Laser Micromachining System

PolarOnyx

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.

- 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

System Specifications

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

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