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
- 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

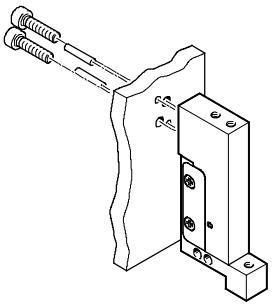
Range of applications

- Chip picking
- Slide or separating applications
- Pushing or stem applications

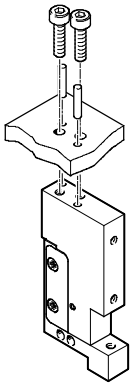
Mounting options

On the housing

DGSC-6-10-P-L

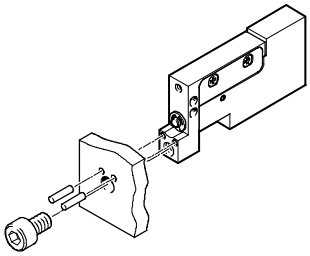


DGSC-6-10-P-P



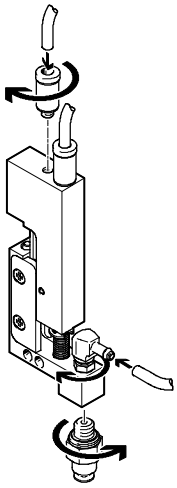
On the slide

DGSC-6-10-P-...

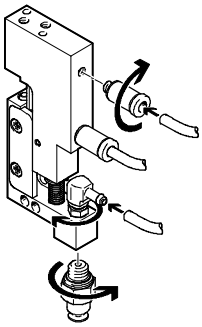


Pneumatic connection

DGSC-6-10-P-L



DGSC-6-10-P-P



Mini slides DGSC

Type codes and peripherals overview

Type codes

DGSC – 6 – 10 – P – P

Type	
Double-acting	
DGSC	Mini slide

Size

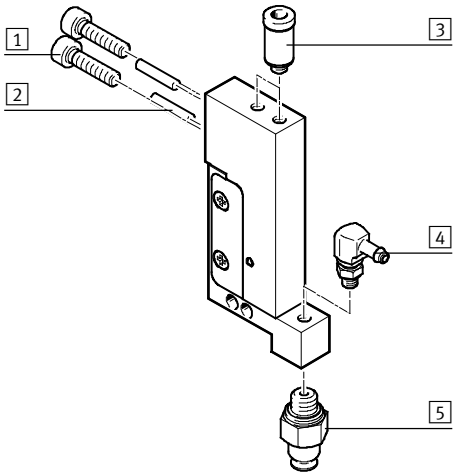
Stroke [mm]

Cushioning	
P	Elastic cushioning without metal end stop, both ends

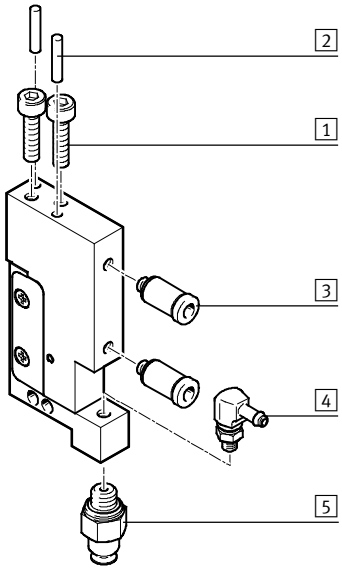
Supply ports	
L	In the direction of movement of the slide
P	On the side of the housing

Overview of peripherals

Supply ports in the direction of movement of the slide



Supply ports on the side of the housing



Accessories

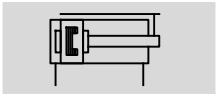
		Brief description	➔ Page/Internet
1	Screw	For mounting the mini slide	–
2	Centring pin ∅ 2, to EN ISO 2338	For centring the mini slide during assembly	–
3	Push-in fitting QSM	For supplying compressed air to the mini slide	8
4	Push-in L-fitting QSML	For connecting vacuum or compressed air to the slide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

Mini slides DGSC

Technical data

FESTO

Function



- Ø - Size
  6

- I - 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

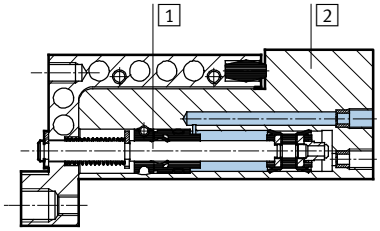
Travel times [ms] at 6 bar	
Advancing	19
Retracting	16.5

Mini slides DGSC

Technical data

Materials

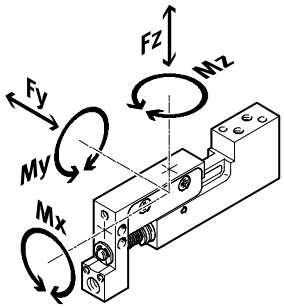
Sectional view



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.



