

Linear Modules with Intermediate Positions

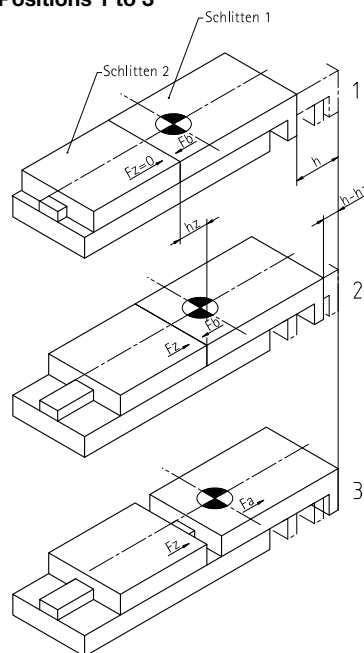
Technical Data – Summary FZ and F-ZA Series

		LM with Intermediate Position								
		LM 4		LM 5		LM 6		LM 8		
		FZ-30	FZ-60	FZ-60	FZ-90	FZ-60	FZ-120	F-120ZA	F-240ZA	F-360ZA
Stroke lengths [mm] h:	0-30	●								
	0-60		●	●		●				
	0-90				●					
	0-120						●	●		
	0-180									
	0-240								●	
	0-360									●
Max. permissible mass [kg]:	0,8	●	●							
	2,5			●	●					
	5					●	●			
	8							●	●	●
Slide 1 Theor. force (bei 5bar) [N]: Fa/Fb	50/38	●	●							
	113/85			●	●					
	201/173					●	●			
	394/346							●	●	●
Cylinder diameter [mm]:	2xØ8	●	●							
	2xØ12			●	●					
	2xØ16					●	●			
	1xØ32							●	●	●
Slide 2 Theor. force (bei 5bar) [N]: Fz	66	●	●							
	173			●	●					
	364					●	●			
Cylinder diameter [mm]:	2xØ10	●	●							
	2xØ16			●	●					
	2xØ20					●	●			
Air consumption per cycle at 5 bar and nominal stroke [Nl]:		0,09	0,11	0,42	0,63	0,68	1,36	0,58	1,13	1,68
Weight [kg]:		0,51	0,83	1,50	2,00	2,40	3,40	5,90	7,90	10,10
Point of application of force for all torques [mm]:	M	71,0	101,0	102,0	143,6	119,0	190,0	138,0	138,0	138,0
Maximale statische Torques [Nm]:	Ma	13,6	13,6	19,2	64,0	40,0	96,0	386,4	386,4	386,4
	Mb	13,6	13,6	20,8	64,0	32,0	88,0	783,8	783,8	783,8
	Mc	13,6	13,6	21,6	23,2	56,0	64,0	336,0	336,0	336,0

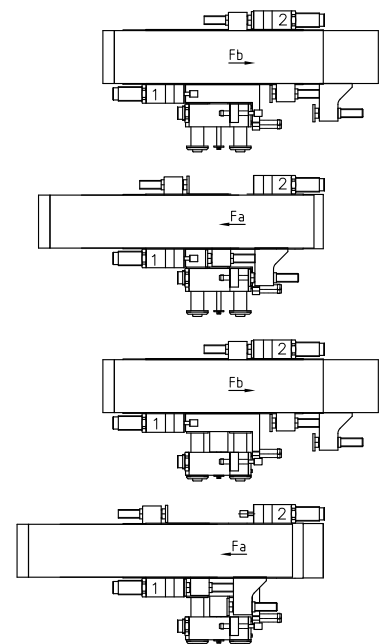
For all modules

Operating pressure [bar]:	3-7
Temperature range [°C]:	0-60
Repeat accuracy [mm]:	+/-0,01

