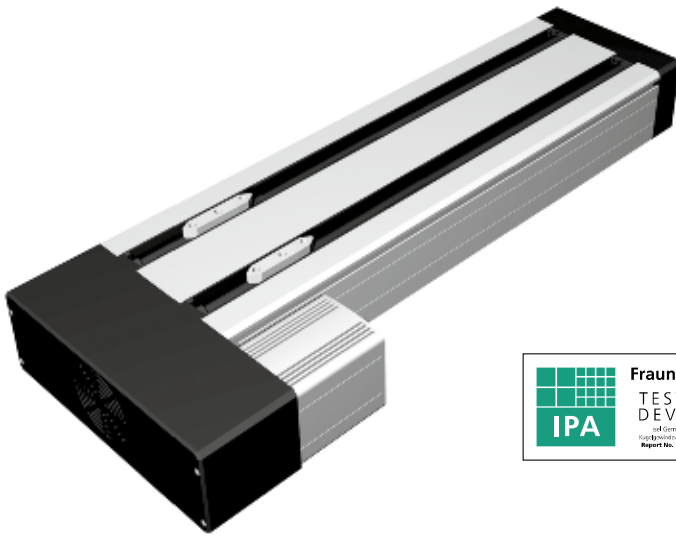


Linear units with spindle drive

LES 6



LES 6 with side belt drive module

Features

- aluminium shaft housing profile W150 × H75 mm, naturally anodised
- clamping area and profile underside milled flat
- with 4 precision steel shafts Ø 12 h6, material Cf53, hardness 60 ± 2 HRC
- aluminium shaft slides WS 5/70, 2 x WS 5/70 (70 mm long), adjustable for no play, central lubrication system
- recirculating ball drive 2.5/4/5/10 and 20 mm pitches
- profile sealing with friction-resistant lip seals
- cast aluminium end plates
- with 2 limit or reference switches, repeat accuracy ± 0.02 mm
- sealed angular contact bearings in drive - steel flange

Options:

- black anodized aluminium profile
- electromagnetic brake
- steel slides LS2 (Part no. 223007)
- limit switch attachment kit (see accessories)

To order:

- length measuring system
- bellows gaiter cover
- assembly left of the motor module

Ordering key

2 3 4 XXX 0 XXX

Drive

- 6 = Preparation Direct drive modules
- 7 = Preparation Belt drive module

Shaft slides

- 0 = 2 Shaft slides 70 mm
- 1 = 2 Shaft slides 200 mm
- 2 = 4 Shaft slides 70 mm

Profile length (L1)

- e.g. 029 = 290 mm (min.)
- 299 = 2990 mm (max.)

(rounded to the last digit)

Standard profile lengths available in 100 mm raster

Recirculating ball drive

- 0 = without
- 1 = Pitch 2.5 mm
- 2 = Pitch 4.0 mm
- 3 = Pitch 5.0 mm
- 4 = Pitch 10 mm
- 5 = Pitch 20 mm
- 6 = Pitch 20 mm (with complete ball return)

Drive modules

see pages B-46 et seq. of the catalogue



Technical specification

Aluminium profile

Aluminium profile LES 6	
Moment of inertia I_x	707.100 cm ⁴
Moment of inertia I_y	212.200 cm ⁴
*Centre of gravity <small>see dimensioned drawing</small>	32.78 mm
Cross-sectional area	30.07 cm ²
Material	AlMgSi0, 5F22
Anodising	E6/EV1
Weight with steel shafts	11.4 kg/m
Weight with steel shafts and spindles	12.8 kg/m

No load running torques

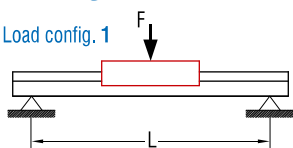
No load torques (Ncm)					
Speed (rpm)	Spindle pitch				
	2.5	4	5	10	20
500	17	17	18	20	21
1500	20	20	22	24	25
3000	24	25	26	29	30

Linear units with spindle drive

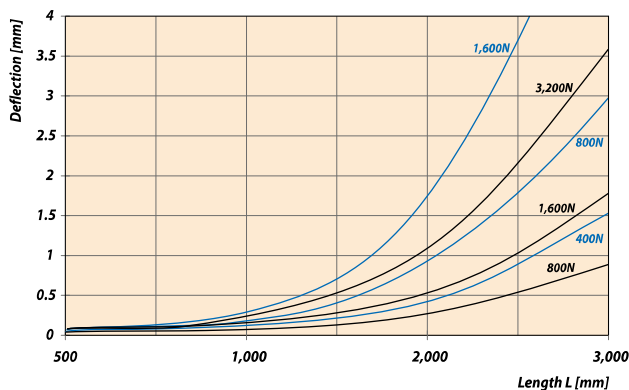
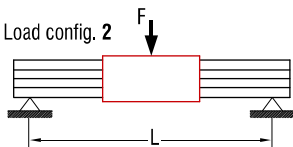
LES 6

