   | 200    | –   | –   | –   | –   | –    | –    | 1807 | 2432 |
| Cushioning component                        |        |     |     |     |     |      |      |      |      |
|   | P      | 2   | 3.6 | 6   | 14  | 23   | 45.6 | 82.4 | 106  |
|   | P1     | 1.6 | 3   | 5   | 12  | 19.7 | 39.6 | 77.3 | 104  |
|   | Y3     | –   | –   | 6   | 11  | 21   | 42   | 67   | 91   |

## Materials

Sectional view



| Mini slide                                   |  |
|--|--|
| 1  | Cover<br>Anodised aluminium  |
| 2  | Housing<br>Anodised aluminium  |
| 3  | Piston rod<br>High-alloy steel   |
| 4  | Yoke plate<br>Anodised aluminium   |
| –  | Guide<br>Tempered steel  |
| –  | Seals<br>Thermoplastic rubber, hydrogenated nitrile rubber, nitrile rubber |
| Note on materials<br>Free of copper and PTFE |  |

# Mini slides DGSL

Technical data

FESTO

## Travel time $t$ as a function of the effective load $m$ and the cushioning $P$ – horizontal mounting position



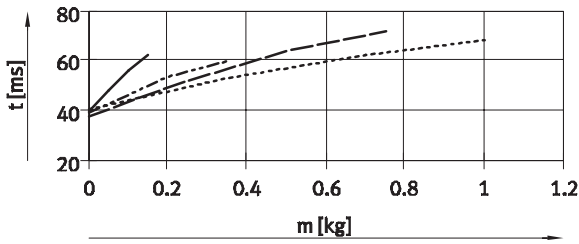
The values in the graphs are determined by calculation. The travel time as a function of effective load must not be reduced below

the values shown, because the kinetic impact or residual energy at the end positions can result in damage to the drive.

Vertical mounting position  
→ 11

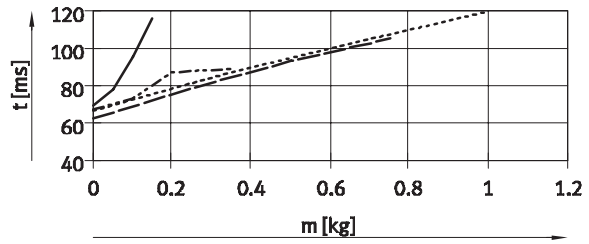
### Advancing

Stroke 10 mm, size 4 ... 10

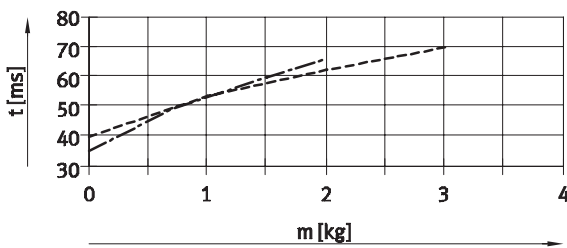


### Retracting

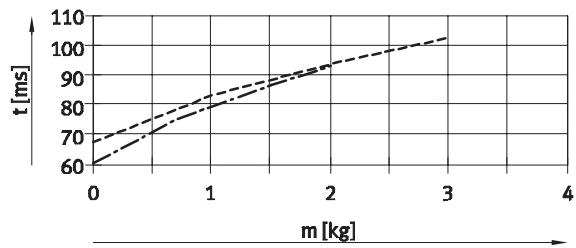
Stroke 10 mm, size 4 ... 10



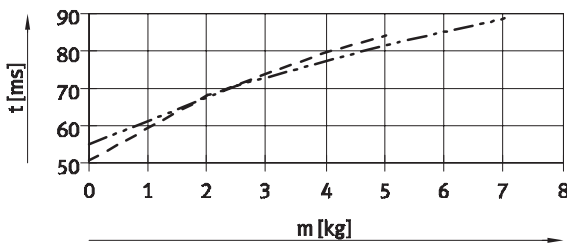
Stroke 10 mm, size 12 ... 16



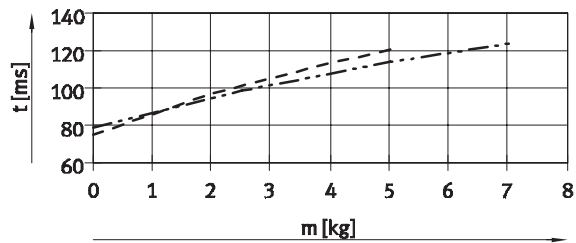
Stroke 10 mm, size 12 ... 16



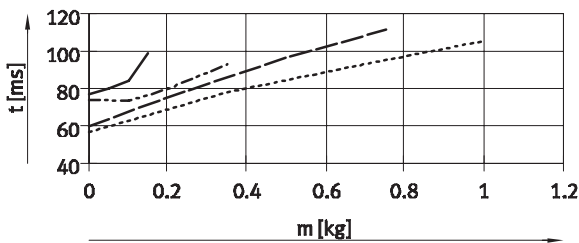
Stroke 10 mm, size 20 ... 25



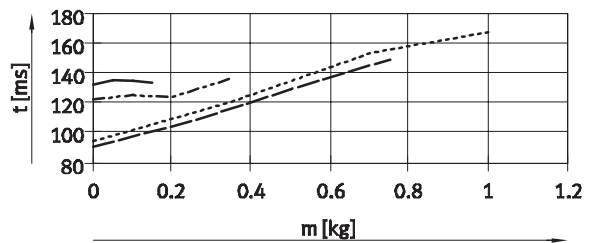
Stroke 10 mm, size 20 ... 25



Stroke 30 mm, size 4 ... 10



Stroke 30 mm, size 4 ... 10



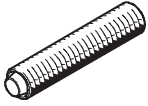
- |         |         |         |         |
|---------|---------|---------|---------|
| —       | DGSL-4  | - - - - | DGSL-12 |
| - - - - | DGSL-6  | - - - - | DGSL-16 |
| —       | DGSL-8  | - - - - | DGSL-20 |
| - - - - | DGSL-10 | - - - - | DGSL-25 |



# Mini slides DGSL

Technical data

## Travel time $t$ as a function of the effective load $m$ and the cushioning $P$ – horizontal mounting position



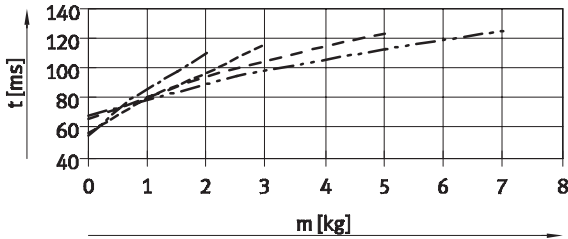
The values in the graphs are determined by calculation. The travel time as a function of effective load must not be reduced below

the values shown, because the kinetic impact or residual energy at the end positions can result in damage to the drive.

Vertical mounting position  
→ 11

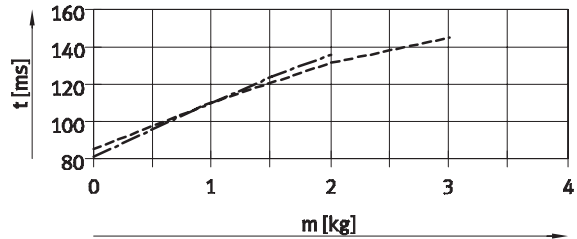
### Advancing

Stroke 30 mm, size 12 ... 25

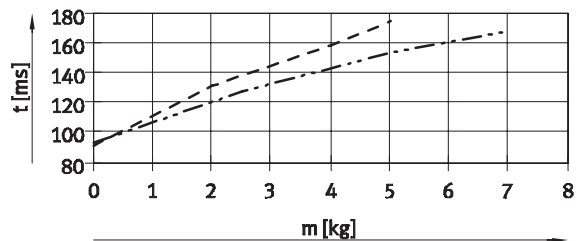


### Retracting

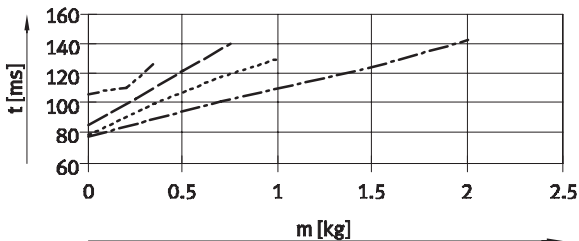
Stroke 30 mm, size 12 ... 16



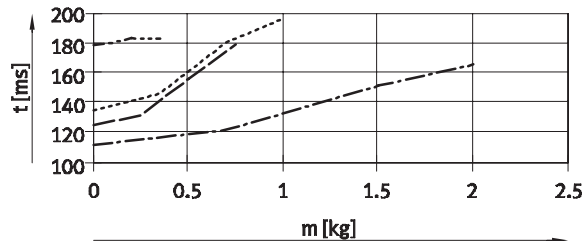
Stroke 30 mm, size 20 ... 25



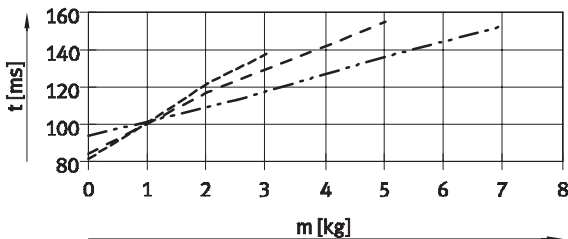
Stroke 50 mm, size 6 ... 12



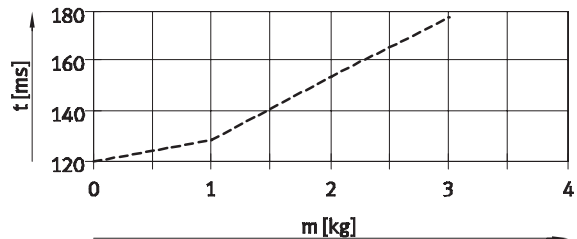
Stroke 50 mm, size 6 ... 12



Stroke 50 mm, size 16 ... 25

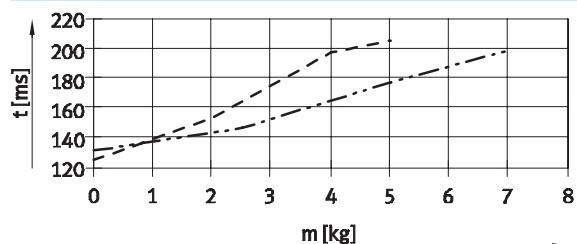


Stroke 50 mm, size 16



- |               |               |
|---------------|---------------|
| ----- DGSL-6  | ----- DGSL-16 |
| ----- DGSL-8  | ----- DGSL-20 |
| ----- DGSL-10 | ----- DGSL-25 |
| ----- DGSL-12 |               |

Stroke 50 mm, size 20 ... 25



# Mini slides DGSL

Technical data

## Travel time $t$ as a function of the effective load $m$ and the cushioning $P$ – horizontal mounting position



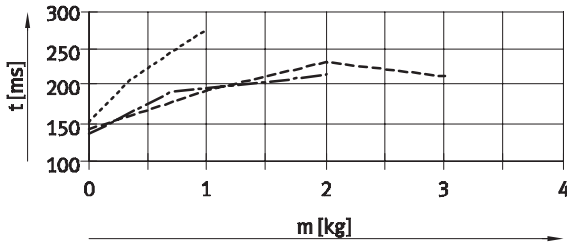
The values in the graphs are determined by calculation. The travel time as a function of effective load must not be reduced below

the values shown, because the kinetic impact or residual energy at the end positions can result in damage to the drive.

Vertical mounting position  
→ 11

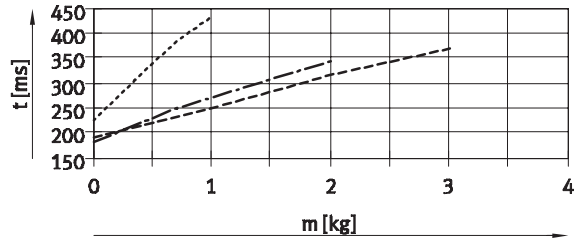
### Advancing

Stroke 100 mm, size 10 ... 16

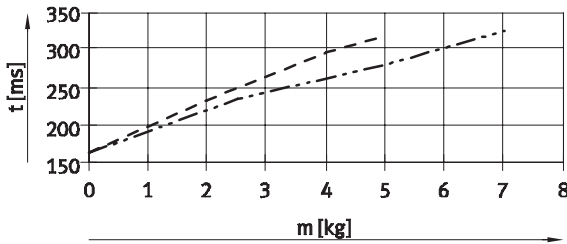


### Retracting

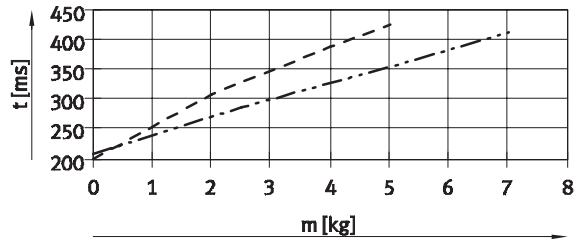
Stroke 100 mm, size 10 ... 16



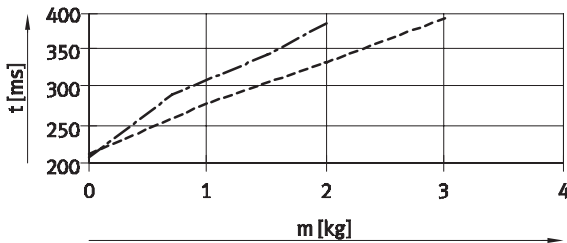
Stroke 100 mm, size 20 ... 25



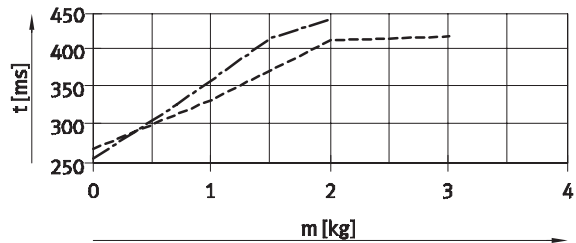
Stroke 100 mm, size 20 ... 25



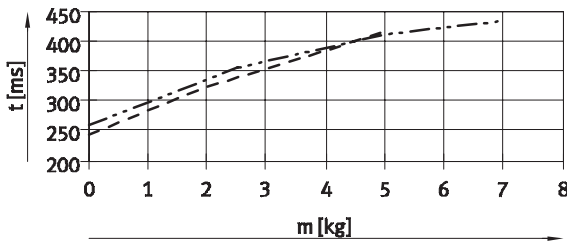
Stroke 150 mm, size 12 ... 16



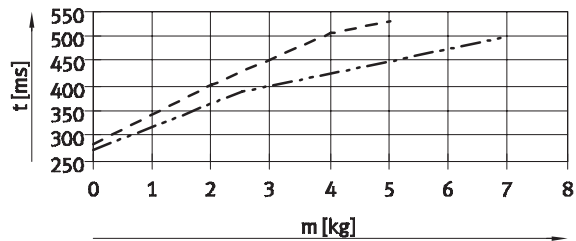
Stroke 150 mm, size 12 ... 16



Stroke 150 mm, size 20 ... 25



Stroke 150 mm, size 20 ... 25

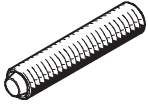


- ..... DGSL-10
- DGSL-12
- DGSL-16
- DGSL-20
- DGSL-25

# Mini slides DGSL

Technical data

## Travel time $t$ as a function of the effective load $m$ and the cushioning $P$ – horizontal mounting position



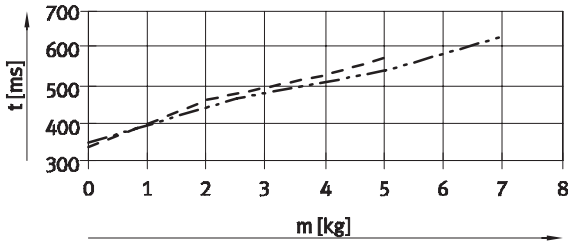
The values in the graphs are determined by calculation. The travel time as a function of effective load must not be reduced below

the values shown, because the kinetic impact or residual energy at the end positions can result in damage to the drive.

Vertical mounting position  
→ 11

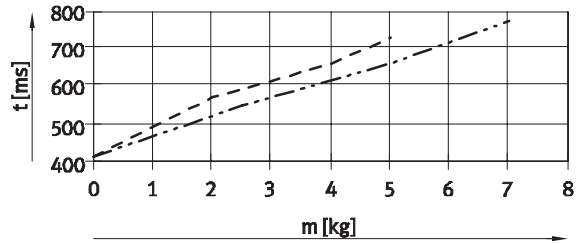
### Advancing

Stroke 200 mm, size 20 ... 25



### Retracting

Stroke 200 mm, size 20 ... 25



--- DGSL-20  
- · - · DGSL-25

## Vertical mounting position

The travel times for a vertical mounting position are calculated by multiplying the data ascertained for

horizontal mounting position by a correction factor  $k_a$  (advancing) and  $k_r$  (retracting), see adjacent table.

