



# **TENDER DOCUMENT**

**FOR**

**THE PURCHASE**

**OF**

**SUBMERGED TYPE PRECISION  
CNC WIRE CUT EDM Machine**

**Public Tender No. : TIFR/PD/IC17-120/PUB**

**TATA INSTITUTE OF FUNDAMENTAL RESEARCH  
HOMI BHABHA ROAD, COLABA  
MUMBAI – 400005  
INDIA**



\*\*\*\*\*

**TATA INSTITUTE OF FUNDAMENTAL RESEARCH**  
Homi Bhabha Road, Colaba, Mumbai – 400 005  
Phone: (022) 2278 2890 Fax: (022) 2280 4610/4611  
Email: deepak.baghele@tifr.res.in Website: <http://www.tifr.res.in>

**A DEEMED UNIVERSITY**

\*\*\*\*\*

**INDEX**

| <b>PART</b>           | <b>SECTION</b> | <b>TITLE</b>                    | <b>PAGE NO.</b> |
|-----------------------|----------------|---------------------------------|-----------------|
| I<br>Technical<br>Bid | I              | Notice Inviting Tender          | 4               |
|                       | II             | Instruction to Bidder           | 5 - 8           |
|                       | III            | Form of agreement               | 9               |
|                       | IV             | Technical Specifications        | 10 - 16         |
|                       | V              | Eligibility requirements        | 17              |
| II<br>Price<br>Bid    | I              | Price Schedule Forms and sample | 18 - 22         |

**TATA INSTITUTE OF FUNDAMENTAL RESEARCH**

HOMI BHABHA ROAD, COLABA

MUMBAI – 400005

TENDER DOCUMENT

**PART – I**

Technical Bid

**Public Tender No. : TIFR/PD/IC17-120/PUB**

Name of Work

**DESIGN, MANUFACTURING & SUPPLY,  
INSTALLATION, ERECTION, COMMISSIONING & TESTING  
OF  
SUBMERGED TYPE PRECISION  
CNC WIRE CUT EDM Machine  
AT  
CENTRAL WORKSHOP, TIFR, MUMBAI – 400005.**

\*\*\*\*\*

**TATA INSTITUTE OF FUNDAMENTAL RESEARCH**  
**Homi Bhabha Road, Colaba, Mumbai – 400 005**  
**(A DEEMED UNIVERSITY)**

Tel.No:+91-22-2278 2890  
E-mail: deepak.baghele@tifr.res.in

Purchase Fax: +91-22-22804610/11  
Website:www.tifr.res.in/tender

\*\*\*\*\*

**TENDER NOTICE NO. TIFR/PD/IC17-120/PUB**

Sealed tender in two parts viz. Part 'I' ( Technical Bid) & Part 'II' (Price Bid) are invited in sealed envelopes from reputed manufacturers or their accredited agents for: **DESIGN,MANUFACTURING&SUPPLY,INSTALLATION,ERECTION, COMMISSIONING & TESTING OF SUBMERGED TYPE PRECISION CNC WIRE CUT EDM MACHINE AT CENTRAL WORKSHOP, TIFR, MUMBAI** as per our technical specifications and terms & conditions of contract.

|   |   |
|---|---|
| Tender No.  | : <b>TIFR/PD/IC17-120/PUB</b>                                   |
| Approximate value put to tender<br>(for reference only) | : Rs 1, 00, 00,000/-  |
| Earnest money deposit                                   | : Rs 2, 00,000/-  |
| Cost of tender document                                 | : Rs 700/-  |
| Sale of tender document from                            | : <b>Date : 14/03/2018</b>                                      |
| Due date and time of tenders                            | : <b>Date: 13/04/2018 Time: 17.30 P.M.</b>                      |
| Date & time of opening of<br>Technical bids             | : <b>Date:16/04/2018 Time: 15.00 P.M.</b>                       |
| Completion Time   | : 4 months from date of award of contract                       |
| Place of opening of tenders                             | : Tata Institute of Fundamental Research,<br>Colaba, Mumbai - 5 |

Tata Institute of Fundamental Research shall be under no obligation to accept the lowest or any other tender received in response to this tender notice and shall have the right to reject any or all tender(s) without assigning any reason whatsoever.

**PURCHASE OFFICER**

.....

