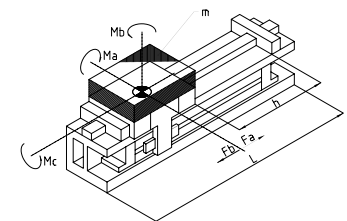


Linear Axes

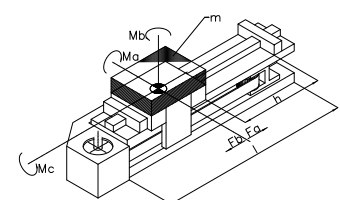
Technical Data – Summary

		Pneumatic Axes				Electrical Axes			
		LM 6 P	LM 8 P	LM 8 PV	LM 10 P	LM 6 PE	LM 8 PE	LM 8 PEV	LM 10 PE
Standard stroke lengths [mm]:	h	0-150	●	●	●	●	●	●	●
	L	0-270	●	●	●	●	●	●	●
Overall length [mm]:		0-150	408	468	468	558	483	543	543
		0-270	528	588	588	678	603	663	663
		0-390	●	●	●	●	●	●	●
		0-390	648	708	708	798	723	783	783
		0-510	●	●	●	●	●	●	●
		0-510	768	828	828	918	843	903	903
		0-630	●	●	●	●	●	●	●
		0-630	888	948	948	1038	963	1023	1023
		0-750	●	●	●	●	●	●	●
		0-750	1008	1068	1068	1158	1083	1143	1143
		0-990				●	●	●	●
		0-990				1398	1323	1383	1383
		0-1230				●	●	●	●
		0-1230				1638	1563	1623	1623
Stroke length max. [mm]:		3720	3660	3660	3570	3720	3660	3585	3585
Overall length max. [mm]:		3978	3978	3978	3978	4053	4053	4053	4053
Cylinder diameter [mm]:		18	25	25	25				
Intermediate positions [-]:		●	●	●		●	●	●	●
Theor. force Fa/Fb [N]:		126/126	●						
	(at 5 bar)	245/245		●	●				
Theor. permissible force Fa/Fb [N]:						540	900	900	900
Maximum static	Ma	96	400	400	950	96	400	400	950
Torques [Nm]:	Mb	96	400	400	950	96	400	400	950
	Mc	64	192	560	480	64	192	560	480
Repeat accuracy [mm]:		+/- 0,02	+/- 0,02	+/- 0,02	+/- 0,02	+/- 0,1	+/- 0,1	+/- 0,1	+/- 0,1
Max. permissible mass [kg]:		4	8	16	16	4	8	16	16
Torques [kg]:	0-150	4,1	7,6	9,8	11,0	4,1	8,2	10,2	12,5
	0-270	5,0	9,4	12,1	13,0	4,7	9,7	12,1	13,3
	0-390	5,9	11,2	14,3	15,0	5,4	11,2	14,1	15,0
	0-510	6,8	13,0	16,6	17,0	6,0	12,7	16,1	16,7
	0-630	7,7	14,8	18,8	19,0	6,6	14,2	18,1	18,4
	0-750	8,7	16,6	21,1	21,0	7,3	15,7	20,0	20,1
	0-990	9,8	18,2	23,7	25,0	8,5	18,7	24,0	23,6
	0-1230	11,4	19,8	25,3	29,0	9,8	21,7	28,0	27,0
Air consumption per cycle at	0-150	0,45	0,80	0,80	0,80				
Air consumption per cycle at	0-270	0,78	1,45	1,45	1,45				
	0-390	1,12	2,10	2,10	2,10				
	0-510	1,46	2,75	2,75	2,75				
	0-630	1,79	3,40	3,40	3,40				
	0-750	2,13	4,05	4,05	4,05				
	0-990				5,35				
	0-1230				6,65				
	Pneumatic connections:	G1/8"	●	●	●	●			

