

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

2A & 2B , Raja S.C. Mullick Road, Jadavpur, Kolkata-700032

NIT No. : IACS/CAM/NP/2017-18 /17 Date: 02/06/2017

Sealed tender in two bids system (technical bid and price bid) is invited from bonafide, resourceful and eligible manufacturer/exclusive distributor/vendors for a **Gas Chromatograph with TCD and FID Detectors**

Part-I (Technical Bid) of the tender should contain technical specifications in detail as well as commercial terms and conditions. Part-II (Price Bid) should clearly indicate group-wise price, if needed, as mentioned in the technical bid. The Technical Bid and Price Bid are to be submitted in separately sealed envelopes, distinctly marked accordingly and both to be put inside another envelop, that should be sealed and superscribed with tender notice no. and due date. The bidders may submit bids duly signed in their own letterheads.

Completed tender bids should reach the office of the **Registrar, Indian Association for the Cultivation of Science (IACS), 2A & 2B Raja S. C. Mullick Road, Jadavpur, Kolkata-700032** on or before the scheduled date and time specified below:

Tender Notice No.	NIT No. IACS/ CAM / NP/ 2017-18 /17 Date: 02-06-17
Last date and time of submitting tender	30 June 2017
Pre-bid meeting(date, time & place) to discuss technical specification	19 June 2017
Date and time of opening tender	30 June 2017 at 4 PM
Place of opening tender	Room no 123 A, IACS
Date and time of opening of Price Bid	The Price Bids of the bidders qualifying the technical bid will only be opened, the date of which will be intimated to the short-listed bidders at their email addresses. The rest of the bids will be rejected.
Contact	Email: camnp@iacs.res.in Tel.+91 33 2473 4971 [Ext. 1733]

The technical bids will be opened first to judge/evaluate the technical specifications of the said instrument and thereafter the price bids of only technically qualified bidders will be opened.

Technical Bid Evaluation: The Technical Bids will be evaluated in the presence of the representatives of intending bidders who will be able to clarify technical aspects of their bids, if any, required by the Technical Evaluation Team.

Opening of price-bid: The Price Bids of the bidders qualifying the technical bid will only be opened, the date of which will be intimated to the short-listed bidders at their email addresses. The rest of the bids will be rejected.

Please note that IACS will not provide any accommodation or reimburse any expenses to any of the bidders for attending opening of technical bid.

Quotations received incomplete or beyond the stipulated time will be summarily rejected.

Bidders should submit their past experience for supplying and successful installation of similar units to other research Institutes/Universities/other organizations in India and abroad. Please provide documentary proofs of such successful installation and supportive documents that the instruments are running successfully.

1. TECHNICAL BID

The technical bid should contain technical specifications and should be kept in a separate sealed envelope duly super scribed as 'TECHNICAL BID' on the outer cover of the envelop as already detailed above. It

should be clearly mentioned on the envelope as "Technical Specification for Gas Chromatograph with TCD and FID Detectors".

Technical Specification for Gas Chromatograph with TCD and FID Detectors.

1	Base Unit	Microprocessor controlled PC based Gas Chromatograph for the analysis of the permanent gases (H ₂ , O ₂ , N ₂ , CH ₄ , CO & C ₂ H ₆) from 100ppm to 100% & alcohols in a single injection in combination of two no's of TCD'S & one no of FID
A	Oven	Capacity: Minimum 15 liters or more to accommodate minimum three injectors and three detectors simultaneously for having better flexibility to configure the system as required in future. Temp: 450 °C or better. Temp stability: $\pm 0.05^{\circ}\text{C}$ or better. Column type: Capillary, Packed, wide bore Auxiliary Heating zones: 2 or more
B	Pneumatic system	Pneumatic system should consist of advanced electronic pressure control, which allows setting of pressures and flow through keyboard. EPC for carrier pressure programming. Storing pneumatic settings as method so that it can be changed in a keystroke & enable fast and efficient analysis with excellent repeatability of retention's times. • Setting split ratio through keyboard • Auto diagnosis user selectable • Flow Control: Flow setting to be incorporated for injector • Alarm signals: Easy to interact with machine. • Leak Test: Leak Test Method for leakage testing. • Gas saving: Special mode for saving the carrier gas through vent.
2.	Injection Ports-	<i>SPLIT SPLITLESS INJECTOR WITH EPC & AUTO SPLIT CONTROL -1 No</i> Pneumatic systems consist of EPC and setting of carrier flow, split flow, split ratio etc. done through keyboard. Split line consists of filter trap and control of different split modes
		PACKED INJECTION PORT WITH MASS FLOW CONTROLLER- 2Nos
3.	Detector	(a) Flame Ionization detector with amplifier (FID) (1 No) • Compatible with 1/4", 1/8", 1/16" and capillary columns • Flameout detection • MDL: <3 pg C /Sec for C₉ hydrocarbon • Linear Dynamic Range: $>10^7$ or better • Maximum Temperature: 450⁰ C • Flow Setting: - Air: 0-400 ml/min or better - H₂: 0-150 ml/min or better - Makeup gas 0-150 ml/min or better
		(b) <u>Thermal Conductivity Detector (TCD) with control module – 2 Nos</u> <u>Technical data :</u> • Compatible with 1/4", 1/8", 1/16" and capillary columns • MDL: <800 pg C₁₂/ml He or better

