

Mini slides DGSC



Mini slides DGSC

Key features

At a glance

Properties

- Smallest guided slide unit (width 8 mm), therefore high component density possible
- Precision ball bearing cage guide permits accurate linearity/parallelism
- Long service life thanks to housing made from high-alloy steel
- Low break-away pressure and uniform movement thanks to minimal friction from guide and seal
- Contact resistance < 5 Ω
- Quick and easy assembly and commissioning

Range of applications

- Two variants available to order:
 - Mounting interface on the side, supply ports on the front
 - Mounting interface on the front, supply ports on the side
- Chip picking
- Slide or separating applications
- Pushing or stem applications

Mounting options

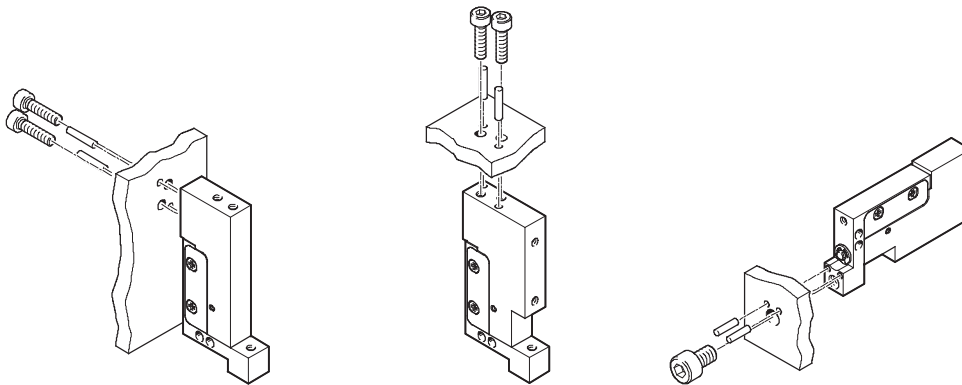
On the housing

DGSC-6-10-P-L

DGSC-6-10-P-P

On the slide

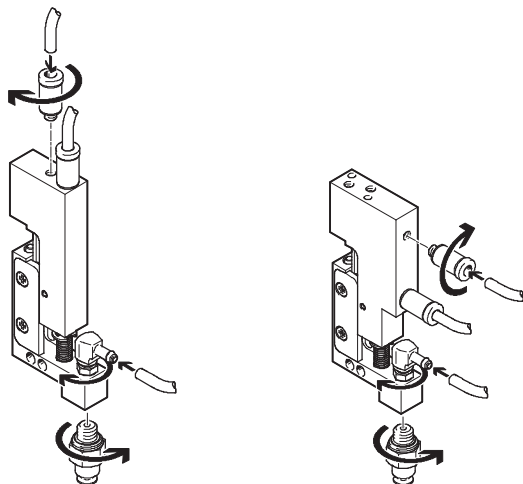
DGSC-6-10-P-...



Pneumatic connection

DGSC-6-10-P-L

DGSC-6-10-P-P



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Type codes and peripherals overview

