

**INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE  
2A & B, RAJA S.C. MALLICK ROAD  
Jadavpur, Kolkata-700032**

Tender No. BRNS/TKM/PSU/13/21 Date: April 25, 2013

**Research grade Microwave Synthesis System**

Sealed tenders in two bids system (Technical Bid & Financial Bid) are invited from bonafide, resourceful and eligible manufacturers/exclusive distributors for "**Research grade Microwave Synthesis System**". Manufacturers/exclusive distributors should have past history of supplying this type of facilities to other reputed organizations.

**Part – I (Technical Bid)** of the tender should contain technical details and commercial terms and conditions and **Part-II (Price Bid)** should indicate group-wise price as mentioned in the Technical Bid where applicable. The Technical Bid and Price bid are to be submitted in two separately sealed envelopes distinctly marked accordingly and both to be put inside another envelope, which should be sealed and super scribed with tender notice no. and due date. The bidders may submit bids duly signed in their own letterheads.

Complete tender bids should reach the office of the Polymer Science Unit, Indian Association for the Cultivation of Science, 2A & 2B Raja S.C. Mullick Road, Jadavpur, Kolkata-700032 on or before scheduled date & time specified below.

Tender Notice No.	BRNS/TKM/PSU/13/21 dated April 25, 2013
Last date and time of submitting tender	May 22, 2013 at 2.00 P.M.
Pre-bid meeting to discuss technical specification	May 10, 2013 at 4.00 P.M.
Date and time of opening tender	May 22, 2013 at 4.00 P.M.
Place of opening tender	S.N. Bose Hall, IACS, Kolkata
Contact	E-mail: psutkm@iacs.res.in Tel. 033-2473 4971 (ext. 1562)

The technical bids will be opened first to evaluate the technical specifications of the equipment thereafter, the Price bids of only technically qualified bidders will be opened.

**1. TECHNICAL BID:**

The Technical Bid should contain technical specifications and kept in a separate envelope duly super scribed as "**Technical Bid**" on the outer side of the envelope as detailed above.

**A) Technical specification for "Research grade Microwave Synthesis System"**

Microwave assisted organic synthesis system should be able to handle for synthesis reactions involving routine organic synthesis, organo-metallic, nano materials, bio-synthesis, fluorination chemistry, catalysts using palladium, non-polar solvents, etc.

The system should have the following specifications:

Instrument should be built with single mode cavity.

Reaction vials: Borosilicate glass Vials of different sizes should handle reaction volumes from 0.5 mL to 20 mL or higher. All vials should have identical heating profiles.

Vials made with corrosion resistant material, should take care for fluorination, metal catalysts, non-polar solvents and other corrosive chemicals. Sealing of vials should be easy and tool-less.

Maximum Operating Pressure: 30 bar or higher for all vessel types.

Maximum temperature: 300 °C or higher for all vessel types.

Power Output: Minimum 300 W or higher is preferable (please mention) with a high power field density with effective heating of commonly used non-polar solvents viz. as Toluene, hexane, etc. without the need to use any heating aids.

Temperature Measurement: Simultaneous internal & IR measurement in sealed vials.

Integrated Pressure Sensor to measure, display and document reaction pressure with pneumatic over pressure release.

Should have inbuilt magnetic stirrer device with maximum speed up to 1200 rpm or higher to support efficient stirring of high viscous reaction mixtures viz. polymer synthesis.

System should capable to heat organic solvent at very faster rate is preferable (Please mention)

Large inbuilt Touchscreen display with capability for online graphical display of reaction parameters like pressure, power and temperature and review of previous reaction runs without the need to use an external PC/ Laptop in the fume hood.

Direct printout to PDF files or export of data to excel via USB ports.

Should be upgradeable in future with auto sampler for automated reaction handling and camera.

**B)** All safety features tested and certified by internationally reputed testing Organization.

**C)** Certificates should be enclosed.

**User List:** The supplier should provide a list of current users (with contact no, Email address etc) for the quoted item in India.

**Service facility:** Supplier should mention their details of service setup, who are responsible for after sales support.

**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. The price bids of only technically qualified bidders will be opened and they will be intimated the date and time of opening at their email id-s. Rest of the bids will stand rejected.

**PRICE:** Price to be quoted both on FOB/CIF basis. Name of the particular port from where our authorized forwarder will lift the consignment must be mentioned clearly with FOB price.

**BID SECURITY:**

1. The financial bid should be super scribed as "PRICE BID' on the outer cover of the envelope
2. Bid Security (EMD): An Account Payee Demand Draft of Rs. 25,000/- in the name of "Indian Association for the Cultivation of Science" is to be furnished by the
3. The Demand Draft for the Bid-Security money should have at least 45(forty five) days validity period after the opening of the Bids.
4. In case of non-award of the work the Bid Security money would be returned to the unsuccessful Bidders.

**PERFORMANCE SECURITY:**

An Account Payee Demand Draft of 10% of the ordered 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 will be refunded to successful bidder on receipt of the Performance security money.

**GENERAL INSTRUCTIONS:**

1. Incomplete & conditional tenders and tenders received after due date will be summarily rejected without assigning any reasons thereof.
2. Tender Notice Number and tender for "**Research grade Microwave Synthesis System**" should clearly be written on the envelope.
3. 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](http://www.iacs.res.in/tender)) for any amendment.

4. Payment: 100% against delivery and successful installation subject to submission of performance guarantee.
5. Warranty: Minimum 2 years.
6. Installation/Demonstration/Application Training at site: Free of cost by the supplier.
7. Service facility: Supplier should mention their details of service setup and Manpower in Kolkata who are responsible for after sales support. Response time should be within 24 hours.
8. Validity of tender: Tender submitted must remain valid at least for three months from the date of opening of the tender. Validity beyond three months from the date of opening of the tender, shall be by mutual consent.
9. The tender should accompany a compliance chart.
10. The rate should be inclusive of all taxes, transportation etc. Nothing extra will be paid in addition to the quoted rate.
11. The model number, make, and a printed literature of the product shall be submitted positively.
12. Proposed delivery schedule should be mentioned clearly.
13. Manufacturers/exclusive distributors/vendors should have history of supplying this type of instrument to this or other Scientific Organization.
14. Authorized Dealership Certificate is must in case of principal manufacturing company is not quoting directly.
15. Guarantee certificate, users manuals etc. are to be handed over to the user after successful commissioning of the system.
16. In the event of date being declared a closed holiday for purchaser's office, the due date for submission of bids and opening of technical bids will be the following working day at the appointed time.
17. In case of any dispute, the decision of the Institute authority shall be final and binding on the bidders.
18. For any clarification regarding technical specifications etc. please send your queries to " Prof. T.K. Mandal" [psutkm@iacs.res.in](mailto:psutkm@iacs.res.in).
19. The Institute reserves the right to reject any or all of the tenders received without assigning any reason thereof.

**Registrar**