



TEA RESEARCH ASSOCIATION
TOCKLAI TEA RESEARCH INSTITUTE
CINNAMARA, JORHAT-785 008, ASSAM, INDIA

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Ref: 3622/TOK/G.26/1585

25th August, 2026

Tender No.TRA/Tocklai/2025-26/T-254 Dated 25.08.2026

Sealed tenders in two parts (Technical Bid & Financial Bid) are invited by the Director, Tea Research Association from authorized parties for procurement of Equipment(s) under DBT Approved Project (BT/PR52307/NER/95/2020/2024) at Tocklai Tea Research Institute, Tea Research Association, Jorhat - 785008, Assam. Both the bid documents are to be put in sealed envelopes separately super scribing the words “Technical Bid “ & “Financial Bid” which are to be put together in the sealed envelope super scribing the Tender No. The details of required equipments are shown as ‘Annexure – A’ enclosed herewith.

Last date of issue/receipt of tenders: 16.09.2026 up to 5.00 pm.

Terms and Conditions:

- 1) The tenderer should submit the following documents along with the tender:
 - a) Dealership certificate/authorization certificate
 - b) OEM authorization letter with the tender details along with the details of authorization letter issuer should be provided along with the offer (in-case of bidder is not a manufacturer)
 - c) List of users
 - d) Up-to-date sales tax/GST /income tax clearance certificate
- 2) **Earnest Money 2% (refundable)** of the quoted amount is to be deposited by the tenderer in the form of Bank draft/Bankers certificate in favour of “Tea Research Association” payable at Jorhat.
- 3) **Tender Document Cost (non refundable) of Rs.1,000/-** is to be deposited in the form of **separate Bank Draft** in favour of “Tea Research Association” payable at Jorhat.
- 4) Tenders must accompany with the product catalogues/ specification/ technical data sheet from the OEM.
- 5) Tenderers must quote the warranty period of the product as per their company’s rule.
- 6) Bidder should not have any police case and / or black listed in any institution of Assam. Undertaking must be provided on their company’s letterhead. If found incorrect, bids will be rejected.
- 7) **Tenderers must quote the year-wise rate for CMC or AMC separately for a further period of 5 years beyond the warranty period.**
- 8) **Instruments / Equipments are to be delivered/installed FOR/CIP at Tocklai Tea Research Institute, Jorhat – 785008, Assam.**

TRA reserves the right to accept or reject the bids without assigning any reason thereof. This tender document can also be obtained from the office of the undersigned during working days from Monday to Friday (8-30 am to 5.00 pm).

Tender should be accompanied by Tender Document Cost of Rs.1,000/- and Earnest Money 2% of the quoted amount, failing which the tender will be rejected. The drafts for EMD and Tender Document Cost should be enclosed with “Financial Bid” only. All tenders should be sent to the following address:

The Director,
Tea Research Association
Tocklai Tea Research Institute,
Cinnamara, Jorhat-785 008, Assam.

**DIRECTOR
TRA**

Registered Office:

Tea Research Association, 113 Park Street, Kolkata - 700 016 ,INDIA
Ph : 91-033-22291815, 22297943, Fax : 91-033-22294271, Web : www.tocklai.net

Annexure – A
SPECIFICATIONS OF EQUIPMENT AND INSTRUMENT

Sl No.	Items	Unit No.	Specifications
01	Gas Chromatography System with Liquid Autosampler and Headspace Sampler	01	1. Scope and Application: i) A bench-top, fully automated, microprocessor-controlled Gas Chromatograph (GC) equipped with Flame Ionization Detector (FID), autosampler and automated headspace sampler for qualitative and quantitative analysis of volatile and semi-volatile compounds. ii) The system shall be suitable for routine laboratory applications and capable of future upgrade to GC-MS without replacing the main GC unit. 2. General System Features: i) The instrument shall be brand new, complete in all respects, all major components like GC-FID, Headspace and Autosampler preferably from same manufacturer and supplied with all accessories required for installation and operation. ii) The GC shall be controlled via an integrated color TFT/LCD touch screen or equivalent PC-based interface for operation, method development, diagnostics, status monitoring, and data display. iii) The system shall provide comprehensive self-diagnostics for electronics, pneumatics, heaters, detectors, communication status, and error reporting. 3. Column Oven: i) The column oven shall provide a temperature range from at least ambient +4 °C up to 450 °C. ii) Temperature programming shall include a minimum of 20 ramps and 20 holds or better, with programmable rates of 150°C per minute. iii) Cool-down time from 450 °C to 50 shall be ≤400 second or better. iv) Temperature stability shall be ±0.1 °C or better, with ambient temperature rejection so that a 1 °C change in ambient causes <0.01 °C change in oven temperature, or equivalent performance.

