

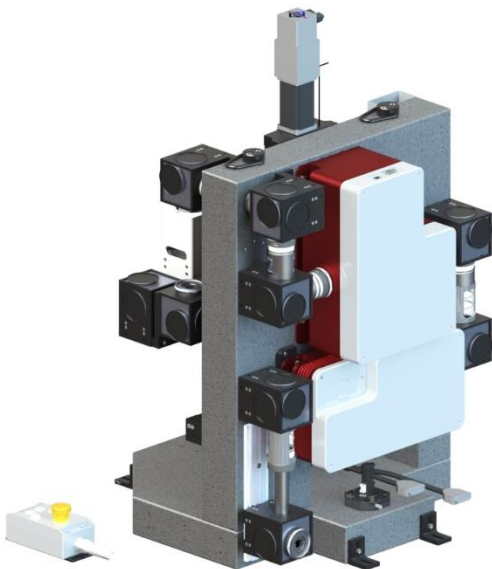
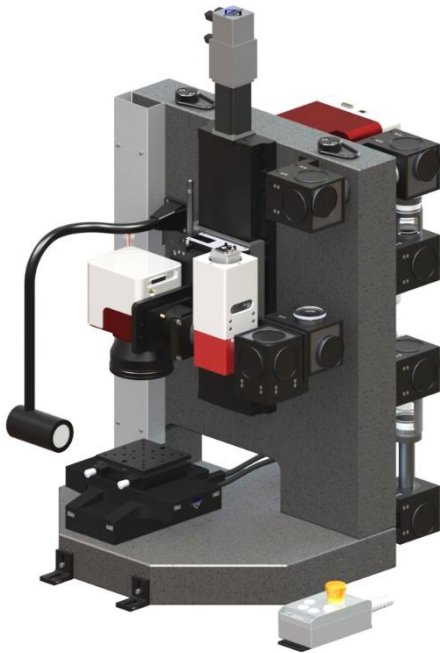
LS-Lab

The right set-up for micromachining

Just like a high-end micromachining system, this small lab set-up, combined with LASEA's beam management modules, allows performing **high precision laser processes**. Equipped with **Nano positioning stages** and an **electrical cabinet for safety management**, the LS-Lab is the link between OEM modules and a **ready-to-use laser set-up**.

Designed to give access to **cutting, drilling (zero taper), texturing, marking, engraving, or thin film removal** applications, this set-up is pre-mounted and aligned with the chosen optical configuration and is to be placed on an optical table, next to a laser. **Nothing else is required to start micro-machining!**

Considered as a partly completed machinery, this set-up is a class 4 system, and therefore requires the use of safety eyewear and all the appropriate protections. It can easily be integrated into a class 1 environment as it already includes a safety shutter with several sensors, all checked by a safety controller.



Key features

- 9 high quality beam benders
- 500 nm resolution
- 160 x 160 x 300 mm field
- Safety management
- Easy alignment
- Possibility to add LASEA's beam management modules:
 - o LS-Shape
 - o LS-Precess
 - o LS-View
 - o LS-Scan

Base features	LS-Lab
Material	Granite
Beam path	9 high accuracy kinematic and lockable beam benders, dust protection
Available wavelengths	343 nm – 355 nm – 515 nm – 532 nm – 1.030 nm – 1.064 nm
Z stage	Z Travel of 300 mm Z Resolution of 500 nm XYZ Repeatability of +/- 1 μ m Z accuracy of +/- 2,5 μ m over the full travel Z accuracy of +/- 1 μ m over 50 mm XY straightness of +/- 6 μ m over the full travel XY straightness of +/- 1,5 μ m over 50 mm Pitch/Roll/Yaw of 60 μ rad over the full travel Pitch/Roll/Yaw of 20 μ rad over 50 mm Maximum speed of 250 mm/s Load capacity of 20 kg
Sample holder	Suction system (vacuum pump not provided) with kinematic tilting base plate
Electrical cabinet	19" 12U cabinet with several racks for safety, module, and stage management
Control panel	Movable control panel with emergency stop and reset pushbuttons, and various pushbuttons depending on the chosen options
Size	600 x 600 x 1.050 mm
Weight	260 kg
	Options
XY stages	XY Travel of 160 x 160 mm XY Resolution of 500 nm XYZ Repeatability of +/- 100 nm XY accuracy of +/- 500 nm over the full travel XY accuracy of +/- 300 nm over 50 mm Z flatness of +/- 2 μ m over the full travel Z flatness of +/- 1,5 μ m over 50 mm Pitch/Roll/Yaw of 70 μ rad over the full travel Pitch/Roll/Yaw of 50 μ rad over 50 mm Maximum speed of 250 mm/s Load capacity of 10 kg
Modules	LS-Shape LS-Precess LS-View LS-Scan
Objectives	Various objectives available with focal lengths from 10 mm to 254 mm
Fume extractor	Fume extractor with Hepa filters and nozzle
PC	Workstation with PC, 2 screens, keyboard, and mouse
	Connections
Power supply	220 V – 16 A
Interfacing	GigE RJ45 & FireWire