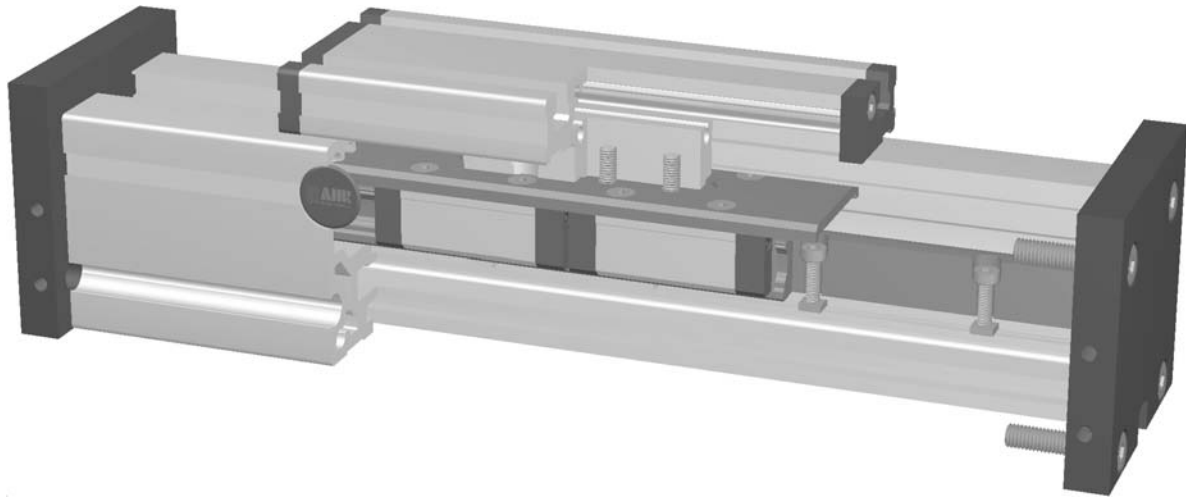


Positioning system QSR 60, 80, 100

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:

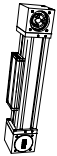
By T-slots.

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	
	permitted dyn. Forces*	5000 km	10000 km	5000 km	10000 km	5000 km	10000 km
F_x (N)	-	-	-	-	-	-	-
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							
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 life-time

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 meter
 C = Dynamic load factor (N)
 F = Middle load (N)

