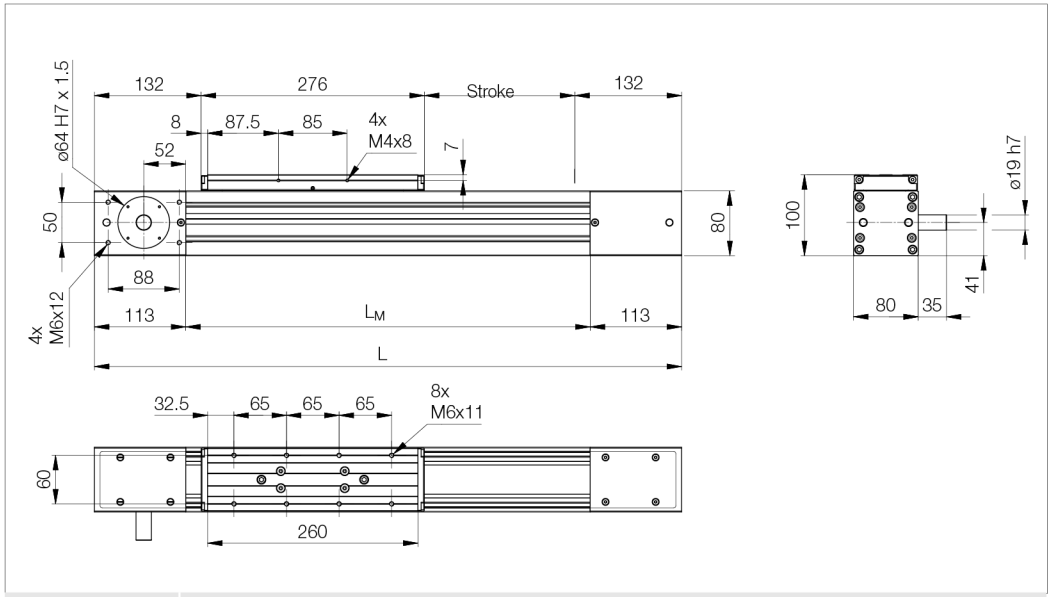
Linear module LM4...NZ...N with toothed belt drive



Nominal size	Dimensions			
Designation	L [mm]	L_M [mm]	Belt length [mm]	Weight [kg]
LM4...NZ...N	Stroke + 540	L – 226	2 x Stroke + 900	8.40 kg + 0.93 kg/100 mm Stroke

Variants/dimensions with protective strip (LM4...BZ...N) see catalogue

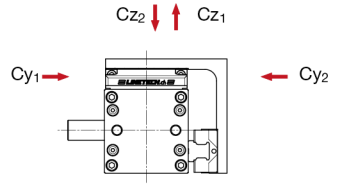
LM	Toothed belt drive				Axial load	Positioning accuracy	Repeating accuracy	Acceler-ation
Size	Type/division	Pinion d_3 x l_R [mm]	Stroke/rev [mm]	Tension [3] [mm/m]	F [N]	[µ/mm]	.../1000 mm [mm]	a_{max} [m/s²]
LM4...Z...	HTD5M	65.25 x 45	205	0.105	... [1]	200/1000 [2]	< 0.20 [2]	50.0 [1]

d_3 x l_R = pinion diameter x pinion width
1) depending on speed and load
2) backlash not factored in
3) belt tension/metre [mm/m] per 100 N tensile force

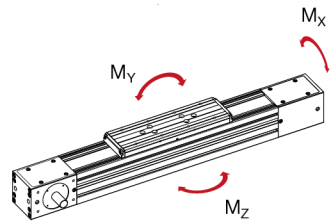
LM	Movement speed		Moments of inertia		Stroke max.	Steel strip	Feed and friction force	Moved mass
	Guide	Drive	Z / Y					
Type	v_{max} [m/s]	v_{max} [m/s]	I_Y [cm⁴]	I_Z [cm⁴]	[mm]		F_V [N]	m_b [kg]
LM4...Z...N	5.0	4)	131.2	197.8	7580	without	25.00	2.150
						with	35.00	2.165

4) for toothed belt drive, dependent on load and speed and permissible movement speed of the linear guide

Load ratings



Torques



Linear modul	Maximum permissible load [kN]				Maximum permissible torque [Nm]					
Type	static		dynamic		static			dynamic		
	$C_{y_{0\,1,2}}$	$C_{z_{0\,1,2}}$	$C_{y_{1,2}}$	$C_{z_{1,2}}$	M_{x_0}	M_{y_0}	M_{z_0}	M_x	M_y	M_z
LM4...Z...N	59.9	59.9	34.2	34.2	646	2 484	2 484	400	2 130	2 130

The determination of dynamic load ratings and torques is based on a 50,000 m stroke. If comparative values must be calculated for a 100,000 m stroke, the values for M_x, M_y, M_z and C must be divided by the factor 1.26.

With a view to serviceable life, loads of less than 20% of the dynamic load ratings have generally proved to be expedient.

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