**PART – I**  
**SECTION – II**

**INSTRUCTIONS TO BIDDER**

1. **PART “I” (Technical Bid) consisting of Technical Bid with Commercial Terms** and **PART “II” (Price Bid) consisting of only Price** shall be submitted in **separate** sealed envelopes duly superscribed with the tender enquiry number, and the due date in bold letters, addressed to the Purchase Officer, Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai – 400 005. The envelopes should be clearly marked on top as either PART “A” or PART “B”.  
The two sealed covers should be further put in a master cover superscribed with the Tender Enquiry No., Due Date in bold letters, addressed to the Purchase Officer, Tata Institute of Fundamental Research, Homi Bhabha Road, Colaba, Mumbai – 400 005. The sealed master envelop has to be delivered by hand/courier at the security Gate Officer of TIFR on or before **17.30 hrs on 13/04/2018**. The technical bid will be opened in the presence of attending tenderers at **15.00 hrs on 16/04/2018** at Purchase Section, TIFR Mumbai. Tenders submitted after **17.30 hrs on 13/04/2018** will not be considered.
2. **In case the PART ‘I’ and Part ‘II’ bids are not sealed in separate envelopes the tender will be rejected.**
3. The technical bid should not contain any indication of the price. The bidder should take special care not to mention anything related to pricing and costing aspect of whatsoever nature. The technical bid should include/contain only technical specifications, technical literature, drawing, quantity, manufacturing and delivery schedule, mode and terms of payment, mode of despatch, the quantum and percentage of statutory levies payable by the purchaser as extra and all related commercial terms and conditions for the supply and for the services like erection and commissioning to be rendered by the tenderer. The details of the validity of the tender should also be indicated along with the commercial details.
4. After scrutiny of Technical Bids, Financial bids of only those bidders who are shortlisted on technical basis will be opened at on later date. The opening date, time and venue will be intimated to the technically successful bidder.
5. **Tender Document Fee:**  
An Tender fee for **Rs. 700/-[for Indian Supplier]** and **USD 100 [For foreign Supplier]** (Non-refundable) has to be deposited in the form of Demand Draft, Fixed Deposit Receipt, Bankers cheque or Bank Guarantee from any commercial Banks or through online transfer through bank (Bank details to be provided on demand) in favour of **Registrar, Tata Institute of Fundamental Research, Mumbai** to be enclosed along with the technical Bid (Part - I).

6. **EMD:**

An Money (EMD) for **Rs. 2,00,000/- (for Indian Supplier)** and **USD 3,000/- (for Foreign Supplier)** has to be deposited in the form of Demand Draft, Fixed Deposit Receipt, Bankers cheque or Bank Guarantee from any commercial Banks or through online transfer through bank (Bank details to be provided on demand) in favour of **Registrar, Tata Institute of Fundamental Research, Mumbai** to be enclosed along with the technical Bid (Part - I).

Also, in lieu of above, the bidder can submit the EMD in the form of "**Bid Securing Declaration**" as per the attached format. The declaration also should be submitted on the company letter head duly signed by officer authorized to submit the bid.

EMD shall be interest free and it will be refunded to the unsuccessful bidder without any interest. EMD will be forfeited if the bidder withdraws or amend impairs or derogates from the tender in any respect.

7. **Suspension of Business dealing with bidder:**

In case the bidder who submits a "Bid Securing Declaration" fails to abide with the terms and conditions of the declaration or withdraw its bid before the award of the contract then TIFR reserve the right to suspend business dealings with such supplier for a period of three years. The above suspension shall be without prejudice to other remedies or action that may be initiated against the bidder as deemed fit by the competent authority.

8. **Bidders who have not accepted the job/order awarded to them or withdrawn from the tender process OR whose EMD/Security deposit has been forfeited in the past their bids will not be considered and treated as ineligible / disqualified.**

9. After downloading the documents please inform your company details such as name, address, telephone nos., contact person and email address etc. by email to us. (deepak.baghele@tifr.res.in, sheela@tifr.res.in, mukesh.suroshe@tifr.res.in, triveni@tifr.res.in) to enable us to inform prospective bidder for any corrigendum/changes if any; in the Tender document before due date.

10. Quotations must be valid for a period of 180 days from the due date.

11. Tenders containing correction, overwriting will not be considered. Late or delayed/Unsolicited quotations/offers shall not be considered at all. These will be returned to the firms as it is. Post tender revisions/corrections shall also not be considered.

12. Tenderer should sign on all the pages of the technical bid and the price bid.

13. The price quoted for Import item must be on following basis :

- a) Ex-Work/factory duly packed airworthy/seaworthy and of international standard.
- b) FOB/FCA

**C) CIF Indian Port** (all inclusive i.e. Cost of Goods, Packing, Insurance, Inland transportation, freight etc.)

For local item /supply, offer should be on FOR basis (i.e. total landed cost for delivery at TIFR, Mumbai).

The dimension of the item (viz. H, W, L, weight etc.) shall be specifically stated and also mention whether the mode of shipping the item is Airworthiness / Seaworthiness or both. Accordingly the mode of shipment will be decided by TIFR.

