

CSIR - NATIONAL PHYSICAL LABORATORY

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From: Director, CSIR-NPL

Tender No. 14-VIII/DS(39-GTE)25PB

Dated:14.08.2025

CORRIGENDUM

With reference to NPL's Global Tender ID: **2025_CSIR_806891_1** for "**Gas Chromatography with Helium Ionization Detector**". All the prospective bidders are hereby informed that some changes have been made in the technical specification of captioned tender. Revised specifications are as follows:

1.	Gas Chromatograph Configuration	Must support <ul style="list-style-type: none">- Two inlets- Two detectors (Helium Ionization Detector and TCD)- Two signal acquisition
2.	Chromatographic & Sensor performance	2.1 Peak area repeatability: ≤ 0.5 % relative standard deviation (RSD) 2.2 Retention time repeatability: ≤ 0.01 % rel 2.3 Inlet module Pressure sensor: Pressure control: 0.01 Psi or better Accuracy: $\leq \pm 2\%$ full scale or better Repeatability: $\leq \pm 0.05$ psi Temperature coefficient: $\leq \pm 0.1$ psi/°C 2.4 Flow sensors: Accuracy: $\leq \pm 5\%$ according to carrier gas Repeatability: $\leq \pm 0.5$ % of set point Temperature coefficient: $\leq \pm 0.2$ %/°C for He and/or $\leq \pm 0.05$ %/°C for N ₂ or Ar
3.	Automatic Pneumatic Control (EPC/ AFC/ IEC) module:	Six automatic module providing control (of carrier, split and septum purge gas) upto 16-18 channels.
4.	Column Oven	4.1 Sufficient in size for the required application area to accommodate at least up to two capillary columns (100 m length) or two glass packed columns or two SS packed columns (20 ft, 1/8" OD). 4.2 Support ≥ 20 oven ramps with ≥ 21 plateaus and allow negative ramps also 4.3 Oven temperature ambient to 450 °C 4.4 Temperature set point resolution of 0.1 °C. 4.5 Maximum temperature ramp rate 120 °C/min 4.6 Oven cools down to ambient (450 °C to 50 °C in 4 min) oven with fan for cooling.

		<p>4.7 Ambient rejections: <0.01 °C per 1 °C</p> <p>4.8 Oven power must turn-off automatically when oven door/ lid is opened.</p> <p>4.9 Maximum signal run time at least 999.99 min</p>
5.	Split/ Split less inlet/ injector (one no with TCD)	<p>5.1 Split ratio range 0 to 9999</p> <p>5.2 The injector for TCD should be included for packed columns with adapter for changeover from packed to capillary.</p> <p>5.3 Carrier and makeup gas types: Helium, Hydrogen, Nitrogen or Argon</p> <p>5.4 Maximum operating temperature : 400 °C</p> <p>5.5 Pressure setting range: 0 to 1035 kPa or more</p> <p>5.6 Flow setting range: 0 to 1250 mL/min for He, 0 to 500 mL/min for N₂ and 0 to 500 mL/min for H₂. The H₂ flow should be capped for safety.</p> <p>5.7 Must have electronic septum purge flow control.</p>
6.	Sample introduction system (GSV)	<p>6.1 Two automatic gas sampling switching valve of 10 port or 6 port connected to each detector inlet.</p> <p>6.2 Temperature controlled valve box.</p> <p>6.3 Pressure balance or sample stop solenoid valve to ensure smooth and automated sampling of gas sample in loop OR Stream selection valve for 6-8 vial .</p>
7.	Detectors:	<p>7.1 Helium Ionization Detector</p> <p>a) Discharge gas: Helium</p> <p>b) Mode of Discharge: AC/ DC/ Barrier discharge</p> <p>c) Linearity/ Dynamic range: $\geq 10^5$</p> <p>d) Minimum detectable quantity : lowpicogram/C</p> <p>e) Positive response to permanent gases</p> <p>f) Helium purifier for HID channel</p> <p>g) Hardware for backflushing the heavy portion and matrix cut provision.</p> <p>7.2 Thermal Conductivity (TCD)</p> <p>a) Compatible with both Capillary column and packed column with 1/8" and 1/16" fittings.</p> <p>b) Minimum detectable level: 400 pg/ mL tridecane with He carrier OR capable of detection of compounds with sensitivity better than 20000 mV.mL/mg (decane)</p> <p>c) Linear dynamic range: $\geq 10^5$</p> <p>d) Maximum temperature up to 400 °C</p> <p>e) Programmable Signal polarity.</p> <p>f) Standard EPC for three gases (He, H₂ or N₂ matched to carrier gas type)</p> <p>g) Make-up gas: 0 to 20 mL/min or as per requirement</p> <p>Reference gas: 5 to 100 mL/min or as required for the analysis.</p>
8.	Software	<p>8.1 Latest version of original licenced software package compatible with GC configuration.</p> <p>8.2 Software must be compatible with latest Windows operation system with seamless integration and capable of complete control of all GC parameters.</p> <p>8.3 Software must support independent temperature control for all heated zones, gas sampling valves.</p>
9.	Data Acquisition	<p>9.1 The system should be provided with data acquisition system</p>

