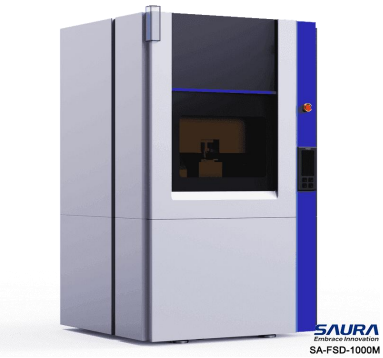
Femtosecond Laser Micro-Nano Multi-Functional Processing Equipment for Fiber Bragg Gratings

Model: SA-FSD-1000M

SA-FSD-1000M Femtosecond Laser Multi-Functional Micro-Nano Processing Equipment is purpose-built for research applications. Equipped with a comprehensive set of fiber fixtures, it enables fabrication of diverse grating types on various fiber formats.



Feature

- Femtosecond processing
- Micro-holes and micro-grooves
- Material modification
- High-consistency processing

Application

- Low-loss waveguide fabrication
- Waveguide end-face profile control
- Processing with arbitrary 3D vector path, energy and velocity modulation
- Supports fabrication of multiple grating types

Specifications：

Parameter	Descriptions
Processing Position	Various fiber grating types
Waveklength	1030nm/515nm
Objective Lens	60×/20×
Illumination	Reflection & Transmission
Functional Configuration	External energy adjustment, 2D motorized slit
Optional	Spatial Light Modulator (SLM), galvanometer scanner
Adjustment Stage	Motorized
Travel Range of Motion Stage	100 mm ×100 mm
Fixture & Workstation	Fiber rotary fixture, oil reservoir, processing station for sheet- shaped materials
Automatic fiber winding	Partial-function automatic fiber winding

Fabrication Parameters for Fiber Gratings：

Parameter	Descriptions
Reflectivity	0.01%-90%,adjustable
Side-Mode Suppression Ratio (SMSR)	>18dB
Typical Bandwidth-3dB	≤0.25 nm
Central Wavelength Deviation	≤±0.15 nm

Software & Processing Capabilities：

1.Support two processing modes: constant-speed processing and pulse-position triggered processing.

2.Support grating types include: conventional single- wavelength gratings, apodized gratings, metagratings, chirped gratings, phase-shifted gratings, etc.

3.Support processing of special optical fibers such as polarization-maintaining fibers and multi-core fibers.

4.Support partial script-programmed processing.

5.Support graphic-drawing-based processing via the camera interface.