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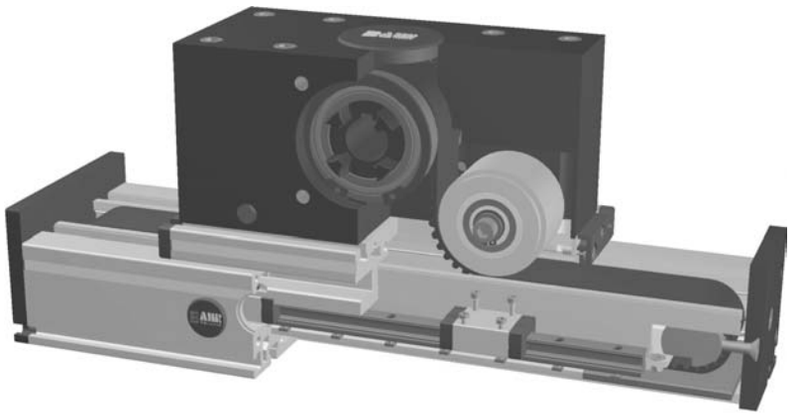
Positioning system DSSZ 160, 200

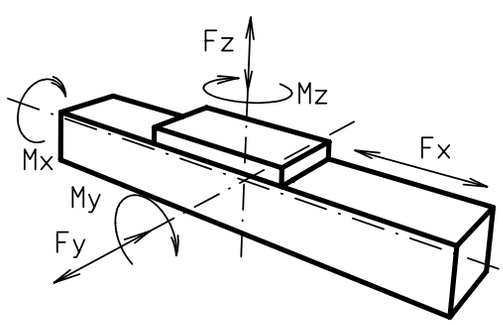
Belt drive



Function:
This linear unit consists of a rectangular aluminium profile with integrated rail guidance . The carriage which has runner blocks is driven by a timing belt. Each standard pulley includes a coupling claw on one side and is equiped with maintenance-free ball bearings. 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.

Fitting position: As required. Max. length 6.000 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 performance: 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)	5000	4000		
F_y (N)	2236	1775		
F_z (N)	5278	4189		
M_x (Nm)	282	224		
M_y (Nm)	283	225		
M_z (Nm)	300	238		
All forces and torques related to the following: existing values / values of table	$\frac{Fy}{Fy_{dyn}} + \frac{Fz}{Fz_{dyn}} + \frac{Mx}{Mx_{dyn}} + \frac{My}{My_{dyn}} + \frac{Mz}{Mz_{dyn}} \leq 1$			
No-load torque				
(Nm)	2,9			
Speed				
(m/sec) max	5			
Tensile force				
permanent (N)	4000			
0,2 sec (N)	4300			
Geometrical moments of inertia of aluminium profile				
I_x mm^4	2,13x10^6			
I_y mm^4	12,33x10^6			
Elastic modulus N/mm^2	70000			

* referred to life-time

Formula: DSSZ

Driving torque:

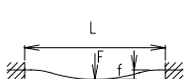
$$M_a = \frac{F*P*S_i}{2000*\pi} + M_{leer}$$

