

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE
2A & 2B, Raja S.C. Mullick Road, Jadavpur, Kolkata-700032

NIT No.: IACS-P/SPSSG/2023-24/04

Date: 26.04.2023

Sealed tender in two bids system (technical bid and price bid) is invited from bonafide, resourceful and eligible manufacturer/exclusive distributor/vendors for **Three Zone Furnace**.

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 envelope, 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.	IACS-P/SPSSG/2023-24/04 DT26.04.2023
Last date and time of submitting tender	15.05.2023, 04.00 pm
Pre-bid meeting (date, time & place) to discuss technical specification	03.05.2023, 04.00 pm (Office of Prof S Giri)
Date and time of opening tender (Technical Bids)	18.05.2023
Place of opening tender	IACS (If any change it will be informed)
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: sspsg2@gmail.com ; Tel. +91 33 2473 4971 [Ext 1315]

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 superscribed 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 High Temperature Split Tube Furnace”.**

TECHNICAL SPECIFICATION HIGH TEMPERATURE SPLIT TUBE FURNACE

Specification of High Temperature Split Tube furnace		
Sr. No.	Item	Description
1	Volume & Working Dimension	Working Inner Dia $\geq$ 40 mm & Tube Length $\geq$ 800 mm or more
		Heated Tube Length $\geq$ 500 mm
		Constant Temperature Zone $\geq$ 250 mm or more with $\pm$ 5 K according to DIN 17052-1
		Workspace Dimension – minimum Dia $\geq$ 40 mm x 500 mm or more
2	Temperature	T-max = 1300°C
		T-max Continuous Operation $\geq$ 1250°C

3	Ramp Rate / Heating Speed	$\geq 300/\text{h}$ from room temperature to 1250°C
		Maximum Time to T-Max not more than 5 hours
4	Uniformity	$\pm 5\text{ K}$ according to DIN 17052-1
5	Temperature Measurement	Thermocouple Type N/S
6	Heating Element & Insulation	High Quality Kanthal wire Elements on support tube to provide free radiation.
		Insulation materials without categorization according to EC Regulation No 1272/2008 (CLP).
		High-quality fibre insulation material which are not classified as Carcinogenic according to TRGS 905, class 1 or 2 for furnace for the high working temperature as per latest international norms.
7	No. Heating Zones	3-Zoned Heating
8	Door Opening Temperature	$\leq 100^{\circ}\text{C}$
9	Control	Professional controls system to provide convenient operation of all functions
		Operation of all furnace functions via a 5 inch touch screen color display with clear visualizations of the process via graphical charts & tabular display of the program.
		50 programs / 40 segments, delayed start time in real time.
		Temperature control Accuracy of $\pm 1^{\circ}\text{C}$ or better & Temperature input of Per Deg C or per Minute or better.
		Detailed information menu with: Time and date, Program run times, Operating hours counter, Integrated kWh counter, Error messages in plain text display, Display of controller setting values, Copy and delete function for programs
		The PID Programmer Controller should have the facility to auto start & resume the on-going program after a power outage / power failure.
		Controller interlock with password lock to protect against unauthorized operators.
		Inbuilt Wi-Fi interface for status monitoring with mobile end devices
		Over-temperature protection with automatic shutdown if the set target temperature is exceeded
		The controller should be equipped with minimum 2 extra functions to

