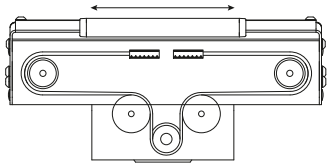
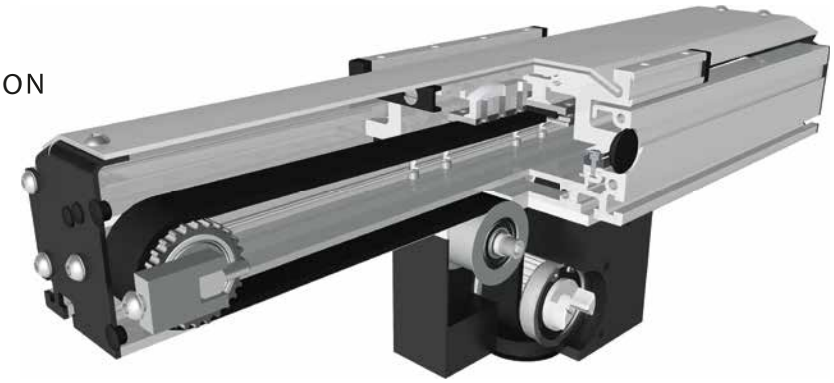
Linear system **DSZS 120 P, 160 P, 200 P**

BELT DRIVE

- INDEPENDENT INSTALLATION POSITION
- OMEGA SYSTEM
- LIFTING SYSTEM
- COVER PROFILE

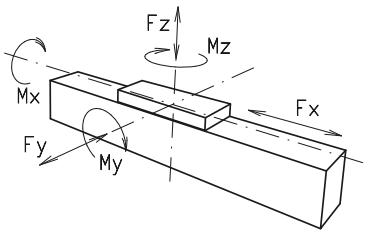




Function:
The guide body consists of a rectangular aluminium profile with two integrated rail guides. The carriage, which is running on four runner blocks, is driven by a revolving timing belt. The novelty is that the timing belt is diverted into a drive block positioned centrically. This results in an extraordinary compactness with regard to the overall length of the system. The driving toothed pulley is provided with a coupling claw as a standard. The belt tension can be easily readjusted via a tensioning device within the bearing block. The openings in the guide body are closed by an aluminium profile, leaving only small slits open on the sides. The cover profile can be adjusted according to the mounting position.
The advantages compared to the DSZS positioning system are: The number of components prone to wear such as cover bands and sliding blocks is reduced and the fact that there is no friction makes it possible to use smaller motors. In addition, the cover profile, which is fixed with only a few screws, improves the serviceability and maintainability.

Fitting position: As required. Max. length DSZS 120P / 1600mm, DSZS 160P / 1800mm, DSZS 200P / 2000mm
Carriage mounting: By tapped holes.
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	120		160		200	
permitted dyn. Forces*	5000 km	10000 km	5000 km	10000 km	5000 km	10000 km
F_x (N)	894	800	1900	1800	4000	3800
F_y (N)	1776	1405	5570	3900	15600	11080
F_z (N)	2090	1650	7050	5020	20600	14600
M_x (Nm)	81	64	358	255	1285	915
M_y (Nm)	97	77	369	262	1375	980
M_z (Nm)	96	76	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 without cover bands	1,2		1,5		2,0	
Speed						
(m/s) max	5		5		5	
Geometrical moments of inertia of aluminium profile						
I_x mm^4	5,61 x 10^5		21,32 x 10^5		48,07 x 10^5	
I_y mm^4	34,19 x 10^5		123,36 x 10^5		259,99 x 10^5	
Elastic modulus N/mm^2	70.000		70.000		70.000	

For life-time calculation use our homepage.

** referred to life-time*

Driving torque:

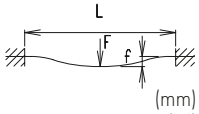
$$M_a = \frac{F * P * S_i}{2000 * \pi} + M_n$$

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

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)

