

Belt drive

**Function:**

This unit consists of a square aluminium profile with an integrated rail 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). The opposite front face is provided with a plate containing a tensioning device for the timing belt.

Fitting position:

As required. Max. length 3.000 mm without joints.

Carriage mounting:

By tapped holes.

Unit mounting:

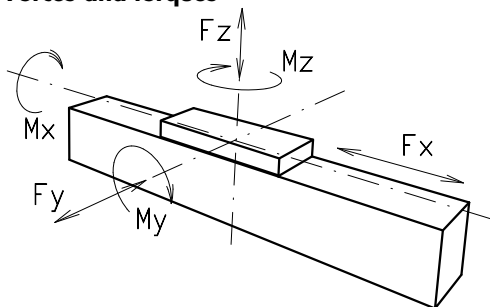
By T-slots and mounting sets, bores through the cover. The linear axis can be combined with any T-slot profile.

Belt performance:

HTD with steel reinforcement, no backlash when changing direction, repeatability $\pm 0,1$ mm.

Carriage support:

In the standard version the carriage is positioned on two runner blocks which can be readjusted and maintained at each central servicing position. Two grease nipples at the carriage enable relubrication of the positioning system.

Forces and torques

Size	60	
permitted dyn. Forces*	5000 km	10000 km
F_x (N)	894	800
F_y (N)	1410	990
F_z (N)	3520	2500
M_x (Nm)	33	23
M_y (Nm)	104	73
M_z (Nm)	100	70
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	5	
Tensile force		
permanent (N)	900	
0,2 s (N)	1000	
Geometrical moments of inertia of aluminium profile		
I_x mm ⁴	4,37x10 ⁵	
I_y mm ⁴	5,78x10 ⁵	
Elastic modulus N/mm ²	70000	

For life-time calculation use our homepage.

* referred to life-time

Driving torque:

$$M_o = \frac{F \cdot P \cdot S_i}{2000 \cdot \pi} + M_n$$

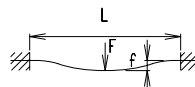
$$P_o = \frac{M_o \cdot n}{9550}$$

F = force (N)
 P = pulley action perimeter (mm)
 Si = safety factor 1,2 ... 2
 Mn = no-load torque (Nm)
 n = rpm pulley (min⁻¹)
 Mo = driving torque (Nm)
 Po = motor power (KW)

Deflection:

