

## Tender Notice



COLLEGE AGRICULTURAL ENGINEERING & TECHNOLOGY  
JUNAGADH AGRICULTURAL UNIVERSITY  
JUNAGADH

### E-TENDER NOTIFICATION 01 (2024-25)

(Through Gujarat Government e-procurement portal only)

Principal & Dean, CAET, JAU, Junagadh, JAU, Junagadh invites tenders through the e-procurement portal, [www.au.nprocure.com](http://www.au.nprocure.com), [www.tender.nprocure.com](http://www.tender.nprocure.com) for the purchase of scientific equipment, (i) "Automatic Methane Potential Test System" (ii) "Water Detector: Fresh Result 2 Systems Plus" (iii) "CNC Lathe Trainer (iv) Hunter Colour lab (Colour Measurement Analyzer)" (v) "Digital Hot Air Oven" & (vi) "Agitation Assisted Ohmic Heating System (specially designed / Fabricated)" required by different departments of the CAET, Junagadh Agricultural University.

The complete details of items and their specification and other terms & condition of the tender including EMD / Security deposit can be had from the Gujarat Government e-procurement portal mentioned above as well as from our university's website [www.jau.in/tenders](http://www.jau.in/tenders). Now onwards, any changes regarding this, will be put on the [www.jau.in](http://www.jau.in) only.

<b>Date of Online Tender</b>	<b>22/02/2025</b>
<b>Last date for online submission</b>	<b>08/03/2025</b>
<b>Last date for receipt of Technical Bid (physically)</b>	<b>12/03/2025</b>
<b>Date of Tender Opening</b>	<b>13/03/2025</b>

Junagadh, Date: 22/02/2025

Principal & Dean  
CAET, JAU, Junagadh

Principal & Dean  
CAET, JAU, Junagadh

# JUNAGADH AGRICULTURAL UNIVERSITY



## TENDER DOCUMENT FOR THE PURCHASE OF SCIENTIFIC EQUIPMENTS DURING THE YEAR 2024-25 BY

**Principal & Dean, College of Agricultural Engineering & Technology  
Junagadh Agricultural University  
Junagadh- 362 001 (Gujarat)  
Telephone No. 0285 2671018  
Fax No. 0285 2671018**

<b>Bid reference :</b>	
Period for downloading and online submission of tender documents	: Dt.:22-02-2025 to 08-03-2025
Physical submission of Tender Fee, EMD, other relevant documents as per check list of the tender as well as company printed literature/ catalogue and other necessary documents by RPAD/Courier/Speed Post	: Up to 12-03-25 before 18:00 hrs. In the office of the Principal, College of Agricultural Engineering & Technology, Junagadh Agricultural University, Junagadh 362 001, Gujarat.
Probable date for opening of primary Bid and verifying physically submitted documents	: Dt.: 13-03-2025, (After 10.00 hrs.)
Probable date for opening of commercial bid	: Dt.: 13-03-2025(After 15.00 hrs.)

*Tender fee Rs.2500/- in form of DD in favor of "Junagadh Agricultural University Fund A/c", payable at Junagadh, non refundable for entire tender*

*EMD for an amount of minimum 3% of the cost of quoted tender amount have to be paid (Refundable) in favour of "Junagadh Agricultural University Fund A/c" payable at Junagadh.*

**Note:** The scanned copy of the demand draft/FDR of the Tender Fee and EMD and other relevant documents as per check list of the tender are required to be submitted online with the commercial bid on [www.tender.nprocure.com](http://www.tender.nprocure.com). It is compulsory to submit the original / attested Xerox copy of all the documents (except commercial bid), i.e. company Printed Literature / Catalogue and other necessary documents physically in hard copy by RPAD / Courier / Speed Post to the undersigned on or **before 12-03-25, 18:00 hrs.** Please note that scan copy of documents uploaded online must tally with the physical submission of original / attested Xerox copy. The bidder will be entitled for immediate disqualification, if fails to submit the physical documents within time limit. Now onwards, any changes regarding this, will be put on the [www.jau.in](http://www.jau.in) only.

