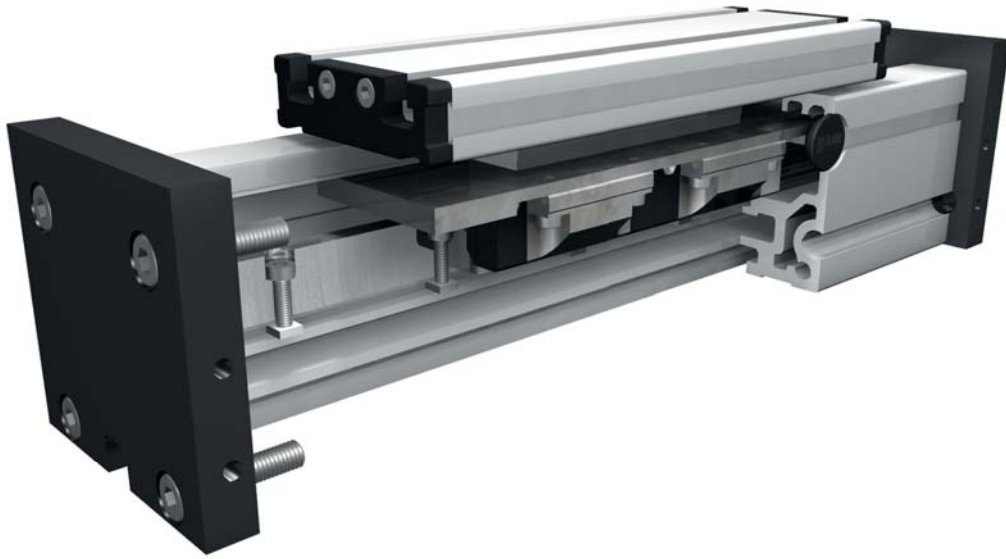


Rail guide



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:

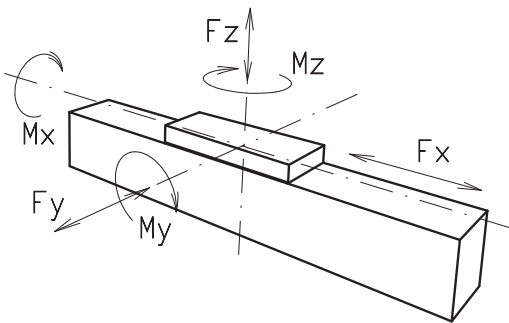
By T-slots.

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		
	permitted dyn. forces*	5000 km	10000 km	5000 km	10000 km	5000 km	10000 km
F_x (N)	-	-	-	-	-	-	-
F_y (N)	1410	990	3570	2550	4080	2900	
F_z (N)	3520	2500	8500	6050	10300	7270	
M_x (Nm)	33	23	107	75	142	101	
M_y (Nm)	104	73	310	222	439	311	
M_z (Nm)	100	70	296	210	412	292	
C (N)	7800		18800		22800		
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/sec) max	5		5		5		
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 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:

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

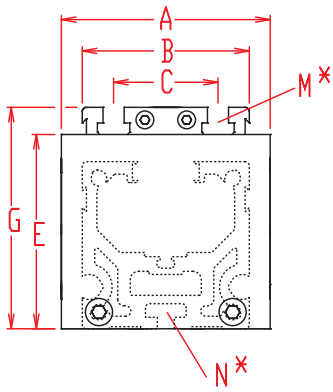
L = Lifetime in meters

C = Dynamic load factor (N)

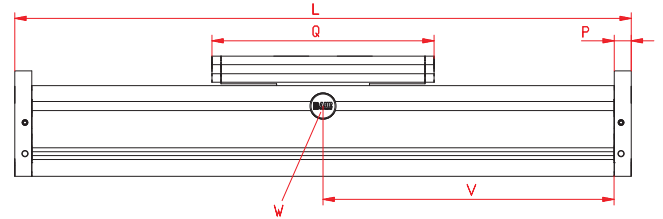
F = Medium load (N)

Positioning system QSR 60, 80, 100

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

$V = Q + 100 \text{ mm}$ $W = \text{servicing position}$

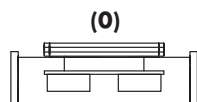
Size □	Basic length L	A	B	C	E	G	N for	M for	P	Q	Basic weight	Weight per 100 mm
QSR 60	205	80	60	36	60	79	M 5	M 6	12	177	1,8 kg	0,50 kg
QSR 80	270	100	80	50	93	106	M 6	M 8	17	232	4,9 kg	0,96 kg
QSR 100	315	130	100	66	110	129	M 10	M 10	20	268	8,2 kg	1,71 kg



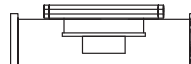
Choice of guide body profile:
 (0) Standard (1) stainless screws

Choice of carriages:

(0)



(1)



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

1500

Basic length + stroke = total length

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

For additional accessories refer to chapter 2.2 – 4.2

