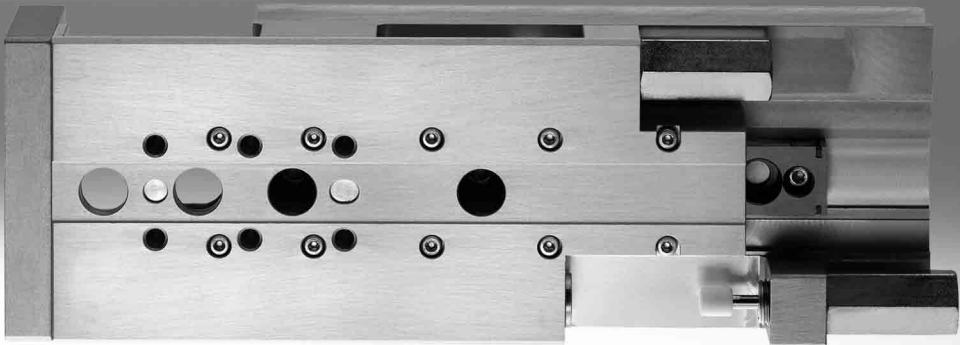


Mini slides SLT/SLS/SLF



# Mini slides SLT/SLS/SLF

Key features

FESTO

## General information

- Double-acting drives
- Precise and rigid guide
- Versatile air connections
- Sensors can be integrated
- Highly flexible thanks to versatile, direct assembly and connection options on:
  - Drive body
  - Slide
  - Yoke plate

## Mini slides SLT



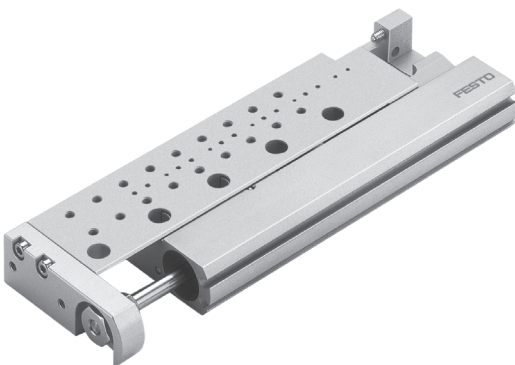
- Powerful
- Compact design through air connections at rear
- Two adjustable end-position cushioning systems:
  - Flexible cushioning elements
  - Hydraulic shock absorbers
- Extremely compact drive thanks to cushioning systems integrated in the profile section
- Versatile combination options include:
  - Drives
  - Grippers
- System product for handling and assembly technology

## Mini slides SLS



- Slim design
- Integrated end-position cushioning:
  - Flexible cushioning elements

## Mini slides SLF

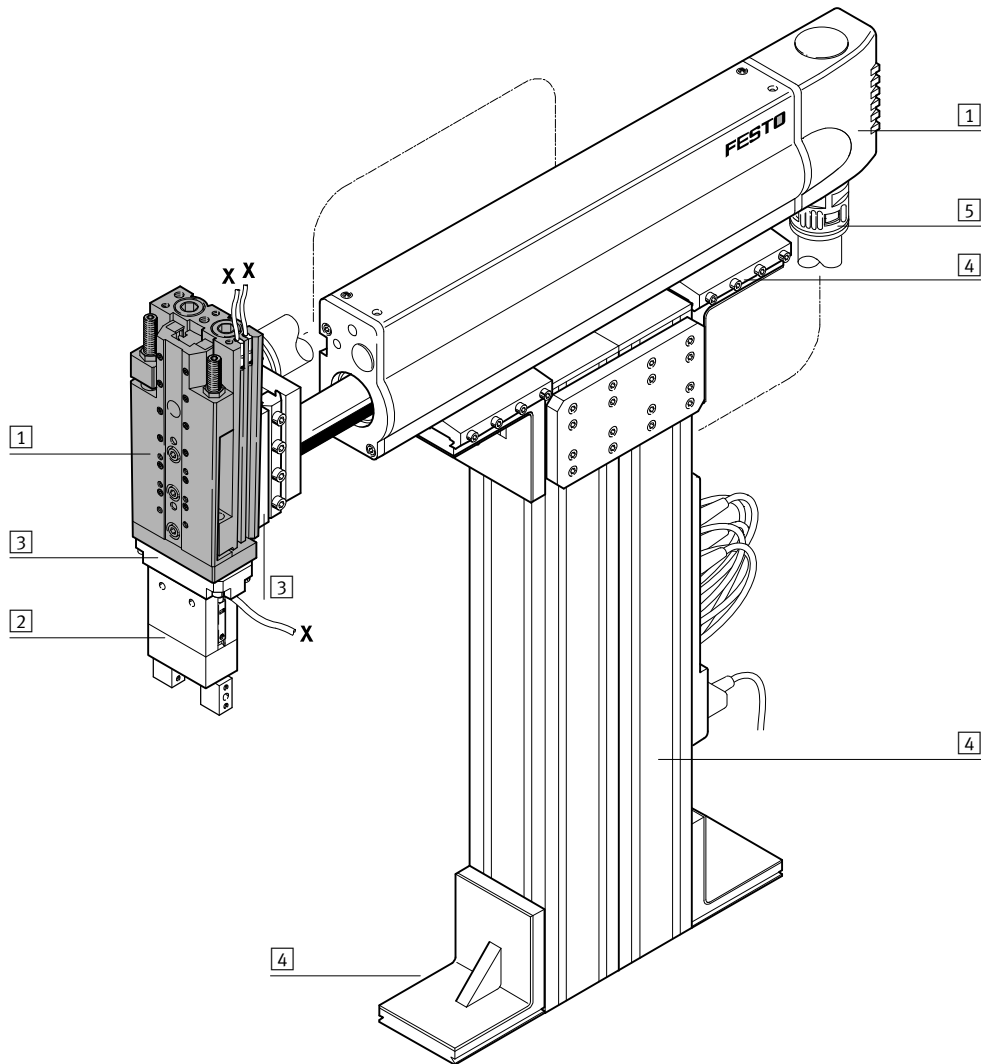


- Flat
- Adjustable end-position cushioning
  - Flexible cushioning elements
- Versatile combination options on:
  - Drives
- System product for handling and assembly technology

# Mini slides SLT/SLS/SLF

System example

System product for handling and assembly technology



System elements and accessories		
	Description	→ Page/Internet
1	Drives	Diverse possible combinations in handling and assembly technology drive
2	Grippers	Wide range of variation options within handling and assembly technology gripper
3	Adapters	For drive/drive combinations 34
		For drive/gripper combinations adapter kit
4	Basic components	Profiles and profile connections as well as profile/drive connections basic component
5	Installation components	For achieving a clear-cut, safe layout of electrical cables and tubing installation component
-	Axes	Diverse possible combinations in handling and assembly technology axes
-	Motors	Servo and stepper motors, with or without gearing motor

# Mini slides SLT/SLS/SLF

Key features



## Drive

Mini slides SLT/SLS/SLF are driven with double-acting cylinders.

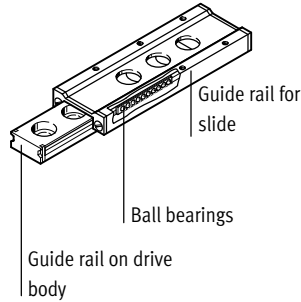
SLT: with two pistons

SLS/SLF: with one piston

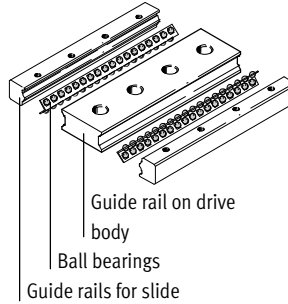
## Guide

The slide moves on a pre-loaded, backlash-free precision ball bearing cage guide of high rigidity with high torque and load absorption.

SLT/SLS/SLF-6/-10/-16

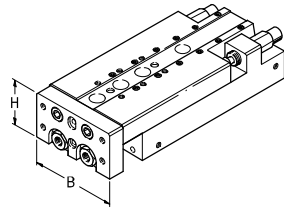


SLT-20/-25



## The powerful mini slide

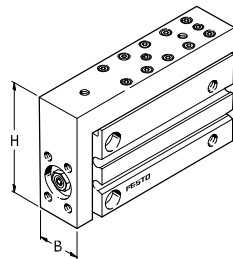
SLT



Piston Ø	Width (W)	x	Height (H)
2x 6 mm	35	x	20 mm
2x 10 mm	50	x	30 mm
2x 16 mm	66	x	40 mm
2x 20 mm	85	x	49 mm
2x 25 mm	104	x	60 mm

## The super slim mini slide

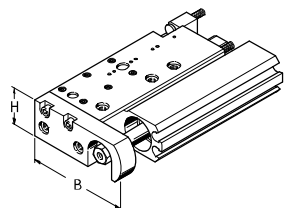
SLS



Piston Ø	Width (W)	x	Height (H)
6 mm	16	x	39 mm
10 mm	20	x	45 mm
16 mm	24	x	51 mm

## The extremely flat mini slide

SLF



Piston Ø	Width (W)	x	Height (H)
6 mm	46	x	11 mm
10 mm	48	x	15 mm
16 mm	62	x	21 mm

# Mini slides SLT/SLS/SLF

Key features

## Versatile

through

- Attachment
- Mounting
- Air connection
- End-position cushioning
- Sensors

**1** Attachment:  
The drive can be directly attached via through or threaded holes (with appropriate screws and centring sleeves ZBH).

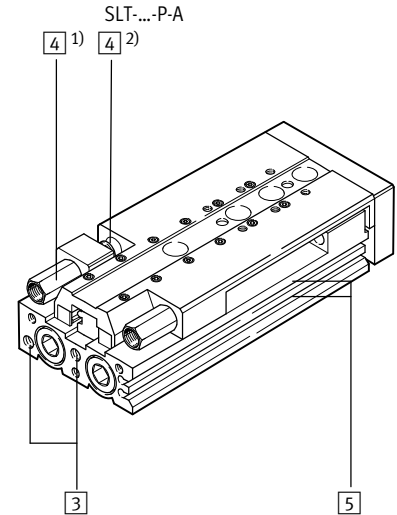
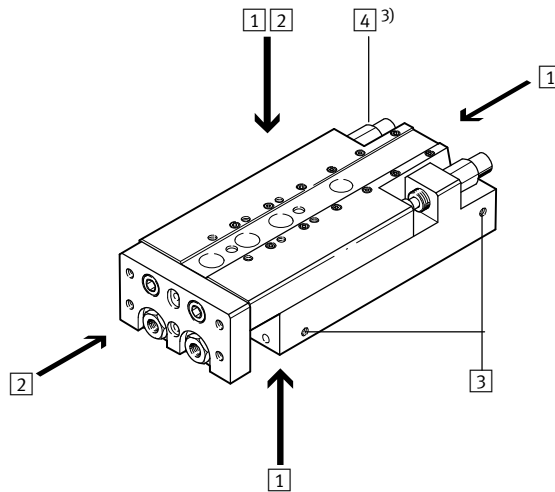
**2** Mounting surface:  
Direct attachment of devices and loads is made possible with threaded holes in the slide and the yoke plate (using appropriate screws and centring sleeves ZBS/ZBH) (e.g. SLT: semi-rotary drives and grippers).

**3** Versatile air connections

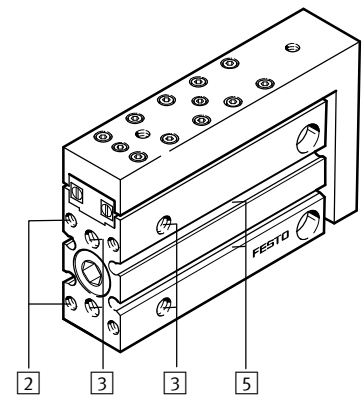
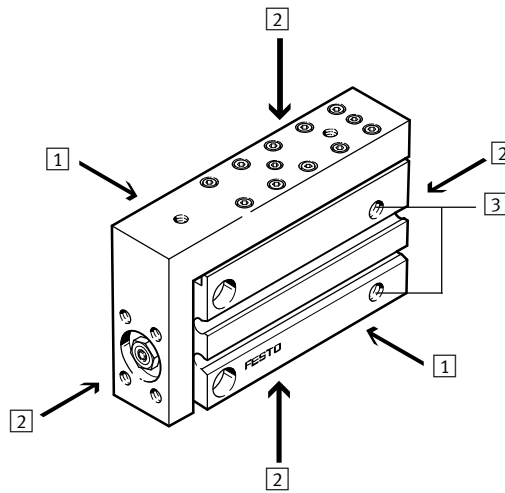
- 4** Adjustable end-position cushioning systems:
- 1) SLT-...-P-A/SLF-...-P-A with flexible cushioning elements in the end positions
  - 2) SLT-...-P-A with stop PF-...-SLT allows precise, metallic positioning in the end positions
  - 3) SLT-...-A-CC-B with hydraulic shock absorbers YSRT on rear cover for optimum end-position adjustment

**5** Sensors can be integrated  
Sensor slots for one or more proximity sensors SME/SMT-10. For space-saving, reliable sensing of piston positions. Proximity sensors can be freely moved and clamped in their slots.

