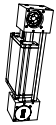
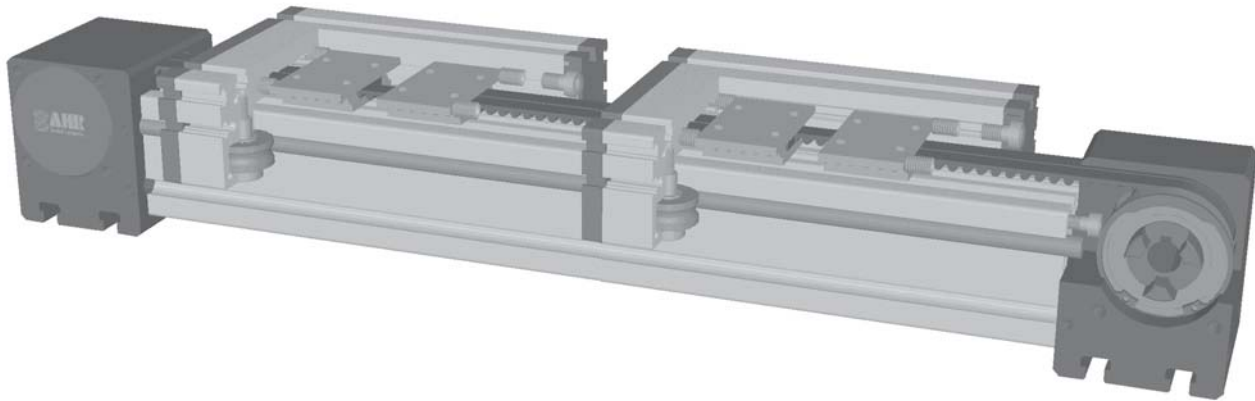


# Positioning system ELZZ 60, 80, 80S, 100, 125

Specifications

Belt drive with two separately driven carriages

3.1



**Function:**

Same functions as ELZ, but each carriage can be moved separately by its own drive. This unit has twin pulleys, which run on separate bearings, and two independent, parallel drive belts, one for each carriage.

**Fitting position:**

As required. Max. length 4.000 mm without joints.

**Carriage mounting:**

By T-slots.

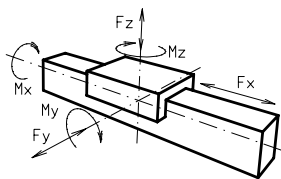
**Unit mounting:**

By T-slots or tapped holes in the bearing block, mounting sets.

**Belt type:**

HTD with steel reinforcement, no backlash when changing direction, repeatability ± 0,1 mm.

Forces and torques	Size	ELZZ 60		ELZZ 80		ELZZ 80 S		ELZZ 100		ELZZ 125	
	Forces/Torques	static	dynamic	static	dynamic	static	dynamic	static	dynamic	static	dynamic
$F_x$ (N)		298	250	679	500	679	500	1210	1100	1900	1800
$F_y$ (N)		3000	2000	3000	2000	4600	3600	8000	6500	12000	9000
$F_z$ (N)		1700	1100	1700	1100	3000	2600	3600	2200	6000	4500
$M_x$ (Nm)		67	43	90	55	170	140	300	230	600	450
$M_y$ (Nm)		90	70	110	80	270	230	400	270	750	600
$M_z$ (Nm)		120	100	150	120	300	220	750	500	1350	1150
<p><b>All forces and torques relate to the following:</b></p> <p>existing values <math>\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</math></p> <p>values of table</p>											
<b>No-load torque</b>											
Nm		0,6		0,9		1,2		1,4		1,8	
<b>Speed</b>											
(m/sec) max		5		6		8		10		10	
<b>Tensile force</b>											
permanent (N)		298		679		679		1210		1900	
0,2 sec (N)		333		746		746		1331		2090	
<b>Geometrical moments of inertia of aluminium profile</b>											
$I_x$ mm <sup>4</sup>		6,79x10 <sup>5</sup>		18,99x10 <sup>5</sup>		18,99x10 <sup>5</sup>		44,4x10 <sup>5</sup>		101,5x10 <sup>5</sup>	
$I_y$ mm <sup>4</sup>		6,97x10 <sup>5</sup>		18,97x10 <sup>5</sup>		18,97x10 <sup>5</sup>		44,8x10 <sup>5</sup>		101,5x10 <sup>5</sup>	
E-Modulus N/mm <sup>2</sup>		70000		70000		70000		70000		70000	



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

**Formula: ELZZ**

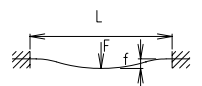
Driving torque:

$$M_o = \frac{F \cdot P \cdot S}{2000 \cdot \pi} + M_{leer}$$

$$P_o = \frac{M_o \cdot n}{9550}$$

- F = force (N)
- P = pulley action perimeter (mm)
- S<sub>i</sub> = safety factor 1,2 ... 2
- M<sub>leer</sub> = no-load torque (Nm)
- n = rpm pulley (min<sup>-1</sup>)
- M<sub>o</sub> = driving torque (Nm)
- P<sub>o</sub> = motor power (KW)

