**CENTRE FOR NANO AND SOFT MATTER SCIENCES**

**Prof. U.R. Rao Road, Jalahalli, BENGALURU 560 013.**

*Autonomous Institution under the Dept. of Science & Technology, Govt. of India*

**REQUEST FOR QUOTATION**



CeNS/2017-18/SERB/CVY/F01 Date: 6th  April 2017

The Centre invites Quotation bid for the following item.

|  |  |  |  |
| --- | --- | --- | --- |
| SL No | ENQUIRY NO & DATE | Description of Item | Qty |
| 1) | CeNS/2017-18/SERB/CVY/F01  6/04/2017 | " **Research Grade Differential**  **Scanning Calorimeter (DSC) "**  Note: Detailed Specification in Annexure. | 1 No |

**NOTE:**

1. The sealed quotation bid containing **two separate sealed envelopes**, clearly marked as “Technical Specification and “Price Bid along with Compliance Statement should be submitted on or before 20th April 2017 by 5.00PM through Speed Post / Courier / Registered Post**.**

( b) The quotation may be addressed to the Director, Centre for Nano and Soft Matter Sciences PB No: 1329, Prof. U.R Rao Road, Jalahalli, Bangalore-560013. The same should be accompanied with and Earnest Money Deposit of Rs.50,000/- in the form of a Demand Draft of Nationalized bank drawn in favor of “The Director, Centre for Nano and Soft Matter Sciences”, payable at Bengaluru. The EMD will be refunded to unsuccessful bidders without any interest thereon.

1. The cost of Packing, Freight & Insurance (CIF Bangalore) should be indicated separately. A brochure giving technical details of the product should be enclosed.
2. Discount if any should be clearly mentioned.
3. Delivery schedule, warranty details must be clearly indicated.
4. Taxes & duties should be separately shown.
5. The quoted price should be valid for a minimum period of **3 months** from the date of issue.
6. **Terms of payment:**

**i) For Imported Equipment:**

1) 90% through Letter of Credit with usance period of 30 days on proof of dispatch of consignment. The balance 10% payment will be released after expiry of the applicable Warranty period or on submission of Performance Bank Guarantee for an equivalent amount (10% of the Invoice value), having validity up to three months from the date of expiry of the applicable Warranty period.

**OR**

2) 50% by wire transfer on proof of dispatch of consignment and balance 50% after delivery and installation of equipment. PBG equal to 10% of invoice value to be submitted before release of the final 50% payment.

**ii) For Indigenous Equipment:** the payment in INR shall be made through NEFT/RTGS after successful installation and against submission of performance Bank Guarantee equal to 10% value of the equipment, valid for the period of warranty. Complete details such as the bank account number/IFSC/SWIFT/Bank Address, etc. should be provided along with the price bid.

1. **Opening of bids**: The firm shall be at liberty to authorize a representative to be present at the opening of the tender at the time and date which will be informed by E-mail. A proper letter of authority be produced before the meeting.
2. Any firm representing the actual supplier should submit authorized dealership certificate in original from the principal company.
3. **Banking charges:** All banking charges applicable outside India will be on suppliers account.
4. **Guarantee and replacement:** The Supplier shall guarantee that the Items/Equipment supplied shall comply fully with the specifications laid down, for material workmanship and performance. The Guarantee should be as mentioned in the specification.
5. The Centre reserves the right to accept or reject any quotation or part thereof without assigning

any reasons.

1. Sealed envelopes containing the quotation should be superscribed with " Quotation for

CeNS/2017-18/SERB/CVY/F01 ”

1. Quotation received after the due date shall not be considered.
2. The Centre is exempt from paying Central Excise of Customs duty on purchase under the Govt. of India

Notification No. 11/280/1993-TU-V dated 29 April 2016.

