

SlimLine

Translation Stage with Stepper Motor for precise Positioning

The translation stages of the **SlimLine series** are cost effective and suitable for a variety of positioning tasks which need high precision. Typical applications are the movement of sensors, lenses and dispensing units with an error possibility ranging among less than a few microns. Travel ranges are between 50 and 350 mm.

The body of the stages is made of **high strength and stress-free aluminium**. This ensures high mechanical stability over a long period of time. The body is manufactured in one piece in order to achieve highest torsional stability and bending strength.

The height of the translation stage of 31 mm is ideal if there are space constraints. Combinations of multiple axes are possible with no need for adapter stages providing lowest space requirements. M6 mounting holes with a 25 mm pattern on the carriage simplify the mounting of the load.

Guiding profiles made of corrosion-resistant hardened steel and precision ground bearings lead the carriages with **recirculating preloaded ball bearings**. The load capacity is 10 kg in any direction. The special design of the stages containing the circulating balls guarantees smooth motion and a long lifetime. The runout is less than 6 µm over a distance of 200 mm.

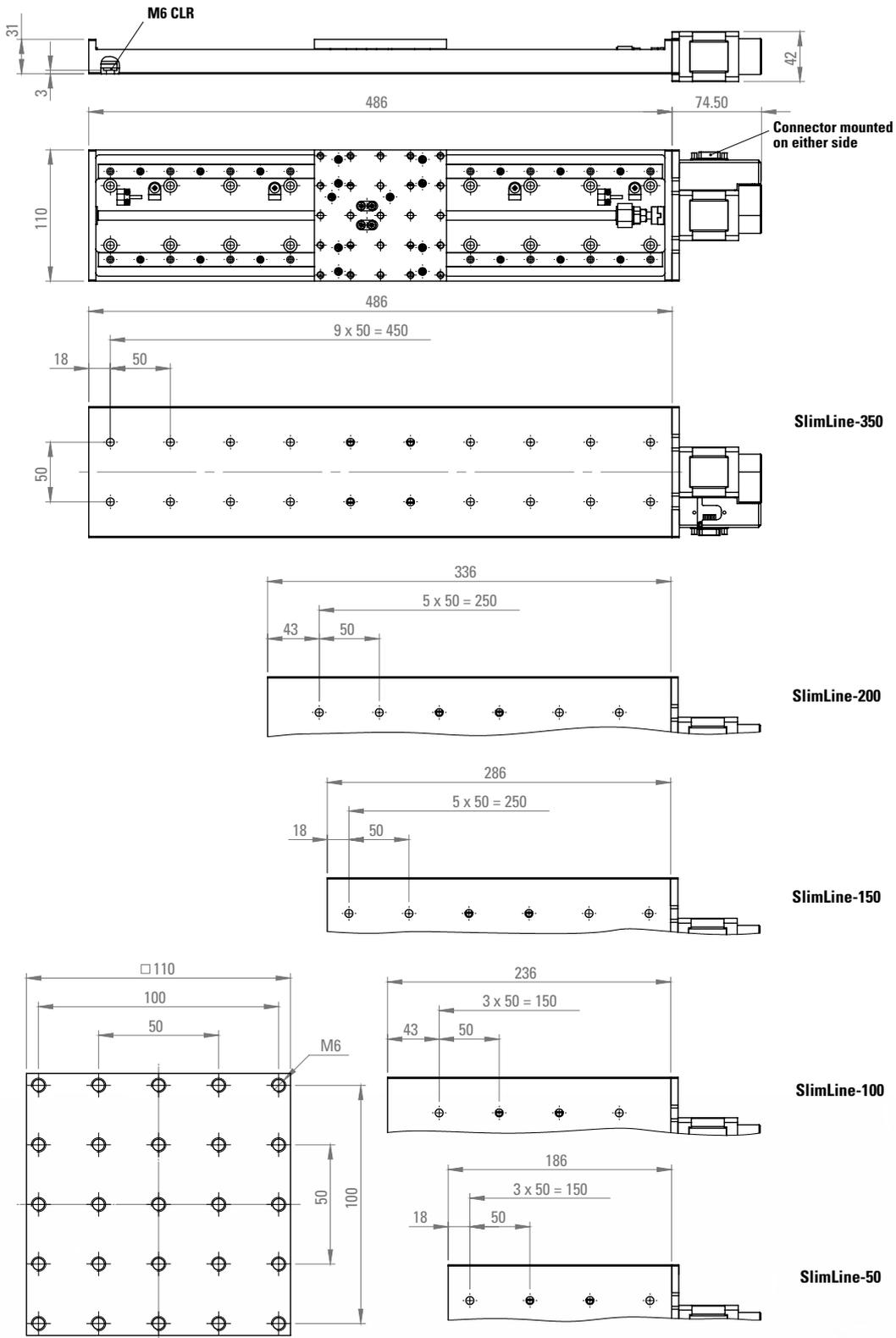
Pre-loaded bearings support the **lead screw** in axial direction **without any play**. The nut is also pre-loaded and has minimal backlash, the result of which is an efficient and precise operation of the stage.

A robust and reliable stepper motor drives the lead screw. The high permanent power output and torque are ideal for operation over long periods of time without occurring problems. The motor has an optical encoder with 1000 pulses per revolution. This ensures the **precise and reproducible positioning** of the stage. Optical limit switches at each end of the travel range prevent a hard stop of the carriage.

- Low profile
- XY assembly without adapter plates
- Robust stepper motor
- Preloaded nut
- Repeatability < 3 µm
- Position control with optical encoder

Technical Data

Travel range	50 mm, 100 mm, 150 mm, 200 mm, 350 mm
Velocity	up to 40 mm/s
Resolution	1.5 µm
Repeatability	3 µm
Load Capacity	10 kg
Weight	1.6 kg (SlimLine-50) 1.8 kg (SlimLine-100) 2.0 kg (SlimLine-150) 2.2 kg (SlimLine-200) 2.8 kg (SlimLine-350)



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