21031/PLANNING A1/2020/UOK

Department of Environmental Sciences, University of Kerala, Kariavattom, Thiruvananthapuram, Kerala, India – 695 581, Ph: 91 471 230146

10/11/2020

E-Tender Notice

Department of Environmental Sciences, University of Kerala, Kariavattom, invites tenders for the purchase of Biosafety Cabinet with following specifications under two bid systems.

Last date and time for submission of tender online	: 10.12.2020 :5 PM
Date and time of opening of tender	: After Technical Evaluation
Hard copies of the sealed tenders to be submitted to the office of	The Registrar University of Kerala Trivandrum
For technical details contact	Dr. V. Salom Gnana Thanga Professor and Head Department of Environmental Sciences University of Kerala Ph. No. 9447220009 e-mail: sgthangavincent@gmail.com

Technical Specifications for Biosafety Cabinet

1 The Bio safety cabinet should be Type A2 in which 70% Air should be re- circulated and 30% of the air should be exhausted

2. The Bio Safety Cabinet must include two DC motors. High power consuming AC motors should not be used

3. The motor must automatically adjust the airflow speed without the use of a damper to ensure continuous safe working conditions, even without maintenance adjustments.

4. In order to preserve safety to the user and the environment, the exhaust blower on the cabinet must continue operating when the supply blower stops working. If the exhaust blower should fail, the supply filter will also be turned off.

5. In order to ensure consistent and reliable down flow velocity across the supply HEPA filter over the life of the cabinet, the cabinet must use a pressure sensor (rather than anemometer) to detect pressure drop across the supply filter, rather than in just one point across the down flow. The pressure sensor must be encased in order to protect the sensor from temperature, humidity and other environmental phenomena that can impact the sensor's performance.

6. The microprocessor must display the inflow and down flow air velocities in real-time on an LED display to ensure the user knows whether or not the cabinet is working under safe operating conditions.

7. The front window must be a 10" sash opening and be made of laminated safety glass to ensure containment of potentially hazardous samples in the case of accidental glass breakage.

8. All interior and exterior parts must be painted or smooth to ensure no risk of cuts to users or maintenance personnel.

9. The front of the cabinet must be angled 10º to help minimize glare on the window to the user, and to ensure that the user's posture is comfortable during a working session. Inadequate user ergonomics in a safety cabinet may lead to excessive fatigue, unsafe working habits and harmful consequences to user safety or product contamination.

10. The cabinet noise level must be less than 63 dB(A) for a 4 foot cabinet as measured in a sound proof room 12 inches in front of the cabinet and 15 inches above the work surface. Lower noise levels promote more comfortable and safer working habits of the user.

11. The Biosafety Cabinet should have microprocessor controller and same must be located on a slanted front panel so it is easy to see and reach from a seated working position in front of the cabinet.

12. The interior of the front window must be accessible for cleaning without requiring the user remove or support the window.

14. The biological safety cabinet must be capable of achieving current state-of-the-art in energy efficiency. A biological safety cabinet with lights on and fan at operating speed should consume less than 200 watts for a nominal four foot width and have a reduced energy mode for non-operational maintenance on containment in the work area.

15. The cabinet must automatically reduce fan/blower motor speed to 30% when the front window sash is in closed position to ensure reduced energy consumption when the cabinet is not in use.

16. In order to provide maximum effectiveness, efficiency and safety to laboratory Personnel, UV light must be programmable to allow for specific exposure times from 0 to 24 hours. The automatic shut off feature on the UV light saves money on replacement of the bulbs.

17. The Cabinet should have provision to fit taps for Vacuum, Water and Non Combustible Gas. Taps should be quoted as optional items

18. The Bio safety Cabinet should be NSF certified with listing on NSF website.

19. The Bio safety cabinet should incorporate HEPA filter of the class H 14 EN 1822 or better and having minimum efficiency of 99.995% at 0.3 μm particle size.

