


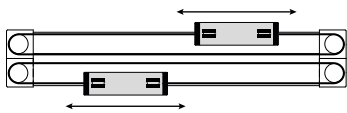
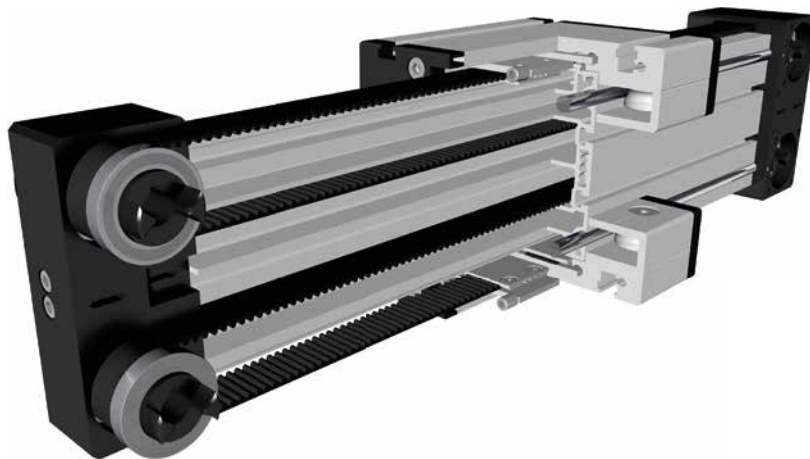


BELT DRIVE WITH TWO SEPARATELY DRIVEN CARRIAGES

-  HIGHER PROFILE STABILITY
-  INDEPENDENT CARRIAGES
-  HIGHER FORCE FIXTURE



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:

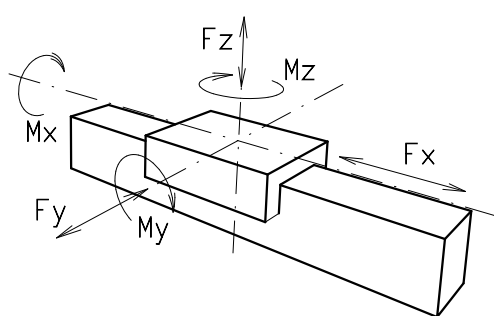
By T-slots.

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 $\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$ table values				
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:

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

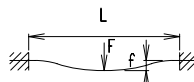
$$P_o = \frac{M_o \cdot n}{9550}$$

- 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)

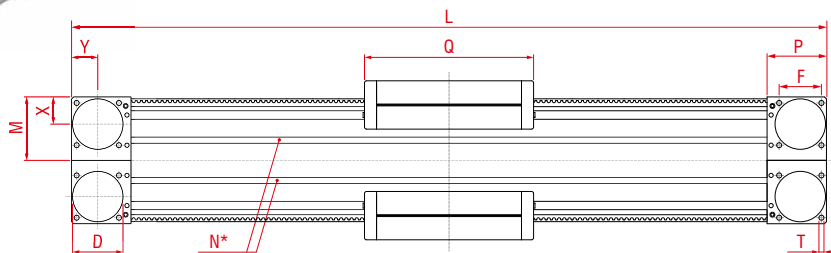
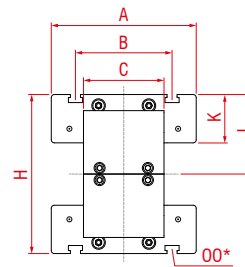
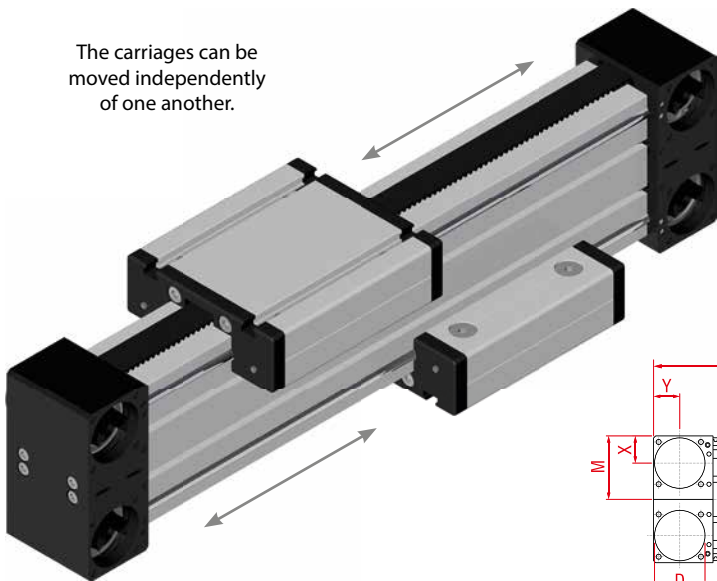
Deflection:

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

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



The carriages can be moved independently of one another.



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	N for	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	M5	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	M5	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)

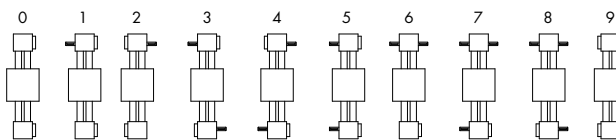
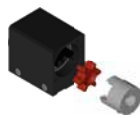
0 Choice of carriages:

(0)

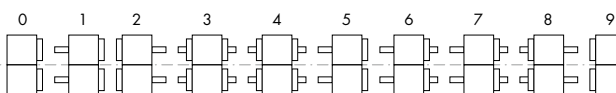


0 Drive version:

(0)

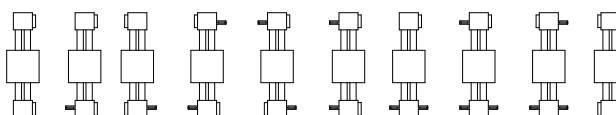


Top drive version:
Version 9 is the same as 0, but with double sided coupling claw.



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 ϕ h6 x length	Key	Coupling
60 (S)	14 x 35	5x5x28	14

ELZD 60 W 1 0 0 0 0 4 1 1500

Pos. 1 2 3 4 5 6 7

Basic length + stroke = total length

Sample ordering code:

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