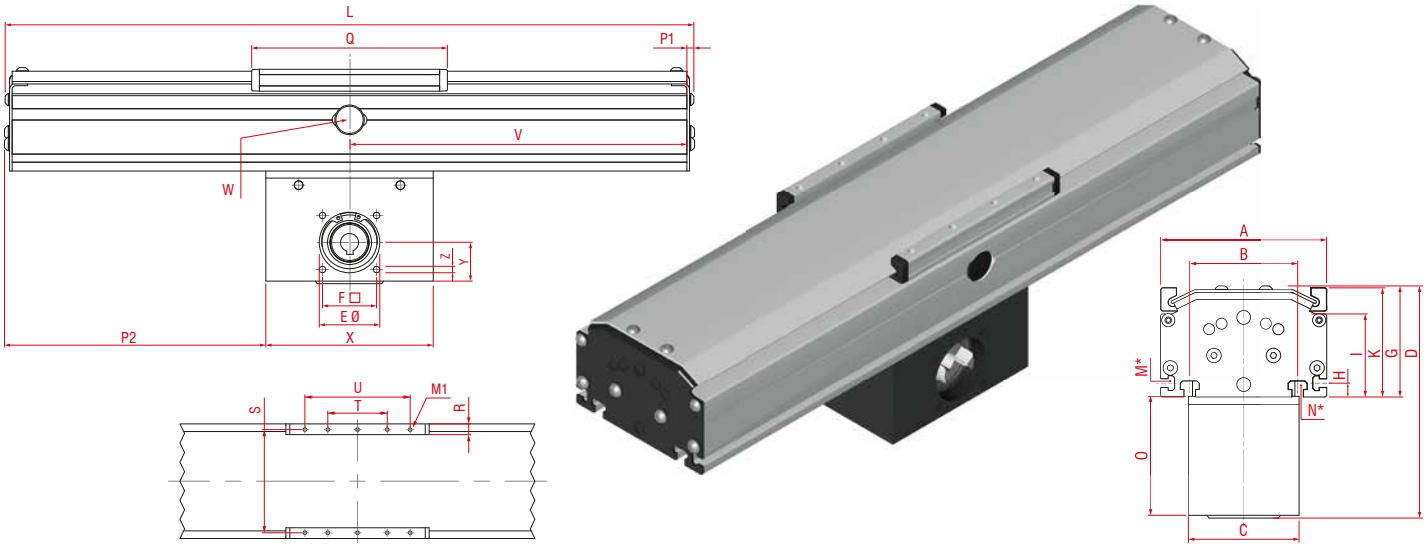
Deflection:

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



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

Linear system **DSZS 120 P, 160 P, 200 P**



*For slide nuts refer to chapter 2.2 page 2

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

Size	A	B	C	D	E Ø	F □	G	H	I	K	M for	N for	O	P1	P2	R	S	T	U	X	Y	Z	Basic weight	Weight per 100 mm
DSZS 120 **P**	120	78	80	169	47	42	80,5	10	60	79	M5	M6	85,5	6	32	11,5	106	40	120	130	30	M6	5,4 kg	0,87 kg
DSZS 160 **P**	160	90	100	219	68	60	108,5	11	80	106	M6	M8	107	8,25	51,5	15	144	80	160	180	38	M8	13,7 kg	1,55 kg
DSZS 200 **P**	200	140	130	281	90	80	132,5	15	100	129	M8	M10	146	10	33,5	17	180	100	200	270	60	M10	28,7 kg	2,14 kg

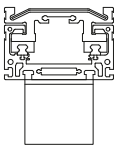
0 **Choice of guide body profile:** Stainless versions upon request.

V = Q + 100 mm W = servicing position

DS 120 M1 = M6 x 8
only 8 threaded holes in the carriage

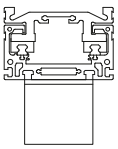
DS 160 M1 = M8 x 12 **DS 200** M1 = M10 x 12

(0)



with cover profile

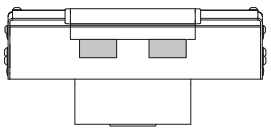
(1)



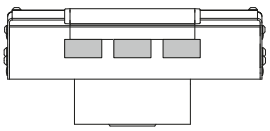
without cover profile

0 **Choice of carriages:**

(0)

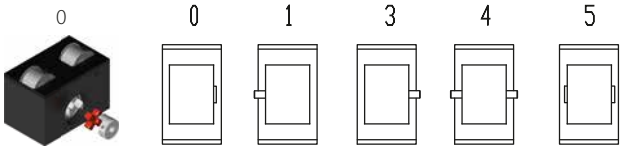


(1)



Size	Version 0		Version 1	
	Q	L	Q	L
120	152	192	152	192
160	196	283	228	315
200	248	338	296	386

0 **Drive version:**



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

Belt table:

Code No.		Size	Belt	mm/rev.	Number of teeth
0	4	**120**	5M 25	130	26
0	7	**160**	8M 30	192	24
0	9	**200**	8M 50	256	32

Shaft dimensions / Coupling claw:

Size	Shaft ø h6 x length	Key	Coupling
120	14 x 35	5 x 5 x 28	14
160	18 x 45	6 x 6 x 40	19
200	22 x 45	6 x 6 x 40	24

DSZS	**120 P**	**1**	**0**	**0**	**0**	**0**	**4**	**1**	**1500**
	Pos.	1	2	3	4	5	6	7	

Basic length + stroke = total length

Sample ordering code:
DSZS120 P with cover profile, standard carriage, coupling claw on one side, 1308 mm stroke.