### Given:

- Stroke = 200 mm
- Size = 20
- Effective load = 3 kg
- Ascertained travel time  $t_h$  (horizontal), see graph:
  - Advancing = 500 ms
  - Retracting = 600 ms

### Calculated travel time $t_v$ (vertical):

- Advancing:  $t_v = t_h \times k_a$   
 $t_v = 500 \text{ ms} \times 0.9 = 450 \text{ ms}$
- Retracting:  $t_v = t_h \times k_r$   
 $t_v = 600 \text{ ms} \times 1.1 = 660 \text{ ms}$

| Stroke [mm] | Size               | Advancing ( $k_a$ ) <sup>1)</sup> | Retracting ( $k_r$ ) |
|-------------|--------------------|-----------------------------------|----------------------|
| 10          | 4, 6, 8, 10        | 0.95                              | 1.1                  |
|             | 12, 16, 20, 25     | 0.95                              | 1.2                  |
| 30          | 4, 6, 8, 10        | 0.95                              | 1.1                  |
|             | 12, 16, 20, 25     | 0.95                              | 1.2                  |
| 50          | 6, 8, 10, 12       | 0.9                               | 1.1                  |
|             | 16, 20, 25         | 1.1                               | 1.2                  |
| 100         | 10, 12, 16, 20, 25 | 1                                 | 1.1                  |
| 150         | 12, 16, 20, 25     | 1                                 | 1.1                  |
| 200         | 20, 25             | 0.9                               | 1.1                  |

1) Downward

# Mini slides DGSL

Technical data

## Travel time $t$ as a function of the effective load $m$ and the cushioning P1 – horizontal mounting position



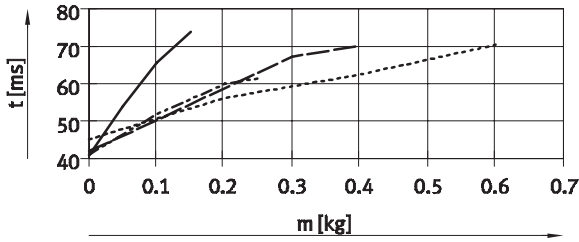
The values in the graphs are determined by calculation. The travel time as a function of effective load must not be reduced below

the values shown, because the kinetic impact or residual energy at the end positions can result in damage to the drive.

Vertical mounting position  
→ 15

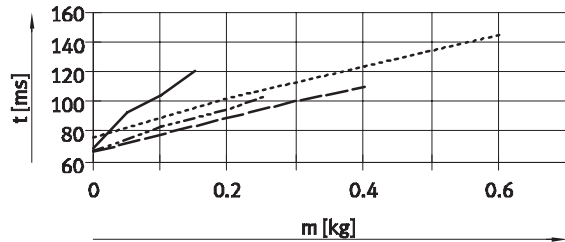
### Advancing

Stroke 10 mm, size 4 ... 10

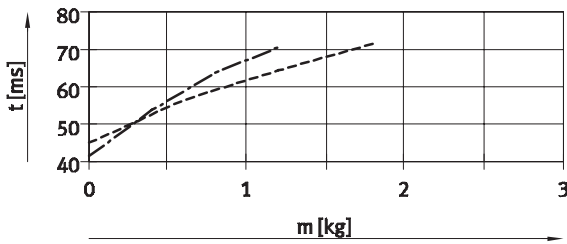


### Retracting

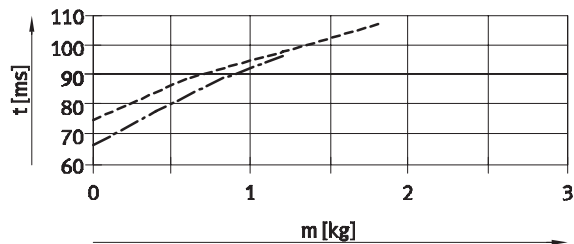
Stroke 10 mm, size 4 ... 10



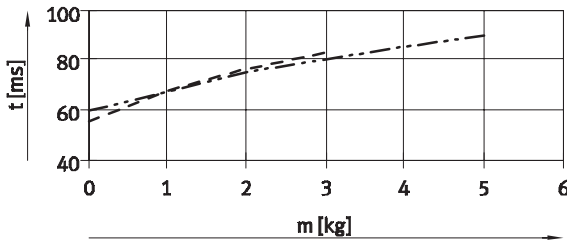
Stroke 10 mm, size 12 ... 16



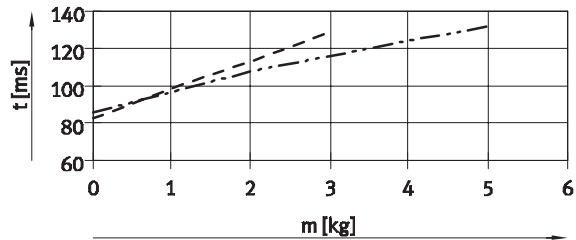
Stroke 10 mm, size 12 ... 16



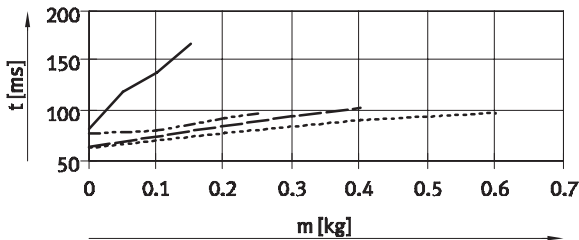
Stroke 10 mm, size 20 ... 25



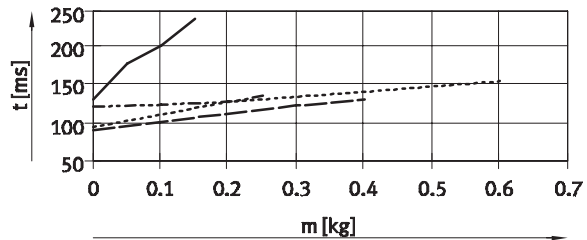
Stroke 10 mm, size 20 ... 25



Stroke 30 mm, size 4 ... 10



Stroke 30 mm, size 4 ... 10



- |         |         |         |         |
|---------|---------|---------|---------|
| —       | DGSL-4  | - - - - | DGSL-12 |
| - - - - | DGSL-6  | - - - - | DGSL-16 |
| - - - - | DGSL-8  | - - - - | DGSL-20 |
| - - - - | DGSL-10 | - - - - | DGSL-25 |

# Mini slides DGSL

Technical data

## Travel time $t$ as a function of the effective load $m$ and the cushioning P1 – horizontal mounting position



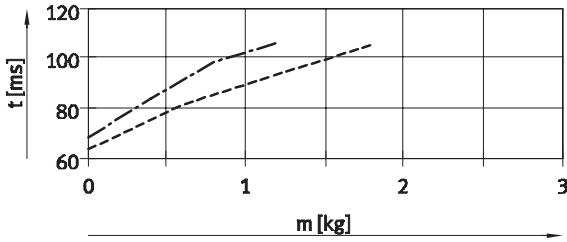
The values in the graphs are determined by calculation. The travel time as a function of effective load must not be reduced below

the values shown, because the kinetic impact or residual energy at the end positions can result in damage to the drive.

Vertical mounting position  
→ 15

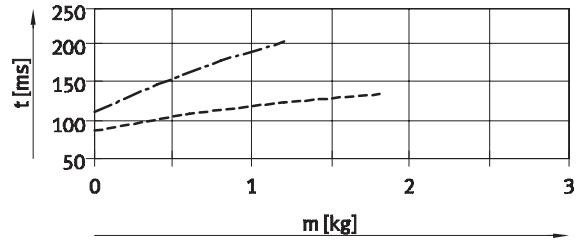
### Advancing

Stroke 30 mm, size 12 ... 16

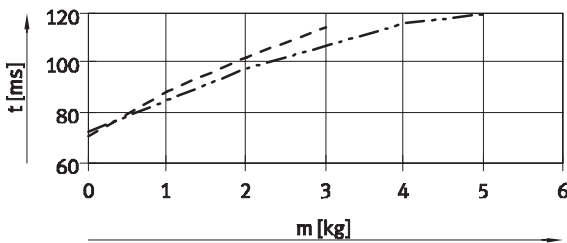


### Retracting

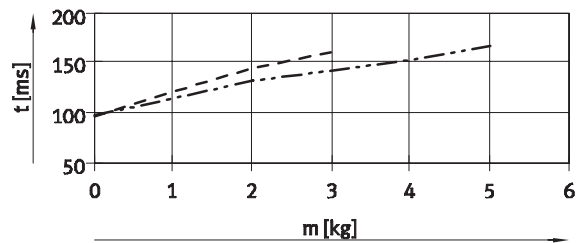
Stroke 30 mm, size 12 ... 16



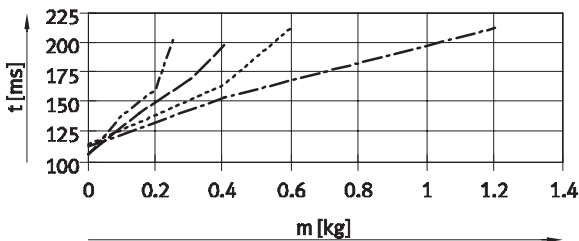
Stroke 30 mm, size 20 ... 25



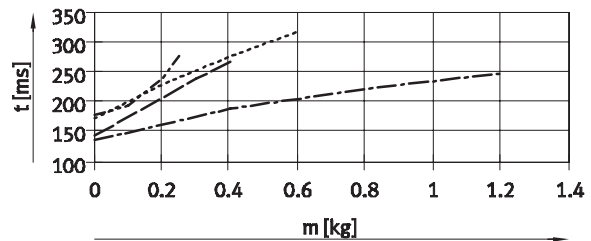
Stroke 30 mm, size 20 ... 25



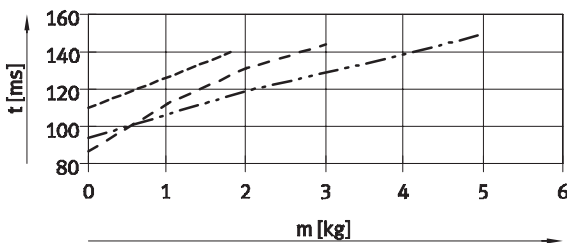
Stroke 50 mm, size 6 ... 12



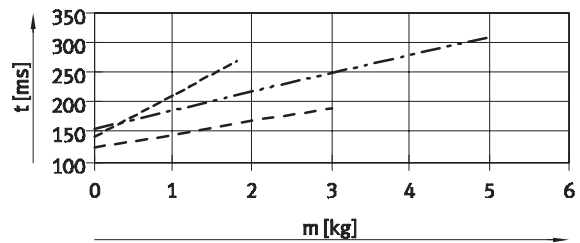
Stroke 50 mm, size 6 ... 12



Stroke 50 mm, size 16 ... 25



Stroke 50 mm, size 16 ... 25



- DGSL-6
- DGSL-8
- DGSL-10
- DGSL-12
- DGSL-16
- DGSL-20
- DGSL-25

# Mini slides DGSL

Technical data

## Travel time $t$ as a function of the effective load $m$ and the cushioning P1 – horizontal mounting position



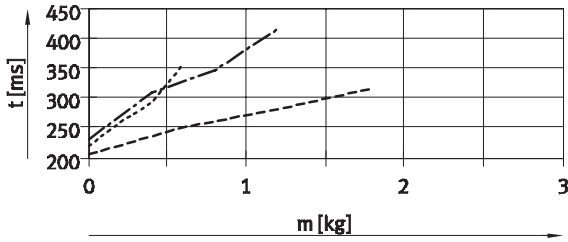
The values in the graphs are determined by calculation. The travel time as a function of effective load must not be reduced below

the values shown, because the kinetic impact or residual energy at the end positions can result in damage to the drive.

Vertical mounting position  
→ 15

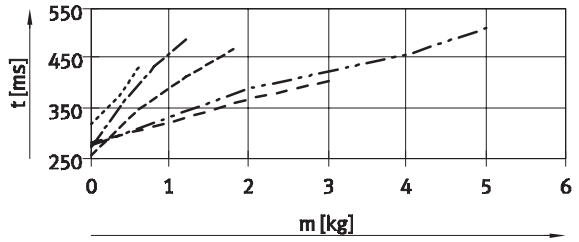
### Advancing

Stroke 100 mm, size 10 ... 16

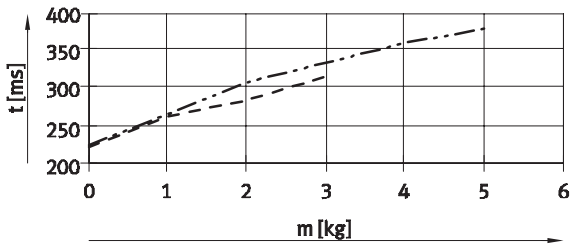


### Retracting

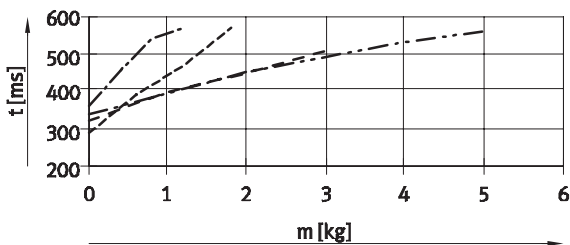
Stroke 100 mm, size 10 ... 25



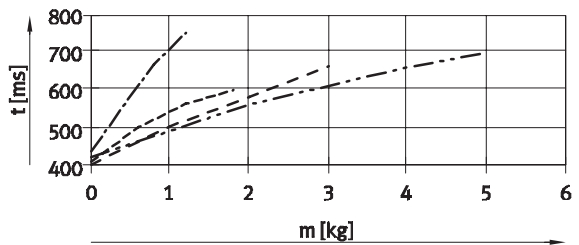
Stroke 100 mm, size 20 ... 25



Stroke 150 mm, size 12 ... 25



Stroke 150 mm, size 12 ... 25



- ..... DGSL-10
- · - · - DGSL-12
- DGSL-16
- DGSL-20
- DGSL-25

# Mini slides DGSL

Technical data

## Travel time $t$ as a function of the effective load $m$ and the cushioning P1 – horizontal mounting position



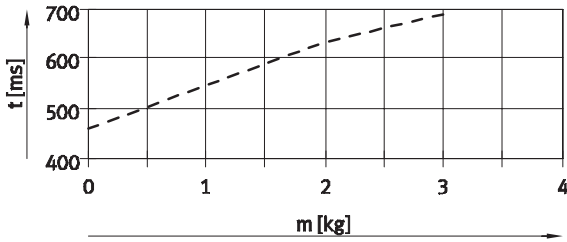
The values in the graphs are determined by calculation. The travel time as a function of effective load must not be reduced below

the values shown, because the kinetic impact or residual energy at the end positions can result in damage to the drive.

Vertical mounting position  
→ 15

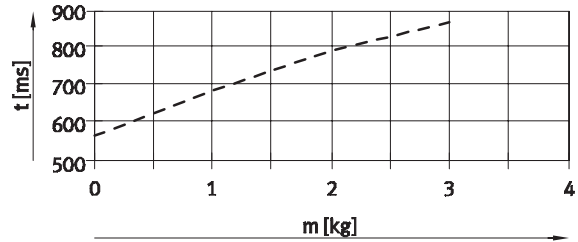
### Advancing

Stroke 200 mm, size 20

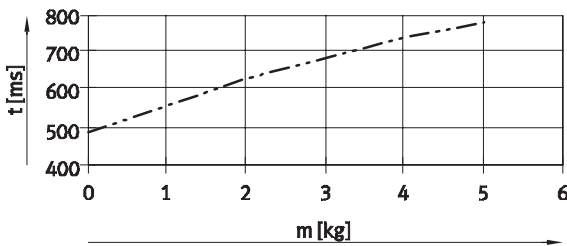


### Retracting

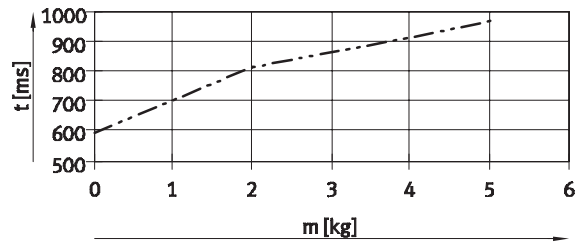
Stroke 200 mm, size 20



Stroke 200 mm, size 25



Stroke 200 mm, size 25



- DGSL-20
- - - DGSL-25

## Vertical mounting position

The travel times for a vertical mounting position are calculated by multiplying the data ascertained for

horizontal mounting position by a correction factor  $k_a$  (advancing) and  $k_r$  (retracting), see adjacent table.

