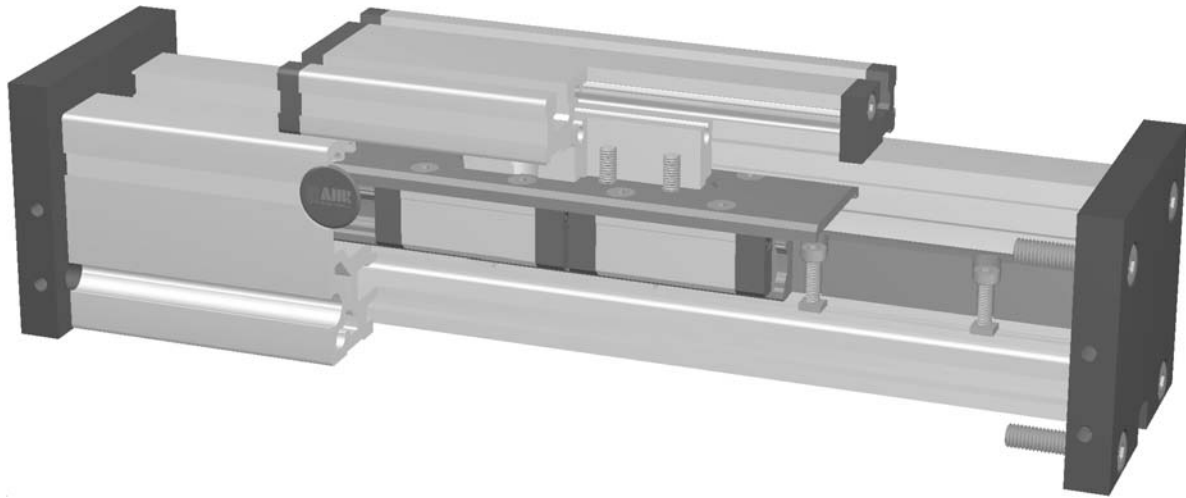


# Positioning system QSR 60, 80, 100

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:

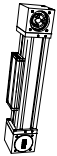
By T-slots.

### 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	
<b>All forces and torques related to the following:</b>							
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							
<b>Speed</b>							
(m/sec) max	5		5		5		
<b>Geometrical moments of inertia of aluminium profile</b>							
$I_x$ mm <sup>4</sup>	4,3x10 <sup>5</sup>		16,5x10 <sup>5</sup>		43,0x10 <sup>5</sup>		
$I_y$ mm <sup>4</sup>	4,8x10 <sup>5</sup>		18,7x10 <sup>5</sup>		48,8x10 <sup>5</sup>		
Elastic modulus N/mm <sup>2</sup>	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/mm<sup>2</sup>)  
 I = second moment of area (mm<sup>4</sup>)

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)

