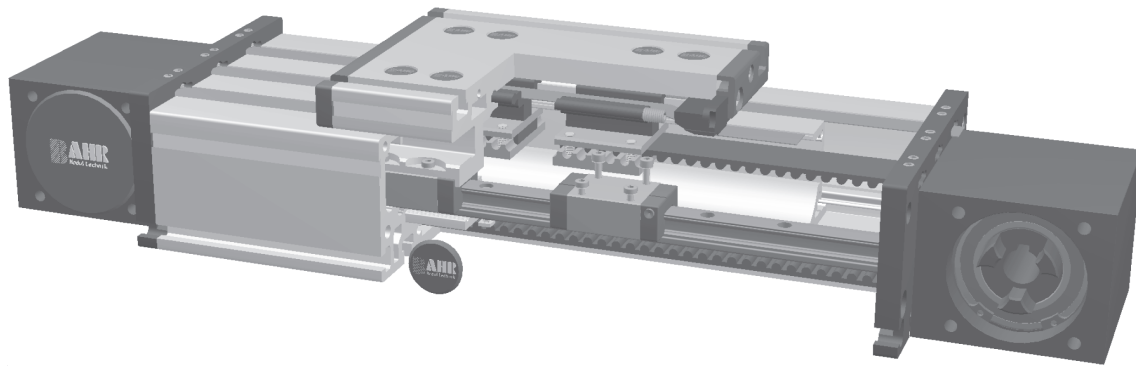


Positioning system DSZ 160, 200

Specifications

Belt drive



Function:

This unit consists of a rectangular aluminium profile with 2 integrated rail guidances. The carriage is moved by a belt drive. Each standard pulley has got one coupling claw on one side. 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, the opening can also be covered with a bellow or can be delivered without cover bands.

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 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.

8.1



Forces and torques	Size	160		200	
	permitted dyn. Forces*	5000 km	10000 km	5000 km	10000 km
F_x (N)	1900	1800	4000	3800	
F_y (N)	2236	1775	5155	4092	
F_z (N)	5278	4189	11311	8977	
M_x (Nm)	282	224	752	597	
M_y (Nm)	283	225	813	646	
M_z (Nm)	300	238	862	684	
All forces and torques related to the following:					
existing values $\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$					
values of table					
No-load torque					
without cover bands	1,5		2,0		
with cover bands	2,1		2,9		
Speed					
(m/sec) max	5		5		
Tensile force					
permanent (N)	1900		4000		
0,2 sec (N)	2090		4300		
Geometrical moments of inertia of aluminium profile					
I_x mm ⁴	2,13x10 ⁶		4,81 x10 ⁶		
I_y mm ⁴	12,33x10 ⁶		26,0 x10 ⁶		
Elastic modulus N/mm ²	70000		70000		

* referred to life-time

Formula: DSZ

Driving torque:

$$M_o = \frac{F \cdot P \cdot S_s}{2000 \cdot \pi} + M_{leer}$$

F = force (N)

P = pulley action perimeter (mm)

S_s = safety factor 1,2 ... 2

M_{leer} = no-load torque (Nm)

n = rpm pulley (min⁻¹)

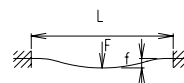
M_o = driving torque (Nm)

P_o = motor power (KW)

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

Deflection:

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



f = deflection (mm)

F = load (N)

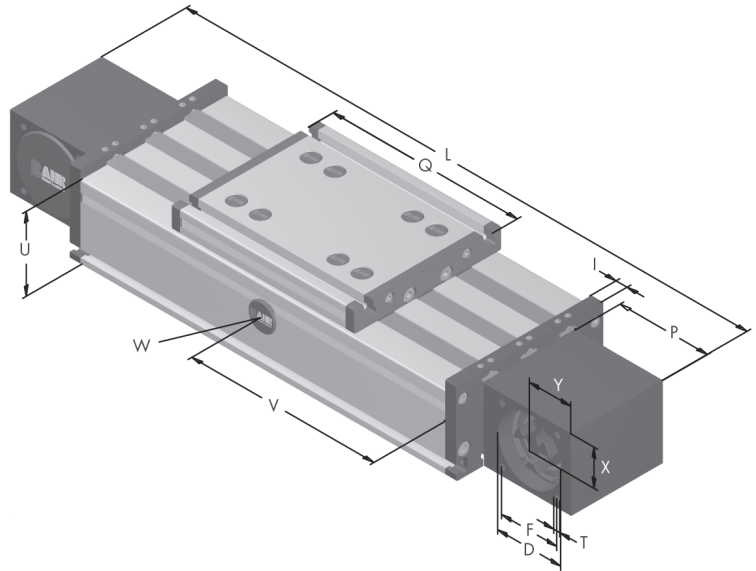
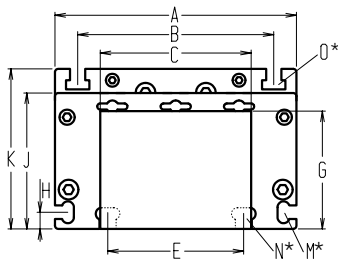
L = free length (mm)

E = elastic modulus 70000

I = second moment of area (mm⁴)

Positioning system DSZ 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 for	O for	P	Q	T	U	X	Y	Basic weight	Weight per 100 mm
DSZ 160	440	160	130	100	68	90	60	78	11	12	90	106	M 6	M 8	M 8	95	200	M 8	80	39	45	12,0 kg	1,9 kg
DSZ 200	530	200	160	130	90	140	80	97	15	15	110	129	M 8	M 10	M 10	110	270	M 10	100	49	50	21,3 kg	2,9 kg

Choice of guide body profile:

(0) (0) internal profile with cover bands
 (1) (1) internal profile without cover bands
 (2) (2) without internal profile and cover bands
 (3) (3) with bellows

Stainless versions upon request.

Choice of carriages:

(0) (0)
 (1) (1)

Size	Version 0		Version 1	
	Q	L	Q	L
160	200	440	>230	>470
200	270	530	>310	>570

Coupling - Selection of shaft mounting:

0 0
 1 1
 2 2
 3 3
 4 4
 5 5
 6 6
 7 7
 8 8
 9 9

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	160	8M30	176	22
0 9	160	8M50	176	22
0 9	200	8M50	224	28

Shaft dimensions

Size	Shaft ϕ h ₉ x length	Key
160(8M30)	18 x 45	6x6x40
160(8M50)	25 x 35	8x8x32
200(8M50)	22 x 45	6x6x40

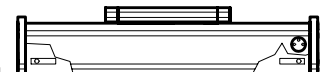
Basic length + stroke = total length

DSZ 160 1 0 0 0 0 7 1 01500

Sample ordering code:

DSZ160 with internal profile and cover bands, standard carriage, coupling claw on one side, 1060 mm stroke.

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.



8.1

