

# Linear Modules

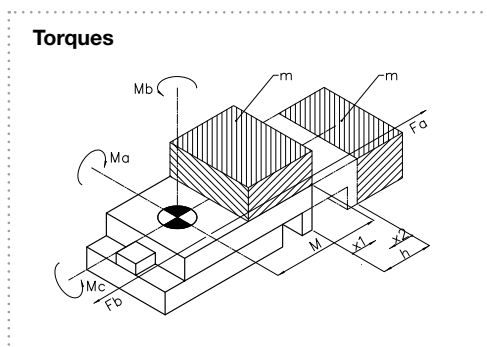
## Technical Data – Summary FE Series

		Electric							
		LM 4 SE			LM 6 FE			LM 8 FE	
		SE-30	SE-60	SE-90	FE-90	FE-180	FE-270	FE-60	FE-240
<b>Stroke lengths [mm]: h</b>	0-30	●							
	0-60		●					●	
	0-90			●	●				
	0-180					●			
	0-240								●
	0-270						●		
<b>Theor. force Fa/Fb [N]:</b>	47/47	●	●	●					
	110/110				●	●	●		
	440/440							●	●
<b>Max. permissible mass [kg]:</b>	2	●	●	●					
	5				●	●	●		
	20							●	●
<b>Weight [kg]:</b>		1,1	1,2	1,3	3,3	3,9	4,4	6	8,5
<b>Point of application of force for all torques [mm]:</b>	<b>M</b>	65	65	65	82	82	82	138	138
<b>Max. static Torques [Nm]:</b>	<b>Ma</b>	10	20	20	370	370	370	386	386
	<b>Mb</b>	10	20	20	370	370	370	784	784
	<b>Mc</b>	30	30	30	63	63	63	336	336
<b>Repeat accuracy [mm]:</b>		±0,01	±0,01	±0,01	±0,01	±0,01	±0,01	±0,01	±0,01

This applies to calculations:

\*  $M_a/M_{a \max} + M_b/M_{b \max} + M_c/M_{c \max} < 1$

\* For stresses during the drive of the carriage  $M_{\max} = 20\% M_{\max \text{ static}}$

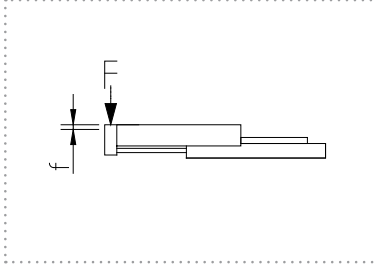


# Linear Modules

## Load Diagrams

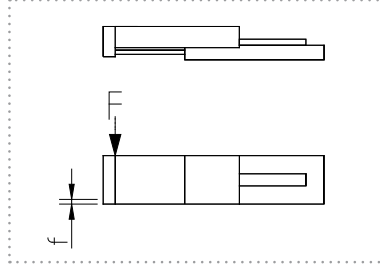
### Axial Load

The graph shows the deflection  $f$  of the slide under the effect of the force  $F$ .



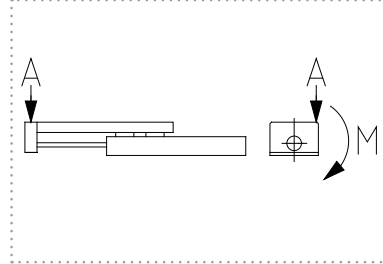
### Transverse Load

The graph shows the deflection  $f$  of the slide under the effect of the force  $F$ .

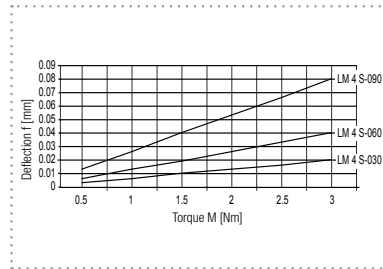
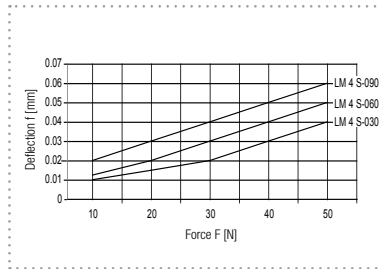
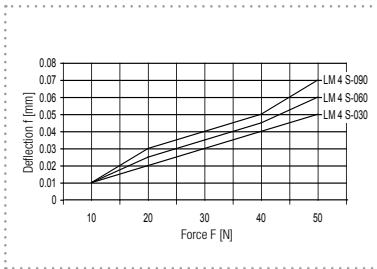