Torques Pneumatic-Axis



Torques Elektrical Axis

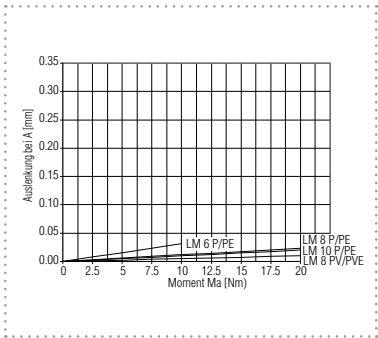
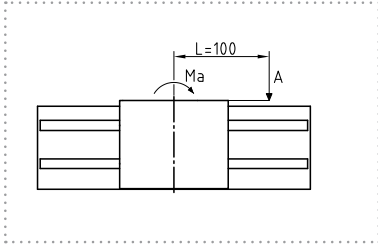


Linear Axes

Technical Data – Load Diagrams

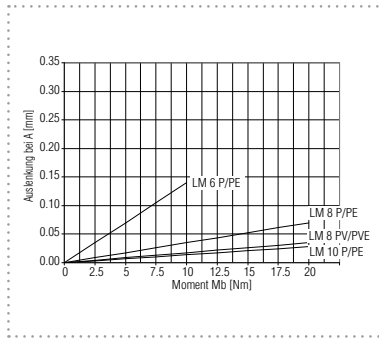
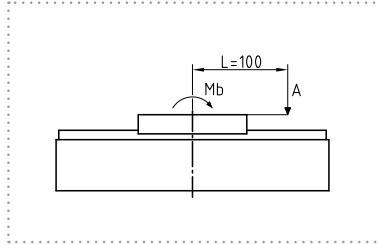
Axial Load

The graph shows the deflection f of the slide at point A (lever arm 100 mm) under the effect of the torque M_a .



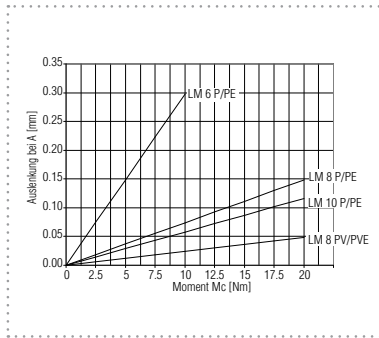
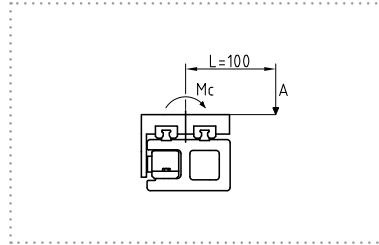
Transverse Load

The graph shows the deflection f of the slide at point A (lever arm 100 mm) under the effect of the torque M_b .



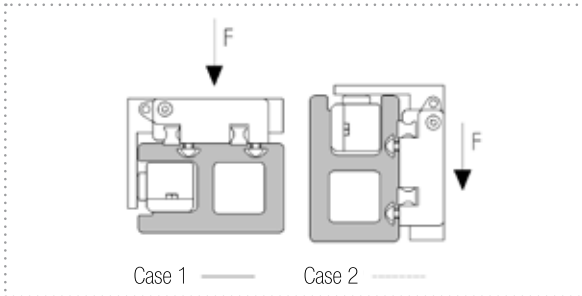
Lateral Load

The graph shows the deflection f of the slide at point A (lever arm 100 mm) under the effect of the torque M_c .

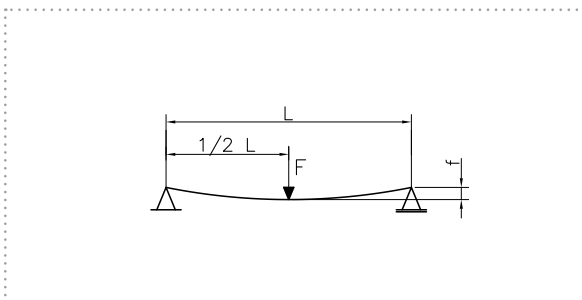
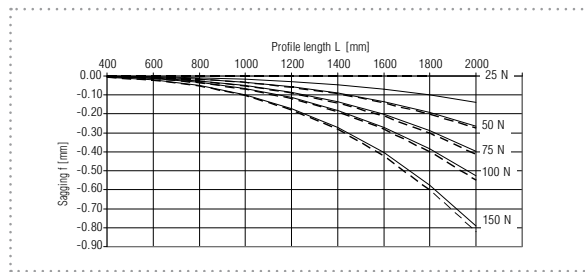