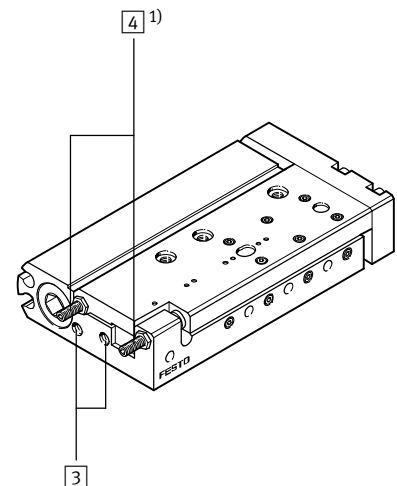
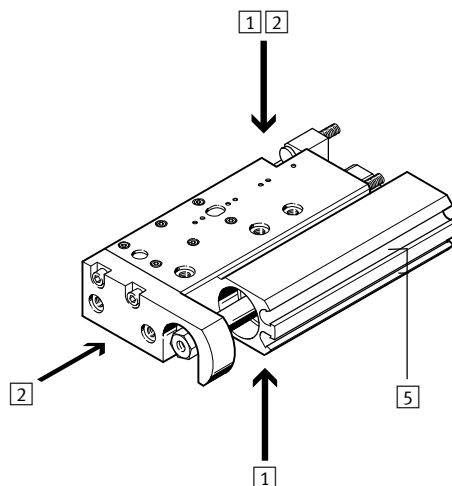
SLT  
SLT-...-CC-B



SLS



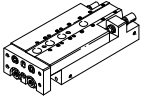
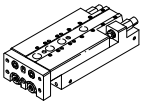
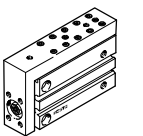
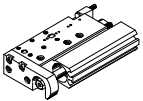
SLF



# Mini slides SLT/SLS/SLF

Product range overview



Function	Design	Piston Ø [mm]	Stroke [mm]	Cushioning		Position sensing	→ Page/ Internet
				flexible cushioning elements	hydraulic shock absorbers		
Double- acting	Powerful, SLT-...-P-A						
		6, 10, 16, 20, 25	10, 20, 30, 40, 50, 80, 100, 125, 150, 200	■	-	■	LEERER MERKER
	Powerful, SLT-...-A-CC-B						
		10, 16, 20, 25	30, 40, 50, 80, 100, 125, 150, 200	-	■	■	LEERER MERKER
	Slim, SLS-...-P-A						
	6, 10, 16	5, 10, 15, 20, 25, 30	■	-	■	LEERER MERKER	
Flat, SLF-...-P-A							
	6, 10, 16	10, 20, 30, 40, 50, 80	■	-	■	LEERER MERKER	

# Mini slides SLT

Type codes

SLT - 16 - 80 - P - A

<b>Type</b>	
Double-acting	
SLT	Mini-slide
<b>Piston Ø [mm]</b>	
16	
<b>Stroke [mm]</b>	
80	
<b>Cushioning</b>	
P	Flexible cushioning, non-adjustable
<b>Position sensing</b>	
A	For proximity sensing

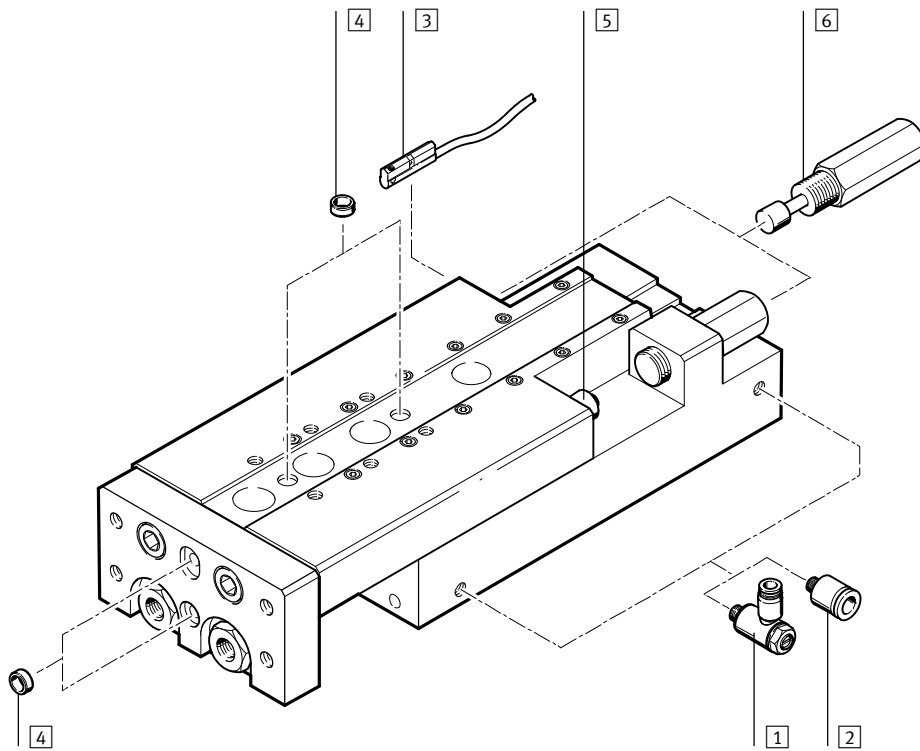
SLT - 16 - 80 - A - CC - B

<b>Type</b>	
Double-acting	
SLT	Mini-slide
<b>Piston Ø [mm]</b>	
16	
<b>Stroke [mm]</b>	
80	
<b>Position sensing</b>	
A	For proximity sensing
<b>Cushioning</b>	
CC	Linear, self-adjusting shock absorber
<b>Version</b>	
B	B series

# Mini slides SLT

Peripherals overview

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Note  
End stops must not be removed.



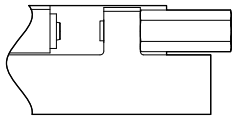
# Mini slides SLT

Peripherals overview

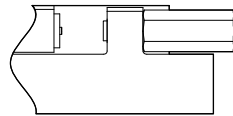
Accessories		
	Description	→ Page/Internet
1	One-way flow control valve GRLA	38
2	Push-in fitting QS	qs
3	Proximity sensor SME/SMT-10	39
4	Centring pin/sleeve ZBS/ZBH	38
5	Cushioning with stop PF	38
6	Cushioning with shock absorber YSRT	ysrt
7	Cushioning P	20

## Cushioning variants

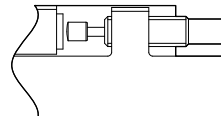
7 SLT...-P-A  
with cushioning P



5 SLT...-P-A  
with cushioning PF  
(stop can be retrofitted)



6 SLT...-CC-B  
with cushioning YSRT

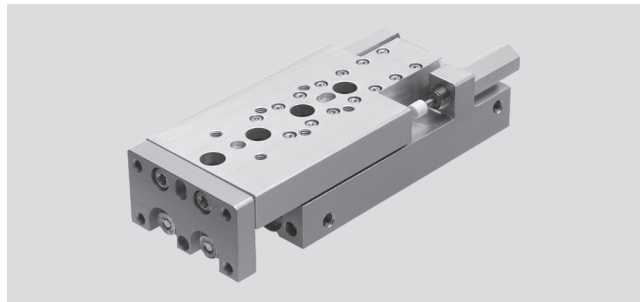
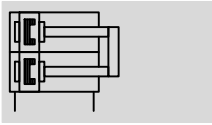




# Mini slides SLT

Technical data

FESTO

Function



-  Diameter  
6 ... 25 mm
-  Stroke length  
10 ... 200 mm

General technical data				6	10	16	20	25
Piston $\varnothing$				6	10	16	20	25
Pneumatic connection				M5			G1/8	
Design				Kinematic yoke system				
Guide				Parallel piston rods, ball bearing guide				
Cushioning	Cushioning P			Non-adjustable at either end				
	Shock absorber			-			Self-adjusting at both ends	
Position sensing				For proximity sensing				
Type of mounting				Via through-holes				
				Via female thread				
Mounting position				Any				
Adjustable end-position range	Per end stop	[mm]		7	4	12		
	Per shock absorber	[mm]		-	4	5	12	
Cushioning length with shock absorbers		[mm]		-	5	8		12
Max. advancing speed		[m/s]		0.5 <sup>1)</sup>	0.8			
Max. retracting speed		[m/s]		0.5 <sup>1)</sup>	0.8			
Repetition accuracy	Stop PF	[mm]		0.02				
	Shock absorber	[mm]		-			0.02	

1) Must be throttled externally

Operating and environmental conditions				6	10	16	20	25
Piston $\varnothing$				6	10	16	20	25
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]		1.5 ... 10		1 ... 10		
Ambient temperature <sup>1)</sup>		[°C]		-20 ... +60				

1) Note operating range of proximity sensors

Forces [N] and impact energy [Nm]				6	10	16	20	25
Piston $\varnothing$				6	10	16	20	25
Theoretical force at 6 bar, advancing				34	94	242	376	590
Theoretical force at 6 bar, retracting				25	79	207	317	495
Max. impact energy at the end positions <sup>1)</sup>	Stop PF <sup>2)</sup>			0.0005	0.007	0.015	0.030	0.060
	Cushioning P <sup>2)</sup>			0.016	0.1	0.3	0.4	0.5
Shock absorber CC <sup>2)</sup>				-	1	2	3	10

1) Loads moved by the slides must be taken into consideration for the calculation of end-position cushioning energy

2) Note also the graphs illustrating piston speed as a function of working load → page 11

# Mini slides SLT

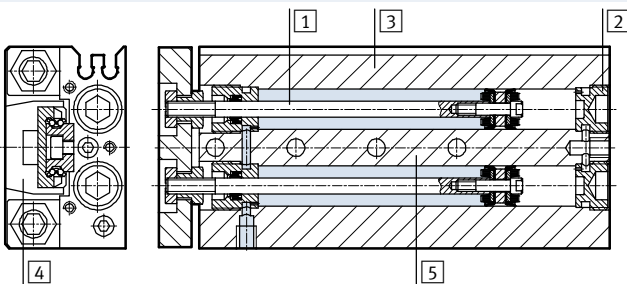
Technical data



Weights [g]												
Piston Ø	Stroke	6		10		16		20		25		
		1	2	1	2	1	2	1	2	1	2	
1	Product weight	10	97	42	252	125	566	255	1156	533	1850	920
2	Moving load	20	114	47	252	122	560	250	1147	526	1834	905
		30	132	53	288	141	598	265	1138	518	1819	891
		40	157	64	317	149	664	298	1228	548	1989	964
		50	196	85	382	179	737	327	1375	608	2143	1036
		80	-	-	538	247	1007	451	1799	793	2762	1326
		100	-	-	-	-	1228	543	2128	924	3210	1516
		125	-	-	-	-	1603	749	2714	1143	4063	1899
		150	-	-	-	-	1708	797	2896	1253	4559	2087
		200	-	-	-	-	-	-	3727	1490	5592	2544

## Materials

Sectional view



Mini slide		
1	Piston rod	High-alloy steel
2	Cap	Wrought aluminium alloy, anodised
3	Housing	Wrought aluminium alloy, anodised
4	Slide	Wrought aluminium alloy, anodised
5	Guide	Tempered steel
-	Seals	Hydrogenated nitrile rubber
Note on materials		Free of copper and PTFE

## Piston speed v as a function of working load m

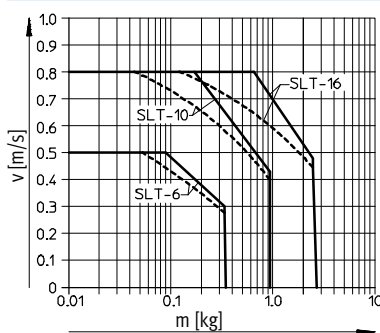
The piston speed as a function of working load may not be exceeded as the kinetic impact or residual energy

in the end positions can result in damage to the drive.

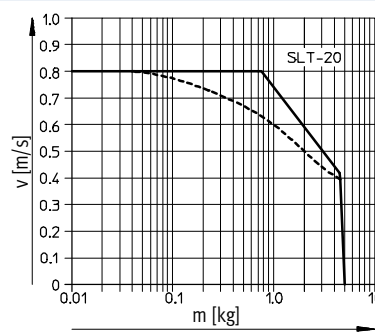
For the mini slide SLT with shock absorbers, the speed should not be less than 0.1 m/s, as otherwise the

service life of the shock absorber will be reduced.

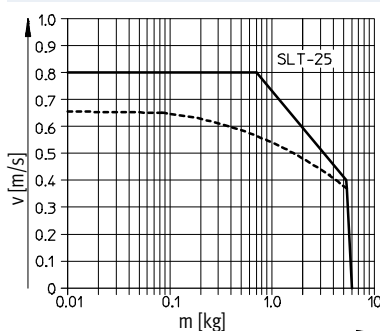
SLT-6/-10/-16-...-P-A



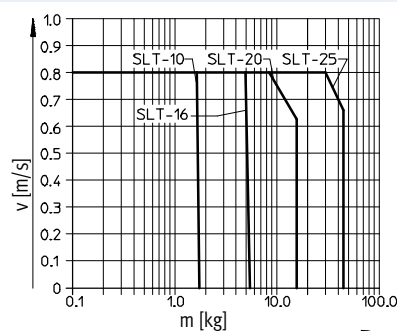
SLT-20-...-P-A



SLT-25-...-P-A



SLT-10/-16/-20/-25-...-A-CC-B



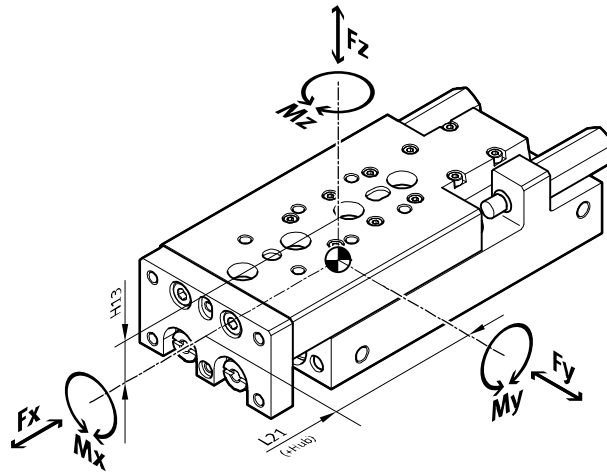
— Min. stroke  
- - - Max. stroke

# Mini slides SLT

Technical data

## Dynamic characteristic load values

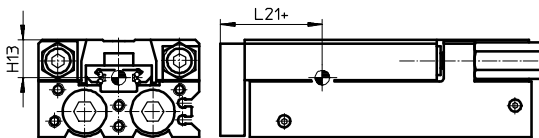
Torques are indicated with reference to the centre of the guide.  
They must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.



