Ahmedabad University

Procurement of Water Jet Machine

Vendor Technical Pre-Qualification

Sr No.	Criteria
1	Authorized dealer/distributor certification from original equipment manufacturers.
2	Bidder/authorized dealers' OEM must be capable of providing supply, servicing, spare parts, technical assistance, and training, along with periodic technical updates, for a minimum of 10 years after the machine's supply.
3	The warranty period should be clearly mentioned. The comprehensive warranty will commence from the date of the satisfactory installation/commissioning of the equipment against the defect of any manufacturing, workmanship and poor quality of the components. Annual maintenance charge (AMC) post-warranty period should be specified.
4	The quoted machines must be from the manufacturer's standard production range. Prototypes or machines developed on a custom basis will not be accepted. The manufacturer must have been producing and supplying more than two similar models of the quoted water jet cutting machine for a minimum of five years.
5	The bidder must have installed at least five machines specifically for fiber or composite industries, including applications for cutting carbon fiber, glass fiber, armored plates, etc., at least three years prior to the bid submission date. A reference list, including installation dates, must be attached to the technical bid.
6	Bidder/authorized dealer's OEM should have installed at least 5 machines dedicated to IITs/ Universities/ education Institutes for engineering.
7	OEM should have installed at least 10 machines in Public Limited / PSU / Private institutes with similar features/capabilities as that of quoted model.
8	Bidder/authorized dealer's OEM should have at least 10 years of experience in manufacturing process of waterjet technology and should have supplied waterjet machine in India before years 2014-2015. Reference PO should be attached for validation.
9	Bidder/authorized dealer's OEM should have local presence in Gujrat (preferably Ahmedabad/Gandhinagar) and must submit proof along with bid.
10	OEM must have a minimum turnover of 10 Crore in each year for the last 5 years.

11	Supplier shall provide concept drawing and General Arrangement Drawings (GAD) of complete quoted equipment, which should be self-explanatory based on waterjet technology. Also, the bidders are required to submit (i) Electrical and Instrumentation Schematics. (ii) Piping and Instrumentation Diagram (P&ID). These all will be verified and checked during Factory Acceptance Test (FAT).
12	During Factory Acceptance Test (FAT) following will also be verified: i. Laser calibration report ii. Ball bar calibration report iii. Alignment calibration report

Technical Specifications

AURIS Requisition Number: 2624

Machine Type: Water Jet Machine

Quantity: One (01)

Technical Criteria: The technical evaluation of all the proposals will be done in the following parameters:

1. Machine Details
   a. Type: CNC Abrasive Water Jet Cutting Machine (AWJCM)
   b. Applications: Cutting of metals (stainless steel, alloy steel, non-ferrous metals), fiber reinforced composite materials (including carbon, glass, aramid and other fiber based FRPs), elastomers, granite, and glass.

2. Table and Axis Specifications
   a. Cutting Area
      i. Abrasive Water Jet: Minimum 2000 mm x 1500 mm
      ii. Pure Water Jet: Minimum 500 mm x 500 mm

   b. Axis Travel
      i. X-Axis: Minimum 1500 mm
      ii. Y-Axis: Minimum 3000 mm
      iii. Z-Axis: Minimum 250 mm

   c. Cutting Thickness: Capable of cutting stainless steel not less than 150 mm thick.

d. Accuracy
    i. Positioning Accuracy: ± 0.03mm per entire working stroke of x (1600mm) and y (3100mm) axis
    ii. Repeatability: ± 0.03mm per entire working stroke of x (1600mm) and y(3100mm) axis
    iii. Squareness : ± 0.1 mm per meter or better
    iv. Straightness : ± 0.1 mm per meter or better

e. Maximum Axis Speed
    i. X-Y Axis: 45,000 mm/min
    ii. Z-Axis: 10,000 mm/min

3. Cantilever and Motion System
    a. Cantilever Structure: Rigid Cantilever Structure having 3 side open working envelop for material loading with synchronized servo motors and closed-loop control.
    b. Motion Transmission:
        i. X & Y Axes: High-speed helical rack & pinion system.
        ii. Z Axis: Precision ball screw.

4. High-Pressure Pump Specifications
    a. Make: KMT (or equivalent international brand). High-pressure pumps manufactured by border-sharing nations are not eligible for supply.
    b. Model: Capable of continuous pressure over 4000 bar (60,000psi).
    c. Flow Rate: more than 3.5 LPM or higher at maximum pressure.
    d. Power: Minimum 50 HP, 3-phase, 415V.
    e. Intermediate/Booster Pump: As per HP pump requirements, Make: Grundfos/ Wilo / Lubi /or as per OEM requirement.