**Price must be quoted in the Price Bid Format attached herewith as "Part – B" (Financial Bid).**

14. If equipment offered is to be imported, arrangements for import will be made by us.
15. Tenders who do not comply with any of the condition are liable to be rejected.
16. The Institute shall be under no obligation to accept the lowest or any other tender received in response to this tender notice and shall be entitled to reject any tender without assigning any reason whatsoever.
17. TIFR reserves the right to place the order for part/reduced quantity than what is specified in the tender.
18. **PAYMENT TERMS:** 80% payment shall be made through irrevocable L/C on presentation of complete and clear shipping documents and balance 20% of the amount shall be released after the receipt, installation, commissioning and acceptance of the equipment and on submission of "**Performance Bank Guarantee**" or "**Standby Letter of Credit**" for an amount equivalent to 10% of the Purchase Order Value. The PBG or "Standby Letter of Credit" shall be valid for a period of **60 days** beyond the date of warranty period.
  - Bank Guarantee(BG) will not be accepted directly from Supplier, it should be received through the banker of supplier.
  - In exception case, BG will be accepted directly from the party/supplier provided a covering letter with xerox copy of BG is received directly from banker of supplier.
  - Without the receipt of BG along with the letter from Bank, the payment will not be released.
19. For Import cases: **No Agency commission will be paid as per Govt. of India rules.**
20. The delivery period should be specifically stated and earlier delivery may be preferred.
21. **The Supplier shall arrange to ship the ordered materials within the mutually agreed delivery period mentioned in the order unless extended with/without penalty.**

- a. In case of delay in supply on part of the supplier, a penalty @0.5% per week of order value will be charged for delayed period subject to a maximum of 10% order value.
- b. If the delay in the shipment of the ordered materials attributable to the supplier exceeds agreed time period from the date of original agreed upon date of shipment and extended with/without penalty, the TIFR, Mumbai shall have the right to cancel the contract / purchase order and recover the liquidated damages from other dues of the party or by legal means. It will also affect the other/future business dealings with such suppliers.
- c. The same rate of penalty shall be applicable for late installation of the equipment/instrument also.

22. COMMENCEMENT OF WARRANTY PERIOD: The warranty period of an item shall commence from the date of receipt of the item in good working condition and satisfactory installation/commissioning/demonstration at the project site.

23. Specifications are basic essence of the product. It must be ensured that the offers must be strictly as per our specifications. At the same time it must be kept in mind that merely copying our specifications in the quotation shall not make the parties eligible for consideration of the quotation. A quotation has to be supported with the printed technical leaflet/literature of the quoted model of the item by the quoting party/manufacturer.

24. OBSERVANCE OF LOCAL LAWS: Wherever applicable (particularly for Local vendors), the vendor / contractor shall comply with all law, statutory rules & regulations etc. The vendor/ contractor shall obtain all necessary permits / approval from the local Governing Body, Police, and other concerned Authorities as may be required under law. The vendor /contractor shall pay all types of taxes, fees, license charges, deposits, duties, tolls, royalty or other charges that may be leviable on account of any the operations connected with the execution of this work/ contract.

25. In case of any interpretational issues arises in this tender, the interpretation/decision of TIFR shall be final and binding on the bidder.

26. It is the responsibility of the vendor to make sure that the system being proposed can be exported to India with TIFR as the end user. All clarificatory documentation must be submitted with the Bid.

27. TIFR reserve the right to ask for or to provide any clarification, changes after the release of this tender. **Any changes or clarifications provided by TIFR may be checked at TIFR website [www.tifr.res.in/tenders](http://www.tifr.res.in/tenders)**



**PART – I**  
**SECTION – III**

**ARTICLES OF AGREEMENT**

ARTICLES OF AGREEMENT made the \_\_\_\_\_ day of \_\_\_\_\_ (month & year) between Tata Institute of Fundamental Research, Mumbai (hereinafter called “the Purchaser”) of the one part and \_\_\_\_\_ (hereinafter called “the Contractor”) of the other part.

WHEREAS the Purchaser is desirous of installing **SUBMERGED TYPE PRECISION CNC WIRE CUT EDM MACHINE AT TIFR**, Mumbai as per technical specifications

AND WHEREAS the Contractor has agreed to execute upon and subject to the Conditions set forth under various sections of Part 1 and Part 2 of the Tender Document (all of which are collectively referred to as “the said conditions”) the works described in the said Specification and included in the Price schedule forms at the respective rates therein set forth amounting to the sum as therein arrived at or such other sum as shall become payable there under (hereinafter referred to as “the said Contract Amount”).