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.

$$\frac{|F_y|}{F_{y\max.}} + \frac{|F_z|}{F_{z\max.}} + \frac{|M_x|}{M_{x\max.}} + \frac{|M_y|}{M_{y\max.}} + \frac{|M_z|}{M_{z\max.}} \leq 1$$

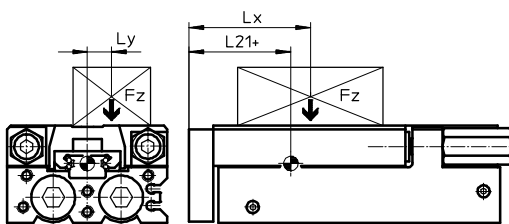
## Position of guide centre



+ plus stroke length

## Calculation example

Given:



Mini slide	=	SLT-10
Stroke length	=	80 mm
Lever arm L <sub>x</sub>	=	50 mm
Lever arm L <sub>y</sub>	=	30 mm
Mass F <sub>z</sub>	=	0.8 kg
Acceleration a	=	0 m/s <sup>2</sup>

To be found:

F<sub>y</sub>, F<sub>z</sub>, M<sub>x</sub>, M<sub>y</sub>, M<sub>z</sub>  
and  
verification of function with combined load

Solution:

L<sub>21</sub> = 41 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 [(L<sub>21</sub>+stroke)-L<sub>x</sub>]  
= 0.8 kg x 9.81 m/s<sup>2</sup> [(41 mm + 80 mm) - 50 mm] = 0.557 Nm

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

Combined load:

$$\frac{|F_y|}{F_{y\max.}} + \frac{|F_z|}{F_{z\max.}} + \frac{|M_x|}{M_{x\max.}} + \frac{|M_y|}{M_{y\max.}} + \frac{|M_z|}{M_{z\max.}}$$

$$= 0 + \frac{7.848\text{N}}{410\text{N}} + \frac{0.2366\text{Nm}}{4.3\text{Nm}} + \frac{0.557\text{Nm}}{1.5\text{Nm}} + 0 = 0.445 \leq 1$$

# Mini slides SLT

Technical data



Permissible forces and torques						Geometric characteristics	
Piston $\varnothing$	Stroke	$F_{y_{max}}$ [N]	$F_{z_{max}}$ [N]	$M_{x_{max}}$ [Nm]	$M_{y_{max}}, M_{z_{max}}$ [Nm]	H13 [mm]	L21 [mm]
<b>6</b>							
	10	200	200	1.1	0.7	7	21.5
	20	160	160	1.1	0.7		21.5
	30	140	140	0.7	0.5		21.5
	40	150	150	0.9	0.5		25
	50	190	190	1.4	0.5		30.5
<b>10</b>							
	10	470	470	2.1	1.6	13	24.5
	20	370	370	1.7	1.4		24.5
	30	390	390	2.5	1.4		28.5
	40	350	350	2.2	1.3		28.5
	50	390	390	3.1	1.4		33.5
	80	410	410	4.3	1.5		41
<b>16</b>							
	10	820	820	6.1	4.2	16	33
	20	650	650	4.7	3.4		33
	30	530	530	4.2	3.0		31.5
	40	490	490	3.8	2.7		31.5
	50	510	510	4.6	2.8		35
	80	520	520	6.0	2.8		41.5
	100	600	600	9.1	3.2		51.5
	125	960	960	12.6	3.5		66.5
	150	660	660	12.6	3.5		66.5
<b>20</b>							
	10	1600	1600	16	18	16.5	38.5
	20	1270	1270	13	14		38.5
	30	1110	1110	11	12		38.5
	40	930	930	10	11		38.5
	50	1080	1080	9	10		41
	80	1030	1030	14	11		48.5
	100	1160	1160	18	11		58
	125	1380	1380	37	17		71
	150	1300	1300	47	17		79
	200	1170	1170	64	17		92.5
<b>25</b>							
	10	1840	1840	19	21	23.5	45.5
	20	1460	1460	16	16		45.5
	30	1280	1280	14	14		45.5
	40	1310	1310	13	12		45.5
	50	1080	1080	12	11		45.5
	80	1030	1030	14	11		50.5
	100	1160	1160	18	11		60
	125	1380	1380	37	17		72.5
	150	1300	1300	47	17		80.5
	200	1170	1170	64	17		94.5

# Mini slides SLT

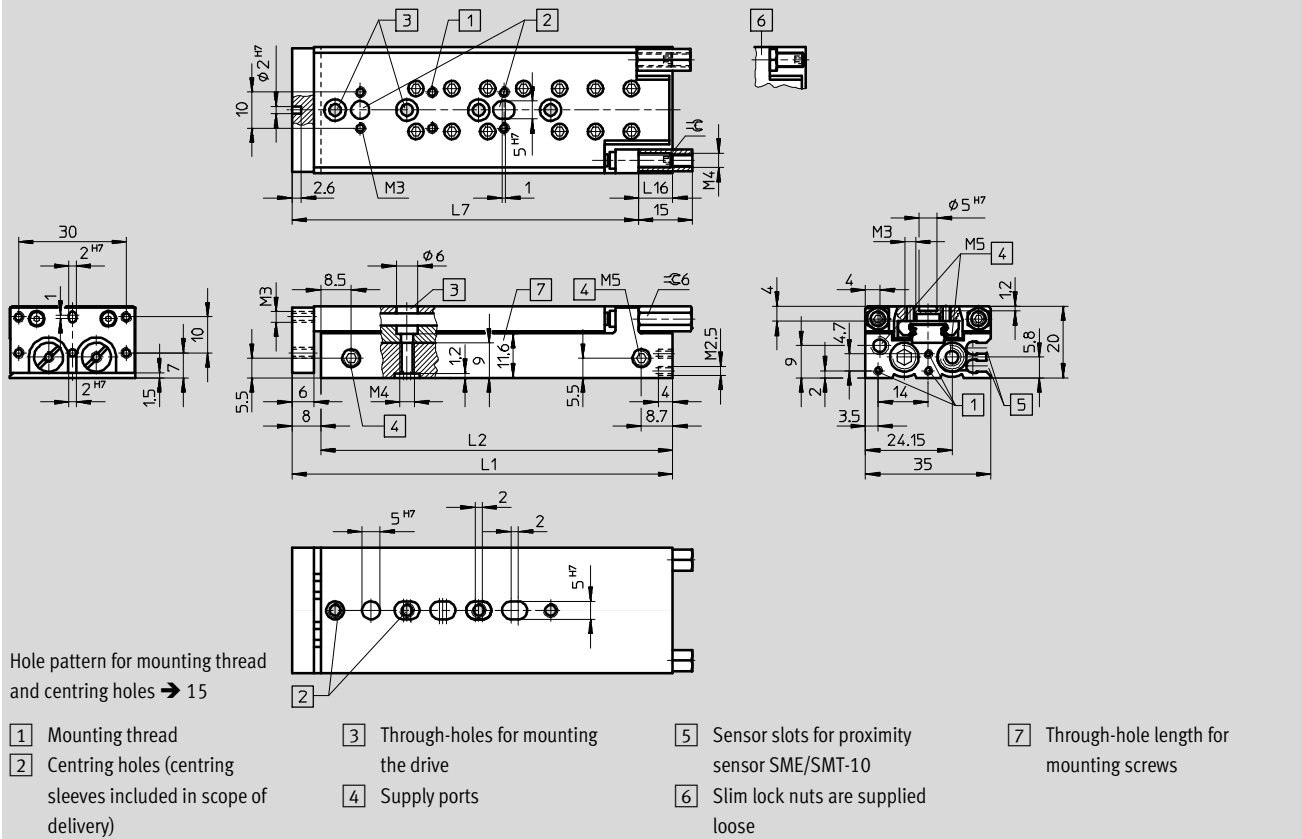
Technical data

FESTO

## Dimensions

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

∅ 6



∅	Stroke	L1	L2	L7	L16	≡C
[mm]	[mm]				1)	1)
6	10	48	40	38	14	2
	20	58	50	48		
	30	68	60	58		
	40	85	77	75		
	50	106	98	96		

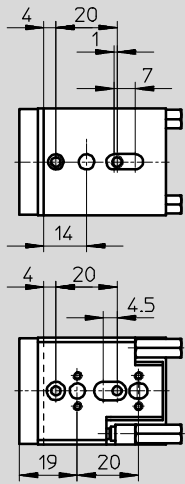
1) With flexible cushioning

# Mini slides SLT

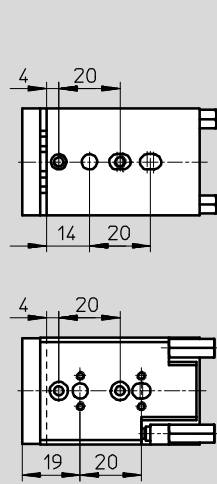
Technical data

## Hole pattern for mounting thread and centring holes

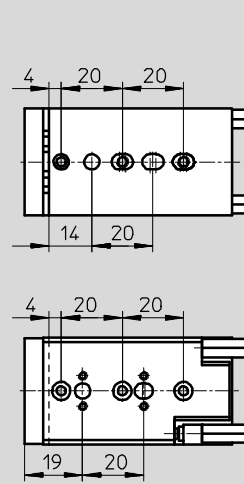
SLT-6-10



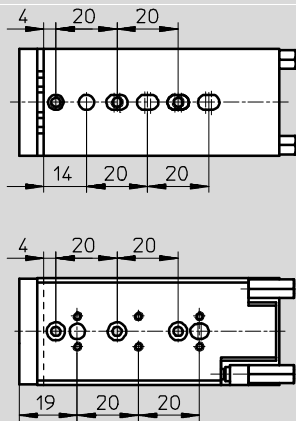
SLT-6-20



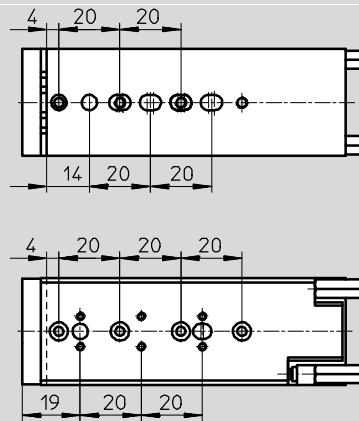
SLT-6-30



SLT-6-40



SLT-6-50



# Mini slides SLT

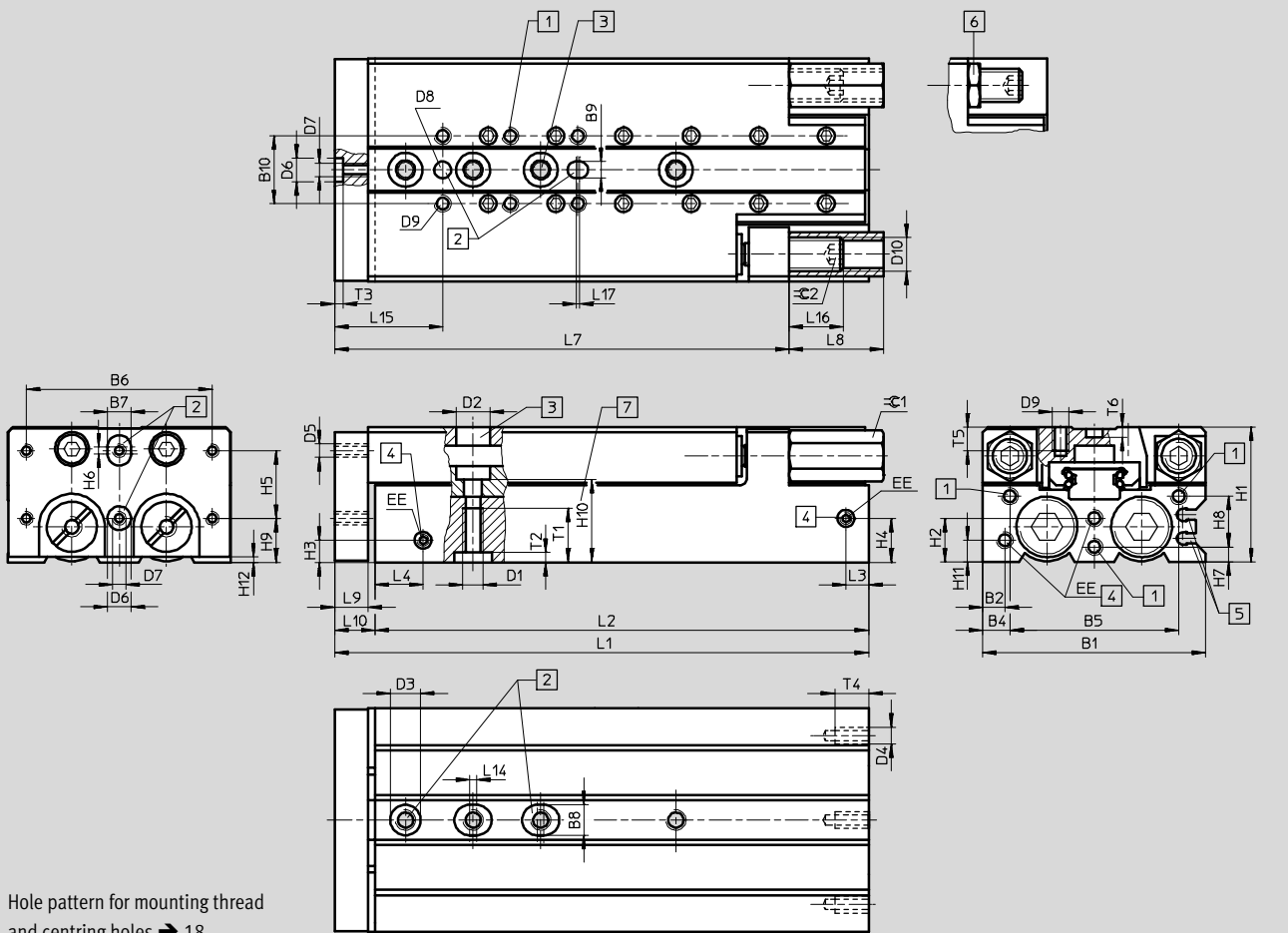
Technical data

FESTO

## Dimensions

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

∅ 10-...-25



Hole pattern for mounting thread and centring holes → 18

- 1 Mounting thread
- 2 Centring holes (centring sleeves included in scope of delivery)
- 3 Through-holes for mounting the drive
- 4 Supply ports
- 5 Sensor slots for proximity sensor SME/SMT-10
- 6 Slim lock nuts are supplied loose
- 7 Through-hole length for mounting screws