This tender consist of following **four parts**

- Envelop-1: Tender Fees and EMD (Details inside this document)
- Envelop-2: Company detail & Tender Supporting Documents.
- Envelop-3: Includes documents consisting authority letter, ISO/ISI/CE certification, compliance statement related to tender specifications, Product literature, Country of origin of equipment, colour catalog, list of installation, etc.  
**Special Note:** Enclose separate envelop no-3 for each equipment quoted.
- List of equipments with specification to be purchased has to be packed in envelop-3.



**ENVELOP-1**

**Tender Doc.  
Equipments EMD & TENDER Fee**

**To,**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FROM:**

**ENVELOP-2**

**Tender Doc.  
COMPANY DETAILS & TENDER SUPPORTING DOCUMENTS**

**To,**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FROM:**

**ENVELOP-3**

**Tender Doc.**

**Technical Specification & Tender Supporting Documents(Authorized Certificate)**

**Item Serial No:**

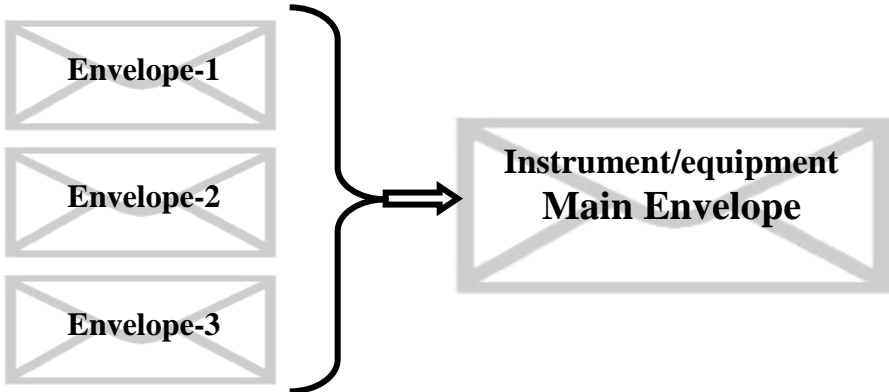
**Name of Instrument: To,**

**(Separate for each item)**

\_\_\_\_\_

\_\_\_\_\_

**FROM:**



# Envelop- 1

**1. Tender Fee Details: (Rs.2500/-)** DD in favor of “Junagadh Agricultural University Fund A/c ”,SBI, code: SBIN0060218

**a. Name and Address of Tenderer**

**2. Details of Demand Draft:**

<b>Sr. No.</b>	<b>Particulars</b>	<b>Number</b>	<b>Date</b>	<b>Amount (Rs.)</b>	<b>Drawn on... (Please mention <u>Name of Bank</u>)</b>	<b>Branch &amp;Place</b>
1	Demand Draft			2500/-		

**3. Format for EMD to be filled in the letter pad by the tenderer:**

EMD as **FDR** in favour of “Junagadh Agricultural University Fund A/c” payable at Junagadh.

<b>Serial No.</b>	<b>Name of Equipments</b>	<b>EMD of Rs.*</b>

**\*NOTE:** The **EMD** (Earnest Money Deposited) for an amount @ minimum **3%** of the cost of quoted tender amount shall have to be paid as **in the form of FDR only** in favour of “Junagadh Agricultural University Fund A/c” payable at Junagadh.



## **COMPANY DETAIL**

1. Name of supplier / firm :
2. Complete postal address :
3. Telephone Number :
4. FAX Number (if any) :
5. E-mail address (if any) :
6. Sales Tax No. :
7. Registration No. :
8. Any other details:

We agree to abide by the terms and conditions of supply mentioned in this tender Document

Signature of Tenderer

(With Stamp, Name & Designation)

