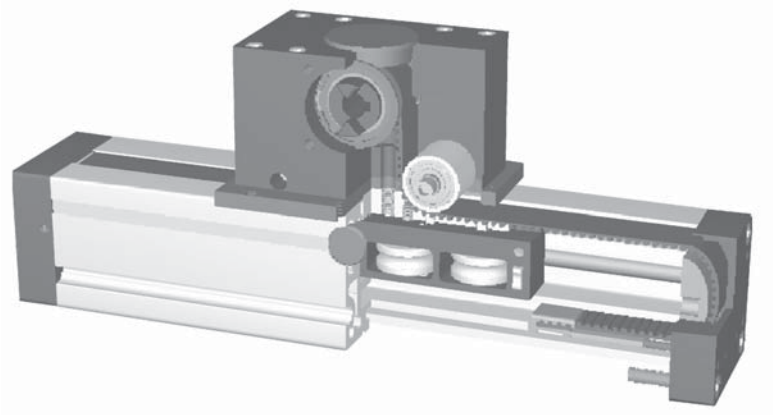
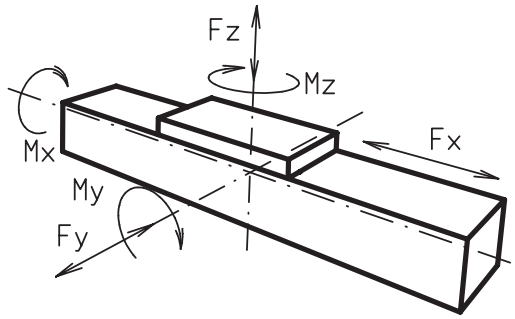


Function:

This linear unit consists of an aluminium square profile with hardened steel guide rods. The carriage which has internal linear ball bearings that can be adjusted free of play is driven along the guide rods by a timing belt. The pulley has maintenance-free ball bearings. Belt tension can be readjusted by a simple tensioning device in one of the end blocks. This device can also be used for symmetrical adjustment of two or more linear units running parallel.

Fitting length: As required. Max. length 6,000 mm single/extrusion.
Carriage mounting: T-slots
Unit mounting: T-slots or tapped holes in the bearing block
Belt type: HTD with steel reinforcement, no backlash when changing direction, repeatability: ± 0,1 mm.

Forces and torques



Size	60		80		100	
Forces/Torques	static	dynamic	static	dynamic	static	dynamic
F_x (N)	894	800	1900	1800	4000	3800
F_y (N)	600	500	1600	1240	1900	1500
F_z (N)	900	650	1500	1200	2100	1700
M_x (Nm)	15	10	50	40	85	60
M_y (Nm)	60	50	100	80	140	110
M_z (Nm)	40	30	75	60	110	90
No-load torque						
Nm	0,6		0,8		1,2	
Speed						
(m/sec) max	4		6		7	
Tensile force						
permanent (N)	900		1900		4000	
0,2 sec (N)	1000		2090		4300	
Geometrical moments of inertia of aluminium profile						
I_x mm^4	4,3x10^5		16,5x10^5		43,0x10^5	
I_y mm^4	4,8x10^5		18,7x10^5		48,8x10^5	
E-Modul N/mm^2	70000		70000		70000	

Formula: QLZ

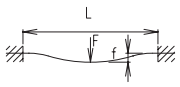
Driving torque:

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

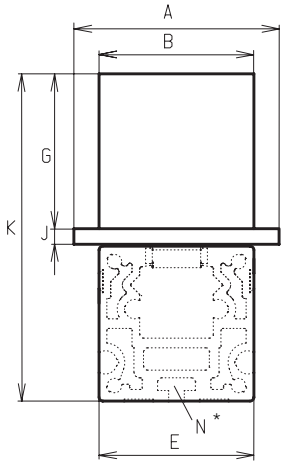
$$P_a = \frac{M_a*n}{9550}$$

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

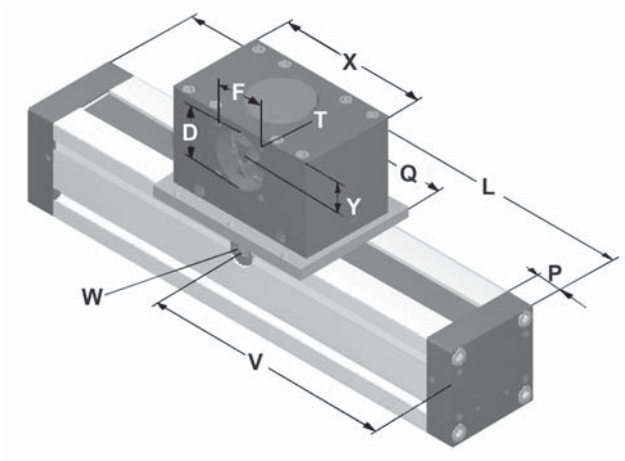
$$f = \frac{F*L^3}{E*I*192}$$



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



Increasing the carriage length will increase the basic length by the same amount.



*For T-nuts refer to the accessory section W = servicing position

Size	Basic length L	A	B	D	E	F	G	J	K	N	P	Q	T	X	Y	Basic weight	Additional Weight per 100 mm
QLSZ 60	TBD	TBD	60	37	60	32	65	8	133	M5	TBD	TBD	M5	110	20	TBD	0,39 kg
QLSZ 80	200	106	80	47	80	42	80	8	169	M6	24	144	M6	130	30	5,2 kg	0,78 kg
QLSZ 100	TBD	TBD	100	68	100	60	100	10	210	M10	TBD	TBD	M8	180	39	TBD	1,45 kg

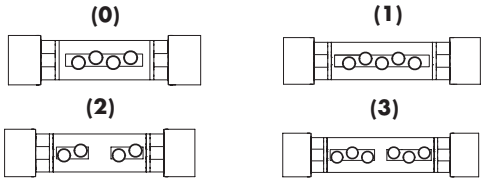
Choice of guide body profile:

0

(0) standard **(1)** stainless guide rods **(2)** stainless guide rods and screws **(3)** stainless guide rods, rollers and screws

Choice of carriages:

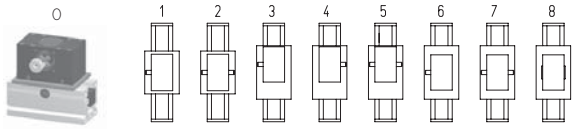
0



Size	Version 0		Version 1		Version 2		Version 3	
	Q	L	Q	L	Q	L	Q	L
60	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
80	144	200	194	240	>144	>200	>244	>290
100	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD

Coupling - Selection of shaft mounting:

0



Size	Shaft ø h6 x length	Key
60	TBD	TBD
80	14 x 35	5x5x28
100	TBD	TBD

9 is as 0, but with jaw couplings on both sides. The standard version is supplied without shaft. A shaft can be retrofitted by inserting in the pulley bore and securing with 2 locking rings.

Belt table

Code No.		Size	Belt	Pulley	
				mm/rev.	Number of teeth
TBD	TBD	TBD	TBD	TBD	TBD
0	**7**	80	5M25	130	26
TBD	TBD	TBD	TBD	TBD	TBD

Basic length + stroke = total length

QLSZ	80	1	0	0	0	0	7	1	01500
	Pos.	1	2	3	4	5	6	7	

Sample ordering code:
QLSZ80, standard body profile, standard carriage, jaw coupling on one side, 1300 mm stroke