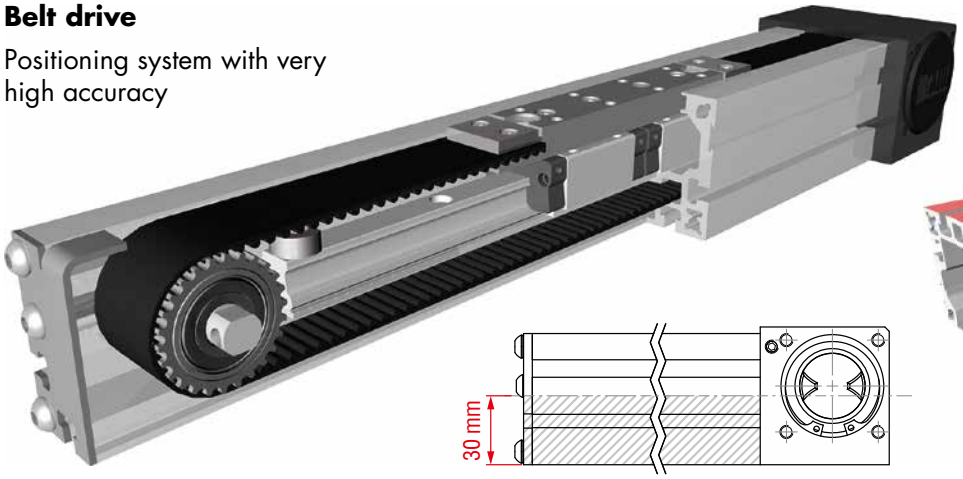
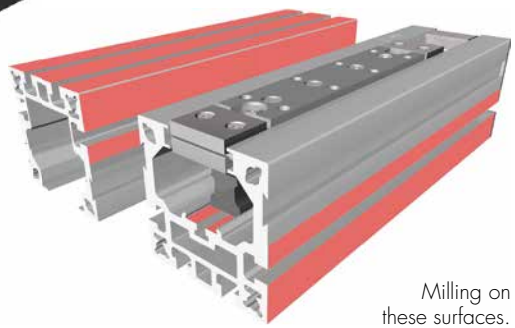
Positioning system LSZ 60 HP

Belt drive

Positioning system with very high accuracy





Milling on these surfaces.

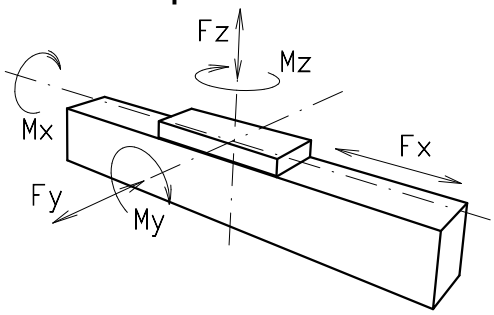
Function:

The guide body consists of an aluminium square profile which is surface-milled before assembly (marked red in the picture). The eloxal is removed in these areas. Thanks to these machining operations we achieve the highest level of accuracy for the positioning systems and are able to remove fine unevennesses and deviations.

The guide body consists of an aluminium square profile with an integrated rail guide. The carriage is moved by means of a revolving interior timing belt. At the front face there is a timing belt deflection unit with integrated coupling claws integrated on two sides. The opposite front face is provided with a plate containing a tensioning device for the timing belt.

Mounting position: Variable, max. one-piece-length: 2.000 mm.
Carriage connection: By threaded holes.
Fixation: By T-slots and mounting sets. The linear axis can be combined with any T-slot profile.
Timing belt: HTD with reinforcing steel mesh, no backlash when changing direction, repeatability ± 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)	1073	960
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 / table values

$$\frac{Fy}{Fy_{dyn}} + \frac{Fz}{Fz_{dyn}} + \frac{Mx}{Mx_{dyn}} + \frac{My}{My_{dyn}} + \frac{Mz}{Mz_{dyn}} \leq 1$$

No-load torque	
Nm	0,6
Speed	
(m/s) max	5
Tensile force	
permanent (N)	1050
0,2 s (N)	1150
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:

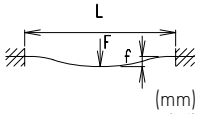
$$M_a = \frac{F * P * S_i}{2000 * \pi} + M_n$$

$$P_a = \frac{M_a * n}{9550}$$

F = force (N)
P = pulley action perimeter (mm)
Si = safety factor 1,2 ... 2
M_n = no-load torque (Nm)
n = rpm pulley (min^{-1})
M_a = driving torque (Nm)
P_a = motor power (KW)

Deflection:

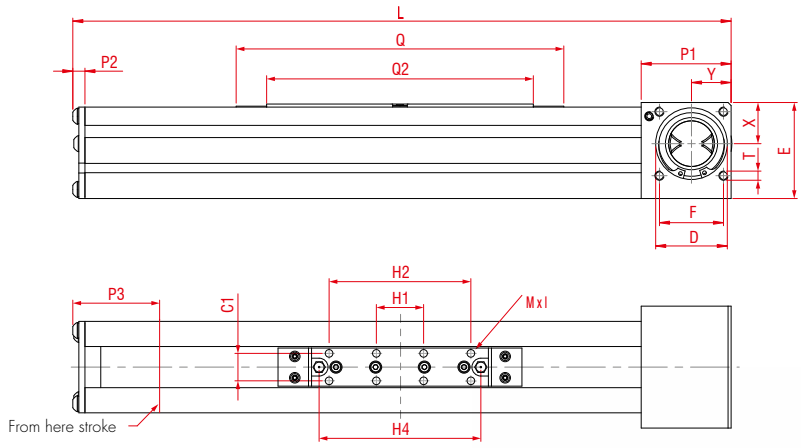
$$f = \frac{F * L^3}{E * I * 192}$$



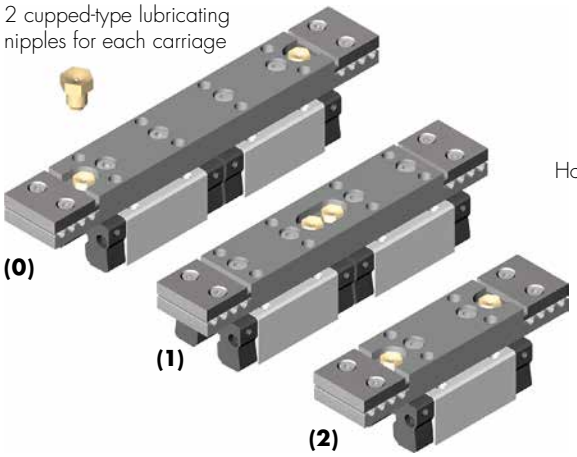
f = deflection (mm)
F = load (N)
L = free length (mm)
E = elastic modulus 70000 (N/mm^2)
I = second moment of area (mm^4)

Positioning system LSZ 60 HP

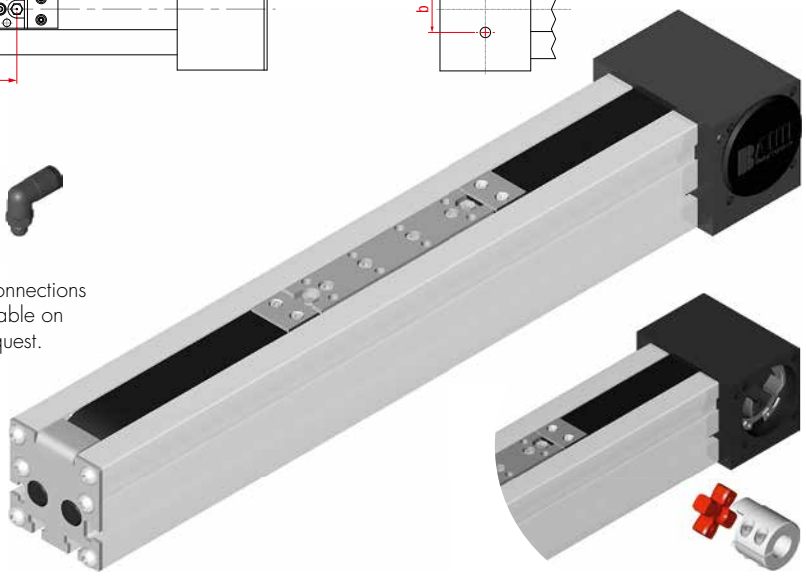
Dimensions (mm)



2 cupped-type lubricating nipples for each carriage



Hose connections available on request.



*For slide nuts refer to chapter 2.2 page 2

All milled surfaces without anodizing.

Size ❐	A	AB	B	C1	C2	C3	D -0,05	E	F ❐	G	MxI	N for	P1	P2	P3	T	X	Y	a	b	c	Basic weight	Weight per 100 mm
LSZ 60 **HP**	80	60	25	18	24	19,5	47	63	42	61	M6x10	M5	59	6	55	M6	27	26	29,5	30	M8	2,67 kg	0,46 kg

0 **Choice of guide body profile:**

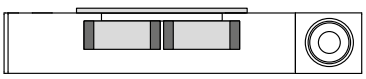
(0) Standard

Carriage	L	Q	Q2	H1	H2	H4
Version (0)	274	160	116	31	93	106
Version (1)	254	140	96	32	84	10
Version (2)	214	100	56	31	-	48

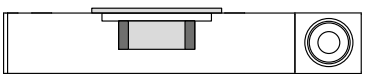
0 **Choice of carriages:**

(0)

(1)

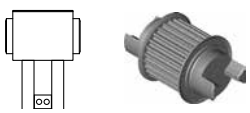


(2)



0 **Drive version:**

0



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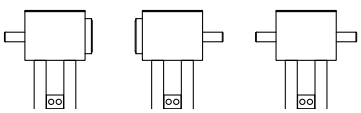

Belt table:

Code No.		Size	Belt	mm/rev.	Number of teeth
0	3	**60**	5M 30	130	26

Shaft dimensions / Coupling claw:

Size	Shaft	Feather key	Coupling
60	14 h6 x 35	5x5x28	14

LSZ	60 HP	1	0	0	0	0	3	1	01500
Pos.		1	2	3	4	5	6	7	

Basic length + stroke = total length

Sample ordering code:
LSZ60HP, standard body profile, standard carriage , double-sided coupling claw, 1226 mm stroke