NOW IT IS HEREBY AGREED AS FOLLOWS

1. In consideration of the said Contract Amount to be paid at the times and in the manner set forth in the said Conditions, the Contractor shall upon and subject to the said Conditions execute and complete the work described in the said Specifications and the price schedule form.
2. The Purchaser shall pay the Contractor the said Contract Amount, or such other sum as shall become payable, at the times and in the manner specified in the said Conditions.
3. The said Conditions shall be read and construed as forming part of this Agreement, and the parties hereto shall respectively abide by, submit themselves to the said Conditions and perform the agreements on their part respectively in the said Conditions contained.
4. The agreement and documents mentioned herein shall form the basis of the Contract.
5. This Contract is neither a fixed Lump sum Contract nor a Piece Work Contract but is a Contract to carry out the work in respect of the entire **DESIGN, MANUFACTURING & SUPPLY, INSTALLATION, ERECTION , COMMISSIONING & TESTING OF SUBMERGED TYPE PRECISION CNC WIRE CUT EDM MACHINE AT CENTRAL WORKSHOP, TIFR, MUMBAI** as per the technical specifications and the said conditions of contract.
6. The Purchaser reserves to itself the right of altering the nature of the work by adding to or omitting any items of work or having portions of the same carried out by other without prejudice to this Contract.
7. Time remains the essence of this contract. Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified in the contract
8. All payments by the Purchaser under this Contract will be made only at Mumbai.
9. All disputes arising out of or in any way connected with this agreement shall be deemed to have arisen at Mumbai and only Courts in Mumbai shall have jurisdiction to determine the same.
10. That the several parts of this Contract have been read by the Contractor and fully understood by the Contractor.

Place:

Date:

Signature of Tenderer

**PART – I  
SECTION – IV**

**Technical Specifications of Submerged Type Precision  
CNC Wire-Cut EDM Machine**

| Sr. No.    | Technical Specifications of Submerged Type Precision CNC Wire-Cut EDM Machine   |
|------------|---|
| <b>1</b>   | <p><b>Machine description and application:</b></p> <p>The Submerged Type Precision CNC Wire-cut EDM machine is intended for complex profile cutting and thin wall cutting with high surface finish on materials like Titanium alloys, Copper alloys, Aluminum alloys, High Strength Steels Graphite, Carbides, Molybdenum, Niobium etc. This machine shall have 4 axes simultaneous control for X, Y, U and V axis. The machine shall be equipped with state-of-the-art CNC control system, drives, feedback system and generator</p> |
| <b>2</b>   | <p><b>Main Features of the machine:</b></p>   |
| 2.1        | Submerged wire cutting type with rigid machine body base  |
| 2.2        | Hardened and ground Linear Motion Guideways in all axes. Brand is to be specified.  |
| 2.3        | Hardened and ground ball screws, THK make or equivalent with accuracy grade C1 or better as per JIS B 1192-1997, in all the three axes. Brand is to be specified.   |
| 2.4        | Centralized automatic lubrication system  |
| 2.5        | Direct feedback system with Heidenhain or equivalent make linear glass scales for X&Y axis and encoders for U&V axis with 0.1 Microns resolutions   |
| 2.6        | <p>Inbuilt safety feature (Mechanical anti-collision system) to avoid collision &amp; damage of any axis, X, Y, U, V and Z. In the event of crash, there should be a mechanism to absorb the impact force and should not cause damage to machine or part.</p> <p>Operator must be able to clear the Alarm and restore to normal working condition with reset button.</p>  |
| 2.7        | Foot Print 2700 x 2100 x 2500 maximum   |
| 2.8        | Machine Power - Up to 15KVA   |
| <b>3.0</b> | <p><b>Axis travel</b></p>   |
| 3.1        | X-axis (mm) 350mm (or better)   |

