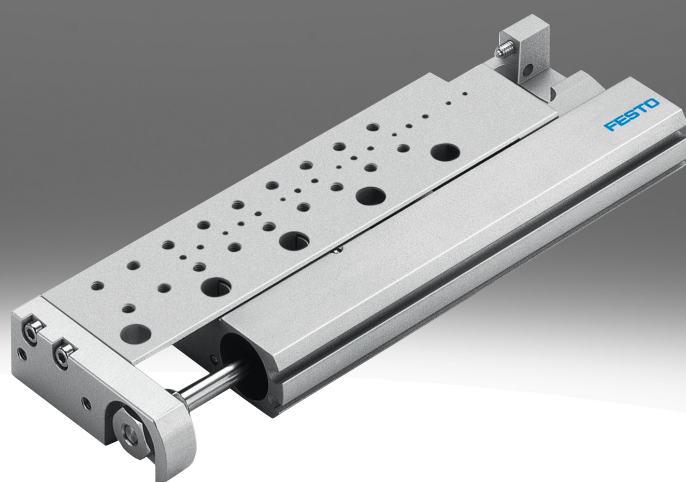


Mini slide SLF

FESTO



Characteristics

At a glance

[Link](#) [slf](#)

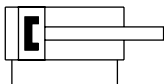
- Double-acting drive
- Flat design
- Precise and rigid guide
- Versatile air connections

Wide variety of mounting and assembly options:

- On housing
- On the slide
- On the yoke plate

Cushioning

[P] Elastic cushioning rings/plates on both sides



The drive is fitted with elastic polymer end-position cushioning.

Position sensing

For sensing the piston position

Type code

001	Series	
SLF	Mini slide, double-acting	

002	Size [mm]	
6	6	
10	10	
16	16	

003	Stroke [mm]	
10	10	
20	20	
30	30	
40	40	
50	50	
80	80	

004	Cushioning	
P	Elastic cushioning rings/plates on both sides	

005	Position sensing	
A	For proximity sensor	

Datasheet

General technical data

Piston diameter	6 mm	10 mm	16 mm
Design	Yoke Piston Piston rod Ball roller guide Slide		
Mode of operation	Double-acting		
Stroke	10 mm, 20 mm, 30 mm	10 mm, 20 mm, 30 mm, 40 mm, 50 mm	10 mm, 20 mm, 30 mm, 40 mm, 50 mm, 80 mm
Type of mounting	With through-hole		
Cushioning	Elastic cushioning rings/plates at both ends		
Adjustable end-position range/length	5 mm		
Mounting position	optional		

Operating and environmental conditions

Operating and environmental conditions			
Piston diameter	6 mm	10 mm	16 mm
Operating pressure	0.15 ... 1 MPa	0.1 ... 1 MPa	
Operating pressure	21.75 ... 145 psi	14.5 ... 145 psi	
Operating pressure	1.5 ... 10 bar	1 ... 10 bar	
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]		
Ambient temperature ¹⁾	-20 ... 60°C		
Corrosion resistance class CRC ²⁾	0 - No corrosion stress		

1) Observe the operating range of the proximity switches

2) More information www.festo.com/x/topic/kbk

Forces and impact energy

Piston diameter	6 mm	10 mm	16 mm
Theoretical force at 0.6 MPa (6 bar, 87 psi), advance stroke	17 N	47 N	121 N
Theoretical force at 0.6 MPa (6 bar, 87 psi), return stroke	13 N	40 N	104 N
Impact energy in end positions ¹⁾	0.016 Nm	0.05 Nm	0.1 Nm

1) The mass moved by the slides must be taken into consideration when calculating the end-position cushioning energy

