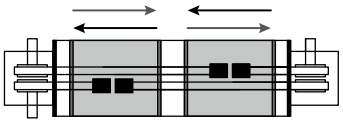
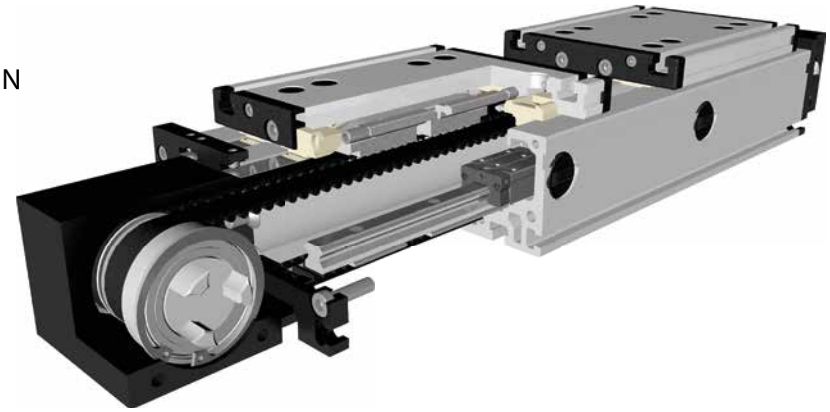
Linear system **DSZZ 160, 200**

TECHNICAL SUMMARY
REFERENCE ONLY

BELT DRIVE - WITH TWO SEPARATELY DRIVEN CARRIAGES

- INDEPENDENT CARRIAGES
- HORIZONTAL INSTALLATION POSITION

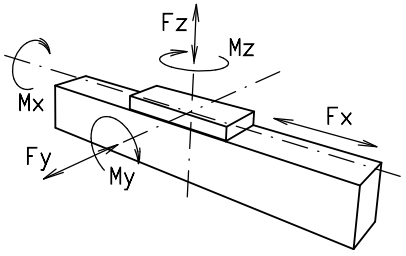




Function:
This unit consists of a rectangular aluminium profile with 2 integrated rail guides. The carriage is moved by a belt drive. Each carriage can be moved separately by its own drive. This unit has twin pulleys, which run on separate bearings, and two independent, parallel drive belts, one for 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 4 runner blocks which can be serviced at a central servicing position. For longer carriages the number of runner blocks can be increased.

Forces and torques



Size	160		200	
permitted dyn. Forces*	5000 km	10000 km	5000 km	10000 km
F_x (N)	1210	1100	1900	1800
F_y (N)	5570	3900	15600	11080
F_z (N)	7050	5020	20600	14600
M_x (Nm)	358	255	1285	915
M_y (Nm)	369	262	1375	980
M_z (Nm)	364	258	1345	960
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 ohne Abdeckband	1,5		2,0	
Nm mit Abdeckband	2,1		4	
Speed				
(m/s) max	5		5	
Tensile force				
permanent (N)	1210		1900	
0,2 s (N)	1331		2090	
Geometrical moments of inertia of aluminium profile				
I_x mm^4	21,32x10^5		48,07 x10^5	
I_y mm^4	123,36x10^5		259,99 x10^5	
Elastic modulus N/mm^2	70000		70000	

For life-time calculation use our homepage.

** referred to life-time*

Driving torque:

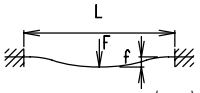
$$M_a = \frac{F * P * S_i}{2000 * \pi} + M_n$$

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

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)

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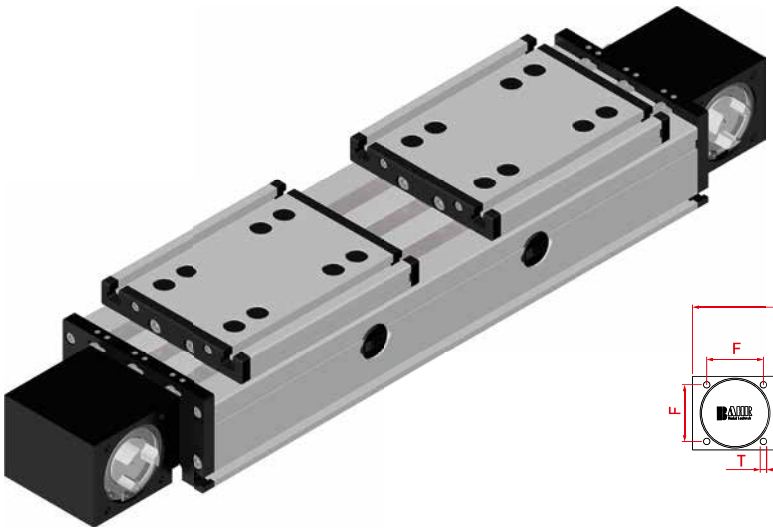
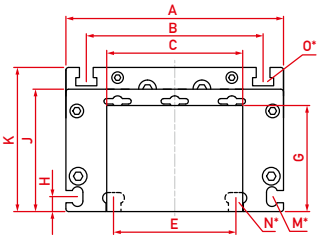
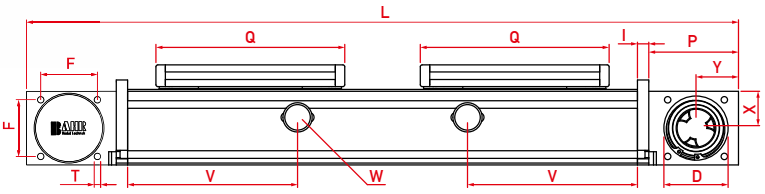






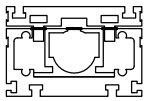
V = Q + 100 mm W = servicing position

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
DSZZ 160	625	160	130	121	68	90	60	78	11	12	90	106	M6	M8	M8	95	200	M8	39	45	20,5 kg	1,95 kg
DSZZ 200	800	200	160	150	90	140	80	97	15	15	110	129	M8	M10	M10	110	270	M10	49	50	34,5 kg	2,90 kg

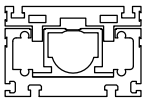
0 **Choice of guide body profile:** Stainless versions upon request.

(0)



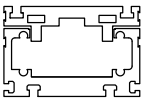
internal profile with cover bands

(1)



internal profile without cover bands

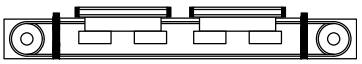
(2)



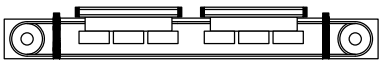
without internal profile and cover bands

0 **Choice of carriages:**

(0)



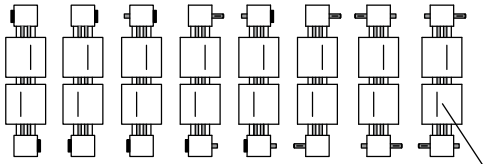
(1)



Size	Version 0		Version 1	
	Q	L	Q	L
160	200	625	230	685
200	270	800	310	880

0 **Drive version:**

0 1 2 3 4 5 6 7



Coupling claw on one side

Standard-shaft [1]

Shaft one size smaller [2]

connected with the left belt

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:

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

DSZZ	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:
DSZZ 200 with internal profile and cover bands, carriage version 0, drive version 2, 700 mm stroke.

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