### Given:

- Stroke = 200 mm
- Size = 20
- Effective load = 2 kg
- Ascertained travel time  $t_h$  (horizontal), see graph:
  - Advancing = 640 ms
  - Retracting = 780 ms

Calculated travel time  $t_v$  (vertical):

- Advancing:  $t_v = t_h \times k_a$   
 $t_v = 640 \text{ ms} \times 0.9 = 576 \text{ ms}$
- Retracting:  $t_v = t_h \times k_r$   
 $t_v = 780 \text{ ms} \times 1.1 = 858 \text{ ms}$

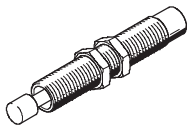
| Stroke [mm] | Size               | Advancing ( $k_a$ ) <sup>1)</sup> | Retracting ( $k_r$ ) |
|-------------|--------------------|-----------------------------------|----------------------|
| 10          | 4, 6, 8, 10        | 1                                 | 1.1                  |
|             | 12, 16, 20, 25     | 1.1                               | 1.2                  |
| 30          | 4, 6, 8, 10        | 1                                 | 1.1                  |
|             | 12, 16, 20, 25     | 1.1                               | 1.2                  |
| 50          | 6, 8, 10, 12       | 1                                 | 1.1                  |
|             | 16, 20, 25         | 0.9                               | 1.1                  |
| 100         | 10, 12, 16, 20, 25 | 0.95                              | 1.1                  |
| 150         | 12, 16, 20, 25     | 0.95                              | 1.1                  |
| 200         | 20, 25             | 0.9                               | 1.1                  |

1) Downward

# Mini slides DGSL

Technical data

**Travel time  $t$  as a function of the effective load  $m$  and the cushioning Y3 – horizontal mounting position**

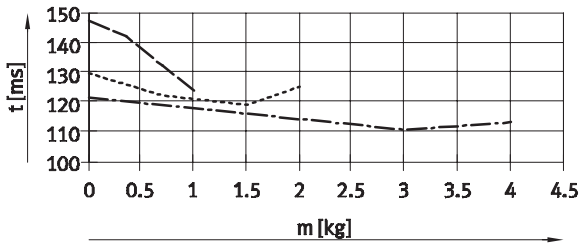


The values in the graphs are determined by calculation. The travel time as a function of effective load must not be reduced below

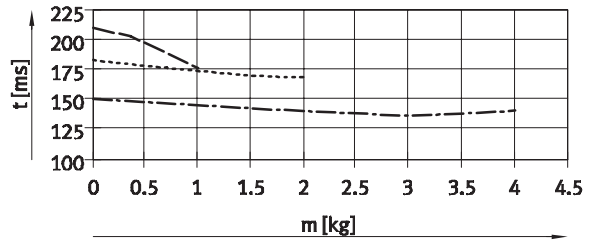
the values shown, because the kinetic impact or residual energy at the end positions can result in damage to the drive.

Vertical mounting position  
→ 18

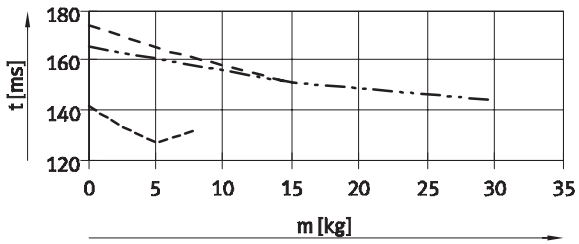
**Advancing**  
Stroke 30 mm, size 8 ... 12



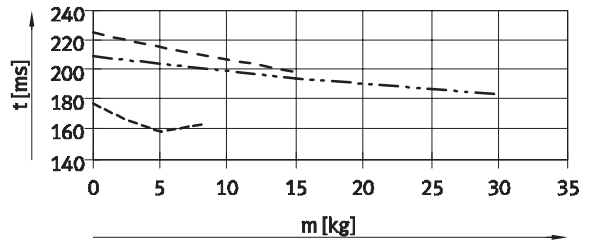
**Retracting**  
Stroke 30 mm, size 8 ... 12



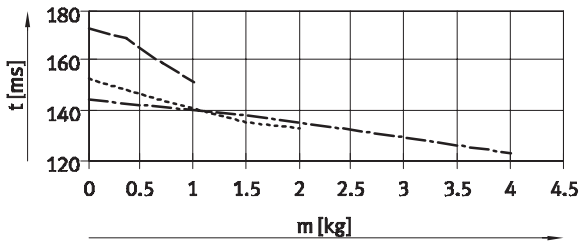
Stroke 30 mm, size 16 ... 25



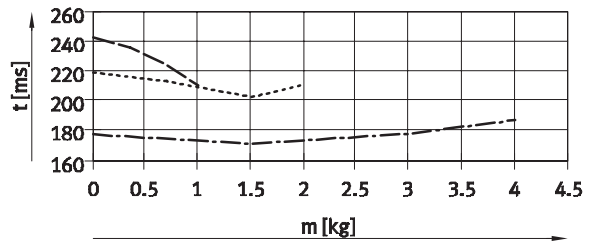
Stroke 30 mm, size 16 ... 25



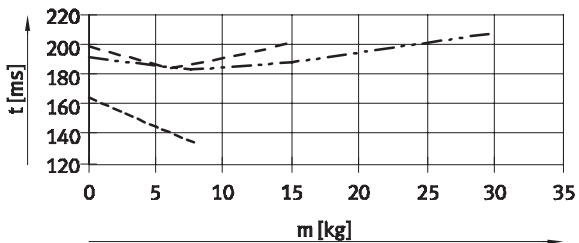
Stroke 50 mm, size 8 ... 12



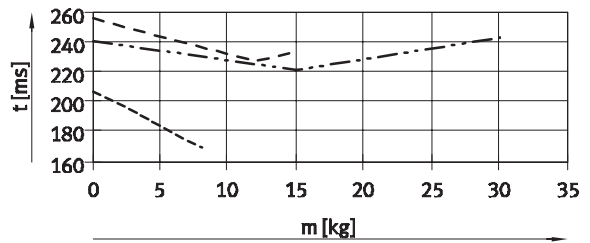
Stroke 50 mm, size 8 ... 12



Stroke 50 mm, size 16 ... 25



Stroke 50 mm, size 16 ... 25



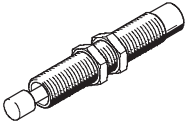
- DGSL-8
- DGSL-10
- · - DGSL-12
- DGSL-16
- DGSL-20
- · - DGSL-25



# Mini slides DGSL

Technical data

**Travel time  $t$  as a function of the effective load  $m$  and the cushioning Y3 – horizontal mounting position**



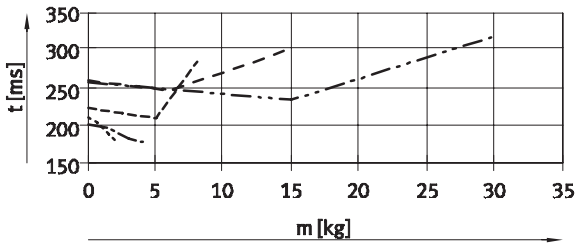
The values in the graphs are determined by calculation. The travel time as a function of effective load must not be reduced below

the values shown, because the kinetic impact or residual energy at the end positions can result in damage to the drive.

Vertical mounting position  
→ 18

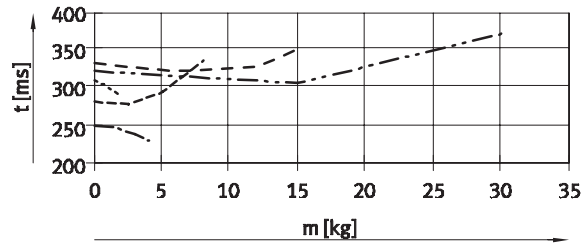
**Advancing**

Stroke 100 mm, size 10 ... 25

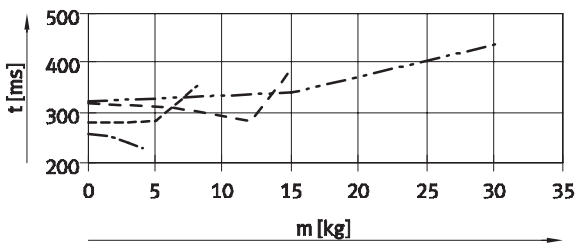


**Retracting**

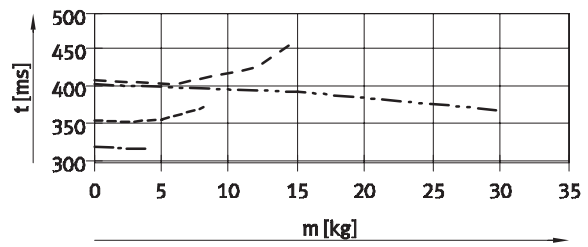
Stroke 100 mm, size 10 ... 25



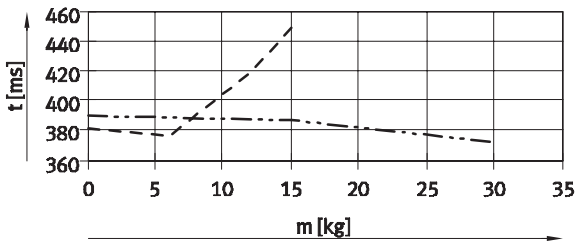
Stroke 150 mm, size 12 ... 25



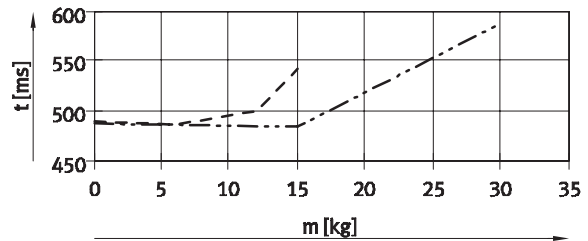
Stroke 150 mm, size 12 ... 25



Stroke 200 mm, size 20 ... 25



Stroke 200 mm, size 20 ... 25



- ..... DGSL-10
- · - · - DGSL-12
- - - - - DGSL-16
- - - - - DGSL-20
- · - · - DGSL-25

# Mini slides DGSL

Technical data

FESTO

## Travel time t as a function of the effective load m and the cushioning Y3 – vertical mounting position

The travel times for a vertical mounting position are calculated by multiplying the data ascertained for

horizontal mounting position by a correction factor ka (advancing) and kr (retracting), see adjacent table.

### Given:

Stroke = 200 mm

Size = 20

Effective load = 10 kg

Ascertained travel time th (horizontal),

see graph:

– Advancing = 405 ms

– Retracting = 490 ms

Calculated travel time tv (vertical):

– Advancing:  $tv = th \times ka$

$$tv = 405 \text{ ms} \times 0.9 = 365 \text{ ms}$$

– Retracting:  $tv = th \times kr$

$$tv = 490 \text{ ms} \times 1.5 = 735 \text{ ms}$$

| Stroke [mm] | Size               | Advancing (ka) <sup>1)</sup> | Retracting (kr) |
|-------------|--------------------|------------------------------|-----------------|
| 30          | 8, 10, 12          | 0.95                         | 1.2             |
|             | 16, 20, 25         | 0.9                          | 1.5             |
| 50          | 8, 10, 12          | 0.9                          | 1.5             |
|             | 16, 20, 25         | 0.9                          | 1.5             |
| 100         | 10, 12, 16, 20, 25 | 0.8                          | 1.5             |
| 150         | 12, 16, 20, 25     | 0.9                          | 1.5             |
| 200         | 20, 25             | 0.9                          | 1.5             |

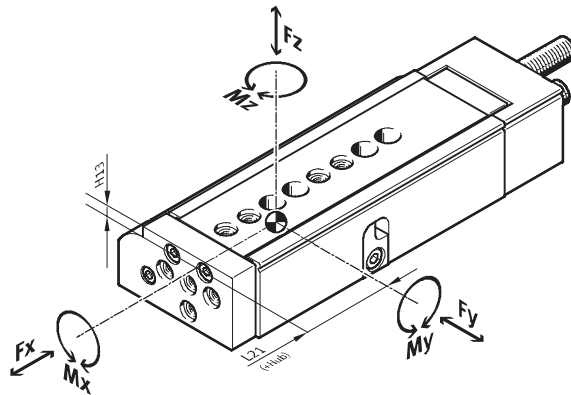
1) Downward

# Mini slides DGSL

Technical data

## Dynamic specific load values

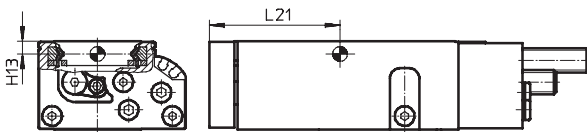
Torques are indicated with reference to the centre of the guide.  
They must not be exceeded in operational use. Special attention must be paid to the cushioning phase.



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

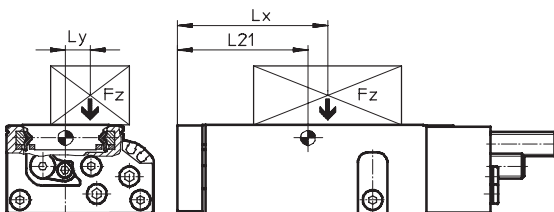
$$\frac{|F_{y1}|}{F_{y\max.}} + \frac{|F_{z1}|}{F_{z\max.}} + \frac{|M_{x1}|}{M_{x\max.}} + \frac{|M_{y1}|}{M_{y\max.}} + \frac{|M_{z1}|}{M_{z\max.}} \leq 1$$

## Position of the guide centre



## Calculation example

Given:



To be calculated:

|                          |                      |  |
|--------------------------|----------------------|--|
| Mini slide               | = DGSL-10            | F <sub>y</sub> , F <sub>z</sub> , M <sub>x</sub> , M <sub>y</sub> , M <sub>z</sub> |
| Stroke length            | = 80 mm              | and  |
| Lever arm L <sub>x</sub> | = 50 mm              | verification of operation with   |
| Lever arm L <sub>y</sub> | = 30 mm              | combined load  |
| Weight F <sub>z</sub>    | = 0.8 kg             |  |
| Acceleration a           | = 0 m/s <sup>2</sup> |  |

Solution:

L21 = 83 mm from table

F<sub>y</sub> = 0 N

F<sub>z</sub> = m x g  
= 0.8 kg x 9.81 m/s<sup>2</sup> = 7.848 N

M<sub>x</sub> = m x g x L<sub>y</sub>  
= 0.8 kg x 9.81 m/s<sup>2</sup> x 30 mm = 0.236 Nm

M<sub>y</sub> = m x g x [(L21+stroke)-L<sub>x</sub>]  
= 0.8 kg x 9.81 m/s<sup>2</sup> x [(83 mm + 80 mm) - 50 mm] = 0.886 Nm

M<sub>z</sub> = 0 Nm

Combined load:

$$\frac{|F_{y1}|}{F_{y\max.}} + \frac{|F_{z1}|}{F_{z\max.}} + \frac{|M_{x1}|}{M_{x\max.}} + \frac{|M_{y1}|}{M_{y\max.}} + \frac{|M_{z1}|}{M_{z\max.}}$$

$$= 0 + \frac{7.848\text{N}}{1200\text{N}} + \frac{0.236\text{Nm}}{18\text{Nm}} + \frac{0.886\text{Nm}}{12\text{Nm}} + 0 = 0.094 \leq 1$$