## Envelop- 2

### TENDER SUPPORTING DOCUMENTS (CHECK LIST)

Sr. No.	Document / Certificate	Attached Yes /No	Yours Page No.
1.	<b>Tender Fee:</b> (Demand draft of Rs. 2500/- in favour of "Junagadh Agricultural University Fund Account" drawn on STATE BANK OF INDIA, JUNAGADH BRANCH towards the tender fee (Non-Refundable)		
2.	<b>EMD: Fixed Deposit Receipt</b> of a minimum <b>3%</b> of the cost of quoted tender amount have to be paid in favour of "Junagadh Agricultural University Fund Account" drawn on STATE BANK OF INDIA, JUNAGADH BRANCH towards the Earnest Money Deposit (Refundable).		
3.	C.A. Certificate/ IT return for the manufacturers /Traders showing year-wise production/sales of the quoted item for last 2 years.		
4.	Manufacturing License / Product Permission / Registration Certificate with C.S.P.O./ C.M.S.O. / S.S.I./ K.V.I.C./N.S.I.C./D.G.S.& D.		
5.	S.T. Clearance Certificate & Returns		
6.	Partnership deed / Memorandum of article / Registration of firm etc.		
7.	Document of 100% Subsidiary Company.		
8.	Affidavit by Subsidiary Company.		
9.	Vendor's Profile / Company details		
10.	IT Clearance		
11.	GST registration certificate/ GST detail		
12.	Specification Supporting Documents with coloured catalog		
13.	Minimum Technical Specification sheet		

**Note:** 1) All photocopied documents must be attested with seal and signature.

2) All documents photocopy attached in physically.

**Note:**

It is verified that all the certificates / permissions / documents are valid and current as on date and have not been withdrawn / cancelled by the issuing authority. It is further verified that the certificates are as per the format and it is clearly and distinctly understood by me / us that the tender is liable to be rejected if on scrutiny and of these certificates is found to be not as per the prescribed format.

I/We further undertake to produce on demand the original certificate / permission / document for verification at any stage during the processing of the tender.



## **DECLARATION**

We solemnly declare that we have attached all the documents mentioned here above and mentioned in the tender. We also understand that non-compliance of any documents will be treated as non-respective tender and we will loose our claim to participate in the Tender Enquiry automatically and our tender will be liable to reject.

Name of the Firm:

Authorized Signature:

Name: Designation:

Seal of firm:



## **Terms & Conditions**

1. **Tender fee of Rs. 2500/- (Non Refundable)** for exclusive tender be provided through DD in favour of “ Junagadh Agricultural University Fund A/c ”
2. The **EMD** (Earnest Money Deposited) for an amount @ minimum **3%** of the cost of the quoted tender amount has to be paid in the **form of FDR only** in favour of “ Junagadh Agricultural University Fund A/c ”, from any nationalized Bank of India or any authorized bank drawn in favour of “Junagadh Agricultural University Fund A/c” payable at Junagadh in the Envelop-1. Quotation without EMD will not be considered. In case of unsuccessful tenderers, the Earnest Money deposit (EMD) will be released after finalization of the tender, while in case of successful tenderers/suppliers the Earnest Money so deposited (EMD) will be released after successful completion of supply.
3. Manufacturers must submit the **certificate of registration** as manufacturer in the envelope-2.
4. **Authorized dealer/distributor of a company have to submit** a copy of their dealership/distributorship certificate validated by the company for the Current year for each equipment. In case of a chain of dealership (Area dealer sub dealer, local dealer), all the relevant Authorization certificates up to the end supplier has to be submitted of each equipment in **envelop-2 and envelop-3**.
5. Each page of the tender documents should be signed by the authorized signatory of the firm with seal. Unsigned quotation will be rejected.
6. **Type of currency in price bid** : Currency Prices should be quoted in **Indian Rupees only**.
7. **Mode of Selection:** - The Technical bids are to be opened at the first instance and evaluated by the committee. At the second stage, the financial bid (n-Procure) of only bidders who fulfill all the criteria of the Technical bid will be opened.
8. The selection of Bids for purchasing the equipment will be made solely based on the lowest rate. A bid will be declared L-1 based on total lowest procurement value.
9. Rates quoted should be **inclusive of all applicable Taxes**.
10. The price quoted in the commercial bid are non-negotiable.
11. In case of imported instruments, suppliers will have to clear the consignment and need to pay custom duty clearance charges, all the charges included in clearance of the equipment



## Envelop- 2

from the customs.