∅	B1	B2	B4	B5	B6	B7	B8	B9	B10	D1	D2	D3	D4	D5	D6	D7
[mm]						H7	H7	H7			∅	∅			∅	
10	50	5.5	10	30	40	5	7	5	20	M5	8	7	M3	M4	5	M3
16	66	6.5	8	50	55	7	9			M6	10	9	M5	M5	7	M4
20	85	7	15	55	70	9	12	9	40	M8	11	12			9	M5
25	104	8	12	80	80	12		12					M6	M6	12	M6

∅	D8	D9	D10	EE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12
[mm]	∅															
	H7															
10	5	M4	M8x1	M5	30	9.4	5.5	11	20	2	4	10	5	15.15	5.5	1.5
16	5	M5	M10x1		40	13	6.5	13			4.5	15	13	20	6.5	1.5
20	9		M12x1	G1/8	49	19.5	9	19.7			6	19	16	30.5	9	2.5
25	12	M6	M16x1	G1/8	60	21	10	21	40		5	25	10	34.5	10	1.5



# Mini slides SLT

Technical data



∅ [mm]	Stroke [mm]	L1	L2	L3	L4	L7	L8	L9	L10	L14 min.	L15				
10	10	72	62	7	11.7	62.5	15	8	10	2	25				
	20	72										72.5			
	30	82	25												
	40	92				82									
	50	112	102												
	80	162	152												
16	10	80	68	6.7	14.2	63.5	22	10	12	2	32				
	20	87										75	70.5		
	30		80.5												
	40					28									
	50						112		100				90.5		
	80						158		146				134.5		
	100					199	187		176.5						
	125		257			245	8.2		16.6				233.5		
	150	282	270			258.5									
20	10	97	85	10.7	15.2	74	28	10	12	2	25				
	20											107	95	84	
	30														92
	40	37													
	50		122			110	92								
	80		167			155	135								
	100	203	191			171									
	125	262	250			10.3	17.5		208					59	
	150	302	290			249									
	200	377	365			323									
25	10	108	94	10.7	18.7	88.5	25	12	14	2	30				
	20											118	104	92.5	34
	30														
	40	51													
	50		131			117	102.5								
	80		177			163	132.5								
	100	210	196			159.5	57								
	125	264	250			10	21.5		212.5						
	150	304	290			252.5									
	200	379	365			328.5									

∅ [mm]	L16		L17 min.	T1	T2	T3	T4	T5	T6	≈ 1	≈ 2	
	1)	2)									1)	2)
10	20.7	8	1	12	1.5	1.3	7	8	1.2	10	2.5	4
16	23.5	16		16	2.1	1.6	10	7	13	15	3	5
20	34	17.5		20	2.6	2.1					10	2.1
25	49.5	18		2.6	12	11	2.6	19	5	8		