|            |  |
|------------|--|
| 3.2        | Y-axis (mm) 250mm (or better)  |
| 3.3        | Z-axis (mm) 250mm (or better)  |
| 3.4        | U-axis (mm) $\pm 45$ mm (or better)  |
| 3.5        | V-axis (mm) $\pm 45$ mm (or better)  |
| 3.6        | Maximum taper angle $\pm 25^\circ$ (or better) for 80 mm part height   |
| <b>4.0</b> | <b>Work Area:</b>  |
| 4.1        | Nominal job envelop L x W x H (mm) 800 x 650 x 210 mm (or more)  |
| 4.2        | Maximum work piece weight without bath (Kg) 400 Kg or more   |
| 4.3        | Maximum work piece weight with bath (Kg). Bidder to specify.   |
| 4.4        | Standard (Round Diamond Guides ) wire diameter kit, 0.1 mm to 0.3 mm (At least 3 Guides)   |
| 4.5        | Automatic dielectric level control provision   |
| 4.6        | Sufficient Light for work area & Warning Light system  |
| <b>5.0</b> | <b>Positional Accuracies for full traverse:</b>  |
| 5.1        | Positional Accuracy (A) for X,Y,U&V axes - 0.005mm or better   |
| 5.2        | Bi-Directional Positioning Repeatability (R) for X,Y,U&V axes - 0.005mm or better  |
| 5.3        | Reversal Value (B) - 0.003 or better   |
| <b>6.0</b> | <b>Feed &amp; feedback system:</b>   |
| 6.1        | Type of drive - Digital servo drives   |
| 6.2        | Drive element - Preloaded backlash free ball screws  |
| 6.3        | Type of feedback - Closed loop   |
| <b>7.0</b> | <b>Traverse feed rates:</b>  |
| 7.1        | Rapid traverse of linear axes X,Y,U&V (m/min) – 3000mm/min or better   |
| <b>8.0</b> | <b>Generator</b>   |
| 8.1        | The generator shall be of latest version having Preloaded features/technologies for cutting with high surface finish on materials like Titanium alloys, Copper alloys, Aluminum alloys, High Strength Steels Graphite, |

|             |  |
|-------------|--|
|             | Carbides, Molybdenum, Niobium etc. Few samples will be supplied for verification.  |
| 8.2         | Electronics – state-of-the-art highly reliable solid state components (such as FPGA etc.) based digital generator. Electrical - state-of-the-art highly reliable copper based components |
| 8.3         | Standard anti-electrolysis feature. Few samples will be supplied for verification.   |
| 8.4         | Cutting speed with 0.3 mm diameter copper or brass wire and steel work piece – 300 (mm <sup>2</sup> /min) or better  |
| 8.5         | Finishing quality & best roughness Ra on steel – 0.2 µm or better  |
| 8.7         | Control feature to control influences of wire wear and flushing pressure   |
| 8.8         | Dynamic path optimization and process adaptation in the radii  |
| 8.9         | Real time detection and correction of the wire bending   |
| 8.10        | Dynamic corner control   |
| 8.11        | Automatic power optimization   |
| <b>9.0</b>  | <b>Wire threading system:</b>  |
| 9.1         | Automatic & Programmable wire threading system   |
| 9.2         | Programmable wire tension (daN) 0.3 to 3   |
| 9.3         | Wire tension meter   |
| 9.4         | Wire alignment tool  |
| 9.5         | Weight of wire spool - 7 Kg (or more)  |
| <b>10.0</b> | <b>Die-electric conditioning unit:</b>   |
| 10.1        | Integrated resin based dielectric conditioning unit  |
| 10.2        | Dielectric capacity - 500 liters or better   |
| 10.3        | Filter cartridges for sludge - Filtrate quality - 5 µm   |
| 10.4        | Programmable flushing pressure   |
| 10.5        | Chiller unit for cooling dielectric  |
| <b>11.0</b> | <b>CNC system and programming:</b>   |

|       |  |
|-------|--|
| 11.1  | Remote control/ Hand wheel with all setup functions.<br>Display should be touch with 19" touch type. |
| 11.2  | Operating system – Bidder to specify.  |
| 11.3  | Servo controlled axes X,Y,Z,U&V  |
| 11.4  | Simultaneously controlled axes X,Y,U&V   |
| 11.5  | Resolution - 0.1 $\mu\text{m}$ or better   |
| 11.6  | Automatic restart after power failure.<br>No disturbance of Accuracy of Machine.                     |
| 11.7  | Hard disk capacity – at least 10 GB for program and drawing storage                                  |
| 11.8  | RAM capacity – 1 GB or better  |
| 11.9  | Network connection; Ethernet port and USB  |
| 11.10 | Network protocol – IP based  |
| 11.11 | CD/DVD ROM drive   |
| 11.12 | 2D/3D Machining simulation   |
| 11.13 | Incremental or absolute programming  |
| 11.14 | Wire radius compensation   |
| 11.15 | Canned cycle for wire alignment  |
| 11.16 | ISO programming in metric & inch   |
| 11.17 | Cartesian, polar programming   |
| 11.18 | Parametric programming   |
| 11.19 | Mathematical functions, logical operators  |
| 11.20 | Coordinate transformation, linear transformation   |
| 11.21 | Rotation in the machining plane  |
| 11.22 | Mirror image   |
| 11.23 | Scaling  |
| 11.24 | Copy function  |
| 11.25 | Automatic corner rounding  |
| 11.26 | Sub programs or object programs  |

