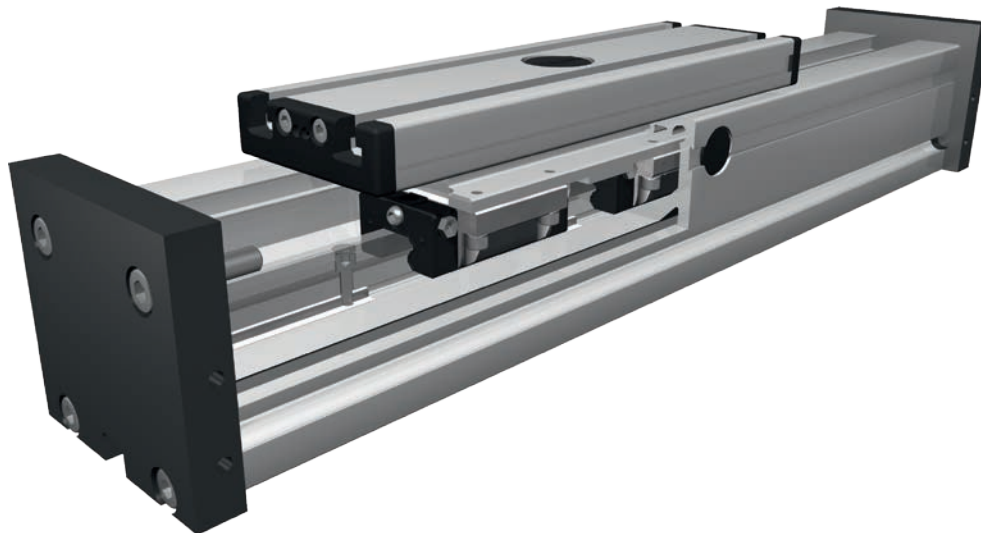


Positioning system QSR 60, 80, 100, 125

Specifications

Rail guide



6.1

Function:

This unit consists of a square aluminium profile with an integrated ball rail. This unit can be driven by a pneumatic cylinder or other additional drives or it serves as a load carrying slide unit.

Fitting position:

As required. Max. length 6.000 mm without joints.

Carriage mounting:

By T-slots.

Unit mounting:

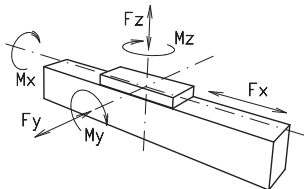
By T-slots and mounting sets. The linear axis can be combined with any T-slot profile.

Carriage support:

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



Forces and torques



Size	60		80		100		125	
	5000 km	10000 km	5000 km	10000 km	5000 km	10000 km	5000 km	10000 km
permitted dyn. forces*								
F _x (N)	-	-	-	-	-	-	-	-
F _y (N)	1410	990	3570	2550	4080	2900	6892	5470
F _z (N)	3520	2500	8500	6050	10300	7270	17205	13659
M _x (Nm)	33	23	107	75	142	101	288	228
M _y (Nm)	104	73	310	222	439	311	1110	881
M _z (Nm)	100	70	296	210	412	292	1012	803
C (N)	7800		18800		22800		31700	
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 $\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$								
Speed								
(m/s) max	5		5		5		5	
Geometrical moments of inertia of aluminium profile								
I _x mm ⁴	4,3x10 ⁵		16,5x10 ⁵		43,0x10 ⁵		74,9x10 ⁵	
I _y mm ⁴	4,8x10 ⁵		18,7x10 ⁵		48,8x10 ⁵		106,5x10 ⁵	
Elastic modulus N/mm ²	70000		70000		70000		70000	

* referred to lifetime

Formula: QSR

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)

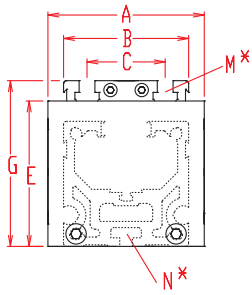
Nominal lifetime:

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

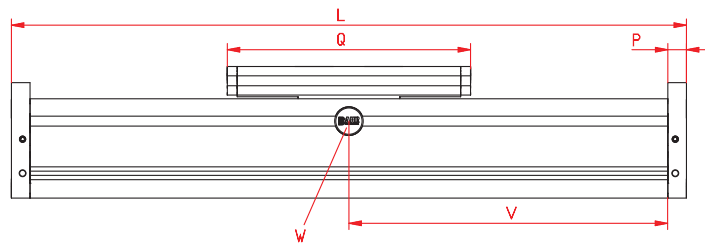
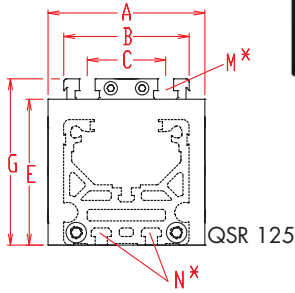
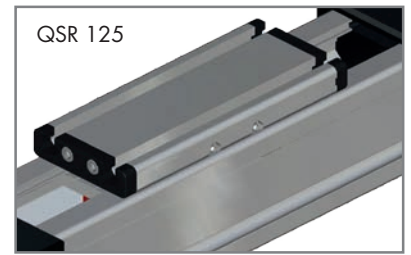
- L = Lifetime in meters
- C = Dynamic load factor (N)
- F = Medium load (N)

Positioning system QSR 60, 80, 100, 125

Dimensions (mm)



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	C	E	G	N for	M for	P	Q	Basic weight	Weight per 100 mm
QSR 60	205	80	60	36	60	79	M 5	M 6	12	177	1,8 kg	0,50 kg
QSR 80	270	100	80	50	93	106	M 6	M 8	17	232	4,9 kg	0,96 kg
QSR 100	315	130	100	66	110	129	M 10	M 10	20	268	8,2 kg	1,71 kg
QSR 125	360	160	125	82	134,5	157,5	M 10	M 12	25	300	15,1 kg	2,11 kg

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

- 0** Choice of carriages:



Size	Version 0		Version 1	
	Q	L	Q	L
60	177	205	152	180
80	232	270	196	240
100	268	315	260	310
125	300	360	260	320

1500 Basic length + stroke = total length

For additional accessories refer to chapter 2.2 – 3.2

QSR 80 0 0 0 0 0 0 0 0 0 1500

Pos. 1 2 3 4 5 6 7

Sample ordering code:

QSR80 with standard body profile, standard carriage and 1230 mm stroke