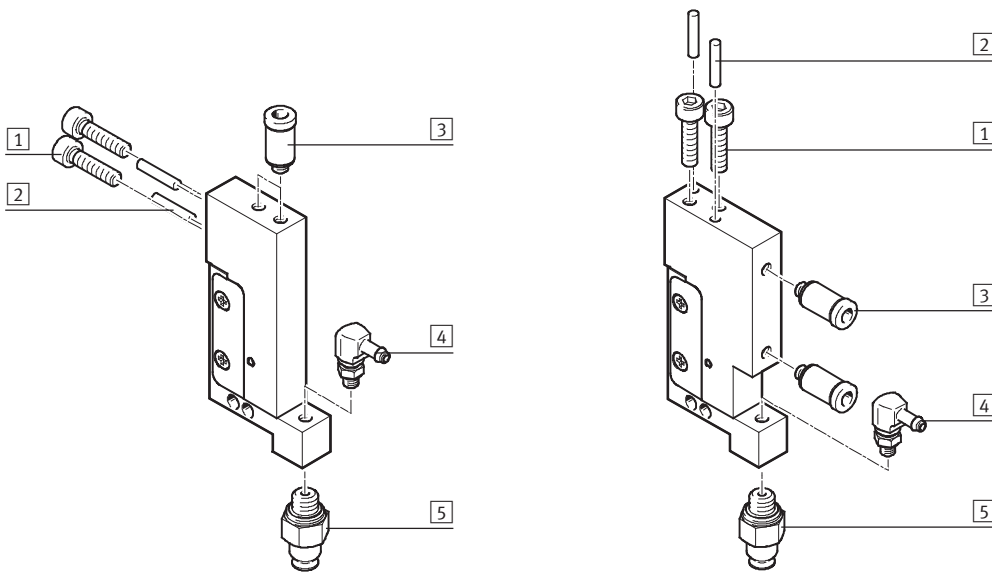
Type codes

| | | | | | | | | | | |
|---------------------|--|------|---|---|---|----|---|---|---|---|
| | | DGSC | - | 6 | - | 10 | - | P | - | P |
| Type | | | | | | | | | | |
| Double-acting | | | | | | | | | | |
| DGSC | Mini slide | | | | | | | | | |
| Size | | | | | | | | | | |
| Stroke [mm] | | | | | | | | | | |
| Cushioning | | | | | | | | | | |
| P | Elastic cushioning without metal end stop, both ends | | | | | | | | | |
| Supply ports | | | | | | | | | | |
| L | In the direction of movement of the slide | | | | | | | | | |
| P | On the side of the housing | | | | | | | | | |

Overview of peripherals

Supply ports in the direction of movement of the slide

Supply ports on the side of the housing



Accessories

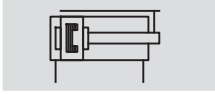
| | Brief description | → Page/Internet |
|---|--|-----------------|
| 1 | Screw For mounting the mini slide | - |
| 2 | Centring pin Ø 2, to EN ISO 2338 For centring the mini slide during assembly | - |
| 3 | Push-in fitting QSM For supplying compressed air to the mini slide | 8 |
| 4 | Push-in L-fitting QSML For connecting vacuum or compressed air to the slide | 8 |
| 5 | Suction cup VAS - | 9 |

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Technical data

FESTO

Function



○ - Size
6

▬ - Stroke length
10 mm



| General technical data | | |
|-----------------------------------|------|--|
| Size | | 6 |
| Stroke ¹⁾ | [mm] | 10 |
| Pneumatic connection | | M3 |
| Design | | Scotch yoke system |
| Guide | | Ball bearing cage guide |
| Type of mounting | | Via female thread and dowel pin |
| Cushioning | | Elastic cushioning rings/pads at both ends |
| Position sensing | | None |
| Mounting position | | Any |
| Max. effective load ²⁾ | [g] | 30 |
| Max. operating frequency | [Hz] | < 4 |
| Contact resistance | [Ω] | < 5 |
| Repetition accuracy | [mm] | ±0.1 |

1) Valid at 6 bar. The complete stroke is not achieved at lower operating pressure due to the integrated cushioning components.

2) For unthrottled operation.

| Operating and environmental conditions | | |
|--|-------|--|
| Operating medium | | Compressed air in accordance with ISO 8573-1:2010 [7:4:4] |
| Note on operating/pilot medium | | Operation with lubricated medium possible (in which case lubricated operation will always be required) |
| Operating pressure | [bar] | 1 ... 6 |
| Ambient temperature | [°C] | 10 ... 50 |
| Corrosion resistance class CRC ²⁾ | | 2 |

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

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

| Weight [g] | | |
|----------------|---------------|---------------|
| Type | DGSC-6-10-P-L | DGSC-6-10-P-P |
| Product weight | 42 | 52 |
| Moving load | 17 | 17 |

| Forces [N] | |
|-------------------------------------|------|
| Theoretical force at 6 bar, advance | 17 |
| Theoretical force at 6 bar, retract | 12.7 |
| Measured force at 6 bar, advance | 15.5 |

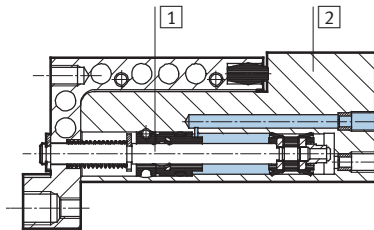
| Travel times [ms] at 6 bar | |
|----------------------------|------|
| Advancing | 19 |
| Retracting | 16.5 |

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Technical data

Materials

Sectional view



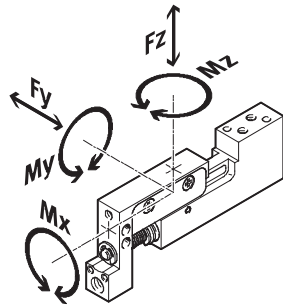
Mini slide

| | | |
|-------------------|------------|----------------------------|
| 1 | Piston rod | High-alloy stainless steel |
| 2 | Housing | High-alloy stainless steel |
| - | Seals | Nitrile rubber |
| Note on materials | | Free of copper and PTFE |
| | | RoHS-compliant |

Static characteristic load values

The indicated forces and torques refer to the guide.