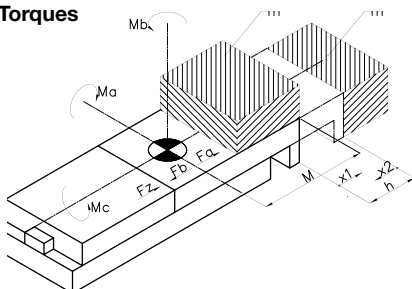
Travel diagram LM FZ: Positions 1 to 3



Travel diagram LM F-ZA



Torques



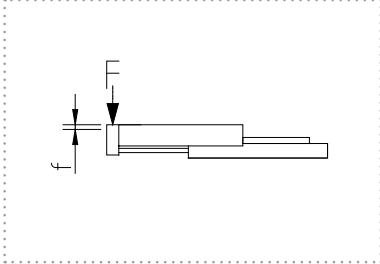
Load Diagrams LM8 F-ZA see page 45

Linear Modules with Intermediate Positions

Load Diagrams

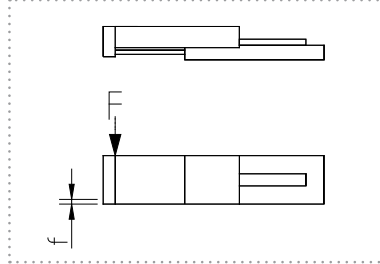
Axial Load

The graph shows the deflection f of the slide under the effect of the force F . The deflection is independent of the stroke.



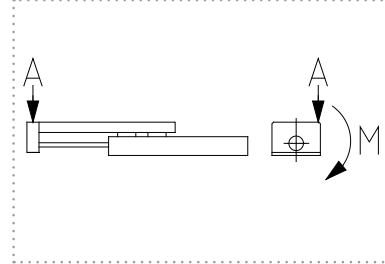
Transverse Load

The graph shows the deflection f of the slide under the effect of the force F . The deflection is independent of the stroke.

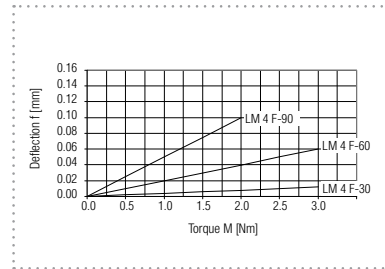
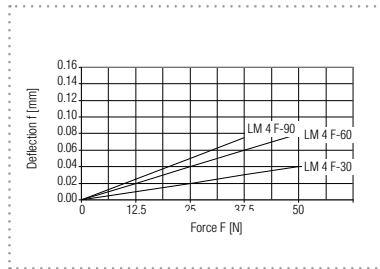
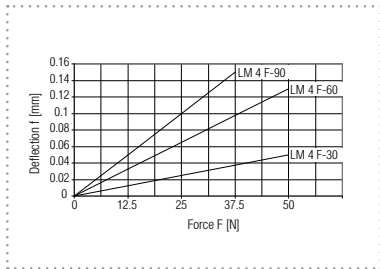


Lateral Load

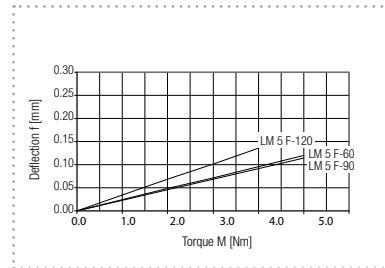
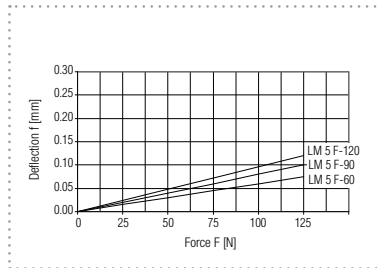
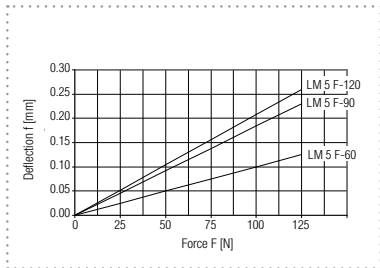
The graph shows the deflection f of the slide at point A under the effect of the torque. The deflection is independent of the stroke.



