

Tender Document for Purchase of Engineering Instruments & RO Water System

Within jurisdiction, Navsari Agricultural University, Dediapada

NAU/CAET/01/2017-18



**Principal
College of Agricultural Engineering & Technology
NAU, Dediapada – 393 040
Mobile No. 99135 99332**

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NAU/CAET/01/2017-18

Tender Document for Purchase of Engineering Instruments & RO Water System

Principal, College of Agricultural Engineering and Technology, NAU, Dediapada invites tender for the Purchase of Engineering Instruments & RO Water System bids from manufacturer/supplier/company. The list of items to be purchased under this tender is given underneath. The detail terms and conditions and tender document are available on website www.nau.in under tender section.

1	Period for Tender document downloading	05/07/2017 to 20/07/2017 upto 17:00 Hrs.
2	Last date for submission of tender fee, EMD and other documents by RPAD / Courier / Speed post etc.	20/07/2017 upto 17:00 Hrs.
3	Bid validity period	28/02/2018
4	Tender Fees	Rs.1,500/-
5	Earnest Money Deposit (EMD)	As per given details
6	Security deposit (Successful bidder)	5% of order price
	Tender submission / Communication address	Principal College of Agricultural Engineering and Technology NAU, Parsi Tekra, Dediapada-393 040, Dist. Narmada, Gujarat

Further details can be obtained from above office during working hours. Details are also available on website www.nau.in

Place: Dediapada
Date: 04/07/2017



Principal
College of Agril. Engg. & Tech.,
NAU, Dediapada – 393 040



Chapter 2: List of Purchase Item

Sr. No.	Name of the Item	Qty.
1.	Actual cut sectional model of tractor	01
2.	Ergonomic assessment tool box	01
3.	Refrigeration test rig	01
4.	Vapour absorption test rig	01
5.	R. O. Plant with 300 LPH Cooler with Storage	01

Chapter 3 : Terms and Conditions

Mandatory to submit signed Terms and Conditions online as well as physically

Note:

- (1) Terms and conditions listed are applicable to all purchase items. In addition to this, the product specification document of items may contain additional terms and conditions applicable to respective items.
- (2) Purchase of all scientific instruments/machineries will be followed as per the Gujarat Government Purchase Policy resolution - 2016 dated 3.6.2016

1. General:

- 1.1 Authorized dealers can quote their rates provided that they need to attach relevant certificate of authorized dealership issued during current financial year: 2017-18 from the manufacturer / principal company. Authorized dealers representing the same company / instruments are free to compete for price, terms, warranty period etc.

In case the vendor is a distributor authorized by an OEM (Original Instrument / Machinery Manufacturer), the following documents must be additionally provided.

- **Certificate from OEM that the dealership/channel partnership arrangement with the bidder is in force for a minimum of 2 years.**
- **A letter by the OEM stating that they shall honor the supply/ warranty/AMC commitments independent of continuation of the dealership/channel partner arrangement with the authorized dealer/channel partner.**

Irrespective of whether the bidder is an OEM or a distributor authorized by the OEM, the following eligibility criteria must be fulfilled.

- **The bidder should not be blacklisted by any Government or Government entity.**
- **The bidder should be in existence for a minimum of three years.**

- 1.2 Technical Supporting Documents (TSD) should contain original Demand Drafts of Tender Fee and Earnest Money Deposit (EMD). In addition to these, TSD should also contain the documents as mention. The envelope must be marked as “**Tender- NAU/CAET/01/2017-18: Engineering Instruments & RO Water System**”. If bidder fails to submit the Bid within time limit due to any reason including postal delays, the commercial bid will be disqualified.
- 1.3 The prices shall be inclusive of all taxes, octroi, freight, packaging and forwarding, transit insurance, installation and demonstration charges, applicable taxes as per recent government rules & regulations as well as FOR destination. The rate should be quoted per unit as specified in Chapter 2 with technical specifications mentioned in the Chapter 7.
- 1.4 The bid is non-transferable.
- 1.5 **All rights are reserved with the University Authority to accept or reject any or all the tenders received without assigning any reasons thereof.**