### Lateral Load

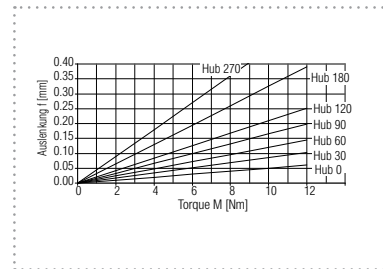
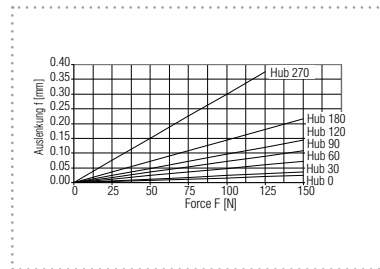
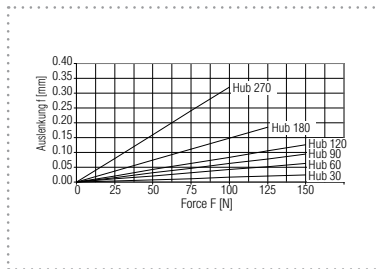
The graph shows the deflection  $f$  of the slide at point A under the effect of the torque.



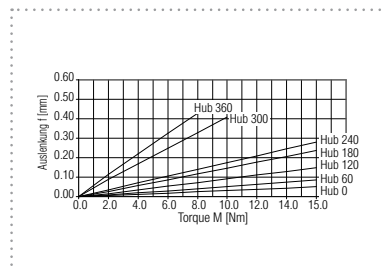
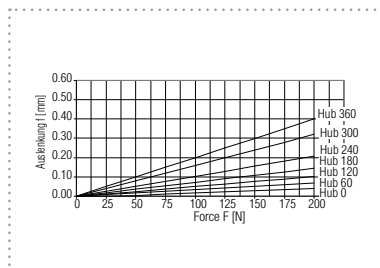
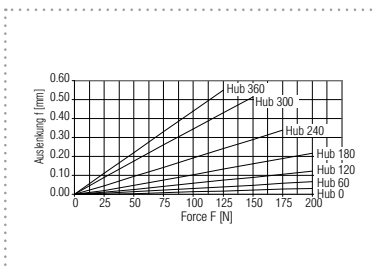
### LM 4 SE



### LM 6 FE



### LM 8 FE



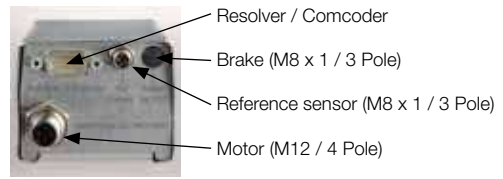
# Linear Modules

## LM 4 SE – Electrical linear module

### LM 4 SE



### Electrical Connections



### Technical Data, stroke-independent

Spherical spindle lead	Ø 8x12 mm
Toothed belt ratio	1:1,25
Travel per motor revolution	9,6 mm
Theor. force	Fa, Fb 47 N
Theor. permissible force	Fa, Fb 150 N
Max. speed (LM 6 FE-90 / LM 6 FE-180)	0,6 m/s
Max. acceleration/deceleration horizontal	10 m/s <sup>2</sup>
Servomotor*	P50
Motor nominal output	30 W
Nominal speed	3000 min <sup>-1</sup>
Nominal torque	0,098 Nm
Static torque	0,108 Nm
Standstill current	0,53 A
Peak current	1,8 A
Electrical connection	230 V AC
Comcoder / Incremental sensor with reverb.	2048 increments/revolution
Brake	24 V DC, 5 W
Temperature range	0 to 60° C
Repeat accuracy	-/+ 0,01 mm
Max. permissible mass	2 kg

