

Technical Specifications

CNC Wire cut EDM Machine should have following general specifications:

SL. No.	Item Description	Technical specifications
A	Machine Tool Unit	(all dimensions are in mm)
1	Travel of Worktable X × Y-Axis	450 × 350 mm or better
2	Z-Axis Travel	400 mm or better
3	Working Table	700 × 500 mm or better
4	Maximum Weight of Work Piece	300 Kg or better
5	Minimum Thickness of Cutting	400 mm or better
6	Maximum Taper by Cutting	± 3 Degree /80 mm or better
7	Repeatability (mm)	0.01
8	Type of wire material	Molybdenum
9	Wire Diameter	0.12-0.20 mm
10	Surface Finish of Machining Surface	Less Than 3.0 Micron
11	Best Finish (Ra)	Single Cutting < 2.5
		Multi Cutting < 1.5
12	Cutting Speed (mm ² /min)	Standard: 100-140 with max. cutting speed: 160-200
13	Materials to be Cut	Aluminum Alloys, Steel, Stainless steel, Special Steel, Titanium Alloys, Copper Alloys, Nickel & Cobalt based superalloys, Chromium Alloys, Tungsten Carbide, etc.
14	Positional Accuracy (mm)	0.015/300 or better
15	Wire Moving Speed (m/s)	11.5 or better
16	Dimension L × W × H (mm)	1600 × 1300 × 1500
17	Mechanism	Upper wire guide/pulley, when moved up and down, does not require the wire to be opened.
18	Net Weight of Machine (Kg)	≤ 1500
19	Z-axis	Motorized
20	Axis movement	X, Y, Z, and wire drum should be on linear motion guide
21	Lubrication system	Automatic
B	CNC Controller	Multi-pass system
1	Display	LCD Display
2	Control System	CNC, 4 Axis Control
3	Programming Software	Auto cut CAM Software
4	Axis Control	4 AXIS X, Y, U, V
5	Linear Glass Scale Of x, y	5 microns
6	Data Input/Output	USB Port
7	Computer system	A fully capable computer unit with an industrial CPU and sufficient memory, operating on the Windows 7 platform or a more recent version.
8	Interpolation	Linear and circular
9	Resolution	0.001 mm
10	Programming	Incremental

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11	Least input command	0.001 mm
12	Protection	The machine shall be equipped with wire brake protection and shall provide auto short-circuit recovery.
13	Power	Single phase, 220V/50Hz / Three phase, 415V/50Hz, (2.0kw)
C	Dielectric Unit	
1	Dielectric Fluid	DM Water + Gel
2	Dielectric Tank Capacity	50-100 Liters
D	Spares	
1	Molybdenum wire	1.0 Spool
2	coolant	2.0 kg

Other terms and conditions:

1. **Warranty:** Comprehensive warranty for 18 months is required from the date of commissioning on the instrument and its accessories.
2. **Spares:** All critical spares must be available for a minimum of 10 years.
3. **Consumable & spares:** List of the consumables and spares to be supplied with the system.
4. **User List:** The bidder should provide a list with complete details of previously installed equipment of similar type in India, during the last 5 years. The list shall be supported by original purchase order copies.
5. **Manuals/Documents:** 1 set of hard copy and 1 set of soft copy in English as following.
 - a) Operating manual
 - b) Maintenance manual
 - c) Servicing manual
 - d) Programming manual
 - e) Spare parts list with source of supply and prices
 - f) Description of control interface
 - g) Circuit diagrams of PLC, drive controls etc.
 - h) Manuals of bought out items incorporated in the system.
 - i) Pre-installation requirements of foundation plan details, electromagnetic interference, and vibration (if needed).
6. Details of the standard samples to be provided by the company for testing the instruments at the time of installation at site for the demonstration of the performance of equipment.
7. The bidder should specify the type of service/maintenance required for the system, indicating whether it must be performed by a company engineer or can be conducted by trained service personnel within India. Additionally, please include the frequency of visits and associated charges.
8. If not OEM then Vendors should provide an authorization letter from OEM confirming the authorization, originality of equipment & after sales service support preferably in north India
9. The Tender should be enclosed with proper certifications like Authorization Certificate and Proprietary Certificate in case of Proprietary items.
10. Complete computer control of operation and measurement on Windows based platform. Give the details of software for measurement and analysis.
11. Pre-installation site preparation/inspection requirements to be indicated and specified along with the bid.

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12. Installation and training should be provided free of cost otherwise clearly mentioned with justification.
13. The warranty period to be clearly mentioned and should begin from the date of successful installation. Annual Maintenance Contract Charges should be clearly mentioned after the warranty period.
14. Guaranteed specifications to be demonstrated at the time of installation. Any necessary standard samples for that purpose should be brought by the Service Engineers.
15. On-site training of our staff in operation and maintenance is essential by factory trained personnel and provision of training for one person for a minimum of one week at the factory site.
16. The bidder should provide proper document for price justification of the machines.
17. Service manuals with complete circuit diagram and PCB layout for all equipment to be provided with the instrument.
18. Submit Electronic copy of the technical specifications and bids.
19. The bidder must provide an original catalogue/leaflet containing photos, model numbers, compliance certificates, and manufacturer's website details to support compliance with prescribed specifications. Any deviations from the mentioned specifications must be highlighted. Additionally, compliance claims made without documentary evidence will be considered non-compliant. Failure to submit complete documents upon bid opening will result in no further queries raised with the vendor.
20. The compliance report needs to be submitted as a part of the technical bid.
21. In case during shipment period newer versions of software/hardware are available with vendor in lieu of the existing one for which Letter of Credit was opened, then improved version should be made available without any extra cost.
22. Institute reserves the right to visit installation in India of similar capabilities the details with regard to such installation should be given as a part of technical bid.
23. Technical evaluation by the Institute may include demonstration to verify functionalities and capabilities of the system quoted.
24. **Services:** Vendor must submit Factory Acceptance Test procedure supported with relevant printed literature and certificates.

TECHNICAL COMPLIANCE STATEMENT

(To be submitted by bidder duly filled)

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2	Dielectric Tank Capacity	50-100 Liters	
D	Spares		
1	Molybdenum wire	1.0 Spool	
2	coolant	2.0 kg	
E	Manuals and certificates	Operational manual, service manual, Troubleshooting manual Hard copy as well as softcopy & one number each	
F	Warranty	18 months comprehensive warranty on the equipment (from the date of commissioning for the main system).	
G	Accessories for demonstration	All necessary accessories and arrangements for commissioning and demonstration shall be provided.	
H	Spares	All critical spares must be available for a minimum of 10 years.	
I	Price justification certificate	The bidder should provide proper document for price justification of the machines.	
J	Purchase order details	The bidder should provide a list with complete details of previously installed equipment of similar type in India, during the last 5 years.	

Signature of the Authorized Official with Seal