- 1.6 Bid currency - Prices shall be quoted in Indian Rupee only.
- 1.7 The items shown in the Chapter-2 & 7 are subjected to requirements and the same may be purchased or may not be purchased without assigning any reason. This shall not be challengeable in the office/court.
- 1.8 The successful bidder shall have to execute the purchase orders placed on any date during the validity of the tender at the rate, terms and conditions of the tender.
- 1.9 All the electronics items should comply to international standards for safety, Electromagnetic Emissions, Electromagnetic Immunity etc.
- 1.10 CAET, NAU may not issue 'C' or 'P' form of sales tax or any other type of tax relaxation form of Government and the bidders are therefore requested to quote the rates of sales tax or any other taxes payable in absence of such forms/declarations.
- 1.11 Rate should be quoted along with all applicable taxes. However, CAET, NAU being an educational institute, therefore, is eligible for exemption of such duty from final payment.
- 1.12 The lowest price is not the criteria and emphasis is placed on quality and specifications of the material. The CAET, NAU has right to reject any or all the offers and invite fresh tenders if need arises. The CAET, NAU further reserves the right of selecting the brand and accepting or otherwise any of the conditions stipulated by bidder.
- 1.13 If in any case the quoted item is not available in the market, the successful bidder will have to supply higher version/replacement of that item in the quoted cost in the same time duration with prior approval of CAET, NAU.
- 1.14 The successful bidder will held responsibility for the items sufficiently and properly packed for transport so as to ensure their being free from loss/damage/injury on arrival of destination CAET, NAU, Dediapada premises. The material should be supplied in the original company's packing which shall indicate packing details and other particulars as required under the statutory provisions. Inner and outer packing of boxes / cartons should be of standard design. The final packing of cartons of corrugated boxes shall be complying with IS standards. A packing slip shall indicate clearly and legibly the name of the product, batch number, quantity, date of manufacturer, date of expiry, gross and net weight, and consignee's name & address and other particulars as required. In the event of breakages or loss of items during transit / installation against requisition order the said quantity will have to be replaced/supply by the supplier (Selected bidder) without any additional charges.
- 1.15 Relaxation in tender fee, EMD will be considered as per **Gujarat Government Purchase Policy resolution - 2016 dated 3.6.2016, however, for availing such benefits concern firm has to submit / attach certificate or relevant letter issued recently by the government otherwise relaxation benefit will not be extended to such firm and tender quoted, may be rejected.**

- 1.16 For finalization of purchase, **Gujarat Government Purchase Policy resolution - 2016 dated 3.6.2016 will be followed so as to promote "Make in India" policy of the Government.**
- 1.17 The CAET, NAU may place repeat orders against the acceptance of tender within a period of validity, subject to the same terms and conditions originally provided in advertised tender and selected bidder shall accept the same.
- 1.18 Successful bidder failing to provide after sales services would be permanently blacklisted.
- 1.19 For query regarding detail technical specifications of the instruments, firm can contact concern scientist (as per Chapter 7), preferably during office hours.

2. Payment:

Advance or part payment will not be entertained.

3. Delivery:

The application for extension of delivery period shall be sent to concerned ordering office of Navsari Agricultural University at least 5 days prior to the expiry of delivery period of each items. The officer in charge, who is placing the order may grant extension or reject the application and their decision in the matter shall be final and binding to all.

4. Warranty:

- 4.1 **Period of Warranty:** The bidder must provide comprehensive onsite warranty for **minimum 2 years or as asked in specifications**, from the date of installation for all items. Please clearly mention the parts, which are not covered under warranty, separately.
- 4.2 If any instrument(s), properly not working and repetitively fault is found, say twice a week during the warranty period, the bidder shall replace the item with new item without any additional cost to the purchaser.

5. Demonstration:

Supplier has to perform on-site live demonstration as per trial requirements of concerned scientist with bidders'/ suppliers' consumables and reagents.

6. Dispute:

In case of any dispute, final decision of the Registrar, Navsari Agricultural University, Navsari – 396 450 will be binding upon all. In case of any dispute arises in respect of this tender, a suit in that behalf shall be subject to Navsari Jurisdiction.

