



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

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Ref: 3622/TOK/G.25/469

26th August, 2025

Tender No.TRA/Tocklai/2025-26/T-248 Dated 26.08.2025

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) 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: 17.09.2025 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) List of users
 - c) 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.
- 5) Tenderers must quote the warranty period of the product.
- 6) **Tenderers must quote the year-wise rate for CMC or AMC separately for a further period of 5 years beyond the warranty period.**
- 7) **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 REQUIRED SERVICES

| Sl. No. | Items | Unit No. | Specifications |
|---------|---|----------|---|
| 1. | Automatic Nitrogen/Protein Estimation System | 01 | <p>A. Automatic Macro Block Digestion System</p> <ul style="list-style-type: none"> • 12 (Twelve) place 250 ml capacity PC Compatible Block Digestion System with all essential accessories • TFT/LCD/LED Touch Screen Display with wireless mouse to operate at a distance of 1-2 mtrs without connecting to PC. • Should have 3 ports in the motherboard. One direct port to connect wireless Remote mouse/wireless keyboard. Second port to connect memory stick for data logging & storage/Remote control module for wireless data monitoring & transfer to PC and 3rd port to connect Ethernet/LAN Connectivity • Integrated auto sequencing time/temperature domain of 100 programs and 12 sequencing steps • Live Graph representation with Time temp curve in touch screen display • Temperature Controller should be isolated separately in a control tower to protect electronics from digestion heat zone and acid reaction zone, with separate access door for electronics control tower unit. • In-built add-on safety standby PID Controller for Heater and block protection apart from main microprocessor controller. • In-built Machine Management Software enables multi user login feature with password. • Remote Control Module for wireless data monitoring, control and transfer to PC at a distance of 5-10 Feet from equipment with Remote transmitter and Remote receiver dongle. • The user should able to view the entire programme that is set & the current status of programme in process. • The entire display parameters of controller should appear in computer/laptop. • Unique driver software to link touch screen controller to data processing system wirelessly. • IP address of user's device name displayed in the login page • Real time Data logging features with real time clock • Temperature Control Range Room Temperature to 500° C with safety cut off at 470°C (As per Kjeldhal chemistry effective digestion takes place 380°C - 420°C), Temperature Accuracy : $\pm 1^{\circ} \text{C}$ • Power failure mode: In event of power resumption, holds previous programmed setting in memory and on power resumption starts from last set value. • Additional KEL FLOW suction assembly with giant suction |

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| | | | <p>water aspirator filter suction pumps (2 nos.) for safe removal of acid fumes with online tap water supply in the event of scrubber out of usage or repair.</p> <ul style="list-style-type: none"> • All essential accessories like Digestion Tubes, SS Insert Rack, Exhaust Manifold, • Suction Assembly wall mounted on rear side of unit for safe removal of acid fumes and easy access to drain area <p>B. Scrubber System</p> <ul style="list-style-type: none"> • Three stage acid neutralization scrubber. • Non corrosive centrifugal inbuilt magnetic suction pump for water recirculation. • Motor Capacity: 30 litres/min • Automatic Water level indicator to view water level in FRP tank externally • Fibre Reinforced plastic Tank, Containers for Alkali and Water <p>C. Automatic Distillation System</p> <ul style="list-style-type: none"> • Auto sequencing Microprocessor based PC Compatible Distillation System with in-built software with 50 Pre-definable User Storage Auto Sequence Programmes • Automatic sequencing with auto Intelligent run of programmable steps which include Automatic Dilution, Automatic KMnO_4 addition, Automatic Alkali Addition, Automatic Steam injection, Process over indication with alarm with delay time features, Automatic Titration Connectivity feature for future up gradation with complete automatic safety features • KMnO_4 addition should be inbuilt and integral part with auto sequence addition without any external module or external pump • Micro brilliant distillate control with adjustable sensor, • Two line Alpha numeric Digital LCD Display • Auto sensing of “NO WATER” condition in condenser and steam generator with alarm and signal to alert user. • Auto deactivation of operation after warning in case of user non availability • Enables automatic monitoring and measuring of high temperature in distillate with sensor for auto warning signal and safety alarm to alert user to control distillate temperature. Temperature displayed digitally. • Auto reagent Level Sensor with Alarm for Reagents, Stainless steel non corrosive steam Generator • Automatic water level monitoring and Peristaltic pump for reagents addition • Reagents tanks to be wall mounted for easy handling and users’ visibility. • The control panel unit along with inbuilt temperature controller, timer, mother board and SMPS should be isolated in separate control tower (not rack mounted internally) and housing to protect electronics from wet |
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| | | | <p>chemistry and acid/alkali process area for longevity and safety of all electronic components, with separate access door for main unit and electronics control tower unit.</p> <ul style="list-style-type: none"> • Equipment should have transparent view window to watch the distillation process and splash head. • Non Corrosive robust metallic condenser • Nitrogen level : 0.1 to 200 mg Nitrogen (Min / Max Detection Limit) • Nitrogen Reproducibility: $\pm 0.1\%$ RSD, Nitrogen Recovery : > 99.5% • Electrical Requirement: 220-230V single phase 50Hz A.C <p>Special Conditions</p> <ul style="list-style-type: none"> • The OEM should be reputed with at least 100 users in Assam state. User list details should be provided with tender. • The instrument shall strictly confirm to the specifications with relevant brochure & Photograph with real images. • The OEM should have proof of at least 25 installations of long-term users using equipments for more than a period of 10 -15 years showing longevity of operations. • The bidders/OEM must show online demonstration of the quoted system during technical evaluation of the bids. This is an essential requirement. • The OEM should have Authorized Local Service Centre in North-East. |
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