

Laser Stent & Tube Cutter

SIGMA® Series



- Femtosecond and fiber lasers
- 3-axis and 4-axis motion options
- 0.2 to 30 mm tube diameters
- Wet cutting option
- Automated tube loader option
- 22 in touch screen GUI on swing arm
- Material thickness up to 1 mm

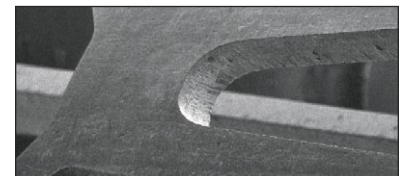
TYPICAL APPLICATIONS



Large diameter biopsy device



Flexible tubing



Metal stents



Micro cannula

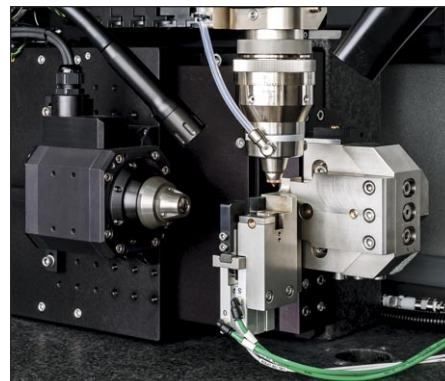
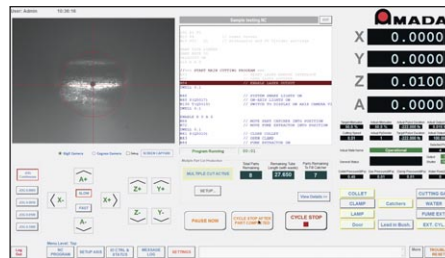


Capsule

- **Maximize throughput with high speed direct drive stages** - Integrated X and rotary “lathe” provide direct drive technology with high dynamic precision performance, delivering the highest accelerations and operating speeds.
- **Multi-axis options** - SIGMA Tube Cutter provides 3 axes as standard: X, rotary, and Z. A 4th optional transverse axis - Y - is available for off-axis cut geometries.
- **Designed for precision** - The laser, optics, and stages are secured directly to a granite base that is pneumatically isolated from the machine frame to provide superior rigidity and vibration dampening. Linear and rotary motors with high resolution encoders are combined with a machine design focused on process isolation to ensure high precision and repeatable cutting.
- **User interface with integrated camera** - Large Windows®-format user screens display comprehensive machine status with easy-to-use functionality. The camera image integrated into the user screen provides inline through-the-lens viewing.
- **Wet and dry operation** - Optional integrated water system with flow rate control, level sensors, and easily changed filters. The lathe stages, rated IP54, and all connections are sealed for reliable wet operation.
- **Enclosure features and safety** - The CDRH Class 1 workstation enclosure includes ISO 13849-01 Category 3 safety interlocks. The interlocked full front door lifts easily vertically to provide full access to tooling, focus head, and stages. A smaller window door slides horizontally, maximizing operator productivity.



- All-in-one main run screen provides full view of machine status
- Entire front door lifts up for full access to tooling, tubes, and stages
- Smaller sliding laser-safe window for quick part access
- Major subassemblies on drawer slides for easy maintenance and vibration isolation
- System controlled using touch screen buttons or jog mouse
- Standard and custom part tooling options



TECHNICAL SPECIFICATIONS

Laser and Motion Parameter		Specification
Laser		Femtosecond laser up to 40 W; IR or green wavelengths Fiber laser up to 200 W; IR wavelength
Focused spot size		< 10 µm achievable
Collet		Levin D – tube diameters up to 7.9 mm ER25 and ER40 – tube diameters up to 30 mm
Linear X-Axis	Travel	300 mm
	Accuracy / Repeatability	+/- 1 µm +/- 0.5 µm
Rotary Axis	Accuracy / Repeatability	+/- 2.5 arcsec +/- 1 arcsec (Levin D)
	Accuracy / Repeatability	+/- 1 arcsec +/- 0.5 arcsec (ER25 and ER40)
Linear Z-Axis	Travel	50 mm
	Accuracy / Repeatability	+/- 1 µm +/- 1 µm
Linear Y-Axis (Optional)	Travel	100 mm
	Accuracy / Repeatability	+/- 1 µm +/- 0.4 µm
XY Platform (Optional)	Travel	100 mm x 100 mm
Input power		208-240 VAC 50-60 Hz, single phase, 30 Amps

WEIGHT & DIMENSIONS

Size (W x D x H) does not include light tower and user interface	30 in x 69 in x 78 in (762 mm x 1753 mm x 1981 mm)
Weight	4800 lb (2177 kg)



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