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

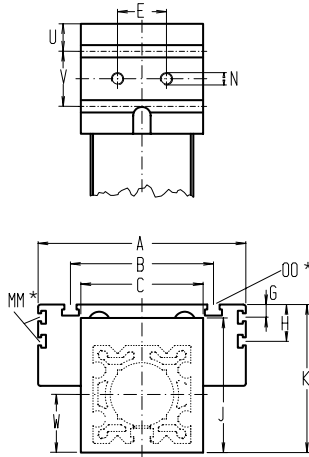


- f = deflection (mm)
- F = load (N)
- L = free length (mm)
- E = elastic modulus 70000 (N/mm<sup>2</sup>)
- I = second moment of area (mm<sup>4</sup>)

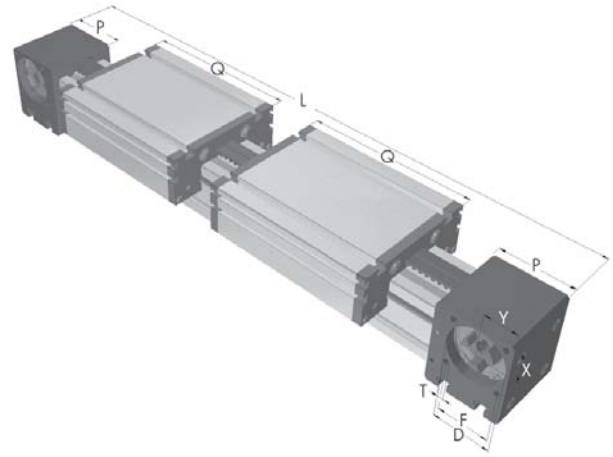


# Positioning system ELZZ 60, 80, 80S, 100, 125

Dimensions (mm)



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



3.1



\*For slide-nuts refer to chapter 2.2 page 2

Size □	Basic length L	A	B	C	D	E	F	G	H	J	K	MM for	N	OO for	P	Q	T	U	V	W	X	Y	Basic weight	Weight per 100 mm
ELZZ 60	460	144	96	80	47	30	42	-	-	82	90	-	M 8	M 8	59	168	M 6	14	30	41	27	26	7,4 kg	0,62 kg
ELZZ 80	570	170	117	100	68	40	60	10	30	110	121	M 6	M 10	M 10	90	194	M 8	22,5	45	51	39	38	12,8 kg	1,00 kg
ELZZ 80S	610	190	126	100	68	40	60	12,5	30	110	122	M 6	M 10	M 8	90	214	M 8	22,5	45	51	39	38	14,8 kg	1,00 kg
ELZZ 100	830	230	155	130	90	50	80	-	29	135	154	M 10	M 12	M 10	110	300	M 10	64	50	65	50	50	33,0 kg	1,60 kg
ELZZ 125	990	295	200	160	110	60	100	-	30	167	191	M 10	M 12	M 12	130	365	M 10	38	50	82	60	60	52,0 kg	2,10 kg

### Choice of guide body profile:

0 (0) Standard (1) stainless guide rods (2) stainless guide rods and screws (3) stainless guide rods, rollers and screws

### Choice of carriages:



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

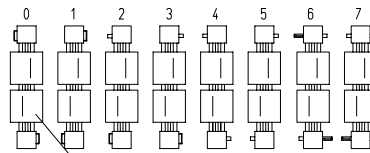


Top and bottom carriages are rigidly joined, thus enabling higher loads to be applied. This increases the basic length by 32 - 48 mm. For thickness of jointing plate refer to chapter 1.2 page 6.

### Coupling - shaft mounting:



The standard version is supplied without shaft.



connected with the left belt

- Coupling claw on one side
- Standard-shaft<sup>1</sup>
- Shaft one size smaller<sup>2</sup>

### Belt table

Code No.	Size	Belt	mm/rev.	Number of teeth
0 2	60	5M09	130	26
0 5	80 (S)	8M12	192	24
0 6	100	8M20	256	32
0 7	125	8M30	304	38

### Shaft dimensions

Size	Shaft ø h6 x length	Key
60 <sup>1</sup>	14 x 35	5x5x28
60 <sup>2</sup>	10 x 27	3x3x25
80 (S) <sup>1</sup>	18 x 45	6x6x40
80 (S) <sup>2</sup>	14 x 35	5x5x28
100 <sup>1</sup>	22 x 45	6x6x40
100 <sup>2</sup>	18 x 45	6x6x40
125 <sup>1</sup>	30 x 55	8x7x40
125 <sup>2</sup>	22 x 45	6x6x40

Basic length + stroke = total length

ELZZ 60 4 0 0 0 0 2 1 01500

Pos. 1 2 3 4 5 6 7

For combination kits and connecting elements refer to chapter 2.2

Sample ordering code:

ELZZ 60 with standard body profile, standard carriage and coupling claw on one side, 1040 mm stroke