Weight

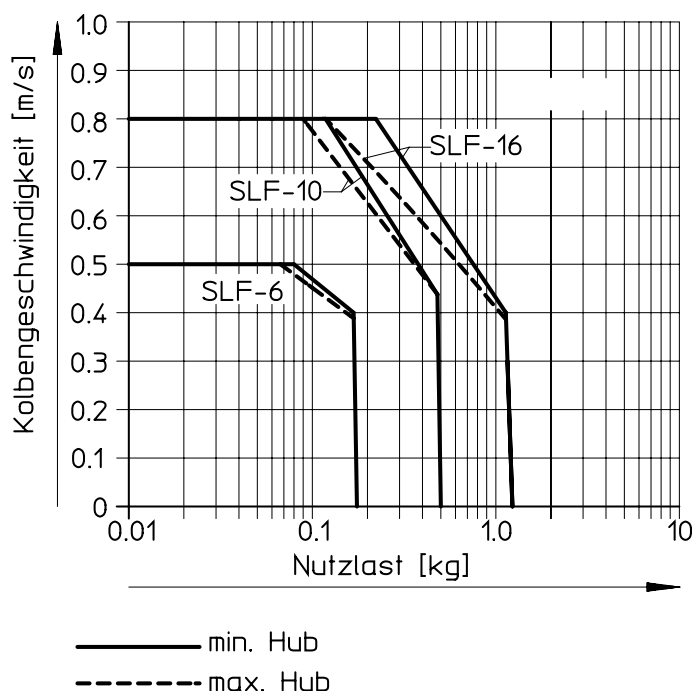
Piston diameter	6 mm			10 mm					16 mm					
Stroke	10 mm	20 mm	30 mm	10 mm	20 mm	30 mm	40 mm	50 mm	10 mm	20 mm	30 mm	40 mm	50 mm	80 mm
Product weight	108 g	124 g	138 g	135 g	156 g	171 g	178 g	227 g	257 g	291 g	319 g	353 g	407 g	539 g
Basic weight for 0 mm stroke	108 g	124 g	138 g	135 g	156 g	171 g	178 g	227 g	257 g	291 g	319 g	353 g	407 g	539 g
Moving mass	32 g	37 g	48 g	41 g	48 g	58 g	60 g	79 g	99 g	109 g	122 g	133 g	153 g	199 g

Materials

Material piston rod	High-alloy stainless steel													
Material housing	Wrought aluminium alloy													
Material cover	Wrought aluminium alloy													
Material seals	HNBR													
Note on materials	RoHS-compliant													
LABS (PWIS) conformity	VDMA24364-B2-L													

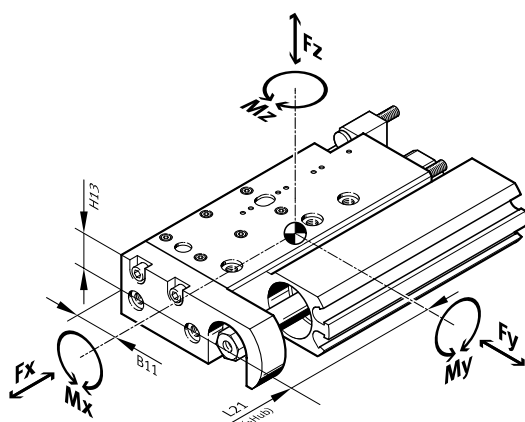
Datasheet

Piston speed v as a function of payload m



The piston speed as a function of payload determined from this graph must not be exceeded, as the kinetic impact or residual energy in the end positions could damage the drive.

Characteristic load values



The indicated torques refer to the centre of the guide. These values must not be exceeded during dynamic operation. Special attention must be paid to the deceleration phase.

