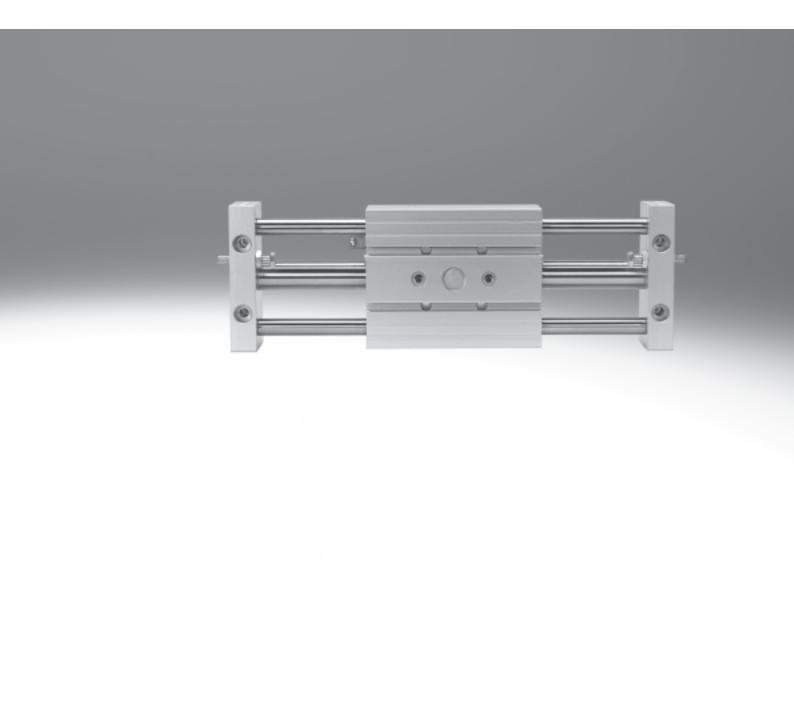
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Key features

Version

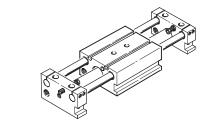
The linear drive SLM is a combination of a slide unit and a rodless linear drive. The drive moves the slide. The

transmission of movement is accomplished via a magnetic coupling. The modular system allows

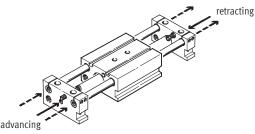
for individualised end-position cushioning and end-position sensing solutions.

Basic unit

SLM-...-G

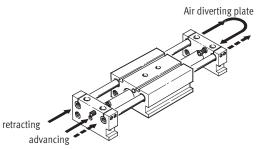


SLM-...-GL with hollow guide rods



SLM-...-GU

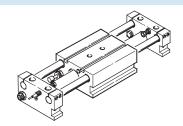
with hollow guide rods, air diverting plate and supply port on one side



Standard unit

SLM-...-S

with two self-adjusting shock absorbers and two inductive proximity sensors with PNP output



Key features



Multi-axis combinations

The linear drive SLM can be combined with the linear unit SLE to produce a range of 2-axis or 3-axis systems.

→ www.festo.com

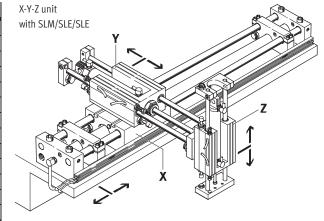
These multi-axis configurations are formed by screwing the units together, either directly or using an adapter plate. A linear unit SLE can be combined with another linear unit SLE using either method, however direct

mounting is almost always required for a linear drive SLM and linear unit SLE. The centring pins and sleeves required to secure the units together are included in the scope of delivery.

