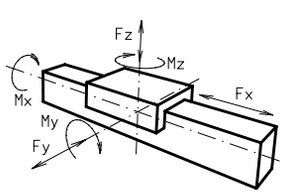
Positioning system ELR 30, 40, 60, 80, 80S, 100, 125

Roller guide unit without drive

Function.
This unit consists of an aluminium hollow section with integral, parallel ground and hardened steel guide rods. The carriage has play-adjustable ball bearing rollers which engage with the guide rods. Two bearing blocks without bearings are fitted. Actuation can be by pneumatic cylinder or other device, or the unit may be used as load-carrying linear slide.

Fitting position: As required, max. length 6.000 mm
Carriage connection: By T-slots and tapped holes
Unit mounting: By T-slots and tapped holes in the mounting surface, mounting sets.

Forces and torques

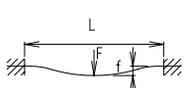


Size	ELR 30		ELR 40		ELR 60		ELR 80		ELR 80S		ELR 100		ELR 125	
Forces/Torques	static	dynam.	static	dynam.	static	dynam.	static	dynam.	static	dynam.	static	dynam.	static	dynam.
F_x (N)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
F_y (N)	90	60	1200	700	3000	2000	3000	2000	4600	3600	8000	6500	12000	9000
F_z (N)	90	60	900	650	1700	1100	1700	1100	3000	1800	3600	2200	6000	4500
M_x (Nm)	10	5	25	20	67	43	90	55	170	140	300	230	600	450
M_y (Nm)	13	6	32	18	90	70	110	80	270	230	400	270	750	600
M_z (Nm)	14	7	35	25	120	100	150	120	300	220	750	500	1350	1150
All forces and torques relate to the following: existing values / values of table	$\frac{Fy}{Fy_{dyn}} + \frac{Fz}{Fz_{dyn}} + \frac{Mx}{Mx_{dyn}} + \frac{My}{My_{dyn}} + \frac{Mz}{Mz_{dyn}} \leq 1$													
No-load torque														
max. (m/s)	3		4		5		6		8		10		10	
Geometrical moments of inertia of aluminium profile														
I_x mm^4	$4{,}09 \times 10^4$		$1{,}32 \times 10^5$		$6{,}79 \times 10^5$		$18{,}99 \times 10^5$		$18{,}99 \times 10^5$		$44{,}4 \times 10^5$		$10{,}2 \times 10^6$	
I_y mm^4	$4{,}00 \times 10^4$		$1{,}34 \times 10^5$		$6{,}97 \times 10^5$		$18{,}97 \times 10^5$		$18{,}97 \times 10^5$		$44{,}8 \times 10^5$		$10{,}2 \times 10^6$	
E-Modulus N/mm^2	70000		70000		70000		70000		7000		70000		70000	

For life-time calculation of rollers use our CD-ROM or homepage!

Formula: ELR

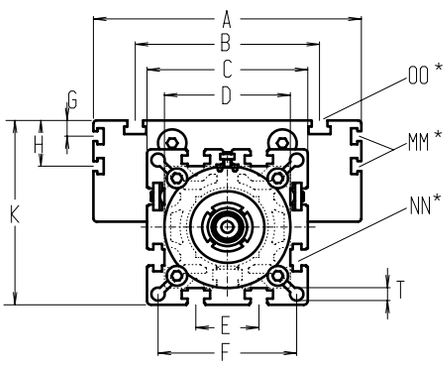
$$f = \frac{F * L^3}{E * I * 192}$$

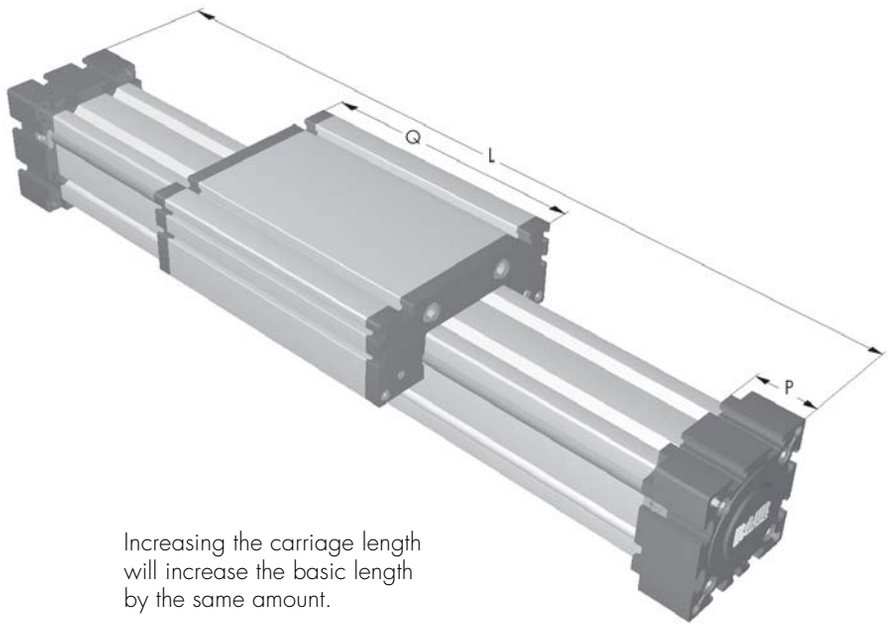


f = deflection (mm)
F = load (N)
L = free length (mm)
E = elastic modulus 70000 (N/mm^2)
I = second moment of area (mm^4)

Positioning system ELR 30, 40, 60, 80, 80S, 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

Size ❒	Basic length L	A	B	C	D	E	F	G	H	K	MM for	NN for	OO for	P	Q	T	Basic weight	Weight per 100 mm
ELR 30	120	70	56	42	40x1	13	35	-	-	47	-	M 6	M 6	18	82	4,2	0,5 kg	0,12 kg
ELR 40	175	100	66	58	48x1	18	47	-	-	64	-	M 6	M 6	25	122	6,5	0,9 kg	0,23 kg
ELR 60	245	144	96	82	62x1	30	69	-	-	90	-	M 8	M 8	35	168	8,5	3,1 kg	0,61 kg
ELR 80	285	170	117	102	80x1	40	88	10	30	121	M 6	M 10	M 10	45	194	8,5	5,3 kg	0,90 kg
ELR 80S	305	190	126	102	80x1	40	88	12,5	30	122	M 6	M 10	M 8	45	214	8,5	6,3 kg	0,90 kg
ELR 100	410	230	155	130	110x1	50	112	-	29	154	M 10	M 10	M 10	55	300	10,5	15,1 kg	1,50 kg
ELR 125	510	295	200	165	130x1	60	142	-	30	190	M 10	M 12	M 12	65	365	13	26,8 kg	2,05 kg

0 **Choice of guide body profile:**
(0) Standard **(1)** stainless guide rods **(2)** stainless guide rods and screws **(3)** stainless guide rods, rollers and screws

Choice of carriages:

0 **(0)**

For standard carriage length see 'Q' in table. The carriages can be delivered in any non-standard length on request; the longer the carriage, the greater the load capacity.

(1)

Top and bottom carriages are rigidly joined, thus enabling higher loads to be applied. This increases the basic length by 12-24 mm. Thickness of jointing plate refer to chapter 1.2 page 6.

1500 Basic length + stroke = total length

ELR	40	0	0	0	0	0	0	0	01500
	Pos.	1	2	3	4	5	6	7	

For combination kits and connecting elements refer to chapter 2.2

Sample ordering code:
ELR 40, non driven system, standard body profile, standard carriage, 1325 mm stroke