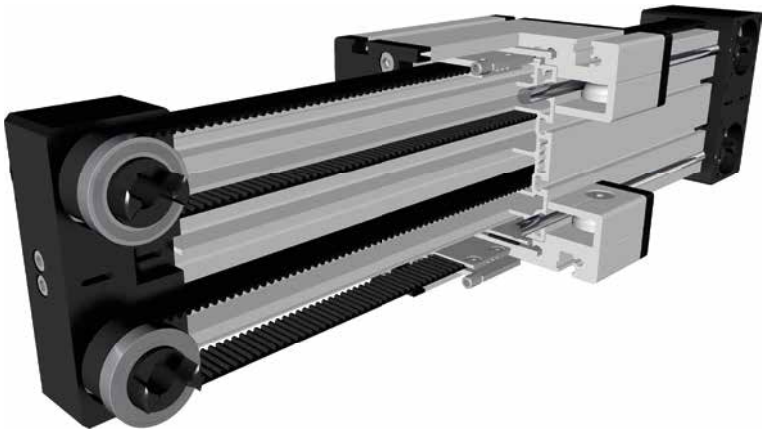
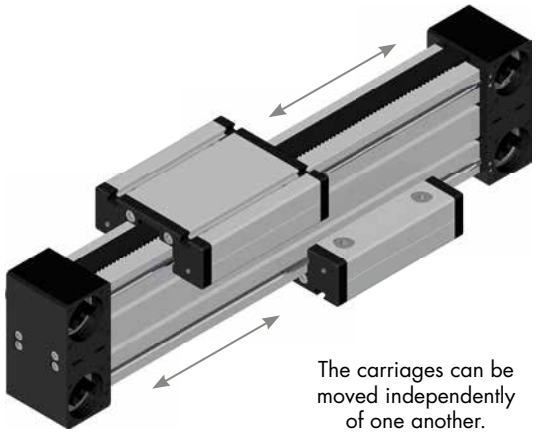
Positioning system ELZD 60 (S) W

Belt drive with two separately driven carriages



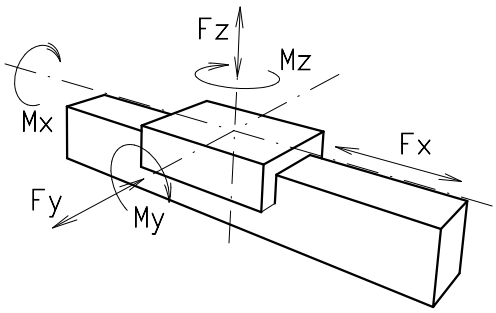


The carriages can be moved independently of one another.

Function:
The guide body consists of an aluminium square profile with lateral, parallel, form-fit, internal hardened steel rods. Two carriages, which are driven individually by a timing belt, move along the guide body independently of one another. 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. This device also helps to adjust the symmetry of the carriages in applications where two parallel linear units are used.

Fitting position: As required. Max. length 3.000 mm without joints.
Carriage mounting: By T-slots.
Unit mounting: By T-slots or mounting sets.
Belt type: HTD with steel reinforcement, no backlash when changing direction, repeatability: ± 0,1 mm.

Forces and torques



Size	60		60 S	
Forces/Torques	static	dynamic	static	dynamic
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 / table values $\frac{Fy}{Fy_{dyn}} + \frac{Fz}{Fz_{dyn}} + \frac{Mx}{Mx_{dyn}} + \frac{My}{My_{dyn}} + \frac{Mz}{Mz_{dyn}} \leq 1$				
No-load torque				
Nm	0,6		0,7	
Speed				
(m/s) max	5		7	
Tensile force				
permanent (N)	900		900	
0,2 s (N)	1000		1000	
Geometrical moments of inertia of aluminium profile				
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:

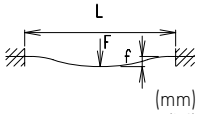
$$M_a = \frac{F * P * S_i}{2000 * \pi} + M_n$$

$$P_a = \frac{M_a * n}{9550}$$

F = force (N)
P = pulley action perimeter (mm)
Si = safety factor 1,2 ... 2
M_n = no-load torque (Nm)
n = rpm pulley (min^{-1})
M_a = driving torque (Nm)
P_a = motor power (KW)

Deflection:

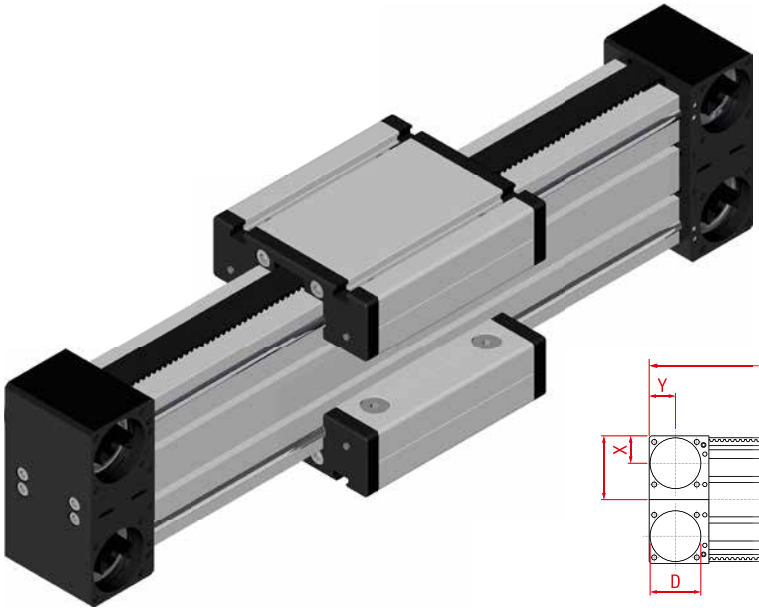
$$f = \frac{F * L^3}{E * I * 192}$$

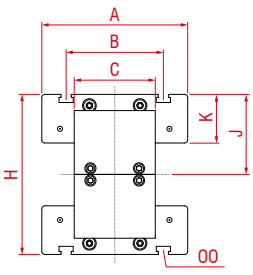


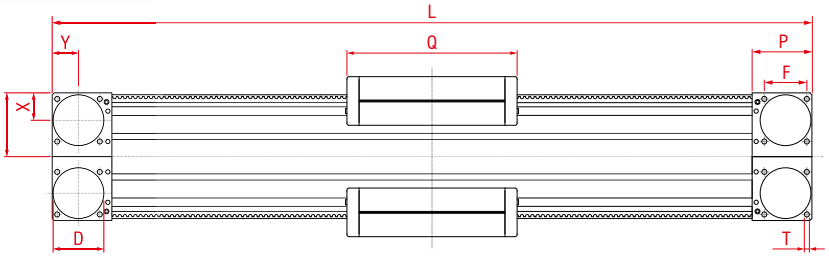
f = deflection (mm)
F = load (N)
L = free length (mm)
E = elastic modulus 70000 (N/mm^2)
I = second moment of area (mm^4)

Positioning system ELZD 60 (S) W

Dimensions (mm)







*For slide nuts refer to chapter 2.2 page 2

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

Size	Basic length L	A	B	C	D -0,05	F	H	J	K	M	OO for	P	Q	T	X	Y	Basic weight	Weight per 100 mm
ELZD 60 **W**	290	144	96	80	47	42	158	79	48	71	M8	59	168	M6	27	26	9,6 kg	1,0 kg
ELZD 60S **W**	315	170	108	80	47	42	166	83	52	71	M8	59	194	M6	27	26	11,6 kg	1,0 kg

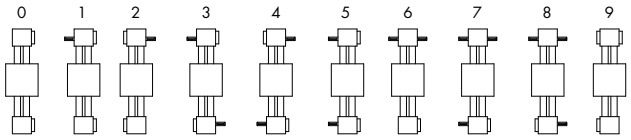
0 **Choice of guide body profile:**
(0) Standard **(2)** corrosion-protected guide rods and screws
(4) expanded corrosion-protected version (depending on the availability of components)

0 **Choice of carriages:**

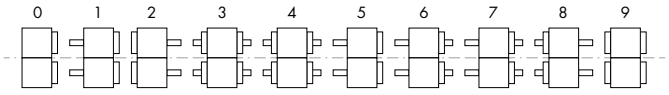
(0)

0 **Drive version:**

(0)

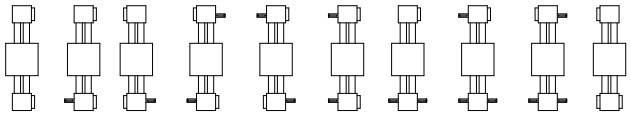


Top drive version:
Version 9 is the same as 0, but with double sided coupling claw.



Mirror plane
Drive version
(top and bottom identical)

(0)



Bottom drive version:
Version 9 is the same as 0, but with double sided coupling claw.

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

ELZD	60 W	1	0	0	0	0	4	1	01500
	Pos.	1	2	3	4	5	6	7	

Basic length + stroke = total length

For combination kits and connecting elements refer to chapter 2.2

Sample ordering code:
ELZD 60 W, standard body profile, standard carriage, coupling claw on one side, 1210 mm stroke