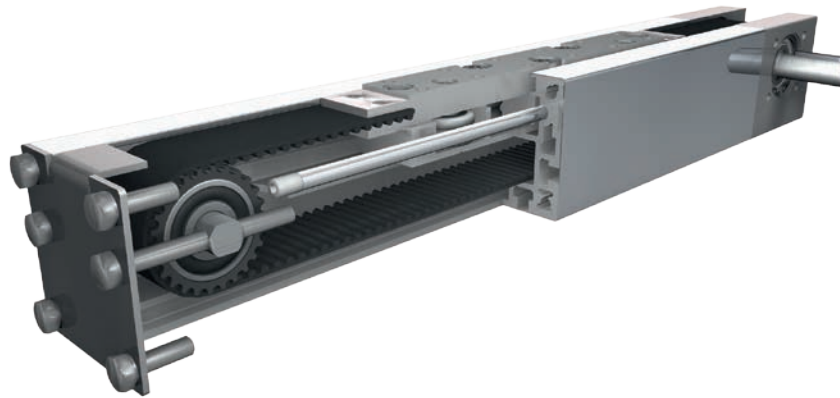


Positioning system LLZE 60

Belt drive



Function:

This unit consists of a square aluminium profile with an integrated roller guide and is covered by a stainless steel sheet (thickness 0.37mm, material 1.4301). The carriage is moved by means of an internal rotating toothed belt. On one end there is a pulley block with shaft(s). On the opposite end there is a plate with a retensioning device for the toothed belt.

Fitting position:

As required. Max. length 3.000 mm without joints.

Carriage mounting:

By tapped holes.

Unit mounting:

By T-slots and mounting sets. The linear axis can be combined with any T-slot profile.

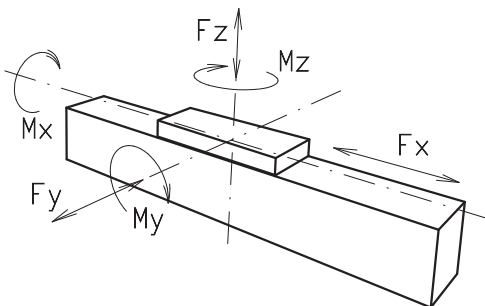
Belt performance:

HTD with steel reinforcement, no backlash when changing direction, repeatability ± 0,1 mm.

Carriage support:

The carriage runs on 5 rollers which can be adjusted and serviced at a central servicing position. Two hose connections enable relubrication of the positioning system.

Forces and torques



Size	60	
	static	dynamic
Forces/Torques		
F_x (N)	1073	960
F_y (N)	780	650
F_z (N)	1170	845
M_x (Nm)	20	13
M_y (Nm)	78	65
M_z (Nm)	52	39
All forces and torques related to the following:		
existing values	$\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$	
table values		
No-load torque		
Nm	0,6	
Speed		
(m/s) max	4	
Tensile force		
permanent (N)	1050	
0,2 s (N)	1150	
Geometrical moments of inertia of aluminium profile		
I_x mm ⁴	4,47x10 ⁵	
I_y mm ⁴	5,59x10 ⁵	
Elastic modulus N/mm ²	70000	

* referred to lifetime

Formula: LLZE

Driving torque:

$$M_o = \frac{F \cdot P \cdot S_s}{2000 \cdot \pi} + M_{leer}$$

$$P_o = \frac{M_o \cdot n}{9550}$$

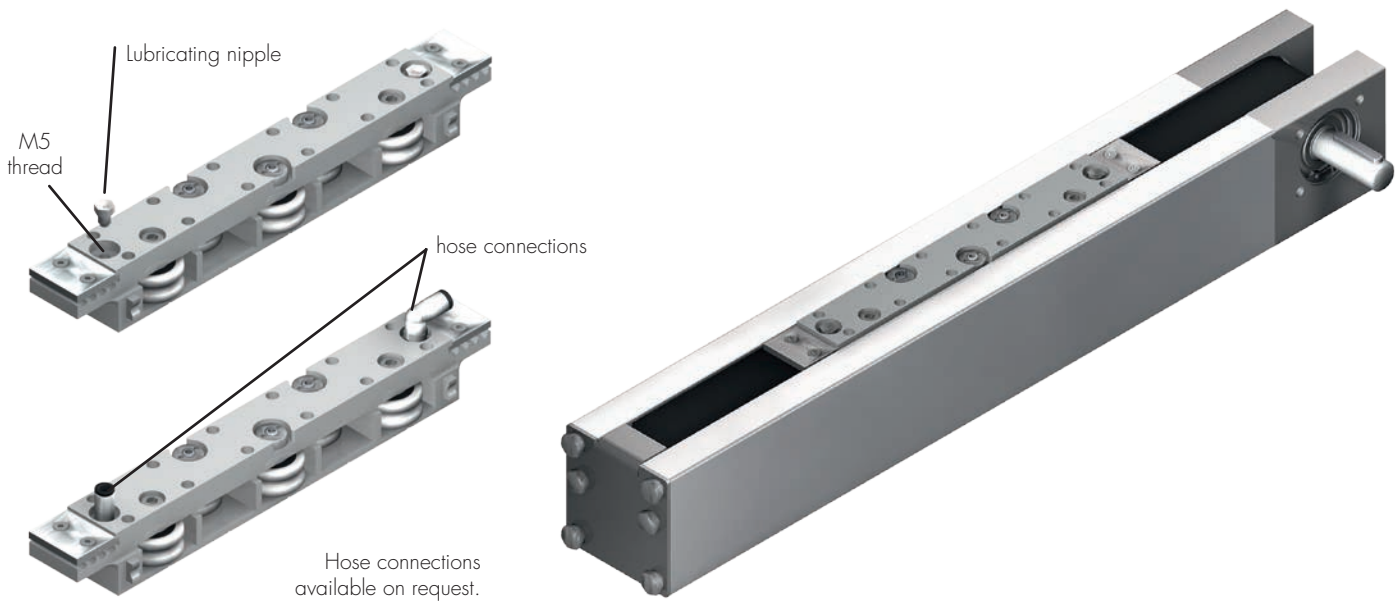
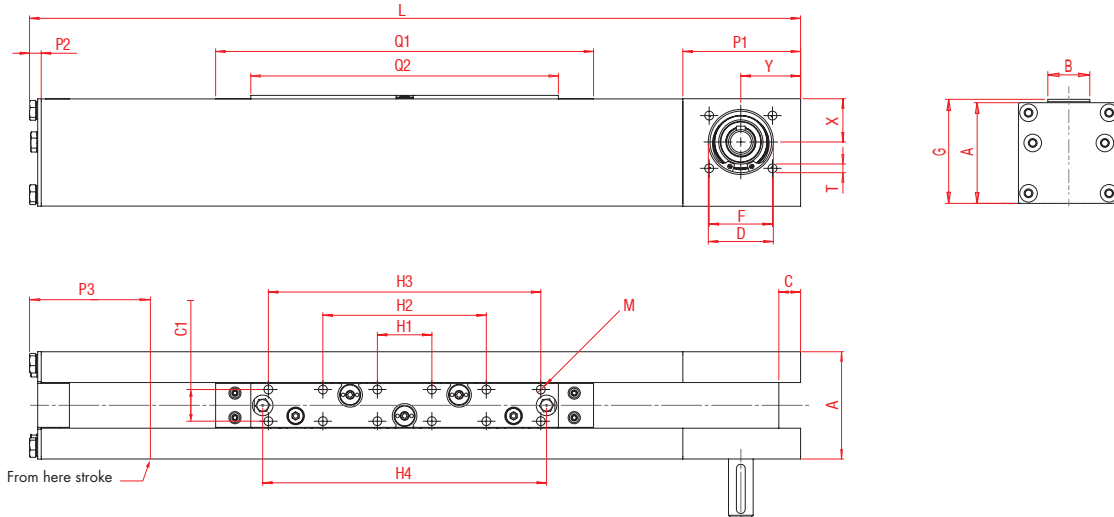
- F = force (N)
- P = pulley action perimeter (mm)
- S_s = safety factor 1,2 ... 2
- M_{leer} = no-load torque (Nm)
- n = rpm pulley (min⁻¹)
- M_o = driving torque (Nm)
- P_o = motor power (KW)

$$f = \frac{F \cdot L^3}{E \cdot I \cdot 192}$$

- f = deflection (mm)
- F = load (N)
- L = free length (mm)
- E = elastic modulus 70000 (N/mm²)
- I = second moment of area (mm⁴)

Positioning system LLZE 60

Dimensions (mm)

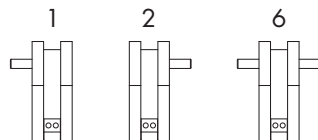


*For slide nuts refer to chapter 2.2 page 2

Size	Basic length L	A	B	C	C1	D	F	G	H1	H2	H3	H4	M	P1	P2	P3	Q1	Q2	T for	X	Y	Basic weight	Weight per 100 mm
LLZE 60	339	61	26	12,4	18	37	36	63	31	93	155	161,5	M6x6	67	7	56	215	175	M6	24,6	34	2,99 kg	0,49 kg

0 Choice of guide body profile:
(0) Version with corrosion-protected components

1 Drive version:



Size	Shaft	Feather key
60	14 x 35	5x5x28

Belt table:

Code No.	Size	Belt	mm/rev.	Number of teeth
0 3	60	5M30	130	26

LLZE 60 1 0 0 1 0 3 1 01500 — Basic length + stroke = total length
Pos. 1 2 3 4 5 6 7

Sample ordering code:
LLZE60, standard body profile, drive version 1, 1161 mm stroke

11.1