Forces and torques

→ 20

# Mini slides DGSL

Technical data

FESTO

| Permissible forces and torques |                |                           |                           |                            |  | Geometric characteristics |             |
|--------------------------------|----------------|---------------------------|---------------------------|----------------------------|--|---------------------------|-------------|
| Size                           | Stroke<br>[mm] | F <sub>y</sub> max<br>[N] | F <sub>z</sub> max<br>[N] | M <sub>x</sub> max<br>[Nm] | M <sub>y</sub> max, M <sub>z</sub> max<br>[Nm] | H13<br>[mm]               | L21<br>[mm] |
| <b>4</b>                       |                |                           |                           |                            |  |                           |             |
|                                | 10             | 343                       | 343                       | 2                          | 2  | 2.7                       | 31          |
|                                | 20             | 368                       | 368                       | 2                          | 2  |                           | 36          |
|                                | 30             | 387                       | 387                       | 2                          | 2  |                           | 42          |
| <b>6</b>                       |                |                           |                           |                            |  |                           |             |
|                                | 10             | 540                       | 540                       | 6                          | 4.5  | 3.4                       | 37          |
|                                | 20             | 590                       | 590                       | 7                          | 5  |                           | 42          |
|                                | 30             | 631                       | 631                       | 8                          | 5.5  |                           | 47          |
|                                | 40             | 677                       | 677                       | 8                          | 5.5  |                           | 52          |
|                                | 50             | 719                       | 719                       | 8                          | 5.5  |                           | 57          |
| <b>8</b>                       |                |                           |                           |                            |  |                           |             |
|                                | 10             | 657                       | 657                       | 7                          | 5.5  | 3.25                      | 41          |
|                                | 20             | 745                       | 745                       | 8                          | 5.5  |                           | 46          |
|                                | 30             | 850                       | 850                       | 9                          | 5.5  |                           | 51          |
|                                | 40             | 934                       | 934                       | 10                         | 5.5  |                           | 56          |
|                                | 50             | 962                       | 962                       | 10                         | 8  |                           | 67          |
|                                | 80             | 971                       | 971                       | 10                         | 8  |                           | 82          |
| <b>10</b>                      |                |                           |                           |                            |  |                           |             |
|                                | 10             | 927                       | 927                       | 15                         | 6  | 4.2                       | 43          |
|                                | 20             | 1003                      | 1003                      | 15                         | 7  |                           | 46          |
|                                | 30             | 1078                      | 1078                      | 15                         | 8  |                           | 51          |
|                                | 40             | 1152                      | 1152                      | 15                         | 9  |                           | 56          |
|                                | 50             | 1175                      | 1175                      | 18                         | 9  |                           | 61          |
|                                | 80             | 1200                      | 1200                      | 18                         | 12   |                           | 83          |
|                                | 100            | 1250                      | 1250                      | 18                         | 12   |                           | 96          |
| <b>12</b>                      |                |                           |                           |                            |  |                           |             |
|                                | 10             | 942                       | 942                       | 15                         | 8  | 5.2                       | 44          |
|                                | 20             | 1006                      | 1006                      | 15                         | 9  |                           | 49          |
|                                | 30             | 1075                      | 1075                      | 15                         | 10   |                           | 54          |
|                                | 40             | 1142                      | 1142                      | 18                         | 11   |                           | 59          |
|                                | 50             | 1200                      | 1200                      | 18                         | 12   |                           | 64          |
|                                | 80             | 1280                      | 1280                      | 20                         | 15   |                           | 88          |
|                                | 100            | 1340                      | 1340                      | 20                         | 15   |                           | 98          |
|                                | 150            | 1400                      | 1400                      | 20                         | 15   |                           | 124         |
| <b>16</b>                      |                |                           |                           |                            |  |                           |             |
|                                | 10             | 1769                      | 1769                      | 35                         | 20   | 6.4                       | 54          |
|                                | 20             | 2021                      | 2021                      | 35                         | 22   |                           | 59          |
|                                | 30             | 2274                      | 2274                      | 35                         | 22   |                           | 64          |
|                                | 40             | 2527                      | 2527                      | 40                         | 25   |                           | 69          |
|                                | 50             | 2780                      | 2780                      | 40                         | 25   |                           | 74          |
|                                | 80             | 2800                      | 2800                      | 50                         | 27   |                           | 89          |
|                                | 100            | 2850                      | 2850                      | 50                         | 43   |                           | 113         |
|                                | 150            | 2900                      | 2900                      | 50                         | 43   |                           | 138         |

# Mini slides DGSL

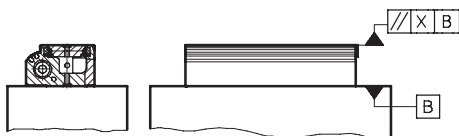
Technical data



| Permissible forces and torques |             |                        |                        |                         |   | Geometric characteristics |          |
|--------------------------------|-------------|------------------------|------------------------|-------------------------|---|---------------------------|----------|
| Size                           | Stroke [mm] | F <sub>y</sub> max [N] | F <sub>z</sub> max [N] | M <sub>x</sub> max [Nm] | M <sub>y</sub> max, M <sub>z</sub> max [Nm] | H13 [mm]                  | L21 [mm] |
| <b>20</b>                      |             |                        |                        |                         |   |                           |          |
|                                | 10          | 2911                   | 2911                   | 60                      | 30  | 7.55                      | 56       |
|                                | 20          | 3143                   | 3143                   | 60                      | 30  |                           | 61       |
|                                | 30          | 3354                   | 3354                   | 60                      | 30  |                           | 66       |
|                                | 40          | 3612                   | 3612                   | 60                      | 40  |                           | 71       |
|                                | 50          | 3816                   | 3816                   | 70                      | 50  |                           | 76       |
|                                | 80          | 4032                   | 4032                   | 80                      | 50  |                           | 91       |
|                                | 100         | 4200                   | 4200                   | 85                      | 80  |                           | 121      |
|                                | 150         | 4400                   | 4400                   | 90                      | 80  |                           | 152      |
|                                | 200         | 4600                   | 4600                   | 90                      | 80  |                           | 177      |
| <b>25</b>                      |             |                        |                        |                         |   |                           |          |
|                                | 10          | 3270                   | 3270                   | 100                     | 60  | 8.55                      | 64       |
|                                | 20          | 3744                   | 3744                   | 100                     | 60  |                           | 69       |
|                                | 30          | 4205                   | 4205                   | 100                     | 60  |                           | 74       |
|                                | 40          | 4643                   | 4643                   | 110                     | 60  |                           | 79       |
|                                | 50          | 4650                   | 4650                   | 120                     | 60  |                           | 84       |
|                                | 80          | 4700                   | 4700                   | 130                     | 80  |                           | 112      |
|                                | 100         | 4750                   | 4750                   | 130                     | 80  |                           | 129      |
|                                | 150         | 4800                   | 4800                   | 130                     | 80  |                           | 154      |
|                                | 200         | 4800                   | 4800                   | 130                     | 80  |                           | 179      |

## Parallelism [mm]

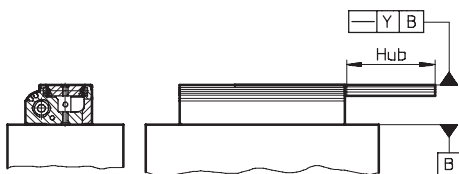
The term parallelism refers to the accuracy of alignment between the mounting surface and the slide surface.



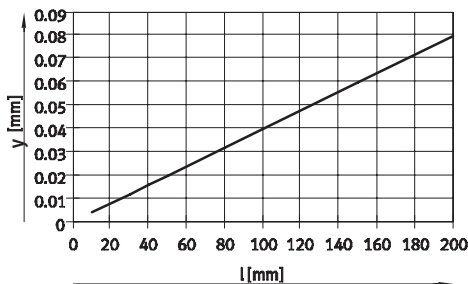
| Size | Stroke [mm] | 4             | 6     | 8     | 10    | 12    | 16    | 20    | 25    |
|------|-------------|---------------|-------|-------|-------|-------|-------|-------|-------|
|      |             | Parallelism X | 10    | 0.02  | 0.02  | 0.02  | 0.02  | 0.02  | 0.02  |
|      | 20          | 0.02          | 0.02  | 0.02  | 0.02  | 0.025 | 0.025 | 0.025 | 0.025 |
|      | 30          | 0.025         | 0.025 | 0.025 | 0.025 | 0.025 | 0.025 | 0.03  | 0.03  |
|      | 40          | -             | 0.025 | 0.025 | 0.025 | 0.03  | 0.03  | 0.035 | 0.035 |
|      | 50          | -             | 0.03  | 0.03  | 0.03  | 0.035 | 0.035 | 0.04  | 0.04  |
|      | 80          | -             | -     | 0.035 | 0.035 | 0.04  | 0.04  | 0.045 | 0.045 |
|      | 100         | -             | -     | -     | 0.045 | 0.05  | 0.05  | 0.055 | 0.055 |
|      | 150         | -             | -     | -     | -     | 0.075 | 0.075 | 0.08  | 0.08  |
|      | 200         | -             | -     | -     | -     | -     | -     | 0.08  | 0.08  |

## Linearity [mm]

The term linearity refers to the accuracy of alignment between the mounting surface and the slide surface as a function of the stroke.



Linear travel accuracy y as a function of the stroke length l

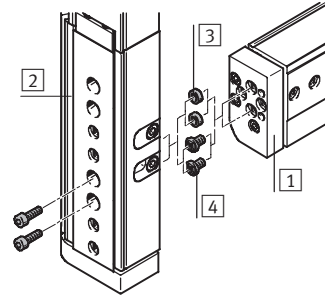
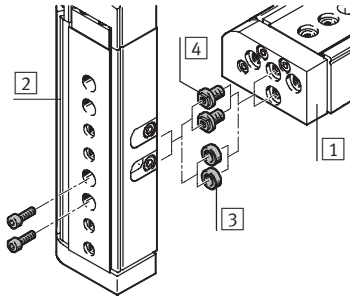


# Mini slides DGSL

Technical data

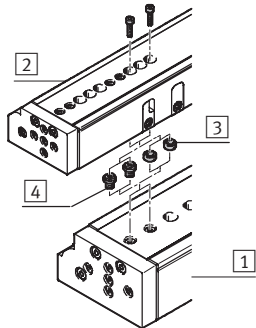
## Possible combinations without adapter plate

Pick & place



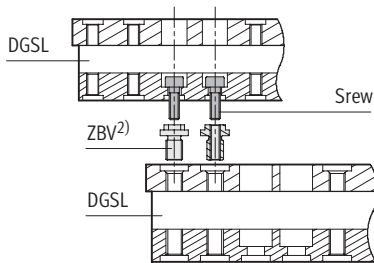
- 3 Centring sleeve ZBH
- 4 Connecting sleeve ZBV

## Piggy-back assembly



- 3 Centring sleeve ZBH
- 4 Connecting sleeve ZBV

## Example of mounting with connecting sleeve ZBV



|                  |    | 1 Basic drive |                                   |                                    |                                    |                                    |                                    |                                    |                                    |                                    |
|------------------|----|---------------|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
|                  |    | Size          | 4                                 | 6                                  | 8                                  | 10                                 | 12                                 | 16                                 | 20                                 | 25                                 |
| 2 Assembly drive | 4  |               | 2x M3x7<br>2x ZBH-5 <sup>1)</sup> | 2x M3x10<br>2x ZBH-5 <sup>1)</sup> | ZBV-M4-7 <sup>2)</sup>             | ZBV-M4-7 <sup>2)</sup>             | -                                  | -                                  | -                                  | -                                  |
|                  | 6  |               | -                                 | 2x M3x10<br>2x ZBH-5 <sup>1)</sup> | ZBV-M4-7 <sup>2)</sup>             | ZBV-M4-7 <sup>2)</sup>             | -                                  | -                                  | -                                  | -                                  |
|                  | 8  |               | -                                 | -                                  | 2x M4x12<br>2x ZBH-7 <sup>1)</sup> | 2x M4x12<br>2x ZBH-7 <sup>1)</sup> | ZBV-M5-7 <sup>2)</sup>             | ZBV-M5-7 <sup>2)</sup>             | -                                  | -                                  |
|                  | 10 |               | -                                 | -                                  | -                                  | 2x M4x14<br>2x ZBH-7 <sup>1)</sup> | ZBV-M5-7 <sup>2)</sup>             | ZBV-M5-7 <sup>2)</sup>             | -                                  | -                                  |
|                  | 12 |               | -                                 | -                                  | -                                  | -                                  | 2x M5x14<br>2x ZBH-7 <sup>1)</sup> | 2x M5x16<br>2x ZBH-7 <sup>1)</sup> | ZBV-M6-9 <sup>2)</sup>             | ZBV-M6-9 <sup>2)</sup>             |
|                  | 16 |               | -                                 | -                                  | -                                  | -                                  | -                                  | 2x M5x18<br>2x ZBH-7 <sup>1)</sup> | ZBV-M6-9 <sup>2)</sup>             | ZBV-M6-9 <sup>2)</sup>             |
|                  | 20 |               | -                                 | -                                  | -                                  | -                                  | -                                  | -                                  | 2x M6x20<br>2x ZBH-9 <sup>1)</sup> | 2x M6x20<br>2x ZBH-9 <sup>1)</sup> |
|                  | 25 |               | -                                 | -                                  | -                                  | -                                  | -                                  | -                                  | -                                  | 2x M6x30<br>2x ZBH-9 <sup>1)</sup> |

1) Centring sleeves ZBH are included in the scope of delivery of the mini slide DGSL

2) Connecting sleeves ZBV → 40

# Mini slides DGSL

Technical data

## Adjustable end position range

Coarse adjustment of the front end position

The mini slide DGSL allows the front fixed stop to be adjusted by removing the cover.

This permits stroke reduction down to the next but one smaller standard stroke through a combination of coarse and precision adjustments.

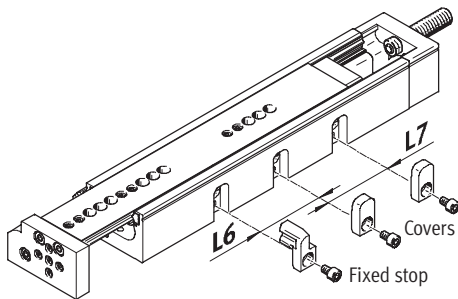
### Advantages:

- Can be flexibly adapted to the application
- Integrated, which means fewer conversion overheads
- Large setting range



Note

Removal of the fixed stops can result in the destruction of the mini slide DGSL.



| Size<br>stroke [mm] | 4  |    | 6  |    | 8  |    | 10 |    | 12 |    | 16 |    | 20 |    | 25 |    |
|---------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                     | L6 | L7 | L6 | L7 | L6 | L7 | L6 | L7 | L6 | L7 | L6 | L7 | L6 | L7 | L6 | L7 |
| 10                  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 20                  | 10 | -  | 14 | -  | 10 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 30                  | 10 | -  | 14 | -  | 10 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 40                  | -  | -  | 14 | -  | 10 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 50                  | -  | -  | 14 | 14 | 10 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  |
| 80                  | -  | -  | -  | -  | 10 | 10 | 24 | -  | 29 | -  | 35 | -  | -  | -  | 55 | -  |
| 100                 | -  | -  | -  | -  | -  | -  | 24 | 24 | 29 | -  | 35 | -  | 44 | -  | 55 | -  |
| 150                 | -  | -  | -  | -  | -  | -  | -  | -  | 29 | 29 | 35 | -  | 44 | -  | 55 | -  |
| 200                 | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | -  | 44 | 44 | 55 | -  |

### Example:

DGSL-12-150-...

Max. stroke = 150 mm

By setting the fixed stop by the dimensions L6:

Stroke = 150 - 29 = 121 mm

By setting the fixed stop by the dimensions L6 and L7:

Stroke = 150 - 29 - 29 = 92 mm

The stroke can additionally be reduced by means of precision adjustment.

Stroke = 150 - 29 - 29 - 29 = 63 mm

## Precision adjustment of the front and rear end position

Precision adjustment of the required stroke reduction is possible using the cushioning components (on the slide and in the end cap).

### Advantages:

- Precision adjustment is precisely fixed by the clamping component
- No readjustment required, position is fully retained under load
- Quick and easy adjustment, only one tool required

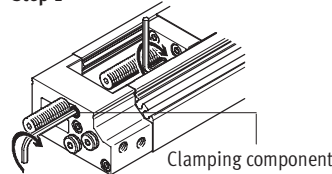
**Step 1:**  
Loosen the clamping component.

**Step 2:**  
Position the slide by hand in the desired end position.

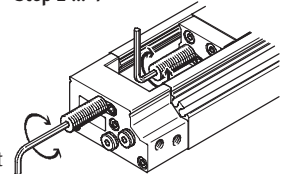
**Step 3:**  
Turn the end-stop component using an Allen key until the end position is reached.

**Step 4:**  
Tighten the clamping component.

### Step 1

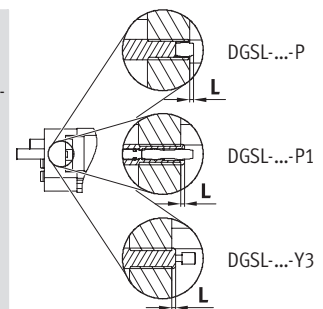


### Step 2 ... 4



Note

The distance L of the cushioning component (→ operating instructions) must not fall short (factory setting).