- 1) With hydraulic shock absorbers
- 2) With flexible cushioning

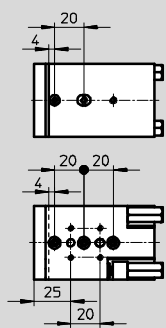
# Mini slides SLT

Technical data

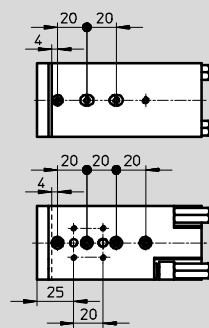
FESTO

## Hole pattern for mounting thread and centring holes

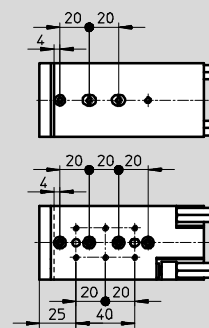
SLT-10-10 ... 30



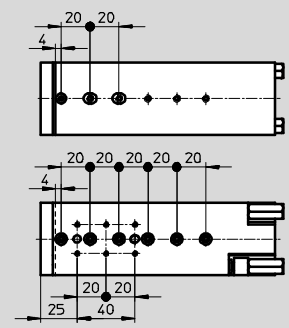
SLT-10-40



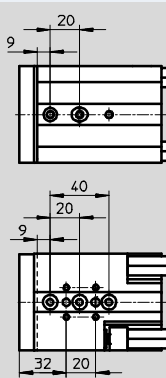
SLT-10-50



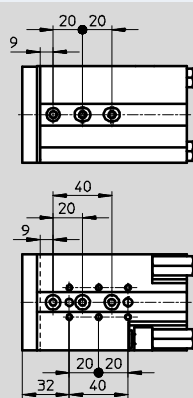
SLT-10-80



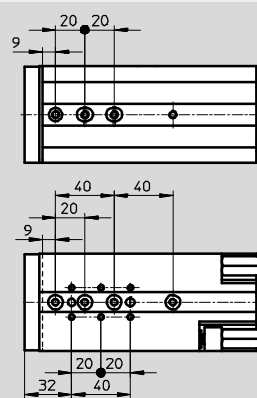
SLT-16-10 ... 40



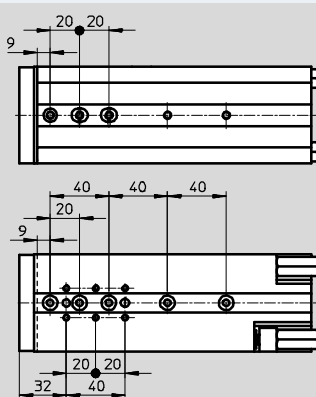
SLT-16-50



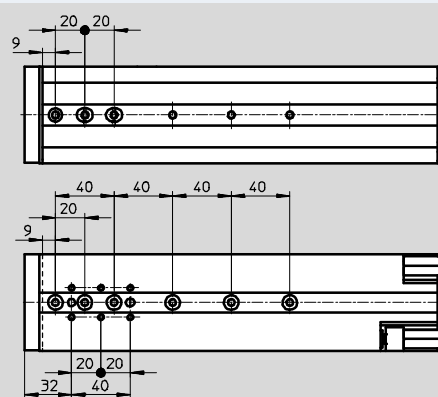
SLT-16-80



SLT-16-100



SLT-16-125/-150

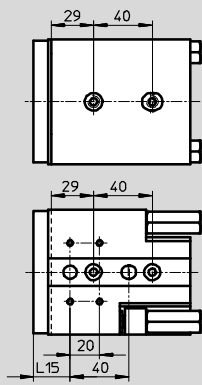


# Mini slides SLT

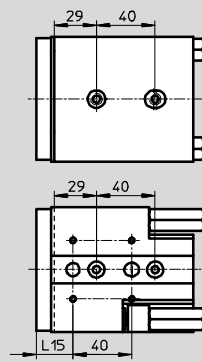
Technical data

## Hole pattern for mounting thread and centring holes

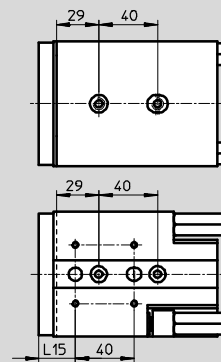
SLT-20-10 ... 40



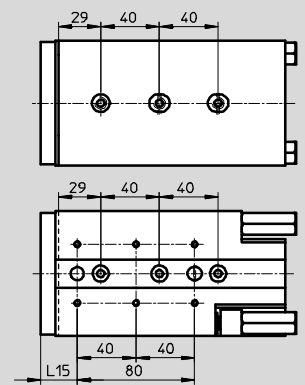
SLT-25-10 ... 40



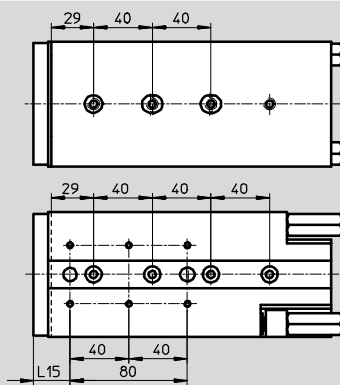
SLT-20/-25-50



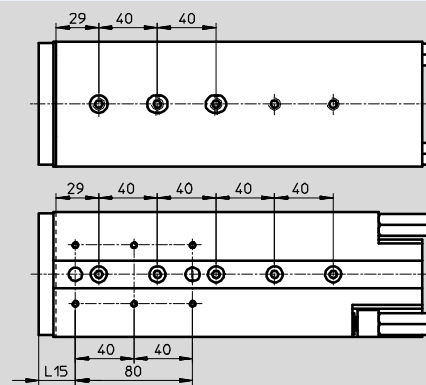
SLT-20/-25-80



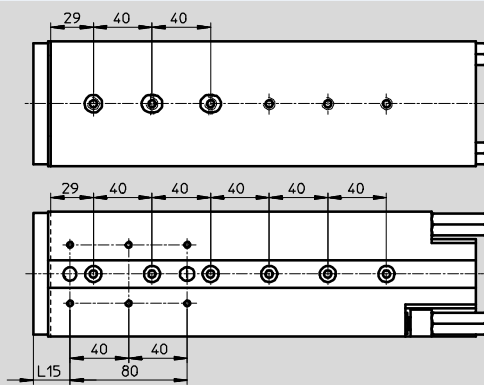
SLT-20/-25-100



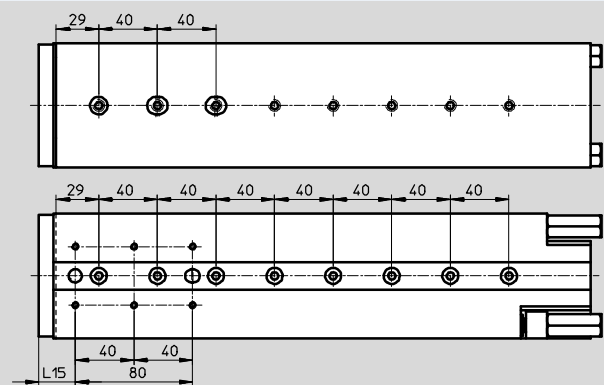
SLT-20/-25-125



SLT-20/-25-150



SLT-20/-25-200



# Mini slides SLT

Technical data

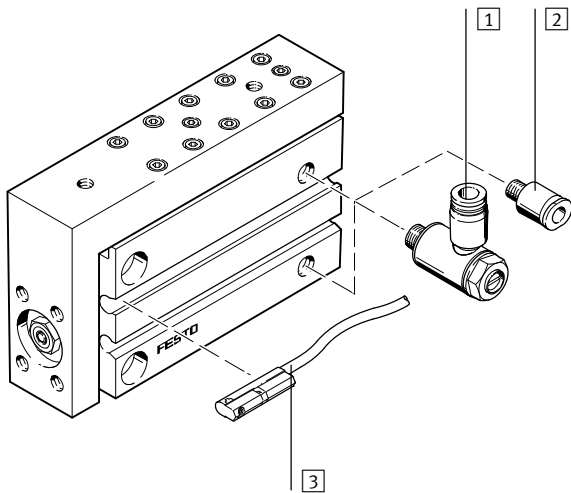
**FESTO**

Ordering data					
∅ [mm]	Stroke [mm]	SLT-...-P-A		SLT-...-A-CC-B	
		Part No.	Type	Part No.	Type
<b>6</b>					
	10	170549	SLT-6-10-P-A	-	
	20	170550	SLT-6-20-P-A	-	
	30	170551	SLT-6-30-P-A	-	
	40	170552	SLT-6-40-P-A	-	
	50	170553	SLT-6-50-P-A	-	
<b>10</b>					
	10	170554	SLT-10-10-P-A	-	
	20	170555	SLT-10-20-P-A	-	
	30	170556	SLT-10-30-P-A	197891	SLT-10-30-A-CC-B
	40	170557	SLT-10-40-P-A	197892	SLT-10-40-A-CC-B
	50	170558	SLT-10-50-P-A	197893	SLT-10-50-A-CC-B
	80	170559	SLT-10-80-P-A	197894	SLT-10-80-A-CC-B
<b>16</b>					
	10	170560	SLT-16-10-P-A	-	
	20	170561	SLT-16-20-P-A	-	
	30	170562	SLT-16-30-P-A	197895	SLT-16-30-A-CC-B
	40	170563	SLT-16-40-P-A	197896	SLT-16-40-A-CC-B
	50	170564	SLT-16-50-P-A	197897	SLT-16-50-A-CC-B
	80	170565	SLT-16-80-P-A	197898	SLT-16-80-A-CC-B
	100	170566	SLT-16-100-P-A	197899	SLT-16-100-A-CC-B
	125	188412	SLT-16-125-P-A	197900	SLT-16-125-A-CC-B
	150	188413	SLT-16-150-P-A	197901	SLT-16-150-A-CC-B
<b>20</b>					
	10	170567	SLT-20-10-P-A	-	
	20	170568	SLT-20-20-P-A	-	
	30	170569	SLT-20-30-P-A	197902	SLT-20-30-A-CC-B
	40	170570	SLT-20-40-P-A	197903	SLT-20-40-A-CC-B
	50	170571	SLT-20-50-P-A	197904	SLT-20-50-A-CC-B
	80	170572	SLT-20-80-P-A	197905	SLT-20-80-A-CC-B
	100	170573	SLT-20-100-P-A	197906	SLT-20-100-A-CC-B
	125	188416	SLT-20-125-P-A	197907	SLT-20-125-A-CC-B
	150	188417	SLT-20-150-P-A	197908	SLT-20-150-A-CC-B
	200	188418	SLT-20-200-P-A	197909	SLT-20-200-A-CC-B
<b>25</b>					
	10	170574	SLT-25-10-P-A	-	
	20	170575	SLT-25-20-P-A	-	
	30	170576	SLT-25-30-P-A	197910	SLT-25-30-A-CC-B
	40	170577	SLT-25-40-P-A	197911	SLT-25-40-A-CC-B
	50	170578	SLT-25-50-P-A	197912	SLT-25-50-A-CC-B
	80	170579	SLT-25-80-P-A	197913	SLT-25-80-A-CC-B
	100	170580	SLT-25-100-P-A	197914	SLT-25-100-A-CC-B
	125	188422	SLT-25-125-P-A	197915	SLT-25-125-A-CC-B
	150	188423	SLT-25-150-P-A	197916	SLT-25-150-A-CC-B
	200	188424	SLT-25-200-P-A	197917	SLT-25-200-A-CC-B

# Mini slides SLS

Peripherals overview and type codes

## Peripherals overview



Accessories		Description	→ Page/Internet
1	One-way flow control valve GRLA	For speed regulation	38
2	Push-in fitting QS	For connecting compressed air tubing with standard external diameters	qs
3	Proximity sensor SME/SMT-10	Sensor slots for one or more proximity sensors	39

## Type codes

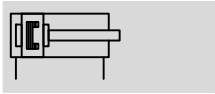
		SLS	-	16	-	10	-	P	-	A
<b>Type</b>										
Double-acting										
SLS	Mini slide									
<b>Piston Ø [mm]</b>										
<b>Stroke [mm]</b>										
<b>Cushioning</b>										
P	Flexible cushioning, non-adjustable									
<b>Position sensing</b>										
A	For proximity sensing									



# Mini slides SLS

Technical data

FESTO

Function



-  - Diameter  
6 ... 16 mm
-  - Stroke length  
5 ... 30 mm

General technical data			
Piston Ø	6	10	16
Pneumatic connection	M5		
Design	Kinematic yoke system		
Guide	Via ball bearings		
Cushioning	Non-adjustable at either end		
Position sensing	For proximity sensing		
Type of mounting	Via through-holes Via female thread		
Assembly position	Any		
Max. advancing speed	[m/s]	0.5 <sup>1)</sup>	0.8
Max. retracting speed	[m/s]	0.5 <sup>1)</sup>	0.8

1) Must be throttled externally

Operating and environmental conditions			
Piston Ø	6	10	16
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]	1.5 ... 10	1 ... 10
Ambient temperature <sup>1)</sup>	[°C]	-20 ... +60	

1) Note operating range of proximity sensors

Forces [N] and impact energy [Nm]			
Piston Ø	6	10	16
Theoretical force at 6 bar, advancing	17	47	121
Theoretical force at 6 bar, retracting	13	39	104
Max. impact energy at the end positions <sup>1)</sup>	Cushioning p <sup>2)</sup>	0.008	0.05
			0.15

- 1) Loads moved by the slides must be taken into consideration for the calculation of end-position cushioning energy
- 2) Note also the graph illustrating piston speed as a function of working load → page 24

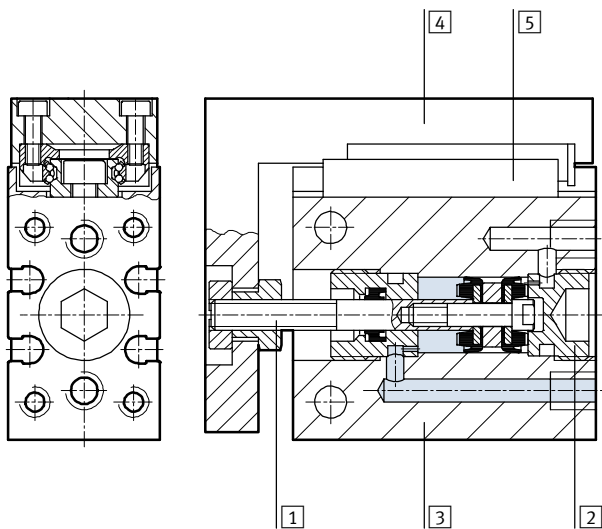
# Mini slides SLS

Technical data

Weights [g]				
Piston Ø	Stroke	6	10	16
Product weight	5	97	130	225
	10	104	139	226
	15	113	149	256
	20	120	164	257
	25	131	182	291
	30	141	191	301
Moving load	5	28	41	92
	10	28	44	92
	15	32	49	100
	20	33	51	101
	25	37	60	111
	30	38	62	115

## Materials

Sectional view



Mini slide		
1	Piston rod	High-alloy steel
2	Cap	Wrought aluminium alloy, anodised
3	Housing	Wrought aluminium alloy, anodised
4	Slide	Wrought aluminium alloy, anodised
5	Guide	Tempered steel
-	Seals	Thermoplastic rubber, hydrogenated nitrile rubber, nitrile rubber
	Note on materials	Free of copper and PTFE

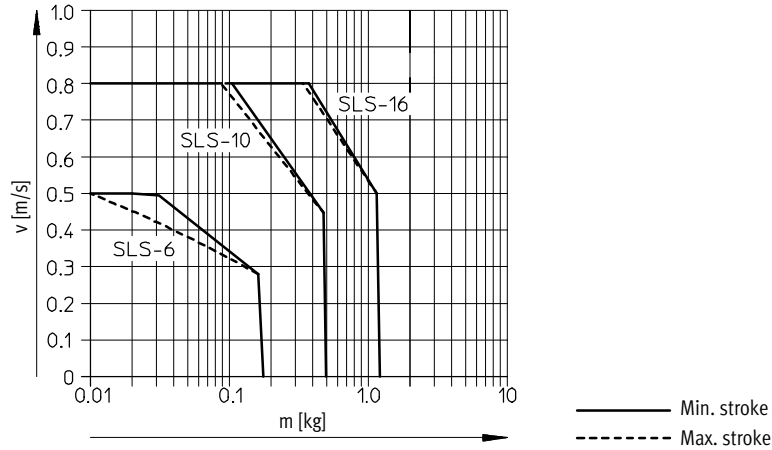
# Mini slides SLS

Technical data

## Piston speed v as a function of working load m

SLS-6/-10/-16-...-P-A

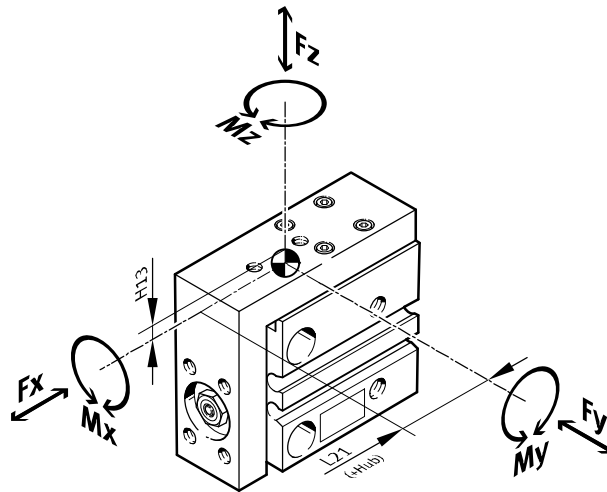
The piston speed as a function of working load illustrated in this graph may not be exceeded as the kinetic impact or residual energy in the end positions can result in damage to the drive.



## Dynamic characteristic load values

Torques are indicated with reference to the centre of the guide.

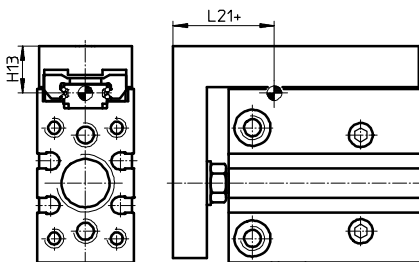
They must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.



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.

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

## Position of guide centre



+ plus stroke length



# Mini slides SLS

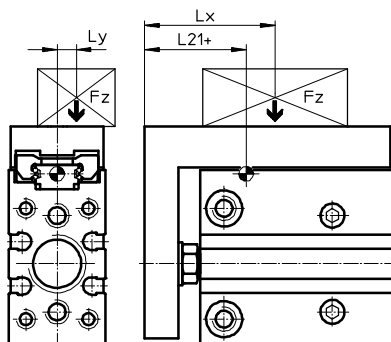
Technical data

FESTO

Permissible forces and torques						Geometric characteristics	
Piston $\varnothing$	Stroke	$F_{y\max}$ [N]	$F_{z\max}$ [N]	$M_{x\max}, M_{y\max}$ [Nm]	$M_{z\max}$ [Nm]	H13 [mm]	L21 [mm]
<b>6</b>							
	5	220	220	0.6	0.5	8.5	20.5
	10	170	170	0.6	0.5		20.5
	15	180	180	0.9	0.6		23
	20	160	160	0.9	0.6		23
	25	150	150	0.9	0.6		23
	30	140	140	0.9	0.6		23
<b>10</b>							
	5	220	220	0.6	0.5	10	27.5
	10	170	170	0.6	0.5		27.5
	15	170	170	1.1	0.7		36
	20	150	150	1.1	0.7		36
	25	140	140	1.1	0.7		36
	30	130	130	1.1	0.7		36
<b>16</b>							
	5	590	590	2.1	1.6	11	30.5
	10	470	470	2.1	1.6		30.5
	15	410	410	1.7	1.3		30.5
	20	370	370	1.7	1.3		30.5
	25	410	410	2.5	1.4		34
	30	390	390	2.5	1.4		34

## Calculation example

Given:



To be found:

Mini slide = SLS-10  
 Stroke length = 20 mm  
 Lever arm  $L_x$  = 5 mm  
 Lever arm  $L_y$  = 20 mm  
 Mass  $F_z$  = 0.495 kg  
 Acceleration  $a$  = 0 m/s<sup>2</sup>

$F_y, F_z, M_x, M_y, M_z$   
 and  
 verification of function with combined load

Solution:

$L_{21} = 36$  mm from table

$F_y = 0$  N

$F_z = m \times g$   
 $= 0.495 \text{ kg} \times 9.81 \text{ m/s}^2 = 4.856 \text{ N}$

$M_x = m \times g \times L_y$   
 $= 0.495 \text{ kg} \times 9.81 \text{ m/s}^2 \times 20 \text{ mm} = 0.097 \text{ Nm}$

$M_y = m \times g \times [(L_{21} + \text{stroke}) - L_x]$   
 $= 0.495 \text{ kg} \times 9.81 \text{ m/s}^2 [(36 \text{ mm} + 20 \text{ mm}) - 5 \text{ mm}] = 0.248 \text{ Nm}$

$M_z = 0$  Nm

Combined load:

$$\frac{|F_y|}{F_{y\max}} + \frac{|F_z|}{F_{z\max}} + \frac{|M_x|}{M_{x\max}} + \frac{|M_y|}{M_{y\max}} + \frac{|M_z|}{M_{z\max}}$$

$$= 0 + \frac{4.856 \text{ N}}{150 \text{ N}} + \frac{0.097 \text{ Nm}}{1.1 \text{ Nm}} + \frac{0.248 \text{ Nm}}{1.1 \text{ Nm}} + 0 = 0.345 \leq 1$$

