



Center for Nanoscience and Technology

PONDICHERRY UNIVERSITY

R.V.Nagar, Kalapet, Puducherry- 605014

Tender Notification

Subject: Pondicherry University- Supply & Installation of following equipment under Department of Science and Technology – **DST - INSPIRE Faculty Project to Dr. K. Vijayarangamuthu** – Sealed Quotations called for – reg.

Sealed tenders (**Two bid systems**) are invited from reputed manufacturers / authorized dealers of reputed manufacturers for Supply & Installation of following equipment as per following specifications

Name of Equipment: **High Vacuum Horizontal Split Tubular Furnace**

Specifications for High Vacuum Horizontal Split Tubular Furnace for annealing, sulfurization, crystal growth and graphene growth.		
1.	Type of the furnace	Horizontal Vacuum Tube Furnace (Split type)
2.	Maximum operating temperature	1250 °C
3.	Continuous operating temperature	1200 °C with quartz tube
4.	Heating element	Kanthal A-1 and accessory
5.	Muffle Tube	Quartz tube (High quality)
7.	Hot Zone Size	300 mm
8.	Vacuum Compatibility	10 ⁻³ mbar with quartz tube
9.	Heating Uniformity	± 5 °C within 150 mm (or) better
10.	Thermocouple	S-Type
11.	PID controller	Yudian/Naberthem B410 / better (must be Imported) - Digital PID controller - with accuracy ± 1° C - Internal 0.1 ° resolution - Alarm system when power on, Off, higher and lower limit and deviation higher and lower - multiple programs and each with 30 steps minimum - auto tune function - Program entry in steps of 1 °C or 1 min - Built in protection for overheated and broken Thermal couple

		<ul style="list-style-type: none"> - Suitable for any type of thermocouple - Heating rate upto 10°C per min - Cooling rate controllable
12	Working tube	<ul style="list-style-type: none"> • Double quartz tube • Quartz (purity: 99.9%, maximum constant and continuous working temperature: 1200 °C)
13	Working tube dimension	Outer Quartz tube: ID 75 x OD 80 x 1200 L (mm) Inner Quartz tube : ID 50 x OD 55 x 1150 L (mm) (inner tube should be minimum 2 inch diameter)
14	Power input	220 Volts, Single phase
15	Control zone	Single
16	Flange for quartz tube (Side 1) (Water cooled stainless steel flanges with high vacuum compatible with Viton o-rings)	<ul style="list-style-type: none"> • Water cooled stainless steel flanges with high vacuum compatible with Viton o-rings • Provision for connecting two needle valves (Ar and N₂) • Provision for connecting a mass flow controller • Provision for either connecting extra thermocouple or electric feed through with 6 pins (vacuum compatible)
17	Flange for quartz tube (Side 2) (Water cooled stainless steel flanges with high vacuum compatible with Viton o-rings)	Water cooled Stainless steel flanges with vacuum compatible with Viton o-rings → Provision for connecting a rotary pump and vacuum gauge dial → venting valve → Necessary pipe should be provided for water circulations
18.	Needle valve	Quantity: 2
19.	Mass flow controller 0-200 sccm (optional)	Provision for connecting MFC should be provided
20.	Rotary vacuum pump (optional)	Valve and bellows to connect rotary pump should be provided
20.	Feed through	Quantity: 1; electric feed through with 6 pins (vacuum compatible)
21.	Gauges and valves	→ valve and bellows to connect rotary pump → Digital vacuum gauge (max ~ 10 ⁻³ torr)
22.	Skin temperature	< 50 °C @ 1200°C working temperature
23.	Control panel	Should be made at the bottom portion of the furnace for controlling gas flow(needle valves, MFC), PID control and also, a) MCB for protection b) SCR (Silicon Controlled Rectifier) c) Pilot lamp d) Ammeter e) ON/OFF switch f) water cooling indication
24.	Furnace body	MS Body, Powder coated for superior finish, Double layer steel body with fan cooling for low surface temperature and long life of refractory.
25.	Insulation	2 layer insulation

26.	High temperature glove	1 quantity
27.	Sample pulling rod and holder	1 quantity
28.	Stand	Strong support to hold quartz tube and flange on both sides.
30	Additional Pre Heating system (split type)	<ul style="list-style-type: none"> • Adjustable Pre heater unit: Temperature up to 500°C with good heat insulation. • Separate temperature PID controller unit and switches • MS Body, Powder coated for superior finish, • The preheater unit should be movable from one end to middle of the tube i.e., upto main furnace.

