

DEPARTMENT OF CHEMISTRY
INDIAN INSTITUTE OF TECHNOLOGY - DELHI
HAUZ KHAS, NEW DELHI - 110016

Dated: 8th May 2012

NOTICE INVITING QUOTATIONS

Sub: Purchase of Gas Chromatograph System

A sealed quotation in separate envelopes *of technical and commercial bid* kept in one sealed outer envelope are invited for purchase of Gas Chromatograph as per the specifications given below. Your sealed quotation should reach latest by 5 PM on 22st May 2012 to **Prof. A.K. Singh, Department of Chemistry, Indian Institute of Technology – Delhi (IIT Delhi), Hauz Khas, New Delhi - 110016**. Your quotation should be superscribed “Purchase of Gas Chromatograph due on 22st May 2012”.

GAS CHROMATOGRAPH SPECIFICATIONS:

1. System must have Electronic pneumatic control (EPC) with atmospheric pressure and temperature compensation.
2. Pressure set points may be adjusted by increments of 0.001 psi with typical control ± 0.001 for the range 0.000 to 99.999 psi
3. System must have RTL (Retention time locking feature) for reproducible results.
4. System must have Capillary Flow Technology with reliable, leak-free, in-oven capillary connections that stand up to repeated GC oven cycling over time to make it easier to analyze complex matrices and unknowns, and provide gains in productivity and data integrity for routine analyses via 2-dimensional heart cutting, detector splitting, and column backflushing.

Column Oven

1. Should accommodate up to two 105 m \times 0.530 mm id capillary columns.
2. Operating temperature range suitable for all columns and chromatographic separations. Ambient temperature +4 °C to 450 °C.
3. Temperature set point resolution: 1 °C.
4. Supports 20 oven ramps with 21 plateaus.
5. Maximum achievable temperature ramp rate: 120 °C/min.

6. Oven cool down (22 °C ambient) 450 to 50 °C in 4.0 min.
7. Two reverse phase capillary columns (5% phenyl silicone) with dimensions 30m×0.32mm×0.25µm.

Sample injection Unit

1. Two Split/split less capillary injector (S/SL).
2. Suitable for all capillary columns (50 µm to 530 µm id).
3. Split ratios up to 7,500:1 to avoid column overload.
4. Maximum temperature: 400 °C.
5. Heating rate: 0.1°C/min to 40°C/min. or better.

Flame Ionization Detector with EPC

1. Operating temperature: 100°C to 440°C in 1°C increments.
2. Automatic Flame-out detection should be possible.
3. Minimum Detection Limit : <2.0 pg carbon/sec as propane using N₂ carrier and 0.29-mm id jet.
4. Linear Dynamic range: <±10%, 10⁷ with N₂ carrier and 0.29-mm id jet.
5. The detector should have a data acquisition rate of up to 500 Hz.

TCD

1. Minimum detectable level: 400 pg tridecane/mL with Helium carrier gas.
2. Linear dynamic range: > 10⁵ ± 5%.
3. Signal polarity can be run-programmed for components having higher thermal conductivity than the carrier gas.
4. Maximum temperature: 400 °C.
5. Standard EPC for 2 gases (He, H₂, or N₂ matched to carrier gas type)

Chromatographic Data Software:

Single point control of all GC and its modules, customizable reports, GLP features should also have software for data acquisition, control, chromatographic data evaluation, reporting, and sequencing.

Standard Supply

Instrument should come with necessary spares, consumables, standards, tubings, vials, septa, columns, starter kits etc. for complete operation of the system.

Optional Items

1. System must be quoted with all the accessories i.e. PC, printer, UPS.
2. Gas cylinders and gas panel with purification systems etc. to run the system.
3. One extra capillary column for non-polar separations.
4. Autosampler
5. Please quote additional AMC charges for 3rd, 4th, and 5th year.

System should be quoted with minimum two years warranty.

TERMS AND CONDITIONS:

1. Please submit the TECHNICAL and FINANCIAL bids in separate sealed envelopes. Mark the two envelopes clearly as "Technical Bid" and "Financial Bid". Both the sealed envelopes should be sent in a single sealed envelope, clearly marked as "Quotations for Purchase of Gas Chromatograph due on 22st May 2012". The quote should reach the following address on or before 22st May 2012, upto 5 PM.

Prof. A.K. Singh
Department of Chemistry
Indian Institute of Technology Delhi (IIT Delhi)
Hauz Khas, New Delhi-110016

2. Please quote prices at FOB New Delhi, inclusive of installation charges. CIP charges should be quoted separately.
3. The quotations should be in the currency of the country of origin as well as Indian Rupees wherever possible and should be valid for at least three months.
4. Please attach all the technical literature and a list of similar installations done in India.
5. Standard warranty details should be provided.
6. Payment should be through irrevocable letter of credit.
7. If the quote is being submitted by the representative of the Principals/manufacturer themselves, a valid Agency ship/Dealership Certificate authorizing the agent to quote to IIT Delhi on behalf of the Principals should be enclosed.
8. Complete set of manuals for the operation of equipment should be given.
9. If the items quoted are proprietary in nature, please enclose proprietary certificate from the

principals stating “certified that _____ is a proprietary item M/s. _____ and no other manufacturer makes these items.

11. If the bidder is an Indian agent, the agency certificate should be enclosed.
12. Please produce compliance certificate for the specification.
13. Training should be provided free of cost.
14. Delivery period should be specifically mentioned and should be as small as possible.
15. The products will be used for educational purposes. Hence any applicable institutional discounts should be offered and stated.
16. SALES TAX: This Institute is not exempted from the payment of Sales Tax/Service Tax/VAT. The rate (i.e. percentage of Sales Tax should be clearly indicated included or excluded) wherever chargeable.
17. Institute reserves the right to accept or reject any or all the quotations without assigning reasons thereof.