		• Sensitivity: 10 microvolt/ppm for Nonane or better • Linear Dynamic Range: $>10^4$ or better • Maximum Temperature: 400⁰ C or more
4		Additional side box for valves & heater enclosure for valves to mount 10 PORT Gas Sampling Valves & back flush & column bypass facility. sampling loop 1 with valco nuts & ferrules
5.	Columns	• 1/8" X 10' SS Packed Moleseive 5A Mesh 80/100 or Equivalent -2Nos • TG-WAXMS A GC Column 30m x 0.32mm x 0.25µm or Equivalent - 1No efc
6	SYRING	1ml RN GT SYRINGE50MM LGTH,22 GAUGE BEVEL 1/PK
7	Software	With Interface Card and Connecting Cables Features: • Windows based multi-user software for acquisition and processing of chromatographic data • Operating System: Windows 95, 98, Me, NT, 2000, XP, Vista • Data Acquisition: Independent of other activities proceeding in Windows • Data Import: ASCII and AIA built-in conversion module • Export: ASCII, AIA, DBF built-in conversion module • Customized reports
6	Pre Requisites	• True On-line 5 KVA UPS with 30 minutes battery backup (EMERSION make) • UHP Grade Helium Gas with Double Stage SS Diaphragm Regulator-1 set • UHP Grade Nitrogen Gas with Double Stage SS Diaphragm Regulator 1 set • UHP Grade Hydrogen Gas with Double Stage SS Diaphragm Regulator 1 set • UHP Grade Zero Air Gas with Double Stage SS Diaphragm Regulator 1 set • Gas purification panel for all gases
7	Essential Accessories for installation	• 10 µL liquid -2Nos & 5ml Gas Tight Syringe -1 No • S. S. Pipes for gas connectors; • Nuts & ferrules for S. S. Pipes; Spanner & Soap bubble flow meter; • Ball rubber; Clamp molecular sieve filter; • Connector bulls eye; Ferrule al/brass 1.6mm; • Ferrules front & back brass 1/8"; Ferrules brass front & back 1/4"; • Filter molecular sieve; Filter activated carbon; Fuses • Plug al.dbb; Washer teflon • Nut nipple flow measurement; Cover dust screen; Nut brass toshlock 1/8"; Nut wide connector with bush; Nut 6MB blind (W/O Hole); • Septum rubber 11.5 mm; Splitter for servo air; Tube PVC small for flow measure; • Filter Oxy trap & Tube latex; • Tube PVC big for flow measure; Tube S. S. 1/8" & Catheler No. 6; • Screw driver set; Cylinder key & Nut driver 8 mm; Service manual & Instruction manual; Allen key 1.5, 2, 2.5, 3, 4 & 5 mm; Adjustable

		wrench 12"; Noise plier internal & external circlip; Allen key set
8	Computer	Will be provided locally, Not to be quoted.
9	Calibration Gas standard	Calibration Gas standard: H2, O2, N2, CH4, CO & C2H6 -3 Sets in 0.5L water capacity can.
10	Other requirements.	<u>Other requirements.</u> • Supplier should provide pre installation requirements along with the offer • The supplier should replace defective parts if found any, during installation or during the warranty period. • Reference Order copies & users list needs to be enclosed • Detailed list of Service Personnel stationed in Kolkata with contact nos, email i.d's needs to be mentioned in the offer.

