MLL-82 – Long-Travel Precision Linear Stage

The **SMAR**SHIFT MLL-82 is an electromagnetic direct drive positioner with variable travel ranges according to your individual requirements. The positioners are available with length increments of 100mm.
It can be easily combined with stages of the MLS-series.
The picture shows an MLL-82500 with more than 400 mm travel and energy chain for cable routing.



Applications

The MLL-82 has been specifically designed for demanding tasks in industrial manufacturing, including micro assembly, pick-and-place processes, and the precise movement of tools in gantry systems. Its long travel distance and high accuracy make it the ideal choice for modern manufacturing methods such as laser marking, laser cutting and laser drilling. In semiconductor technology and photonics, the MLL-82 is used as a wafer positioning system and in delay lines, where it impresses with its precision and reliability.

All **SMAR**SHIFT products are suitable for use in ambient conditions and inert gas environments, including as helium and nitrogen. Cleanroom options are available.
Travel: 105 … 405 mm Dimensions (mm): 82 × 250 … 550 × 30 Weight: 1.8 … 3.3 kg

	Mechanical
Travel [mm]	105 … 405
Continuous Force [N]	7.5
Peak Force [N]	22.5
Max. Normal Force [N]	200
Moved Mass (unloaded) [g]	400
Dimensions [mm]	82 × 250 … 550 × 30
Weight [g]	1800 … 3300
	Material

Copyright © 2026 SmarAct GmbH • All Rights Reserved.
SmarAct GmbH | Schuette-Lanz-Strasse 9 | 26135 Oldenburg | Germany T: +49 441 – 800 879 0 | Email: info-de@smaract.com

Base Material	Aluminum, black anodized
	Closed-Loop
Velocity [mm/s]	up to 2000
Sensor Types	SC
Max. Acceleration (no load) [m/s²]	30
In-Position Stability [nm]	±5
Sensor Resolution MCS2 [nm]	1
Uni-Directional Repeatability MCS2 [nm]	±45
	Options
Material Options	Aluminum, blasted

Copyright © 2026 SmarAct GmbH • All Rights Reserved.
SmarAct GmbH | Schuette-Lanz-Strasse 9 | 26135 Oldenburg | Germany T: +49 441 – 800 879 0 | Email: info-de@smaract.com