Bending characteristics

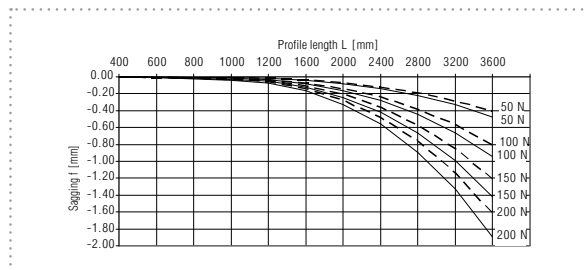
The diagram shows the sagging of the aluminium profile, static loading



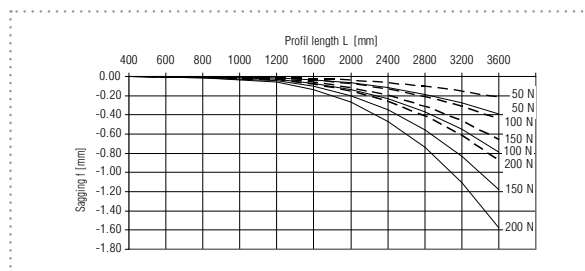
LM 6 P / LM 6 PE



LM 8 P / LM 8 PV / LM 8 PE / LM 8 PEV

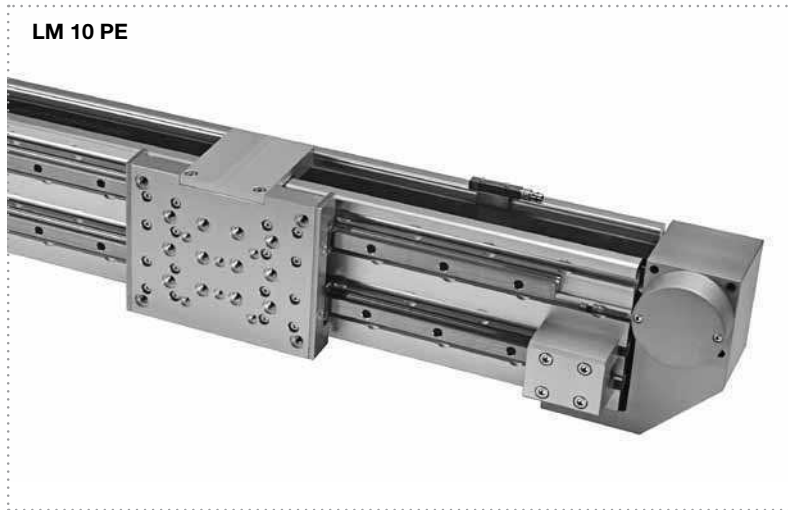


LM 10 P / LM 10 PE



Linear Axes

LM 10 PE – Electrical Linear Axis



Technical data, stroke-independent

Drive wheel diameter		41,38 mm
Number of teeth, drive wheel		26
Tooth pitch		5 mm
Stroke (slide) at 1 drive wheel rotation		130 mm
Theor. force at 1 Nm	Fa, Fb	48 N
Theor. permissible force	Fa, Fb	900 N
Max. speed		3 m/s
Max. acceleration/deceleration horizontal		15 m/s ²
Max. acceleration/deceleration vertical		7,5 m/s ²
Driving torque		0 to 18 Nm
Basic mass moved through linear motion (slide, bearing, toothed belt etc.)		2,1 kg
Drive wheel:	diameter x width	Ø 41 mm x 31 mm
	weight	0,390 kg
	material	Steel
Guide wheel:	diameter x width	Ø 39 mm x 31 mm
	weight	0,050 kg
	material	Aluminium
Frictional torque		0,63 Nm
Temperature range		0 to +60°C
Repeat accuracy		+/-0.1 mm
Max. permissible mass	m	16 kg
Max. static torques	Ma	950 Nm
	Mb	950 Nm
	Mc	480 Nm