5. Cutting Head and Catcher Tank

    a. Cutting Head
        i. Type: Abrasive and Pure Water Jet cutting heads.
        ii. Features: Precision alignment for orifice and focusing nozzle, automatic standoff, and head lift during traversing.

    b. Catcher Tank
        i. Material: MS outer wall with SS edge covering.
        ii. Grid Capacity: Supports a load of 1000 kg/sq. m.
        iii. Features: Low-splash design for pure water cutting.

6. Controller Specifications

    a. Type: CNC Controller (Rexroth, Power Automation, or equivalent).

b. Display: Graphical color display.
c. Memory: Minimum 120 GB memory, with USB backup option.
d. Software Compatibility: CAD/CAM support for DXF/DWG file formats with automatic tool path generation and nesting.
e. G & M Code: Capable of running ISO G & M codes directly, which should be editable by the user.

7. Abrasive Delivery System
   a. Feeder Capacity: Minimum 200 liters (bulk abrasive delivery system should be part of unit).
   b. Flow Control: Servo-controlled metering system, programmable up to 1000 g/min with level sensor.

8. Consumables and Accessories
   a. Consumables: to be supplied with the machine,
      i. Sapphire Orifice: 3 Nos
      ii. Nozzles: 2 Nos
      iii. Abrasive Gamet (80 mesh): 3000 kg
      iv. All necessary requirements like water filter system, electrical power stabilizer/transformer, clean air, oil etc. must be clearly specified by the manufacturer, supplied and installed along with the machine at the site.

   b. Accessories: to be supplied with the machine
      i. Laser Edge Pointer for alignment
      ii. Initial Height Sensor
      iii. LED Work Lights
      iv. Splash Guards

9. Safety Features
   a. Certifications: CE certified (approved by Euro Cert or equivalent).
   b. Interlocks: Safety interlocks to prevent operator injury or machine damage.
   c. Monitoring: Continuous machine diagnostics and alarms.

10. Utilities and Installation Requirements
    a. Utilities: All necessary utilities and auxiliary equipment required to run/operate the WJM must be supplied with WJM as part of this quotation, including,
       i. Air Compressor: Minimum 3 HP or higher rated unit, meeting the all the air requirements of WJM
       ii. Servo Stabilizer: Input 360-460 V, Output 415 V, 50 Hz, capable for continuous operations of WJM
       iii. RO Water Treatment Plant: Minimum capacity 250 Uhr. with 500-liter storage meeting all the requirements of input water fed to WJM
       iv. Chiller: Min. 5 TR or higher as per the requirement of the specified WJM.
       v. Booster pump as per the input specifications of WJM.

vi. Tank for raw water supply lo be included with the machine.
vii. Separate tank for storing RO-filtered water, before feeding to high pressure pump.

b. Installation
   i. On-site installation and commissioning by experienced engineers at Ahmedabad University, Ahmedabad.
   ii. Training for operation and maintenance at Ahmedabad University, Ahmedabad.

Pre-requisite Information

The supplier/bidder will specify all requirements for the installation, commissioning, and operation of the equipment. This includes, but is not limited to:

1. Floor Space: Total floor area required for the equipment setup.

2. Vendor should specify minimum length of electrical cables, pneumatic lines, water lines included with the WJM.

3. Electrical Requirements:
   a. Total electrical power required.
   b. Detailed power breakup for individual components.

4. Plumbing requirements

5. Water Requirements: Total raw water requirement.

6. Additional Inputs: Specify any other infrastructure, civil works, consumables, works within the university's scope, or resources required to ensure the smooth functioning of the equipment.

7. The warranty period should be clearly mentioned. Annual maintenance charges (AMC) under different schemes after the expiry of the warranty should also be mentioned. The comprehensive warranty will commence from the date of the satisfactory installation/commissioning of the equipment against the defect of any manufacturing, workmanship and poor quality of the components.

8. Buyer reserves the right to verify the information provided by the Vendor. In case any of the information is found to be false/incorrect, the offer shall be summarily rejected.

Terms & Conditions

1. **General Overview**

   This document outlines the terms and conditions (T&Cs) that apply to the procurement of Water Jet Machine , which will be provided as part of this tender. All prospective suppliers must adhere to these T&Cs to participate in the tender process.

