

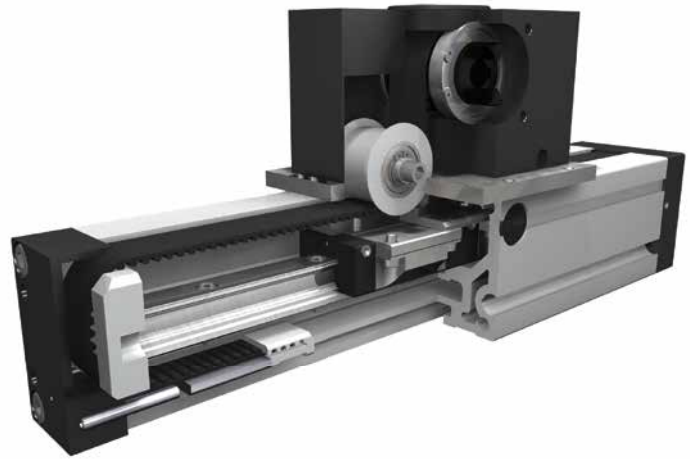
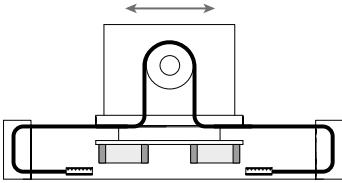
Linear system QSSZ 60, 80



BELT DRIVE

Ω OMEGA SYSTEM

CLEAN ROOM



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 2 runner blocks which can be serviced at a central servicing position. For longer carriages the number of runner blocks can be increased.

Forces and torques	Size	60		80	
	permitted dyn. forces*	5000 km	10000 km	5000 km	10000 km
	F _x (N)	97	87	223	200
	F _y (N)	350	240	890	630
	F _z (N)	880	625	2100	1500
	M _x (Nm)	8	6	26	18
	M _y (Nm)	26	18	77	55
	M _z (Nm)	25	17	74	52
	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	1,0		1,4		
Speed					
(m/s) max	3		3		
Tensile force					
permanent (N)	Lifetime calculation see the internet				
Geometrical moments of inertia of aluminium profile					
I _y mm ⁴	4,3x10 ⁵		14,3x10 ⁵		
I _z mm ⁴	5,8x10 ⁵		18,7x10 ⁵		
Elastic modulus N/mm ²	70000		70000		

For life-time calculation use our homepage.

* referred to life-time

Driving torque:

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

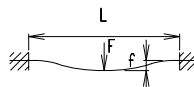
$$P_o = \frac{M_o \cdot n}{9550}$$

- F = force (N)
- P = pulley action perimeter (mm)
- S_i = safety factor 1,2 ... 2
- M_n = no-load torque (Nm)
- n = rpm pulley (min⁻¹)
- M_o = driving torque (Nm)
- P_o = motor power (KW)

Deflection:

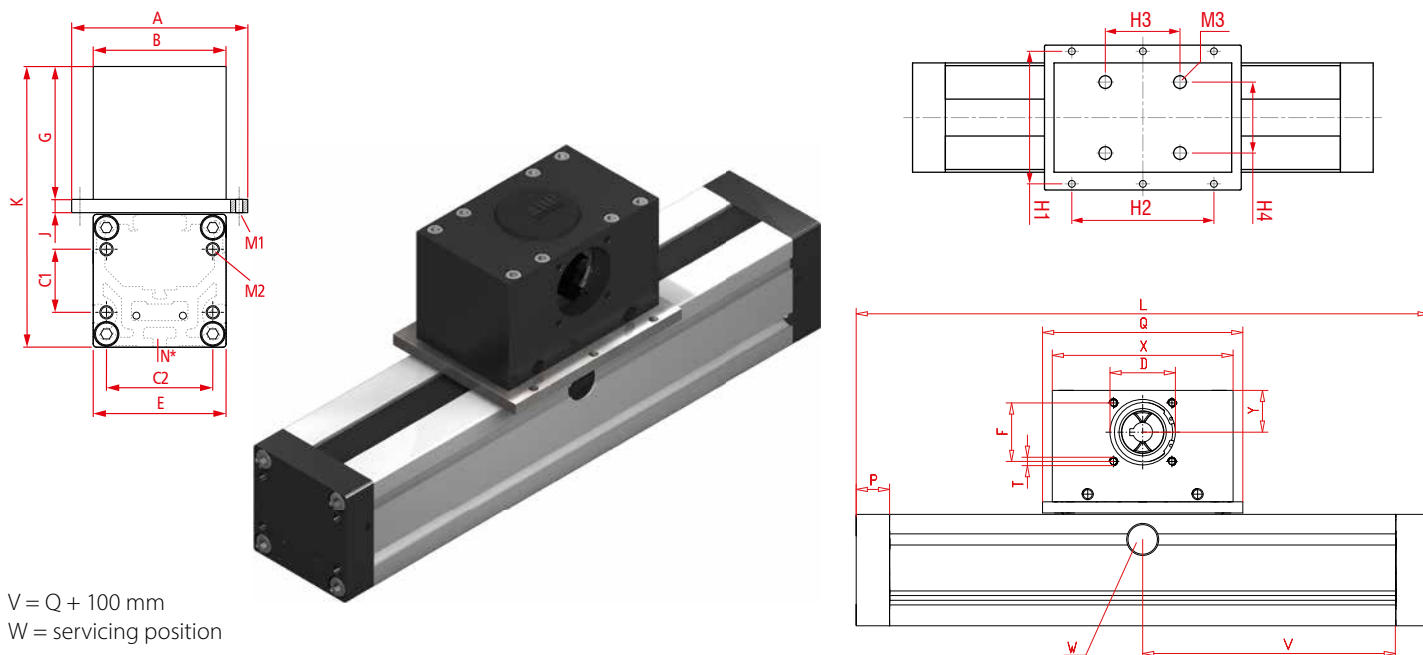
$$f = \frac{F \cdot L^3}{E \cdot I \cdot 192}$$

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



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Dimensions (mm)



V = Q + 100 mm
W = servicing position

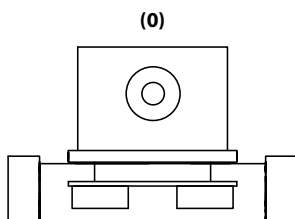
*For slide nuts refer to chapter 2.2 page 2

Size	Basic length L	A	B	C1	C2	D -0,05	E	F	G	J	K	N for	P	Q	T	X	Y	Basic weight	Weight per 100 mm
QSSZ 60	168	60	60	28	48	37	60	32	65	7,50	134,5	M 5	20	124	M 5	110	20	3,30 kg	0,47 kg
QSSZ 80	200	106	80	38	62	47	80	42	80	8	169	M 6	24	144	M 6	130	30	5,90 kg	1,02 kg

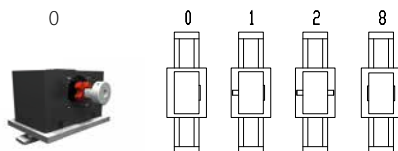
- 0** Choice of guide body profile:
 (0) Standard (1) corrosion-protected screws
 (4) expanded corrosion-protected version (depending on the availability of components)

Size	H1	H2	H3	H4	M1	M2	M3
QSSZ 60	---	---	60	45	---	M6	M8
QSSZ 80	97	104	---	---	M6	M8	---

- 0** Choice of carriages:



- 0** Drive version:



Size	Shaft ø h6 x length	Key
60	10 x 27	3x3x25
80	14 x 35	5x5x28

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 it into the pulley bore and securing it with 2 locking rings.

Belt table / Coupling claw:

Code No.	Size	Belt	Pulley		Coupling
			mm/rev.	Number of teeth	
0 3	60	5M15	100	20	9
0 7	80	5M25	130	26	14

QSSZ 80 1 0 0 0 0 7 1 1500 — Basic length + stroke = total length

Pos. 1 2 3 4 5 6 7

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

For additional accessories refer to chapter 2.2

