

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

NIT No. : IACS/CSS/SM/112

Date: 04.01.2022

Sealed tender in two bids system (separate Technical bid and Price bid) is invited from bonafide, resourceful and eligible manufacturer/exclusive distributor/vendors for the purchase of **Cryogen Free cryomagnetic system with DC resistivity and Hall effect Module** under the Central Scientific Services, IACS.

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 super scribed 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/CSS/SM/112
Last date and time of submitting tender	25/01/2022, within 3.00 PM
Pre-bid meeting(date, time & place) to discuss technical specification	13/01/2022, 5:15 PM (via google meet, https://meet.google.com/xzm-jvbx-dpn)
Date and time of opening tender (Technical Bids)	27/01/2022, 2.30 PM
Place of opening tender	Venue would be declared later
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	Prof.. Subham Majumdar Email: sspsm2@iacs.res.in Tel.+91 33 2473 4971 [Ext 1317]

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 envelop as already detailed above. It should be clearly mentioned on the envelope as "Technical Specification for Cryogen Free CFMS cryomagnetic system with DC resistivity and Hall effect Module”.

Technical Specifications for Cryogen Free Cryo-magnetic system with DC resistivity and Hall effect Module

The system should be cryogen free offering temperatures ranging from 2 K to 400 K and magnetic fields up to 5T. The whole system to be operated from single pulse tube cryocooler. System should be fully cryogen free i.e requiring no liquid Helium/ Nitrogen transfer for the initial cool down as well as the maintenance. Any helium gas flow into the sample chamber or to any parts within the system as well as low temperature operations must be handled in a fully automated way through electronic and computer controls.

Automated temperature controlled sample space

- Sample space to be provided with an integral heater and sensor and to allow any value from 2 K to 400 K.
- Sample space should be at least of 30mm internal diameter.
- Temperature Control within a stability of few mK.

Magnet

- Maximum magnetic field range : ± 5 Tesla
- Central field homogeneity: 0.01% over 10 mm diameter.
- Sweep rate : about 0.5 Tesla/min or more
- Magnet field sweep should not affect the temperature stability
- Magnet control modes : persistent and driven
- Magnet should be protected from quenching.

Cryocooler & Compressor

- Orientation : Vertical
- Maintenance Interval : 40,000 Hrs
- Compressor : Should be water-cooled and water cooling rate 7- 9L/min

Magnet Power supply

- Power supply should be high stable with four quadrant operation
- power supply should be quench protected in the event of magnet quench or power failure

Airlock & Gate Valve

System should be provided with Airlock & Gate Valve assembly allowing customer to insert the sample while the sample space is at 2 K (without requiring sample space to come to room temperature.).

Optimum security of sample is ensured with an airlock and gate valve assembly for the sample space.

DC Resistivity and Hall Effect Module

DC electrical transport: 4 Wire & 2-wire resistivity and simultaneous Hall effect measurements in samples with resistance in the range of 1 micro- Ω to 100 M Ω with measurement accuracy of 0.1%, Current-Voltage (IV) characteristics, Critical Current, Automated Van Der Pauw with automated switch changer, Hall effect.. The samples should have different numbers of sample connections and suitable for both thin film and bulk samples for different sample sizes. Suitable high-resolution nano-voltmeter or equivalent measuring instrument (voltage range from 10 nV to 100 V) and precision current source-meter (current range 10 nA to 1 A).

Software for Instrument Control and Automated Data Collection

The system should be fully automated and computer controlled. The vendor should supply personal computer, instrument control and data acquisition software.

General: The capability of the system performance including various measurement options has to be supported with documental proofs (published data, list of installation worldwide along with contact details of customers). Standard magnetic and low (1 micr- Ω) and high resistive (100 M Ω) samples should be provided for the calibration of the system. List of place within India and outside India along with performance report should be provided.

Warranty: 1 years while 2 years extendable warranty is preferred. The warranty will be valid from the date of actual successful 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.

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

Sr. No	Tender specification	Your instrument offered 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 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 and also FOB basis.

3. BID SECURITY:

- a. An Account payee Demand Draft/Pay Order of any of the Nationalized Banks for Rs. 2,50,000/- (Rupees TWO LAKH FIFTY 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).
- 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 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.

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. For any clarification regarding technical specifications, information etc., please send your queries to Prof. Subham Majumdar (sspsm2@iacs.res.in).
15. The authority of IACS reserves the right to reject any or all of the tenders received without assigning any reason thereof.

Acting Registrar