	system specification	with standard i7 or better, 16 GB RAM, 1 TB SSD or better, latest operating system compatible with the GC software workstation with virus protection software, keyboard, mouse, USB port, 21" LED monitor and report printing system. 9.2 The original licenced operating system valid for minimum 5 years
10.	Installation	Installation of GC is to be done by supplier at CSIR-NPL site.
11.	GC Accessories	11.1 GC start-up/ installation kit consisting of plumbing items & gas filters 11.2 One unit of each moisture, hydrocarbon and oxygen trap/filters. 11.3 Columns: One DB-5MS Capillary column 0.32 id; One Porapak Q; One SS MS 13x; One SS MS 5A (OR Equivalent) besides the fitted columns for the asked application. 11.4 Gas sampling loops sizes from 0.1 mL, 0.25 mL, 0.5mL, 1 mL and 2 mL one each.
12.	Operation Manual	One hard copy along with soft copy of manual.
13.	Power supply	13.1 220-240 Vac; 50/60 Hz 13.2 All connectivity cables for PC based applications
14.	Training	3 Days satisfactory comprehensive on-site training for the users after installation and commissioning.
15.	Warranty	Two years.
16.	FOB	At CSIR-NPL, New Delhi

All other terms & conditions of said tender will remain the same.



Sr. Controller of Stores & Purchase

FORM TO BE USED BY TSC FOR FINALISING PRE-BID MINUTES

File No. 14-VIII/DS(39-GTE)25PB

Date: 12.08.2025

TSC Minutes (To be typed clearly by the I/O)

Based on the Pre-bid meeting and recommendation of I/O, following changes have been made in the specifications:

Original Specifications	Final Specifications
5: Split/ Split less inlet/ injector (one no with TCD) 5.2 Compatible for both capillary and packed columns with required adapters	5. Split/ Split less inlet/ injector (one no with TCD) 5.2 The injector for TCD should be included for packed columns with adapter for changeover from packed to capillary
Acceptability criteria: 2. Instrument should be capable of measurement of impurities of permanent gases (H ₂ , O ₂ , N ₂) in the matrix gases (CO, CO ₂ , O ₂ , H ₂ , CH ₄ , C ₃ H ₈).	Acceptability criteria: 2. Instrument should be capable of measurement of impurities of permanent gases in ppb or lower ppm range (H ₂ , O ₂ , N ₂ , Ar) in the matrix gases (CO, CO ₂ , N ₂ , O ₂ , H ₂ , CH ₄ , C ₃ H ₈).

The file is forwarded to Purchase Section for uploading the final specifications and TSC minutes on the website and CPPP Portal.

Declaration: We hereby declare that we have no conflict of interest with any of the bidder in this tender.