## Adjustable end position range [mm] per end position / stroke reduction

| Size                      |    | 4     | 6     | 8     | 10    | 12    | 16    | 20    | 25    |
|---------------------------|----|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>Front end position</b> |    |       |       |       |       |       |       |       |       |
| With cushioning           | P  | -14.5 | -16.5 | -19.5 | -27.5 | -29   | -37.5 | -50.5 | -55   |
|                           | P1 | -14.5 | -16.5 | -19.5 | -27.5 | -29   | -37.5 | -50.5 | -55   |
|                           | Y3 | -     | -     | -15   | -24   | -29   | -36.5 | -44   | -56   |
| <b>Rear end position</b>  |    |       |       |       |       |       |       |       |       |
| With cushioning           | P  | -13.5 | -15   | -18.5 | -20   | -25.5 | -39.5 | -49.5 | -49   |
|                           | P1 | -13.5 | -15   | -18.5 | -20   | -25.5 | -39.5 | -49.5 | -49   |
|                           | Y3 | -     | -     | -14   | -15   | -25.5 | -38.5 | -42   | -51.5 |

# Mini slides DGSL

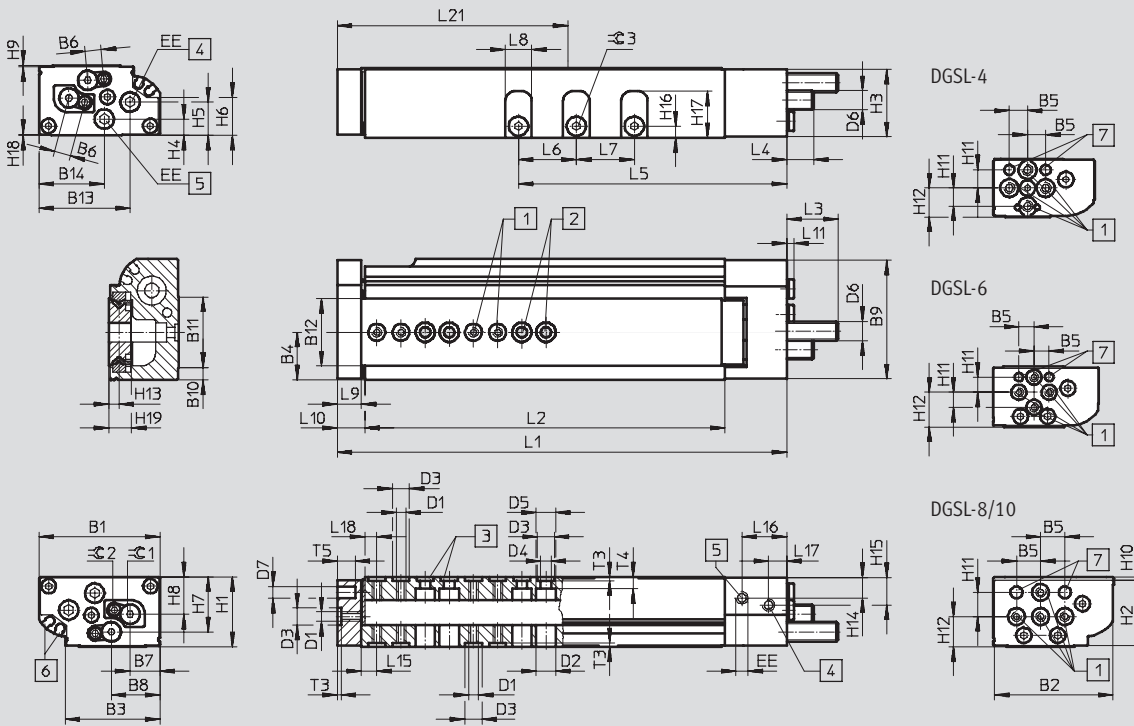
Technical data

FESTO

## Dimensions

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

Size 4 ... 10



- 1 Mounting thread (centring sleeves included in scope of delivery)
- 2 Through-holes for mounting the drive
- 3 Centring holes (centring sleeves included in scope of delivery)
- 4 Compressed air connection, advancing
- 5 Compressed air connection, retracting
- 6 Sensor slots for proximity sensor SME/SMT-10
- 7 Centring hole

## General dimensions

| Size | B1 | B2   | B3   | B4    | B5 | B6   | B7    | B8    | B9   | B10 | B11  | B12  | B13   | B14   | D1 |
|------|----|------|------|-------|----|------|-------|-------|------|-----|------|------|-------|-------|----|
| 4    | 28 | 27.4 | 18.1 | 9.4   | 5  | 3.55 | 6.3   | 11.95 | 27.5 | 2   | 17.2 | 12.4 | 23.15 | 16.15 | M3 |
| 6    | 35 | 34.5 | 26   | 13.5  | 5  | 5    | 8.2   | 13.5  | 34.5 | 3.5 | 19.9 | 20   | 28.1  | 18.9  | M3 |
| 8    | 42 | 41.3 | 31.2 | 16.6  | 10 | 6    | 10.3  | 16.25 | 41.5 | 4.5 | 24   | 24.1 | 33    | 24.4  | M4 |
| 10   | 50 | 49   | 39.2 | 19.65 | 10 | 6.8  | 12.35 | 20.1  | 49   | 5   | 29.2 | 28   | 37.7  | 27    | M4 |

| Size | D2  | D3              | D4  | D5 | D6     | D7              | EE | H1    | H2   | H3    | H4   | H5   | H6   | H7   | H8    |
|------|-----|-----------------|-----|----|--------|-----------------|----|-------|------|-------|------|------|------|------|-------|
|      | ∅   | ∅               | ∅   | ∅  |        | ∅               |    | ±0.08 |      |       |      |      |      |      |       |
| 4    | 6.2 | 5 <sup>H7</sup> | 3.3 | 6  | M4x0.5 | 3 <sup>H7</sup> | M3 | 16    | 15.4 | 15.1  | 3.85 | 6.3  | 8.6  | 8.4  | 8.1   |
| 6    | 6.2 | 5 <sup>H7</sup> | 3.3 | 6  | M5x0.5 | 3 <sup>H7</sup> | M3 | 20    | 19   | 19.25 | 4.7  | 7.8  | 10.2 | 16   | 10.55 |
| 8    | 8   | 7 <sup>H7</sup> | 4.3 | 8  | M6x0.5 | 5 <sup>H7</sup> | M3 | 24    | 22.7 | 23    | 6.5  | 10.6 | 14   | 18.9 | 13.3  |
| 10   | 8   | 7 <sup>H7</sup> | 4.3 | 8  | M8x1   | 5 <sup>H7</sup> | M5 | 29    | 27.1 | 28    | 6.8  | 13.8 | 15.8 | 22.8 | 15.5  |

| Size | H9   | H10 | H11 | H12  | H13  | H14  | H15   | H16 | H17   | H18  | H19 | T3   | T4  | T5  | ≙C 2 <sup>1)</sup> | ≙C 3 |
|------|------|-----|-----|------|------|------|-------|-----|-------|------|-----|------|-----|-----|--------------------|------|
|      |      |     |     |      |      |      |       |     |       |      |     | +0.1 |     |     |                    |      |
| 4    | 0.65 | 0.3 | 5   | 8    | 2.7  | 5.35 | 5.85  | 3   | 10.6  | 0.25 | 5.3 | 1.3  | 2.3 | 4   | 1.3                | 2    |
| 6    | 0.5  | 0.5 | 5   | 11.5 | 3.4  | 6.5  | 7.2   | 3.7 | 13.1  | 0.27 | 6.5 | 1.3  | 3.3 | 6   | 1.5                | 2.5  |
| 8    | 0.6  | 0.9 | 10  | 8.7  | 3.25 | 7.8  | 10.5  | 4.1 | 16.8  | 0.35 | 6.6 | 1.6  | 3.8 | 7.5 | 2                  | 2.5  |
| 10   | 0.6  | 1.4 | 10  | 12.5 | 4.2  | 8.75 | 11.75 | 4.8 | 19.25 | 0.4  | 9   | 1.6  | 5   | 7.5 | 2.5                | 3    |

1) With size 4 an Allen key is included with the drive



# Mini slides DGSL

Technical data



| Stroke-dependent dimensions |        |       |       |       |    |    |     |     |      |      |              |       |      |              |     |
|-----------------------------|--------|-------|-------|-------|----|----|-----|-----|------|------|--------------|-------|------|--------------|-----|
| Size                        | Stroke | L1    | L2    | L5    | L6 | L7 | L8  | L9  | L10  | L11  | L15<br>±0.05 | L16   | L17  | L18<br>±0.05 | L21 |
| 4                           | 10     | 72.1  | 48    | 36.35 | –  | –  | 6.5 | 5.5 | 6.6  | 2.5  | 4            | 13.25 | 4.95 | 3            | 31  |
|                             | 20     | 81.2  | 57.1  | 37.95 | 10 |    |     |     |      |      |              |       |      |              | 36  |
|                             | 30     | 91.2  | 67.1  | 47.95 | 11 |    |     |     |      |      |              |       |      |              | 42  |
| 6                           | 10     | 81.1  | 54    | 33.1  | –  | –  | 8   | 8   | 9.6  | 2.5  | 5.1          | 13.25 | 4.95 | 3.5          | 37  |
|                             | 20     | 91.1  | 64    | 43.1  | 14 |    |     |     |      |      |              |       |      |              | 42  |
|                             | 30     | 101.1 | 74    | 53.1  | 14 |    |     |     |      |      |              |       |      |              | 47  |
|                             | 40     | 111.1 | 84    | 63.1  |    |    |     |     |      |      |              |       |      |              | 52  |
|                             | 50     | 121.1 | 94    | 73.1  |    |    |     |     |      |      |              |       |      |              | 14  |
| 8                           | 10     | 90.2  | 59.6  | 34.6  | –  | –  | 8   | 10  | 11.6 | 2.5  | 7            | 14.65 | 6.1  | 5.5          | 41  |
|                             | 20     | 100.2 | 69.6  | 44.6  | 10 |    |     |     |      |      |              |       |      |              | 46  |
|                             | 30     | 110.2 | 79.6  | 54.6  | 16 |    |     |     |      |      |              |       |      |              | 51  |
|                             | 40     | 120.2 | 89.6  | 64.6  | 10 |    |     |     |      |      |              |       |      |              | 56  |
|                             | 50     | 142.2 | 111.6 | 74.6  |    |    |     |     |      |      |              |       |      |              | 67  |
|                             | 80     | 172.2 | 141.6 | 104.6 |    |    |     |     |      |      |              |       |      |              | 82  |
| 10                          | 10     | 103.1 | 66    | 41.3  |    | –  | –   | 11  | 10   | 11.6 | 2.5          | 6.4   | 18.5 | 7.5          | 5   |
|                             | 20     | 112.8 | 75.7  | 51    | 46 |    |     |     |      |      |              |       |      |              |     |
|                             | 30     | 122.8 | 85.7  | 61    | 51 |    |     |     |      |      |              |       |      |              |     |
|                             | 40     | 132.8 | 95.7  | 71    | 56 |    |     |     |      |      |              |       |      |              |     |
|                             | 50     | 142.8 | 105.7 | 81    | 61 |    |     |     |      |      |              |       |      |              |     |
|                             | 80     | 186.2 | 149.1 | 111   | 24 | 83 |     |     |      |      |              |       |      |              |     |
|                             | 100    | 206.2 | 169.1 | 131   | 24 | 24 |     |     |      |      |              |       |      |              |     |

| Cushioning-dependent dimensions |            |            |            |  |                                |
|---------------------------------|------------|------------|------------|--|--------------------------------|
| Size                            | Cushioning | L3<br>max. | L4<br>max. | ≈ 1                                    |                                |
|                                 |            |            |            | For adjusting the cushioning<br>stroke | For adjusting the end position |
| 4                               | P          | 15.2       | 7.8        | –                                      | 1.3                            |
|                                 | P1         | 14         | 6          | 1.3                                    | 2.5                            |
| 6                               | P          | 17.6       | 8.1        | –                                      | 1.5                            |
|                                 | P1         | 15.5       | 5.8        | 1.5                                    | 3                              |
| 8                               | P          | 21.1       | 10.7       | –                                      | 2                              |
|                                 | P1         | 19         | 9.1        | 2                                      | 4                              |
|                                 | Y3         | 24.3       | 23.9       | –                                      | 2                              |
| 10                              | P          | 22.8       | 12.5       | –                                      | 2.5                            |
|                                 | P1         | 20.5       | 10.2       | 2.5                                    | 5                              |
|                                 | Y3         | 25.5       | 14.9       | –                                      | 2.5                            |

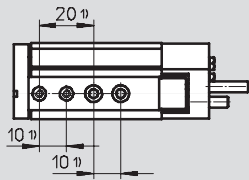
# Mini slides DGSL

Technical data

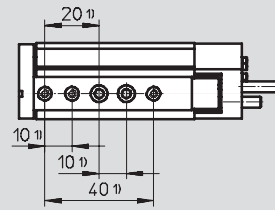
FESTO

## Hole pattern for mounting threads and centring holes

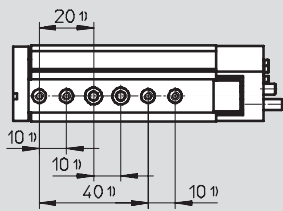
DGSL-4-10



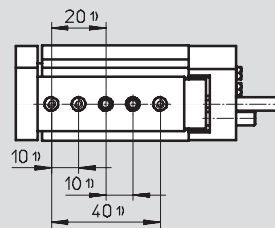
DGSL-4-20



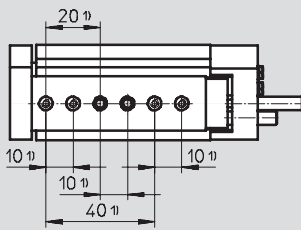
DGSL-4-30



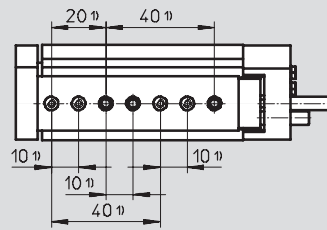
DGSL-6-10



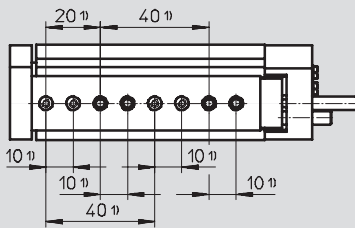
DGSL-6-20



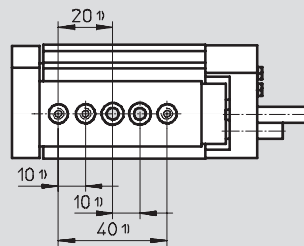
DGSL-6-30



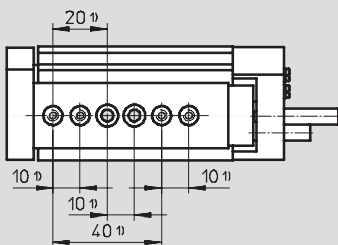
DGSL-6-40/50



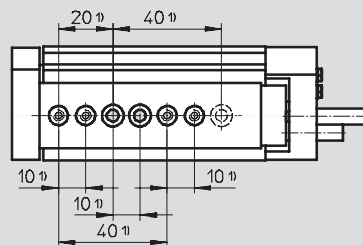
DGSL-8-10



DGSL-8-20



DGSL-8-30

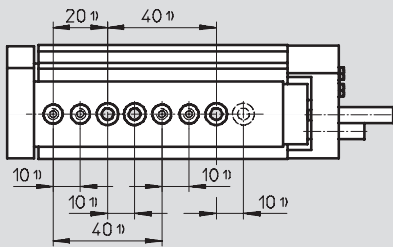


# Mini slides DGSL

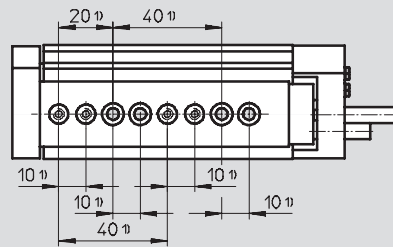
Technical data

## Hole pattern for mounting threads and centring holes

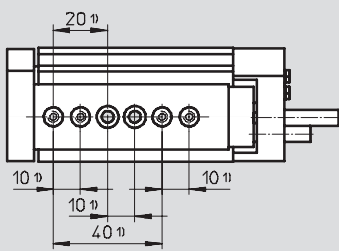
DGSL-8-40



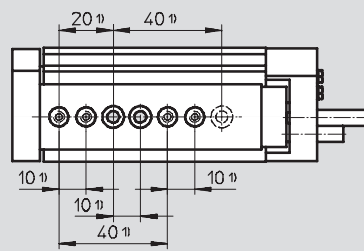
DGSL-8-50/80



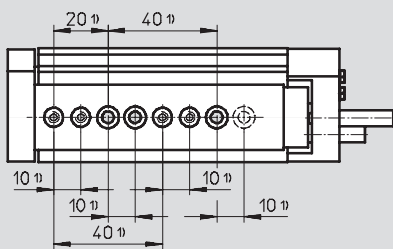
DGSL-10-10



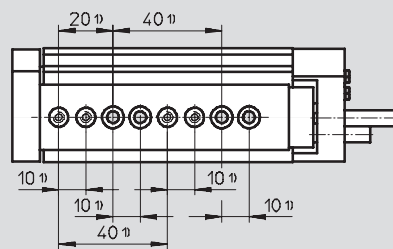
DGSL-10-20



DGSL-10-30

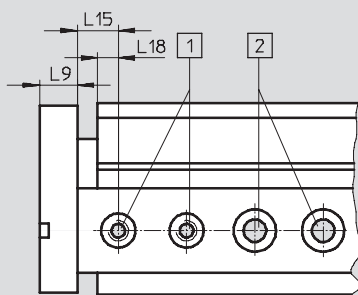


DGSL-10-40 ... 100



## Distances from the yoke plate to the mounting threads and centring holes

DGSL-4 ... 10



- 1 Centring holes with thread
- 2 Through-holes for mounting the drive
- 1) Tolerance for centring hole  $\pm 0.02$
- Tolerance for through-hole  $\pm 0.1$

| Size | L9  | L15<br>$\pm 0.05$ | L18 |
|------|-----|-------------------|-----|
| 4    | 5.5 | 4                 | 3   |
| 6    | 8   | 5.1               | 3.5 |
| 8    | 10  | 7                 | 5.5 |
| 10   | 10  | 6.4               | 5   |



