

Department of Environmental Sciences, University of Kerala
Kariavattom, Thiruvananthapuram

TENDER – Pl.A1/ 2899/EVS/16

Dated 10 .01.2017

E-Tender Notice

Department of Environmental Sciences, University of Kerala, Kariavattom invites open tender through e-Procurement (two cover system) from the Original Equipment Manufacturers or their Authorised Dealers for the Supply, Installation and Commissioning of GAS CHROMATOGRAPH WITH FID & ECD.

Last date and time for submission of tender online : 25.01.2017 at 5.30 P.M.

Last date and time for submission of tender offline : 25.01.2017 at 5.30 P.M.

Date and time of opening of tender : 30.01.2017 at 11.00 A.M.

Hard copies of the sealed tenders to be submitted to the office of **The Registrar, University of Kerala,**
Senate House campus, Palayam Trivandrum-695 034, KeralaTel: +91-471-2305631, 2386202 (O), e-mail: regrku@gmail.com

For technical details contact **Associate Prof. & Head, Department of Environmental Sciences, University of Kerala, Kariavattom campus, Kariavattom P.O., Trivandrum- 695581, Kerala.**

Phone: 9895822161.

Email: jayvijayds@gmail.com

For further details logon to www.etenders.kerala.gov.in

TECHNICAL SPECIFICATIONS FOR GAS CHROMATOGRAPH WITH FID , ECD & ACCESSORIES

The gas chromatograph must have an **autosampler, touch-screen graphical user interface and temperature programmable split/split-less injectors, ECD & FID detectors**. In addition, to the existing detectors GC should be capable of **field upgrading with Mass Spectrometer Detector (MS)** option in future. The detailed requirements for the GC and the two detectors are given below:

Specification of the Oven:

Temp range (°C)	: Ambient +10 to 450
Resolution (°C)	: 1
Over heat protection	: yes
Duration range (minute)	: 0 to 999
Time increment (minute)	: 0.1 (minimum)
Rate of ramp (°C /min)	: 0.1 to 100
Increment temp (°C)	: 0.1 (minimum)
Cooling time (minute)	: less than 5 minute (250 - 50 °C)

Specification for Flame Ionisation Detector (FID):

Temperature range (°C)	: Must be from 100 to 450
Increment (°C)	: 1
Sensitivity (coul/g)	: 0.015
Detection limit	: 3×10^{-12} g C/s
Linearity	: greater than 10^6

Specification for Electron Capture Detector (ECD):

Operating temperature (°C)	: 100 to 400
Radioactive source	: 15mCi ⁶³ Ni
Carrier	: Ar-CH ₄ or N ₂
Minimum detectable limit	: 0.05pg
Linearity	: greater than 10^4

Specification for Injector:

Temperature Programmable split/ split less injector PSS/ PTV– 2 Nos.

Temperature-programmable inlet	: option should be available
Large-volume injection requirement	: 50 µL with autosampler & 150 µL manual options
Temperature program	: Three-ramps (minimum)
Split ratio	: Easily adjustable for a wide range of analysis
Operation temperature range	: 50 °C to 500 °C in 1 °C increments
Cool down time requirement	: 380 °C to 50 °C in less than 5 minutes, while the oven I is cooling in the same temperature range and with an FID at 380 °C
Heating rate	: 1 °C/min to 200 °C/min or ballistic

Specification for Columns:

Column type : 2 nos. of capillary column
Length : 30 M length
Column Specification : Any two fused capillary column capable of analyzing polycyclic aromatic hydrocarbons and chlorinated pesticides

Specification for Software:

- Should be compatible and capable of controlling all aspects of GC and should be easy and user friendly
- Should be capable of handling data from ECD & FID without any additional configuration
- All in one file for easy data transfer and data management systems

Other mandatory items required along with the instrument:

- Latest model PC & Laser Printer have to be provided.
- Ultra High pure Gas cylinders (Nitrogen, Zero Air & Hydrogen) with suitable SS regulators.
- Suitable gas purification system with filters for all gas cylinders required.
- 5 KVA UPS with min 60 min backup has to be quoted separately.

Miscellaneous

- The system must have a minimum of three years warranty.
- Liquid Syringe of 10µl Capacity - 4 Nos
- Silicon Rubber Septum with 11.5 mm dia –200 Nos to be quoted
- The system must be installed in good working condition by an authorized and well trained service engineer and working shall be demonstrated to the satisfaction of the lab-in-charge(s).

Other Conditions

- **Warranty: 3 years.**
- Installation & Demonstration: Free of cost
Training: Free of cost
A signed compliance matrix (on specifications and conditions) to be submitted along with the quote.
Vendors must have minimum 3 or more installation base in Kerala.
- Vendor should have a service branch in Kerala positively.
Supplier must demonstrate the equipment in customer's place upon request.
- **AMC for extra 2 years to be quoted.**

General Conditions

1. The Bidder should be a manufacturer or their dealer specifically authorised by the manufacturer to quote on their behalf for this tender as per Manufacturer Authorisation Form 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 equipments 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.
2. Incomplete & conditional tenders and tenders received after the due date will be summarily rejected without assigning any reasons thereof.
3. 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. Vendors should provide clear brochures/data sheets about the equipment and it's working. Also include adequate proof for the claim regarding the performance.
4. 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.
5. 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.
6. The price should be inclusive of all taxes, duties, transportation, installation etc. Nothing extra will be paid in addition to the quoted rate.
7. Payment Terms: 90% payment shall be made through irrevocable L/C on presentation of complete and clear shipping documents and balance 10% of the amount shall be released after the receipt, installation, commissioning and acceptance of the equipment.
8. 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.
9. Delivery and installation: Proposed delivery schedule should be mentioned clearly. Delivery and installation should be made at Department of Environmental Sciences University of Kerala, Kariavattom campus, Trivandrum- 695581, without any extra cost.
10. Service facility: Supplier should mention their details of service setup and manpower in Trivandrum who are responsible for after sales support.
11. The model number, make, and a printed literature of the product shall submit positively.

12. In case of any dispute, the decision of the University authority shall be final and binding on the bidders.
13. The quoted item should be under comprehensive warranty for 5 years or more.
14. The undersigned reserves the right to reject any or all of the tenders received without assigning any reason thereof.

Documents to be Uploaded

1. Signed Compliance Matrix
2. Detailed Technical Brochure
3. Under taking of support for next 10 Years
4. BoQ
5. DD/Hard copy of Bank Guarantee if opted

**The Registrar,
University of Kerala,
Senate House campus, Palayam
Trivandrum- 695 034, Kerala.**