

**INDIAN INSTITUTE OF TECHNOLOGY BOMBAY****MATERIALS MANAGEMENT DIVISION****Powai, Mumbai 400076.****Ref. PR No. 1000054884****Rfx No. 6100003083****Item Description : CNC Fiber Laser Cutting System (QTY : 01 No.)**

S. No.	Parameters	Technical Specification	Compliance (Yes/No)	Additional Information
1	Technology	CNC Fiber Laser Cutting System (FLCS)		
2	Applications:	Cutting of metals (stainless steel, Mild steel and, Aluminium)		
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		
4	Cutting Thickness:	Capable of cutting stainless steel:10 mm, Mild Steel:20 mm		
5	Accuracy	I. Positioning Accuracy: ± 0.02 mm per entire working stroke of x (1500mm) and y (3000mm) axis II. Repeatability: ± 0.02 mm 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		
6	Raid Speed	X-Y Axis: 120mm/min		
7	Motion System	Motion Transmission: i. X & Y Axes: High-speed helical rack & pinion system ii. Z Axis: Precision ball screw.		
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.		

9	Machine Feature	Grid Capacity: Supports a load of 1000 kg/sq. m.		
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.		
11	Consumables and Accessories	Consumables: to be supplied with the machine i. Protective Lens: 3 Nos ii. Nozzles: 2 Nos of each sizes.		
12	Safety Features	Certifications: 9001/45001/14001 ISO certified. Interlocks: Safety interlocks to prevent operator injury or machine damage. Monitoring: Continuous machine diagnostics and alarms.		
13	Power Supply Backup	Suitable UPS with 10 mins battery backup to be provided with machine for smooth operation.		
14	Installation	i. On-site installation and commissioning by experienced engineers at customer site. ii. Training for operation and maintenance at customer site.		
15	Warranty	At least 1 year from Installation Date. Warranty Certificate to be signed and stamped and submitted after installation.		
16	Delivery Period	The machine should be delivered at site within 3 months from date of acceptance of Purchase Order.		
17	Training and Commissioning	Commissioning trials within the delivery and training for 3 people for 2 weeks must be provided free of cost.		

18	18.1 Mandatory Conditions: • The OEM 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. • Insurance of the equipment shall be covered up to the buyer's desired location.		
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