Yours sincerely

Sd/-

Administrative Officer



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**ANNEXURE**

ENQUIRY NO : CeNS/2017-18/SERB/CVY/F01

**SPECIFICATIONS FOR RESEARCH GRADE DIFFERENTIAL SCANNING CALORIMETER (DSC) :-**

|  |  |  |
| --- | --- | --- |
| **Sl. No.** | **Descriptions** | |
| 1 | Dynamic range : | ± 350 mW or better |
| 2 | Accuracy : | < ±0.2% or better |
| 3 | Enthalpy Precision : | < ± 0.04% or better |
| 4 | Base line drift : | 50 microW or lower |
| 5 | Heating rate : | 0.02 to 50 ˚C/min or better |
| 6 | Cooling rate : | 0.02 to 50 ˚C/min or better |
| 7 | Data Points per seconds : | 30 or Higher |
| 8 | Temperature Performance : | (a) Range : Ambient temperature to 700 ˚C or better  (b) Accuracy : ±0.05 ˚C or better  (c) Precision : ±0.01 ˚C or better |
| 9 | Gas environment: | Variable gas environment |
| 10 | Flow-controller  for switch between the gases: | Dual & Digital |
| 11 | Sample loading: | Automated or semi-automated |
| 12 | Software: | 1. Instrument control  (a) Multi step programming for heating/cooling and temperature hold Real time observation of raw signals (b) Calibration  (c) Recalling and running pre-programmed methods or templates  (d) Saving different runs into one file  (e) Simultaneous acquisition and analysis in different windows  (f) Complete control software for temperature modulated DSC  2. Data Analysis  (a) Versatile baseline determination like straight line, stepped line, Spline/Bezier  (b) Calculations like onset, peak temperature, glass transition, peak area, compare, derivatives, subtraction  (c) Overlay of multiple profiles  (d) Kinetics (isothermal and dynamic) analysis  (e) Software to analyze the temperature modulation data to separate out reversible and non-reversible contributions  (f) Data export as text files / Excel files  (g) Specific Heat as per ASTM |
| 13 | Other requirements / conditions : | (a) PC Compatible to modulated temperature DSC software (Free of cost)  (b) Calibration materials and kits (Free of cost)  (c) 100 or more DSC Aluminium Pans and covers (Free of cost)  (d) Installation & demonstration (Free of cost); for details see below under the title General Requirement  (e) Warranty for one year (from the date of installation)  (f) Warehouse to Warehouse Insurance |
| 14 | Required (necessary) units / accessories for future up-gradation of the equipment | (a) Intra-cooler for the calorimetric measurement of the samples from -70°C to + 700°C  (b) UV- Photo calorimeter  (b) High pressure cell with at least 500PSI |

**Miscellaneous**

A. Provide the following information (if not applicable, please mention)

1. Furnace type

2. Furnace material

3. Details concerning the employed thermal sensor/s such as type, location and numbers

4. Details concerning the temperature modulation, time profile/wave type, amplitude and frequency range

5. Range of sample weight/capacity

6. The calibration protocol for the whole temperature range

**General requirements:**

1. The vendor must undertake to deliver and install the system at the shortest possible time after the placement of the purchase order and certify that every component supplied is brand new and not refurbished.
2. **Manuals / Circuit-Diagrams and Instruction Sheets:** All the manuals including circuit diagrams and instruction sheets (Entire DSC system, sub-ambient assemblies and others) must be supplied in English for the purpose of in house service engineer’s reference.
3. **Pre-Installation requirement:** Necessary pre-installation advice, room plan (dimension) , electrical requirements and other site essential details should be sent immediately after the placement of the order.

**Installation in India:** List of Indian users of the quoted model of the equipment along with their complete contact details and date of supply of the instrument.

**Installation, commissioning and application Training:** Free of cost *at-site* training over a minimum period of 10 working days for a group of scientists/technical staff/students covering all aspects connected with the operation of the instrument starting from the initial stages to complete structure determination/solution. The training should be in two phases, the first of which at the time of installation, and the more advanced second one after an initial period of the user gaining acquaintance and familiarity of the apparatus.

1. **Service facility in India:** The suppliers should clearly mention about their service facilities in India for prompt service support along with number of service engineers specially trained on the offered system. Down-time call attendance should be within 24 hours.
2. **UPS for the system:** The vendors should specify the required capacity of the UPS for the system including the main instrument, sub-ambient assemblies and computer.
3. The above system should work at 50Hz, 220 V single phase / 440V three phase, with preference for single phase operation.

**Notes:**

1. The supplier should undertake the responsibility of spares for the next ten years after installation/ discontinuation of the system/model.
2. A 'point by point compliance' statement should be provided along with the quotation.
3. If more than one model meets the technical requirements as above, they can be quoted.