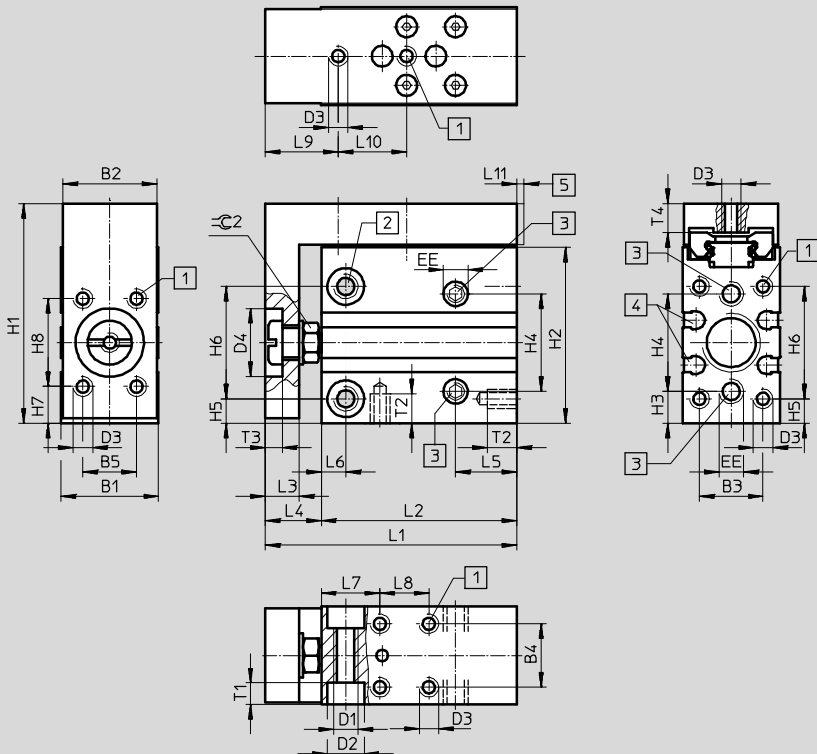
# Mini slides SLS

Technical data

FESTO

## Dimensions

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



- 1 Mounting thread
- 2 Through and threaded holes for mounting the drive
- 3 Supply ports
- 4 Sensor slots for proximity sensor SME/SMT-10
- 5 Possible protrusion of the slide in relation to the edge of the housing

∅	Stroke	B1	B2	B3	B4	B5	D1	D2	D3	D4	EE	H1
[mm]	[mm]	+0.4						∅		∅ H11		
6	5	16	15.3	10.5	10	9	M4	6	M3	12	M5	39
	10											
	15											
	20											
	25											
	30											
10	5	20	19.3	13	13	11	M5	7.5	M4	14	M5	45
	10											
	15											
	20											
	25											
	30											
16	5	24	23.3	17	17	16	M5	7.5	M4	19.5	M5	51
	10											
	15											
	20											
	25											
	30											

# Mini slides SLS

Technical data



∅	Stroke	H2	H3	H4	H5	H6	H7	H8	L1	L2	L3	L4	L5
[mm]	[mm]												
6	5	31	6	17	5	19	7	15	46	37.5	6	8.5	10
	10								51	42.5			
	15								56	47.5			
	20								61	52.5			
	25								66	57.5			
	30								71	62.5			
10	5	36	6.5	20	5	23	7.5	18	51.5	40	7	11.5	12.5
	10								56.5	45			
	15								61.5	50			
	20								66.5	55			
	25								73.5	62			
	30								78.5	67			
16	5	41	6.5	25	5.5	27	6	26	66	52	10	14	12.5
	10								76	62			
	15								86	72			
	20								91	77			
	25												
	30												

∅	Stroke	L6	L7	L8	L9	L10	L11	T1	T2	T3	T4	≈C 2	
[mm]	[mm]												
6	5	4	10	10	13	20	-	3.3	4.8	3	5	7	
	10			15		25							30
	15			20		35							40
	20			25									
	25			30									
	30			35									
10	5	5	12	10	15	14	Max. 0.75	4.4	6	3.5	6	8	
	10			14		19							25
	15			18		30							40
	20			24		45							
	25			32									
	30			35									
16	5	5	12	20	18	24	Max. 0.75	4.4	6	5	6	13	
	10			20		35							50
	15			30		55							
	20			40									
	25			45									
	30			45									

# Mini slides SLS

Technical data

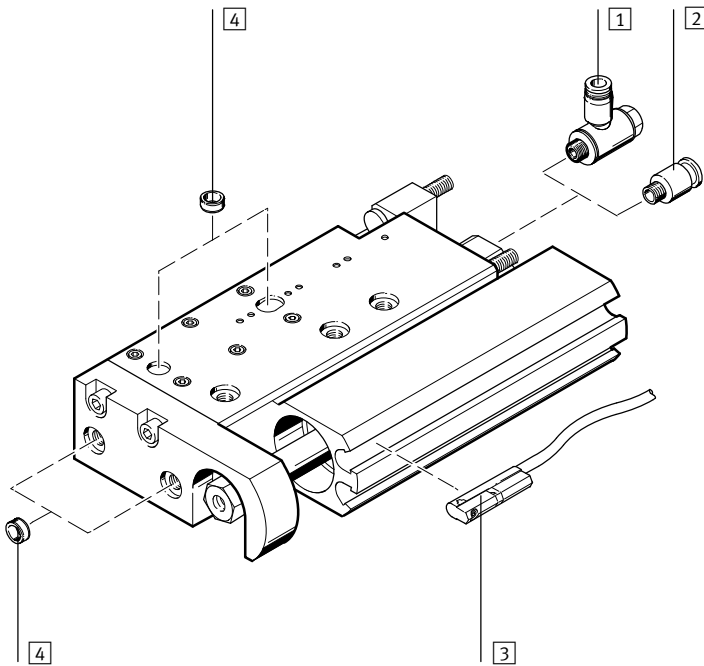
**FESTO**


Ordering data			
∅ [mm]	Stroke [mm]	Part No.	Type
<b>6</b>			
	5	<b>170485</b>	<b>SLS-6-5-P-A</b>
	10	<b>170486</b>	<b>SLS-6-10-P-A</b>
	15	<b>170487</b>	<b>SLS-6-15-P-A</b>
	20	<b>170488</b>	<b>SLS-6-20-P-A</b>
	25	<b>170489</b>	<b>SLS-6-25-P-A</b>
	30	<b>170490</b>	<b>SLS-6-30-P-A</b>
<b>10</b>			
	5	<b>170491</b>	<b>SLS-10-5-P-A</b>
	10	<b>170492</b>	<b>SLS-10-10-P-A</b>
	15	<b>170493</b>	<b>SLS-10-15-P-A</b>
	20	<b>170494</b>	<b>SLS-10-20-P-A</b>
	25	<b>170495</b>	<b>SLS-10-25-P-A</b>
	30	<b>170496</b>	<b>SLS-10-30-P-A</b>
<b>16</b>			
	5	<b>170497</b>	<b>SLS-16-5-P-A</b>
	10	<b>170498</b>	<b>SLS-16-10-P-A</b>
	15	<b>170499</b>	<b>SLS-16-15-P-A</b>
	20	<b>170500</b>	<b>SLS-16-20-P-A</b>
	25	<b>170501</b>	<b>SLS-16-25-P-A</b>
	30	<b>170502</b>	<b>SLS-16-30-P-A</b>

# Mini slides SLF

Peripherals overview and type codes

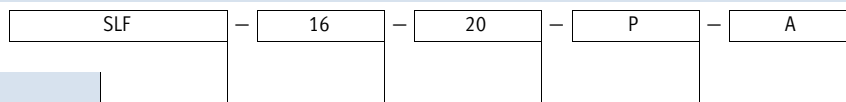
## Peripherals overview



 Note  
End stops must not be removed.

Accessories		Description	→ Page/Internet
1	One-way flow control valve GRLA	For speed regulation	38
2	Push-in fitting QS	For connecting compressed air tubing with standard external diameters	qs
3	Proximity sensor SME/SMT-10	Sensor slots for one or more proximity sensors	39
4	Centring pin/sleeve ZBS/ZBH	For centring loads and attachments	38

## Type codes



Type	
Double-acting	
SLF	Mini slide

Piston Ø [mm]
---------------

Stroke [mm]
-------------

Cushioning	
P	Flexible cushioning, non-adjustable

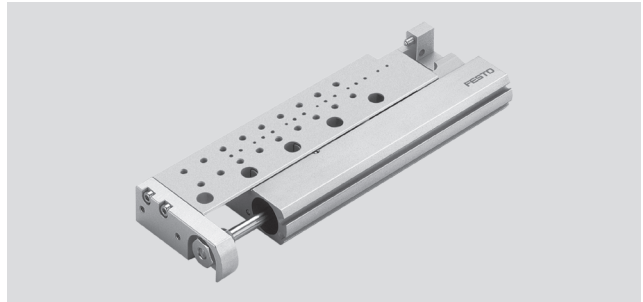
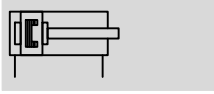
Position sensing	
A	For proximity sensor



# Mini slides SLF

Technical data

FESTO

Function



-  - Diameter  
6 ... 16 mm
-  - Stroke length  
10 ... 80 mm

General technical data			
Piston Ø	6	10	16
Pneumatic connection	M5		
Design	Kinematic yoke system		
Guide	Via ball bearings		
Cushioning	Non-adjustable at either end		
Position sensing	For proximity sensing		
Type of mounting	Via through-holes		
	Via female thread		
Assembly position	Any		
Adjustable end-position range	Per end stop [mm]	5	
Max. advancing speed	[m/s]	0.5 <sup>1)</sup>	0.8
Max. retracting speed	[m/s]	0.5 <sup>1)</sup>	0.8

1) Must be throttled externally

Operating and environmental conditions			
Piston Ø	6	10	16
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]	1.5 ... 10	1 ... 10
Ambient temperature <sup>1)</sup>	[°C]	-20 ... +60	

1) Note operating range of proximity sensors

Forces [N] and impact energy [Nm]				
Piston Ø	6	10	16	
Theoretical force at 6 bar, advancing	17	47	121	
Theoretical force at 6 bar, retracting	13	40	104	
Max. impact energy at the end positions <sup>1)</sup>	Cushioning p <sup>2)</sup>	0.016	0.05	0.1

- 1) Loads moved by the slides must be taken into consideration for the calculation of end-position cushioning energy
- 2) Note also the graph illustrating piston speed as a function of working load → page 32

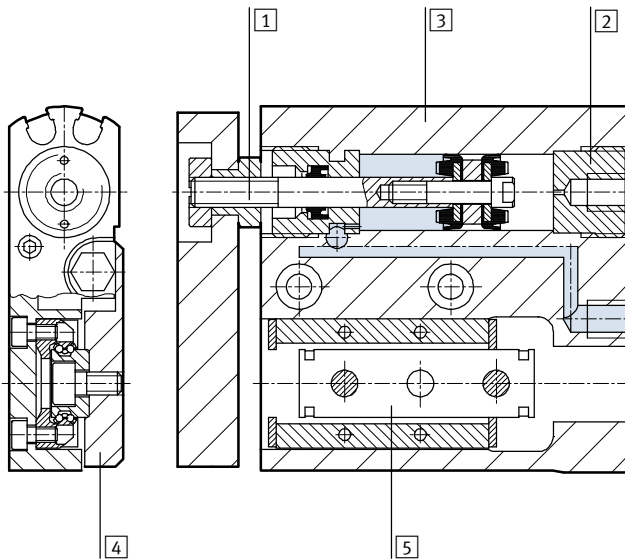
# Mini slides SLF

Technical data

Weights [g]				
Piston Ø		6	10	16
Product weight	10	108	135	257
	20	124	156	291
	30	138	171	319
	40	–	178	353
	50	–	227	407
	80	–	–	539
Moving load	10	32	41	99
	20	37	48	109
	30	48	58	122
	40	–	60	133
	50	–	79	153
	80	–	–	199

## Materials

Sectional view



Mini slide		
1	Piston rod	High-alloy steel
2	Cap	Wrought aluminium alloy, anodised
3	Housing	Wrought aluminium alloy, anodised
4	Slide	Wrought aluminium alloy, anodised
5	Guide	Tempered steel
–	Seals	Thermoplastic rubber, hydrogenated nitrile rubber, nitrile rubber
	Note on materials	Free of copper and PTFE

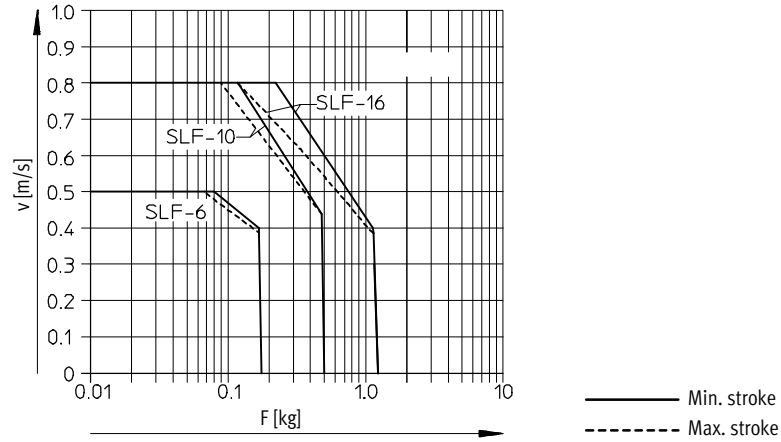
# Mini slides SLF

Technical data

## Piston speed v as a function of working load m

SLF-6/-10/-16-...-P-A

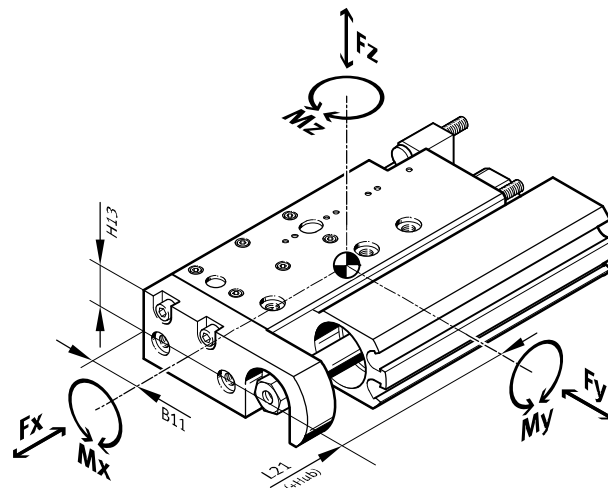
The piston speed as a function of working load illustrated in this graph may not be exceeded as the kinetic impact or residual energy in the end positions can result in damage to the drive.