Technical data, stroke-dependent

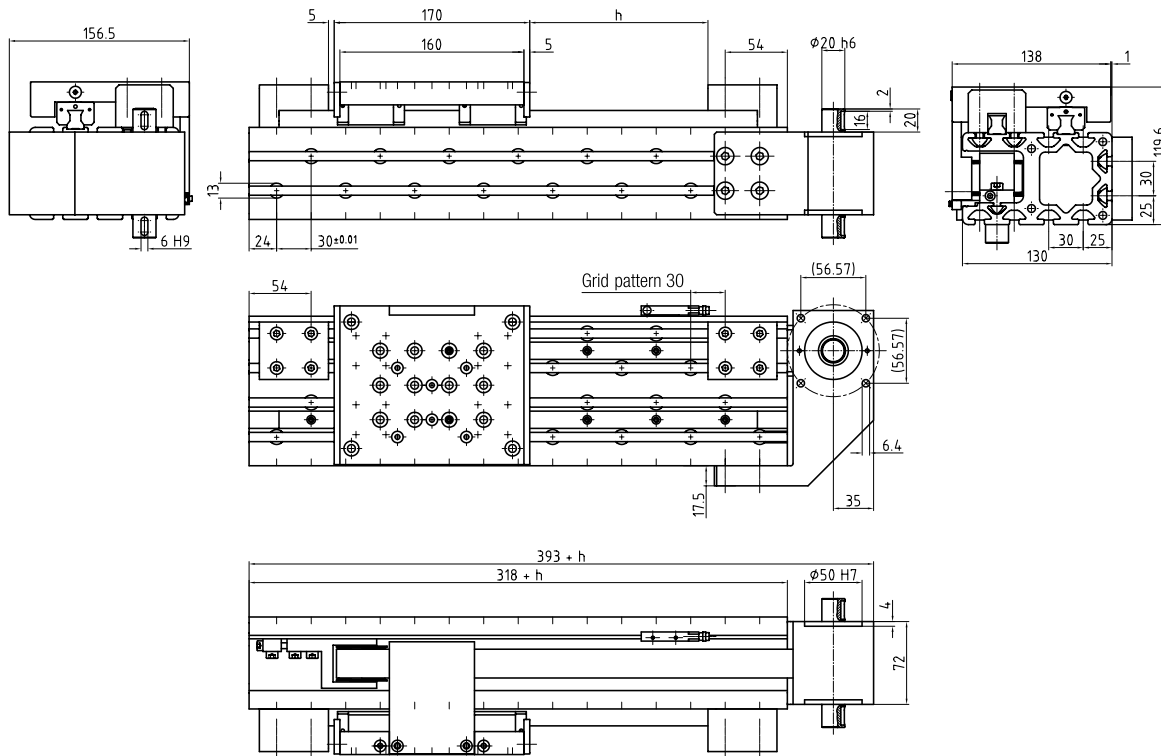
See page 10

The mass is to be taken into consideration for the calculation of the drive.

Linear Axes

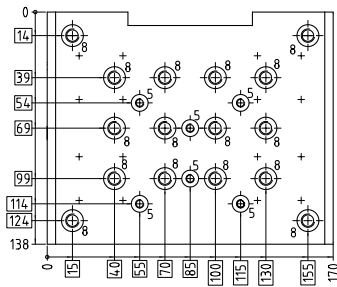
LM 10 PE – Electrical Linear Axis

Dimensional drawing LM 10 PE



Standard stroke length h: 150 / 270 / 390 / 510 / 630 / 750 / 990 / 1230 mm
 Custom design max. stroke length up to h = 3660 mm