Piston diameter	6 mm			10 mm					16 mm					
Stroke	10 mm	20 mm	30 mm	10 mm	20 mm	30 mm	40 mm	50 mm	10 mm	20 mm	30 mm	40 mm	50 mm	80 mm
Max. force Fy	170 N	150 N	130 N	170 N	150 N	130 N	150 N	190 N	470 N	370 N	390 N	350 N	390 N	410 N
Max. force Fz	170 N	150 N	130 N	170 N	150 N	130 N	150 N	190 N	470 N	370 N	390 N	350 N	390 N	410 N
Max. moment Mx	0.6 Nm	1.1 Nm		0.6 Nm	1.1 Nm		0.9 Nm	1.4 Nm	2.1 Nm	1.7 Nm	2.5 Nm	2.2 Nm	3.1 Nm	4.3 Nm
Max. moment My	0.6 Nm	1.1 Nm		0.6 Nm	1.1 Nm		0.9 Nm	1.4 Nm	2.1 Nm	1.7 Nm	2.5 Nm	2.2 Nm	3.1 Nm	4.3 Nm
Max. moment Mz	0.5 Nm	0.7 Nm		0.5 Nm	0.7 Nm		0.5 Nm		1.6 Nm	1.3 Nm	1.4 Nm	1.3 Nm	1.4 Nm	1.5 Nm

Calculating the load-comparison factor

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

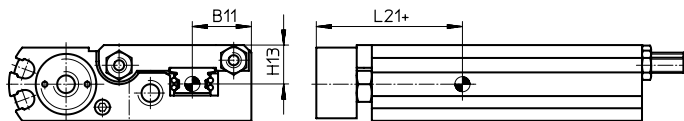
If the drive is subjected to several of the indicated forces and torques at the same time, the following equation must be satisfied in addition to the indicated maximum loads.

F1 / M1 = dynamic value

F2 / M2 = maximum value

Datasheet

Position of the guide centre



Geometric characteristics

Dimension B11:

SLF-6: 14 mm
SLF-10: 11.5 mm
SLF-16: 14 mm

Dimension H13:

SLF-6: 7 mm
SLF-10: 8 mm
SLF-16: 11.5 mm

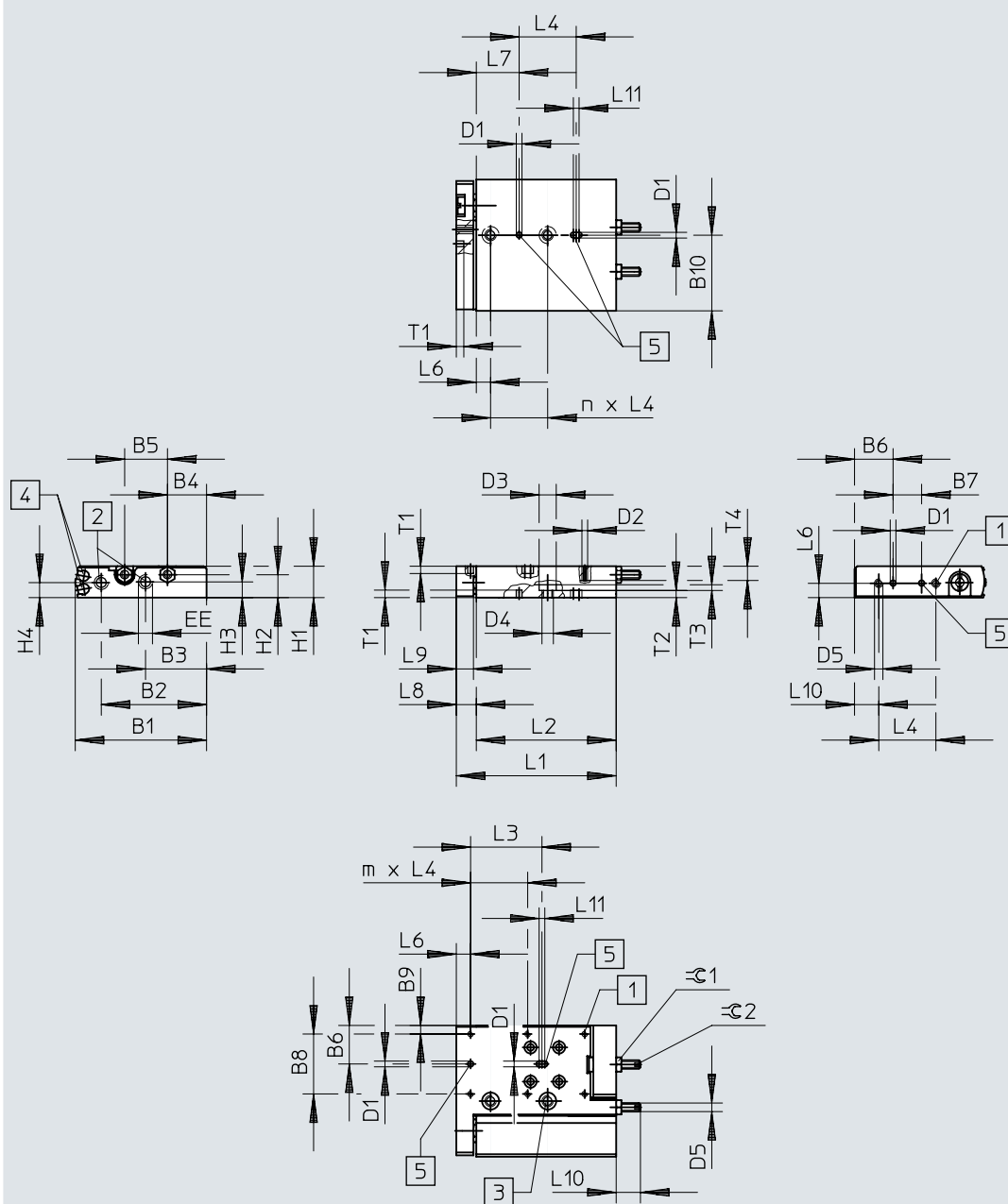
Dimension L21:

SLF-6-10: 22 mm
SLF-6-20: 21 mm
SLF-6-30: 21 mm
SLF-10-10: 23 mm
SLF-10-20: 25 mm
SLF-10-30: 25 mm
SLF-10-40: 29 mm
SLF-10-50: 34.5 mm
SLF-16-10: 27.5 mm
SLF-16-20: 27.5 mm
SLF-16-30: 31.5 mm
SLF-16-40: 31.5 mm
SLF-16-50: 36 mm
SLF-16-80: 43.5 mm

+ plus stroke length

Dimensions

Dimensions – SLF-6

Download CAD data www.festo.com

- [1] Mounting thread
- [2] Compressed air ports
- [3] Through-holes for mounting the drive
- [4] Sensor slots for proximity switch SME/SMT-10
- [5] Centring holes (centring sleeves included in the scope of delivery)



Dimensions

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 Ø H7
SLF-6	46	36,9	21,4	13,7	15	13,5	10	21	3	26,5	2

	D2	D3 Ø	D4	D5	EE	H1	H2	H3	H4	L4	L6
SLF-6	M2	6	M4	M3	M5	11	8	5,5	5,25	20	5

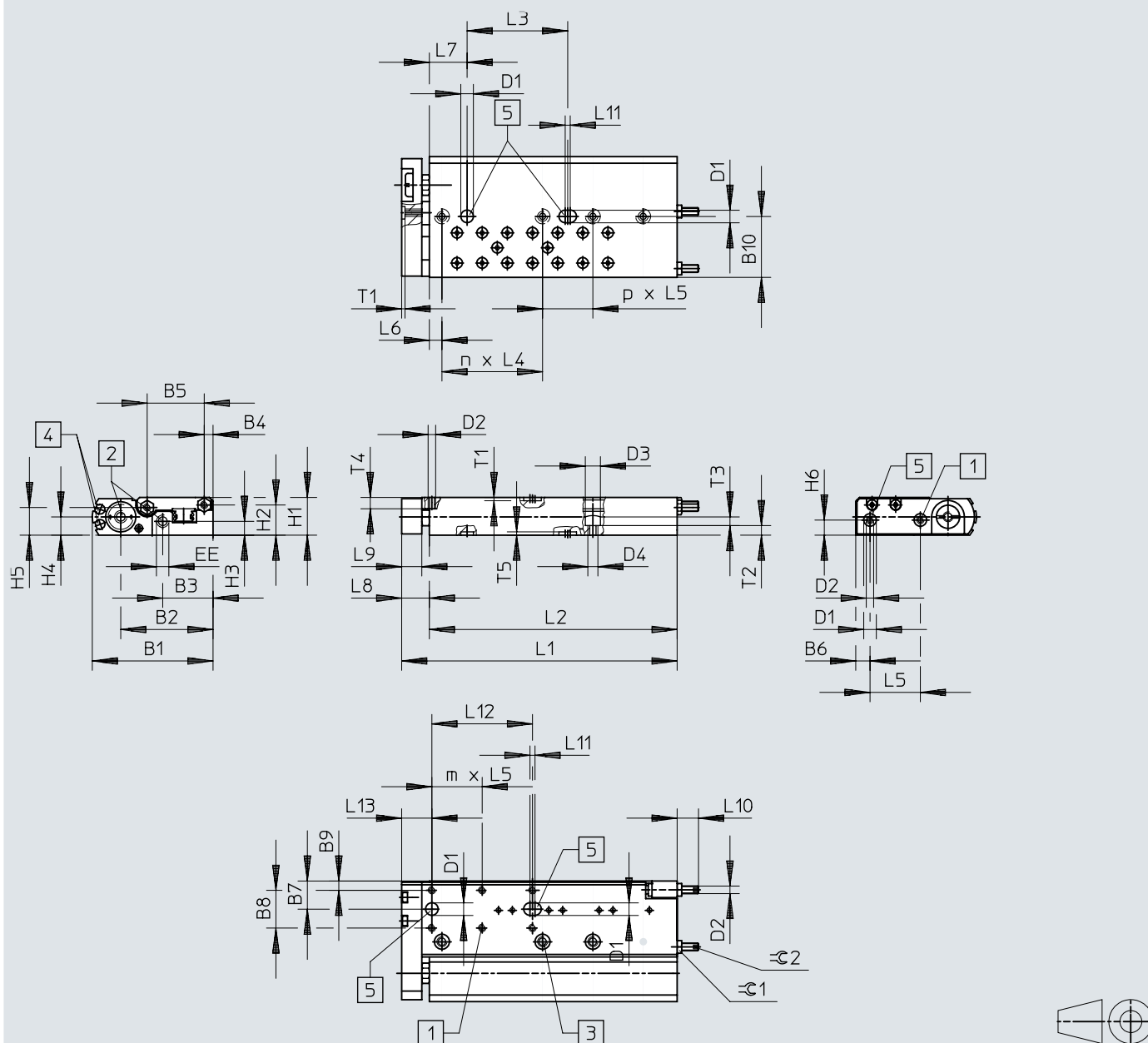
	L7	L8	L9	L10	L11	T1	T2	T3	T4	≈G1	≈G2
SLF-6	15	7	6	8,5	2	2,6	2,5	2	5	5	1,5

	L ¹⁾	L1	L2	L3	m	n
SLF-6	10	56	49	20	2	1
	20	66	59	20	2	2
	30	76	69	40	3	2

1) Stroke

Dimensions

Dimensions – SLF-10

Download CAD data www.festo.com

- [1] Mounting thread
- [2] Compressed air ports
- [3] Through-holes for mounting the drive
- [4] Sensor slots for proximity switch SME/SMT-10
- [5] Centring holes (centring sleeves included in the scope of delivery)

Dimensions

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 Ø H7	D2	D3 Ø
SLF-10	48	36,7	20	3,5	22,7	5,7	11,2	15	3,7	24,2	5	M3	6