Bending

Load config. 1



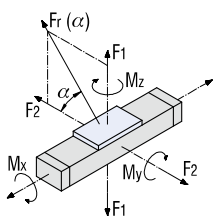
Load config. 2



Load factors

$$Fr(\alpha) = \frac{F_2}{\cos \alpha}$$

$$Fr(\alpha) = \frac{F_1}{\sin \alpha}$$



LES 6 with two WS 5/70	
C_0	5,153.30 N
C	2,319.41 N
F_1 stat.	4,401.33 N
F_1 dyn.	1,980.96 N
F_2 stat.	5,153.30 N
F_2 dyn.	2,319.14 N
M_x stat.	211.54 Nm
M_y stat.	164.31 Nm
M_z stat.	192.39 Nm
M_x dyn.	95.21 Nm
M_y dyn.	73.95 Nm
M_z dyn.	86.59 Nm

LES 6 with four WS 5/70	
C_0	6,606 N
C	3,746 N
F_1 stat.	5,642 N
F_1 dyn.	3,198 N
F_2 stat.	6,606 N
F_2 dyn.	3,746 N
M_x stat.	211.575 Nm
M_y stat.	366.73 Nm
M_z stat.	429.39 Nm
M_x dyn.	119.925 Nm
M_y dyn.	207.87 Nm
M_z dyn.	243.49 Nm

permissible spindle speeds

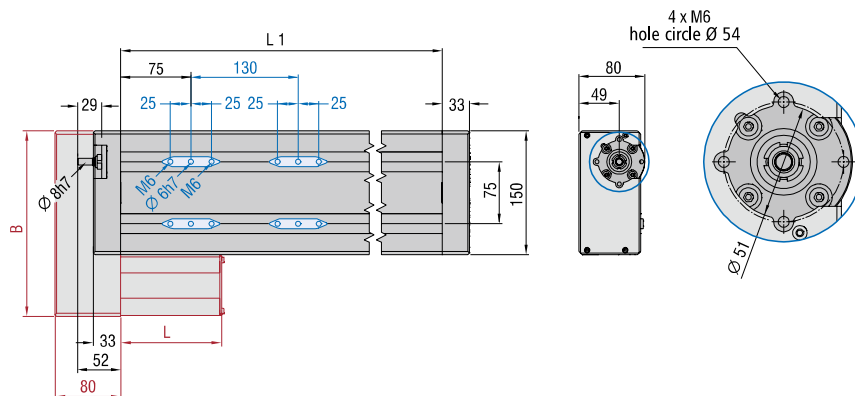
LES 4 / 5 / 6	Spindle pitch [mm]	max. permissible feed speed v permissible [mm/s]				
		2.5	4	5	10	20
490	4000	167	267	333	667	1333
990	3000	125	200	250	500	1000
1390	1500	63	100	125	250	500
1490 *	3000	125	200	250	500	1000
1990 *	1650	69	110	138	275	550
2490 *	1050	44	70	88	175	350
2990 *	750	31	50	63	125	250

* with spindle support

dimensioned drawing

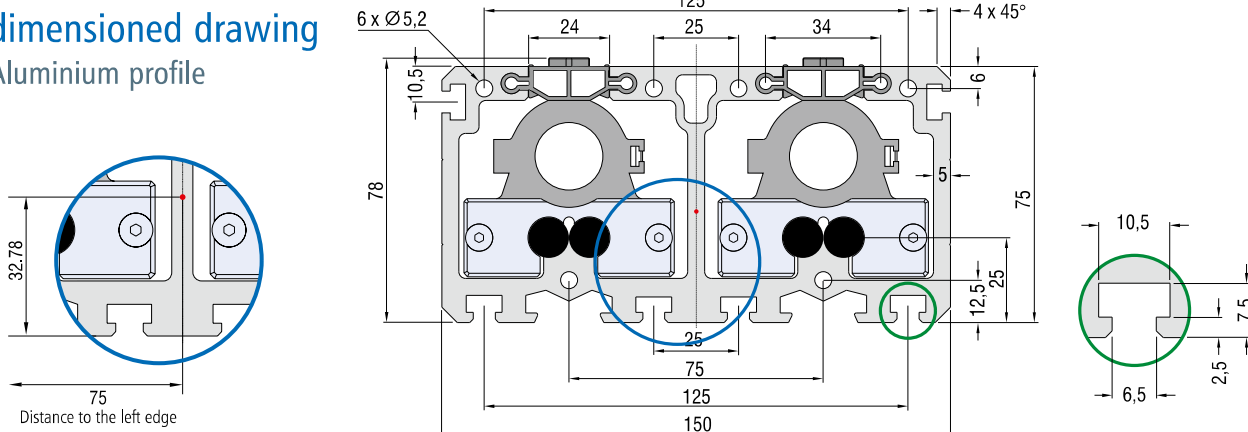
process travel
at 2xWS 5/70 = L1 -150 mm
at 4xWS 5/70 = L1 -280 mm

motor module dimensions see pages B-47
external limit switches see pages B-61



dimensioned drawing

Aluminium profile



calculations on the „theoretical critical speed“ and the „drive size“ can be found at www.isel.com/en/products/mechanics/linear-units/linear-units-les6