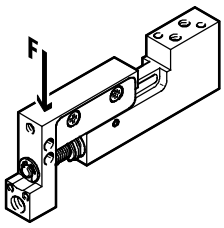
If the drive is simultaneously subjected to several of the indicated forces and torques, the following equation must be satisfied in addition to the indicated maximum loads:

$$\frac{Fy}{Fy_{max.}} + \frac{Fz}{Fz_{max.}} + \frac{Mx}{Mx_{max.}} + \frac{My}{My_{max.}} + \frac{Mz}{Mz_{max.}} \leq 1$$

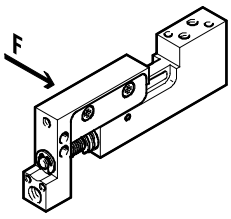
Permissible forces and torques		
$Fy_{max.}$	[N]	20
$Fz_{max.}$	[N]	20
$Mx_{max.}$	[Nm]	0.3
$My_{max.}$	[Nm]	0.4
$Mz_{max.}$	[Nm]	0.4

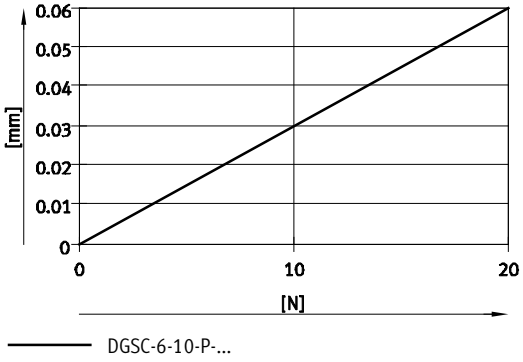
Slide displacement at max. stroke

Longitudinal load



Transverse load



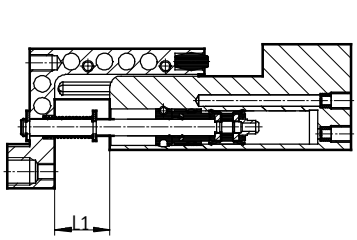


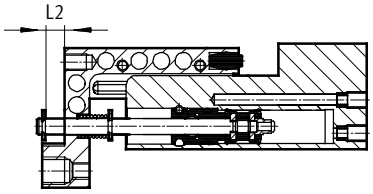
Stroke compensation

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





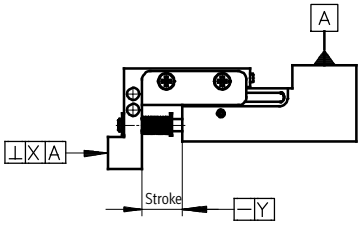
Stroke compensation (L2)	[mm]	0	2.5
Spring force	[N]	2.0	2.4

Parallelism/perpendicularity/linearity [mm]

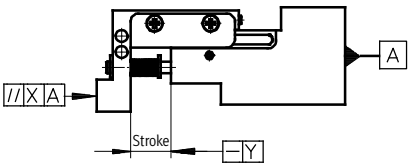
Parallelism/perpendicularity:
Accuracy of alignment between the housing mounting surface and the mounting interface on the yoke.