	D4	EE	H1	H2	H3	H4	H5	H6	L5	L6	L7	L8
SLF-10	M4	M5	15	12	5,5	7,25	11	6	20	5	15	11

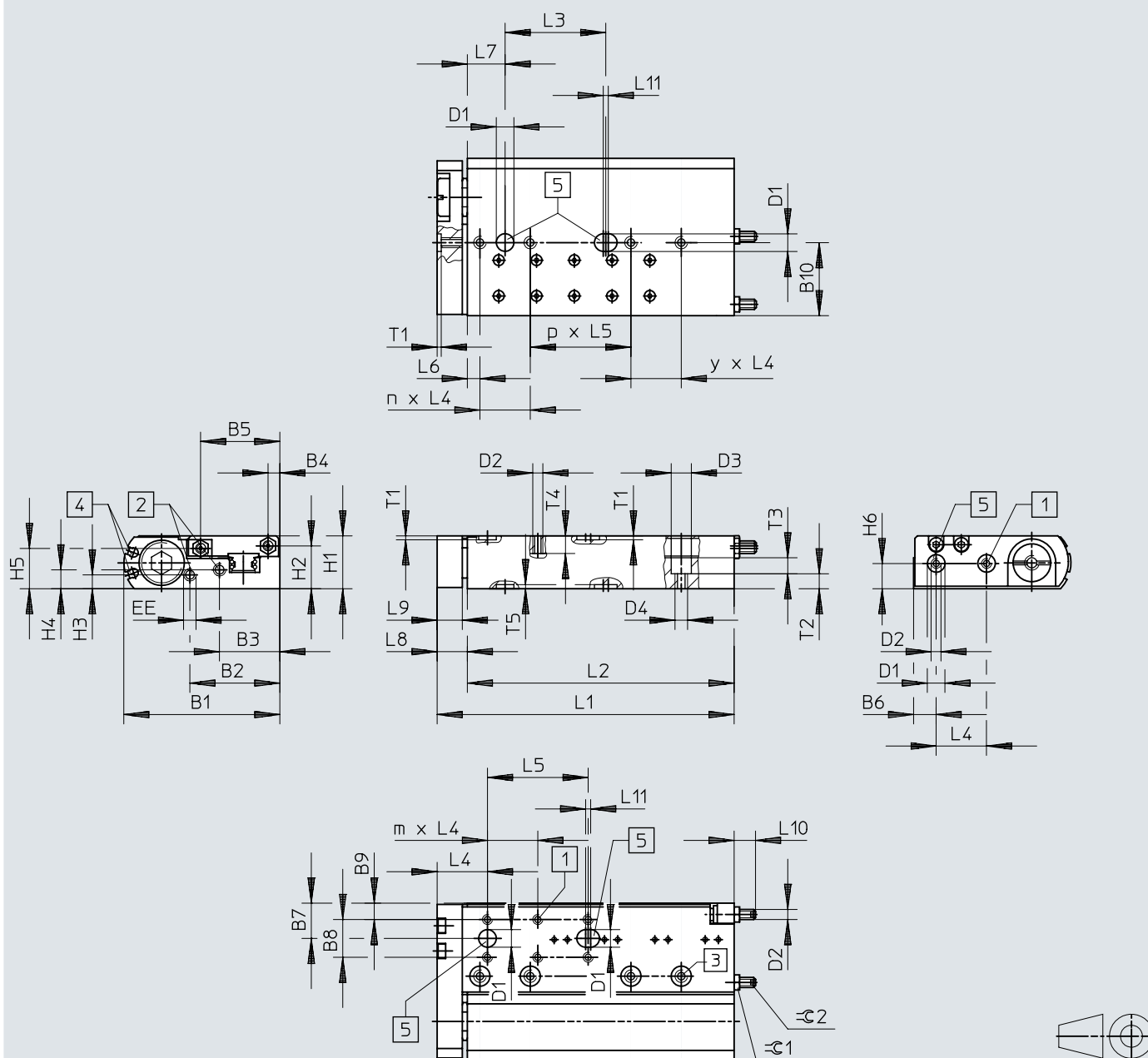
	L9	L10	L11	L12	L13	T1	T2	T3	T4	T5 +0,1	≡G1	≡G2
SLF-10	8	8,5	2	40	12	1,3	3,8	3	4,5	1,2	5	1,5