Linear unit SLE

→ Internet: sle

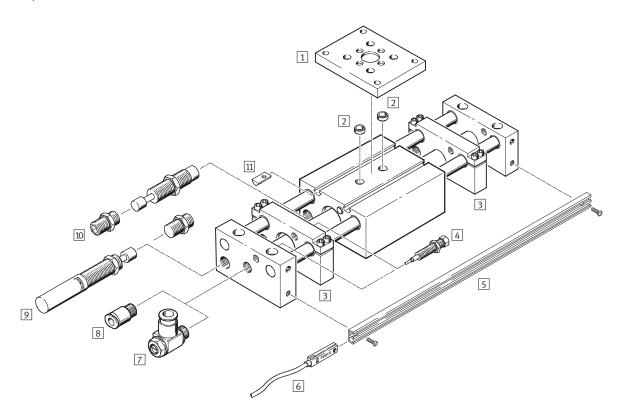
Χ	Υ	Z
2 axes		
SLM-12	SLE-10	-
SLM-16 ¹⁾	SLE-10	-
SLM-20	SLE-16	-
SLM-25 ²⁾	SLE-16	-
SLM-32	SLE-20 or SLE-25	-
SLM-40	SLE-32	-
3 axes		
SLM-20	SLE-16	SLE-10
SLM-25 ²⁾	SLE-16	SLE-10
SLM-32	SLE-20 or SLE-25	SLE-16
SLM-40	SLE-32	SLE-20 or SLE-25



- 1) An adapter plate SLEP-10 (\Rightarrow 16) is required for mounting (direct mounting is not possible).
- 2) An adapter plate SLEP-16 (> 16) is required for mounting (direct mounting is not possible).

Linear drives SLM, with guided slide Peripherals overview





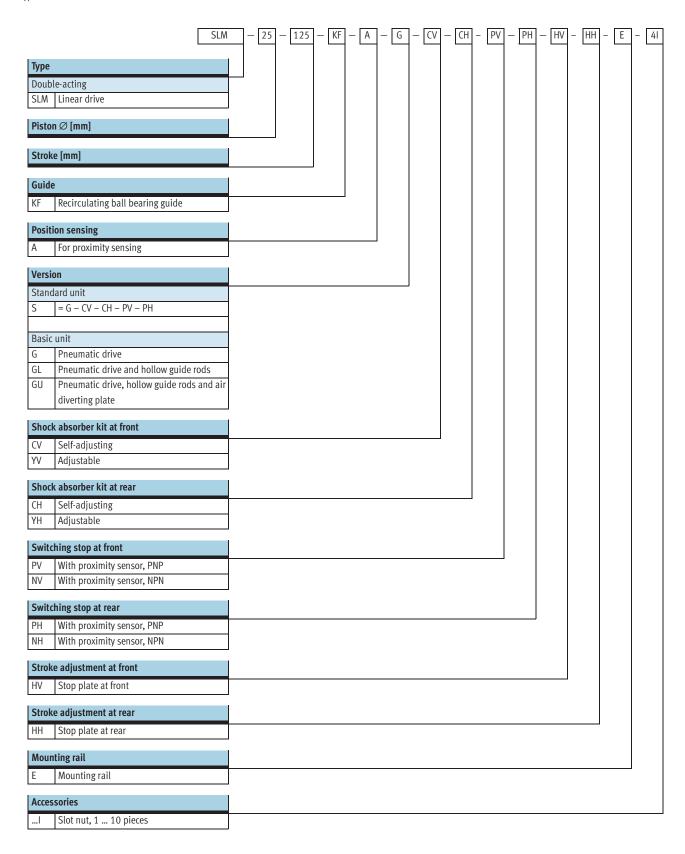
Linear drives SLM, with guided slidePeripherals overview



Accessories		
	Brief description	→ Page/Internet
1 Adapter plate	For multi-axis combinations	16
SLEP		
2 Centring sleeve	For centring loads and attachments on the slide	17
ZBH		
3 Stop plate	For variable stroke adjustment	17
SLMKF-A		
Switching stop with proximity sensor	Can be integrated in the end or stop plate	16
SLSIE-PS/SLSIE-NS		
5 Mounting rail	For mounting proximity sensors SME/SMT-8	17
SLZS/SLMS		
6 Proximity sensor	Can be integrated in the mounting rail SLZS/SLMS	17
SME/SMT-8		
7 One-way flow control valve	For speed regulation	18
GRLA		
8 Push-in fitting	For connecting compressed air tubing with standard O.D.	quick star
QS		
9 Shock absorber kit, adjustable	For slowing higher speeds to a stop	15
SLZKF-A		
Shock absorber kit, self-adjusting	For slowing higher speeds to a stop	15
SLZYSR-C		
11 Slot nut	For mounting loads and attachments on the slide	17
NST		