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

DGSC-6-10-P-L



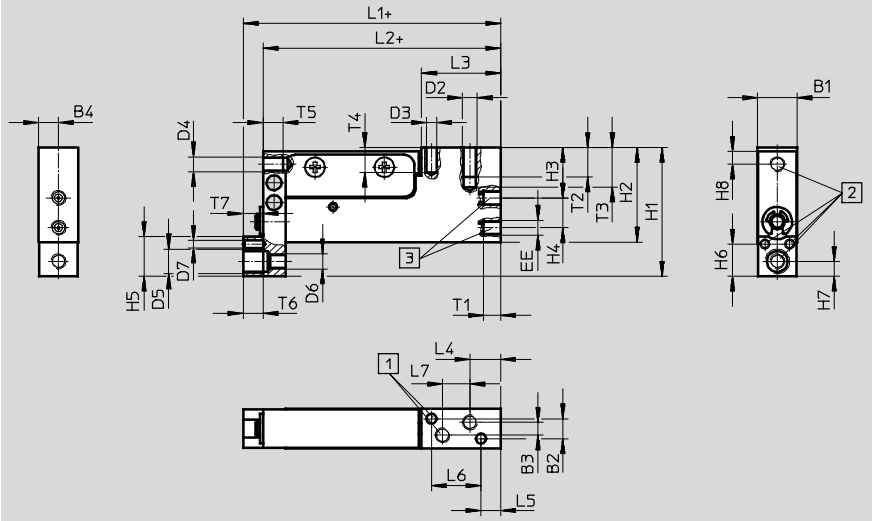
DGSC-6-10-P-P



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

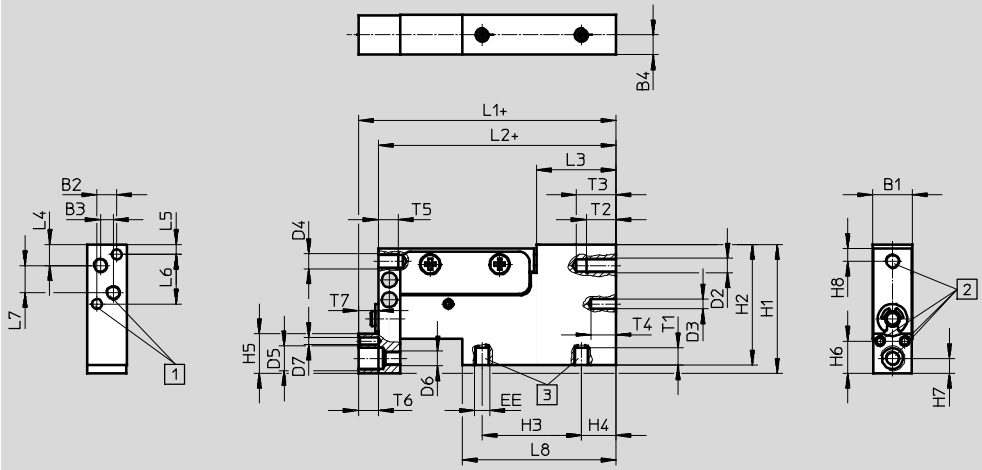
Dimensions Download CAD data ➔ **www.festo.com**

DGSC-6-10-P-L



\+ plus stroke length
1 Direct mounting on the housing
2 Direct mounting on the slide
3 Supply ports

DGSC-6-10-P-P



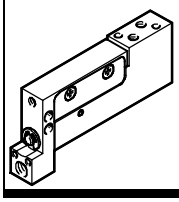
\+ plus stroke length
1 Direct mounting on the housing
2 Direct mounting on the slide
3 Supply ports

Type	B1 −0.05/−0.15	B2 ±0.02	B3 ±0.1	B4	D2	D3 ∅ H8	D4	D5	D6	D7 ∅ H8	EE
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 ±0.02	H7	H8	L1	L2	L3
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

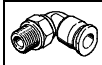
Type	L4	L5	L6 ±0.02	L7 ±0.1	L8	T1 max.	T2 min.	T3 +1	T4 +1	T5 min.	T6 min.	T7 +1
DGSC-6-10-P-L	6.25	4	10	5.5	–	3.5	6	8	5	4	4	4
DGSC-6-10-P-P	4.25	2	10	5.5	31	3.5	6	8	5	4	4	4

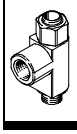
Ordering data

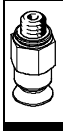
	Type	Brief description	Part No.	Type
	DGSC-6-10-P-L	Supply ports in the direction of movement of the slide	**569793**	**DGSC-6-10-P-L**
	DGSC-6-10-P-P	Supply ports on the side of the housing	**569792**	**DGSC-6-10-P-P**

Accessories

Ordering data – Fitting

Type	Connection		Weight	Part No.	Type	PU[1)]
	Thread	For tubing ∅ [mm]	[g]			
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**	

Ordering data – One-way flow control valve						
Type	Connection	Function	Weight	Part No.	Type	PU[1]
	Male thread		[g]			
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							Technical data ➔ Internet: suction cup
Type	Connection		Material	Weight	Part No.	Type	PU[1]
	Thread	For suction cup ∅ [mm]		[g]			
	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