# Mini slides DGSL

Technical data



| Stroke-dependent dimensions |        |       |       |       |     |     |    |    |      |     |              |      |     |              |     |    |
|-----------------------------|--------|-------|-------|-------|-----|-----|----|----|------|-----|--------------|------|-----|--------------|-----|----|
| Size                        | Stroke | L1    | L2    | L5    | L6  | L7  | L8 | L9 | L10  | L11 | L15<br>±0.05 | L16  | L17 | L18<br>±0.05 | L21 |    |
| 12                          | 10     | 106.2 | 68.6  | 42.4  | -   | -   | 12 | 10 | 11.6 | 2.5 | 5.8          | 18.5 | 9   | 4.5          | 44  |    |
|                             | 20     | 116.2 | 78.6  | 52.4  |     |     |    |    |      |     |              |      |     |              | 49  |    |
|                             | 30     | 126.2 | 88.6  | 62.4  |     |     |    |    |      |     |              |      |     |              | 54  |    |
|                             | 40     | 136.2 | 98.6  | 72.4  |     |     |    |    |      |     |              |      |     |              | 59  |    |
|                             | 50     | 146.2 | 108.6 | 82.4  |     |     |    |    |      |     |              |      |     |              | 64  |    |
|                             | 80     | 197.6 | 160   | 117   |     |     |    |    |      |     |              |      |     |              | 29  | 88 |
|                             | 100    | 217.6 | 180   | 137   |     |     |    |    |      |     |              |      |     |              | 98  |    |
|                             | 150    | 267.6 | 230   | 187   | 29  | 124 |    |    |      |     |              |      |     |              |     |    |
| 16                          | 10     | 124.1 | 82.5  | 45    | -   | -   | 14 | 12 | 13.6 | 2.5 | 6.8          | 21   | 10  | 5.5          | 54  |    |
|                             | 20     | 134.6 | 93    | 54.6  |     |     |    |    |      |     |              |      |     |              | 59  |    |
|                             | 30     | 144.6 | 103   | 64.6  |     |     |    |    |      |     |              |      |     |              | 64  |    |
|                             | 40     | 154.6 | 113   | 74.6  |     |     |    |    |      |     |              |      |     |              | 69  |    |
|                             | 50     | 164.6 | 123   | 84.6  |     |     |    |    |      |     |              |      |     |              | 74  |    |
|                             | 80     | 194.6 | 153   | 114.6 |     |     |    |    |      |     |              |      |     |              | 35  | 89 |
|                             | 100    | 243.6 | 202   | 134.6 |     |     |    |    |      |     |              |      |     |              | 113 |    |
|                             | 150    | 293.6 | 252   | 184.6 | 138 |     |    |    |      |     |              |      |     |              |     |    |

| Cushioning-dependent dimensions |            |            |            |                                     |                                |
|---------------------------------|------------|------------|------------|-------------------------------------|--------------------------------|
| Size                            | Cushioning | L3<br>max. | L4<br>max. | ≈ 1                                 |                                |
|                                 |            |            |            | For adjusting the cushioning stroke | For adjusting the end position |
| 12                              | P          | 28.1       | 14.9       | -                                   | 3                              |
|                                 | P1         | 26         | 12.8       | 3                                   | 6                              |
|                                 | Y3         | 36.9       | 23.7       | -                                   | 3                              |
| 16                              | P          | 42.3       | 26.1       | -                                   | 4                              |
|                                 | P1         | 40         | 23.8       | 4                                   | 8                              |
|                                 | Y3         | 51.9       | 35.7       | -                                   | 4                              |

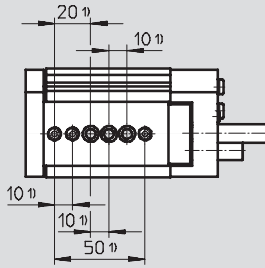
# Mini slides DGSL

Technical data

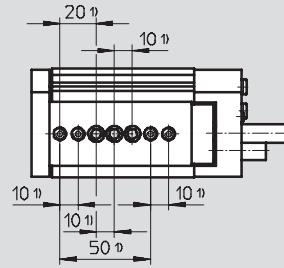
FESTO

## Hole pattern for mounting threads and centring holes

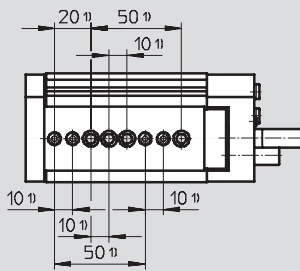
DGSL-12-10



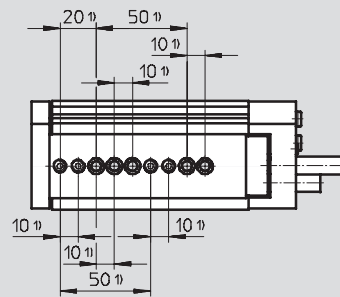
DGSL-12-20



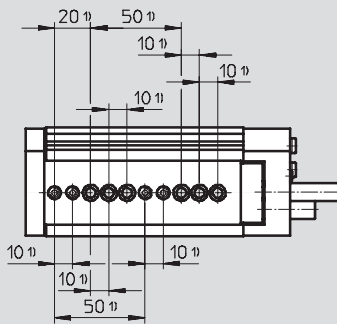
DGSL-12-30



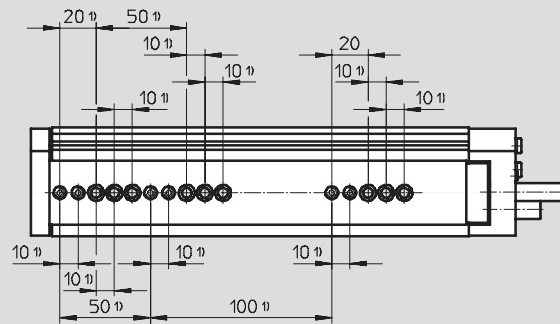
DGSL-12-40



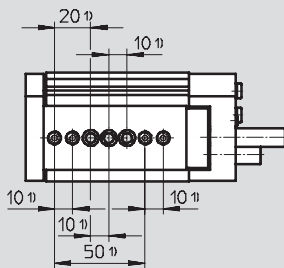
DGSL-12-50 ... 100



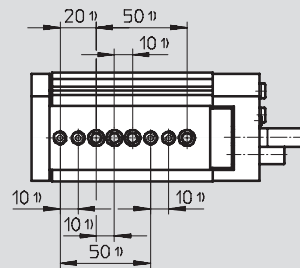
DGSL-12-150



DGSL-16-10



DGSL-16-20

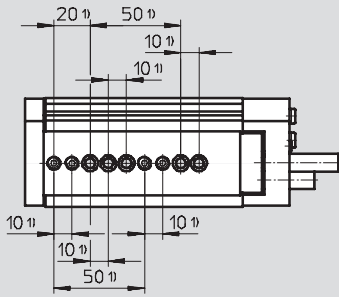


# Mini slides DGSL

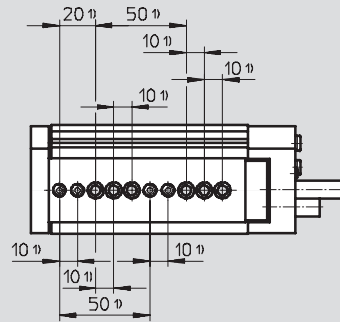
Technical data

## Hole pattern for mounting threads and centring holes

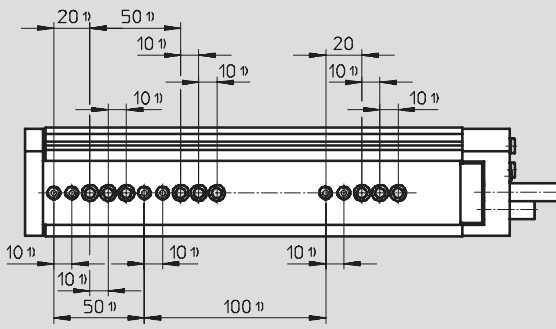
DGSL-16-30



DGSL-16-40 ... 100

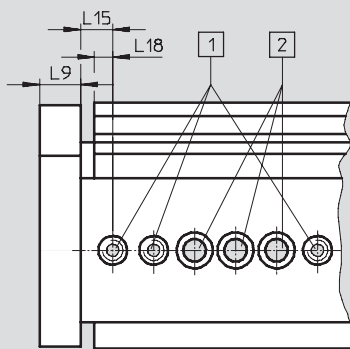


DGSL-16-150



## Distances from the yoke plate to the mounting threads and centring holes

DGSL-12/16



- 1 Centring holes with thread
- 2 Through-holes for mounting the drive
- 1) Tolerance for centring hole  $\pm 0.02$
- Tolerance for through-hole  $\pm 0.1$

| Size | L9 | L15<br>$\pm 0.05$ | L18 |
|------|----|-------------------|-----|
| 12   | 10 | 5.8               | 4.5 |
| 16   | 12 | 6.8               | 5.5 |

# Mini slides DGSL

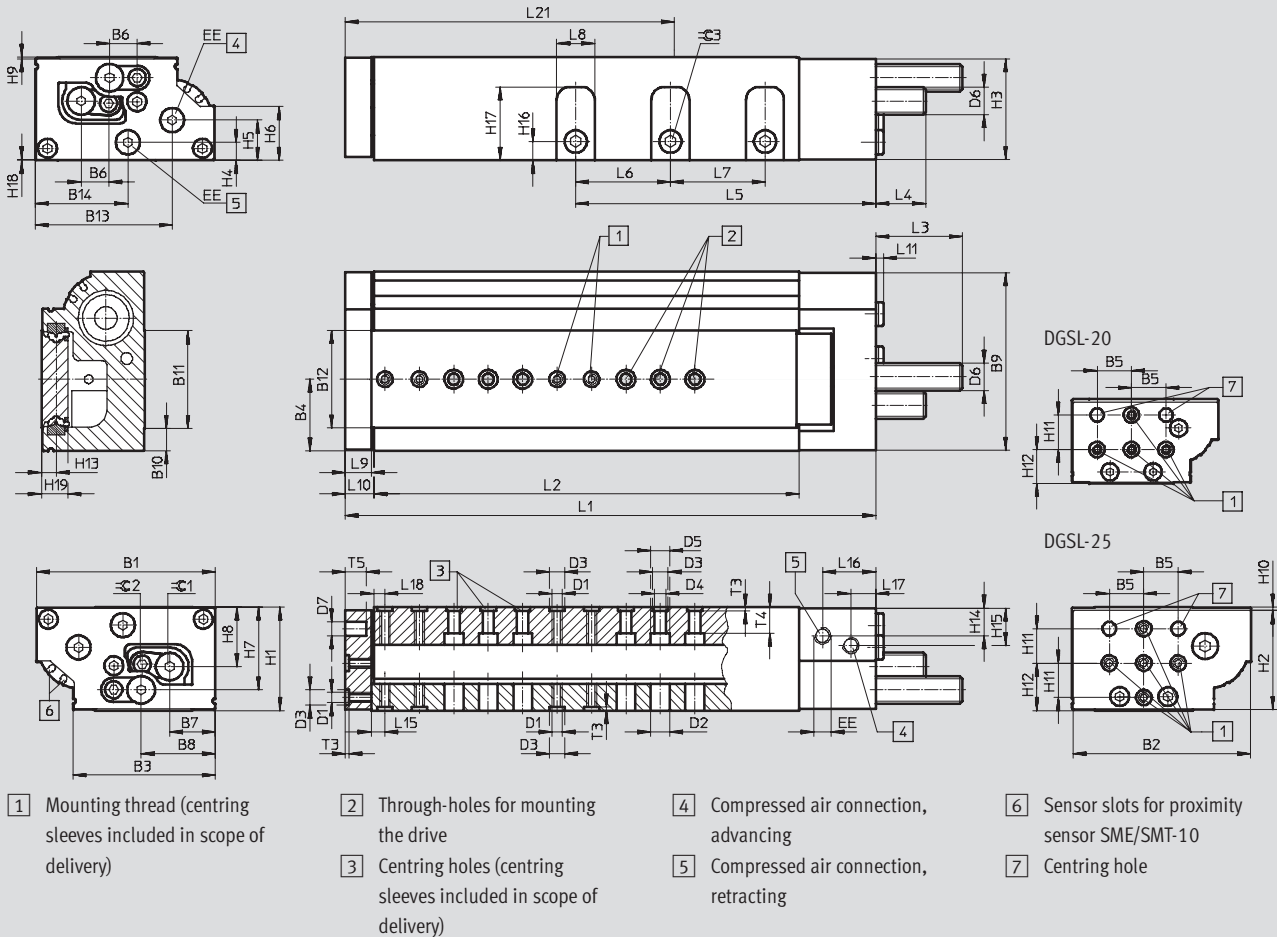
Technical data

FESTO

## Dimensions

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

Size 20/25



## General dimensions

| Size | B1  | B2  | B3    | B4   | B5 | B6   | B7   | B8    | B9   | B10   | B11  | B12  | B13  | B14  | D1 |
|------|-----|-----|-------|------|----|------|------|-------|------|-------|------|------|------|------|----|
| 20   | 85  | 84  | 68.85 | 34.5 | 20 | 14   | 21.4 | 36.35 | 83.4 | 10    | 48.9 | 49.2 | 64.1 | 48.6 | M6 |
| 25   | 104 | 103 | 82.6  | 41.6 | 20 | 16.2 | 26.6 | 43.1  | 103  | 13.25 | 56.5 | 56.7 | 79.4 | 53.7 | M6 |

| Size | D2 | D3              | D4  | D5 | D6    | D7              | EE                            | H1    | H2   | H3   | H4   | H5   | H6   | H7   | H8   |
|------|----|-----------------|-----|----|-------|-----------------|-------------------------------|-------|------|------|------|------|------|------|------|
|      | ∅  | ∅               | ∅   | ∅  |       | ∅               |                               | ±0.08 |      |      |      |      |      |      |      |
| 20   | 11 | 9 <sup>H7</sup> | 6.6 | 11 | M14x1 | 8 <sup>H7</sup> | G <sup>1</sup> / <sub>8</sub> | 49    | 46.5 | 47.7 | 10.3 | 20.6 | 23.2 | 38.2 | 26.1 |
| 25   | 11 | 9 <sup>H7</sup> | 6.6 | 11 | M16x1 | 8 <sup>H7</sup> | G <sup>1</sup> / <sub>8</sub> | 60    | 57.5 | 58.5 | 10.5 | 23.4 | 31.2 | 48   | 34.5 |

| Size | H9  | H10 | H11 | H12  | H13  | H14  | H15  | H16 | H17  | H18 | H19  | T3   | T4   | T5 | ∠ 2 | ∠ 3 |
|------|-----|-----|-----|------|------|------|------|-----|------|-----|------|------|------|----|-----|-----|
|      |     |     |     |      |      |      |      |     |      |     |      | +0.1 |      |    |     |     |
| 20   | 0.5 | 2   | 20  | 19.6 | 7.55 | 14.7 | 14.7 | 10  | 33.3 | 0.8 | 14.5 | 2.1  | 8.8  | 10 | 4   | 5   |
| 25   | 1   | 2   | 20  | 27.5 | 8.55 | 16.6 | 22.2 | 11  | 42.7 | 0.5 | 15.5 | 2.1  | 15.1 | 12 | 5   | 6   |