12. The price quoted in the tender should be FOR prices. **The F.O.R. prices (Junagadh Agricultural University)** should be mentioned.
13. Should provide **1 year warranty** from the date of installation **OR** as per the **general condition given in the specification** of the equipment.
14. **Should make a minimum of 10 runs (5 samples in duplicates) if required** on-site with customer samples and show all the claims made in the catalogue without discrepancy.
15. If required, the user should be allowed to analyze the sample at the vendor's site before the purchase of the instrument to conform to the claims made in the catalogue.
16. The manufacturers shall have to stick to their **quality standards** while supplying the goods. Goods supplied shall be rejected if found of inferior quality.
17. On scrutiny of tender documents, any queries raised by the committee have to be replied satisfactorily by email with all documentary proofs within 2 days.
18. Installation of the machine will have to be made **within 1 week of supply**.
19. Payment shall be made only after satisfactory installation and demonstration (indigenous equipment).
20. The **list of customers and complete illustrated literature** should be enclosed with the tender form in the envelope-3.
21. The tenderer will have to **attach the original colour catalogue** (Not colour copy) of each quoted product ensuring exact specifications in the envelop-3.
22. **For authorized dealer, the instrument specification must be on the manufacture's/ dealer's letter head/catalogue.**
23. Post-bid scrutiny will be done by an instrument committee nominated by the university authority. The commercial rate of the disqualified parties will not be considered.
24. Vendors giving wrong information on specifications will be **blacklisted for the period of 5 years.**
25. In case of **defective items, the same shall have to be replaced by the party concerned** at its own cost, and risk, and within the stipulated time.
26. **The number of items to be purchased may be varied** according to requirements.
27. In the case of delayed supply of material within stipulated period, it will be at the discretion of the university to accept or do not accept delivery with late delivery clause @0.1% per day maximum to the extent of 10% of the ordered value for delayed supply.

## **Envelop- 2**

28. **Security deposit @ 5 % of the work order** for the successful tenderer in the form of FDR has to be submitted to the respective department for a period of 18 months before receiving the purchase order.
29. The instrument/equipment will be **purchased within the provision of funds** allocated/available.
30. An **agreement on a stamp paper of Rs.100/-** has to be made immediately before receiving the purchase order. If the representative of the firm is a partnership firm, the certified copy of the registered partnership deed must be attached along with the signature of other partners who have authorized the particular partner to execute the agreement. If it is a private or public limited firm the copy of the resolution authorizing the person to execute the agreement passed by the board of directors along with the company's seal, must be attached to the agreement. If the firm is a proprietary one then the proprietor himself should execute the agreement only and his full residential address must be available in the file.
31. **Validity: up to 31<sup>st</sup> March 2025.**
32. Legal action may be initiated against such tenderer in case any of the information submitted by the tenderer is found to be false at any stage of the contract.
33. For any dispute, the final decision of the committee of the institute will be bound to the supplier/s.
34. University reserves the right to accept/reject any or all the tenders without assigning any reasons. No inquiry after submission of the quotation will be entertained.
35. For all legal purposes court jurisdiction will be Junagadh, Gujarat.
36. We agree to abide by the terms and conditions of supply mentioned in this tender document

Signature of Tenderer  
(With Stamp, Name & Designation)

Authorized Signature:  
Name: Designation: Seal of firm

## Check List of the document to be submitted by the Tenderer

<b>1</b>	<b>Tender Fee:</b> (Demand draft of Rs. 2500/- in favour of "Junagadh Agricultural University Fund Account" drawn on STATE BANK OF INDIA, JUNAGADH BRANCH towards the tender fee (Non-Refundable)	
<b>2</b>	<b>EMD</b> Fixed Deposit Receipt of minimum 3% of the cost of quoted tender amount have to be paid in favour of "Junagadh Agricultural University Fund Account" drawn on STATE BANK OF INDIA, JUNAGADH BRANCH towards the Earnest Money Deposit(Refundable).	
<b>3</b>	<b>Vendor's Profile / Company details</b>	
<b>4</b>	<b>Registration copy</b>	
<b>5</b>	<b>IT Clearance</b>	
<b>6</b>	<b>Specification Supporting Documents with coloured catalog</b>	
<b>7</b>	<b>Minimum Technical Specification sheet</b>	
<b>8</b>	<b>GST detail</b>	