Date:

Stamp & Signature of Bidder

General Terms and Conditions of the Tender:

1. Duly filled Tender in sealed envelope should reach the Principal, College of Agricultural Engineering and Technology, NAU., Dediapada, Dist. Narmada by post/courier/register Ad., etc. before **20/07/2017** up to 5:00 p.m. along with tender fee (not refundable) in Demand Draft/Cash in favour of "**Principal, CAET AND PAE, Dediapada**" payable at Dediapada.
2. Please write on top of envelope "**Tender- NAU/CAET/01/2017-18: Engineering Instruments & RO Water System**" and mention clearly sender's name and address.
4. Tenders shall be opened as on above mentioned date and time.
5. However, if committee deems proper, the negotiation for the final price will be done with the tenderers. First chance will be given to the lowest price in the chronological order.
6. No correspondence shall be entertained after submission of Quotations.
7. Delivery should be made within time limit after receiving supply order at **College of Agricultural Engineering and Technology, Parsi Tekra, Dediapada 393 040, Di. Narmada.**
8. **No advance payment will be made.**
9. No penalty or penal interest will be paid due to delay in payment on account of unforeseeable reasons.
10. Payment will be made only after satisfactory supply and installation/Demonstration.
11. Warranty period against any manufacturing defects of material should be clearly mentioned.
12. Discount if any offered, may please be specified.
13. Authorized dealer should enclose authorization certificate (Attested photocopy) of manufacturing company.
14. **Attach the separate sheet mentioning detail specification along with literature/brochures/photos.**
15. Provide **the list of your valued customers of the said items in State Agricultural University, ICAR Centers, Other Government and Semi Government Bodies. NGOs etc in India.**
16. In case of dispute, decision of the Registrar, Navsari Agricultural University, Navsari will be final and acceptable to all the parties.

Date:

Stamp & Signature of Bidder

Chapter 4: Tender Fee, Earnest Money Deposit (EMD) and Security Deposit

The bidder shall furnish Tender Fee amounting to Rs. 1,500 (Fifteen hundred only) (Non refundable) and an Earnest Money Deposit (EMD) respective amounting, without which tenders will not be considered. There should be two separate draft for the Tender fee Rs. 1,500 (Non refundable) and EMD. The amount should be deposited in the form of only Bank Draft (drawn) in favor of "**Principal, CAET AND PAE, Dediapada**" drawable at **SBI (IFSC Code: SBIN0007787) Dediapada**.

Sr. No.	Name of the Item	EMD Amount
1.	Actual cut sectional model of tractor	5100
2.	Ergonomic assessment tool box	7500
3.	Refrigeration test rig	4050
4.	Vapour absorption test rig	4500
5.	R. O. Plant with 300 LPH Cooler with Storage	13500

Refund of Tender Fee: The Tender Fee is non Refundable.

Refund of EMD: The Bank Draft (drawn) or banker's cheque of earnest money of unsuccessful Bidder shall be refunded soon after finalization of purchase procedure. The EMD of the successful bidder will be retained till the bid remain valid and will be returned as per the terms of the university on request and submission of original receipt.

Forfeiture of EMD: The earnest money will be forfeited in the following cases:

- When Bidder withdraws or modifies the offer after opening of tender but before acceptance of tender.
- When Bidder does not execute the agreement if any, prescribed within the specified time.
- Bidder does not accept the hiring order.
- If the terms and condition not fulfilled anytime.

Security Deposit: Successful bidders have to deposit 5% of ordered price as security deposit which is refundable as per NAU rules.

Chapter 5: Bid Document Submission

Sr. No.	Check List Documents (Documents submission through post/courier)	Remarks
1	Tender Fee: Demand draft of Rs. 1,500/- (Non-Refundable)	Mandatory
2	EMD: Demand draft of Rs._____ Respective amount (Refundable)	Mandatory
3	Authorized/manufacture certificate photocopy	Mandatory
4	Last 3 year income tax returns	Mandatory
5	Sealed & Signed copy of terms and conditions	Mandatory
6	Bid with detailed specifications of quote items	Mandatory