|             |  |
|-------------|--|
| 11.27       | Background programming   |
| 11.28       | Onboard documentation for error message list, maintenance book, consumable list & machining Recommendation   |
| <b>12.0</b> | <b>Human Machine Interface:</b>  |
| 12.1        | Display with touch screen 19" TFT  |
| 12.2        | Key for start point return   |
| 12.3        | Key for hold point return  |
| 12.4        | Key for filling and draining the tank  |
| <b>13.0</b> | <b>Compensation:</b>   |
| 13.1        | Pitch error compensation   |
| 13.2        | Quadrant error compensation  |
| 13.3        | Backlash compensation  |
| <b>14.0</b> | <b>Machine Guarding:</b>   |
| 14.1        | All moving parts/guide way/ball screws shall be protected against dust incursion by providing suitable cover/bellows   |
| 14.2        | Machine shall be provided with adequate guarding & doors   |
| 14.3        | Installation conditions – Bidder to specify  |
| <b>15.0</b> | <b>Tests</b>   |
| 15.1        | Geometrical tests: As per supplier's test chart (supplier should enclose standard test chart with numerical values and test procedure along with the offer indicating the basic standard adopted for the approval of the purchaser). |
| 15.2        | Practical tests: Standard test jobs of various materials   |
| 15.3        | Accuracy and repeatability test : as per ISO 230 -2 (97) standard for positional and geometrical accuracies  |
| <b>16.0</b> | <b>Standard accessories</b>  |
| 16.1        | Installation accessories like anti vibration pads, hand tools, grease gun etc.   |
| 16.2        | Test mandrels for all geometrical tests.   |
| 16.3        | All Hand tools and tool box for general operation and servicing of the machine.  |
| 16.4        | Mechanical, electrical & electronics spare parts & wear parts for 30 months operation of the machine   |

|             |  |
|-------------|--|
| <b>17.0</b> | <b>The supplier shall furnish the following information along with the quotation</b>   |
| 17.1        | Detailed catalogue of the machine and other accessories.   |
| 17.2        | Drawings of foundation details, if any. Machine supplier may quote for civil work optionally.  |
| 17.3        | Geometrical alignment and practical test chart for the machine offered indicating the guaranteed accessories.  |
| 17.4        | The overall size and weight of the machine   |
| 17.5        | Supplier should provide complete PLC listing in English along with comments (Hardcopy + Soft copy).  |
| 17.6        | Service manuals and complete electrical diagrams should be provided.   |
| 17.7        | Supplier should indicate distinct milestones for stage inspection and final inspection of the machine.   |
| <b>18.0</b> | <b>Onsite Training</b>   |
| 18.1        | The supplier shall arrange the application & operation training of four persons and the maintenance (mechanical and electronics) training of three persons in TIFR for a period of minimum ten working days during and after the installation and commissioning of the machine |
| <b>19.0</b> | <b>Pre-Dispatch Inspection &amp; Testing at Manufacturer's works:</b>  |
| 19.1        | Practical Test: Wire cut Machining of at least 5 test pieces of various materials and manufacturer's standard test specimen to prove the accuracy, repeatability, maximum material removal rate, best surface finish etc.  |
| 19.2        | Geometrical Accuracies: Machine will be inspected and tested for geometrical accuracies at manufacturer's works and witnessed by our representatives (2/3 persons) as per standard test chart issued by the supplier.  |
| 19.3        | Positioning Accuracy and repeatability test: Positioning accuracy and repeatability will be tested as per ISO 230 -2 (97) witnessed by the purchaser's representatives. Supplier has to arrange for necessary equipment.   |
| <b>20.0</b> | <b>Erection &amp; Commissioning</b>  |
| 20.1        | Erection & commissioning of the machine at the purchaser's site to be carried out by the supplier. Support will be provided by the purchaser.  |
| <b>21.0</b> | <b>Final acceptance at purchaser's works after commissioning</b>   |
| 21.1        | Geometrical Accuracies: Machine will be inspected and tested in the presence of supplier's representative for geometrical accuracies as standard test chart issued by the supplier.  |
| 21.2        | Positioning Accuracy and repeatability test: Positioning accuracy and repeatability will be tested in the presence of supplier's representative as per ISO 230 -2 (97)   |
| 21.3        | Practical Test: Wire cut Machining of at least 5 test pieces of various materials and manufacturer's standard test specimen to prove the accuracy, repeatability, maximum material removal rate, best surface finish etc.  |
| <b>22.0</b> | <b>Warranty</b>  |
| 22.1        | Standard 30 months from date of commissioning of the machine at purchaser's works.   |

|             |                                     |
|-------------|-------------------------------------|
| <b>23.0</b> | <b>General Terms and Conditions</b> |
| 23.1        | As per Tender Document              |

