MLL-400 – Precision XY Table

The **SMAR**SHIFT MLL-400 is an electromagnetic direct drive XY stage with two travel options. The first option offers a large travel range of up to 300 mm. The second offers a reduced travel range of 200 mm for increased precision. Both versions can be mounted on a standard optical breadboard with 25 mm × 25 mm grid.
The MLL-400 can be used as a base for an electromagnetic **TRI**POD.



Applications

The MLL-400 has been specifically designed for demanding tasks in industrial manufacturing, including micro assembly, pick-and-place processes, and workpiece alignment. Other application areas include high-precision additive manufacturing, wafer positioning, and laser processing.

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: 200 mm or 300 mm Dimensions (mm): 400 × 400 × 70
Weight: 21 kg

	Mechanical
Degrees of Freedom	2
Travel [mm]	200 | 300
Continuous Force [N]	7.5
Peak Force [N]	22.5
Max. Normal Force [N]	200
Moving Mass [g]	12000 (lower axis); 6000 (upper axis)
Dimensions [mm]	400 × 400 × 70
Weight [g]	21000
	Material
Base Material	Aluminum, black anodized
	Closed-Loop

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Sensor Types	SC
Max. Acceleration (no load) [m/s²]	1 (lower axis); 2.5 (upper axis)
In-Position Stability [nm]	±5
Sensor Resolution MCS2 [nm]	1
Uni-Directional Repeatability MCS2 [nm]	±100 | ±150

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