# Mini slides DGSL

Technical data



| Stroke-dependent dimensions |        |       |       |       |     |    |     |    |      |     |              |      |      |              |     |
|-----------------------------|--------|-------|-------|-------|-----|----|-----|----|------|-----|--------------|------|------|--------------|-----|
| Size                        | Stroke | L1    | L2    | L5    | L6  | L7 | L8  | L9 | L10  | L11 | L15<br>±0.05 | L16  | L17  | L18<br>±0.05 | L21 |
| 20                          | 10     | 141.2 | 84.6  | 59.1  | -   | -  | 17  | 14 | 15.6 | 4.6 | 7.8          | 29.3 | 12   | 6.5          | 56  |
|                             | 20     | 151.2 | 94.6  | 69.1  |     |    |     |    |      |     |              |      |      |              | 61  |
|                             | 30     | 161.2 | 104.6 | 79.1  |     |    |     |    |      |     |              |      |      |              | 66  |
|                             | 40     | 171.2 | 114.6 | 89.1  |     |    |     |    |      |     |              |      |      |              | 71  |
|                             | 50     | 183.2 | 126.6 | 99.1  |     |    |     |    |      |     |              |      |      |              | 76  |
|                             | 80     | 211.2 | 154.6 | 129.1 |     |    |     |    |      |     |              |      |      |              | 91  |
|                             | 100    | 270.2 | 213.6 | 149.1 | 44  | 44 | 121 |    |      |     |              |      |      |              |     |
|                             | 150    | 333.2 | 276.6 | 199.1 |     |    | 152 |    |      |     |              |      |      |              |     |
|                             | 200    | 383.2 | 326.6 | 252.1 |     |    | 177 |    |      |     |              |      |      |              |     |
| 25                          | 10     | 157.1 | 96    | 63.7  | -   | -  | 22  | 15 | 16.6 | 4.6 | 8            | 30.9 | 14.5 | 6.5          | 64  |
|                             | 20     | 167.1 | 106   | 72.2  |     |    |     |    |      |     |              |      |      |              | 69  |
|                             | 30     | 177.1 | 116   | 82.2  |     |    |     |    |      |     |              |      |      |              | 74  |
|                             | 40     | 187.1 | 126   | 92.2  |     |    |     |    |      |     |              |      |      |              | 79  |
|                             | 50     | 197.1 | 136   | 102.2 |     |    |     |    |      |     |              |      |      |              | 84  |
|                             | 80     | 253.1 | 192   | 132.2 |     |    |     |    |      |     |              |      |      |              | 55  |
|                             | 100    | 286.1 | 225   | 152.2 | 129 |    |     |    |      |     |              |      |      |              |     |
|                             | 150    | 338.1 | 277   | 202.2 | 154 |    |     |    |      |     |              |      |      |              |     |
|                             | 200    | 388.1 | 327   | 254.2 | 179 |    |     |    |      |     |              |      |      |              |     |

| Cushioning-dependent dimensions |            |            |            |                                     |                                |
|---------------------------------|------------|------------|------------|-------------------------------------|--------------------------------|
| Size                            | Cushioning | L3<br>max. | L4<br>max. | ≈ 1                                 |                                |
|                                 |            |            |            | For adjusting the cushioning stroke | For adjusting the end position |
| 20                              | P          | 52.4       | 31.2       | -                                   | 4                              |
|                                 | P1         | 50.1       | 28.9       | 4                                   | 8                              |
|                                 | Y3         | 55.5       | 34.3       | -                                   | 4                              |
| 25                              | P          | 51.9       | 30.5       | -                                   | 5                              |
|                                 | P1         | 49.6       | 28.2       | 5                                   | 10                             |
|                                 | Y3         | 65.2       | 43.8       | -                                   | 5                              |

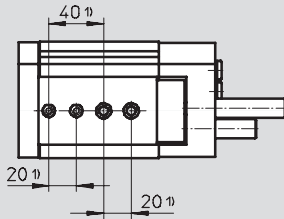
# Mini slides DGSL

Technical data

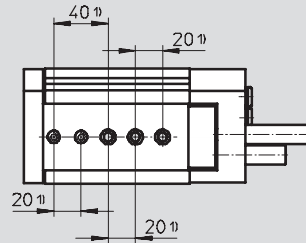
FESTO

## Hole pattern for mounting threads and centring holes

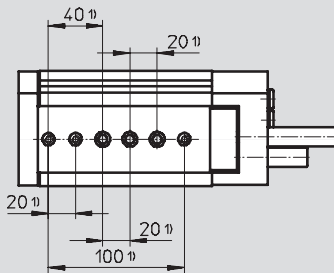
DGSL-20-10/20



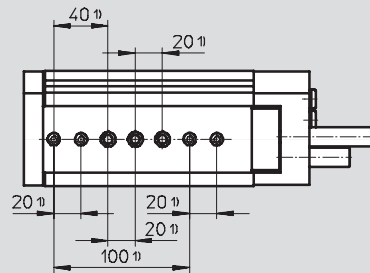
DGSL-20-30/40



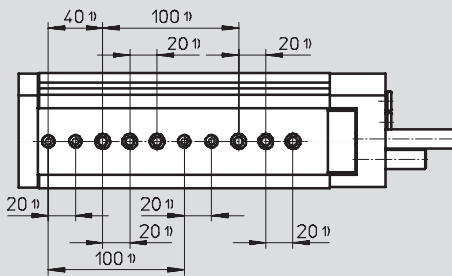
DGSL-20-50



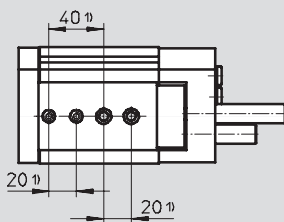
DGSL-20-80



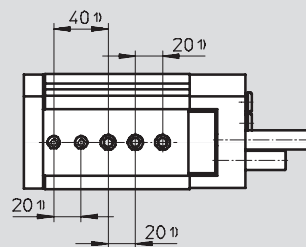
DGSL-20-100 ... 200



DGSL-25-10



DGSL-25-20

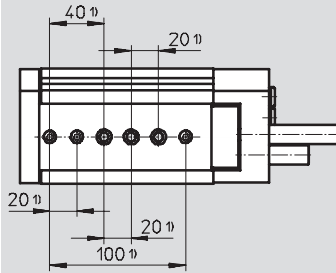


# Mini slides DGSL

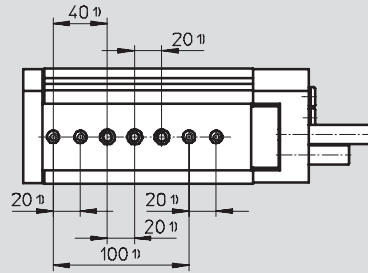
Technical data

## Hole pattern for mounting threads and centring holes

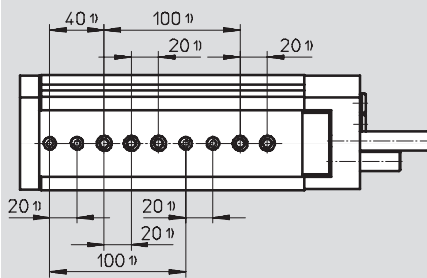
DGSL-25-30/40



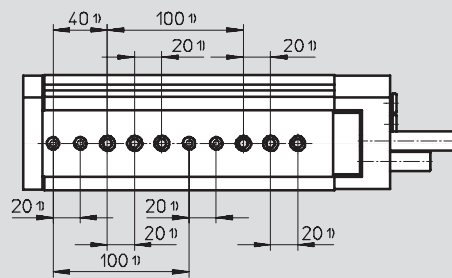
DGSL-25-50



DGSL-25-80

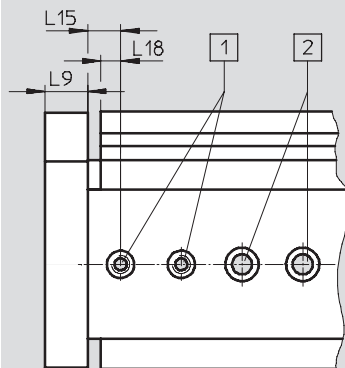


DGSL-25-100 ... 200



## Distances from the yoke plate to the mounting threads and centring holes

DGSL-20/25



- 1) Centring holes with thread
- 2) Through-holes for mounting the drive
- 1) Tolerance for centring hole  $\pm 0.02$
- Tolerance for through-hole  $\pm 0.1$

| Size | L9 | L15<br>$\pm 0.05$ | L18 |
|------|----|-------------------|-----|
| 20   | 14 | 7.8               | 6.5 |
| 25   | 15 | 8                 | 6.5 |

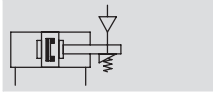
# Mini slides DGSL-C/-E3

Technical data

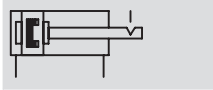
FESTO

Function

C – Clamping unit



E3 – End position locking



Size  
6 ... 25

Wearing parts kits  
→ 40



Note

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

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

| General technical data – Clamping unit           |   |    |     |     |     |     |     |
|--|---|----|-----|-----|-----|-----|-----|
| Size   | 6   | 8  | 10  | 12  | 16  | 20  | 25  |
| Function   | – Mechanical clamping<br>– For fixing the slide in any position<br>– Frictional locking |    |     |     |     |     |     |
| Clamping type with effective direction of action | From both sides<br>Clamping via spring force, air pressure to release                   |    |     |     |     |     |     |
| Pneumatic connection                             | M5  |    |     |     |     |     |     |
| Mounting position                                | Any   |    |     |     |     |     |     |
| Static holding force [N]                         | 80  | 80 | 180 | 180 | 350 | 350 | 600 |
| Product weight [g]                               | 10  | 10 | 15  | 15  | 50  | 50  | 50  |

| Operating and environmental conditions – Clamping unit |  |
|--|--|
| Operating medium                                       | Dried compressed air, lubricated or unlubricated |
| Min. release pressure [bar]                            | 3  |
| Max. operating pressure [bar]                          | ≤ 10   |

| General technical data – End-position locking    |   |    |     |     |     |     |     |
|--|---|----|-----|-----|-----|-----|-----|
| Size   | 6   | 8  | 10  | 12  | 16  | 20  | 25  |
| Function   | – Mechanical locking when the end position is reached<br>– For fixing the slide in the unpressurised, retracted state<br>– Positive locking |    |     |     |     |     |     |
| Clamping type with effective direction of action | From both sides<br>Clamping via spring force, air pressure to unlock  |    |     |     |     |     |     |
| Pneumatic connection                             | M5  |    |     |     |     |     |     |
| Mounting position                                | Any   |    |     |     |     |     |     |
| Static holding force [N]                         | 60  | 60 | 160 | 160 | 250 | 380 | 640 |
| Product weight [g]                               | 13  | 13 | 26  | 26  | 64  | 64  | 65  |

| Operating and environmental conditions – End position locking |  |
|---|--|
| Operating medium  | Dried compressed air, lubricated or unlubricated |
| Operating pressure [bar]                                      | 3 ... 8  |

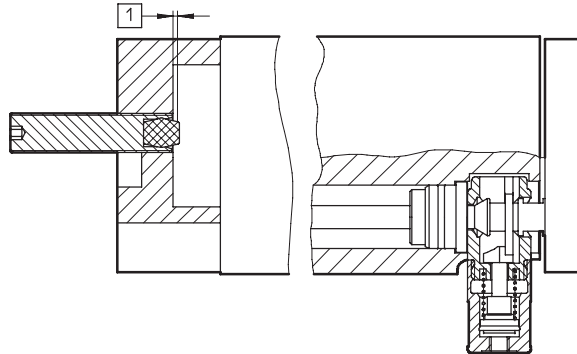
# Mini slides DGSL-C/-E3

Technical data

## Adjustable end position range

When using end position locking (E3), the adjustable range of the rear end position is reduced by the following values.

1 Adjustable end position range



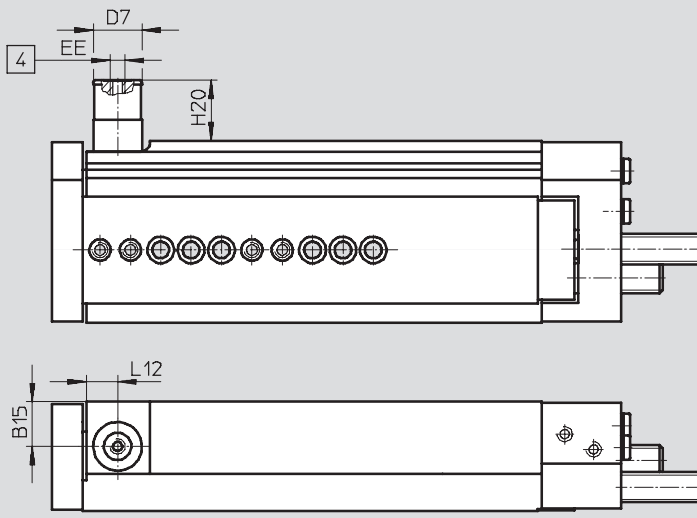
| Size       | 1           |
|------------|-------------|
| 6, 8       | max. 1.5 mm |
| 10, 12     | max. 2.3 mm |
| 16, 20, 25 | max. 2.7 mm |

## Dimensions

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

C – Clamping unit / E3 – End position locking

4 Compressed air connection



| Size | B15   | D7<br>∅ | EE | H20   |       | L12  |
|------|-------|---------|----|-------|-------|------|
|      |       |         |    | C     | E3    |      |
| 6    | 7.2   | 12      | M5 | 10.7  | 21.2  | 7.3  |
| 8    | 9.9   | 12      |    | 10.5  | 21    | 7.3  |
| 10   | 11.2  | 16      |    | 11.8  | 21.2  | 10.5 |
| 12   | 14.8  | 16      |    | 10.5  | 19.9  | 10.3 |
| 16   | 14    | 20      |    | 27.5  | 30.5  | 13   |
| 20   | 17    | 20      |    | 21.3  | 24.3  | 14   |
| 25   | 22.55 | 20      |    | 17.75 | 20.65 | 14   |