	L ¹⁾	L1	L2	L3	L4	m	n	p
SLF-10	10	59,5	48,5	20	20	1	1	-
	20	69,5	58,5			2	2	
	30	79,5	68,5				3	
	40	89,5	78,5	40	40		1	2
	50	109,5	98,5					

1) Stroke

Dimensions

Dimensions – SLF-16

Download CAD data www.festo.com

- [1] Mounting thread
- [2] Compressed air ports
- [3] Through-holes for mounting the drive
- [4] Sensor slots for proximity switch SME/SMT-10
- [5] Centring holes (centring sleeves included in the scope of delivery)



Dimensions

	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	D1 Ø H7	D2
SLF-16	62	35,75	24	4,7	31,5	9	14	15	6,5	29	7	M4
	D3 Ø	D4	EE	H1	H2	H3	H4	H5	H6	L4	L5	L6
SLF-16	8	M5	M5	21	17	5,5	7,5	16	10	20	40	5
	L7	L8	L9	L10	L11	T1	T2	T3	T4	T5 +0,1	≅G1	≅G2
SLF-16	15	12	10	8,5	2	1,6	5,9	6	7	1,5	6	2
	L ¹⁾	L1	L2	L3	m	n	p	y				
SLF-16	10	68	56	20	1	1	-	-				
	20	78	66			2						
	30	88	76		2	3						
	40	98	86	40		1	1	1				
	50	118	106				2	-				
	80	160	148									