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



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

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

Permissible forces and torques

| | | |
|---------------|------|-----|
| $F_{y_{max}}$ | [N] | 20 |
| $F_{z_{max}}$ | [N] | 20 |
| $M_{x_{max}}$ | [Nm] | 0.3 |
| $M_{y_{max}}$ | [Nm] | 0.4 |
| $M_{z_{max}}$ | [Nm] | 0.4 |

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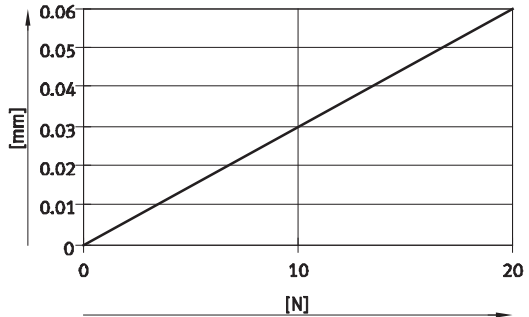
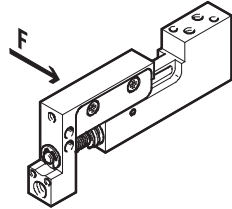
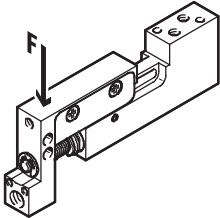
Technical data

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Slide displacement at max. stroke

Longitudinal load

Transverse load



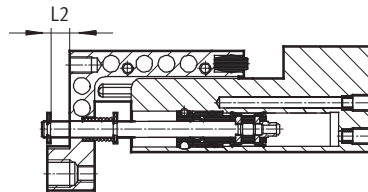
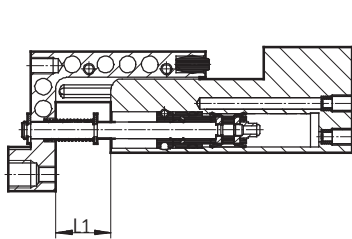
DGSC-6-10-P...

Stroke compensation

The integrated spring enables stroke compensation of 2.5 mm if there is a risk of collision in the advanced state. Only low spring forces then act on the yoke.

This protects the mechanism from overload.

Stroke:
L1 = 10 mm



| | | | |
|--------------------------|------|-----|-----|
| Stroke compensation (L2) | [mm] | 0 | 2.5 |
| Spring force | [N] | 2.0 | 2.4 |

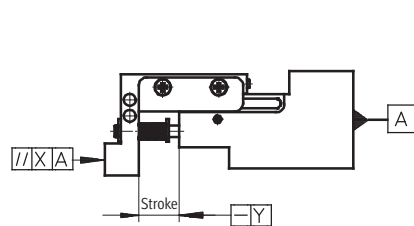
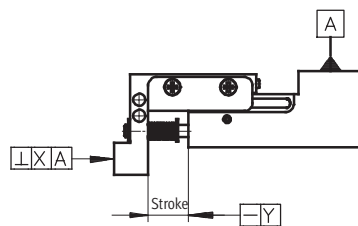
Parallelism/perpendicularity/linearity [mm]

Parallelism/perpendicularity:

Accuracy of alignment between the housing mounting surface and the mounting interface on the yoke.

DGSC-6-10-P-L

DGSC-6-10-P-P



Linearity:

Maximum distance between individual points on the slide and the housing mounting surface with the drive in retracted and advanced state.

| Type | DGSC-6-10-P-L | DGSC-6-10-P-P |
|------------------|---------------|---------------|
| Parallelism | [mm] | - |
| Perpendicularity | [mm] | < 0.03 |
| Linearity | [mm] | < 0.01 |