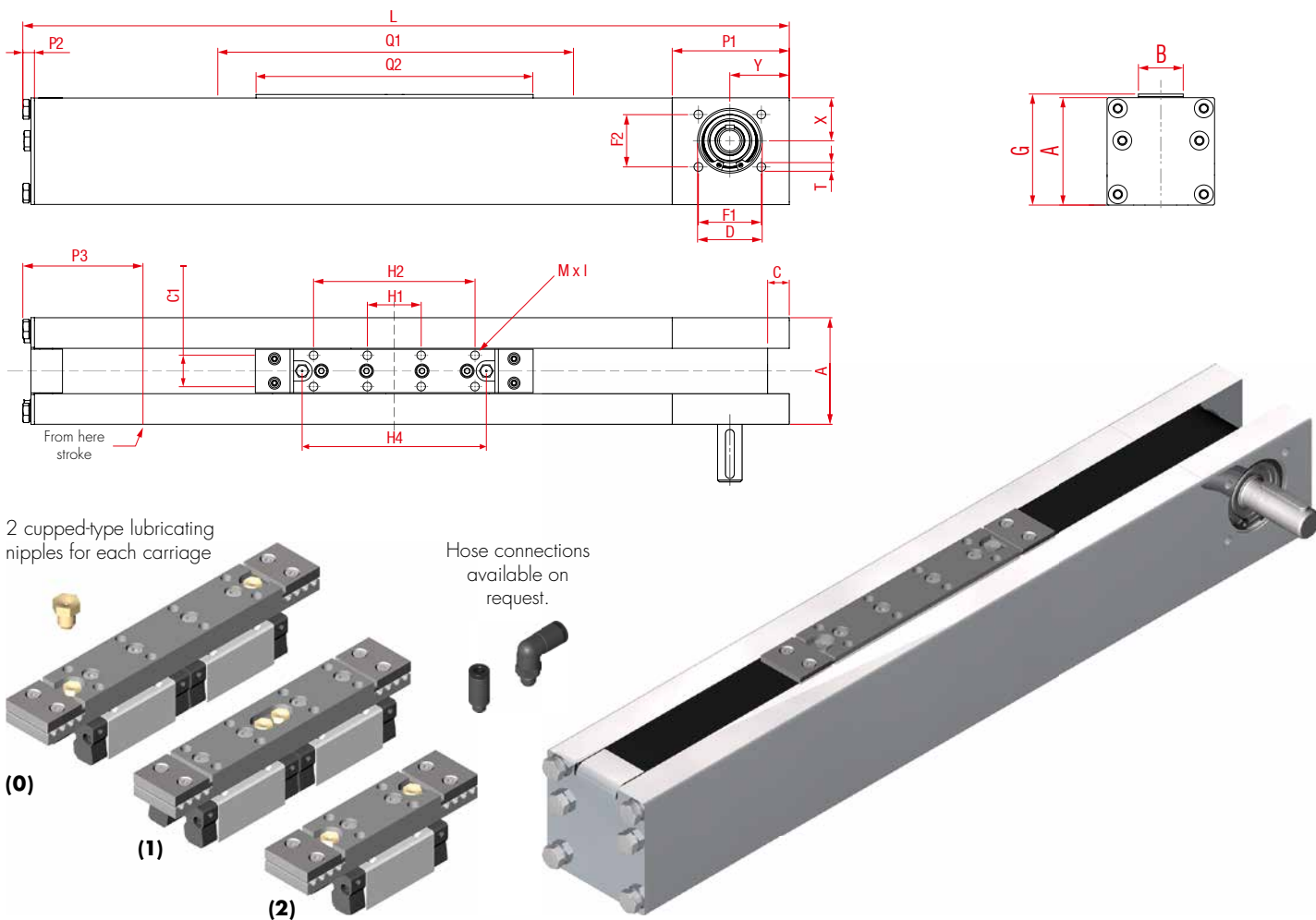
$$f = \frac{F \cdot L^3}{E \cdot I \cdot 192}$$

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



Positioning system LSZE 60

Dimensions (mm)



2 cupped-type lubricating nipples for each carriage

Hose connections available on request.

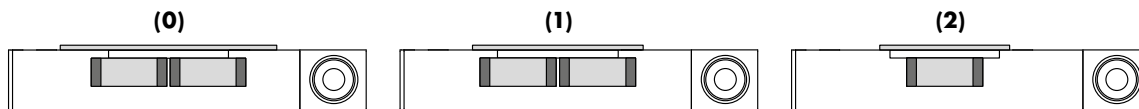
*For slide nuts refer to chapter 2.2 page 2

Size	Basic length L	A	B	C	C1	D \varnothing $\pm 0,05$	F1	F2	G	H1	H2	H4	M x l	P1	P2	P3	Q1	Q2	T	X	Y	Basic weight	Weight per 100 mm
LSZE 60	284	61	25	12,4	18	37	36	30	63	31	93	106	M6x10	67	7	56	160	116	M6	24,6	34	3,3 kg	0,55 kg

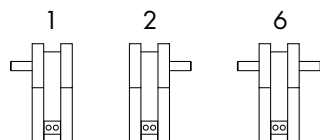
0 Choice of guide body profile:
 (0) Version with corrosion-protected components

0 Choice of carriages:

Carriage	Q1	L	Q2	H1	H2	H4
Version (0)	160	284	116	31	93	106
Version (1)	140	264	96	32	84	10
Version (2)	100	224	56	31	-	48



1 Drive version:



Belt table:

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

Shaft dimensions:

Size	Shaft	Feather key
60	\varnothing 14 h6 x 35	5x5x28

LSZE 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:
 LSZE60, standard body profile, drive version 1, 1218 mm stroke

15.1