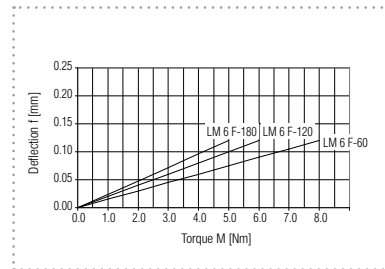
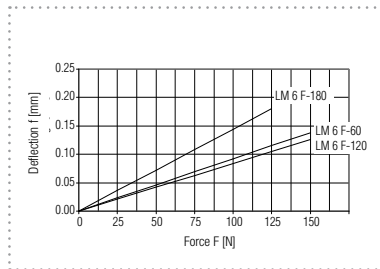
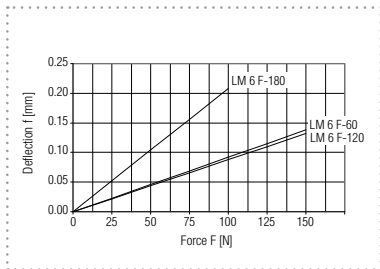
LM 4 FZ



LM 5 FZ



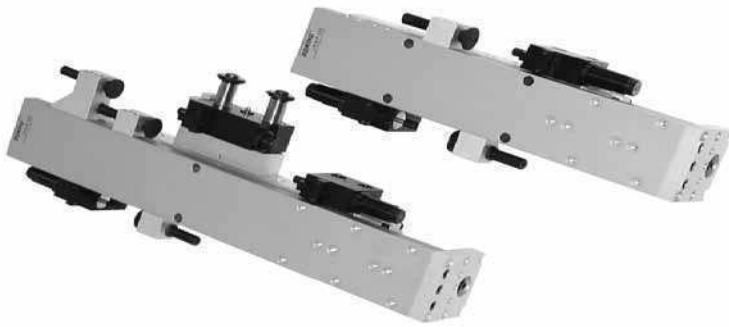
LM 6 FZ



Linear Modules with Intermediate Positions

LM 8 F-ZA – Pneumatic Linear Module with Intermediate Stop

LM 8 F-ZA



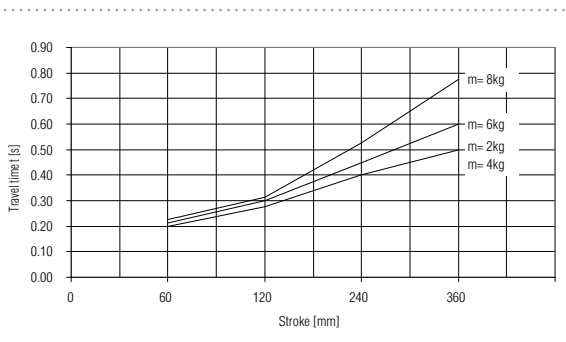
Technical data, stroke-independent

Cylinder diameter		Ø32 mm
Theor. force (at 5 bar)	Fa	394 N
	Fb	346 N
Max. speed		0,7 m/s
Pneumatic connections		Linear module: G 1/8"
		Intermediate position: M5
Medium		Compressed-air filtered, oiled or non-oiled
Operating pressure range		3 to 7 bar
Temperature range		0 – 60° C
Repeat accuracy		+/-0.01 mm
Max. permissible mass		8 kg
Air consumption ZA per cycle at 5 bar and nominal stroke [NI]		0,03 l
Weight ZA		0,5 kg

Permissible travel time t relative to the stroke length and the additional mass m

The travel time t determined from the diagram may not be undershot.

Recommendation: When selecting the module, the travel time t should be assumed as being 20% more.

