FiberCUT® STx

The FiberCUT® STx robotic laser cutting head was developed by Laser Mechanisms to combine 20kW of laser power with 3D cutting applications. The STx builds on proven robotic cutting technology by adding high power features, introducing laser cutting to previously out-of-reach applications. Ultra-thick plate, structural steel, megacastings , and thick non-ferrous metals are a few of the applications taking advantage of the STx's advanced capabilities.

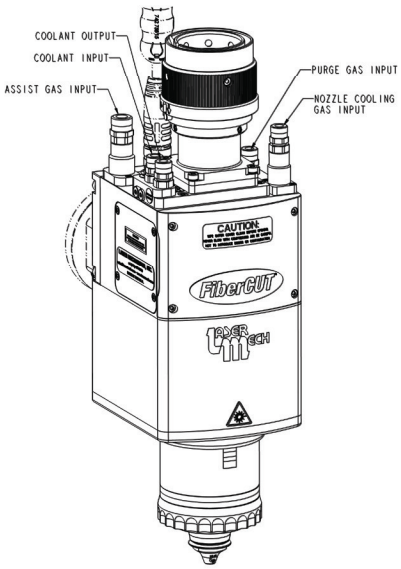
- 3D cutting solution for fiber lasers
- 20kW Power Rating
- All leading fiber laser sources, wavelengths 1030-1080nm
- Adaptable to all leading laser sources up to
- Compatible with all 25kg+ industrial robots
- Low moving mass minimizes inertia transfer back to robot

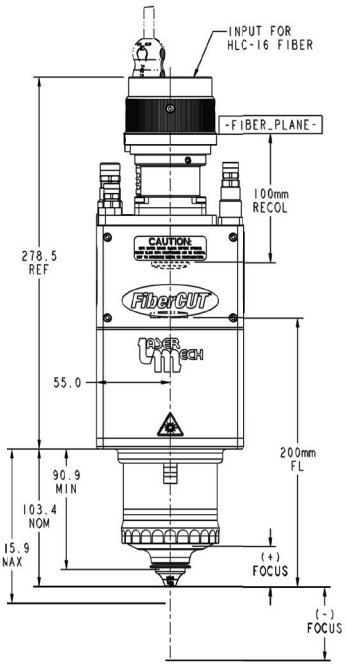
By locating all wiring and assist gas lines within the head, the potential for downtime due to snags and breaks is virtually eliminated.

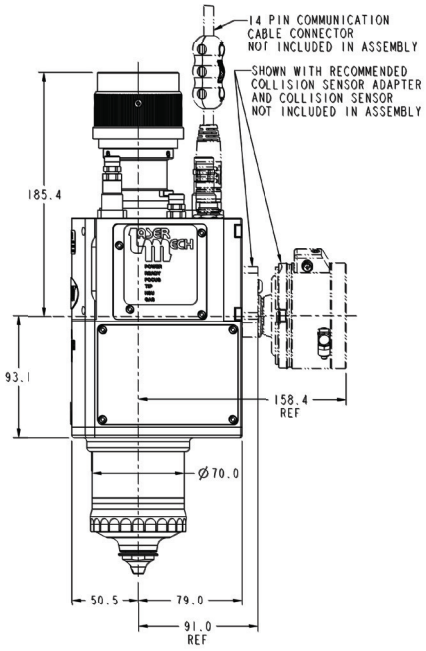
Features

- Compatible with all leading fiber cable types
- High angle light scraper for improved cut quality
- Upper cover glass to protect fiber/collimation optics
- Works with all leading fiber-delivered laser systems up to 4 kW with wavelengths of 1064/1080 nm
- Motorized collimator for 25mm of programmable focus-to-tip adjustment
- Focus lens X-Y adjustment for tip orifice beam centering
- Z-prime axis, with positional feedback, for maintaining tip-to-material standoff
- Cam-operated drive system with axial crash protection
- Water cooled lower cover glass to protect internal optics from process contamination
- Optimize cut speed and quality via multiple gas jet tip options
- Low noise capacitive part sensing for closed loop tip standoff feedback
- Monitoring of and error signals for: internal temperatures, operational range, and collision detection
- Motorized collimator for 25mm of programmable focus-to-tip adjustment
- Wiring and plumbing all internal to avoid costly snags and breaks
- Sealed beam path
- Engineered for harsh factory floor environment

Robotic Applications







Specifications

CUTTING HEAD	
Power Rating	up to 20 kW
Focusing Lens (Focal Length)	200 mm, 225 mm, 250 mm
Focusing Lens (Diameter)	28 mm
Clear Aperture	25 mm
Nozzle Tip	Various Shapes
Assist Gas Pressure	up to 20 BAR
Weight	~6 kg
Slide Travel	±15 mm
Max. Travel Speed	175mm/sec.
Standoff Distance Range (1 mm Recommended)	0.5 mm to 2.0 mm
COLLIMATOR	
Focal Lengths (Doublet, Fused Silica)	85 mm, 100 mm
Recollimating Lens (Diameter)	28 mm
Clear Aperture	25 mm
Fiber Socket (Others Available On Request)	QBH,QD, HLC-16, LLK-X
CONTROL BOX	
Sealed Enclosure	150 mm L x 90 mm W x 50 mm H
Single Interconnect Cable	up to 20 m long
Number of Standoff Settings	7
Power Requirments	24V, 4A
Interface Inputs	24V DC, sink/source, optically isolated
Interface Outputs	24V DC, sink/source, optically isolated

Specifications subject to change without notice.

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