


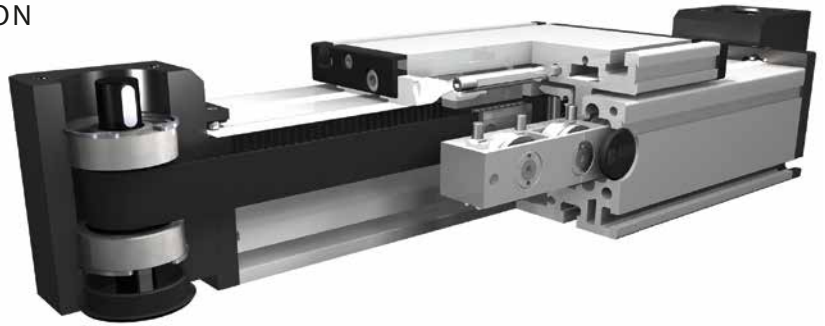
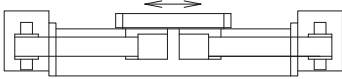


Linear system **DLVZ 120, 160**

INTERNAL BELT DRIVE

-  INDEPENDENT INSTALLATION POSITION
-  SPECIAL DRIVE VERSION
-  SPACE SAVING



Function:

This unit consists of a rectangular aluminium profile with 2 integrated roller guides. The carriage is moved by a belt drive. Belt tension can be readjusted by a simple screw adjustment device in the carriage. This device can also be used for symmetrical adjustment of two or more linear units running parallel. The openings of the guide body are sealed with 3 stainless steel cover bands to protect the guide from splash water and dust. Alternatively, it can also be supplied without cover bands.

Fitting position:

As required. Max. length 3.000 mm without joints.

Carriage mounting:

By T-slots.

Unit mounting:

By T-slots and mounting sets. The linear axis can be combined with any T-slot profile.

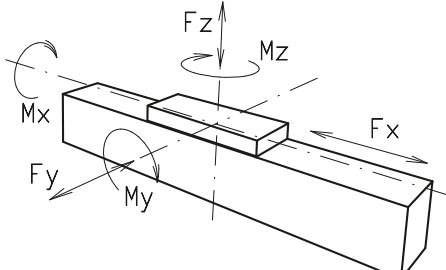
Belt type:

HTD with steel reinforcement, no backlash when changing direction, repeatability $\pm 0,1$ 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.

8.1

Forces and torques	Size	DLVZ 120		DLVZ 160	
	Forces/Torques	static	dynamic	static	dynamic
	F_x (N)	894	800	1000	840
	F_y (N)	1100	900	3000	2000
	F_z (N)	1250	1000	3500	2800
	M_x (Nm)	150	125	400	320
	M_y (Nm)	140	120	360	300
	M_z (Nm)	100	90	180	150
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		1,4		1,8	
Speed					
(m/s) max		3		4	
Tensile force					
permanent (N)		900		1000	
0,2 s (N)		1000		1150	
Geometrical moments of inertia of aluminium profile					
I_x mm ⁴		6,6x10 ⁵		22,2x10 ⁵	
I_y mm ⁴		38,6x10 ⁵		122,0x10 ⁵	
E-Modulus N/mm ²		70000		70000	

For life-time calculation of rollers use our homepage.

Driving torque:

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

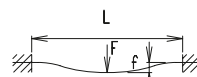
$$P_o = \frac{M_o \cdot n}{9550}$$

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:

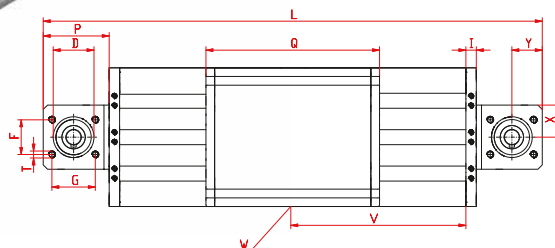
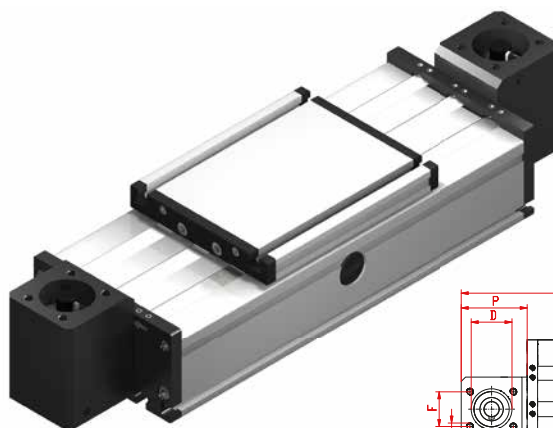
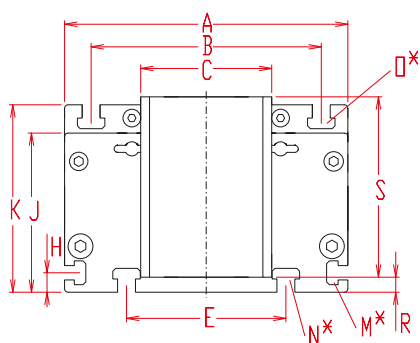
$$f = \frac{F \cdot L^3}{E \cdot I \cdot 192}$$

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



Linear system **DLVZ 120, 160**

Dimensions (mm)



$V = Q + 100 \text{ mm}$

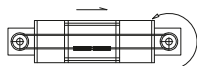
W = servicing position

*For slide nuts refer to chapter 2.2 page 2

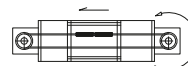
Increasing the carriage length will increase the basic length by the same amount.

Size	Basic length L	A	B	C	D -0,05	E	F	G	H	I	J	K	M for	N for	O for	P	Q	R	S	T	U	X	Y	Basic weight	Weight per 100 mm
DLVZ 120	300	120	96	56	37	78	30	36	10	10	68	79	M5	M6	M6	56	156	2,5	82	M6	60	28	24	4,62 kg	0,82 kg
DLVZ 160	410	160	130	74	47	90	40	50	11	12	90	106	M6	M8	M8	76	200	8,5	102	M8	80	37	35	11,23 kg	1,76 kg

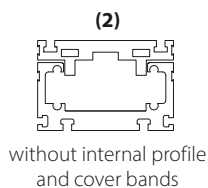
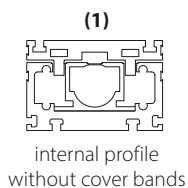
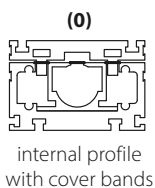
1 (1) Belt connection right



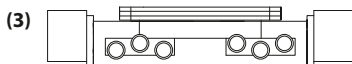
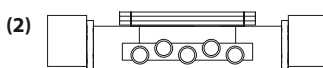
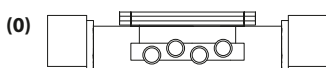
(2) Belt connection left



0 Choice of guide body profile: Stainless versions upon request.

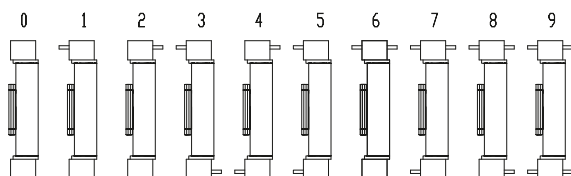


0 Choice of carriages:



Size	Version 0		Version 2		Version 3	
	Q	L	Q	L	Q	L
120	156	300	196	340	236	380
160	200	410	250	460	>300	>510

0 Drive version:



The standard version 0 is supplied with 4 flush mounted shafts.

Belt table:

Code No.	Size	Belt	mm/rev.	Number of teeth
0 4	120	5M25	80	16
0 4	160	5M25	110	22

Shaft dimensions:

Size	Shaft $\varnothing h6 \times \text{length}$	Key
120	14 x 35	5x5x28
160	18 x 45	6x6x40

DLVZ 160 1 0 0 0 0 4 1 1500

Basic length + stroke = total length

Pos. 1 2 3 4 5 6 7

Sample ordering code:

DLVZ 160 with belt connection right, internal profile with cover bands, standard carriage and 4 flush mounted shafts, 1090 mm stroke

