



Indian Institute of Technology, Kanpur

Department of Chemical Engineering

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Request for submission of quotation for “Gas Chromatograph”

Sealed quotations are invited from dealers/distributors on or before 11th Feb. 2013 with all technical specifications for the supply of items;

Enquiry No: 14/CHE/SS

Opening date: 4th Feb 2012

Closing Date: 11th Feb 2012

The quote should be submitted to the Department of Chemical Engineering, IIT Kanpur.

The following specifications are as under:

SPECIFICATION FOR GAS CHROMATOGRAPH :

1. Microprocessor Controlled Gas Chromatograph with larger oven around 22.62 ltrs to install all types of columns. Provision to mount maximum 4 injection ports.
2. Vendor to quote 1 No capillary injection port and 1 No packed injection ports with provision to upgrade it to two more additional Capillary /PTV/ Packed injection port.
3. Electronic pressure / flow control for capillary carrier & Mass Flow controller for Packed Carrier Gas Flow.
4. LCD Graphical display with feather touch screen control for all parameters for–injector, detector and oven etc.
5. Temperature range for oven is -150C to 500° C(with Cryo Option)with dual over heat protection one by user and another factory set.
6. Microprocessor temperature programmer with heating rate of 0.1° C/minute to 50° C/minute.
7. Provision for automatic cooling through automatic dual flop using stepper motor Cooling from 400C to 50C within 5 min.
8. Method files : 50 files.
9. Auto Diagnostics : Checks, corrects, operations and status of GC control, RAM, OM, PU Sensor, Keyboard and live Auto Diagnosis while Starting and importantly while Running too.
10. ON / OFF pneumatics switches –pressure switch to be provided in the GC.

11. 32 bit windows 2000 / XP based chromatography integration software with PC and Printer.

12. Flame Ionization Detectors made up of stainless steel state linear electrometer amplifier, with 1 electrometer sensitivity 1×10^{-12} Amps full scale, sensitivity of FID 5×10^{-12} gram / sec for C₉ hydrocarbons, noise less than 1% made temp. 500° C with Autozero facility.

13. TCD is made of stainless steel with Gow-Mac Tungsten Rhenium filaments. Detector is designed for fast response mounted in separate housing complete with heating and platinum resistance thermometer as sensor. Constant filament current with voltage feedback stabilized power supply and other electronics incorporated in TCD control unit.

Technical Data:

1. Type: Constant voltage.

2. Current: Can be set through keyboard, Maximum 300mA with automatic protection.

3. Sensitivity: 10 uV / PPM for C₉ Hydrocarbon for x1 range.

4. Filament current: 0–300mA, setting through keyboard w.r.t. temperature and carrier.

5. Temperature Control Range: Ambient to 450°C Maximum.

6. Linear dynamic range: Better than 10⁴. GC & Software should be CFR21 part !! Compliance (Optional)

15. Vendor to quote all necessary accessories like Packed column, Capillary column, interconnecting tubings for installation of the GC with Cylinders and Regulators.

16. Gas Chromatograph should be upgradeable with TID, FPD, PID, ECD, TCD, DID and MS Detector

17. Configuration includes Automatic gas sampling valve with variable loop with methanizer .

18. GC should be compatible with Accessories like Auto Sampler, Head Space Sampler, Duo-Auto sampler cum Head Space Sampler in one GC & should have facility to use with Two GC by having Extended Platform. GC also should be compatible with Auto Gas Sampling Valves, Thermal Desorber, Purge & Trap, Pyrolyzer etc.

Terms & Conditions of the quotations are as under:

1. The quotations should be submitted in the properly sealed envelope, addressed to the undersigned. The enquiry no. and date should invariably be quoted on the top of the envelope.

2. The time allowed for carrying out the above note work is 10 days.

3. The rate quoted should be inclusive of sales tax and other taxes including freight charges (if any).

4. Quotations should have a validity of a minimum of 90 days.

5. The Institute reserves the right of accepting or rejecting any quotations without assigning any reason thereof.

Kindly send your quotation before respected date in the following address:

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