Mini slides DGSC

Key features

At a glance

Characteristics

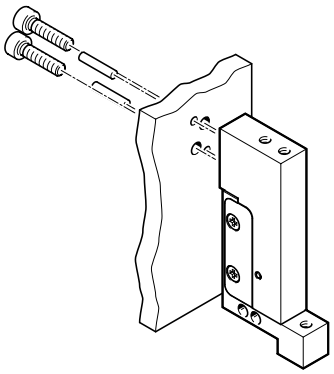
- Smallest guided slide unit (width 8 mm), therefore high component density possible
- Precision ball bearing cage guide permits accurate linearity/parallelism
- Long service life thanks to housing made from high-alloy steel
- Low break-away pressure and uniform movement thanks to minimal friction of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

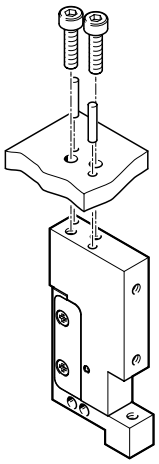
- Chip picking
- Slide or separating applications
- Pushing or stem applications

Mounting options

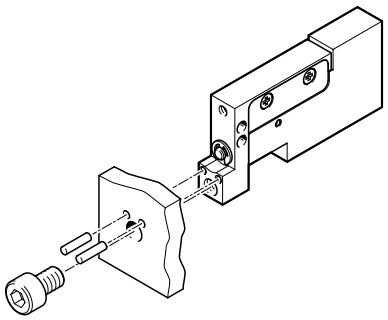
On the housing
DGSC-6-10-P-L



DGSC-6-10-P-P

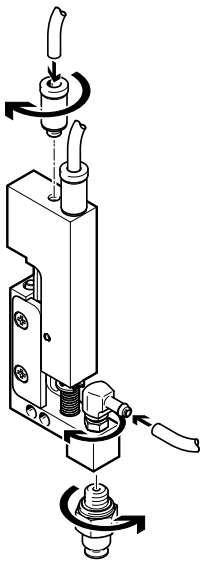


On the slide
DGSC-6-10-P-...

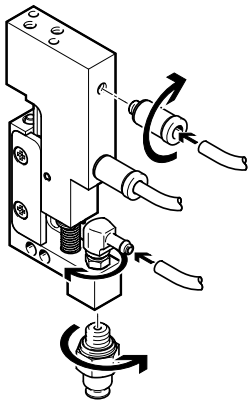


Pneumatic connection

DGSC-6-10-P-L



DGSC-6-10-P-P



Type codes and peripherals overview

Type codes

001	Series	
DGSC	Mini slide, double-acting	

002	Size	
6	6	

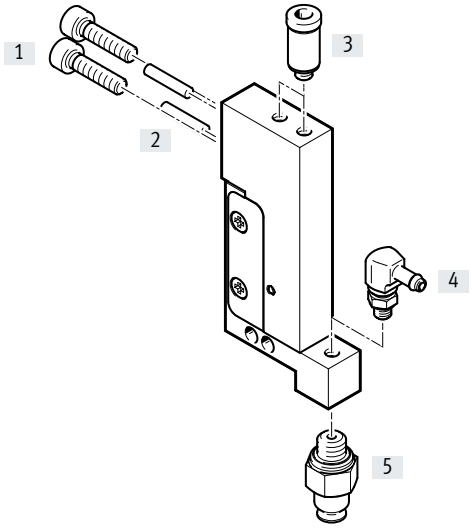
003	Stroke	
10	10	

004	Cushioning	
P	Elastic cushioning rings/plates on both sides	

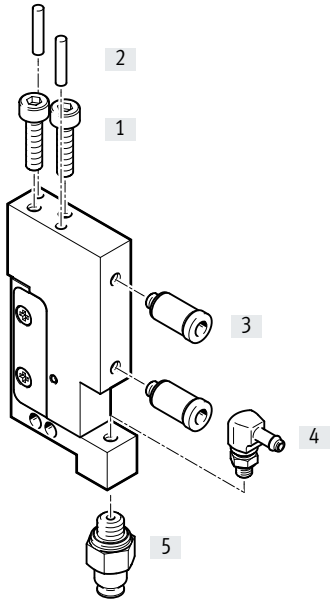
005	Connection position	
L	In the direction of motion	
P	Perpendicular to direction of movement	

Peripherals overview

Supply ports in the direction of movement of the slide



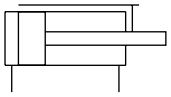
Supply ports on the side of the housing



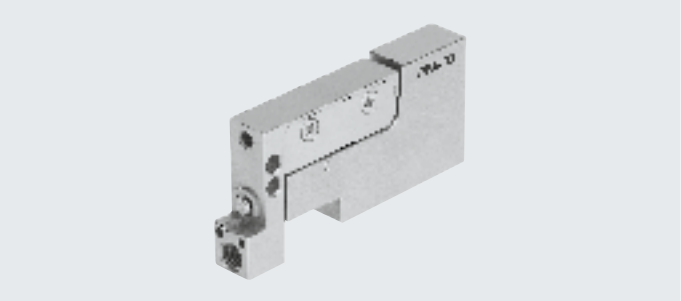
Accessories

		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 with connection VAS	–	9

Data sheet



- Ø - 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		With female thread and dowel pin
Cushioning		Elastic cushioning rings/pads at both ends
Position sensing		None
Mounting position		Any
Max. payload[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 to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium		Lubricated operation 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 to Festo standard 940070
Components subject to moderate corrosion stress. External 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 mass	17	17