		support additional functions such solenoid valves, acoustic signal etc.
		The controller should have option for retrieving recorded data on an external drive & recording of process data with USB Flash Drive
		The system should have the facility of writing Programs & Generating the reports on PC through external flash drive/pen drive.
		The controller should facilitate iOS / Android App-Functions (from Google Play store / App store) Convenient monitoring of multiple furnaces simultaneously, Dashboard, Individual overview of a furnace, Display of active/inactive furnaces, Operating status, Current process data etc..
10	Construction Design &	Stainless Steel panel frame construction with Outside wall temperatures 55 °C + ambient air temperature. Furnace complies to ISO 13732-1 with Non Rust Housing Texture Stainless Steel.
		Switchgear integrated as inbuilt Control Cabinet, switching elements below the door.
		Double Wall Furnace Casing with Fan Cooling for low exterior Temperature.
		Controller operation in Switchgear integrated as Control Cabinet of furnace inbuilt.
		Inner chamber casing made out of heat resistant stainless steel, reinforced bottom
		Ceramic End Plugs for the tube to be provided
		Table Top Split Tube Design Furnace with in- built control cabinet placed at bottom for Ease of Operation.
11	Switching System	Silent Solid State power control Relays; Control system built into furnace base
12	Electrical	Single-Phase, 230 V AC Complying with Indian Electrical Supply.
13	Warranty	12 Months from successful Installation
	Certificates	ISO9001 & CE compliance Certificates
		Certificates for Furnace to comply with: DIN EN 61010-1 (08.2002) DIN EN 60335-1 (11.2010) DIN EN 61000-6-1 (10.2007), DIN EN 61000-6-3 (09.2007) RoHS directive 2011/65/EU
		Warranty Certificate for 1 year
14	Special Instruction to Bidders	Diagram, Layout drawing, Wiring diagram, Operating instructions including maintenance instruction
		Installation ,Commissioning & Training at IACS-Kolkata Site , by Factory Trained Engineer to be included.
15	Manufacture, Availability Assembly and Testing:	The model, its specification and its available modification/ accessories must be presented in the manufacture's website on day before the first day of public display of the tender call. The product must be part of serial production of the OEM and not a one-off model.
		A certificate from manufacture certifying that the quoted/ proposed model/unit has already been pretested with all the accessories/fitting as per the claim and required specification needs to be provided while responding to the tender call.
		Mere copy-pasting from the asked specification list (completely or partially) will lead to disqualification in technical verification round. Provide user list

		(with contact details) where same unit has been delivered.
		ALL Items / Accessories must be supplied by the OEM to have single point contact to ensure functionality of furnace specifications.
		Assurance for availability of all spares for at least 10 years after procurement.
		All documents/catalogue to proof the claims and descriptions needs to be furnished with statement from OEM if the specs are not standard equipment as per the OEM datasheets/websites, without which the claims will not be acceptable.
16	Pre-Qualification criteria:	The OEM must have supplied at least 5 similar Temperature furnaces to premier Govt. of India organizations / Reputed Private Industries. Please attach contact details (Name, Phone, email address) of at least 3 in support of claim. Please attach National / International reference list of supplies.
		Copies (03) of Purchase Orders must be attached.
		Exclusive authorization certificate specific for this tender for representation & service Support without which bid will be rejected. This criteria is proof of accountable service support by OEM & local partner.

The following table must be provided with the validation of the specifications

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

Tender will not be accepted if the technical compliance chart is NOT provided following the above format. A proof of the all quoted technical specification also must be provided.

2. PRICE BID

The financial bid indicating (item-wise) the 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.

3. BID SECURITY Declaration:

An Account payee Demand Draft of any of the Commercial Banks for Rs. 17,000 (Rupees seventeen thousand only) drawn in favour of “Indian Association for the Cultivation of Science (State Bank of India, Jadavpur University Branch, A/C No. 11079699244, IFSC: SBIN000093, MICR Code: 700002048)” is to be furnished by the bidders along with Technical Bid, except Micro and Small

Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or are registered with the Central Purchase Organisation or the concerned Ministry or Department.

Alternatively, the bidder shall have the option to furnish EMD in the form of Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee from any of the Commercial Banks. The Bid-Security should have at least 90 (ninety) days validity period beyond the final bid validity period.

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 commercial bank of India or Bank Guarantee (BG) of any Commercial Bank preferably located at Kolkata of 3% 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 to foreign supplier will be made through irrevocable Letter of Credit in two instalments. 90% of the money will be released on submission of shipping of documents. Remaining 10% will be released after successful installation of the instrument. Payment to the Indian supplier will be paid in INR.

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 binding on the bidders.
14. In case of any litigation the matter will be dealt within the jurisdiction of the High Court of Calcutta only
15. For any clarification regarding technical specifications, information etc., please send your queries to **Dr. Saurav Giri** (sspsg2@gmail.com).
16. The authority of IACS reserves the right to reject any or all the tenders received without assigning any reason thereof.

Registrar

Note :

- 1) **WARRANTY:** Minimum 1 year while 3 years or more is preferred (as per requirement of the indenter)
- 2) **PRICE:** Price to be quoted on CIF Kolkata and FOB basis or as per the requirement of the indenter (this may be modified as per the requirement of the indenter)
- 3) **BID SECURITY:** Amount of bid security may be accepted in the range between two percent to five percent of the estimated value of the goods to be procured.
- 4) **TERMS OF PAYMENT:** As per nature of the transaction
- 5) **GENERAL INSTRUCTIONS:-**

Item No.- 5: Installation/Demonstration/Application training at site : This may be modified as per the requirement of the indenter/technical committee.

Item No. - 6: Service facility: This may be changed by the indenter as per requirement.