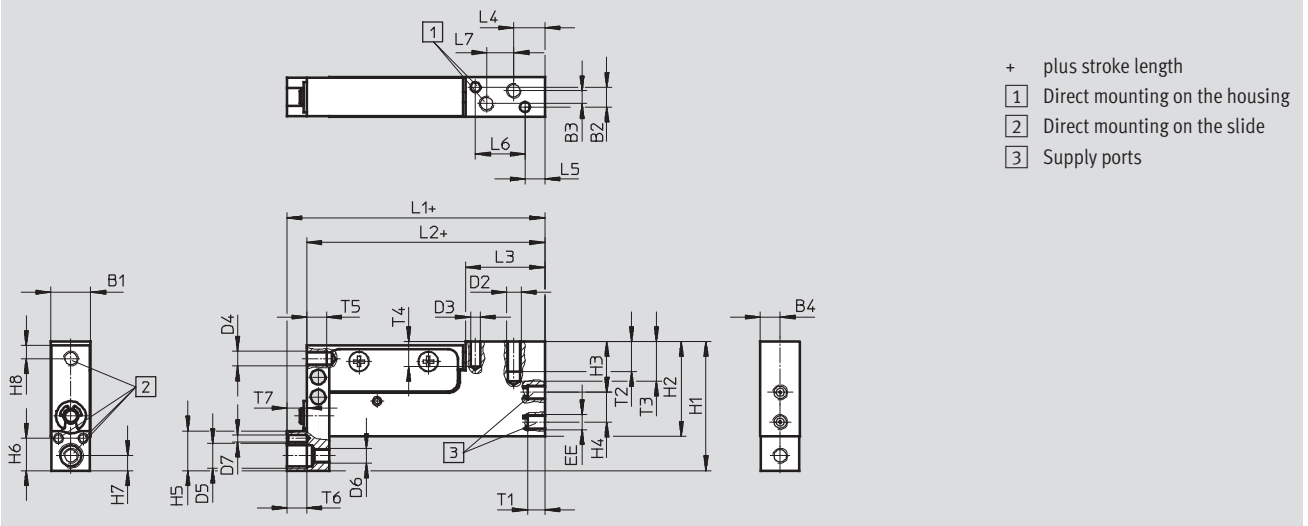
Mini slides DGSC

Technical data

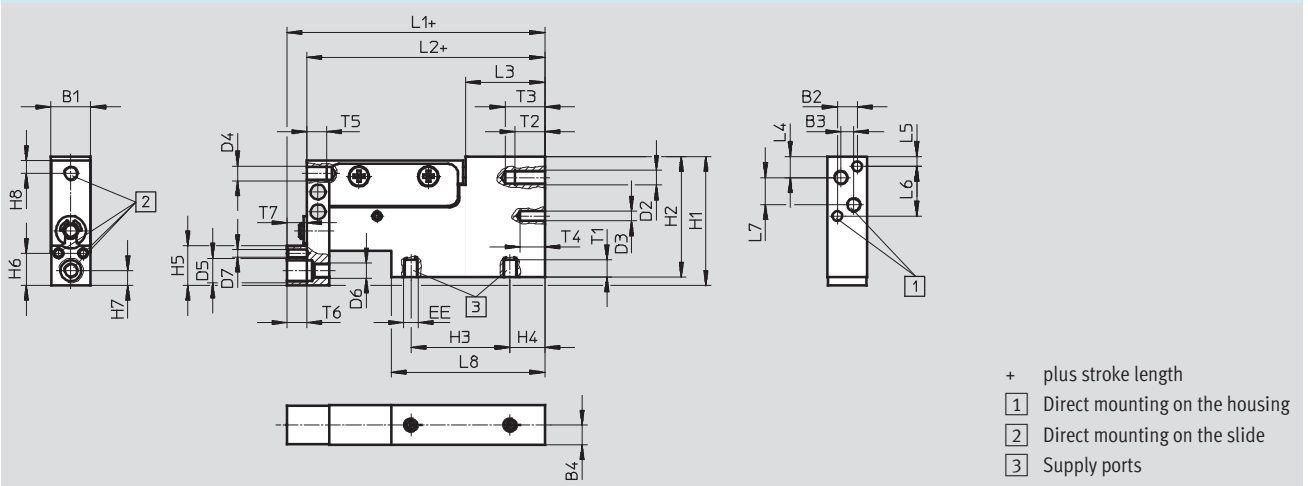
Dimensions

Download CAD Data → www.festo.com/us/cad

DGSC-6-10-P-L



DGSC-6-10-P-P



| Type | B1 | B2 | B3 | B4 | D2 | D3 | D4 | D5 | D6 | D7 | EE |
|---------------|-------------|-------|------|----|----|---------|----|----|----|---------|----|
| | -0.05/-0.15 | ±0.02 | ±0.1 | | | ∅ H8 | | | | ∅ H8 | |
| DGSC-6-10-P-L | 8 | 4 | 2.6 | 4 | M3 | 2 | M3 | M5 | M3 | 1.5 | M3 |
| DGSC-6-10-P-P | 8 | 4 | 2.6 | 4 | M3 | 2 | M3 | M5 | M3 | 1.5 | M3 |