Forces [N]	
Theoretical force at 6 bar, advancing	17
Theoretical force at 6 bar, retracting	12.7
Measured force at 6 bar, advancing	15.5

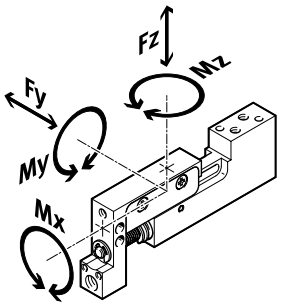
Travel times [ms] at 6 bar	
Advancing	19
Retracting	16.5

Data sheet

Materials	
Housing	High-alloy stainless steel
Cover	POM
Guide	High-alloy steel
Piston rod	High-alloy stainless steel
Seals	NBR
Note on materials	RoHS-compliant
PWIS conformity	VDMA24364-B2-L

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 deceleration phase.



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

$$f_v = \frac{|F_{y1}|}{F_{y2}} + \frac{|F_{z1}|}{F_{z2}} + \frac{|M_{x1}|}{M_{x2}} + \frac{|M_{y1}|}{M_{y2}} + \frac{|M_{z1}|}{M_{z2}} \leq 1$$

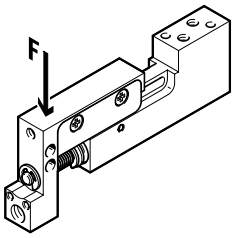
F1/M1 = dynamic value
F2/M2 = maximum value

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

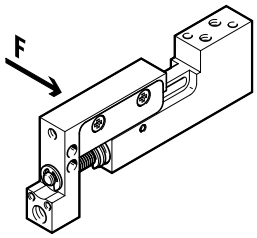
Data sheet

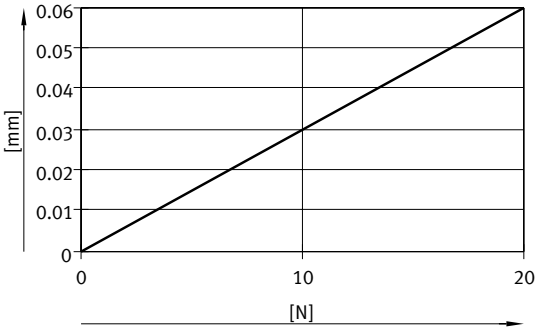
Slide displacement at max. stroke

Axial load



Lateral load

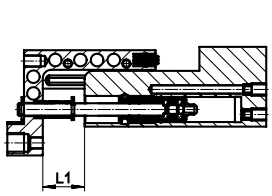


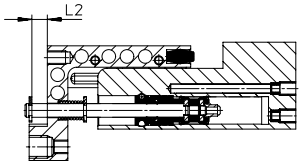


Stroke compensation

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





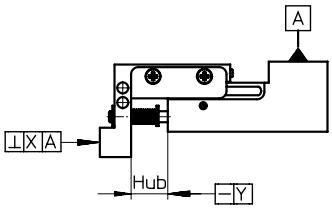
Stroke compensation (L2)	[mm]	0	2.5
Spring force	[N]	2.0	2.4

Parallelism/perpendicularity/linearity [mm]

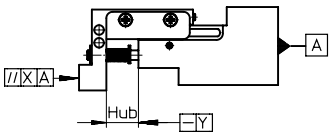
Parallelism/perpendicularity:
Accuracy of alignment between the housing mounting surface and the mounting interface on the yoke.

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

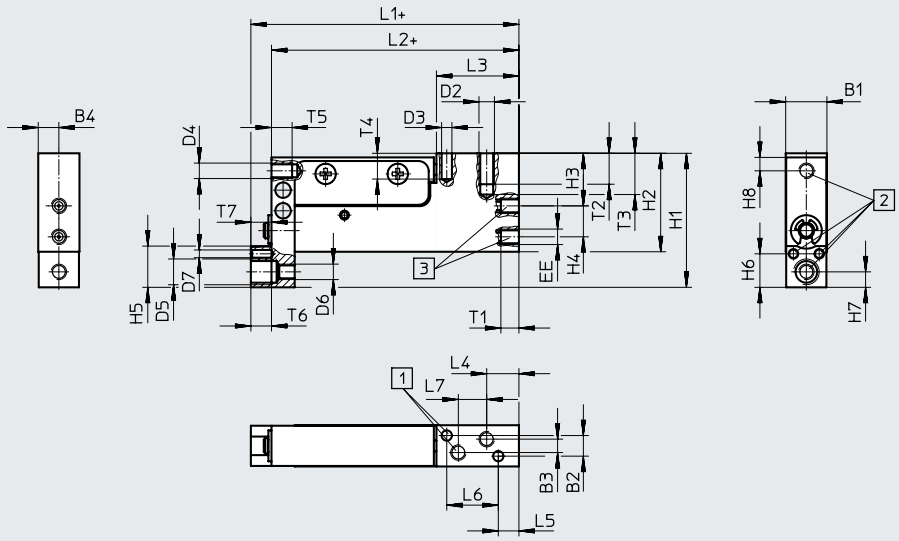


Type		DGSC-6-10-P-L	DGSC-6-10-P-P
Parallelism	[mm]	–	< 0.03
Perpendicularity	[mm]	< 0.03	–
Linearity	[mm]	< 0.01	