Type code



Linear drives SLM, with guided slide Technical data

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Function





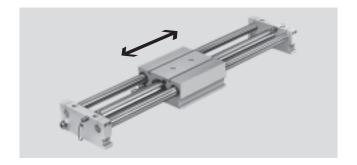


Diameter 12 ... 40 mm



Stroke length 10 ... 1500 mm





General technical data											
Piston \varnothing	12 16		20	25	32	40					
Stroke [mm]	10 500	10 800		10 1500							
Pneumatic connection	M5		G1/8			G1/4					
Mode of operation	Double-acting										
Constructional design	Slide unit										
	Rodless linear dri	Rodless linear drive									
End-position cushioning via shock	Self-adjusting at	Self-adjusting at both ends									
absorber	- Adjustable at both ends										
Position sensing	For proximity sensing										
Type of mounting	Via through-holes										
	Via female thread										
Mounting position	Any										
Protection against torsion/guide	Guide rods with s	Guide rods with slide/ball bearing guide									

Operating and environmental conditions										
Piston \varnothing		12	2 16 20 25 32 40							
Operating medium		Filtered compressed air, lubricated or unlubricated								
Operating pressure	[bar]	≤7	≤7							
Ambient temperature ¹⁾	[°C]	-20 +60								

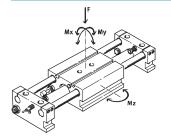
¹⁾ Note operating range of proximity sensors.

Forces [N]						
Piston Ø	12	16	20	25	32	40
Theoretical force at 6 bar, advancing	68	121	188	295	483	754
Theoretical force at 6 bar, retracting	68	121	188	295	483	754
Breakaway force of the magnetic coupling	100	160	270	400	680	1050

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Technical data

Permissible dynamic load



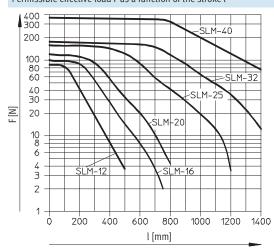
F = Load

M ≥ M_χ

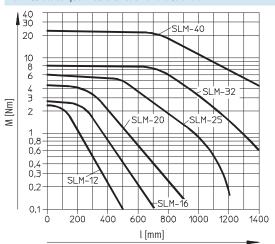
 $M \ge M_V$

 $M \ge M_Z$

Permissible effective load F as a function of the stroke l



Permissible torque M as a function of the stroke l

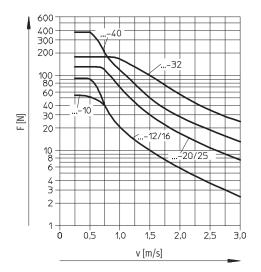


Permissible shock absorber load F as a function of the impact velocity v

with horizontal installation

 $F \ge m_L x g$

 $g = 9.81 \text{ N/mm}^2$ $m_L = \text{Load [kg]}$



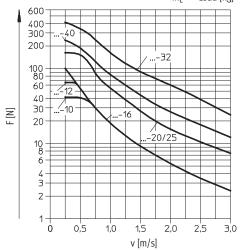
with vertical installation

 $F \ge (m_L + m_E) \times g$

 $g = 9.81 \text{ N/mm}^2$

m_E = Moving load (dead weight) [kg]

m_L = Load [kg]