**Part –I: Technical Minimum Specification: (To be filled by the tenderer)**

Sr No.	Name of the Equipment	Specification	Matched / Not Matched	Country of origin
1	2	3	4	5
1.	Automatic Methane Potential Test System	<ul style="list-style-type: none"><li>• Rectors (8 no), having 1600 ml as working volume and an additional 400 ml for biogas, (6 working, 2 for backup)</li><li>• 6 no. of mixing system (up to speed 200 rpm, adjustable), temperature control up to 70 °C, exhaust gas measuring unit (6 No.), product gas measuring unit (6 No.), 9 ml measurement resolution, plastic housing</li><li>• Built-in pressure and temperature sensor, Software for gas measuring system, online real-time gas flow measuring, and cumulative gas volume display. Provide with Data retrieving unit having latest features from data should be downloadable. It should provide the cooling unit required for the system.</li><li>• The price quoted should be inclusive of all charges for the complete operational system, clearances, testing installation and commissioning of the system, AMC if applicable, taxes, and others.)</li></ul>		
2.	Water Detector: Fresh Result 2 Systems Plus	<ul style="list-style-type: none"><li>• Fresh Result 2 Systems Plus Device with geological and long-range systems, to detect underground water. Depth of up to 1200 meters underground and a front range of 2,000 meters, with the determination of the water type whether it is (fresh – salty – very salty- Natural water). In four different types of soil (sandy – clay – rocky – mixed).</li><li>• Long Range System: Liquid Crystal Display (LCD): graphics LCD (128×64) pixel / 55mm x 27.22mm, Length: Device only 203mm – The device with long-range antenna 386mm (closed) – The device with long-range antenna 638mm (opened) , Operating Temperature Range : 0 C° to 60 C°, Operating Humidity Range: up to 95 % non-condensing, Operating Time: 10 Hours, Battery Type: Li-ion Rechargeable Battery – internal battery, Battery Output: Voltage: Li-ion 10.8 VDC, Battery Capacity: Li-ion 7.56 Wh, Battery Run Time: 10 Hours, Battery Operating</li></ul>		

# Envelop-3

		<p>Temperature : 0 C° to 60 C°, weatherproof</p> <ul style="list-style-type: none"> <li>• Geophysical Search System : Liquid Crystal Display (LCD) : Full color 480 x 270 px (4,5 inch), Operating Temperature Range : 0 C° to 60 C°, Operating Humidity Range: up to 95 % non-condensing, Operating Time: 10 Hours, Battery Type: Li-ion Rechargeable Battery – External Battery, Battery Output Voltage: Li-ion 10.8 VDC, Battery Capacity : Li-ion 27 Wh, Battery Run Time: 10 Hours, Battery Operating Temperature : 0 C° to 60 C° , Charger Input Voltage: 90 → 250 VAC 50→60 Hz, Charger Output : 12.6 VDC / 1000 mA weatherproof</li> </ul>		
3.	CNC Lathe Trainer	<p><b>CONCOMMITMENT ACCESSORIES</b></p> <ul style="list-style-type: none"> <li>• Automatic Index able Turret – 8 Station</li> <li>• Provision for MPG (Manual pulse Generator)(without hardware)</li> </ul> <p><b>FEATURES:</b></p> <ul style="list-style-type: none"> <li>• Powerful Industrial Controller Integrated with Latest Windows Based PC System &amp; inbuilt Simulation Software with Life Long License with Best-In-Class Features Suitable for Learning CNC Machines .</li> <li>• Intuitive LED like Indicators on-Screen for Limits, Spindle Status, Lubrication Status and Emergency Stop. Indicators for Speed and Feed Override.</li> <li>• Powerful 3D simulation, Online and Offline. Selection for Solid and Wireframe Work Piece and Tool View. Perspective Viewing and Machine Axis Referencing View in Tool Path Simulation.</li> <li>• STL File Import &amp; Export for using Actual Work Piece Designed in 3D Modelling Software for Near Real Simulation. Avoid Collisions and Errors while Machining with this Type of Work Piece Selection.</li> <li>• Option for Setting Different Colours and Transparency Levels for Tool and Work Piece to Easy Visualization of Intricate Machining.</li> <li>• Online Help on G and M codes while Creating Part Program.</li> <li>• Machine Zero for Calibration and Automatic Tool Selection if Turret is Available.</li> </ul> <p><b>MACHINE FEATURES</b></p>		