Warranty: 3 years

Servicing facility within India is a must while service engineer stationed at Kolkata will be preferred.

A list of other places where the instrument has been installed should also be provided.

A compliance table (see below) must be prepared and submitted along with the technical bid.

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Sr. No	Tender specification	Your offered instrument specification	Extent of compliance

2. PRICE BID

The financial bid indicating (item-wise) price for the item(s) mentioned in the technical bid should be kept in a separate sealed envelope duly super scribed as 'PRICE BID' on the outer cover of the envelop as already detailed above. Price bids of only technically qualified bidders will be opened and they will be intimated the date and time of the opening of price bid at their e-mail ids. Rest of the bidders will stand rejected.

PRICE: Price to be quoted on CIF Kolkata and also FOB basis.

3. BID SECURITY:

a. An Account payee Demand Draft/Pay Order of Nationalized Bank for Rs. 40,000/- (Forty Thousand only) drawn in favour of "Indian Association for the Cultivation of Science (State Bank of India, Jadavpur University Branch, A/C No. 11079699211, IFSC: SBIN000093, MICR Code: 700002048)" is to be furnished by the bidders except those who are registered with the Central Purchase Organizations, National Small Industries Corporation or the concerned Ministry or Department, as Bid Security money or Earnest Money Deposit (EMD). Alternatively, the Bidder shall have the option to furnish the EMD in the format of Bank Guarantee (BG).

b. The Demand Draft for the Bid-Security should have at least about 90 (ninety) days validity period of opening of the bids.

c. In case of non-award of the work the Bid Security money would be returned to the unsuccessful Bidders.

4. PERFORMANCE SECURITY:

An Account Payee Demand Draft on any nationalized bank of India of 10% of the order value in the name of “Indian Association for the Cultivation of Science” is to be furnished by the successful bidder as Performance security. Performance security money should remain valid for a period of 60 days beyond the date of completion of all contractual obligations of the supplier including warranty obligations. Bid security money or EMD will be refunded to successful bidder on receipt of the Performance security money.

5. TERMS OF PAYMENT:

Payment will be made through irrevocable Letter of Credit in two installments. 90% of the money will be released on submission of shipping of documents. Remaining 10% will be released after successful installation of the instrument.

6. GENERAL INSTRUCTIONS :

1. Validity of tender: Tender submitted should remain valid for at least six months from the date of opening the tender. Validity beyond six months from the date of opening of the tender shall be lapsed by mutual consent.
2. The tender should accompany a compliance chart.
3. Incomplete and conditional tenders as well as tenders received after the due date will be summarily rejected without assigning any reasons thereof.
4. At any time prior to the bid due date, IACS may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder during pre-bid meeting, modify the bidding documents. The amendment(s) will be notified on the institute website. Prospective bidders are advised to occasionally visit the website (www.iacs.res.in/tender) for any amendment.
5. Installation/Demonstration/Application training at site: Installation & user training at IACS, free of cost by the supplier.
6. Service facility: In India, preferably Kolkata, supplier should mention their details of service setup and man powers who are responsible for after sales support. Response time should be within 24 hrs.
7. The model number, make and a printed literature of the product should be submitted positively.
8. Proposed delivery schedule should be mentioned clearly.
9. Manufacturers / exclusive distributors / vendors should have history of supplying this type of instruments to this or other scientific organizations. Availability of a list in this regard would be preferred.
10. Authorized dealership certificate should be provided in case of principal manufacturing company is not quoting directly.
11. Guarantee certificate, users manuals etc. are to be handed over to the user after successful commissioning of the system.
12. In the event of date being declared a closed holiday for purchaser's office, the due date for submission of bids and opening of the technical bids will be the following working day at the appointed time.
13. In case of any dispute, the decision of IACS authority shall be final and bidding on the bidders.
14. For any clarification regarding technical specifications, information etc., please send your queries to Dr Narayan Pradhan (camnp@iacs.res.in).
15. The authority of IACS reserves the right to reject any or all of the tenders received without assigning any reason thereof.

Acting Registrar