# Mini slides DGSL

Technical data



| Ordering data     |             |                |                | Ordering data      |                 |          |                 | Ordering data      |                |          |                 |   |  |
|-------------------|-------------|----------------|----------------|--------------------|-----------------|----------|-----------------|--------------------|----------------|----------|-----------------|---|--|
| Size              | Stroke [mm] | Part No.       | Type           | Size               | Stroke [mm]     | Part No. | Type            | Size               | Stroke [mm]    | Part No. | Type            |   |  |
| With cushioning P |             |                |                | With cushioning P1 |                 |          |                 | With cushioning Y3 |                |          |                 |   |  |
| 4                 | 10          | 543 910        | DGSL-4-10-PA   | 4                  | 10              | 543 913  | DGSL-4-10-P1A   | 4                  | 10             | -        |                 |   |  |
|                   | 20          | 543 911        | DGSL-4-20-PA   |                    | 20              | 543 914  | DGSL-4-20-P1A   |                    | 20             | -        |                 |   |  |
|                   | 30          | 543 912        | DGSL-4-30-PA   |                    | 30              | 543 915  | DGSL-4-30-P1A   |                    | 30             | -        |                 |   |  |
| 6                 | 10          | 543 916        | DGSL-6-10-PA   | 6                  | 10              | 543 921  | DGSL-6-10-P1A   | 6                  | 10             | -        |                 |   |  |
|                   | 20          | 543 917        | DGSL-6-20-PA   |                    | 20              | 543 922  | DGSL-6-20-P1A   |                    | 20             | -        |                 |   |  |
|                   | 30          | 543 918        | DGSL-6-30-PA   |                    | 30              | 543 923  | DGSL-6-30-P1A   |                    | 30             | -        |                 |   |  |
|                   | 40          | 543 919        | DGSL-6-40-PA   |                    | 40              | 543 924  | DGSL-6-40-P1A   |                    | 40             | -        |                 |   |  |
|                   | 50          | 543 920        | DGSL-6-50-PA   |                    | 50              | 543 925  | DGSL-6-50-P1A   |                    | 50             | -        |                 |   |  |
| 8                 | 10          | 543 926        | DGSL-8-10-PA   | 8                  | 10              | 543 932  | DGSL-8-10-P1A   | 8                  | 10             | -        |                 |   |  |
|                   | 20          | 543 927        | DGSL-8-20-PA   |                    | 20              | 543 933  | DGSL-8-20-P1A   |                    | 20             | -        |                 |   |  |
|                   | 30          | 543 928        | DGSL-8-30-PA   |                    | 30              | 543 934  | DGSL-8-30-P1A   |                    | 30             | 543 938  | DGSL-8-30-Y3A   |   |  |
|                   | 40          | 543 929        | DGSL-8-40-PA   |                    | 40              | 543 935  | DGSL-8-40-P1A   |                    | 40             | 543 939  | DGSL-8-40-Y3A   |   |  |
|                   | 50          | 543 930        | DGSL-8-50-PA   |                    | 50              | 543 936  | DGSL-8-50-P1A   |                    | 50             | 543 940  | DGSL-8-50-Y3A   |   |  |
| 10                | 80          | 543 931        | DGSL-8-80-PA   | 10                 | 80              | 543 937  | DGSL-8-80-P1A   | 10                 | 80             | 543 941  | DGSL-8-80-Y3A   |   |  |
|                   | 10          | 543 942        | DGSL-10-10-PA  |                    | 10              | 543 949  | DGSL-10-10-P1A  |                    | 10             | -        |                 |   |  |
|                   | 20          | 543 943        | DGSL-10-20-PA  |                    | 20              | 543 950  | DGSL-10-20-P1A  |                    | 20             | -        |                 |   |  |
|                   | 30          | 543 944        | DGSL-10-30-PA  |                    | 30              | 543 951  | DGSL-10-30-P1A  |                    | 30             | 543 956  | DGSL-10-30-Y3A  |   |  |
|                   | 40          | 543 945        | DGSL-10-40-PA  |                    | 40              | 543 952  | DGSL-10-40-P1A  |                    | 40             | 543 957  | DGSL-10-40-Y3A  |   |  |
|                   | 50          | 543 946        | DGSL-10-50-PA  |                    | 50              | 543 953  | DGSL-10-50-P1A  |                    | 50             | 543 958  | DGSL-10-50-Y3A  |   |  |
| 12                | 80          | 543 947        | DGSL-10-80-PA  | 12                 | 80              | 543 954  | DGSL-10-80-P1A  | 12                 | 80             | 543 959  | DGSL-10-80-Y3A  |   |  |
|                   | 100         | 543 948        | DGSL-10-100-PA |                    | 100             | 543 955  | DGSL-10-100-P1A |                    | 100            | 543 960  | DGSL-10-100-Y3A |   |  |
|                   | 10          | 543 961        | DGSL-12-10-PA  |                    | 10              | 543 969  | DGSL-12-10-P1A  |                    | 12             | 10       | -               |   |  |
|                   | 20          | 543 962        | DGSL-12-20-PA  |                    | 20              | 543 970  | DGSL-12-20-P1A  |                    | 20             | -        |                 |   |  |
|                   | 30          | 543 963        | DGSL-12-30-PA  |                    | 30              | 543 971  | DGSL-12-30-P1A  |                    | 30             | 543 977  | DGSL-12-30-Y3A  |   |  |
|                   | 40          | 543 964        | DGSL-12-40-PA  |                    | 40              | 543 972  | DGSL-12-40-P1A  |                    | 40             | 543 978  | DGSL-12-40-Y3A  |   |  |
| 16                | 50          | 543 965        | DGSL-12-50-PA  | 16                 | 50              | 543 973  | DGSL-12-50-P1A  | 16                 | 50             | 543 979  | DGSL-12-50-Y3A  |   |  |
|                   | 80          | 543 966        | DGSL-12-80-PA  |                    | 80              | 543 974  | DGSL-12-80-P1A  |                    | 80             | 543 980  | DGSL-12-80-Y3A  |   |  |
|                   | 100         | 543 967        | DGSL-12-100-PA |                    | 100             | 543 975  | DGSL-12-100-P1A |                    | 100            | 543 981  | DGSL-12-100-Y3A |   |  |
|                   | 150         | 543 968        | DGSL-12-150-PA |                    | 150             | 543 976  | DGSL-12-150-P1A |                    | 150            | 543 982  | DGSL-12-150-Y3A |   |  |
|                   | 10          | 543 983        | DGSL-16-10-PA  |                    | 16              | 10       | 543 991         |                    | DGSL-16-10-P1A | 16       | 10              | - |  |
|                   | 20          | 543 984        | DGSL-16-20-PA  |                    | 20              | 543 992  | DGSL-16-20-P1A  |                    | 20             | -        |                 |   |  |
| 20                | 30          | 543 985        | DGSL-16-30-PA  | 20                 | 30              | 543 993  | DGSL-16-30-P1A  | 20                 | 30             | 543 999  | DGSL-16-30-Y3A  |   |  |
|                   | 40          | 543 986        | DGSL-16-40-PA  |                    | 40              | 543 994  | DGSL-16-40-P1A  |                    | 40             | 544 000  | DGSL-16-40-Y3A  |   |  |
|                   | 50          | 543 987        | DGSL-16-50-PA  |                    | 50              | 543 995  | DGSL-16-50-P1A  |                    | 50             | 544 001  | DGSL-16-50-Y3A  |   |  |
|                   | 80          | 543 988        | DGSL-16-80-PA  |                    | 80              | 543 996  | DGSL-16-80-P1A  |                    | 80             | 544 002  | DGSL-16-80-Y3A  |   |  |
|                   | 100         | 543 989        | DGSL-16-100-PA |                    | 100             | 543 997  | DGSL-16-100-P1A |                    | 100            | 544 003  | DGSL-16-100-Y3A |   |  |
|                   | 150         | 543 990        | DGSL-16-150-PA |                    | 150             | 543 998  | DGSL-16-150-P1A |                    | 150            | 544 004  | DGSL-16-150-Y3A |   |  |
| 25                | 10          | 544 005        | DGSL-20-10-PA  | 25                 | 10              | 544 014  | DGSL-20-10-P1A  | 25                 | 10             | -        |                 |   |  |
|                   | 20          | 544 006        | DGSL-20-20-PA  |                    | 20              | 544 015  | DGSL-20-20-P1A  |                    | 20             | -        |                 |   |  |
|                   | 30          | 544 007        | DGSL-20-30-PA  |                    | 30              | 544 016  | DGSL-20-30-P1A  |                    | 30             | 544 023  | DGSL-20-30-Y3A  |   |  |
|                   | 40          | 544 008        | DGSL-20-40-PA  |                    | 40              | 544 017  | DGSL-20-40-P1A  |                    | 40             | 544 024  | DGSL-20-40-Y3A  |   |  |
|                   | 50          | 544 009        | DGSL-20-50-PA  |                    | 50              | 544 018  | DGSL-20-50-P1A  |                    | 50             | 544 025  | DGSL-20-50-Y3A  |   |  |
|                   | 80          | 544 010        | DGSL-20-80-PA  |                    | 80              | 544 019  | DGSL-20-80-P1A  |                    | 80             | 544 026  | DGSL-20-80-Y3A  |   |  |
|                   | 100         | 544 011        | DGSL-20-100-PA |                    | 100             | 544 020  | DGSL-20-100-P1A |                    | 100            | 544 027  | DGSL-20-100-Y3A |   |  |
|                   | 150         | 544 012        | DGSL-20-150-PA |                    | 150             | 544 021  | DGSL-20-150-P1A |                    | 150            | 544 028  | DGSL-20-150-Y3A |   |  |
| 25                | 200         | 544 013        | DGSL-20-200-PA | 25                 | 200             | 544 022  | DGSL-20-200-P1A | 25                 | 200            | 544 029  | DGSL-20-200-Y3A |   |  |
|                   | 10          | 544 030        | DGSL-25-10-PA  |                    | 25              | 10       | 544 039         |                    | DGSL-25-10-P1A | 25       | 10              | - |  |
|                   | 20          | 544 031        | DGSL-25-20-PA  |                    | 20              | 544 040  | DGSL-25-20-P1A  |                    | 20             | -        |                 |   |  |
|                   | 30          | 544 032        | DGSL-25-30-PA  |                    | 30              | 544 041  | DGSL-25-30-P1A  |                    | 30             | 544 048  | DGSL-25-30-Y3A  |   |  |
|                   | 40          | 544 033        | DGSL-25-40-PA  |                    | 40              | 544 042  | DGSL-25-40-P1A  |                    | 40             | 544 049  | DGSL-25-40-Y3A  |   |  |
|                   | 50          | 544 034        | DGSL-25-50-PA  |                    | 50              | 544 043  | DGSL-25-50-P1A  |                    | 50             | 544 050  | DGSL-25-50-Y3A  |   |  |
|                   | 80          | 544 035        | DGSL-25-80-PA  |                    | 80              | 544 044  | DGSL-25-80-P1A  |                    | 80             | 544 051  | DGSL-25-80-Y3A  |   |  |
|                   | 100         | 544 036        | DGSL-25-100-PA |                    | 100             | 544 045  | DGSL-25-100-P1A |                    | 100            | 544 052  | DGSL-25-100-Y3A |   |  |
| 150               | 544 037     | DGSL-25-150-PA | 150            | 544 046            | DGSL-25-150-P1A | 150      | 544 053         | DGSL-25-150-Y3A    |                |          |                 |   |  |
| 200               | 544 038     | DGSL-25-200-PA | 200            | 544 047            | DGSL-25-200-P1A | 200      | 544 054         | DGSL-25-200-Y3A    |                |          |                 |   |  |

# Mini slides DGSL

Ordering data – Modular products



| M Mandatory data     |             |          |            | O Options     |                      | M             |                  |
|----------------------|-------------|----------|------------|---------------|----------------------|---------------|------------------|
| Module No.           | Function    | Size     | Stroke     | Clamping unit | End position locking | Cushioning    | Position sensing |
| 543 902              | DGSL        | 4        | 10 ... 200 | C             | E3                   | P<br>P1<br>Y3 | A                |
| 543 903              |             | 6        |            |               |                      |               |                  |
| 543 904              |             | 8        |            |               |                      |               |                  |
| 543 905              |             | 10       |            |               |                      |               |                  |
| 543 906              |             | 12       |            |               |                      |               |                  |
| 543 907              |             | 16       |            |               |                      |               |                  |
| 543 908              |             | 20       |            |               |                      |               |                  |
| 543 909              |             | 25       |            |               |                      |               |                  |
| <b>Order example</b> |             |          |            |               |                      |               |                  |
| <b>543 904</b>       | <b>DGSL</b> | <b>8</b> | <b>30</b>  |               | <b>E3</b>            | <b>Y3</b>     | <b>A</b>         |

| Ordering table       |  |                                       |   |         |         |         |         |         |                 |      |               |  |
|----------------------|--|---------------------------------------|---|---------|---------|---------|---------|---------|-----------------|------|---------------|--|
| Size                 | 4  | 6                                     | 8                                       | 10      | 12      | 16      | 20      | 25      | Condi-<br>tions | Code | Enter<br>code |  |
| M Module No.         | 543 902  | 543 903                               | 543 904                                 | 543 905 | 543 906 | 543 907 | 543 908 | 543 909 |                 |      |               |  |
| Function             | Mini slide with recirculating ball bearing guide   |                                       |   |         |         |         |         |         |                 | DGSL | DGSL          |  |
| Size                 | 4  | 6                                     | 8                                       | 10      | 12      | 16      | 20      | 25      | ...             |      |               |  |
| Stroke [mm]          | 10   |                                       |   |         |         |         |         |         |                 | 10   |               |  |
|                      | 20   |                                       |   |         |         |         |         |         |                 | 20   |               |  |
|                      | 30   |                                       |   |         |         |         |         |         |                 | 30   |               |  |
|                      | -  | 40                                    |   |         |         |         |         |         |                 | 40   |               |  |
|                      | -  | 50                                    |   |         |         |         |         |         |                 | 50   |               |  |
|                      | -  | -                                     | 80                                      |         |         |         |         |         |                 | 80   |               |  |
|                      | -  | -                                     | -                                       | 100     |         |         |         |         | 100             |      |               |  |
|                      | -  | -                                     | -                                       | -       | 150     |         |         |         | 150             |      |               |  |
|                      | -  | -                                     | -                                       | -       | -       | -       | 200     |         | 200             |      |               |  |
| O                    |  |                                       |   |         |         |         |         |         |                 | -    | -             |  |
| Clamping unit        | -  | Built-on                              |   |         |         |         |         |         |                 | C    |               |  |
| End position locking | -  | With piston rod in retracted position |   |         |         |         |         |         | [1]             | E3   |               |  |
| M                    |  |                                       |   |         |         |         |         |         |                 | -    | -             |  |
| Cushioning           | Flexible cushioning rings/plates at both ends, end positions adjustable                  |                                       |   |         |         |         |         |         |                 | P    |               |  |
|                      | Flexible cushioning rings/plates at both ends, end positions adjustable, with fixed stop |                                       |   |         |         |         |         |         |                 | P1   |               |  |
|                      | -  | -                                     | Progressive shock absorber at both ends |         |         |         |         |         | [2]             | Y3   |               |  |
| Position sensing     | Via proximity sensor   |                                       |   |         |         |         |         |         |                 | A    | A             |  |

[1] E3 Not with clamping unit C

[2] Y3 Minimum stroke 30 mm

Transfer order code







|  |      |   |  |   |  |   |  |   |  |   |
|--|------|---|--|---|--|---|--|---|--|---|
|  | DGSL | - |  | - |  | - |  | - |  | A |
|--|------|---|--|---|--|---|--|---|--|---|

# Mini slides DGSL

Wearing parts kits and accessories

FESTO

| Ordering data – Wearing parts kits |          |             |
|------------------------------------|----------|-------------|
| Size                               | Part No. | Type        |
| 4                                  | 713 743  | DGSL-4-...  |
| 6                                  | 713 744  | DGSL-6-...  |
| 8                                  | 713 745  | DGSL-8-...  |
| 10                                 | 713 746  | DGSL-10-... |
| 12                                 | 713 747  | DGSL-12-... |
| 16                                 | 713 748  | DGSL-16-... |
| 20                                 | 713 749  | DGSL-20-... |
| 25                                 | 713 750  | DGSL-25-... |

| Ordering data   |               |  |            |          |                              |                  |
|---|---------------|--|------------|----------|------------------------------|------------------|
|   | For size      | Brief description  | Order code | Part No. | Type                         | PU <sup>1)</sup> |
| <b>Centring sleeve ZBH</b> <span style="float: right;">Technical data → Internet: zbh</span>              |               |  |            |          |                              |                  |
|                          | 4, 6          | For centring loads and attachments (the scope of delivery of the mini slide includes six centring sleeves)   | -          | 189 652  | ZBH-5                        | 10               |
|   | 8, 10, 12, 16 |  |            | 186 717  | ZBH-7                        |                  |
|   | 20, 25        |  |            | 150 927  | ZBH-9                        |                  |
| <b>Connecting sleeve ZBV</b> <span style="float: right;">Technical data → Internet: zbv</span>            |               |  |            |          |                              |                  |
|                         | 8, 10         | <ul style="list-style-type: none"> <li>For connecting mini slide DGSL with mini slide DGSL</li> <li>Sizing information refers to the y axis</li> </ul> | -          | 548 802  | ZBV-M4-7                     | 3                |
|   | 12, 16        |  |            | 548 803  | ZBV-M5-7                     |                  |
|   | 20, 25        |  |            | 548 804  | ZBV-M6-9                     |                  |
| <b>Shock absorber DYEF</b> <span style="float: right;">Technical data → Internet: dyef</span>             |               |  |            |          |                              |                  |
|                        | 4             | Flexible cushioning, with metal stop   | P1         | 548 370  | DYEF-M4-Y1F                  | 1                |
|   | 6             |  |            | 548 371  | DYEF-M5-Y1F                  |                  |
|   | 8             |  |            | 548 372  | DYEF-M6-Y1F                  |                  |
|   | 10            |  |            | 548 373  | DYEF-M8-Y1F                  |                  |
|   | 12            |  |            | 548 374  | DYEF-M10-Y1F                 |                  |
|   | 16            |  |            | 548 375  | DYEF-M12-Y1F                 |                  |
|   | 20            |  |            | 548 376  | DYEF-M14-Y1F                 |                  |
|   | 25            |  |            | 548 377  | DYEF-M16-Y1F                 |                  |
| <b>Shock absorber DYSW</b> <span style="float: right;">Technical data → Internet: dysw</span>             |               |  |            |          |                              |                  |
|                        | 8             | Progressive shock absorbers, both ends   | Y3         | 548 070  | DYSW-4-6-Y1F                 | 1                |
|   | 10            |  |            | 548 071  | DYSW-5-8-Y1F                 |                  |
|   | 12            |  |            | 548 072  | DYSW-7-10-Y1F                |                  |
|   | 16            |  |            | 548 073  | DYSW-8-14-Y1F                |                  |
|   | 20            |  |            | 548 074  | DYSW-10-17-Y1F               |                  |
|   | 25            |  |            | 548 075  | DYSW-12-20-Y1F               |                  |
| <b>One-way flow control valve GRLA</b> <span style="float: right;">Technical data → Internet: grla</span> |               |  |            |          |                              |                  |
|                        | 4, 6, 8       | <ul style="list-style-type: none"> <li>For speed regulation</li> <li>Only one GRLA-M3-QS-3 can be mounted onto the front of size 4 slides</li> </ul>   | -          | 175 041  | GRLA-M3-QS-3                 | 1                |
|   | 10, 12, 16    |  |            | 175 038  | GRLA-M3                      |                  |
|   |               |  |            | 193 138  | GRLA-M5-QS-4-D               |                  |
|   |               |  |            | 193 144  | GRLA-G $\frac{1}{8}$ -QS-6-D |                  |
| 20, 25  |               |  |            |          |                              |                  |
| <b>Push-in fitting QSM</b> <span style="float: right;">Technical data → Internet: qsm</span>              |               |  |            |          |                              |                  |
|                        | 4, 6, 8       | For connecting compressed air tubing with standard external diameters  | -          | 153 301  | QSM-M3-3                     | 10               |
|   | 10, 12, 16    |  |            | 153 304  | QSM-M5-4                     |                  |
|   | 20, 25        |  |            | 153 307  | QSM- $\frac{1}{8}$ -6        |                  |



1) Packaging unit quantity






# Mini slides DGSL



Accessories

FESTO

| 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 from above, flush with cylinder profile | PNP           | Cable, 3-wire, in-line                      | 2.5              | 525 915                        | SMT-10F-PS-24V-K2,5L-OE  |
|   |  |               | Plug M8x1, 3-pin, in-line                   | 0.3              | 525 916                        | SMT-10F-PS-24V-K0,3L-M8D |
|   |  |               | Plug M8x1, 3-pin, lateral                   | 0.3              | 526 675                        | SMT-10F-PS-24V-K0,3Q-M8D |
|  | 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 from above, flush with cylinder profile | Contacting    | Plug M8x1, 3-pin, in-line                   | 0.3              | 525 914                        | SME-10F-DS-24V-K0,3L-M8D |
|   |  |               | Cable, 3-wire, in-line                      | 2.5              | 525 913                        | SME-10F-DS-24V-K2,5L-OE  |
|   |  |               | Cable, 2-wire, in-line                      | 2.5              | 526 672                        | SME-10F-ZS-24V-K2,5L-OE  |
|  | 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         |

-  - Note  
Proximity sensors SME are not permitted for size 4.

| 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   |
|  | 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   |