Linear drives SLM, with guided slide Technical data



4

5

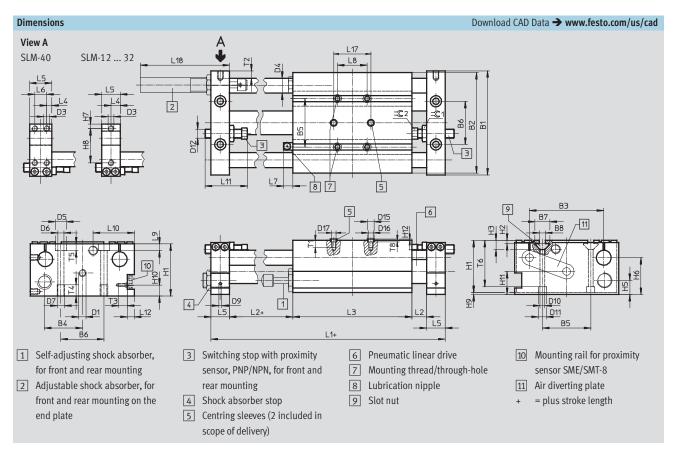
Weights [g]												
Piston ∅	12	16	20	25	32	40						
Basic weight with 0 mm stroke	1110	1730	2620	3800	6400	9550						
Additional weight per 10 mm stroke	10	15	21	36	55	85						
Moving load	620	1080	1400	2150	3150	5080						

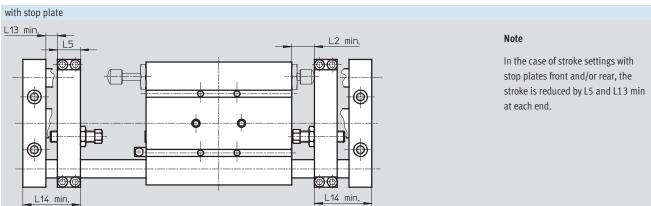
Materials Sectional view 2 3 1 2 100000000

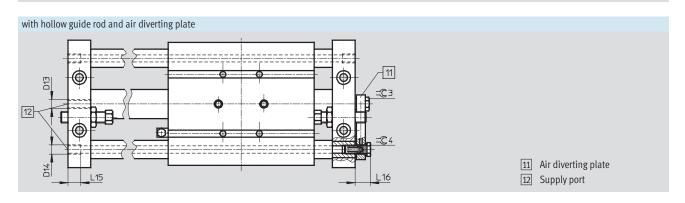
Linea	ar drive	
1	Slide	Wrought aluminium alloy
2	End plate	Wrought aluminium alloy
3	Guide rod	Steel
4	Cylinder barrel attachment	Wrought aluminium alloy
5	Cylinder barrel	High-alloy stainless steel
-	Stop plate	Wrought aluminium alloy
-	Seals	Nitrile rubber