# Envelop-3

		<ul style="list-style-type: none"> <li>8 Station Programmable Turret.</li> <li>Industrial Motion Controller with PC interface</li> <li>FMS and CIM Compatibility.(optional)</li> <li>Provision of Manual Pulse Generator (MPG) (Optional - Hardware)</li> </ul> <p><b>MACHINE SPECIFICATION</b></p> <ul style="list-style-type: none"> <li>X – Axis Travel 150 mm</li> <li>Z – Axis Travel 200 mm</li> <li>Chuck Size 100 mm</li> <li>Maximum Turning Diameter – 33mm &amp; WITH REVERSE JAW 93 MM</li> <li>Maximum Turning Length 150 mm</li> <li>Swing Over Bed - 2 0 0 mm</li> <li>Spindle Nose Taper MT3</li> <li>Standard Cutting Tool Size 16 x 16 mm</li> <li>Spindle Motor 2 H.P AC Motor (300 - 3000 RPM)</li> <li>Automatic Lubrication Points to be Provided</li> <li>Control System – Industrial Motion Controller Integrated with Windows Based PC System &amp; Integrated with Simulation Software provided Life Long Single License.</li> <li>Turret 8 Station ( Electro – Pneumatic )</li> <li>Coolant System 40 Liters. ( Programmable )</li> <li>Lubrication Centralized ( Programmable)</li> </ul>		
4.	Hunter colour lab (Colour Measurement Analyzer)	<p><b>Purpose:</b> Benchtop Color Measurement Spectrophotometer for Color Measurement of fruit, vegetables, food products, milk &amp; dairy products, liquid, powder, beverages, paste products etc.</p> <ul style="list-style-type: none"> <li>Measurement principle : Dual-beam reflectance spectrophotometer</li> <li>Geometry : 45°/0° Geometry for Visual Correlation, 45 circumferential Illumination using a cylindrical mirror &amp; 0° viewing.</li> <li>Measurement method : Relfectance</li> </ul>		

**Envelop-3**

		<ul style="list-style-type: none"> <li>• Read time : &lt; 3 sec</li> <li>• Sample cup : Sample cup should have opaque cover. Glass sample cup size 64 mm (2.5 inch) or Sample cup size should be compatible with ASTM D 6290. Complete with Ring &amp; Disk set as well as glass sample cup.</li> </ul> <p><b>TECHNICAL SPECIFICATIONS</b></p> <ul style="list-style-type: none"> <li>• Spectral wavelength : Wavelength range of 400 to 700 nm</li> <li>• Wavelength interval : Reporting Interval: 10nm</li> <li>• Light Source : Xenon flash lamp filtered to approx. CIE D65 illumination</li> <li>• Lamp life : 1 billion flash's</li> <li>• Spectrophotometer : Monochromator: Diffraction grating. Detector: 256 element silicon array.</li> <li>• Colour Scales : CIE L*a*b*. Hunter Lab, CIE L*c*h, CIE Yxy, CIE XYZ</li> <li>• Colour Difference Scales : <math>\Delta L^*a^*b^*</math>, <math>\Delta Lab</math>, <math>\Delta L^*C^*h</math>, <math>\Delta Yxy</math>, <math>\Delta XYZ</math></li> <li>• Colour Difference Indices : <math>\Delta E^*</math>, <math>\Delta E</math>, <math>\Delta C^*</math>, and <math>\Delta E</math> CMC</li> <li>• Illuminants : A, C, D50, D55, D65, D75, F02, F07, F11</li> <li>• Observers : 2° and 10°</li> <li>• Performance-Certified Reference Tiles : Certified Reference White, Black, Green Tiles for Calibration and verification with NIST Traceability</li> </ul> <p><b>SOFTWARE, COMPUTER &amp; ITS ACCESSORIES SPECIFICATIONS</b></p> <ul style="list-style-type: none"> <li>• Colorimeter/Colour Spectrophotometers must supplied with licensed original operating software of latest version and should be compatible with the equipment.</li> <li>• The bidder should supply licensed CD/USB of latest Windows &amp; MS office which is installed on supplied CPU.</li> </ul> <p><b>PHYSICAL / ELECTRICAL SPECIFICATIONS</b></p> <ul style="list-style-type: none"> <li>• Power : 220 V±20V, 50-60 Hz, Single phase.</li> <li>• Operating Environment : 10° to 45°C, 10 % to 85 % RH.</li> </ul> <p><b>ACCESSORIES / SPARE PARTS</b></p> <ul style="list-style-type: none"> <li>• Sample Cup : 01</li> <li>• Xenon Flash Lamp : 01</li> <li>• The bidder has to provide probable spare price list for 02 years operation and maintenance.</li> </ul>		
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**Envelop-3**