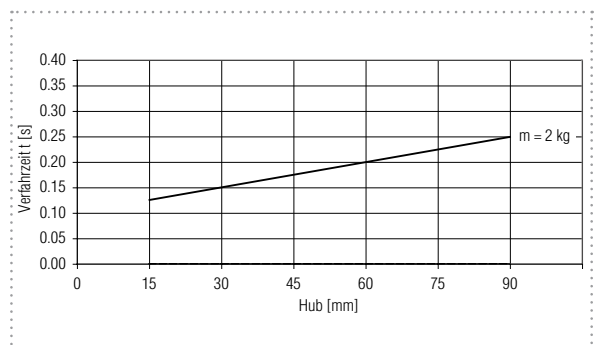
\*Inquiry for other motors

### Technical Data, stroke-independent

See page 56

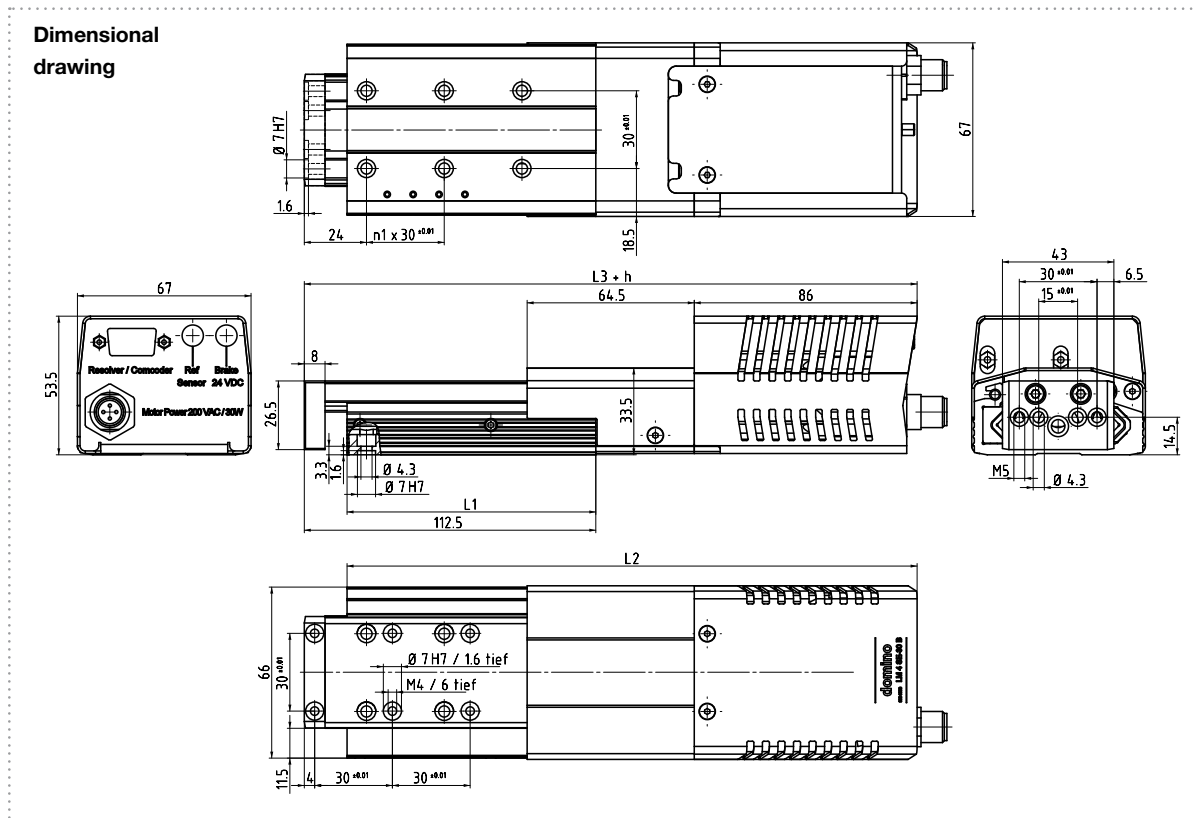
### Permissible travel time

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



# Linear Modules

## LM 4 SE – Electrical linear module



Designation	h	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	n <sub>1</sub>
LM 4 SE-30	30	96	220	236.5	2
LM 4 SE-60	60	125.5	250	266	3
LM 4 SE-90	90	160	284	300	4

Designation	Order number
LM 4 SE-30	303 9669
LM 4 SE-60	303 9719
LM 4 SE-90	303 2577
LM 4 SE-30 B	303 9668 incl. holding brake
LM 4 SE-60 B	303 9718 incl. holding brake
LM 4 SE-90 B	303 2624 incl. holding brake

### Options

Reference unit LM 4 SE		309 0034
Drag chain cable Motor	L = 5 m	309 0035
Drag chain cable Motor	L = 10 m	309 0036
Drag chain cable Encoder	L = 5 m	309 0037
Drag chain cable Encoder	L = 10 m	309 0038

### Accessories

Centering ring Ø 7	300 1521
Centering coupling ZK 5/6	300 2478
Limit switch M8x1	301 4955

See chapter Accessories

### Scope of supply



### Scope of supply external