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Technical data







Linear drives SLM, with guided slide Technical data



Ø	B1	B2	В3	B4	B5	В6	В7	B8	D:	1	D3	D4	D5	D6	D	7	D9	D10
[mm]			±0.03		±0.2	±0.2						Ø h6	Ø	Ø				Ø
12	74	71	52	26.5	26	35	11.6	5	М	5	M5	8	10	5.3	M	6	M4	5.3
16	84	80	58	31	32	40	11.6	5	M	_	M5	10	10	5.3	M		M4	5.5
20	100	96	72	36.5	40	47	11.6	5	G1,		M6	12	11	6.8	M		M4	5.5
25	114	110	80	39.5	45	48	11.6	5	G1		M6	16	10.5	6.8	M		M4	5.5
32	140	135	100	51	65	58	20	8	G ¹ /	/8	M8	20	15	8.5	M1	.0	M4	6.6
40	166	160	118	63	75	78	20	8	G ¹ /	/4	M6	25	15	8.5	M1	.0	M4	6.6
																		,
Ø	D11	D1	12	D13	D14	D15	D16	D17	' H:	1	H2	Н3	H5	Н6	H;	7	H8	Н9
	Ø					Ø	Ø											
[mm]						H7											±0.2	
12	9	M6x	(0.75	M5	-	9	6.4	M6	38	8	1.8	6.4	11.5	27	3.	5	31	2
16	10	M6x	0.75	M5	M5	9	6.4	M6	4(0	1.8	6.4	12	28.5	4.	5	31	2
20	10	M8		G1/8	M5	9	6.4	M6	50		1.8	6.4	16	36	5		40	2
25	10	M8		G1/8	G1/8	9	6.4	M6	5		1.8	6.4	14	36.5	_		34	2
32	11	M1		G1/8	G1/8	9	6.4	M6	70	_	4.5	12.5		49.5			46	3
40	11	M1	2x1	G1/4	G1/4	9	6.4	M6	7.	5	4.5	12.5	19	51	5.	5	51.5	3
l ~	1140	1144	114.0	14	10	1.2	l .,	1.5		_	1.7	10	10	140			140	140
Ø	H10	H11	H12	L1	L2	L3	L4	L5	Le	5	L7	L8	L9	L10	L1	1	L12	L13
[mm]												±0.2						
12	16	15.5	1.9	139	12	85	7.5	15			11	19	6.5	37	33	3	_	7
16	16	19	1.9	154	12	100	7.5	15	+-		11	32	6	31.5			_	7
20	16	22	1.9	192	16	120	10	20		.	12.5	26	8	44	4:		_	10
25	16	25	1.9	212	16	140	10	20	<u> </u>	-	12.5	26	8	45	4		_	10
32	14.8	31	1.9	250	20	160	12.5	25	_	-	12.5	40	9	55.5	57	7	9.5	13
40	15.8	36.5	1.9	270	20	180	6.5	25	12	2	12.5	50	9	61.5	57	7	10	13
Ø	L14	L15	L16	L17 ¹⁾	L18	T1	T.	2	T3	TZ	4	T5	T6	T8	=©1	=©2	=©3	=©4
[mm]														+0.2				
12	37	-	-	40	-	10	7	7	12	10	0	5.7	30.5	2.1	10	8	-	-
16	37	8	12.5	40	-	10	6.	.5	12	10	0	5.7	34.3	2.1	10	8	13	_
20	50	8	19.5	40	97	10			12	12		6.8	44	2.1	13	11	13	8
25	50	10	19.5	40	97	10			12	12		6.8	49.3	2.1	13	11	13	_
32	63	14	15.5	40	115				12	1		9	62.5	2.1	19	13	13	
40	63	15	17	40	115	10	1	0	12	16	6	9	61	2.1	19	13	17	-

¹⁾ Tolerance for centring hole: ±0.03 mm Tolerance for thread: ±0.1 mm

Linear drives SLM, with guided slide Ordering data – Modular products

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Module No.	Drive function	Size	Stroke	Guide	Position sensin	g Basic unit
32 781	SLM	12	10 1500	KF	Α	G
32 782		16				GL
32 783		20				GU
32 784		25				
32 785		32				
32 786		40				
Ordering						
example						
32 784	SLM	- 25	- 900	– KF	- A	- GU

0	dering table											
Si	ze		12	16	20	25	32	40	Condition	Code	Enter co	ode
									S			
M	Module No.		32 781	32 782	32 783	32 784	32 785	32 786				
	Drive function		Linear unit							SLM	SLM	
	Size	[mm]	12	16	20	25	32	40				
	Stroke	[mm]	10 500	10 800		10 1500						
	Guide		Via ball bearings							-KF	-KF	
	Position sensing		For proximity	sensing						-A	-A	
	Basic unit		Linear unit wit	th pneumatic d	rive					-G		
	 Linear unit with pneumatic drive and hollow guide rods 							-GL				
	 Linear unit with pneumatic drive, hollow guide rods and air 				r diverting		-GU					
Ψ			plate									

