

# Laser Micromachining System

## PolarOnyx

- Capable of cutting, drilling, welding, marking, surface texturing and intra-volume marking
- All type of materials from the hardest to the softest
- High precision (from microns to millimeters)
- Exceptional high quality (no heat-affected zone)
- Single-step process with no post-processing
- High flexibility in pattern design

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PolarOnyx FemtoWriter laser micromachining system provides the most flexibility in a single laser micromachining platform. Equipped with high power and high energy femtosecond fiber laser, this system is capable of manufacturing various materials with high precision. The software provides user-friendly interface and intuitive access to all systems' functionality including the laser, motion stages, scanner, control electronics and machine vision. It can be broadly used across different industries, such as consumer electronics, semiconductor, medical device manufacture and aerospace.

## System Specifications

Laser	High Energy femtosecond fiber laser
<b>Axes travel (X/Y/Z)</b>	300x300x150 mm
<b>Max. acceleration</b>	3g
<b>Position accuracy</b>	±1.5 µm
<b>Repeatability (bidirectional)</b>	±0.75 µm
<b>Axes velocity</b>	Up to 300 mm/s
<b>Galvonometer</b>	2-axis with speed up to 2 m/s
<b>Scan field</b>	~40x40 mm
<b>Min. weld line width</b>	10 µm
<b>Min. cutting/drilling line width</b>	2 µm
<b>Sample thickness</b>	100-1000 µm
<b>Control software</b>	PolarOnyx developed
<b>Power consumption</b>	3000 W, 110 VAC
<b>System weight</b>	~1000 kg
<b>System dimension</b>	~1500x1200x2000mm (LxWxH)
<b>Enclosure</b>	Class I