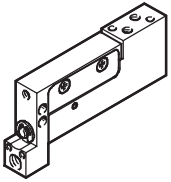
| Type | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H8 | L1 | L2 | L3 |
|---------------|----|------|------|----|----|-------|----|-----|----|----|----|
| | | | | | | ±0.02 | | | | | |
| DGSC-6-10-P-L | 26 | 19.1 | 10.2 | 6 | 8 | 6.5 | 3 | 2.6 | 52 | 48 | 16 |
| DGSC-6-10-P-P | 26 | 24.3 | 20 | 7 | 8 | 6.5 | 3 | 2.6 | 52 | 48 | 16 |

| Type | L4 | L5 | L6 | L7 | L8 | T1 | T2 | T3 | T4 | T5 | T6 | T7 |
|---------------|------|----|-------|------|----|------|------|----|----|------|------|----|
| | | | ±0.02 | ±0.1 | | max. | min. | +1 | +1 | min. | min. | +1 |
| DGSC-6-10-P-L | 6.25 | 4 | 10 | 5.5 | - | 3.5 | 6 | 8 | 5 | 4 | 4 | 4 |
| DGSC-6-10-P-P | 4.25 | 2 | 10 | 5.5 | 31 | 3.5 | 6 | 8 | 5 | 4 | 4 | 4 |






Mini slides DGSC

Technical data

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| Ordering data | | | | | |
|---|---------------|--|---------------|----------------------|--|
| | Type | Brief description | Part No. | Type | |
|  | DGSC-6-10-P-L | Supply ports in the direction of movement of the slide | 569793 | DGSC-6-10-P-L | |
| | DGSC-6-10-P-P | Supply ports on the side of the housing | 569792 | DGSC-6-10-P-P | |


Accessories

| Ordering data – Fitting | | | | | | |
|---|------------|----------------------|---------------------------------|---------------|-----------------------|------------------|
| Type | Connection | | Weight [g] | Part No. | Type | PU ¹⁾ |
| | Thread | For tubing Ø [mm] | | | | |
| For supplying compressed air to the mini slide | | | | | | |
| Push-in fitting QSM | | | Technical data → Internet: qsm | | | |
|  | M3 | 2 (outside) | 0.8 | 133026 | QSM-M3-2-I | 10 |
| | M3 | 3 (outside) | 3 | 133001 | QSM-M3-3-I-R | |
| Barbed fitting CN | | | Technical data → Internet: cn | | | |
|  | M3 | 2 (inside) | 3 | 15871 | CN-M3-PK-2 | 10 |
| | M3 | 3 (inside) | 3 | 15872 | CN-M3-PK-3 | |
| Barbed L-fitting LCN | | | Technical data → Internet: lcn | | | |
|  | M3 | 2 (inside) | 2 | 30491 | LCN-M3-PK-2-B | 10 |
| | M3 | 3 (inside) | 2 | 30982 | LCN-M3-PK-3 | |
| For connecting vacuum or compressed air to the slide | | | | | | |
| Push-in L-fitting QSML | | | Technical data → Internet: qsml | | | |
|  | M3 | 2 (outside) | 2 | 133030 | QSML-M3-2 | 10 |
| | M3 | 3 (outside) | 2 | 153330 | QSML-M3-3 | 10 |
| | M3 | 3 (outside) | 2 | 132106 | QSML-B-M3-3-20 | 20 |
| | M3 | 3 (outside) | 2 | 130768 | QSML-M3-3-100 | 100 |
| Barbed L-fitting LCN | | | Technical data → Internet: lcn | | | |
|  | M3 | 2 (inside) | 2 | 30491 | LCN-M3-PK-2-B | 10 |
| | M3 | 3 (inside) | 2 | 30982 | LCN-M3-PK-3 | |

Mini slides DGSC

Technical data

| Ordering data – One-way flow control valve | | | | | | | |
|--|-------------|--|--------------------------|---------------|----------|---------|------------------|
| Type | Connection | | Function | Weight [g] | Part No. | Type | PU ¹⁾ |
| | Male thread | | | | | | |
| For supplying compressed air to the mini slide Technical data → Internet: grl | | | | | | | |
|  | M3 | | Exhaust air flow control | 3 | 175038 | GRLA-M3 | 1 |
| | M3 | | Supply air flow control | 3 | 175040 | GRLZ-M3 | |

| Ordering data – Suction cup | | | | | | | |
|---|------------|---------------------------|----------------|---------------|----------|----------------|------------------|
| Type | Connection | | Material | Weight [g] | Part No. | Type | PU ¹⁾ |
| | Thread | For suction cup Ø [mm] | | | | | |
|  | M5 | 8 | Nitrile rubber | 4 | 34588 | VAS-8-M5-NBR | 1 |
| | M5 | 8 | Polyurethane | 4 | 1396086 | VAS-8-M5-PUR-B | |
| | M5 | 8 | Silicone | 2 | 1377781 | VAS-8-M5-SI-B | |

1) Packaging unit

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