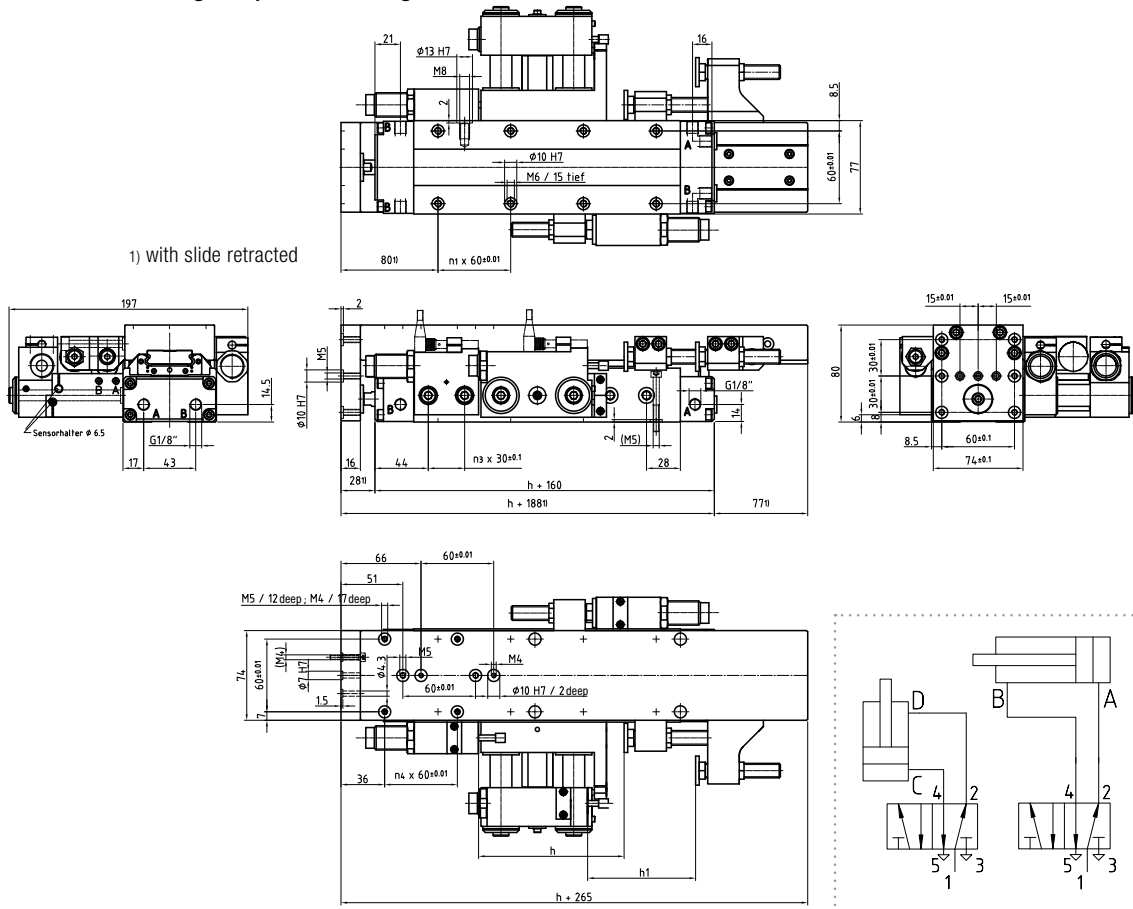


Permissible travel time t = travel time without valve switching time, at nominal pressure 6 bar.

Linear Modules with Intermediate Positions

LM 8 F-ZA – Pneumatics Linearmodul mit Intermediate stop ZA

Dimensional drawing and pneumatic diagram



Designation	h	h1	n1	n2	n3	n4
LM 8 F-120 ZA	120	60	3	3	6	12
LM 8 F-240 ZA	240	180	5	7	10	2
LM 8 F-360 ZA	360	300	7	11	14	4

Designation	Order number
LM 8 F-120 ZA-Vo	300 8836
LM 8 F-240 ZA-Vo	300 8834
LM 8 F-360 ZA-Vo	300 8831
LM 8 F-120 ZA-Ru	300 8878
LM 8 F-240 ZA-Ru	300 8879
LM 8 F-360 ZA-Ru	300 8880

incl. hydraulic shock absorber and 4 centering rings $\varnothing 10$

Anbauvarianten Intermediate stop

ZA 8F an LM 8 F See page 74

Accessories

Centering ring $\varnothing 10$	300 1522
Limit switch $\varnothing 6,5$	300 1845
Shock absorber	300 9320

See chapter Accessories

Overview

Linear Axes
pneum. / electr.

