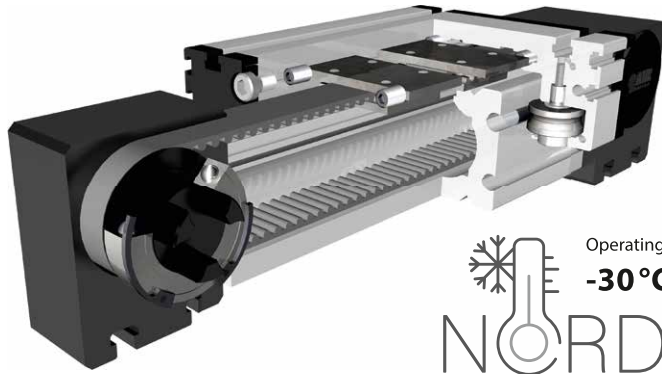


Linear system **ELZ-NK 60, 60S, 80, 80S, 100**

BELT DRIVE - DEEP-FREEZE AREA

- DEEP-FREEZE CONDITIONS
- LONG SERVICE LIFE
- FOOD INDUSTRY
- RELIABILITY



Operating temperature range
-30°C ≤ -10°C
NORDKAP

3.1



Function:

Highly dynamic linear unit with toothed belt drive and external roller guides. Reliable and low-maintenance guide system with robust track roller guide, suitable for the intended uses in deep temperature applications. Can be used without restriction in the deep temperature range between -30°C and -10°C. An operating manual is included in the scope of delivery.

Fitting position:

As required. Max. length 6.000 mm without joints.

Carriage mounting:

By T-slots.

Unit mounting:

By T-slots or tapped holes in the bearing block, mounting sets.

Belt type:

HTD with steel reinforcement, no backlash when changing direction, repeatability: ± 0,1 mm.

Forces and torques

Size	ELZ 60		ELZ 60 S		ELZ 80		ELZ 80 S		ELZ 100	
	static	dynamic	static	dynamic	static	dynamic	static	dynamic	static	dynamic
F _x (N)	715	640	715	640	1520	1440	1520	1440	3200	3040
F _y (N)	3000	2000	4100	3100	3000	2000	4600	3600	8000	6500
F _z (N)	1700	1100	2160	1600	1700	1100	3000	1800	3600	2200
M _x (Nm)	67	43	88	65	90	55	170	140	300	230
M _y (Nm)	90	70	190	140	110	80	270	230	400	270
M _z (Nm)	120	100	230	170	150	120	300	220	750	500

All forces and torques relate to the following:

existing values $\frac{F_y}{F_{y_{dyn}}} + \frac{F_z}{F_{z_{dyn}}} + \frac{M_x}{M_{x_{dyn}}} + \frac{M_y}{M_{y_{dyn}}} + \frac{M_z}{M_{z_{dyn}}} \leq 1$

table values

Geometrical moments

I _x mm ⁴	6,79x10 ⁵	6,79x10 ⁵	18,99x10 ⁵	18,99x10 ⁵	44,4x10 ⁵
I _y mm ⁴	6,97x10 ⁵	6,97x10 ⁵	18,97x10 ⁵	18,97x10 ⁵	44,8x10 ⁵
E-Modulus N/mm ²	70000	70000	70000	70000	70000

Speed

(m/s) max	3	5	5	6	8
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For life-time calculation of rollers use our homepage.

Driving torque:

$$M_o = \frac{F \cdot P \cdot S_i}{2000 \cdot \pi} + M_n$$

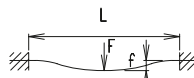
$$P_o = \frac{M_o \cdot n}{9550}$$

- F = force (N)
- P = pulley action perimeter (mm)
- S_i = safety factor 1, 2 ... 2
- M_n = no-load torque (Nm)
- n = rpm pulley (min⁻¹)
- M_o = driving torque (Nm)
- P_o = motor power (KW)

Deflection:

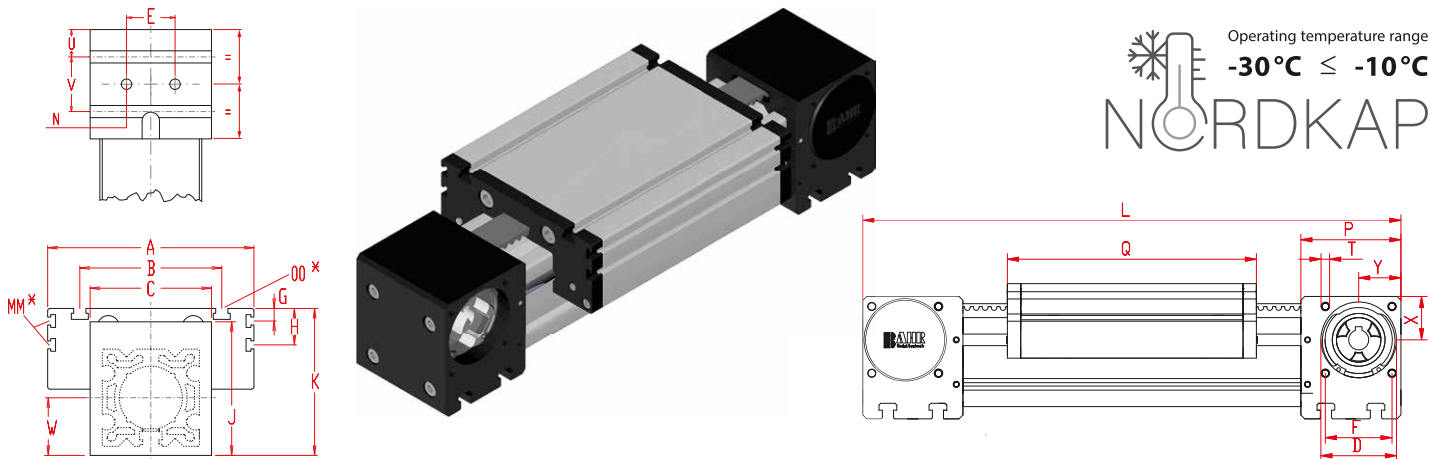
$$f = \frac{F \cdot L^3}{E \cdot I \cdot 192}$$

- f = deflection (mm)
- F = load (N)
- L = free length (mm)
- E = elastic modulus 70000 (N/mm²)
- I = second moment of area (mm⁴)



Linear system **ELZ-NK 60, 60S, 80, 80S, 100**

Dimensions (mm)



3.1

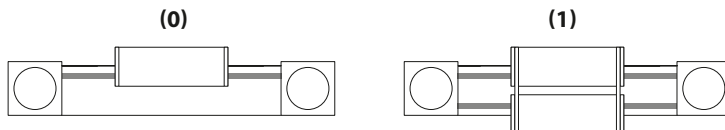
*For slide nuts refer to chapter 2.2 page 2

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

Size	Basic length L	A	B	C	D -0,05	E	F	G	H	J	K	MM for	N	OO for	P	Q	T	U	V	W	X	Y	Basic weight	Weight per 100 mm
60	290	144	96	80	47	30	42	-	-	82	90	-	M 8	M 8	59	168	M 6	15	30	41	27	26	4,8 kg	0,62 kg
60 S	315	170	108	80	47	30	42	-	-	82	94	-	M 8	M 8	59	194	M 6	15	30	41	27	26	5,8 kg	0,62 kg
80	375	170	117	100	68	40	60	10,5	30,5	110	121	M 6	M 10	M 10	90	194	M 8	22,5	45	51	39	38	10,0 kg	1,00 kg
80 S	395	190	126	100	68	40	60	12,5	30	110	122	M 6	M 10	M 8	90	214	M 8	22,5	45	51	39	38	11,0 kg	1,00 kg
100	530	230	155	130	90	50	80	-	29	135	154	M 10	M 12	M 10	110	300	M 10	23	64	65	50	50	24,0 kg	1,60 kg

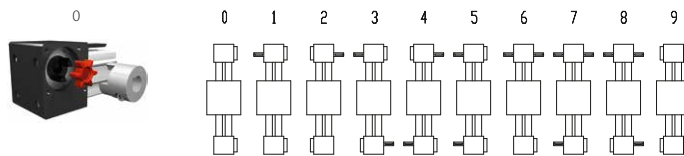
- 0** Choice of guide body profile:
 (0) Standard (2) corrosion-protected guide rods and screws
 (4) expanded corrosion-protected version (depending on the availability of components)

0 Choice of carriages:



Size	Version 1	
	Q	L
60	184	306
60S	214	335
80	210	391
80S	234	415
100	316	546

0 Drive version:



Version 9 is the same as 0, but with double sided coupling claw.

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 100).

Belt table:

Code No.	Size	Belt	mm/rev.	Number of teeth
0 4	60 (S)	5M25	130	26
0 7	80 (S)	8M30	192	24
0 9	100	8M50	256	32

Shaft dimensions / Coupling claw:

Size	Shaft ø h6 x length	Key	Coupling
60 (S)	14 x 35	5x5x28	14
80 (S)	18 x 45	6x6x40	19
100	22 x 45	6x6x40	24

ELZ-NK 60 1 0 0 0 0 4 1 1500

Basic length + stroke = total length

For combination kits and connecting elements refer to chapter 2.2

Sample ordering code:
 ELZ-NK 60, standard body profile, standard carriage, coupling claw on one side, 1210 mm stroke.