Transfer order	cod									
		SLM	-	-	_	KF	_	Α	-	_

Linear drives SLM, with guided slide Ordering data – Modular products



O Options							
Shock absorber at front	Shock absorber at rear	Sensor at front	Sensor at rear	Stroke adjustment at front	Stroke adjustment at rear	Mounting rail	Slot nut
CV YV	CH YH	PV NV	PH NH	HV	НН	Е	1
CV -	- CH -	- PV -	· PH -	HV -	- HH -	- E	- 41

Or	dering table										
Siz	re		12	16	20	25	32	40	Condition s	Code	Enter code
T	Shock absorber	at front	Self-adjusting	shock absorbe	er, with stop at	front				-CV	
0		- Adjustable shock absorber, with stop at front								-YV	
		at rear Self-adjusting shock absorber, with stop at rear								-CH	
			-	Adjustable shock absorber, with stop at rear						-YH	
	Sensor (bonded)	at front	Inductive sens	sor with 2.5 m	cable, PNP, wit	h stop sleeve at	t front			-PV	
			Inductive sens	sor with 2.5 m	cable, NPN, wit	h stop sleeve a	t front			-NV	
		at rear	Inductive sens	sor with 2.5 m	cable, PNP, wit	h stop sleeve at	t rear			-PH	
			Inductive sens	ductive sensor with 2.5 m cable, NPN, with stop sleeve at rear							
	Stroke adjustment	at front	Stop plate at t	top plate at front							
		at rear	Stop plate at	Stop plate at rear							
	Mounting rail		Mounting rail	Mounting rail							
	Slot nut		1 10	10							

1	HV	Not in combination with Y	V
2	HH	Not in combination with Y	Н

Linear drives SLM, with guided slide Ordering data – Modular products, package solution



M Mandatory data											
Module No.	Drive function	Size	Stroke	Guide	Position sensing	Standard unit					
32 781	SLM	12	10 1500	KF	A	S					
32 782		16									
32 783		20									
32 784		25									
32 785		32									
32 786		40									
Ordering											
example											
32 782	SLM	- 16	- 750	– KF	- A	- S					

Or	dering table									
Siz	re	12	16	20	25	32	40	Condition	Code	Enter code
								S		
M	Module No.	32 781	32 782	32 783	32 784	32 785	32 786			
	Drive function	Linear unit							SLM	SLM
	Size [mm]	12	16	20	25	32	40			
	Stroke [mm]	10 500	10 800		10 1500					
	Guide	Via ball bearings							-KF	-KF
	Position sensing	For proximity sensing							-A	-A
	Standard unit	Package solution S = G-CV-CH-PV-PH							-S	-S

Transfer order o	Transfer order code											
		SLM	-		-		-	KF	-	Α	-	S

Linear drives SLM, with guided slide Accessories

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Shock absorber kit SLZ-...-YSR-C, self-adjusting (order code CV, CH)

Material: YSR-8-8-C: Nickel-plated brass YSR-12-12-C, YSR-16-20-C: Galvanised steel Free of copper, PTFE and silicone



Ordering data			
For \varnothing	Including shock absorber	Part No.	Туре
[mm]	Technical data → Internet: ysr		
12, 16	YSR-8-8-C	115 315	SLZ-16-YSR-C
20, 25	YSR-12-12-C	115 316	SLZ-25-YSR-C
32, 40	YSR-16-20-C	115 317	SLZ-32-YSR-C

Shock absorber kit SLZ-...-KF-A, adjustable (order code YV, YH)

Material: Galvanised steel



For Ø Including shock absorber Part No. Type [mm] Technical data → Internet: dysr 114 032 SLZ-25-KF-A 20, 25 DYSR-12-12-Y5 114 032 SLZ-25-KF-A 32, 40 DYSR-16-20-Y5 114 033 SLZ-32-KF-A	Ordering data			
20, 25 DYSR-12-12-Y5 114 032 SLZ-25-KF-A	For Ø	Including shock absorber	Part No.	Туре
	[mm]	Technical data → Internet: dysr		
32. 40 DYSR-16-20-Y5 114 033 SLZ-32-KF-A	20, 25	DYSR-12-12-Y5	114 032	SLZ-25-KF-A
22, 10	32, 40	DYSR-16-20-Y5	114 033	SLZ-32-KF-A