20. Approximate Dimension : Exterior 1500 H x 1300 W x 800 D; Interior 800 H x 1200 W x 500 D

21. Ventilation System Exhaust and Inflow air volume approx 300-350 CFM

22. Heat Emissions at 25ºC should be approx 0.2 KW or lesser.

23. The Bidders should provide details of Standard Warranty available

24. The cabinet Should be provided with Microprocessor controller and large LED display for inflow and Down flow air velocity and hours of operation, Audible and visual Alarms for HEPA filter failure, blower failure, airflow speed failure, Incorrect window position.

25. The BSC must incorporate an LED Indicator to indicate filter loading and should provide visual and audible alarm to indicate excessive HEPA filters loading which can result in unsafe airflows deviation from the NSF recommended inflow and down flows air velocity values measured in meters per second or foot per minute.

26. The cabinet should be provided with fixed / adjustable Height Stand, UV Light and one set of detachable arms rest and one / two electrical outlet.

27. The Drain Pan of the BSC should be made of Stainless Steel. The drain pan should not be painted or power coated.

28. The Bio safety cabinet should have dual side wall with negatively pressurized interstitial space. Bio Safety Cabinet with single glass side walls should not be quoted.

General Conditions:

1. Every tenderer should submit Tender fee of **Rs. 2,500/-**
2. Every tenderer should submit an Earnest Money Deposit (EMD) of **Rs. 5,000/-**

3. The tender shall be submitted in the two bid viz. Technical Bid and Financial Bid. Only those qualified in technical bid will be eligible for participating in financial bid. A presentation regarding the technical specification and item to be supplied shall be done before the technical evaluation committee if requested.

4. The bidder should be a manufacturer or their dealer specifically authorized by the manufacturer to quote on their behalf for this tender as per Manufacturer Authorization From and Indian agents of foreign principals, if any, who must have designed, manufactured, tested and supplied the equipment(s) similar to the type specified in the "Technical Specification". Such equipment 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.

5. **Compliance Statement**: Along with the technical details provide a tabular column indicating whether the equipment quoted by you meets the specifications by indicating 'YES' or 'NO'. If 'YES', support the claim by providing original brochures. **Venders should provide clear brochures/data sheets about the equipment and its working. Also include adequate proof for the claim regarding the performance.**

   Complaints with the items supplied should be rectified /replaced to the satisfaction of the University by the suppliers at their own cost.

6. **Reference:** Names of Institutes with contact person and telephone/ email where similar equipment supplied by you in India [Preferably South India] shall be mentioned in the bid.

7. Incomplete & conditional tenders and tenders received after the due date will be summarily rejected without assigning any reasons thereof.

8. The price should be inclusive of all taxes, duties, transportation, insurance, installation etc. Nothing extra will be paid in addition to the quoted rate. Any amount in Indian rupees for installation, commission, labour, spares, service etc shall be entered in item 2 of BoQ. The University Issue Essentiality Certificate, so tax should be quoted accordingly.

9. Payment Terms: TT after order acknowledgement. (Payment will be made only after the supply of the items at our own site).

10. Validity of tender: Tender submitted shall remain valid at least for 120 days from the date of opening the tender. Validity beyond 120 days, from the date of opening of the tender shall be by mutual consent.

11. Delivery and installation: Proposed delivery schedule should be mentioned clearly. Delivery and installation and training (one week) should be made at the Department of Environmental Sciences, University of Kerala, Kariavattom campus, Trivandrum without extra cost (inclusive of documentation, demurrage, customs duty, clearance and transportation charges). University of Kerala will provide customs duty exemption certificates if required.

12. Service facility: Supplier should mention their details of service setup and manpower in Thiruvananthapuram who are responsible for after sales support.

13. The model number, make, and a printed literature of the product shall submit positively.

14. In case of any dispute, the decision of the University authority shall be final and binding on the bidders.

15. The undersigned reserves the right to reject any or all of the tenders received without assigning any reason thereof.

16. The quoted item should be under **comprehensive warranty for three years** or more.

17. If any component is found to be defective during the warranty period, the vendor has to replace the defective item immediately at their own cost.

Documents to be uploaded:

1. Signed Compliance Matrix
2. Detailed Technical Brochure
3. Under taking of support for next 10 Years
4. BoQ
5. Tender fee

REGISTRAR