Chapter 6: Technical Specifications



College of Agricultural Engineering & Technology

NAU, Dediapada, Dist. Narmada - 393040

S. No	Name of the Item	Specifications	Qty.
1.	Actual cut section model of tractor	<p style="text-align: center;">: Live Working Model</p> <ol style="list-style-type: none"> 1. Cylinder Block : 3/4 cylinders cut section showing correct location of respective pistons. Easy to see oil gallery and water galleries in the Block 2. Cylinder Head : Cut section of all four combustion chambers with working valves 3. Crank Case : Cut section of crank case with working crank shaft, oil pump, strainer 4. Oil Pump : Cut section of oil pump housing 5. Fuel Supply System : Cut Section of fuel tank in the stand of engine with fuel pump, fuel injector 6. Cooling System : Cut section of water pump, jackets thermostat valves 7. Air Intake System : Cut section model of air cleaner and turbo charger for demonstration of air intake system 8. Exhaust Systems : Cut section of exhaust manifold. (mufflers and catalytic converter) 9. Engine/Chassis Drive : Engine is driven by single phase motor driven standard make with worm gear reduction and V-belt drive. RPM of Engine is as per requirement. 10. Clutch : Cut section of clutch and pressure plate housing for understanding working of clutch 11. Gear Box : Cut section of gear box housing for understanding of gear box working and gear shifting 12. Transmission : Cut section of multi color painting 13. Final Drive/Rear Axle : Cut section of housing and wheel hub single side 14. Color : All the parts will be painted with different colors 	01
2.	Ergonomic assessment tool box	<p>VARIOUS ASSESSMENT TOOLS</p> <p>Force Measurement: Scale - Stainless steel digital weigh boxes (100 kg) and parts for NIOSH equation. Force gauge - force gauges test push/pull forces Hand dynamometer - (100 kg) measures pistol grip forces (psycho-physical testing) Pinch dynamometer - (50 kg) measures pinch grip forces (psycho-physical testing) Force gauge pull strap & carabineers for pull testing</p> <p>Anthropometric Measurement 8" Goniometer measures body angles, tape measure, flexible tape measure, ruler</p> <p>Environmental Measurement Light meter - measures ambient light levels</p>	01

