Newport’s Laser µFAB™ is a table-top easy to use micromachining tool for various applied materials research fields. This device combines the flexibility and accessibility of a typical research grade experimental setup with the stability, reliability, and ease of operation of a fully developed industrial instrument. The Laser µFAB can be integrated with various types of lasers giving the user the capability to machine virtually any dielectric, conductive, and ceramic materials. With the aid of software written specifically to meet the requirements of laser micromachining, two- and three-dimensional microstructures can easily be patterned. Newport’s Laser µFAB is the ideal solution for the most advanced research in materials science and device physics.

Please contact a Newport sales representative at our toll free number 1-800-222-6440 or email tech@newport.com to order or to find out more. For custom needs please contact Newport’s Technology and Applications Center team.

**Applications**

- Three-dimensional microfabrication by two-photon polymerization of photonics, microelectronics, and MEMS devices
- Ablation of industrially relevant materials including metals, polymers, semiconductors, glasses, ceramics, and biological targets (laser milling, dicing, scribing and selective material removing)
- Volume writing of waveguides and microfluidics in dielectrics
- Nanosurgery for in vivo sub-cellular investigations in model organisms
- Surface micro- and nano-structuring (sensors and bio-inspired materials)
Specifications:

Laser source: 400-1100nm wavelength range, output beam diameter 5 mm (at 1/e²)

Spot size on sample: ≤ 1 µm when using microscope objectives and 10-20 µm when using simple lenses

Laser power control: Computer controlled variable attenuation from OD0 to OD4

Motion system: Total travel distance (XYZ): 100mm x 100mm x 5mm

Resolution: 0.05 µm; Maximum XY speed: 300 mm/s

Vision system: On-axis reflective light microscopy for monitoring real-time laser processing

User interface: Simple and intuitive software for advanced laser processing

ABOUT NEWPORT’S TECHNOLOGY AND APPLICATIONS CENTER

Newport’s Technology and Applications Center (TAC) develops application-specific solutions for our research customers. Current activities of the TAC are focused in the areas of Ultrafast Spectroscopy, Nonlinear Microscopy, Raman Spectroscopy, Ultrafast Micromachining, and Test and Characterization of Photovoltaic Solar Cells. Using in-house expertise and collaborations with key educational institutions, the members of this team develop application solutions, write Application Notes and publish articles in peer reviewed journals. TAC team has integrated Newport products into a number of stand alone devices in the form of kits. Supercontinuum generation, CARS microspectrometer, characterization and attenuation of ultrafast laser pulses and Two-photon polymerization are a few of the examples of complete solutions developed by TAC members.

To learn more about TAC and its activities please visit us on the web at www.newport.com/tac and for a complete list of preconfigured solutions developed at TAC please visit us on the web at www.newport.com/pas