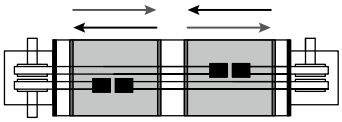
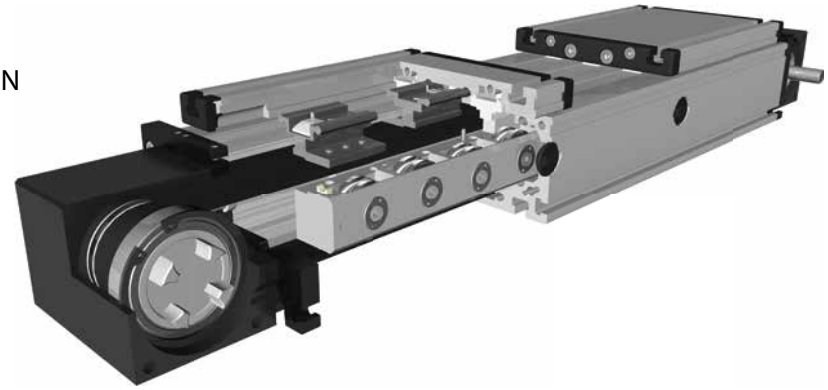
Linear system **DLZZ 160, 200**

TECHNICAL SUMMARY
REFERENCE ONLY

BELT DRIVE WITH TWO SEPARATELY DRIVEN CARRIAGES

- INDEPENDENT CARRIAGES
- HORIZONTAL INSTALLATION POSITION

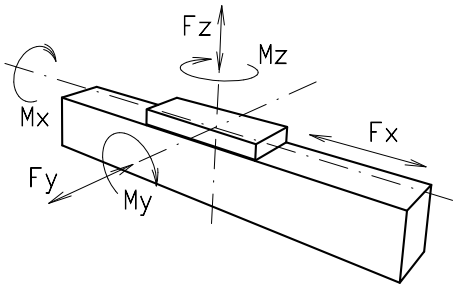




Function:
This unit consists of a rectangular aluminium profile with 2 integrated roller guides. The carriage is moved by a belt drive. Each carriage can be moved separately by its own drive. This unit has twin pulleys, which run on separate bearings, and two independent, parallel drive belts, one for each carriage. The openings of the guide body are sealed with 3 stainless steel cover bands to protect the guide from splash water and dust.

Fitting position: As required. Max. length 4.000 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 ± 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	160		200	
Forces/Torques	static	dynamic.	static	dynamic.
F_x (N)	1210	1100	1900	1800
F_y (N)	3000	2000	4400	3100
F_z (N)	3500	2800	4900	4400
M_x (Nm)	400	320	600	510
M_y (Nm)	360	300	560	480
M_z (Nm)	180	150	310	275
All forces and torques related 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 without cover bands	1,5		1,8	
Nm with cover bands	2,1		4	
Speed				
(m/s) max	6		8	
Tensile force				
permanent (N)	1210		1400	
0,2 s (N)	1331		2090	
Geometrical moments of inertia of aluminium profile				
I_x mm^4	22,2x10^5		63,8x10^5	
I_y mm^4	122,0x10^5		335x10^5	
Elastic modulus N/mm^2	70000		70000	

For life-time calculation of rollers use our homepage.

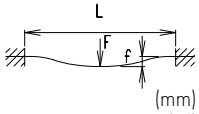
Driving torque:

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

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

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)

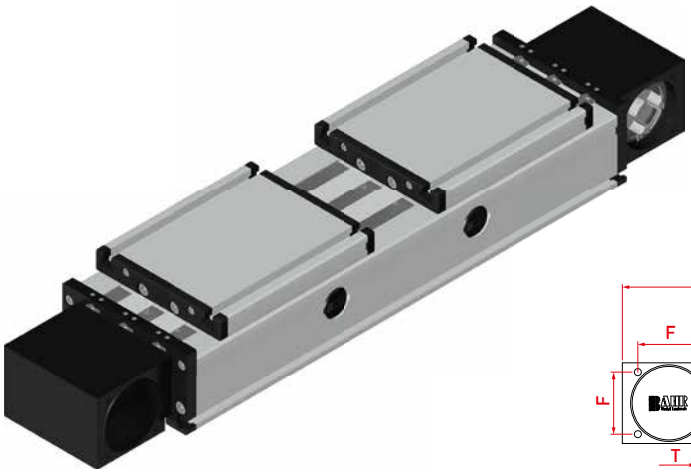
Deflection:

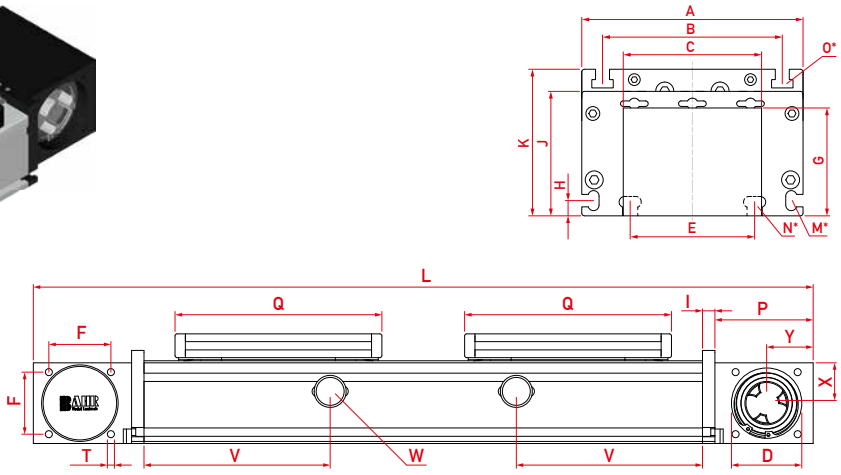


$$f = \frac{F * L^3}{E * I * 192}$$

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

Linear system **DLZZ 160, 200**





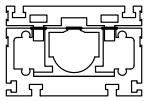
V = Q + 100 mm W = servicing position

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

Size	Basic length L	A	B	C	D	E	F	G	H	I	J	K	M for	N for	O for	P	Q	T	X	Y	Basic weight	Weight per 100 mm
DLZZ 160	615	160	130	121	68	90	60	78	11	12	90	106	M6	M8	M8	95	200	M8	39	45	16,0 kg	1,69 kg
DLZZ 200	790	200	160	150	90	140	80	97	15	15	110	129	M8	M10	M10	110	270	M10	49	50	28,50 kg	2,33 kg

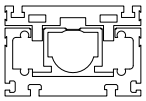
0 **Choice of guide body profile:** Stainless versions upon request.

(0)



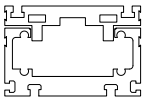
internal profile with cover bands

(1)



internal profile without cover bands

(2)



without internal profile and cover bands

0 **Choice of carriage:**

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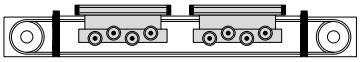
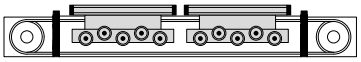
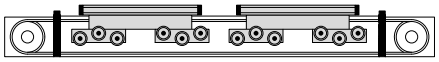


(2)

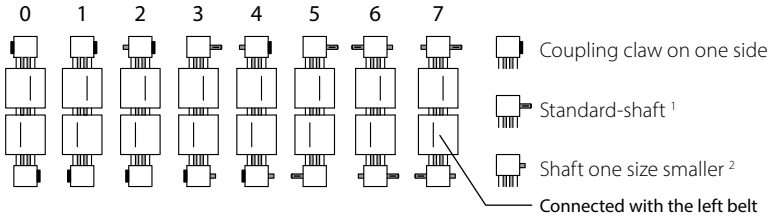


(3)



Size	Version 0		Version 2		Version 3	
	Q	L	Q	L	Q	L
160	200	615	250	715	300	830
200	270	790	330	910	410	1070

0 **Drive version:**



Belt table:

Code No.		Size	Belt	mm/rev.	Number of teeth
0	6	**160**	8M 20	176	22
0	7	**200**	8M 30	224	28

Shaft dimensions / Coupling claw:

Size	Shaft ø h6 x length	Key	Coupling
DLZZ 160 [1]	Ø 18 x 45	6x6x35	19
DLZZ 160 [2]	Ø 14 x 35	5x5xx28	19
DLZZ 200 [1]	Ø 22 x 45	6x6x40	24
DLZZ 200 [2]	Ø 18 x 45	6x6x40	24

DLZZ	200	4	0	0	2	0	7	1	1500
	Pos.	1	2	3	4	5	6	7	

Basic length + stroke = total length

Sample ordering code:
DLZZ 200 with internal profile and cover bands, carriage version 0, drive version 2, 710 mm stroke.