**NOTE**

- The Technical Bid should include specific answers strictly with respect to our above mentioned Technical Specifications. Deviations if any should be highlighted with clarifications. Otherwise, the Bid will not be taken into consideration.
- The supplier should furnish the **quantitative values** with respect to specified values in the Technical specification of the quote clearly instead of just mentioning “Complied”, “Agreed” or “Confirmed” etc. otherwise the Tender Quote is liable to be rejected

**Sample Format**

| <b>Sr. No.</b> | <b>Technical Specifications of Submerged Type Precision CNC Wire-Cut EDM Machine</b> | <b>Specification Value / Remarks</b> | <b>Deviations if any/Remarks</b> |
|----------------|--|--------------------------------------|----------------------------------|
| <b>3.0</b>     | <b>Axis travel</b>   |                                      |                                  |
| 3.1            | X-axis (mm) 350mm (or better)  | 400 mm                               |                                  |
| 3.2            | Y-axis (mm) 250mm (or better)  | 260 mm                               |                                  |
| 3.3            | Z-axis (mm) 250mm (or better)  | 240 mm                               |                                  |



**PART – I**  
**SECTION – V**

**Eligibility requirements**

- (a) The Bidder should be a manufacturer/authorized representative of a manufacturer who must have designed, manufactured, tested and supplied the equipment(s) similar to the type specified in the “Technical Specification”. Such equipments must be of the most recent series/models incorporating the latest improvements in design. The models should be in successful operation for at least one year as on date of Bid Opening.
- (b) The Bidder should be a manufacturer/authorized representative of a manufacturer of Submerged Type Precision EDM CNC Machine
- (c) The machine supplied should be a standard product of OEM and standard catalogue to be provided
- (d) The Bidder should furnish the information on all past supplies in Govt. of India/ DAE/ ISRO/ Defense and satisfactory performance in the pro forma (Performance Statement Form)
- (e) Bidders shall invariably furnish documentary evidence (client’s certificate) in support of the satisfactory operation of the equipment.
- (f) Details of Service Centers in India and information on service support facilities that would be provided after the warranty period (in the Service Support Form).
- (g) The bidder should confirm that adequate and specialized expertise is already available or will be made available in India for the execution of the contract in India. The service support should be in such a manner that; it is made available within a period of 2 working days in an event of problem or breakdown of machine.
- (h) The manufacturer shall confirm his capability to support the spares, maintenance calibration and after sales service of the complete system after erection & commissioning, during and after the warranty period, either directly or through authorized service representative positioned in India. The supplier should ensure support for a minimum period of 10 years
- (i) The Indian Agents of foreign manufacturers/ suppliers quoting directly on behalf of their principals for items appearing in the restricted list of the current EXIM policy of the Govt. of India are registered with DGS&D.
- (j) **To maintain sanctity of tendering system one Indian agent cannot represent two different foreign principals in one tender.**

**TATA INSTITUTE OF FUNDAMENTAL RESEARCH**

HOMI BHABHA ROAD, COLABA

MUMBAI – 400005

**TENDER DOCUMENT**

**PART – II**

**Price Bid**

**Public Tender No. : TIFR/PD/IC17-120/PUB**

**Name of Work**

**DESIGN, MANUFACTURING & SUPPLY,  
INSTALLATION, ERECTION, COMMISSIONING & TESTING**

**OF**

**SUBMERGED TYPE PRECISION  
CNC WIRE CUT EDM Machine  
AT**

**CENTRAL WORKSHOP, TIFR, MUMBAI – 400005.**

**PART – II**  
**SECTION – I**

**Price Schedule Forms**

1. Tender reference no:
2. Name of tenderer:
3. Due date & time:
4. The tender shall remain valid for acceptance for 180 days, from the date of tender opening.
5. **Only for Indian bidders:-**

Rates for items given in Price Bid at Schedule of Requirements are as follows.

Adhering to the Format given below is a Pre-requisite for considering your quotations. Prices should be on FOR Destination basis in Indian rupees.

Sl. No. Description, A/U Qty Unit, Total offered price Cost

- (i) Brief description of complete equipment/Item/material with all accessories.
- (ii) Customs duty, if any
- (iii) GST
- (iv) Training cost, if any
- (v) For octroi if applicable, necessary Certificate will be issued.
- (vi) Cost of Spares for 10 years of operation
- (vii) Any other

6. **For Foreign Bidders:-**

Adhering to the Format given below is a Pre-requisite for considering your quotations. Price should be quoted on CIF, FOB & Ex-works basis.