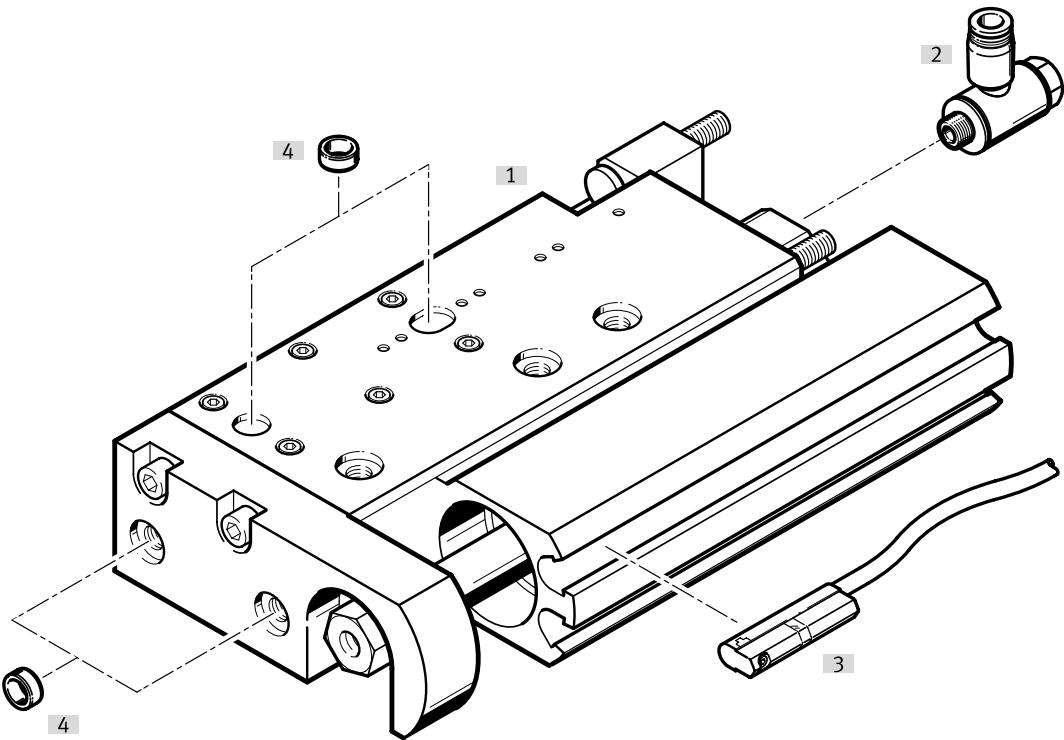
1) Stroke

Ordering data

Ordering data				
	Piston diameter	Stroke	Part no.	Type
	6 mm	10 mm	170503	SLF-6-10-P-A
		20 mm	170504	SLF-6-20-P-A
		30 mm	170505	SLF-6-30-P-A
	10 mm	10 mm	170506	SLF-10-10-P-A
		20 mm	170507	SLF-10-20-P-A
		30 mm	170508	SLF-10-30-P-A
		40 mm	170509	SLF-10-40-P-A
		50 mm	170510	SLF-10-50-P-A
	16 mm	10 mm	170511	SLF-16-10-P-A
		20 mm	170512	SLF-16-20-P-A
		30 mm	170513	SLF-16-30-P-A
		40 mm	170514	SLF-16-40-P-A
		50 mm	170515	SLF-16-50-P-A
		80 mm	170516	SLF-16-80-P-A

Peripherals

Peripherals overview



Accessories			→ Link
Type/order code	Description		
[1] Mini slide SLF	Pneumatic drive		slf
[2] One-way flow control valve GRLA	For regulating speed		15
[2] Push-in fitting QS	For connecting compressed air tubing with standard O.D.		qs
[3] Proximity switches SMT/SME-10	For sensing the piston position		15
[4] Centring sleeve ZBH-7	For centring loads and attachments		15

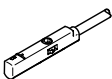
Accessories

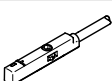
Centring pin ZBS-2						
	Description	Material sleeve	Size of pack	Product weight	Part no.	Type
	for Ø 6	Steel	10	1 g	★ 525273	ZBS-2

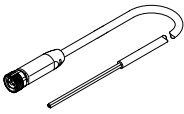
Centring sleeve ZBH-5						
	Description	Material sleeve	Size of pack	Product weight	Part no.	Type
	For Ø 10	Steel	10	1 g	★ 8146543	ZBH-5-B

Centring sleeve ZBH-7						
