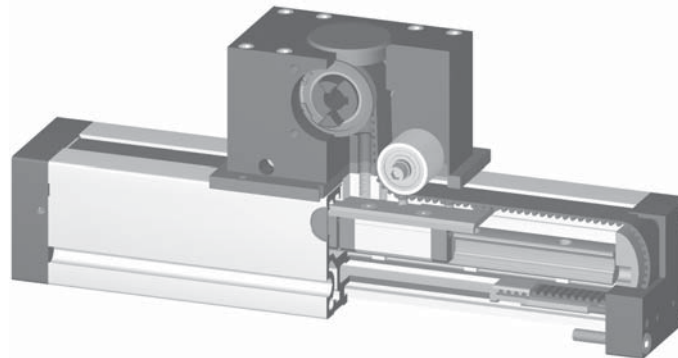


Modular Linear Actuator QSSZ 60, 80, 100

Profile Rail – Static Belt Drive

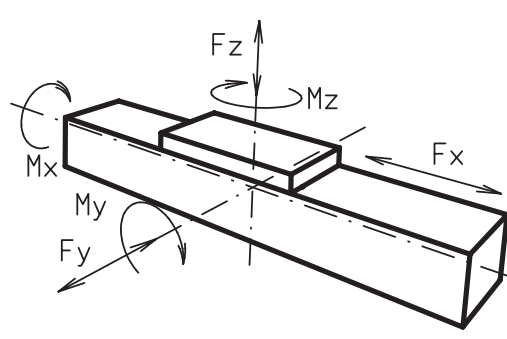


Function:

This linear unit consists of a square aluminium profile with integrated profile rail. The carriage which has runner blocks is driven by a timing belt. Each standard pulley includes a jaw coupling on one side and is equipped with maintenance-free ball bearings. Belt tension can be adjusted by a simple screw adjustment device in the carriage. 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 performance:** HTD with steel reinforcement, no backlash when changing direction, repeatability $\pm 0,1$ mm.
- Carriage support:** The carriage runs on 4 rollers which can be adjusted and serviced

5

Forces and torques	Size	60		80		100		
	Forces/Torques	static	dynamic	static	dynamic	static	dynamic	
	F_x (N)	390	350	894	800	1900	1800	
	Dyn. load factor C (N)*	21870	12640	39530	30460	49250	36940	
	$F_z = F_y = C$ (N)*	21870	12640	39530	30460	49250	36940	
	M_x (Nm)*	210	119	502	388	696	518	
	$M_y = M_z$ (Nm)*	634	366	1482	1142	2093	1569	
	No-load torque							
	Nm	1,0		1,4		1,8		
	Speed							
	(m/sec) max	5		5		5		
	Tensile force							
permanent (N)	390		900		1900			
0,2 sec (N)	480		1000		2090			
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			
Elastic modulus N/mm ²	70000		70000		70000			

* The given values refer to a nominal lifetime of 100.000 m

Formula: QSSZ

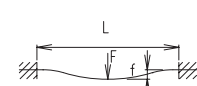
Driving torque:

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

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

- F = force (N)
- P = pulley action perimeter (mm)
- 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)

Deflection:

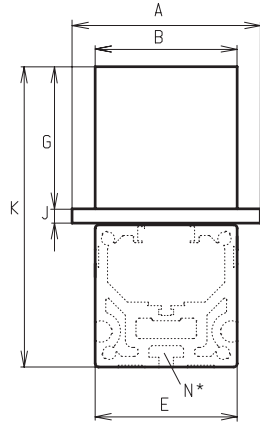
$$f = \frac{F \cdot L^3}{E \cdot I \cdot 192}$$


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

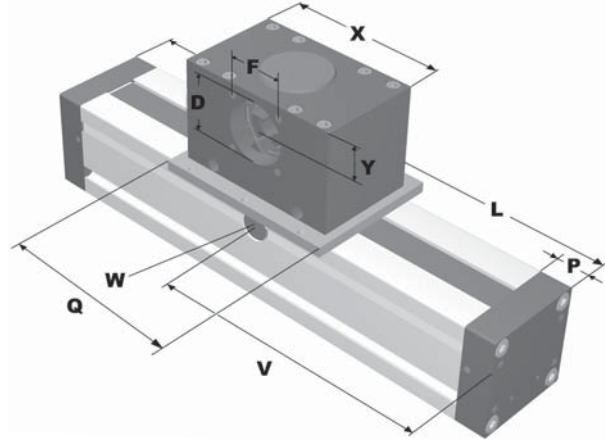
Nominal lifetime:

$$L = \left(\frac{C}{F} \right)^3 \times 10^5$$

- L = Lifetime in meter
- C = Dynamic load factor (N)
- F = Middle load (N)



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

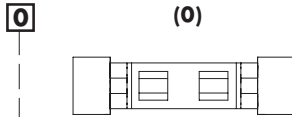


*For T-nuts refer to the accessory section W = servicing position

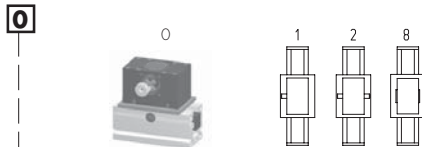
Size	Basic length L	A	B	D	E	F	G	J	K	N	P	Q	T	X	Y	Basic weight	Additional Weight per 100 mm
QSSZ 60	TBD	TBD	60	37	60	32	65	8	133	M 5	TBD	TBD	M 5	110	20	TBD	TBD
QSSZ 80	200	106	80	47	80	42	80	8	169	M 6	24	144	M 6	130	30	5,7 kg	1,02 kg
QSSZ 100	TBD	TBD	100	68	100	60	100	10	210	M 10	TBD	TBD	M 8	180	39	TBD	TBD

0 Choice of guide body profile:
(0) standard (1) stainless screws

Choice of carriages:



Coupling - Selection of shaft mounting:



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
0 7	80	5M2.5	130	26
TBD	TBD	TBD	TBD	TBD

Basic length + stroke = total length

QSSZ 80 1 0 0 0 0 7 1 01500

Pos. 1 2 3 4 5 6 7

Sample ordering code:
QSSZ80, standard body profile, standard carriage, jaw coupling on one side, 1300 mm stroke