**Fixing Dimensions
Slide LM 10 P**



No.	Centering	Thread
5	Ø10H7 / 2.1 deep	M5
8	Ø13H7 / 2.1 deep	M8

Positional tolerance for dimensions in window corresponds to +/-0.01 mm

Ordering Data

Designation	Order number
LM 10 PE-150 li	300 8380
LM 10 PE-270 li	300 8554
LM 10 PE-390 li	300 8555
LM 10 PE-510 li	300 8556
LM 10 PE-630 li	300 8557
LM 10 PE-750 li	300 8558
LM 10 PE-990 li	300 8559
LM 10 PE-1230 li	300 8560
LM 10 PE-150 re	300 8351
LM 10 PE-270 re	300 8542
LM 10 PE-390 re	300 8543
LM 10 PE-510 re	300 8544
LM 10 PE-630 re	300 8548
LM 10 PE-750 re	300 8545
LM 10 PE-990 re	300 8546
LM 10 PE-1230 re	300 8547

Incl. 1 cover caps,
 4 centering rings Ø13 and
 4 centering rings Ø10

Options

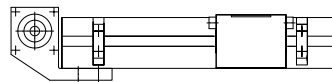
Energy management chains, see page 29

Accessories

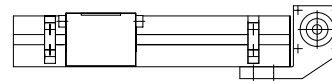
Centering ring Ø 10 300 1522
 Centering ring Ø 13 300 1523
 Limit switch 8 x 8 301 5214
 See chapter Accessories

Design

Electric Axes L (left)



Electric Axes R (right)

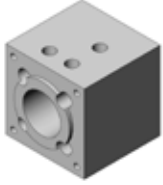


Linear Axes

Scope of Supply Electrical Linear Axes

Accessories electrical linear axes

Flange to motor



LM 6 PE	LM 8PE	LM 10 PE	Designation	Order number
●	●	●	Coupling flange 85	63115
	●	●	Coupling flange 110	301 7295

Flange to gear box



●			Flange to gear PLE 60	300 7354
●	●	●	Flange to gear PLE 80	301 8066
	●	●	Flange to gear PLE 120	302 6418

Shaft coupling



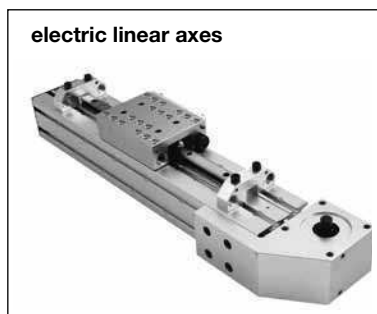
●			Shaft coupling ø 14/14	303 3150
●	●		Shaft coupling ø 14/19	64895
		●	Shaft coupling ø 20/19	301 1828
●	●		Shaft coupling ø 14/20	301 8611
		●	Shaft coupling ø 20/20	301 8725

