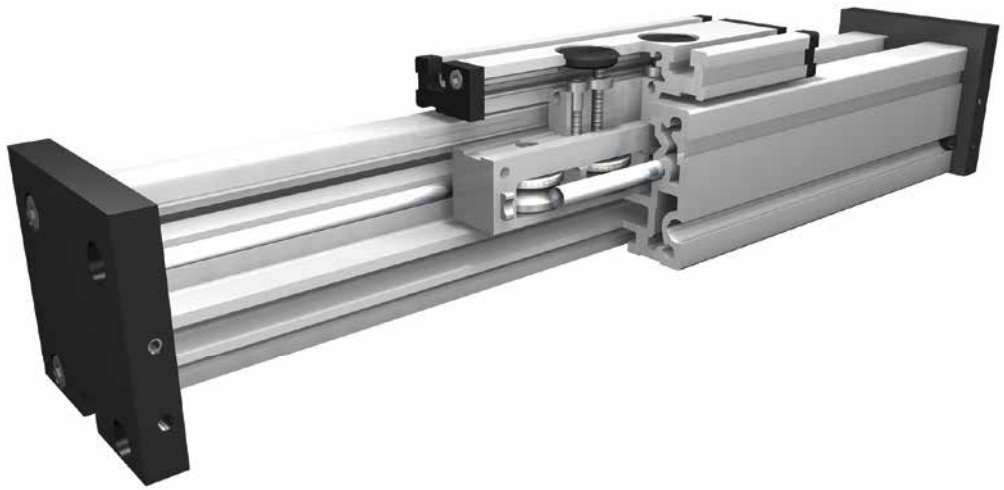
# Positioning system QLR 60, 80, 100



## Roller guide

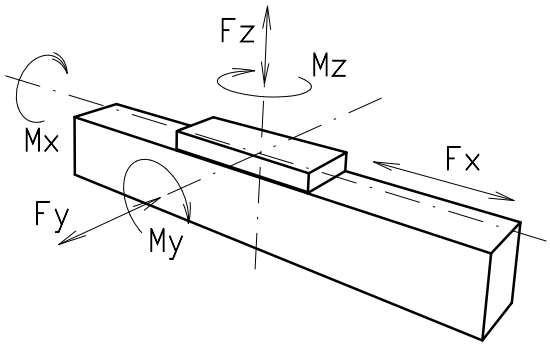


6.1

**Function:**
This unit consists of a square aluminium profile with an integrated roller guide. The carriage, which has internal linear ball bearings that can be adjusted free of play, moves along the guide body. This roller guide 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 4 rollers which can be adjusted and serviced at a central servicing position. For longer carriages the number of rollers can be increased.

**Forces and torques**

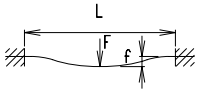



| Size | 60 | | 80 | | 100 | |
|---|---|---|---|---|---|---|
| **Forces/torques** | static | dynamic | static | dynamic | static | dynamic |
| $F_x$ (N) | - | - | - | - | - | - |
| $F_y$ (N) | 600 | 500 | 1600 | 1240 | 1900 | 1500 |
| $F_z$ (N) | 900 | 650 | 1500 | 1200 | 2100 | 1700 |
| $M_x$ (Nm) | 15 | 10 | 50 | 40 | 85 | 60 |
| $M_y$ (Nm) | 60 | 50 | 100 | 80 | 140 | 110 |
| $M_z$ (Nm) | 40 | 30 | 75 | 60 | 110 | 90 |
| **All forces and torques related to the following:** | | | | | | |
| existing values / table values | $\frac{Fy}{Fy_{dyn}} + \frac{Fz}{Fz_{dyn}} + \frac{Mx}{Mx_{dyn}} + \frac{My}{My_{dyn}} + \frac{Mz}{Mz_{dyn}} \leq 1$ | | | | | |
| **Speed** | | | | | | |
| (m/s) max | 4 | | 6 | | 7 | |
| **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 | |

*For life-time calculation of rollers use our homepage.*

Deflection:

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




f = deflection (mm)
F = load (N)
L = free length (mm)
E = elastic modulus 70000 (N/mm$^2$)
I = second moment of area (mm$^4$)

