INDIAN INSTITUTE OF TECHNOLOGY BOMBAY

MATERIALS MANAGEMENT DIVISION

Powai, Mumbai 400076.

Ref. PR No. 1000058417 **Rfx No. 6100003212**

CNC Fiber Laser Cutting System

SR. No.	Parameters	Technical Specification	Compliance (Yes/No)	Additional Information
1	**CNC Fiber Laser Cutting System (FLCS)**			
1.2	Applications:	Cutting of metals (stainless steel, Mild steel and, Aluminium)		
1.3	Cutting Area Dimensions	**(i) Cutting Area** Fiber Laser: Minimum 1500 mm x 3000 mm **(ii)Axis Travel** i. X-Axis: Minimum 1500 mm ii. Y-Axis: Minimum 3000 mm iii. Z-Axis: Minimum 80 mm		
1.4	Cutting Thickness:	Capable of cutting stainless steel:10 mm, Mild Steel:20 mm		
1.5	Accuracy	I. Positioning Accuracy: ± 0.02mm per entire working stroke of x (1500mm) and y (3000mm) axis II. Repeatability: ± 0.02mm per entire working stroke of x (1500mm) and y (3000mm) axis III. Squareness: ± 0.1 mm per meter IV. Straightness: ± 0.1 mm per meter		
1.6	Raid Speed	X-Y Axis: 120mm/min		
1.7	Motion System	Motion Transmission: i. X & Y Axes: High-speed helical rack & pinion system ii. Z Axis: Precision ball screw.		
1.8	Cutting Head	i. Type: Fiber Laser Cutting head ii. Features: Precision alignment for orifice and focusing nozzle,		
		Automatic standoff, and head lift during traversing.		

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1.9	Machine Feature	Grid Capacity: Supports a load of 1000 kg/sq. m.		
1.10	Controller Specifications	Type: CNC Controller (Cypcut, or equivalent). Display: at least 24 Inch Graphical color display. Memory: Minimum 120 GB memory, with USB backup option. Software Compatibility: CAD/CAM support for DXF/DWG file formats with automatic tool path generation and nesting. G & M Code: Capable of running ISO G & M codes directly, which should be editable by the user.		
1.11	Consumables and Accessories	Consumables: to be supplied with the machine i. Protective Lens: 3 Nos ii. Nozzles: 2 Nos of each sizes.		
1.12	Safety Features	Certifications: ISO certified (9001:2015) Interlocks: Safety interlocks to prevent operator injury or machine damage. Monitoring: Continuous machine diagnostics and alarms.		
1.13	Power Supply Backup	Suitable UPS with 10 mins battery backup to be provided with machine for smooth operation.		
1.14	Installation, Training and Commissioning	i. On-site installation and commissioning by experienced engineers at customer site. ii. Training for operation and maintenance at customer site. iii Commissioning trials within the delivery and training for 3 people for 2 weeks must be provided free of cost.		
1.15	Warranty	At least 1 year from Installation Date. Warranty Certificate to be signed and stamped and submitted after installation.		
1.16	**Mandatory Conditions**: • The OEM/Bidder must have completed a minimum of 5 installations of Advanced CNC Fiber Laser Cutting in India within the last five years. The bidder should have supplied a minimum of two such machines to other IITs or other centrally funded premier educational institutions.			