2. **Submission Guidelines**

   i) Submission Deadline: Bids must be submitted no later than 21 days from publication on the Ahmedabad University Portal. Late submissions will not be accepted. All bids should be submitted in hard copy and through the portal.

   ii) Submission Format: All tender submissions must be made through a sealed copy to the Procurement Office, Ahmedabad University, Gate No. 2, Commerce Six Roads, Navrangpura, Ahmedabad – 380009.

   iii) Tender Validity: The tender must remain valid for a minimum of 60 days from the submission deadline.

3. **Technical Specifications**

   i) Product Requirements: Tenderers must provide an Ultrasonic Sealing Machine that meets the specified technical and performance criteria outlined in Technical Specifications Sheet (attached technical specification).

   ii) The Supplier is responsible for ensuring that all equipment and material are delivered in full working order and meet the specified technical requirements.

   iii) The Supplier shall also provide any necessary training, documentation, or additional services as stipulated in the tender.

   iv) The bidder shall communicate all the necessary information and prerequisites to the University before the processing of the delivery of the equipment.

   v) All the designs, drawings, placements of the equipment should be confirmed with the dedicated team of Ahmedabad University and should be processed upon their approval.

4. **Pricing and Payment Terms**

   i) Price Structure: The tender price must be inclusive of all costs, including but not limited to delivery, installation, training, and any other charges.

   ii) The bidder should submit an accessory one-year AMC proposal along with the commercial proposal.

   iii) Payment Schedule: The payment terms will be processed against satisfactory delivery and installation.

   iv) **The payment shall be processed through the Public Financial Management System (PFMS) Portal upon the receipt of funds from the Ministry of Textiles to Ahmedabad University.**

   v) Taxes: The price should be exclusive of any applicable taxes, which must be

indicated separately.

5. **Delivery and Installation**
   i) Delivery Timeline: The Water Jet Machine must be delivered within 12 weeks of the date of order confirmation.
   ii) Installation: The Supplier must be responsible for the installation of the Water Jet Machine at the Composites Laboratory or at the dedicated space as instructed by the University.

6. **Inspection and Testing**
   i) Pre-Delivery Inspection: The Contractor must provide pre-delivery inspection and acceptance testing for the Water Jet Machine .
   ii) Post-Delivery Testing: Upon installation, the machine must undergo functional testing to ensure it meets the specified technical requirements.
   iii) Defects and Non-Conformance: If any defects or non-conformance to specifications are identified during testing, the tenderer shall correct them at their own cost.

7. Training and Documentation
   i) Operator Training: The tenderer must provide on-site training on the operation and maintenance of the Water Jet Machine .
   ii) Documentation: The tenderer shall provide detailed user manuals, technical documentation, and maintenance guidelines in both hard copy and electronic format.

8. Warranty and Support
   i) Warranty Period: The Water Jet Machine shall have a warranty period of Two (02) years from the date of installation.
   ii) Warranty Coverage: The warranty should cover repairs, parts replacement, and labor for any defects in materials or workmanship.
   iii) Service Level Agreement (SLA): The Contractor must provide an SLA for post-installation support, including response times for maintenance and repairs.

9. Confidentiality
   i) Confidential Information: Both parties should treat all information shared during the tender process and contract execution as confidential.

10. Termination Clause
   i) The University reserves the right to terminate the Agreement without cause by providing 30 days written notice to the Supplier. In such cases, the University shall pay for any Goods delivered and accepted by the Buyer up to the date of termination.

11. Dispute Resolution
   i) Any disputes arising out of or in connection with this Agreement shall be resolved through amicable negotiations between the parties.
   ii) If the dispute cannot be resolved through negotiations, the parties agree to

submit the dispute to Arbitration in accordance with the rules of Arbitration and Conciliation Act 1996.

12. Force Majeure

i) Impact on Obligations: Neither party shall be held liable for failure to fulfil obligations under this contract due to force majeure events.

13. Compliance with Laws and Regulations

i) Legal Compliance: The Contractor must comply with all applicable laws, regulations, and standards governing the manufacture, delivery, and installation of the Ultrasonic Sealing Machine.

ii) Environmental Compliance: The Ultrasonic Sealing Machine must meet environmental standards and regulations related to energy consumption, material disposal, and recycling.

14. Governing Law

i) Jurisdiction: This contract is governed by the laws of India, and any disputes will be resolved within the courts of Ahmedabad.