Switching stop SL-...-SIE-PS

(order code PV, PH) Kit with inductive proximity sensor PNP

Switching stop SL-...-SIE-NS

(order code NV, NH) Kit with inductive proximity sensor NPN



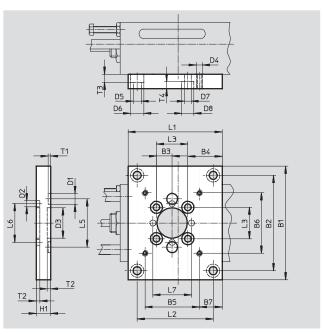
Ordering data				
For Ø	Switch output	Including proximity sensor	Part No.	Туре
[mm]		Technical data → Internet: sien		
12, 16	PNP	SIEN-4B-PS-K-L	116 251	SL-10/16-SIE-PS
	NPN	SIEN-4B-NS-K-L	116 252	SL-10/16-SIE-NS
20, 25	PNP	SIEN-4B-PS-K-L	116 253	SL-20/25-SIE-PS
	NPN	SIEN-4B-NS-K-L	116 254	SL-20/25-SIE-NS
32, 40	PNP	SIEN-6,5B-PS-K-L	117 525	SL-32/50-SIE-PS
	NPN	SIEN-6,5B-NS-K-L	117 526	SL-32/50-SIE-NS

Adapter plate SLEP

Material:

Wrought aluminium alloy





Dimensions a	Dimensions and ordering data																	
For Ø	B1	B2	В3	B4	B5	В6	В7	D1	D2	D3	D4	D5	D6	D7	D8	H1	L1	L2
								Ø	Ø	Ø		Ø	Ø	Ø	Ø			
[mm]								H7	H7	G7								
16	82	68	9.5	20	32	32	13.5	9	5	14	M5	5.5	10	5.5	10	12	50	36
25	94	79	13	23.5	45	26	14	9	5	25	M5	6.6	11	5.5	10	12	73	58

For Ø [mm]	L3	L5	L6	L7	T1	T2	T3	T4	Weight [g]	Part No.	Туре
16	19	40	28	-	2.1	3	5.7	6.7	122	150 909	SLEP-10
25	26	40	32	32	2.1	3	6.8	6.7	205	150 910	SLEP-16

Linear drives SLM, with guided slide Accessories



Ordering data – Accessories						1
	For Ø	Material	Order code	Part No.	Туре	PU ¹⁾
	[mm]					
Stop plate SLMKF-A						
8	12	Wrought aluminium alloy	HV, HH	119 527	SLM-12KF-A	1
0	16			119 528	SLM-16KF-A	1
0.00	20			119 529	SLM-20KF-A	1
5 V	25			119 530	SLM-25KF-A	1
000	32			119 531	SLM-32KF-A	1
	40			119 532	SLM-40KF-A	1
Mounting rail SLZS/SLMS for proxi	mity sensor					
	12	Wrought aluminium alloy	E	150 916	SLZS-16	1
	16			152 744	SLMS-16	1
	20			150 917	SLZS-25	1
	25			152 745	SLMS-25	1
	32			150 918	SLZS-32	1
	40			150 919	SLZS-40	1
Slot nut NST					Technical data →	Internet: n
√ ⊌>	12 25	Non-alloyed tempered steel	1	150 914	NST-5-M5	1
	32, 40	Free of copper, PTFE and silicone		150 915	NST-8-M6	1
700						
Centring sleeve ZBH				_	Technical data →	
	16 40	Stainless steel	-	150 927	ZBH-9	10
J		Free of copper, PTFE and silicone				