## Characteristic load values

Torques are indicated with reference to the centre of the guide.

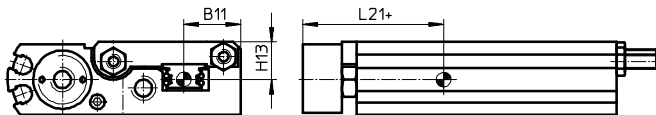
They must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.



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.

$$\frac{|F_{y1}|}{F_{y_{max.}}} + \frac{|F_{z1}|}{F_{z_{max.}}} + \frac{|M_{x1}|}{M_{x_{max.}}} + \frac{|M_{y1}|}{M_{y_{max.}}} + \frac{|M_{z1}|}{M_{z_{max.}}} \leq 1$$

## Position of guide centre



+ plus stroke length



# Mini slides SLF

Technical data

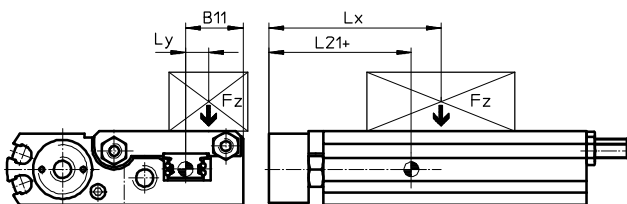
FESTO

Permissible forces and torques						Geometric characteristics		
Piston $\varnothing$	Stroke	$F_{y_{max}}$ [N]	$F_{z_{max}}$ [N]	$M_{x_{max}}, M_{y_{max}}$ [Nm]	$M_{z_{max}}$ [Nm]	B11 [mm]	H13 [mm]	L21 [mm]
<b>6</b>								
	10	170	170	0.6	0.5	14	7	22
	20	150	150	1.1	0.7			21
	30	130	130	1.1	0.7			21
<b>10</b>								
	10	170	170	0.6	0.5	11.5	8	23
	20	150	150	1.1	0.7			25
	30	130	130	1.1	0.7			25
	40	150	150	0.9	0.5			29
	50	190	190	1.4	0.5			34.5
<b>16</b>								
	10	470	470	2.1	1.6	14	11.5	27.5
	20	370	370	1.7	1.3			27.5
	30	390	390	2.5	1.4			31.5
	40	350	350	2.2	1.3			31.5
	50	390	390	3.1	1.4			36
	80	410	410	4.3	1.5			43.5

## Calculation example

Given:

To be found:



Mini slide = SLF-10  
 Stroke length = 20 mm  
 Lever arm  $L_x$  = 5 mm  
 Lever arm  $L_y$  = 20 mm  
 Mass  $F_z$  = 0.495 kg  
 Acceleration  $a$  = 0 m/s<sup>2</sup>

$F_y, F_z, M_x, M_y, M_z$   
 and  
 verification of function with combined load

Solution:

$L_{21} = 25$  mm from table

$F_y = 0$  N

$F_z = m \times g$   
 $= 0.495 \text{ kg} \times 9.81 \text{ m/s}^2 = 4.856$  N

$M_x = m \times g \times L_y$   
 $= 0.495 \text{ kg} \times 9.81 \text{ m/s}^2 \times 20 \text{ mm} = 0.097$  Nm

$M_y = m \times g \times [(L_{21} + \text{stroke}) - L_y]$   
 $= 0.495 \text{ kg} \times 9.81 \text{ m/s}^2 \times [(25 \text{ mm} + 20 \text{ mm}) - 5 \text{ mm}] = 0.194$  Nm

$M_z = 0$  Nm

Combined load:

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

$$= 0 + \frac{4.856 \text{ N}}{150 \text{ N}} + \frac{0.097 \text{ Nm}}{1.1 \text{ Nm}} + \frac{0.194 \text{ Nm}}{1.1 \text{ Nm}} + 0 = 0.297 \leq 1$$

# Mini slides SLF

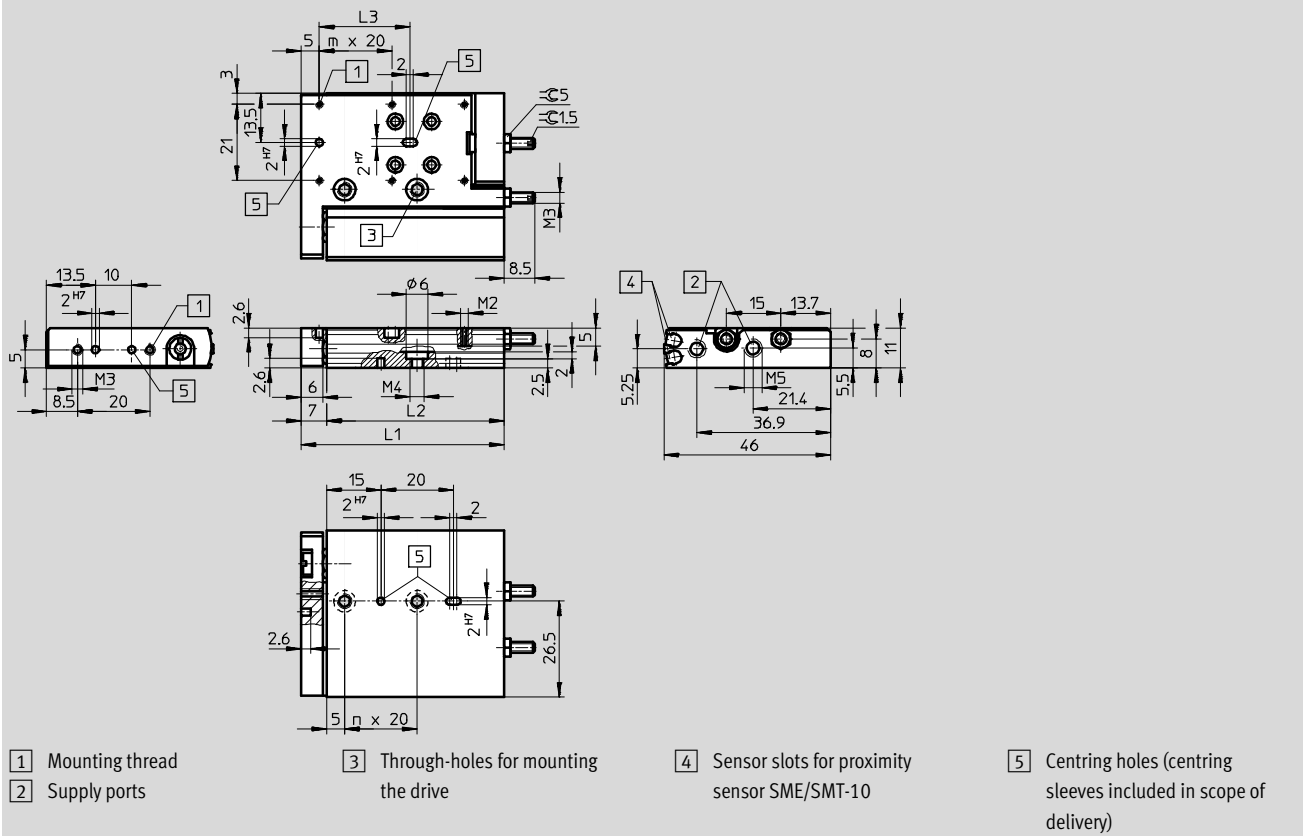
Technical data



## Dimensions

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

∅ 6



∅	Stroke	L1	L2	L3	m	n
[mm]	[mm]					
6	10	56	49	20	2	1
	20	66	59			2
	30	76	69	40	3	2

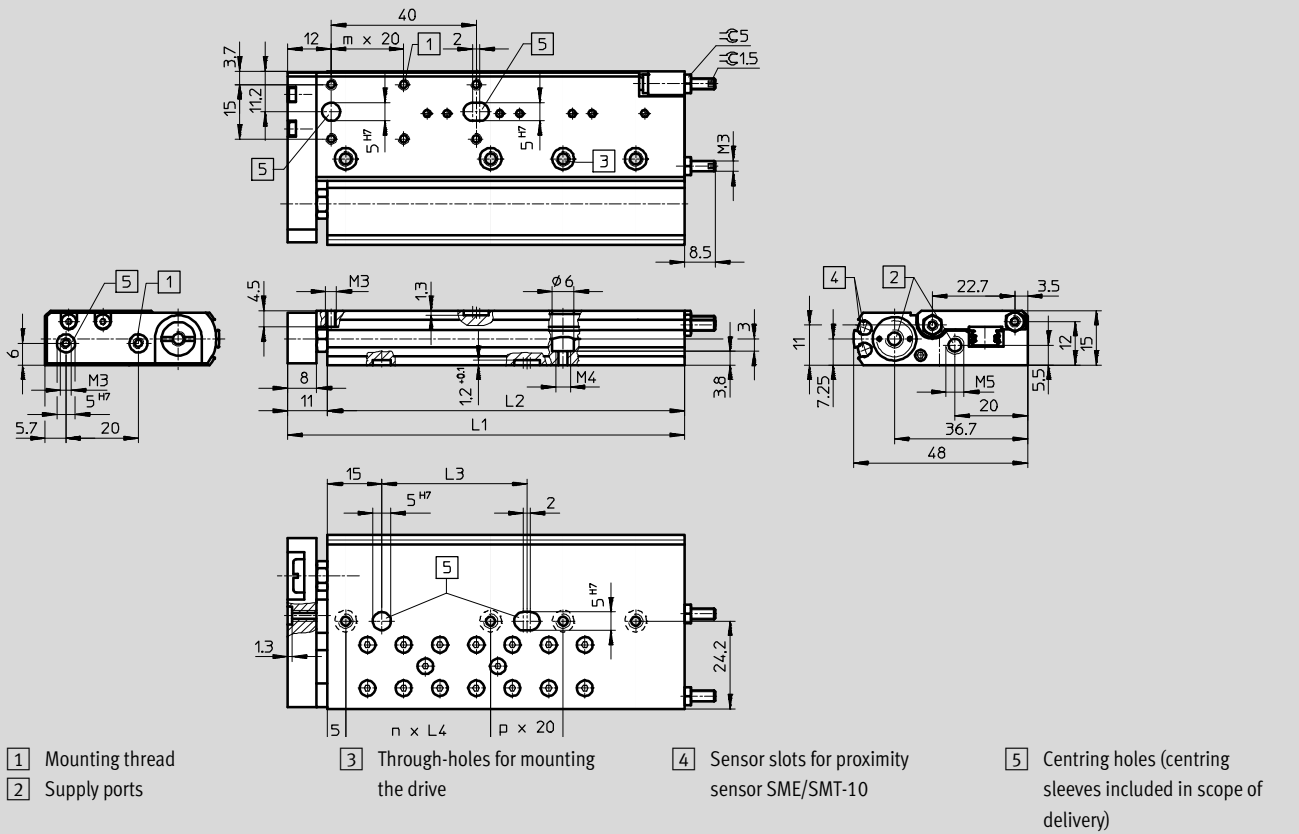
# Mini slides SLF

Technical data

Dimensions

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

Ø 10



Ø	Stroke	L1	L2	L3	L4	m	n	p
[mm]	[mm]							
10	10	59.5	48.5	20	20	1	1	-
	20	69.5	58.5				2	
	30	79.5	68.5	40	3			
	40	89.5	78.5		1	2		
	50	109.5	98.5		40			