Linear Modules
pneum. / electr.

Linear Modules
with Intermediate
Positions

Rotary Modules

Grippers

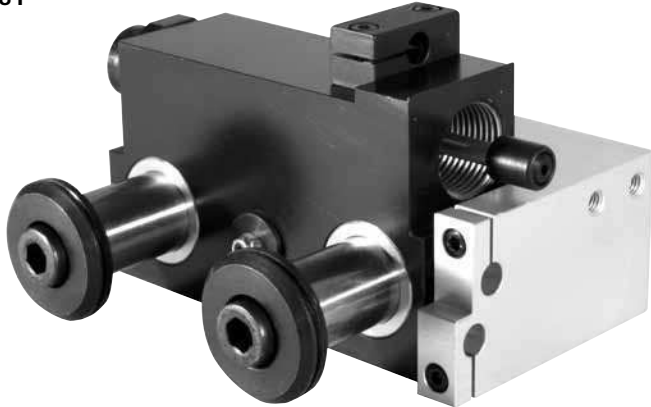
Basic Elements

Accessories

Linear Modules with Intermediate Positions

ZA 8 F – Intermediate Stop for LM 8 F

ZA 8 F



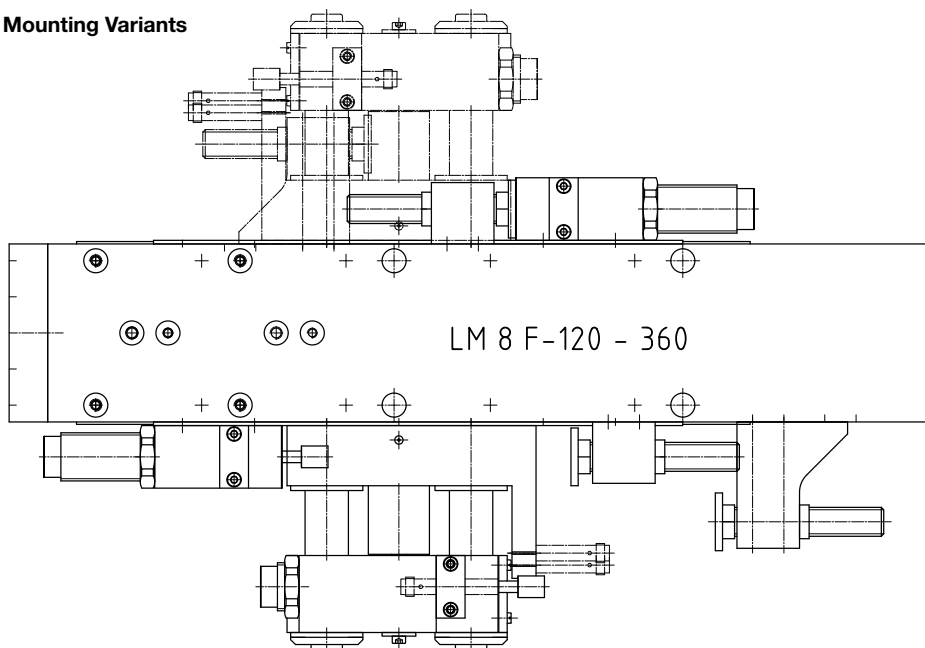
Technical Data

Cylinder diameter	Ø25 mm
Pneumatic connections	M5
Medium	Compressed-air filtered, oiled or non-oiled
Operating pressure range	3 to 7 bar
Temperature range	0 – 60° C
Repeat accuracy	+/-0.01 mm
Air consumption per cycle at 5 bar and nominal stroke [NI]	0,03 l
Weight	0,5 kg

Subsequent intermediate stop add-on

The ZA 8 F can be installed later on both sides of the Linear Module LM 8 F. As a result, intermediate positions in the forwards and reverse stroke of the module can be traversed.

