FiberCUT® STa

Laser Mechanisms' FiberCUT® STa laser processing head collimates and focuses a fiber-delivered laser beam and directs it, along with cutting gas, through its nozzle for optimal metal cutting. The head features programmable focus position adjustment which delivers exacting cutting in materials with varying thickness and fastest possible piercing. FiberCUT® STa's nozzle also senses the required tip standoff from the workpiece and automatically maintains that standoff through its internal drive system.

- 3-dimensional cutting with fiber-coupled laser for 16 kg robots
- Up to 30 mm of programmable focus-to-tip adjustment
- Low moving mass minimizes inertia transfer to robot support arm

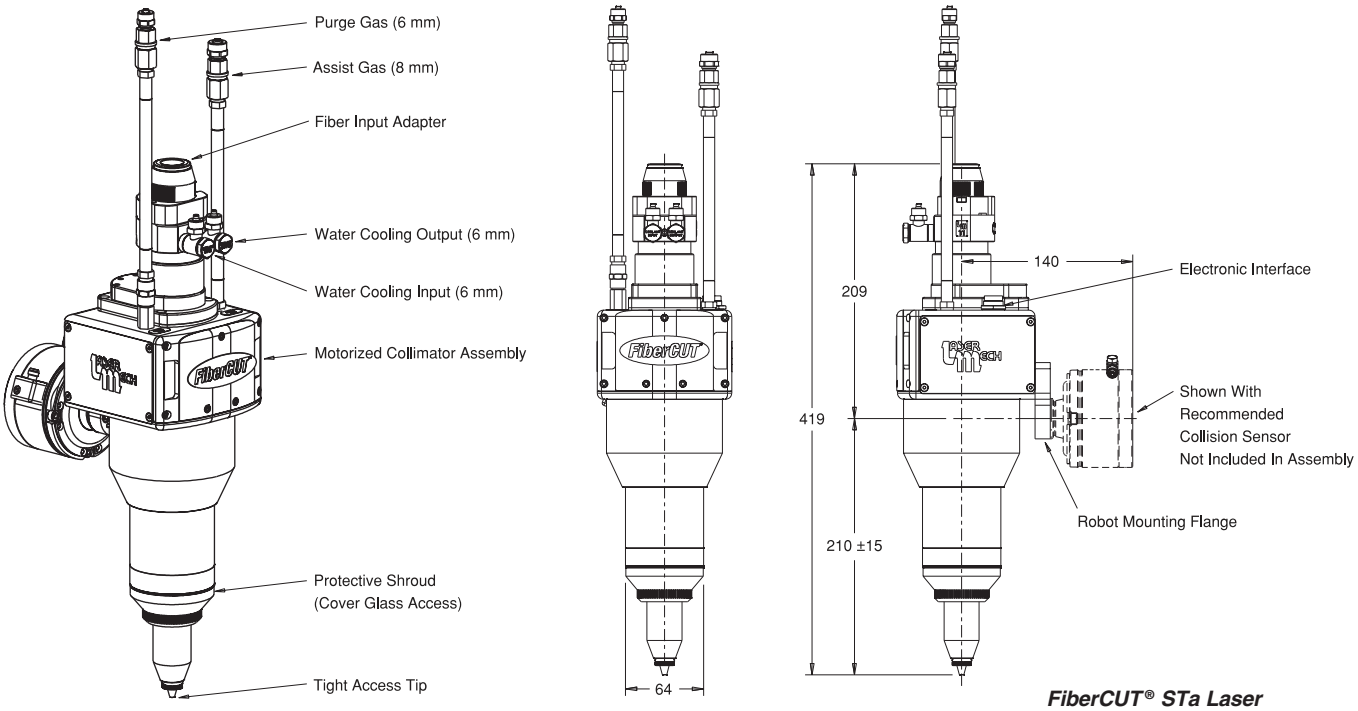
Features

- Complete system consists of cutting head, motorized fiber collimator and linear drive with position monitoring
- All wiring and assist gas lines are internally plumbed – avoiding costly snags and breaks
- Cam-operated drive system with axial crash protection
- Upper cover glass to protect fiber/collimator optics

Cartridge style drawer provides quick and easy access to the lower cover glass. Cleaning and replacement requires no tools and can be performed in a matter of seconds.

By locating all wiring and assist gas lines within the head, the potential for downtime due to snags and breaks is virtually eliminated.

- Cartridge style drawer provides quick and easy access to the lower cover glass
- Provides error signals in case of collision, overtemperature and exceeding the operating range
- Sealed beam path
- Multiple gas jet tip options to optimize cutting quality and speed
- X-Y beam-to-tip centering adjustment
- Works with all leading fiber-delivered laser systems up to 6 kW with wavelengths of 1030-1080 nm
- Multiple process monitoring capabilities
- Multiple water-cooling aperture specifications for varying (NA or BPP) lasers
- Optional fiber clamp
- Engineered for the harsh factory floor environment
- Internal, low-noise height sensing system is unaffected by cutting plasma or piercing debris



FiberCUT® STa Laser Processing Head

Specifications

CUTTING HEAD	
Power Rating	up to 6 kW
Focusing Lens (Focal Length)	104mm, 130 mm, 150 mm
Focusing Lens (Diameter)	28 mm
Clear Aperture	25 mm
Nozzle Tip	Various Shapes
Assist Gas Pressure	up to 20 BAR
Weight	3.8 kg
Height (Center Of Travel)	182 mm
Slide Travel	±15 mm
Max. Travel Speed	175 mm/sec.
Standoff Distance Range (1 mm Recommended)	0.5 mm to 2.0 mm
COLLIMATOR	
Focal Lengths (Doublet, Fused Silica)	79 mm, 103 mm
Recollimating Lens (Diameter)	28 mm
Clear Aperture	25 mm
Fiber Socket (Others Available On Request)	QBH, LLK-B, QD
CONTROL BOX	
Sealed Enclosure	380 mm L x 300 mm W x 160 mm H
Single Interconnect Cable	up to 15 m long
Number of Standoff Settings	7
Electrical Supply	85-264 VAC, 1-Phase,47-63 Hz
Interface Inputs	5-24 VDC, 2.2 kΩ impedance, optically isolated
Interface Outputs	12-24 VDC, 150 mA max., sink/source, optically isolated

Specifications subject to change without notice.

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