

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

700032 NIT No. : IACS/CSS/MM/108

Date: 30.12.2021

Sealed tender in two bid system (**Technical Bid & Financial bid**) is invited from bonafide, resourceful and eligible manufacturer/exclusive distributor/vendors for the purchase of “**High temperature two zone furnace (continuous working temperature $\geq 1350^{\circ}\text{C}$)**” with necessary accessories.

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.	NIT No(IACS/CSS/MM/108) Date: 30-12-2021
Last date and time of submitting tender	21.01.2022 (2.00 PM)
Pre-bid meeting (online mode) to discuss technical specification and detail presentation by the representative(s) of the interested companies on the technical specifications of their instrument and application with representative data acquired in their instrument elsewhere.	11.01.2022 @3.30 PM through online mode (Interested bidders need to send participation request by 10/01/2022 to sspmm4@iacs.res.in with cc to mintumondal.iacs@gmail.com ; Meeting link will be sent upon receiving the request)
Date and time of opening tender (Technical Bids)	21.01.2022, at 4.00 PM
Place of opening tender	IACS
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: sspmm4@iacs.res.in with cc to mintumondal.iacs@gmail.com Tel. +91 33 2473 4971 [Ext 2115] / Mob. 09073598833

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 super scribed as “TECHNICAL BID” on the outer cover of the envelope as already detailed above. It should be clearly mentioned on the envelope as “**High temperature two zone furnace (continuous working temperature $\geq 1350^{\circ}\text{C}$)**”

Technical Specifications for “High temperature two zone furnace (continuous working temperature $\geq 1350^{\circ}\text{C}$)”.

S. No	Description	Specification
1.	Furnace Type	Horizontal 2-Zone Tube Furnace
2.	Control zone	2
3.	Maximum Operation temperature	$\geq 1400^{\circ}\text{C}$
4.	Continuous Working temperature	$\geq 1350^{\circ}\text{C}$
5.	Gas Parching/ Vacuum /Both	Both without pumping system!
6.	Hot Zone size	ID-50, L1-300, L2-300
7.	Distance between two hot zone	150mm, Total length of hot zone: 750mm
8.	Control Zone	Double
9.	Construction in Steel with Anti Corrosion Coating	Dual body with stand fan cooling
10.	Work Tube	Replaceable
11.	Work Tube type	99.5% Alumina Tube, OD: 60mm, ID: 50mm, L: 1500mm
12.	Insulation	Non-Carcinogenic Fiber insulation which is light weight and heats the furnace with lowest energy consumption
13.	Tube/Flange support	Yes
14.	Skin temperature at 1400°C	$< 50^{\circ}$
15.	Number of cooling fans	2
16.	Number of air filters	1
17.	Number of insulation layers	3
18.	Heating Elements & Thermal couples:	16 pcs 1500°C grade Silicon carbide rod 2 pcs S type thermal couple built-in.
19.	Temperature uniformity	$\pm 2^{\circ}\text{C}$ throughout the length of the hot zone. There shall be thermal blocks at the ends of the system to provide better uniformity inside the heated tube.
20.	Temperature control system with auto tune function	Thyrister based using Programmable (PID) controller for long life and robust control.

		Programmable (PID) profile controller (ANTS PC 1100 equivalent to Eurotherm make). Two zones shall have two controllers and control system. Furnace can be cooled in controller manner if cooling rate is less than natural.
21.	Current Limit + Feedback	Yes
22.	Over temperature protection	Yes
23.	Thermocouple Failure display	Yes
24.	Provision of vacuum working in flange	Yes. Flanges shall be fitted KF25 adaptor. The flanges shall be fitted with a meter. We have pumping system with KF25 inlet of the pump. Provide suitable o rings in a flange for the vacuum components.
25.	Provision of gas flow control in flange	Yes. (Needle valve and rotameter for gas flow control)
26.	Control panel parts	The control panel shall house: A PID controller, with suitable thyristors for power control, relays and contactors. Over Temperature alarm. Suitable switches, ammeter, fuses, etc. Voltage Meters one at input and other at output to transformer.

NOTES / Pre-Qualification criteria:

A) Equipment offered must be a model from the current serial production range of the manufacturer. Customized or One off Manufactured Model will not be accepted. Offer should be supported with printed catalogue and depiction on company website.

B) The local vendor of OEM must have supplied at least 15 similar High Temperature Multizone Furnaces to research Institutes/Universities/other organizations in India and abroad. Please attach a reference list of supplies in last 3 year with contact details (Name, Phone, email address) of at least 7-10 users.

C) The company should be an original equipment manufacturer of the furnace with expertise of manufacturing over 5 years, please attach exclusive authorization certificate specific for this tender with quote without which bid will be rejected. This criteria is proof of accountable service supported by vendor & OEM.

D) The manufacturer must be an ISO9001 company & equipment Model must be with CE compliance.

Warranty: Minimum 1 years while 3 years extendable warranty is preferred. The warranty will be valid from the date of actual installation.

Proper installation and training should be provided by the vendor. Onsite after sales service, within 48 hours of reporting any problems, is mandatory. It is essential to have a technical person stationed in Kolkata.

Acompliance table(see below) must be prepared and submitted along with the technical bid.

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

2. PRICE BID:

The financial bid indicating (item-wise) 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 envelope 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 and also FOB basis.

3. BID SECURITY:

- a. An Account payee Demand Draft/Pay Order of any of the Nationalized Banks for Rs. 30,000/- (Rupees thirty thousand only) drawn in favour of “Indian Association for the Cultivation of Science (State Bank of India, Jadavpur University Branch, A/C No. 11079699211, IFSC: SBIN000093, MICR Code: 700002048)” is to be furnished by the bidders except those who are registered with the Central Purchase Organizations, **National Small Industries Corporation or the concerned Ministry or Department**, as Bid Security money or Earnest Money Deposit (EMD). Alternatively, the Bidder shall have the option to furnish the EMD in the format of Bank Guarantee (BG) of any Indian Nationalized Bank preferably located at Kolkata.
- b. The Demand Draft for the Bid-Security should have at least 90 (ninety) days validity period of opening of the bids.
- c. 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 nationalized bank of India of 10% 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 will be made through wire transfer. 100% of the money will be released on delivery and successful installation of the instrument.

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 as per 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 reason 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 products 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. For any clarification regarding technical specifications, information etc., please send your queries to Dr. Mintu Mondal (sspmm4@iacs.res.in with cc to mintumondal.iacs@gmail.com)
15. The authority of IACS reserves the right to reject any or all of the tenders received without assigning any reason thereof.

Acting Registrar