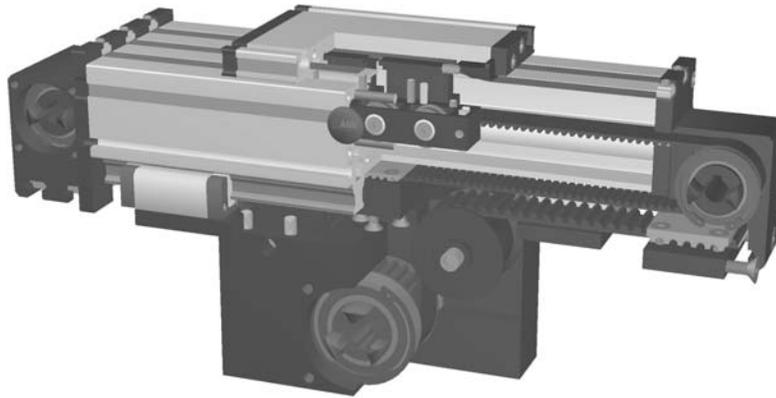


# Positioning system DLZT 120, 160, 200

Specifications

## Telescopic belt drive



### Function:

This unit consists of a rectangular aluminium section with internal guide rods and an outside rail guide. The rail guided carriage and the roller guided carriage are running in opposite directions. The pulleys include maintenance-free ball bearings. The belt is tensioned by a tensioning device in the carriage. The other fixed belt is tensioned by a simple device in the bearing blocks. The carriage with the drive block (with motor) is screwed to the crosshead. A T-slot profile is screwed to the carriage as an extension arm which can be adjusted to any length (see functional diagram on chapter 3.1 page 20).

7.1

**Fitting position:** As required. Max. length 3.000 mm.

**Unit mounting:** By T-slots in the carriage, extension arm

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

**Carriage support:** In the standard version, the carriage runs on 8 rollers which can be adjusted and serviced at a central servicing position. For longer carriages the number of rollers can be increased.



Forces and Torques	Size		120		160		200	
	Forces/Torques		static	dynamic	static	dynamic	static	dynamic
	$F_x$ (N)		825	660				
	$F_y$ (N)		1100	900				
	$F_z$ (N)		1250	1000				
	$M_x$ (Nm)		150	125				
	$M_y$ (Nm)		140	120				
	$M_z$ (Nm)		100	90				
	<b>All forces and torques related to the following:</b> existing values $\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$ values of table							
<b>No-load torque</b> Nm: 6								
<b>Speed</b> (m/sec) max: 4								
<b>Tensile force</b> permanent (N): 825 0,2 sec (N): 1000								
<b>Geometrical moments of inertia of aluminium profile</b> $I_x$ mm <sup>4</sup> : $6,6 \times 10^5$ $I_y$ mm <sup>4</sup> : $38,6 \times 10^5$ Elastic modulus N/mm <sup>2</sup> : 70000								

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

### Formula: DLZT

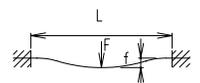
Driving torque:

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

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

- F = force (N)
- P = pulley action perimeter (mm)
- S = safety factor 1,2 ... 2
- $M_{leer}$  = no-load torque (Nm)
- n = rpm pulley (min<sup>-1</sup>)
- $M_a$  = driving torque (Nm)
- $P_a$  = motor power (KW)

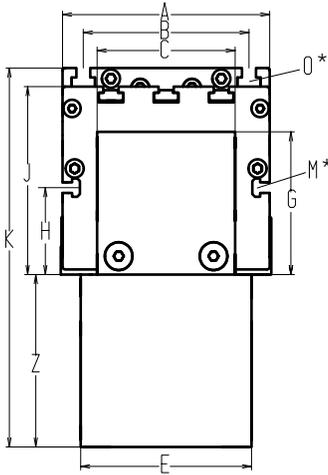
$$f = \frac{F \cdot L^3}{E \cdot I \cdot 192}$$



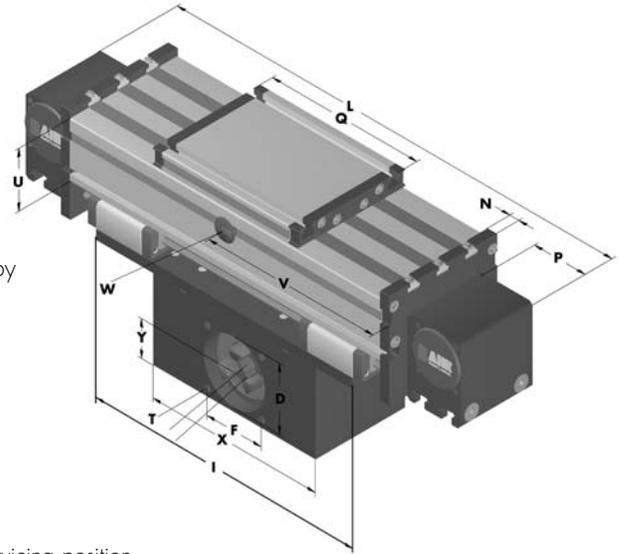
- f = deflection (mm)
- F = load (N)
- L = free length (mm)
- E = elastic modulus 70000 (N/mm<sup>2</sup>)
- I = second moment of area (mm<sup>4</sup>)

# Positioning system DLZT 120, 160, 200

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       $V = Q + 100 \text{ mm}$        $W = \text{servicing position}$

Size □	Basic length L	A	B	C	D	E	F	G	H	I	J	K	M for	N	O for	P	Q	T	U	X	Y	Z	Basic weight	Weight per 100 mm
DLZT 120	460	120	96	80	68	100	60	82	50	284	108	218	M 5	10	M 6	59	156	M 8	60	180	39	100	15,8 kg	1,20 kg
DLZT 160																								
DLZT 200																								

7.1

### Choice of guide body profile:

0 (0)



(1)

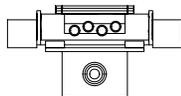


Stainless versions upon request.

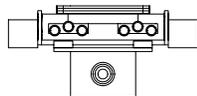
### Choice of carriages:

0

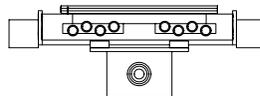
(0)



(1)



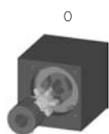
(2)



Size	Version 0		Version 1		Version 2	
	Q	L	Q	L	Q	L
120	156	460	>236	>540	>316	>620
160						
200						

### Coupling - Selection of shaft mounting:

0



0



1



2



3



4



5



6



7



8



9 is as 0, but with coupling claws on both sides.

The standard version is supplied without shaft. A shaft can be retrofitted by inserting in the pulley bore and securing with 2 locking rings or tension sets (size 200).

### Belt table

Code No.	Size	Belt	mm/rev.	Number of teeth
0 7	120	8M30	192	24

### Shaft dimensions

Size	Shaft $\varnothing$ h6 x length	Key
120	22 x 45	6x6x40
160		
200		

Basic length + stroke = total length

DLZT 120 6 0 0 0 0 7 2 01500  
Pos. 1 2 3 4 5 6 7

Inductive proximity switch sets, which can be mounted inside of the square profile, are available as accessories. Coupling and a special plug are mounted from the outside. For additional accessories refer to chapter 2.2 – 4.2.



Sample ordering code:

DLZT 120, standard body profile, standard carriage, coupling claw at one side, 1040 mm stroke.

