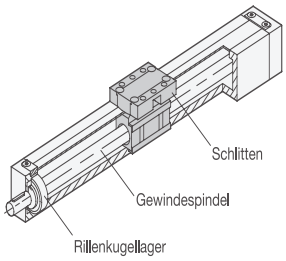
Technical information

Configurable linear profile units move and position one or more slides linearly via a spindle drive with ball bearings on both sides. Inside the guide profile, the slide is guided by a 4-fold plain bearing. The end pieces serve to limit the travel path and close off the front of the linear profile unit.

Profile linear units can be individually equipped with up to 4x2 fixing holes. You can choose between threaded holes for fixing from below and through-holes with flat countersunk holes for fixing from above.



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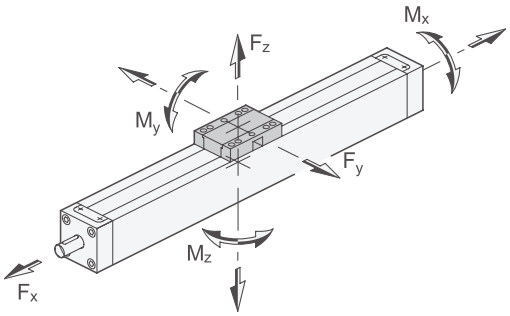
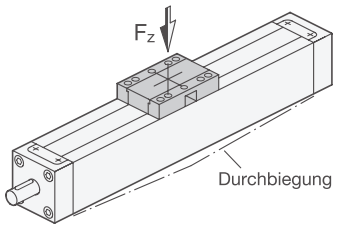


⌀ Verstelleinheiten	Fx in N	Fy in N					Fz in N					Mx in Nm	My in Nm	Mz in Nm
		l=200	l=500	l=700	l=900	l=1000	l=200	l=500	l=700	l=900				
30	150	550	400	140	60	50	550	400	140	60	50	5	45	19
50	300	1660	1660	990	460	340	1660	1660	1660	820	600	25	107	29

Sag / elastic deformation

The maximum permissible forces and torques listed in the table result in elastic deformation of the linear unit. This amounts to approx. 0.3 mm for the specified values. The illustration shows this deformation as an example using the force Fz.



Positioning precision

The positioning accuracy specifies the deviation with which a position can be approached. The table shows the maximum deviation that can occur.

max. deviation
Lead screw
± 0,1 mm / 300 mm Hub

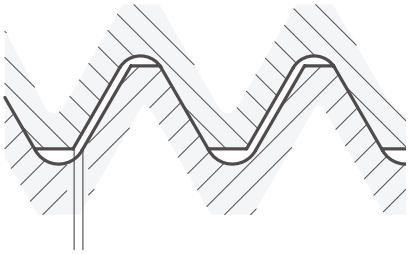
Repeatable precision

The repeat accuracy indicates how precisely a position can be approached several times under the same conditions. As a rule, the repeat accuracy is higher than the positioning accuracy, as manufacturing tolerances have no influence on the repeat accuracy. With the metric screw drives used, the repeatability accuracy is ±0.05 mm.

Backlash on reversal

The play between the thread flanks of the spindle and spindle nut creates a backlash when the direction of the drive rotation changes. Before the slide moves in the opposite direction, this play must be overcome.

This backlash prevents the spindle nut and spindle from jamming. For linear profile units, the backlash is 0.2 mm.



Self-braking

As the lead angle of metric lead screws is smaller than the friction angle, they are self-locking. It is not possible to move the carriage. The spindle can also be secured by an external spindle clamp using clamping plates or slide clamping.

Lifespan

Depending on the application, the service life of linear units depends on the expected ambient conditions.

The following factors have an influence on this:

- Installation position
- Load to be moved
- Adjustment speed
- Adjustment frequency
- Ambient temperature
- Compliance with maintenance intervals

Ambient conditions

The linear units are designed for ambient temperatures from -20 °C to +100 °C. In general, large temperature fluctuations and condensing humidity should be avoided.

Configurable profile linear units

Examples of application