



सीएसआईआर-केंद्रीय खाद्य प्रौद्योगिक अनुसंधान संस्थान
CSIR- CENTRAL FOOD TECHNOLOGICAL RESEARCH INSTITUTE
मैसूरु / MYSURU-570 020, भारत / INDIA

(Constituent Laboratory of CSIR, New Delhi (Ministry of Science & Technology)
An ISO 9001:2008, ISO 14001:2004 & ISO 17025:2005, NABL Accredited Laboratory

Dt:02-05-2025

Title: Proceedings/Minutes of PBC for Gas Phase Chromatograph (GC)/Technical corrigendum/Date corrigendum

Tender Ref: CFTRI/52360/25-26 Date: 07-04-2025

Tender ID: 2025_CSIR_232087_1

As per schedule, the Pre Bid Conference was held on 15-04-2025 @ 11.30 pm. at CSIR-CFTRI Mysuru. Two prospective bidders participated in PBC in person/through video conference. After deliberation the committee recommended for few modifications in technical specifications. The revised technical specification attached herewith.

The extended bid submission date is 14-05-2025 at 3.00pm and technical bid opening date is 15-05-2025 at 3.30pm.

Bidders may please take cognizance of the proceedings & submit their quote accordingly within the due date.

Controller of Stores & Purchase
CSIR-CFTRI, Mysore

Revised Technical Specification based on PBC

SPECIFICATION FOR GAS PHASE CHROMATOGRAPH [GC]

The Gas phase chromatography instrument will be used for analytical analysis of food samples for safety and quality assurance. The method development for fatty acid profiling, sterols, triglyceride profiling, organo chloro, organophosphorus, pyrethroids pesticide analysis required for NABL activities of ISO 17025:2017. The GC system with auto injector and sampler with the multiple detectors can be upgraded to MS module. They must be capable of standalone operation and have internal diagnostics to monitor the instrument's performance and record in a logbook. The system must have touchscreen user interface for easy instrument operation.

The instrument shall have the following modules

(a) GC (b) Autosampler (c) Flame Ionization Detector (d) Nitrogen Phosphorous Detector (e) Electron Capture Detector (f) Accessories (g) Software.

(GC Specifications)	
Oven Features	
Capacity	12 L or better
Temperature Range	6°C above ambient to 450°C
Maximum Temperature Ramp Rate	120°C/min
Temperature Programming	10 ramps or better
Time setting resolution	0.1 °C min increment for 0 to 999 values
Oven Cool-Down Rate	450 °C to 50°C in 4 min or better
Fast analysis	High temperature control and rapid oven cycling for faster ramps
Injector	
Split/Splitless Inlet	Should have both minimum 2 injection ports or better
Operating temperature	50-400°C
Injection unit	Should have PTV with at least two ramp temperature programs
On-column Injector	Should have multi-mode inlet as optional
Flow Control	Advanced Flow Control (AFC)/ Electronic Pneumatic Control (EPC)/ Programmable Pneumatic Control (PPC) support constant pressure flow and constant linear velocity and constant column flow.
Pressure	Operatable from 100 — 150 psi
Flow sensor repeatability	< ± 0.4 % of set point or better
Pressure Sensor Accuracy	< + 5% or better

Supported gases	He, H ₂ , N ₂ , Air
Gas saver mode	To be available
Detector types	Flame Ionization Detector (FID), Electron Capture Detector (ECD), Nitrogen-Phosphorus Detector (NPD) and optional Mass Spectrometer Integration (FID), Electron Capture Detector (ECD), Nitrogen-Phosphorus Detector (NPD) and optional Mass Spectrometer Integration
Auto sampler	
Capacity	Up to 100 samples or better
Vial size	2 mL and waste and wash vial size 4 mL
Sample Volume	Capable to inject 0.1 uL to 50 uL
Techniques	Liquid and SPME
Manual injection	Shall also have provision for manual injection
Flame Ionization Detector	
Sensitivity	2 pg C/sec or better with dodecane or tridecane
Linear Dynamic range	10 ⁷ or better
Temperature range	Upto 450°C
Response time	< 1 second or better
Gases	Hydrogen, air, make -up gas (N ₂ or H ₂)
Nitrogen Phosphorus Detector	
Sensitivity	0.4 pg N/sec and 0.2 pg P/sec
Selectivity	10 ³ :1 (C:N) ; 10 ⁴ :1 (C:P)
Linear Dynamic range	10 ⁴ to 10 ⁶
Gases	H ₂ , air, make-up gas (N ₂ or He)
Electron Capture Detector	
Sensitivity	0.01 pg/sec or better
Linear Dynamic range	10 ⁴ to 10 ⁶
Temperature range	Upto 400° C
Radioactive Source	Ni-63
Carrier gas	N ₂ or Ar/CH ₄ mix
Acquisition rate	4 ms or better

Accessories	
N2 generator	Peak scientific generator of N2 purity of 99.9 % and Trace 250 cc compatible for two GCs
Capillary Columns	HP5 or equivalent 30 mm X 0.25 mm ID X 0.20 um (1 No) HP5 or equivalent 15 mm X 0.2 mm ID X 0.25 um (1 No) HP5 or equivalent 5 mm X 0.2 mm ID X 0.25 um (1 No) SP2560 or RT2560 100 mm X 0.25 mm ID X 0.20 um (1 No)
GC Vials	2 mL of 300 Nos
Septa	100 Nos
Ferrule packs	5 packs five each
Microliter syringes	5 Nos of 10 uL
Liner/insert	10 Nos
Gas purification	2 Nos of trap for Air, and N ₂ to be provided
Computer	Dell/HP branded company with intel i7 processor 14700 1TB SSD, 64 GB, DDR5 RAM and 24 inches FHD monitor.
Software	
Features	It should be compatible to Window 10 or latest
Data acquisition & processing	It should be user friendly and capable of full instrument control via PC. Data export, import, quality control protocols should be available
License	Soft copy to be supplied
Modularity	Customizable and easy processing and acquisition softwares and export of the data in different formats.
Environmental control	Energy and power saving features
Warranty	Two years warranty from the date of installation. To be provided with all essential spares (Septa, injection syringes, liners, gas tubing etc). Soft copy of instruction manual to be provided
Training	Onsite Installation and commissioning of the instrument (IQ, OQ and PQ) Operator training including usage, maintenance, quality control, trouble shooting and developed methods workflows for pesticides and fatty acid profiling and TAGs.