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

F = force (N)
P = pulley action perimeter (mm)
S_i = safety factor 1,2 ... 2
M_{lee} = 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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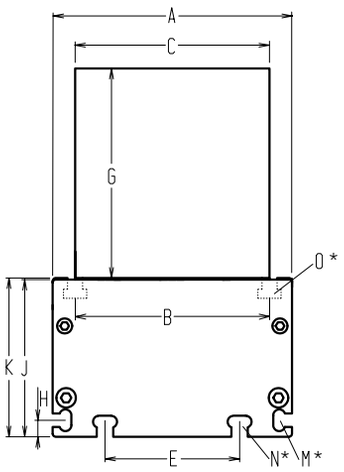
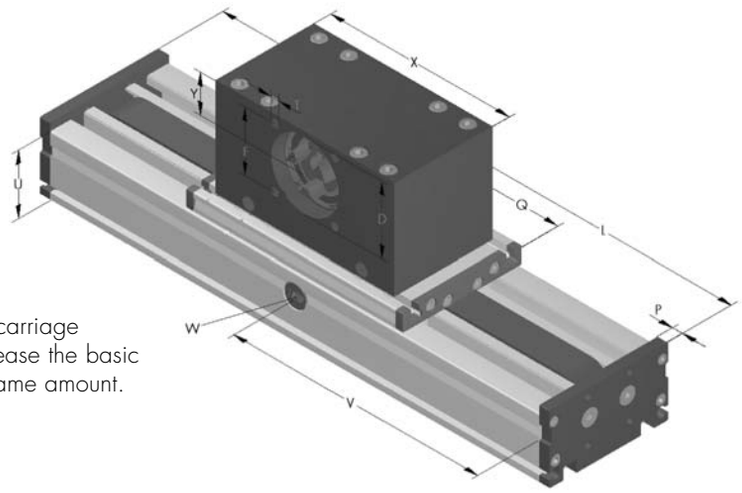
Positioning system DSSZ 160, 200

Dimensions (mm)





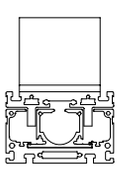
Increasing the carriage length will increase the basic length by the same amount.

*For slide-nuts refer to chapter 2.2 page 2 V = Q + 100 mm W = servicing position

Size ❐	Basic lenght L	A	B	C	D	E	F	G	H	J	K	M for	N for	O for	P	Q	R	S	T	U	X	Y	Basic weight	Weight per 100 mm
DSSZ 160	330	160	130	130	90	90	80	140	11	105	106	M 6	M 8	M 8	12	290	53	60	M 10	80	270	60	27,8 kg	1,8 kg
DSSZ 200																								

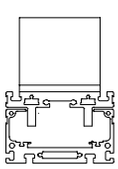
Choice of guide body profile:

0 **(1)**



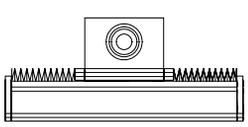
internal profile without cover bands

(2)



without internal profile and cover bands

(3)

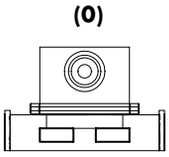


with bellows

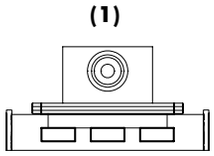
Stainless versions upon request.

Choice of carriages:

0 **(0)**



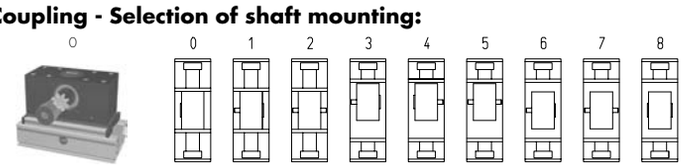
(1)



Size	Version 0		Version 1	
	Q	L	Q	L
160	290	330	>370	>410
200				

Coupling - Selection of shaft mounting:

0



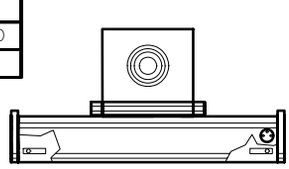
8 is as 0, but with coupling claws on both sides.The standard version is supplied without shaft. A shaft can be retrofitted by inserting in the pulley bore and securing with 2 locking rings or tension sets (size 200).

Belt table

Code No.		Size	Belt	mm/rev.	Number of teeth
0	**9**	160	8M50	256	32
1	**0**				

Shaft dimensions

Size	Shaft ø h6 x length	Key
160	22 x 45	6x6x40
200		



Basic length + stroke = total length

DSSZ	160	1	1	0	0	0	9	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:
DSSZ160, body profile with internal profile without cover bands, standard carriage, coupling claws on one side, 1170 mm stroke

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