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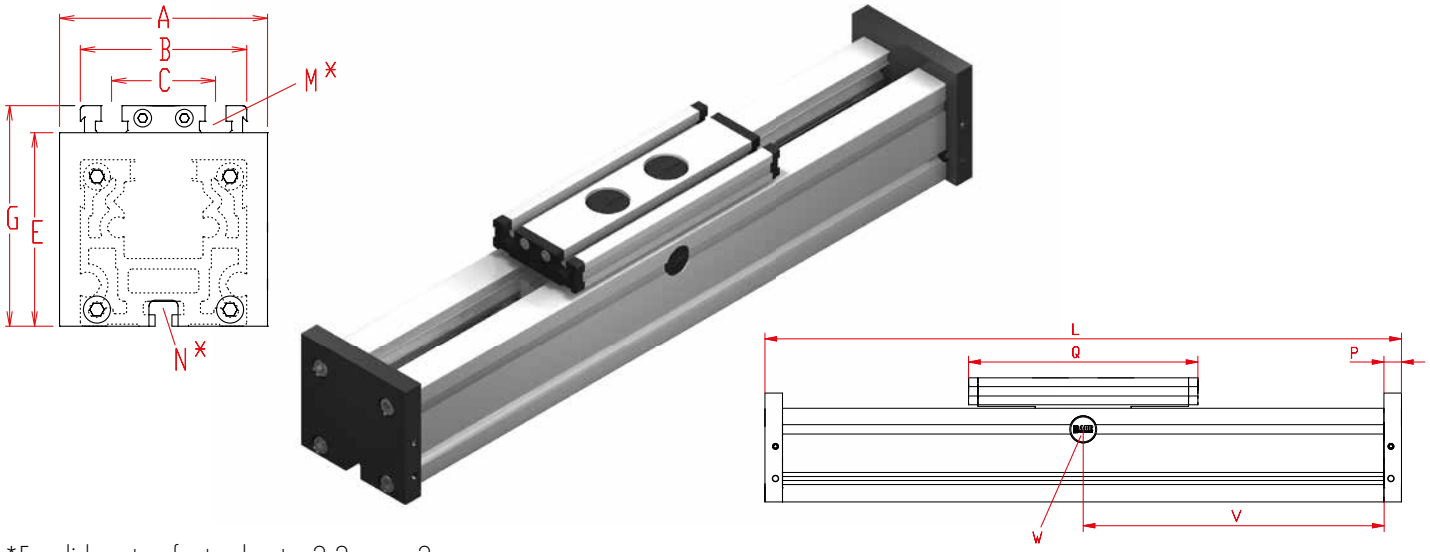
Dimensions (mm)




*For slide nuts refer to chapter 2.2 page 2

V = Q + 100 mm  W = servicing position

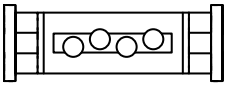
Increasing the carriage length will increase the basic length by the same amount.

| Size ❒ | Basic length L | A | B | C | E | G | N for | M for | P | Q | Basic weight | Weight per 100 mm |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **QLR** 60 | 180 | 80 | 60 | 36 | 60 | 79 | M 5 | M 6 | 12 | 152 | 1,45 kg | 0,37 kg |
| **QLR** 80 | 240 | 100 | 80 | 50 | 93 | 106 | M 6 | M 8 | 17 | 196 | 4,2 kg | 0,82 kg |
| **QLR** 100 | 310 | 130 | 100 | 66 | 110 | 129 | M 10 | M 10 | 20 | 260 | 7,2 kg | 1,17 kg |

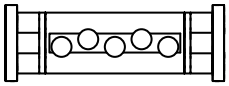
**0** **Choice of guide body profile:**
**(0)** Standard **(2)** corrosion-protected guide rods and screws
**(4)** expanded corrosion-protected version (depending on the availability of components)

**0** **Choice of carriages:**

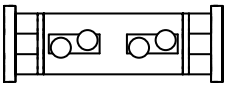
**(0)**



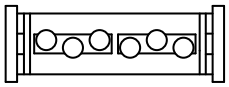
**(1)**



**(2)**



**(3)**



| Size | Version 0 | | Version 1 | | Version 2 | | Version 3 | |
|---|---|---|---|---|---|---|---|---|
| | Q | L | Q | L | Q | L | Q | L |
| **60** | 152 | 180 | 192 | 220 | >232 | >260 | >232 | >260 |
| **80** | 196 | 240 | 246 | 290 | >296 | >340 | >296 | >340 |
| **100** | 260 | 310 | 320 | 370 | >388 | >430 | >388 | >430 |

**1500** Basic length + stroke = total length

For additional accessories refer to chapter 2.2 – 3.2

| QLR | 80 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 01500 |
|---|---|---|---|---|---|---|---|---|---|
| Pos. | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | |

Sample ordering code:
QLR80 with standard body profile, standard carriage and 1260 mm stroke