	Description	Material sleeve	Size of pack	Product weight	Part no.	Type
	For Ø 16	Steel	10	1 g	★ 8146544	ZBH-7-B

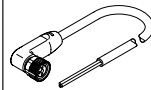
One-way flow control valves GRLA					
	Pneumatic connection 1	Pneumatic connection, port 2	Product weight	Part no.	Type
	Push-in connector 3 mm	M5	13 g	193137	GRLA-M5-QS-3-D
	Push-in connector 4 mm			★ 193138	GRLA-M5-QS-4-D

Proximity switch SMT-10 for round slot, magneto-resistive Link smt						
	Type of mounting	Switching output	Electrical connection	Cable length	Part no.	Type
	Screw-clamped, Insertable in the slot from above	3-wire PNP N/O contact	Open end	2.5 m	★ 551373	SMT-10M-PS-24V-E-2,5-L-OE
			Plug M8, A-coded	0.3 m	★ 551375	SMT-10M-PS-24V-E-0,3-L-M8D

Proximity switch SME-10 for round slot, magnetic reed Link sme						
	Type of mounting	Switching output	Electrical connection	Cable length	Part no.	Type
	Screw-clamped, Insertable in the slot from above	3-wire N/O contact	Open end	2.5 m	551365	SME-10M-DS-24V-E-2,5-L-OE
			Plug M8, A-coded	0.3 m	551367	SME-10M-DS-24V-E-0,3-L-M8D

Connecting cables NEBA, straight						
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	3	2.5 m	★ 8078223	NEBA-M8G3-U-2.5-N-LE3
				5 m	★ 8078224	NEBA-M8G3-U-5-N-LE3

Accessories

Connecting cables NEBA, angled						
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	3	2.5 m	★ 8078230	NEBA-M8W3-U-2.5-N-LE3
				5 m	★ 8078231	NEBA-M8W3-U-5-N-LE3