Sl. No. Description A/U Qty Unit Total offered price Cost

- (i) Brief description of complete equipment/ Item/material with all accessories.
- (ii) Installation, commissioning, training charges, PDI, if any
- (iii) Total cost (in figures and words) and currency
- (iv) Total Bid price in foreign currency \_\_\_\_\_
- (v) Indian agents name & address \_\_\_\_\_ in words.
- (vi) Third party Charges if any \_\_\_\_\_ Name \_\_\_\_\_
- (vii) Cost of Spares for 10 years of operation
- (viii) Business Address \_\_\_\_\_
- (ix) Any other

7. Separate list should be attached where required in the same format giving details of each item and cost. However, total cost should be mentioned at appropriate column in the table (s).

TIFR Enquiry No & Date: \_\_\_\_\_

Price Bid (for local item)

Due date: \_\_\_\_\_

Bidder's Quotation Ref No. & Date: \_\_\_\_\_

Price / Financial Bid ( Bidders must quote their rates using this Format )

| Sr. no. | Item Description as per the Tender/Inquiry                                   | Make/Brand/Type | Rate per unit | Qty | Basic Cost (In INR) |
|---------|--|-----------------|---------------|-----|---------------------|
| A       |  |                 |               |     |                     |
| B       | GST  |                 |               |     |                     |
| C       | Freight/Transportation charges if any for delivery upto TIFR, Colaba, Mumbai |                 |               |     |                     |
| D       | Service Tax; if any  |                 |               |     |                     |
| E       | Service/Labour charges;if any  |                 |               |     |                     |
| F       | Any Other charges  |                 |               |     |                     |
| G       | <b>Total landed cost in Figures &amp; words</b>                              |                 |               |     |                     |

**Commercial Terms to be stated specifically**

Delivery Period:

Warranty Period:

Validity of Quote:      Payment Terms:

**Note:**

1. All the column should be appropriately filled and not left blank, any duty/tax/ charges not applicable, then please specify as " Not Applicable"
2. Do not include any other charges, taxes, duties etc. in the Basic Cost of the item,
3. Any accessories, optional items should be shown separately.
4. Other Technical & Commercial details shall be furnished in a separate sheet.
5. Use separate sheet for detail description, specification of the item, but prices should be quoted in same format. 6. TIFR being educational & research Institute, Discounted price shall be offered

**Signature of the Bidder**

Name, Address, contact  
no & Email id of the  
Bidder/Company  
with company's stamp

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TIFR Enquiry No & Date: \_\_\_\_\_

Due date: \_\_\_\_\_

Bidder's Quotation Ref No. & Date: \_\_\_\_\_

Financial Bid ( Bidders must quote their rates using this Format )

Part 'B'

Financial Bid

| Sr. no. | Item Description as per the Tender/Inquiry   | Make/Brand/Type | Rate per unit | Qty | Basic Cost of main item (In Currency)_____ |
|---------|--|-----------------|---------------|-----|--|
| A       |  |                 |               |     |  |
| B       | Ex-Works cost (Duly packed Airworthy/Seaworthy of international standard)  |                 |               |     |  |
| C       | FOB /FCA Cost (Name of Airport_____)   |                 |               |     |  |
| D       | CIP/CIF Cost ( Upto Mumbai Airport)(all inclusive i.e. Cost of Goods, Packing, Insurance, Inland transportation, freight etc.) |                 |               |     |  |

**Note:**

1. All the column should be appropriately filled and not left blank
2. Do not include any other charges, taxes, duties etc. in the Basic Cost of the item,
3. Any accessories, optional items should be shown separately using above format.
4. Use separate sheet for detail description, specification of the item, but prices should be quoted in same format.
5. Prices quoted in Indian Currency should be on F.O.R. basis and mentioned separately using different table format showing all the applicable taxes/Duties like SGST, CGST, IGST, Freight & Transportation charges and installation charges etc.
6. TIFR being educational & research institute, discounted price shall be offered.

**Signature of the Bidder**

Name, Address, contact no

& Email id of the

Bidder/Company

with company's stamp or seal

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Date:**

\_\_\_\_\_

**Place:**

\_\_\_\_\_

**Bid Securing Declaration**

**(to be submitted on company's letter head)**

I/We the undersigned hereby declare that if we withdraw or modify the bids during the period of its validity, or if we are awarded the contract and fail to sign the contract, or to submit a performance security before the deadline defined in the request for bids document or fail to execute the contract, we will be suspended for the period of time specified in the request for bids document from being eligible to submit bids for contracts with the entity that invited the bids.

Name and Signature  
of Authorized Signatory  
and Company Seal