

<p>केन्द्रीय मूगा एरी अनुसंधान एवं प्रशिक्षण संस्थान (आई.एस.ओ.9001:2008 प्रमाणित संस्थान) केन्द्रीय रेशम बोर्ड वस्त्र मंत्रालय : भारत सरकार लाहदोईगढ़, जोरहाट – 785700, असम दूरभाष: 0376-2350026, 2335513/ फेक्स: 0376-2335528 ई-मेल: cmerti@rediffmail.com/cmertilad.csb@nic.in वेब साईट : www.cmerti.res.in</p>		<p>CENTRAL MUGA ERI RESEARCH & TRAINING INSTITUTE (An ISO 9001:2008 Certified Institute) CENTRAL SILK BOARD Ministry of Textiles: Govt. of India Lahdoigarh–785700, Jorhat, Assam Phone: 0376- 2350026, 2335513/ Fax : 0376-2335528 E-mail: cmerti@rediffmail.com/cmertilad.csb@nic.in Website: www.cmerti.res.in</p>
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CSB/CMERTI/4(107)/AIB5894/2020-21/Store/

Date: 03.09.2020

Tender Notice

Sub: Inviting rate quotation for micro-climate chamber – Reg.

Sealed rate quotations are hereby invited for supply of the Scientific Equipment and installation for this Institute. Interested parties/suppliers may offer their rate in two bid system for the same as detailed below.

Sl. No.	Name of the Items	Aprox. Qnty.	Specifications*
1	Microclimate chamber and accessories	1 No	<p>Size of chamber 13ft width x 13ft depth x 13 ft height at the center Roof of the chamber is covered with Zindal coated sheet 4 ft above the chamber and extended 2 ft to all sides to protect the chamber from rain and direct sun light. Plinth height: Concrete plinth with 10 inch breadth, wall with 2 ft height from the ground level. Access to growing areas</p> <ul style="list-style-type: none"> • Personnel walkway: - 950mm • Material: silicone rubber <p>Temperature range</p> <ul style="list-style-type: none"> • Maximum: +35°C • Minimum: - lights on +15°C • Minimum: - lights off +10°C • Change rate: +12.5°C per hour <p>Control tolerance – lights off</p> <ul style="list-style-type: none"> • Stability: ±1.0°C <p>Humidity range</p> <ul style="list-style-type: none"> • Maximum – lights on: 80%RH • Maximum – lights off: 90%RH • Minimum – lights on: 55%RH • Minimum – lights off: 60%RH • Stability: ±5%RH • Change rate: 15%RH per hour • Dewpoint range – lights on: 8 – 28°C • Dewpoint range – lights off: 8 – 26°C <p>Airflow</p> <ul style="list-style-type: none"> • Direction: horizontal • Max. velocity across shelves: 0.5m s-1 • Fresh air exchanges per hour – max.: 4/ - min. 0 <p>Facilities</p> <ul style="list-style-type: none"> • Data input: digital • Display: LCD • Alarm settings: required

			<ul style="list-style-type: none"> • Networking: required • Plant specimen protection: upper/lower • Chamber over-temp. protection: upper <p>Body Construction</p> <ul style="list-style-type: none"> • Exterior: coated steel • Interior: Pvf2 coated steel <p>Power requirement</p> <ul style="list-style-type: none"> • Voltage: 410V +6%/-10% • Phase: 3
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***: Refer "Annexure I" for detailed specifications. Only those firms that meet the full technical specifications as mentioned in "Annexure I" will be considered for financial bid**

The **Technical bid** should consist of all technical details, EMD, specifications along with commercial terms and conditions. The **Financial bid** should consist of item price as mentioned in the technical bid. Dealership certificate, company price list and other parameters like guarantee/warranty, service facilities, etc. should also be enclosed. The financial bid will not be considered and opened if the required specifications are not met with the technical bid. The technical and financial bids should be sealed in separate covers duly super-scribed technical bids for equipments & financial bids for the equipment respectively and both the sealed envelopes are to be put in a bigger cover which should also be sealed.

The sealed quotation should be addressed to **The Director, CMER&TI, Central Silk Board, Lahdoigarh, Jorhat-785700, Assam** super scribing as **"Quotations for SUPPLY AND INSTALLATION OF "MICRO-CLIMATE CHAMBER"**.

The quotation should reach this office on or before **03-10-2020 at 2.30 p.m.** positively and the technical bid will be **opened at 3.00 p.m.** on the same day in presence of the parties who choose to be present. If the quotation opening date happens to be holiday, the quotation will be opened on next working day at the same time. The Financial Bid of those parties who qualify the technical bids only will be opened **within 15 days** from the date of opening of technical bid. The date for opening the financial bids will be intimated by the office to the technically qualified parties in advance. Financial Bids will be evaluated based on the rates quoted.