Motors

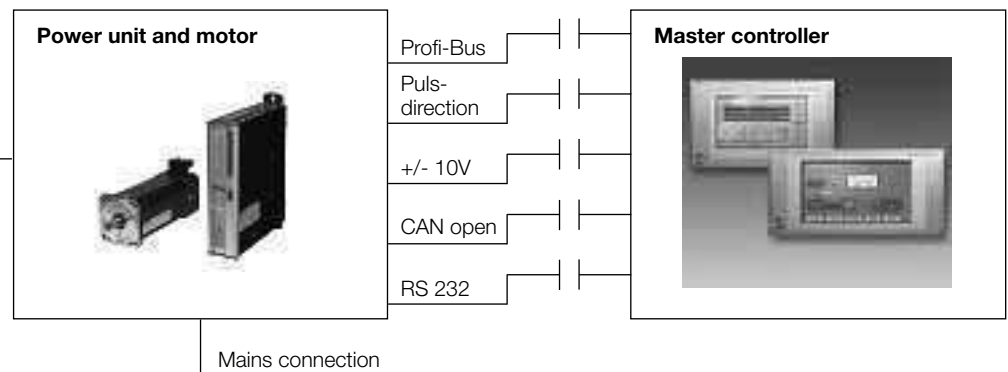


●	●	●	Servo motors Available in several variants	
---	---	---	---	--

Scope of supply



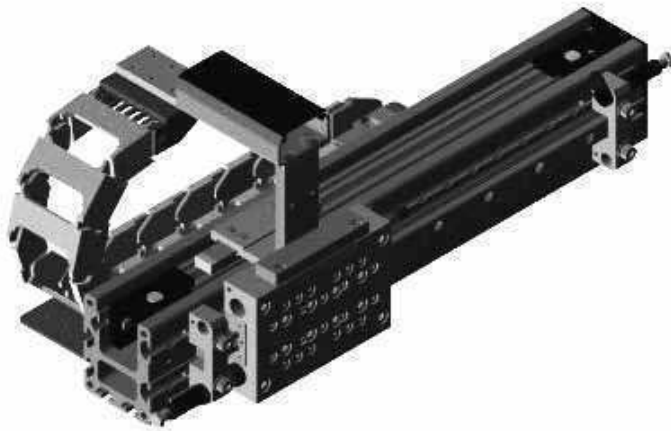
Scope of supply external



Linear Axes

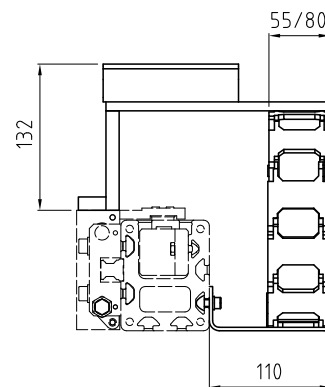
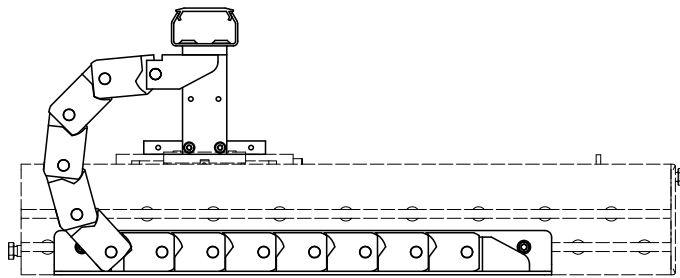
EFK Energy Management Chain

Energy management chain



Energy management chains EFK suitable for linear axes LM 6/8/10.

The EFK consists of energy management chain holder, energy chain, chain support and fastening elements. The EFK is available in the widths 55 and 80 mm. For strokes greater than 1230 mm, the EFK can be extended with energy chain and chain support



EFK suitable for LM 6 P / PE

Designation	Order number
EFK 55-6-150	300 9321
EFK 55-6-270	300 9322
EFK 55-6-390	300 9323
EFK 55-6-510	300 9324
EFK 55-6-630	300 9325
EFK 55-6-750	300 9326
EFK 55-6-990	300 9327
EFK 55-6-1230	300 9328

EFK 80-6-150	300 9329
EFK 80-6-270	300 9330
EFK 80-6-390	300 9331
EFK 80-6-510	300 9332
EFK 80-6-630	300 9333
EFK 80-6-750	300 9334
EFK 80-6-990	300 9335
EFK 80-6-1230	300 9336

Extension elements for strokes greater than 1230 mm

Designation	Hub	Order number
EFK 55	L = 120 mm	300 9356
EFK 80	L = 120 mm	300 9357
Chain support	L = 450 mm	300 9311

EFK suitable for LM 8 P / PV / PE / PEV

EFK suitable for LM 10 P / PE

Designation	Order number
EFK 55-8-150	300 9337
EFK 55-8-270	300 9338
EFK 55-8-390	300 9339
EFK 55-8-510	300 9340
EFK 55-8-630	300 9341
EFK 55-8-750	300 9342
EFK 55-8-990	300 9343
EFK 55-8-1230	300 9344

EFK 80-8-150	300 9345
EFK 80-8-270	300 9346
EFK 80-8-390	300 9347
EFK 80-8-510	300 9348
EFK 80-8-630	300 9349
EFK 80-8-750	300 9350
EFK 80-8-990	300 9351
EFK 80-8-1230	300 9352

Example order: EFK for LM 10 PE (stroke 3000)

Qty.	Designation	Order number
1	EFK 80-8-1230	300 9352
15	EFK 80 (15 x 120)	300 9357
4	Chain support	300 9311

See chapter Accessories