

## **CENTRE FOR RURAL DEVELOPMENT & TECHNOLOGY: DELHI**

### **Minimum Specification for the Gas Chromatograph**

#### **Column Oven**

Accommodates up to two 30 m × 0.32 mm id capillary columns

Operation temperature range suitable for the all columns and chromatographic separation. Ambient temperature +10 °C to 450 °C.

Support at least 08 oven ramps.

Achievable temperature ramp rate: 130 °C/min or better.

Oven cooled down : 450 to 50 °C in 2.5 min or less.

Electronically Pressure Control /APC/PPC control

#### **Injectors**

Programmable-temperature vaporizing (PTV) Capillary injector/Programmable S/SL injector-One.

Capillary injector -One

Suitable for all capillary columns (35 µm to 530 µm id).

Maximum temperature for S/SL injector 450 °C and 500 °C for PTV/PSS injector.

#### **Detector**

##### **1. Flame Ionization Detector**

Linear dynamic range:> 10<sup>6</sup>

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

Automatic ignition and re-ignition of FID flame through software

Should not require any make up gas

##### **2. Electron Capture Detector**

Minimum detectable level: < 0.08pg

Linear dynamic range: > 10<sup>4</sup>

Uses β emissions of < 15 mCi 63 Ni As the electron source

Maximum operating temperature 450 °C

Standard EPC/APC/PPC makeup gas

#### **Pneumatics**

Electron pneumatics control/PPC/APC 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, esters (Biodiesel), essential oils and pesticides

Other standards accessories like nuts, ferules, septum, fuses and tools

A desktop system (TFT) to be provided along with the instruments.

### **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 as FOB.
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