The terms and condition of the quotation are indicated below

1. The quotation(s) received after due date and time will not be entertained.
2. Parties not submitting their quotations in two bids system as mentioned above will not be considered and will be summarily rejected.
3. **Validity:** One year from the date of opening of the quotation.
4. **Delivery schedule:** Within 1 month from the date of issue of the supply order.
5. **Rate per unit:** F.O.R., CMER&TI, Lahdoigarh, Jorhat.
6. Price of the equipments should be quoted only in **Indian Rupees (INR)**.
7. Parties giving rate quotations under DGS&D rates will be given preference.
8. Parties/manufacturer supplying specific equipments/spare parts should specifically mention that the party is the sole manufacturer/supplier of the equipments and should provide such certificate along with authorization letter of the manufacturer.
9. **Payment:** No advance payment will be made. The payment will be made only after satisfactory supply / installation/demonstration of the equipments/spare parts and in conformity of the specifications to the satisfaction of the Director or his authorized officer.
10. **Taxes and other statutory duties:** to be shown separately and clearly for **each equipment**.

11. **EMD:** 2% on the basic price separately for each equipment to be submitted in the form of Demand Draft/Bankers Cheque drawn in favor of **Director, CMER&TI** on any Nationalized Bank payable at Jorhat (Assam) along with technical bid. Quotations without EMD will summarily be rejected.
12. A copy of the **PAN Card** to be submitted along with the quotations.
13. Documents should be submitted in duplicate.
14. **Copies of supply order received from other organization for similar model of equipment to be enclosed**
15. The Director reserves the right to accept or reject any or all quotations without assigning any reasons or whatsoever.
16. The sealed quotations should be sent to speed post / registered post / courier only.

The concerned bidder can obtain the reason for rejection of his bid, bidding procedure and conditions of the bid, if he chooses to do so by giving a request in writing.

Director (i/c)

Annexure I

Sr. No	Detailed specification	Remark	QTY
01	<p>MICROCLIMATIC CHAMBER Size of chamber: 13 FT Width x13 FT depth x 13 FT height at the center Roof of the chamber is covered with zindal coated sheet 4 ft. above the chamber and extended 2 ft. to all sides to protect the chambers from rain and direct sunlight.</p>	Complete Unit	01
02	<p><u>CONSTRUCTION :-</u></p> <ul style="list-style-type: none"> ● Plinth height: Concrete plinth with 10" breadth wall with 2 ft height from ground level, both side plaster or PUF insulated Double walled structure ● Stainless steel Mirror polished chamber ● Double door: Inner full Viewing door and outer door insulated with lock and key arrangement. ● Provision for Trays at 3 sides of chamber. ● Personnel walkway: - 950mm (Aprox.) ● Body construction exterior: coated steel ● Body construction interior: Pvf2 coated steel <p>Top cover with cement sheet with proper framing Weather proof shade to cover the top structure</p> <p><u>TECHNICAL SPECIFICATIONS :-</u> Temperature Range 15.0 °C to 35.0 °C. Accuracy +/- 0.1 °C. Uniformity +/- 1.0 °C</p> <ul style="list-style-type: none"> ● Minimum: - lights off +10°C ● Change rate: +12.5°C per hour ● Control tolerance – lights off, Stability: ±1.0°C ● Humidity range: 25% to 95% RH, Accuracy +/- 3% RH, Uniformity +/- 3% RH. Maximum – lights on: 80%RH Maximum – lights off: 90%RH Minimum – lights on: 55%RH Minimum – lights off: 60%RH Stability: ±5%RH ● Change rate: 15%RH per hour (preferable) ● Dewpoint range – lights on: 8 – 28°C (preferable) ● Dewpoint range – lights off: 8 – 26°C ● Lamp type: Florescent, RGB Tube light or relevant material ● Illumination: 0~20,000 Lux (Approx.) ● Light Sensor: Lux meter 1 Lux resolution ● Temperature Display : Digital LED 3 ½ digit, Resolution 0.1 deg C ● Humidity Display: Digital LED 3 ½ digit, Resolution 1% RH. ● Cooling system: Hermetically sealed CFC free Emerson compressor with refrigerant OR split AC option ● Humidity system: Non condensing type steam injection system with water level arrangement with insulation to save heat energy. ● Air circulation: Flange Motor with Impeller and blower. ● Interior Illumination for working Area. ● Operating voltage: 230Vac, 50HZ ● Power: 400 watt 		