		<ul style="list-style-type: none"> <li>• All required spares should be made available as and when required directly by original equipment manufacturer for next 07 years from the date of commissioning of the instrument, manufacturer should confirm this in writing in his letterhead.</li> <li>• Authorized dealer /distributor should also submit the same from their OEM (original equipment manufacturer).</li> <li>• <b>Warranty : 02 YEARS</b></li> <li>• <b>Compliance Statement :</b> The Bidder should enclose the technical compliance statements against our technical specifications clearly mentioning degree of compliance for various specification points along with technical bid. The statement should be supported by relevant literature/data. Deviation, if any may be mentioned clearly.  <p style="margin-left: 40px;">Note: Bidder has to enclose the printed brochures &amp; documents in support of meeting our technical specification. In case, the bidder does not enclose the relevant documents / brochures, etc., the bid is likely to be rejected without any further communication.</p> </li> <li>• <b>Installation/ Commissioning &amp; Training :</b> The successful bidder will install and commission the equipment at our site free of cost.  <p style="margin-left: 40px;">During the process of installation, the bidder will demonstrate the full capability of the system with respect to its claimed capabilities such as repeatability of analysis.</p> </li> </ul>		
5.	Digital Hot Air Oven	<p>ISO 9001            Capacity in litres: 151-200            Power ratings in watts: Any Value            Ambient temperature range in °c: Ambient To 250°C            Temperature accuracy in °c: Temp Deviation over Time: ± 0.2C At 150C            Insulation: Glass Wool            Type of display: LED            Availability of double glass window on door: Any Value            Type of shelves: Removable            Number of shelves: 3            Warranty in years: 1            Material of outer chamber: MS with Powder Coated Paint</p>		



**Envelop-3**

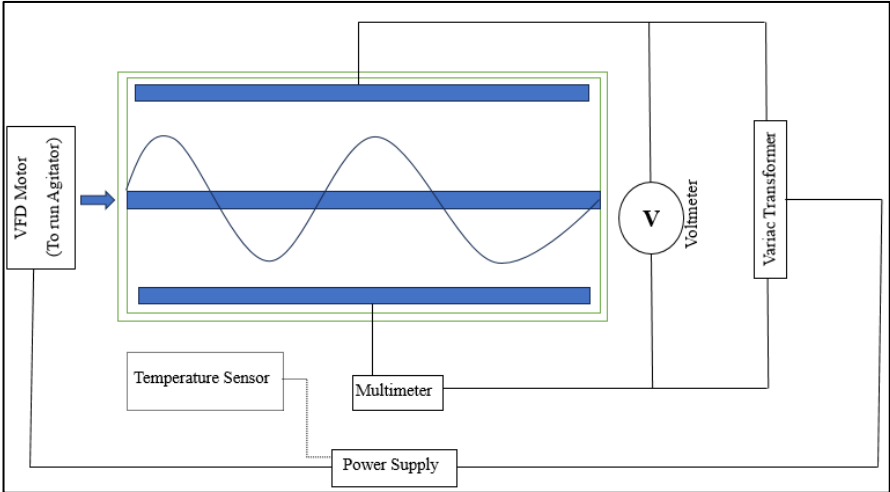
		Material of shelves: SS Wire Mesh Door should have locking facility: Yes Material of inner chambers: SS 304 Air circulation: Motorized Blower for Forced Air Circulation Over temperature protection: Yes Parameters displayed: Time, Temperature Settings and Temperature Reading Door shall be fitted with heavy hinges: Yes Blower motor shall be totally enclosed: Yes Type of temperature sensor: PT 100 Blower motor shall be air cooled: Yes		
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**Envelop-3**

