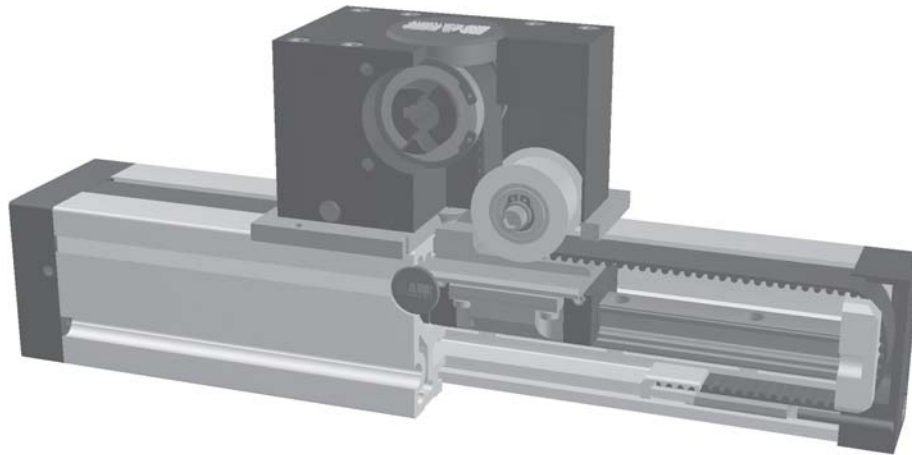


Positioning system QSSZ 60, 80, 100

Belt drive



Function:

This linear unit consists of a square aluminium profile with integrated rail guidance. The carriage which has runner blocks is driven by a timing belt. Each standard pulley includes a coupling claw on one side and is equipped with maintenance-free ball bearings. Belt tension can be readjusted 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 position:

As required. Max. length 3.000 mm without joints.

Carriage mounting:

By T-slots.

Unit mounting:

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

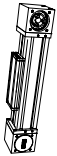
Belt performance:

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

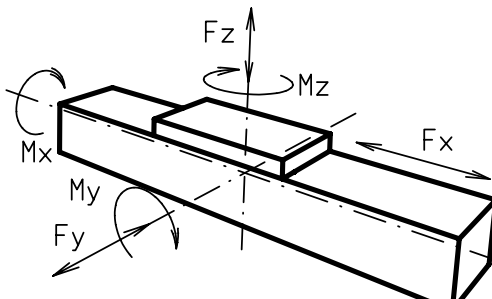
Carriage support:

In the standard version, the carriage runs on 4 runner blocks which can be serviced at a central servicing position. For longer carriages the number of runner blocks can be increased.

6.1



Forces and torques	Size	60		80		100	
	permitted dyn. Forces*	5000 km	10000 km	5000 km	10000 km	5000 km	10000 km
F_x (N)		390	350	894	800	1900	1800
F_y (N)		274	218	567	450	916	727
F_z (N)		2991	2374	4955	3933	7146	5671
M_x (Nm)		18	14	41	33	70	56
$M_y = M_z$ (Nm)		54	43	121	96	197	157
All forces and torques related to the following:							
existing values		$\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$					
values of table							
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	



* referred to life-time

Formula: QSSZ

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)

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)

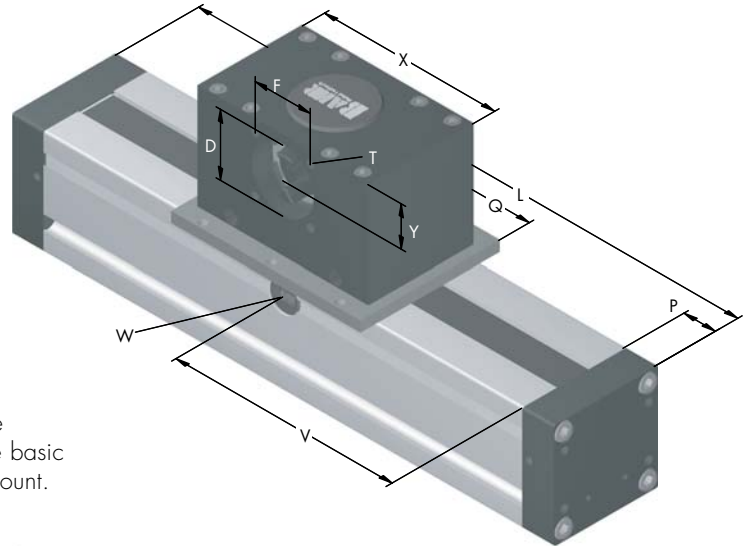
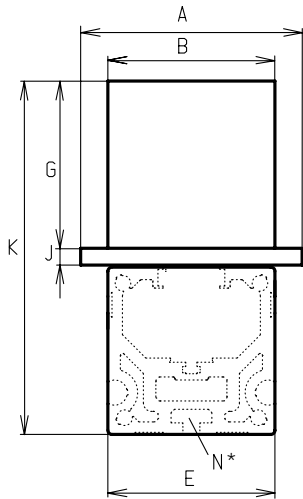
Nominal lifetime:

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

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



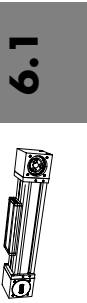
Positioning system QSSZ 60, 80, 100



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

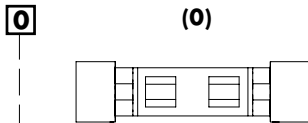
*For slide-nuts refer to chapter 2.2 page 2 $V = Q + 100 \text{ mm}$ $W = \text{servicing position}$

Size	Basic length L	A	B	D	E	F	G	J	K	N for	P	Q	T	X	Y	Basic weight	Weight per 100 mm
QSSZ 60																	
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																	

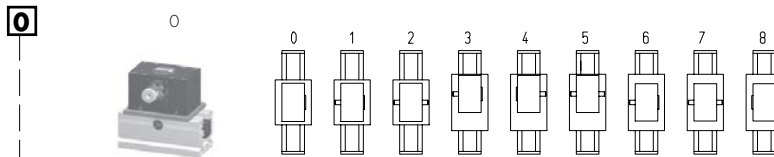


Choice of guide body profile:
 (0) Standard (1) stainless screws

Choice of carriages:



Coupling - Selection of shaft mounting:



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

8 is as 0, but with coupling claws 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
0 7	80	5M25	130	26

Basic length + stroke = total length

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

For additional accessories refer to chapter 2.2 – 4.2

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