	<ul style="list-style-type: none"> Operating Temperature: Room temperature around machine preferably at 25 degree C Internal Dimension: 60x60x125 CMS External Dimension: 80x130x175 CMS Weight: 340 KG Approx. <p>CONTROL PANEL</p> <ul style="list-style-type: none"> Microprocessor based PID temp. Controller with auto tune facility for precise control of temperature and humidity. Temp. Sensor: PT- 100, RH sensor: direct capacitance type. Cyclic timer for Light intensity. Dedicated safety controller with separate sensor to cut off the supply in case of overshoot and undershoot of temperature giving audio visual alarm. Plant specimen protection: upper/lower Chamber over-temp. protection: upper <p>SAFETY FEATURES :-</p> <ul style="list-style-type: none"> Over heat temperature and humidity cut off with alarm. Low temperature and humidity alarm. Electrical overload compressor cutoff. Time delay for compressor switch on. Electrical short circuit breaker. 		
03	<p>Floor - cement or 60mm Puff insulated with Marine ply and Anti-Skid AL Cheered sheet.</p> <p>Door Size: - 1m x 2m - Swing type fitted with Imported Hinges and Door closer.</p>		
04	<p>Cooling system</p> <p>The cooling load has been calculated at the underwritten parameters:-</p> <ol style="list-style-type: none"> 1) Product to be used : Biological products / Plants. 2) Ambient Temperature : 43 °C 3) Incoming temp. of Product : Ambient. 4) Door opening Frequency : 1-2 times per day. 5) Insulation For Chamber : 60 mm PUF density 40 kg/m3 (CFC free) <p>EmersonCopeland/ Danfoss makehermetic compressors (400V/3Ph./50Hz) withBBPL/HEC make air cooled condensing unit complete with Drier, LP/HP, Suction / Discharge valve, Solenoid Valve, Sight Glass, first charge of refrigerant R-22 & Evaporator of 30000 BTU/Hr</p> <p>OR SUITABLE SPLIT AC</p>		01
05	<p>Humidity System</p> <p>Humidity Maintained through Air Handling Humidifier by using this unit, RH can be achieved up to 90% ± 5% with simulated humidified air without disturbing the inside temperature of the Chamber.</p> <p>Highly durable enclosure with argon gas welded stainless steel boiler with sloped bottom, tested at 5 Kg/ sq.cm (Approx.)</p>		01
06	<p>Infrared Heaters</p> <p>IR heater to be provided in chamber to increase the chamber temperature up to 40°C.</p> <p>Ceramic infrared heater in white colour without thermocouple of size 245mmx60mm</p> <p>500W/230V with SS Reflector</p>		04
07	<p>Growth Racks and light arrangements</p> <ul style="list-style-type: none"> Height: 5'8" Width: 4'2" Length: 18" Shelves: 2 Nos. Shelf Surface: 3mm thick white Hylem Bakelite sheet in each shelf. Frame: 2.5 x 2.5 cm square CRC pipe of mild steel, with anti corrosive, humidity 		04

	resistant treatment and structured powder coated. Fluorescent lights: 15 x 40 W Osram/Philips Tube lights, individual on/ off switch for each shelf providing light intensity of 380nm - 780 nm wave lengths, fitted. FRAME 2.5 X 2.5 CM C.R.C. SQ PIPE. Powder coated with PP 80 micron.		
08	Temp sensors Pt 100 sensors with 4-20mA output option IP68 weatherproof Head with class 'A' element Working range: -50 - 100°C Accuracy: ±0.3°C		01
09	Humidity sensor with transmitter r 0~10V DC or 4~20Ma Accuracy of humidity +-2%RH(10-95%RH, at 25Celsius); <+-5%RH(-40..80Celsius) Repeatability +-0.3%RH Sensitivity for humidity 0.1%RH Drift rate per year +-0.5%RH Power supply 12~36V DC Humidity working range 0..100%RH Humidity sensing element Polymer humidity capacitor Output for humidity 0~5V DC o		01
10	Airflow (preferable) <ul style="list-style-type: none"> • Direction: horizontal • Max. velocity across shelves: 0.5m s-1 (Approx.) • Fresh air exchanges per hour – max.: 4/ - min. 0 (Approx.) 		01
11	Digital Lux Meter Measurement Range: 0 lux ~ 50000lux Accuracy: ± (5%+3 digits) for all ranges		01
12	Electrical Device: High quality ISI approved fittings with copper multi strand twisted FR Grade cable and rigid Stds of safety with proper M.C.B . and standard Vapour proof Lamp with individual operating switch. Copper Cable Make :- Polycab/Finolex/Plaza		
13	Control panel Panel to accommodate analyzer HMI /SCADA for controloing and monitoring of all required parameters		01
14	Power requirement Voltage: 410V +6%/-10% (Approx.), Phase: 3		
15	Control & automation system A suitable control to be provided for control/ monitor of Temperature, humidity, light and data acquisition facilities to be provided on real time through HMI or data logging or networking		01
16	Warranty For one year from the date of supply/inspection /Installation		
17	Spares For 2 years operation		
20	Experience Minimum 05 order copies of executed on similar line of project to be provided by bidders during last 8 years from universities/research organization/Govt institute/international research organization/others. The order experience should include vast experience and manpower support in the relevant field of climate change studies. Bidder may provide documentary evidence to support their credentials.		

Director (i/c)