¹⁾ Packaging unit quantity

Ordering data	- Proximity sensors for T-slot, magnetic r	eed				Technical data → Internet: smt
	Type of mounting	Switch Electrical connection		Cable length	Part No.	Туре
		output		[m]		
N/O contact						
~/	Insertable in the slot from above, flush	Contacting	Cable, 3-wire	2.5	543 862	SME-8M-DS-24V-K-2,5-OE
	with cylinder profile			5.0	543 863	SME-8M-DS-24V-K-5,0-OE
*			Cable, 3-wire	2.5	543 872	SME-8M-ZS-24V-K-2,5-OE
			Plug M8x1, 3-pin	0.3	543 861	SME-8M-DS-24V-K-0,3-M8D
N. C.	Insertable in the slot lengthwise, flush	Contacting	Cable, 3-wire	2.5	150 855	SME-8-K-LED-24
	with the cylinder profile		Plug M8x1, 3-pin	0.3	150 857	SME-8-S-LED-24
N/C contact						
NA CONTRACTOR OF THE PARTY OF T	Insertable in the slot lengthwise, flush	Contacting	Cable, 3-wire	7.5	160 251	SME-8-O-K-LED-24
	with the cylinder profile					

Linear drives SLM, with guided slide Accessories



Ordering data – Proximity sensors for T-slot, magneto-resistive					Technical data → Internet: sme		
	Type of mounting	Switch	Electrical connection	Cable length	Part No.	Туре	
		output		[m]			
N/O contact							
	Insertable in the slot from above, flush	PNP	Cable, 3-wire	2.5	543 867	SMT-8M-PS-24V-K-2,5-0E	
	with cylinder profile		Plug M8x1, 3-pin	0.3	543 866	SMT-8M-PS-24V-K-0,3-M8D	
			Plug M12x1, 3-pin	0.3	543 869	SMT-8M-PS-24V-K-0,3-M12	
		NPN	Cable, 3-wire	2.5	543 870	SMT-8M-NS-24V-K-2,5-0E	
			Plug M8x1, 3-pin	0.3	543 871	SMT-8M-NS-24V-K-0,3-M8D	
NA CONTRACTOR OF THE PARTY OF T	Insertable in the slot lengthwise, flush	PNP	Cable, 3-wire	2.5	175 436	SMT-8-PS-K-LED-24-B	
	with the cylinder profile		Plug M8x1, 3-pin	0.3	175 484	SMT-8-PS-S-LED-24-B	
N/C contact							
TO SERVICE OF THE PARTY OF THE	Insertable in the slot from above, flush with cylinder profile	PNP	Cable, 3-wire	7.5	543 873	SMT-8M-PO-24V-K7,5-OE	

Ordering dat	a – 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	541 333	NEBU-M8G3-K-2.5-LE3
			5	541 334	NEBU-M8G3-K-5-LE3
	Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	541 363	NEBU-M12G5-K-2.5-LE3
			5	541 364	NEBU-M12G5-K-5-LE3
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541 338	NEBU-M8W3-K-2.5-LE3
			5	541 341	NEBU-M8W3-K-5-LE3
	Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	541 367	NEBU-M12W5-K-2.5-LE3
			5	541 370	NEBU-M12W5-K-5-LE3

Ordering data	Ordering data – Slot cover for T-slot						
	Mounting	Length	Part No.	Туре			
		[m]					
	Insertable from	2x 0.5	151 680	ABP-5-S			
	above						
4							

Ordering data	a – One-way flow control valve	Technical data → Internet: grla			
	Connection		Material	Part No.	Туре
	Thread	For tubing OD			
	M5	3	Metal design	193 137	GRLA-M5-QS-3-D
		4		193 138	GRLA-M5-QS-4-D
		6		193 139	GRLA-M5-QS-6-D
	G1/8	3		193 142	GRLA-1/8-QS-3-D
		4	7	193 143	GRLA-1/8-QS-4-D
		6	7	193 144	GRLA-1/8-QS-6-D
		8		193 145	GRLA-1/8-QS-8-D
	G1/4	6	7	193 146	GRLA-1/4-QS-6-D
		8		193 147	GRLA-1/4-QS-8-D
		10		193 148	GRLA-1/4-QS-10-D

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