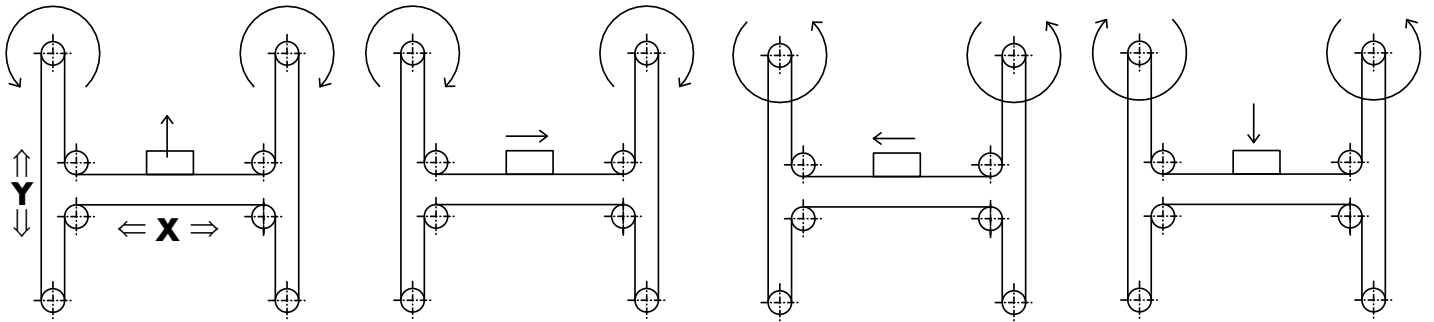


Positioning system ELZU 60 (S) W

Surface portal

3.1



Function:

Surface gantry consisting of two Y axes and one X axis. The unit is driven by a rotating belt, which remains connected through various deflection points. Due to the rectangular profile high torques and loads can be taken up. In addition, a very high stability and low deflection are ensured for long axis systems. The belt tension can be easily readjusted via a tensioning device within the carriage. The movement is realised by two motors. The coordinate lies diagonal to the deflection points of the X axis. Advantage: Only small masses are moved and thus it is possible to achieve high accelerations.

Fitting position: As required. Max. length and width 3.000 mm.

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.

Size	60		60 S	
	static	dynamic	static	dynamic
Forces/Torques				
F_x (N)	894	800	894	800
F_y (N)	3000	2000	4100	3100
F_z (N)	1700	1100	2160	1600
M_x (Nm)	67	43	88	65
M_y (Nm)	90	70	190	140
M_z (Nm)	120	100	230	170
All forces and torques relate to the following:				
existing values $\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$				
table values $\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$				
No-load torque				
Nm	1,2		1,2	
Speed				
(m/s) max	5		5	
Tensile force				
permanent (N)	900		900	
0,2 s (N)	1000		1000	
Geometrical moments of inertia of aluminium profile - Y-Axis				
I_x mm ⁴	6,79x10 ⁵		6,79x10 ⁵	
I_y mm ⁴	6,97x10 ⁵		6,97x10 ⁵	
E-Modul N/mm ²	70000		70000	
Geometrical moments of inertia of aluminium profile - X-Axis				
I_x mm ⁴	2,8 x 10 ⁶		2,8 x 10 ⁶	
I_y mm ⁴	9,6 x 10 ⁵		9,6 x 10 ⁵	
E-Modulus N/mm ²	70000		70000	

For life-time calculation of rollers use our homepage.

Driving torque:

$$M_o = \frac{F \cdot P \cdot S_i}{2000 \cdot \pi} + M_n$$

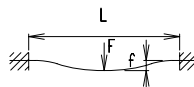
$$P_o = \frac{M_o \cdot n}{9550}$$

- F = force (N)
- P = pulley action perimeter (mm)
- S_i = safety factor 1,2 ... 2
- M_n = no-load torque (Nm)
- n = rpm pulley (min⁻¹)
- M_o = driving torque (Nm)
- P_o = motor power (KW)

Deflection:

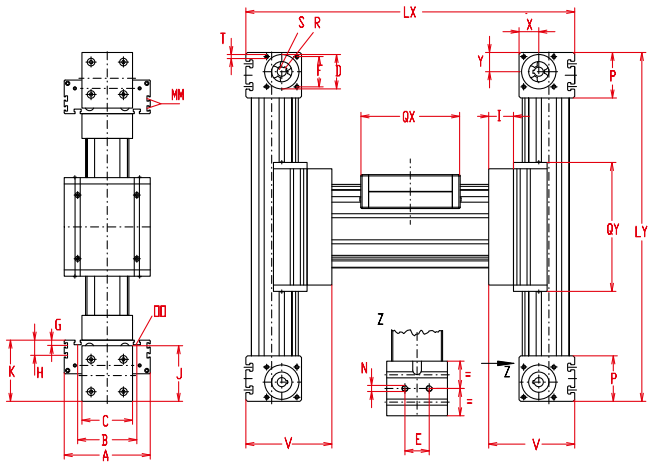
$$f = \frac{F \cdot L^3}{E \cdot I \cdot 192}$$

- f = deflection (mm)
- F = load (N)
- L = free length (mm)
- E = elastic modulus 70000 (N/mm²)
- I = second moment of area (mm⁴)



Positioning system ELZU 60 (S) W

Dimensions (mm)



3.1

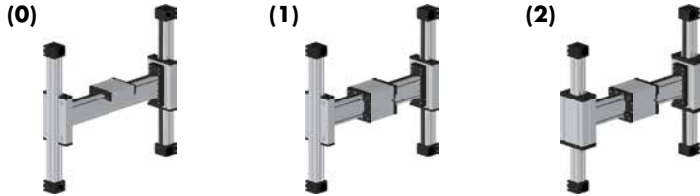
*For slide nuts refer to chapter 2.2 page 2

Size	Basic length		A	B	C	D -0,05	E	F	G	H	I	J	K	MM for	N for	OO for	P	Qx	Qy	T	V	X	Y	Basic weight	Weight per 100 mm	
	Lx	Ly																								
60 W	420	402	144	96	80	47	30	42	-	-	33	82	90	-	M 8	M 8	M 8	59	168	279	M6	123	27	26	14,9 kg	0,9 kg
60(S) W	454	402	170	108	80	47	30	42	-	-	33	82	94	-	M 8	M 8	M 8	59	194	279	M6	127	27	26	17,9 kg	0,9 kg

0 Choice of guide body profile:

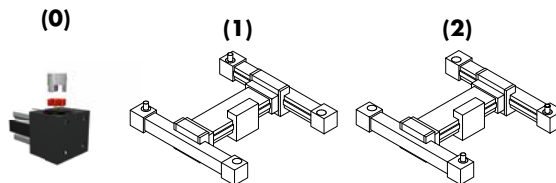
- (0) Standard (2) corrosion-protected guide rods and screws
- (4) expanded corrosion-protected version (depending on the availability of components)

0 Choice of carriages:



Size	Version 1				Version 2			
	Qx	Lx	Qy	Ly	Qx	Lx	Qy	Ly
60	192	446	279	402	192	446	295	418
60 (S)	218	472	279	402	218	472	299	422

0 Drive version:



The standard version is supplied without shaft. A shaft can be retrofitted by inserting it into the pulley bore and securing it with 2 locking rings.

Belt table

Code No.	Size	Belt	mm/rev.	Number of teeth
0 4	60 (S)	5M25	130	26

Shaft dimensions / Coupling claw

Size	Shaft ø h6 x length	Key	Coupling
60 (S)	14 x 35	5x5x28	14

X-Axis Basic length + stroke = total length
Y-Axes Basic length + stroke = total length

ELZU 60 W 7 0 0 0 0 4 1 01500

ELZU 60 W 8 0 0 0 0 4 1 00700

Pos. 1 2 3 4 5 6 7

For combination kits and connecting elements refer to chapter 2.2

Sample ordering code:

ELZU 60 W, standard body profile, standard carriage, coupling claw on one side, stroke X = 1080 / Y = 298 mm

