

CENTRE FOR RURAL DEVELOPMENT & TECHNOLOGY: DELHI

On behalf of the duly constituted purchase committee, sealed quotations are invited for the microprocessor based Gas chromatograph with capillary column and detector for CRDT lab as per the technical specification mentioned below. The quotations should meet all the terms and conditions and reach the undersigned on or before 8th February, 2012.

Minimum Specification for the Gas Chromatograph

Column Oven

- Accommodates up to two 120 m × 0.530 mm id capillary columns
- Operation temperature range suitable for the all columns and chromatographic separation. Ambient temperature +5 °C to 450 °C.
- Temperature set point resolution: 1 °C.
- Support at least 08 oven ramps.
- Maximum achievable temperature ramp rate: 120 °C/min Oven cooled down (22 °C ambient) 450 to 50 °C in 4.0 min (3.5 min with oven insert accessory).
- Ambient rejection:<0.01 °C per 1 °C.
- EPC control up to 0.001psi.

Injectors

Programmable-temperature vaporizing (PTV) Capillary injector-One.

Split/split less capillary injector (S/SL)-One

- Suitable for all capillary columns (50 µm to 530 µm id).
- Split ratios up to 7,500:1 to avoid column overload.
- Split less mode for trace analysis.
- Pressure-pulsed split less.
- Maximum temperature for 400 °C S/SL injector and 450 °C for PTV injector.

Detector

1. Flame Ionization Detector

- Linear dynamic range:> 10⁷ (±10%)
- Air flow designed to minimize contamination and residue buildup
- Operating temperature 100 °C to 450 °C in 1 °C increments
- Sensitivity >0.015 coulombs/g C
- Minimum detectable quantity <1-3 pg C/sec as propane using N₂ carrier
- Automatic ignition and re-ignition of FID flame through software
- Automatic Flame-out detection should be possible.

2. Micro-ECD

- Micro-electron capture detector (Micro-ECD)
- Minimum detectable level: < 6 fg/mL lindane/BHC
- Linear dynamic range: > 5×10^4 with lindane
- Uses β emissions of < 15 mCi ^{63}Ni As the electron source
- Data acquisition rate: up to 50 Hz
- Maximum operating temperature 400 °C
- Standard EPC makeup gas types: argon/ 5% methane or nitrogen; 0 to 150 mL/min

Pneumatics

- Electron pneumatics control with atmospheric pressure compensation

Splitting/ Back flushing device

- The GC system should be capable of splitting the sample between detector and also doing back flushing to increase the column life.

Accessories

- Sample injection syringe: 1 μl , 10 μl & 50-100 μl
- Appropriate window compatible software for data processing, integrator for analysis of data in compliance with GLP
- Column (s) for analysis of fatty acid, essential oils and pesticides
- Other standards accessories like nuts, ferules, septum, fuses and tools
- A desktop system to be provided along with the instruments.

Optional

Auto sampler

- Syringe auto sampler capable of being controlled through software
- Normal, fast and slow injection speed
- Programmable injection mode

Terms and condition

1. Quotation to be made in sealed envelopes. Technical and commercial bids must be sent separately in 2 sealed envelopes, subscribed with 'Technical bids' and 'commercial bids' and then put together in one envelope addressed to Head, CRDT, Block III, IIT Delhi, Hauz Khas, New Delhi-110016.
2. Prices must be quoted CIF (Cost, Insurance and Fright), New Delhi
3. Payment will be made through LC only. Name and address to whom LC is made out should be clearly specified
4. **Three year warranty should be provided**
5. Please specify the list of consumables required along with the price separately
6. Any applicable academic institutions discounts should be clearly mentioned
7. Authorized distributors to provide the necessary certificate of distributorship
8. Please provide a list of users to whom instrument have been supplied to, over the last 3 years
9. Printed brochure should be provided
10. The institute reserves the right to accept or reject any or all the quotations without assigning any reason thereof.

Head, CRDT
IIT Delhi
Hauz Khas, New Delhi-110016