		<p>Sound meter - 2 sound level meter with backlit LCD display, 1.5 dB accuracy; measures noise levels</p> <p>Thermo-hygrometer - measures humidity and temperature, laser or optical tape measure quickly gauges distances up to 100 feet.</p> <p>Camera 12 Megapixel digital camera with 4X optical zoom - provides clear photos for explanations in reports and is capable of shooting video at a 640 × 480 resolution in AVI format at 30 frames per second, playable directly from the camera's LCD screen and built-in speaker.</p> <p>Tablet - for use with our pocket ergo - internet based software that includes all the fundamental ergonomic assessment analysis tools.</p> <p>Additional Equipment Equipment case - Custom-fit hard case keeps all assessment tools organized in one place. Foam cutouts protect delicate equipment and keep items ready for quick visual inventory.</p> <p>Digital Stopwatch –records time activities for frequency and duration</p> <p>Frequency counter, Statistical calculator, All-purpose universal tool/pliers, compass, soft camera case, pen light, ergo pen & clip board</p>																																																					
3.	Refrigeration test rig	<table border="1"> <thead> <tr> <th>Sub-Title</th> <th>Parameter</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td rowspan="8">Refrigeration System</td> <td>Capacity</td> <td>500 W at rated test conditions</td> </tr> <tr> <td>Compressor</td> <td>1/3 Hp; hermetically sealed.</td> </tr> <tr> <td>Condenser</td> <td>Forced convection air cooled</td> </tr> <tr> <td>Condenser fan</td> <td>Axial flow type</td> </tr> <tr> <td>Drier/ Filter</td> <td>Molecular sieve type</td> </tr> <tr> <td>Expansion device</td> <td>Thermostatic expansion valve and/or capillary tube</td> </tr> <tr> <td>Evaporator</td> <td>Direct expansion type, copper coil in the calorimeter</td> </tr> <tr> <td>Accumulator</td> <td>Copper / M.S. shell suction line accumulator provided</td> </tr> <tr> <td></td> <td>Refrigerant</td> <td>R-134 A</td> </tr> <tr> <td rowspan="3">Controls & Indications</td> <td>Hp / Lp Cut-Out</td> <td>Standard Make.</td> </tr> <tr> <td>Pressure Indication</td> <td>2 Nos. dial type pressure gauges; one for suction and another for discharge pressure.</td> </tr> <tr> <td>Temperature indication</td> <td>Multi channel LED digital temperature indicator.</td> </tr> <tr> <td rowspan="6">Electrical System</td> <td>Supply</td> <td>220-240 Volts, 50 Hz, 1 Phase</td> </tr> <tr> <td>Input power</td> <td>1.1 kW</td> </tr> <tr> <td>Rated current</td> <td>5.2 Amps</td> </tr> <tr> <td>Operating switches</td> <td>Main switch & piano type switches for compressor & heater</td> </tr> <tr> <td>Indicating lamps</td> <td>Provided for compressor and heater</td> </tr> <tr> <td>Energy-meters</td> <td>Provided for compressor and heater</td> </tr> <tr> <td rowspan="4">Construction</td> <td>Material</td> <td>Panel : 1.2 mm thick CRCA</td> </tr> <tr> <td>Outer Finish</td> <td>Powder coating</td> </tr> <tr> <td>Calorimeter</td> <td>Stainless steel: SS-304 tank with nitrile foam insulation.</td> </tr> <tr> <td>Size</td> <td>860 × 600 × 1330 mm (L × B × H)</td> </tr> </tbody> </table>	Sub-Title	Parameter	Description	Refrigeration System	Capacity	500 W at rated test conditions	Compressor	1/3 Hp; hermetically sealed.	Condenser	Forced convection air cooled	Condenser fan	Axial flow type	Drier/ Filter	Molecular sieve type	Expansion device	Thermostatic expansion valve and/or capillary tube	Evaporator	Direct expansion type, copper coil in the calorimeter	Accumulator	Copper / M.S. shell suction line accumulator provided		Refrigerant	R-134 A	Controls & Indications	Hp / Lp Cut-Out	Standard Make.	Pressure Indication	2 Nos. dial type pressure gauges; one for suction and another for discharge pressure.	Temperature indication	Multi channel LED digital temperature indicator.	Electrical System	Supply	220-240 Volts, 50 Hz, 1 Phase	Input power	1.1 kW	Rated current	5.2 Amps	Operating switches	Main switch & piano type switches for compressor & heater	Indicating lamps	Provided for compressor and heater	Energy-meters	Provided for compressor and heater	Construction	Material	Panel : 1.2 mm thick CRCA	Outer Finish	Powder coating	Calorimeter	Stainless steel: SS-304 tank with nitrile foam insulation.	Size	860 × 600 × 1330 mm (L × B × H)	01
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4.	Vapour absorption test rig	Gross volume	40 - 45 liters		01
		Refrigerant	Water, Ammonia, Hydrogen		
		Generator	Electrically heated		
		Condenser	Natural convection type		
		Evaporator	Natural convection type		
		Material of construction	MS		
		Supply	230 Volts, 50 Hz, single phase		
		Energy consumption	1.07 kWh per 24 hrs		
		Energy meter	Provided		
		Temperature indicator	Digital indicator at the salient point		
		Generator temperature	80 to 90°C		
		Condenser temperature	38 to 40°C		
		Evaporator temperature	(-3) to (-4)°C		
		Absorber temperature	20 to 28°C		
		Cabinet temperature	10 to 15°C		
Condenser pressure	NH ₃ - 300 PSI				
Evaporator pressure	NH ₃ + H ₂ - 300 PSI, NH ₃ - 300 PSI				
Generator & absorber	NH ₃ + H ₂ + Water - 300 PSI				
5.	R. O. Plant with 300 LPH Cooler with Storage	<p>RO Plant (including UV, DM, Ozonator, Softener and cleaning in place systems) of SS 304 Body with 1000 LPH capacity having suitable size of feed pump, dual media filter, anti scaling dosing system, filter housing, micron cartridge filter, pressure pump and pressure tube.</p> <p>Cooler of 300 LPH with 2 ton capacity. storage capacity shall be 2000 l iters.</p> <p>Suitable measuring instruments like Digital Conductivity, TDS Meter, Flow Indicators, Pressure Gauges, High Pressure Switch and Low Pressure Switch, Pressure Control Valve, Auto Flushing switch with Solenoid Valve, Electronic control panel with Ammeter, Voltmeter, indicators, ON-OFF Switch. System shall be installed & commissioned at the center.</p>			01