Data sheet

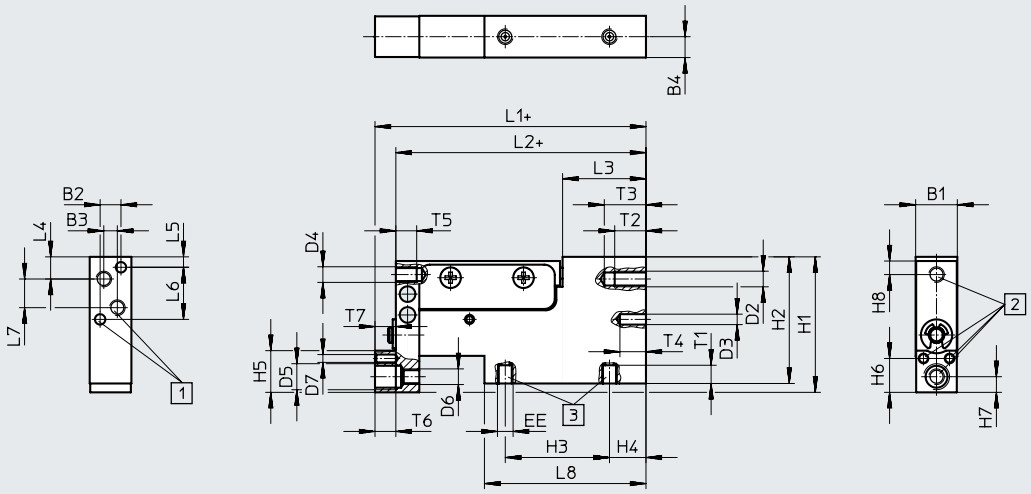
Dimensions Download CAD data ➔ www.festo.com

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

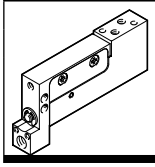
Type	B1	B2	B3	B4	D2	D3	D4	D5	D6	D7	EE
	−0.05/−0.15	±0.02				Ø H8				Ø H8	
DGSC-6-10-P-L	8	4	2.6±0.1	4	M3	2	M3	M5	M3	1.5	M3
DGSC-6-10-P-P	8	4	2.6	4	M3	2	M3	M5	M3	1.5	M3

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	52.1	48.1	16.1
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	6.35	4.1	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

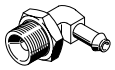
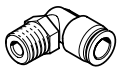
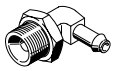
Data sheet

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**

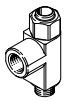
Accessories

Ordering data – Fitting

Type	Connection Thread	For tubing ø [mm]	Weight [g]	Part no.	Type	PU[1]
For supplying compressed air to the mini slide						
Push-in fitting QSM			Data sheets ➔ Internet: qsm			
	M3	2 (male)	0.8	**133026**	**QSM-M3-2-I**	10
	M3	3 (male)	3	**133001**	**QSM-M3-3-I-R**	
Barbed fitting CN			Data sheets ➔ Internet: cn			
	M3	2 (female)	3	**15871**	**CN-M3-PK-2**	10
	M3	3 (female)	3	**15872**	**CN-M3-PK-3**	
Barbed elbow fitting LCN			Data sheets ➔ Internet: lcn			
	M3	2 (female)	2	**30491**	**LCN-M3-PK-2-B**	10
	M3	3 (female)	2	**30982**	**LCN-M3-PK-3**	
For connecting vacuum or compressed air to the slide						
Push-in L-fitting QSML			Data sheets ➔ Internet: qsml			
	M3	2 (male)	2	**133030**	**QSML-M3-2**	10
	M3	3 (male)	2	**153330**	**QSML-M3-3**	10
	M3	3 (male)	2	**130768**	**QSML-M3-3-100**	100
Barbed elbow fitting LCN			Data sheets ➔ Internet: lcn			
	M3	2 (female)	2	**30491**	**LCN-M3-PK-2-B**	10
	M3	3 (female)	2	**30982**	**LCN-M3-PK-3**	

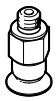
Data sheet

Ordering data – One-way flow control valve

Type	Connection Male thread	Function	Weight [g]	Part no.	Type	PU[1]
For supplying compressed air to the mini slide				Data sheets ➔ 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 with connection

Data sheets ➔ Internet: vas

Type	Connection		Material	Weight [g]	Part no.	Type	PU[1]
	Thread	For suction cup ⌀ [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