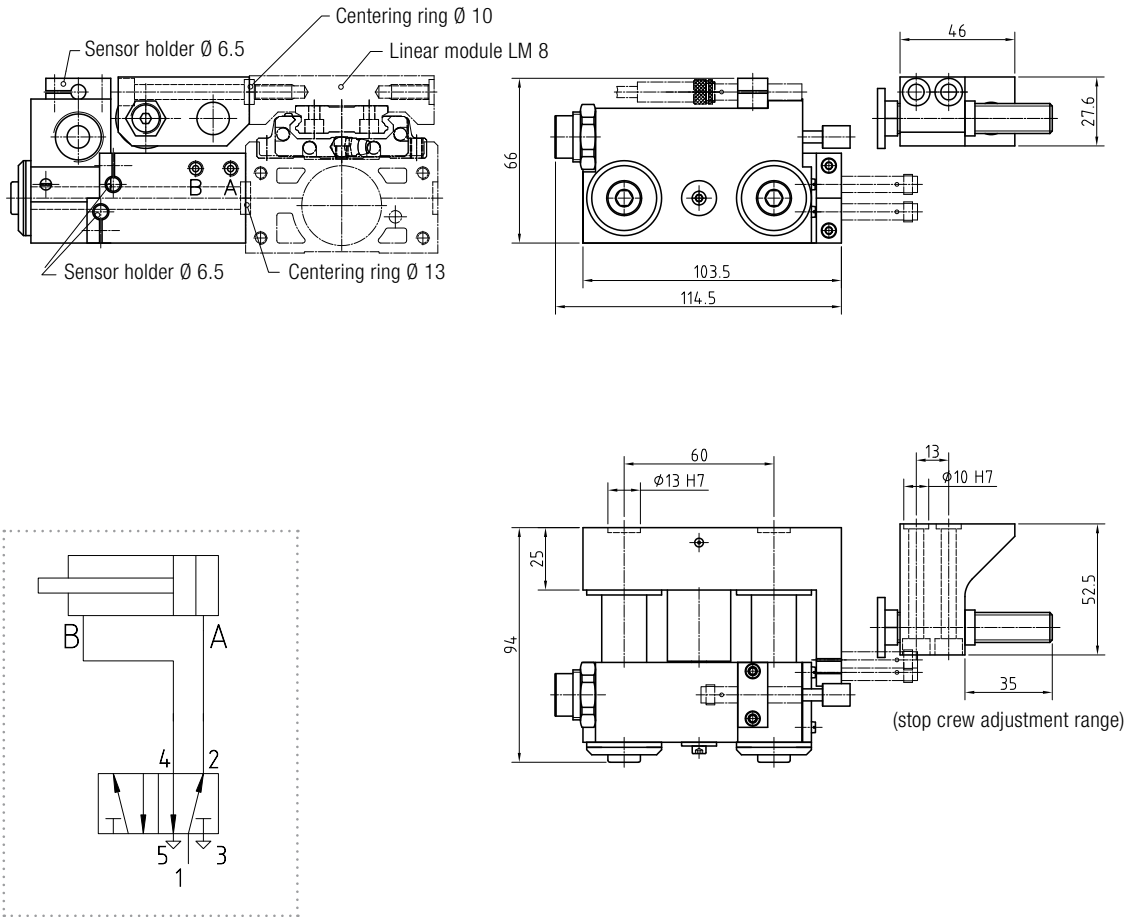
Mounting Variants



Linear Modules with Intermediate Positions

ZA 8 F – Intermediate Stop for LM 8 F

Dimensional drawing and pneumatic diagram



Designation	Order number
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ZA 8 F	300 5235
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incl. hydraulic shock absorber,
2 centering rings Ø10 and
2 centering rings Ø13

Accessories

Centering ring Ø 10	300 1522
Centering ring Ø 13	300 1523
Limit switch Ø 6,5	300 1845
Shock absorber	300 9320

See chapter Accessories

Overview

Linear Axes
pneum. / electr.

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