			4. Pneumatics and Injectors: i) The system shall have Electronic Pneumatic Control (EPC) for all gas flows and pressures, with a pressure range at least 0–150 psi and fine control (e.g., 0.001 psi increment or better). ii) At least one split/splitless injector shall be provided, independently temperature-controlled, with maximum operating temperature ≥ 450 °C and split ratio capability from 0 (splitless) up to at least 1:10,000 or equivalent wide range. iii) The injector shall have electronic septum purge flow control and a built-in gas saver mode to reduce gas consumption in standby. 5. Detector: i) The system shall include at least one Flame Ionization Detector (FID) suitable for volatile organic compound ii) The detector shall have a linear dynamic range of $\geq 10^7$, minimum detectable amount ≤ 1.5 pg C/sec with a suitable standard iii) Maximum operating temperature ≥ 450 °C iv) Automatic flame-out detection with auto re-ignition. 6. Liquid Autosampler: i) An automatic liquid autosampler compatible with the offered GC shall be provided, controlled from the same software platform as GC and headspace. ii) The autosampler shall have a minimum capacity of 25 sample positions for 1.5/2 mL vials (higher capacities, e.g., ≥ 100 vials, acceptable and preferred). iii) It shall support syringes covering at least 0.1–100 μL or equivalent range. iv) The system shall provide automatic syringe washing/rinsing with multiple solvent stations (up to 4 solvents), with cross-contamination < 5 ppm. v) Injection parameters (sequence, volume, speed, washes, etc.) shall be fully programmable via software. 7. Headspace Sampler: i) An automated headspace sampler fully integrated with the GC shall be supplied, controlled from the same software platform. ii) The headspace unit shall have vial capacity of at least 40 vials (80 or more preferred), compatible with standard 20 mL headspace vials; the ability to use smaller vials (2–10 mL) with adapters is
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			desirable. iii) There shall be at least 6 simultaneous vial incubation positions; more positions are acceptable. iv) Sample introduction may be via heated syringe or loop with programmable syringe or line temperature up to at least 150 °C v) Vial oven temperature shall be from room temperature +10 °C to at least 200 °C. vi) Sample line and transfer line temperature shall be at least up to 150 °C. vii) Area repeatability shall be ≤ 1 % RSD and carryover ≤ 0.0001 % or better. viii) Automatic leak-check facility for vials shall be available. 8. Columns: i) The system shall be supplied with at least two factory-tested and installed capillary columns of 30 m $\times$ 0.25 mm $\times$ 0.25 μm each, from internationally reputed manufacturers. ii) The types of column shall be supplied: (a) one low-bleed non-polar column: 5 % phenyl-methylpolysiloxane and (b) one polar polyethylene glycol column: WAX-type iii) An additional 100 % dimethylpolysiloxane-type column of the same dimensions is desirable. 9. Chromatography Software and Data Handling: i) A licensed Windows-based chromatography data system shall be provided, offering single-point control of GC, detectors, liquid autosampler and headspace, including method building, data acquisition, processing, reporting and diagnostics. ii) The software must be 21 CFR Part 11 compliant, with user management, audit trails, electronic signatures and secure data storage. iii) It shall provide flexible reporting options (methods, chromatograms, peak tables, quantitation results, calibration curves, status logs, text reports) and capability to interface or export to LIMS. 10. Computer, UPS, Gases and Accessories: i) A branded computer from reputed manufacturer with at least Intel Core i5 or equivalent CPU, $\geq 8-16$ GB RAM, SSD (≥ 256 GB), ≥ 21 inch with genuine Windows operating software, Colour monitor, keyboard and mouse, multi-function laser printer shall be supplied. ii) A minimum 5 kVA online UPS with minimum
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			30 minutes backup, isolation transformer, battery rack and necessary inter-cell connectors shall be provided. iii) High-purity gas cylinders (Nitrogen, Hydrogen, Zero Air – one of each) with high-quality double-stage SS regulators shall be provided iv) Complete gas purification panel including hydrocarbon trap, moisture trap and oxygen trap, SS tubing and fittings for full installation shall be supplied and installed. 11. Essential Consumables and Tools: i) The supplier shall provide following essential consumables along with the system ii) 20 mL headspace vials (≥ 100) with caps and septa iii) Crimper and de-crimper compatible with supplied vials and caps iv) Ferrules (≥ 2 packs); nuts for connecting columns to injector and detector (≥ 2 set) v) Injector septa (≥ 50 pieces); and a necessary toolkit for routine maintenance of GC and autosamplers. 12. Installation, Qualification, Training and Documentation: i) The supplier shall perform installation, commissioning and on-site IQ/OQ/PQ with proper documentation. ii) A minimum of one week of on-site training on hardware and software shall be provided, including method development support for quantitative and qualitative analysis of user samples, and ongoing training during warranty as required. iii) The vendor shall provide a site-preparation checklist (power, UPS, gases, environment) in advance and visit the site as needed before installation. 13 Warranty and Support : i) The system shall have a comprehensive warranty for at least one year from the date of satisfactory installation and commissioning, covering all parts (including electronics) and labor. ii) The vendor must provide a letter from the manufacturer stating that the quoted GC model has been globally launched within the last 5 years. iii) The vendor must guarantee availability of
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			spare parts, including electronics, for at least 10 years from complete installation, and the GC model should be a globally launched, currently supported model.
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