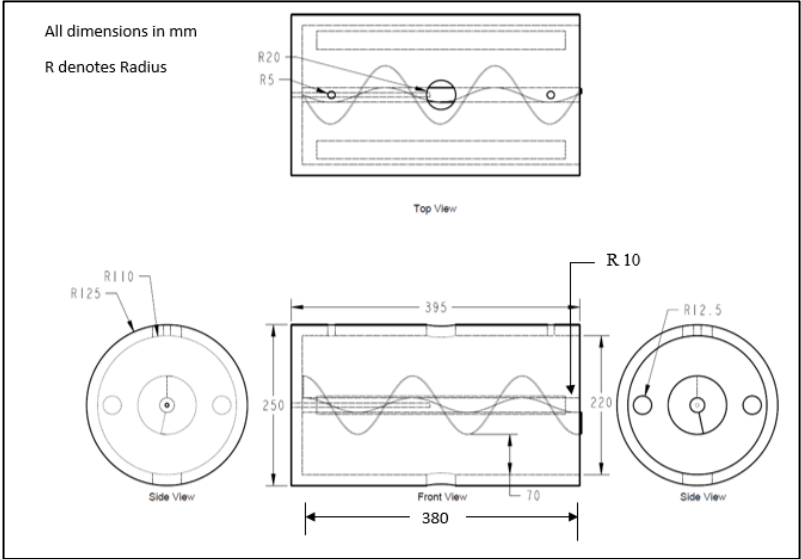
6.	Agitation Assisted Ohmic Heating System (specially designed / Fabricated)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Item</th> <th style="width: 55%;">Specifications</th> <th style="width: 30%;">Quantity (No.)</th> </tr> </thead> <tbody> <tr> <td>Teflon rod (for chamber)</td> <td>Inner Diameter – 220 mm; Length – 380 mm; Wall Thickness – 15 mm having Temperature stability upto 230°C</td> <td style="text-align: center;">1</td> </tr> <tr> <td rowspan="8">Control Panel</td> <td>Automatic Temperature Controller</td> <td style="text-align: center;">1</td> </tr> <tr> <td>J- type thermocouple probe (as per attached design)</td> <td style="text-align: center;">3</td> </tr> <tr> <td>Voltage Display</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Voltage Controller</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Multi meter</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Timer</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Variable Frequency Drive (VFD) for varying speed of Ribbon inside the chamber</td> <td style="text-align: center;">1</td> </tr> <tr> <td>RPM meter</td> <td style="text-align: center;">1</td> </tr> <tr> <td></td> <td>Emergency push button; Miniature Circuit Breaker (MCB) (20 A)</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Agitation Shaft (Teflon)</td> <td>Diameter – 20 mm; Length – 380 mm</td> <td style="text-align: center;">1</td> </tr> <tr> <td>Agitator (Teflon)</td> <td>Upto 30 mm width (blade type)</td> <td style="text-align: center;">1</td> </tr> <tr> <td rowspan="3">Electrodes</td> <td>Material – Stainless Steel Ss 316 Grade hardened rods</td> <td rowspan="3" style="text-align: center; vertical-align: middle;">2</td> </tr> <tr> <td>Application – Anode and Cathode</td> </tr> <tr> <td>Thickness – 25 mm</td> </tr> </tbody> </table>	Item	Specifications	Quantity (No.)	Teflon rod (for chamber)	Inner Diameter – 220 mm; Length – 380 mm; Wall Thickness – 15 mm having Temperature stability upto 230°C	1	Control Panel	Automatic Temperature Controller	1	J- type thermocouple probe (as per attached design)	3	Voltage Display	1	Voltage Controller	1	Multi meter	1	Timer	1	Variable Frequency Drive (VFD) for varying speed of Ribbon inside the chamber	1	RPM meter	1		Emergency push button; Miniature Circuit Breaker (MCB) (20 A)	1	Agitation Shaft (Teflon)	Diameter – 20 mm; Length – 380 mm	1	Agitator (Teflon)	Upto 30 mm width (blade type)	1	Electrodes	Material – Stainless Steel Ss 316 Grade hardened rods	2	Application – Anode and Cathode	Thickness – 25 mm		
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# Envelop-3

## Conceptual Design of Agitation Assisted Ohmic Heating System :



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