# Mini slides SLF

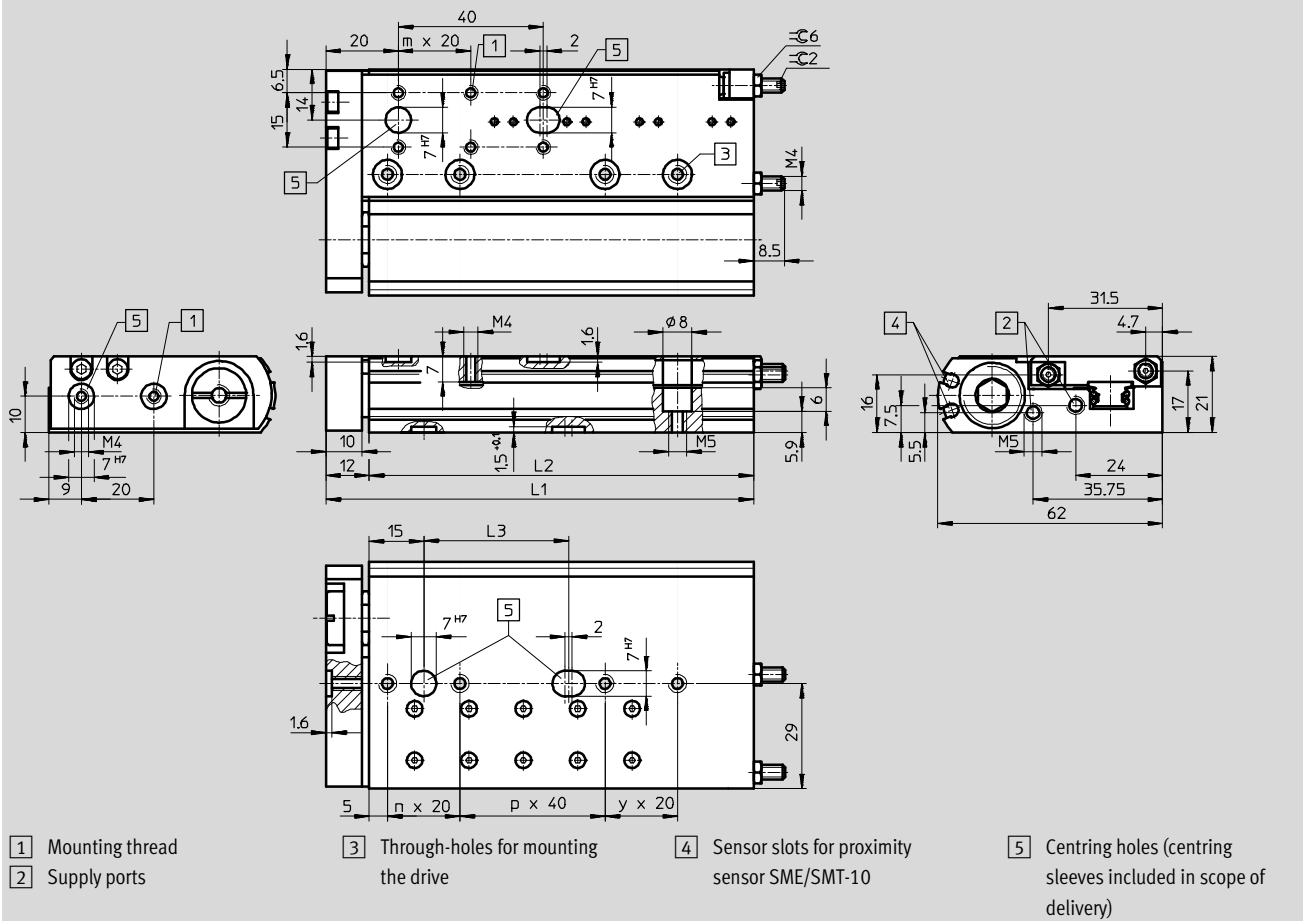
Technical data

FESTO

## Dimensions

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

∅ 16



∅	Stroke	L1	L2	L3	m	n	p	y
[mm]	[mm]							
16	10	68	56	20	1	1	-	-
	20	78	66			2		
	30	88	76		3			
	40	98	86	40	2	1	1	
	50	118	106			1	2	-
	80	160	148					

# Mini slides SLF

Technical data




FESTO

Ordering data			
∅ [mm]	Stroke [mm]	Part No.	Type
<b>6</b>			
	10	<b>170503</b>	<b>SLF-6-10-P-A</b>
	20	<b>170504</b>	<b>SLF-6-20-P-A</b>
	30	<b>170505</b>	<b>SLF-6-30-P-A</b>
<b>10</b>			
	10	<b>170506</b>	<b>SLF-10-10-P-A</b>
	20	<b>170507</b>	<b>SLF-10-20-P-A</b>
	30	<b>170508</b>	<b>SLF-10-30-P-A</b>
	40	<b>170509</b>	<b>SLF-10-40-P-A</b>
	50	<b>170510</b>	<b>SLF-10-50-P-A</b>
<b>16</b>			
	10	<b>170511</b>	<b>SLF-16-10-P-A</b>
	20	<b>170512</b>	<b>SLF-16-20-P-A</b>
	30	<b>170513</b>	<b>SLF-16-30-P-A</b>
	40	<b>170514</b>	<b>SLF-16-40-P-A</b>
	50	<b>170515</b>	<b>SLF-16-50-P-A</b>
	80	<b>170516</b>	<b>SLF-16-80-P-A</b>

# Mini slides SLT/SLS/SLF


Accessories

**FESTO**

Ordering data											
		6		10		16		20		25	
		Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type
Centring pins/sleeves for SLT <sup>1)</sup>										Technical data → Internet: zbh	
	Housing	189652	ZBH-5	186717	ZBH-7	150927	ZBH-9	189653	ZBH-12	189653	ZBH-12
	Slide	189652	ZBH-5	189652	ZBH-5	189652	ZBH-5	150927	ZBH-9	189653	ZBH-12
	Yoke	525273	ZBS-2	189652	ZBH-5	186717	ZBH-7	150927	ZBH-9	189653	ZBH-12
Centring pins/sleeves for SLF <sup>1)</sup>										Technical data → Internet: zbh	
	Housing	525273	ZBS-2	189652	ZBH-5	186717	ZBH-7	–	–	–	–
	Slide										
	Yoke										
Stop, metallic for SLT-...-P-A <sup>2)</sup>											
	–	539278	PF-6-SLT	539279	PF-10-SLT	539280	PF-16-SLT	539281	PF-20-SLT	539282	PF-25-SLT

1) Scope of delivery: 10 per pack


2) Scope of delivery: 2 per pack



Ordering data – One-way flow control valves					Technical data → Internet: grla	
	Connection		Material	Part No.	Type	
	Thread	For tubing O.D.				
	M5	3	Metal design	193137	GRLA-M5-QS-3-D	
		4		193138	GRLA-M5-QS-4-D	
	G1/8	4		193143	GRLA-1/8-QS-4-D	
		6		193144	GRLA-1/8-QS-6-D	



# Mini slides SLT/SLS/SLF

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	PNP	Cable, 3-wire, in-line	2.5	<b>551373</b>	<b>SMT-10M-PS-24V-E-2,5-L-OE</b>
			Plug M8x1, 3-pin, in-line	0.3	<b>551375</b>	<b>SMT-10M-PS-24V-E-0,3-L-M8D</b>
			Plug M8x1, 3-pin, lateral	0.3	<b>551376</b>	<b>SMT-10M-PS-24V-E-0,3-Q-M8D</b>

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	Contacting	Plug M8x1, 3-pin, in-line	0.3	<b>551367</b>	<b>SME-10M-DS-24V-E-0,3-L-M8D</b>
			Cable, 3-wire, in-line	2.5	<b>551365</b>	<b>SME-10M-DS-24V-E-2,5-L-OE</b>
			Cable, 2-wire, in-line	2.5	<b>551369</b>	<b>SME-10M-ZS-24V-E-2,5-L-OE</b>
	Insertable in the slot lengthwise	Contacting	Plug M8x1, 3-pin, in-line	0.3	<b>173212</b>	<b>SME-10-SL-LED-24</b>
			Cable, 3-wire, in-line	2.5	<b>173210</b>	<b>SME-10-KL-LED-24</b>

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	<b>541333</b>	<b>NEBU-M8G3-K-2.5-LE3</b>
			5	<b>541334</b>	<b>NEBU-M8G3-K-5-LE3</b>
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	<b>541338</b>	<b>NEBU-M8W3-K-2.5-LE3</b>
			5	<b>541341</b>	<b>NEBU-M8W3-K-5-LE3</b>


# Mini slides SLT

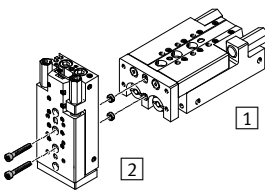
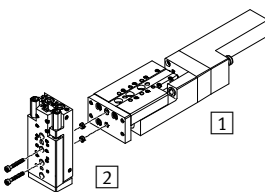
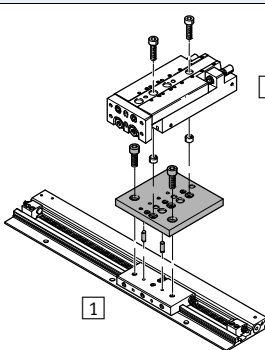
Accessories

FESTO

**Adapter kit  
HAPS**

Material:  
Wrought aluminium alloy  
Free of copper and PTFE  
RoHS-compliant

 Note  
The kit includes the individual mounting interface as well as the necessary mounting material.

Permissible drive/drive combinations with adapter kit							Download CAD data → <a href="http://www.festo.com">www.festo.com</a>	
Combination	[1] Drive	[2] Drive	Adapter kit					
	Size	Size	CRC <sup>1)</sup>	Part No.	Type	Required quantity	PU <sup>2)</sup>	
	SLT	SLT	2	–	M3x20 DIN 912 <sup>3)</sup>	2	–	
	10	6		189652	ZBH-5 <sup>4)</sup>	2	10	
	16	10		–	M4x25 DIN 912 <sup>3)</sup>	2	–	
	20	16		186717	ZBH-7 <sup>4)</sup>	2	10	
	25	20		–	M5x30 DIN 912 <sup>3)</sup>	2	–	
				150927	ZBH-9 <sup>4)</sup>	2	10	
				–	M6x40 DIN 912 <sup>3)</sup>	2	–	
				189653	ZBH-12 <sup>4)</sup>	2	10	
	SLTE	SLT	2	–	M3x20 DIN 912 <sup>3)</sup>	2	–	
	10	6		189652	ZBH-5 <sup>4)</sup>	2	10	
	16	10		–	M4x25 DIN 912 <sup>3)</sup>	2	–	
				186717	ZBH-7 <sup>4)</sup>	2	10	
	SLG	SLT	2	189533	HAPS-11	1	1	
	8	6		189533	HAPS-11	1	1	
	12	6, 10		189534	HAPS-12	1	1	
	18	10, 16						

- 1) Corrosion resistance class CRC 2 to Festo standard FN 940070  
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
- 2) Packaging unit quantity
- 3) The screws listed are not included in the scope of delivery of the drives
- 4) The centring sleeves are included in the scope of delivery of the drives




# Mini slides SLT

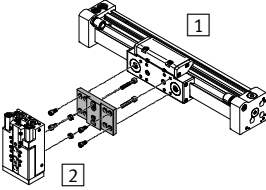
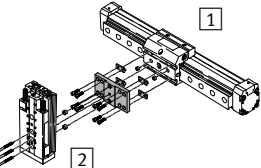
Accessories



**Adapter kit  
HMSV**

Material:  
Wrought aluminium alloy  
Free of copper and PTFE  
RoHS-compliant

 Note  
The kit includes the individual mounting interface as well as the necessary mounting material.

Permissible drive/drive combinations with adapter kit				Download CAD data → <a href="http://www.festo.com">www.festo.com</a>			
Combination	1	2	Adapter kit				
	Drive Size	Drive Size	CRC <sup>1)</sup>	Part No.	Type	Required quantity	PU <sup>2)</sup>
DGC/SLT	DGC	SLT	HMSV				
	18	10	2	<b>189656</b>	<b>HMSV-40</b>	1	1
	18	16		<b>189657</b>	<b>HMSV-41</b>	1	1
	25	16		<b>189658</b>	<b>HMSV-42</b>	1	1
	25	20		<b>189659</b>	<b>HMSV-43</b>	1	1
	32	20		<b>189660</b>	<b>HMSV-44</b>	1	1
	32	25		<b>189661</b>	<b>HMSV-45</b>	1	1
	DGP(l), DGE/SLT	DG...		SLT	HMSV		
	18	10	2	<b>189656</b>	<b>HMSV-40</b>	1	1
	18	16		<b>189657</b>	<b>HMSV-41</b>	1	1
	25	16		<b>189658</b>	<b>HMSV-42</b>	1	1
	25	20		<b>189659</b>	<b>HMSV-43</b>	1	1
	32	20		<b>189660</b>	<b>HMSV-44</b>	1	1
	32	25		<b>189661</b>	<b>HMSV-45</b>	1	1

- 1) Corrosion resistance class CRC 2 to Festo standard FN 940070  
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
- 2) Packaging unit quantity


# Mini slides SLF

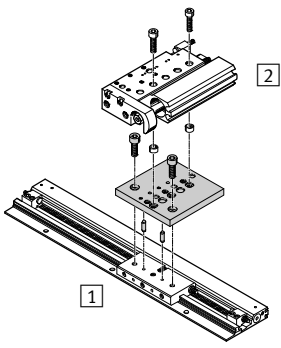
Accessories



**Adapter kit  
HAPS**

Material:  
Wrought aluminium alloy  
Free of copper and PTFE  
RoHS-compliant

 Note  
The kit includes the individual mounting interface as well as the necessary mounting material.

Permissible drive/drive combinations with adapter kit			Download CAD data → <a href="http://www.festo.com">www.festo.com</a>				
Combination	1 Drive	2 Drive	Adapter kit			Required quantity	PU <sup>2)</sup>
	Size	Size	CRC <sup>1)</sup>	Part No.	Type		
SLG/SLF	SLG	SLF	HAPS				
	8, 12	6, 10	2	<b>189533</b>	<b>HAPS-11</b>	1	1
	12	16		<b>189533</b>	<b>HAPS-11</b>	1	1
	18	10, 16		<b>189534</b>	<b>HAPS-12</b>	1	1

- 1) Corrosion resistance class CRC 2 to Festo standard FN 940070  
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
- 2) Packaging unit quantity

# Festo - Your Partner in Automation



## 1 Festo Inc.

5300 Explorer Drive  
Mississauga, ON L4W 5G4  
Canada

### Festo Customer Interaction Center

Tel: 1 877 463 3786  
Fax: 1 877 393 3786  
Email: [customer.service.ca@festo.com](mailto:customer.service.ca@festo.com)

## 2 Festo Pneumatic

Av. Ceylán 3,  
Col. Tequesquináhuac  
54020 Tlalnepantla,  
Estado de México

### Multinational Contact Center

01 800 337 8669  
[ventas.mexico@festo.com](mailto:ventas.mexico@festo.com)

## 3 Festo Corporation

1377 Motor Parkway  
Suite 310  
Islandia, NY 11749

### Festo Customer Interaction Center

1 800 993 3786  
1 800 963 3786  
[customer.service.us@festo.com](mailto:customer.service.us@festo.com)

## 4 Regional Service Center

7777 Columbia Road  
Mason, OH 45040

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