TERMS AND CONDITIONS

I. General Information:

1) Date and Time

- a. Last date and time of receipt of the Quotations: **June 8th, 2018, 3.00 PM**
- b. Date and Time of Opening of the Quotations: **June 8th, 2018, 3.30 PM**

2) Two bid systems have to be strictly followed. One for Technical bid and another for commercial bid and each bid should be submitted in separate sealed covers.

3) Quoting merely the lowest price does not confer any right to any bidder for award of supply order. The University's Purchase Committee, reserves the right to select the equipment any bid under the grounds of specification compliance, technologically advanced quality, proven performance track record, brand reputation, service backup support & training, offer of additional / special features, compatibility with the existing System, etc.

4) Tender Fee:

- a. Quotation / Tender Document fee: Rs. 500/-
- b. EMD rates: 2.5% of the quoted price for each equipment.
- c. **The Small Scale units are exempted from payment of EMD provided they enclose the proof of their exemption Certificate issued by the competent authority.**
- d. The tender document fee and EMD as specified above should be remitted by each firm / bidder, collectively for all their bids advertised under this tender.
- e. **The Tender Document Fee and EMD should be submitted in a separate cover superscripting "Bank Demand Draft" and which should be enclosed with the technical bid.**
- f. The Photo Copies of the Bank Instruments on payment of EMD should be attached with each bidding covers.

5) Submitting format:

- a. **Quotations will not be accepted through fax or e-mail.**

- b. The tender / quotation must be submitted along with the stipulated tender document fee and EMD in the sealed cover, super-scribing the name of the Department / Centre for whose equipment the tender is quoted for.
- c. The cover should also contain the information like, Name of the Equipment and Serial Number of Equipment for which the bids are submitted. The name and address of the bidder should also be mentioned at the “From address” space.
- d. The tenders should be addressed to the Principal Investigator, Pondicherry University.

Tender submitted under two bid system for the Centre For Nanoscience and Technology	
Name of the Equipment : _____	
From Supplier's Address	To, Dr. K. Vijayarangamuthu, DST – Inspire Faculty, Principal Investigator (DST-Inspire faculty project), Centre for Nanosciene and Technology, Pondicherry University, R.V. Nagar, Kalapet, Puducherry – 605014.

- e. In case of local delivery, all tenders are to be dropped in the tender box placed at the Information Facilitation Counter, Bharat Ratna Dr. B. R. Ambedkar Administrative Block, Pondicherry University, R.V. Nagar, Kalapet, Puducherry – 605 014.

II. Common Conditions (Import or Indigenous)

1) Purchase of Quotation Document:

The Quotation / Tender document can be downloaded from the University website **www.pondiuni.edu.in** or procured from the Pondicherry University on payment of fee as specified above, by means of a D.D, drawn in name of **The Finance Officer, Pondicherry University**, payable at **Puducherry**. The downloaded application should be accompanied with the quotation document fee, in the form of a Demand Draft.

2) Quoting Price

The rates should be quoted for a single unit and also for the total quantity required by the University. The price should include the delivery, installation, training charges, etc. at the

respective Department, Pondicherry University. The prices quoted shall remain firm until the equipment is supplied to the respective Department, Pondicherry University.

i) ***Quoting the Tax, Duties, Discount etc.***

The taxes / duties / discounts, if applicable, are to be explicitly and separately shown in the bid.

3) ***Eligibility:***

The firm must have the requisite domain expertise with regard to supply, installation and post-sale service of the items they are quoting. The firm should have been in existence for at least six years as on the date of this quotation and must have executed at least three orders for this kind of equipment during the last three years. Company should be ISO certified. The firm should have not incurred any loss in the last three years.

4) ***Installation:***

The engineer should install the equipment **free of cost** at the site. However, utilities like power, water, air, etc. will be provided.

5) ***Delivery:***

Within one month from the date of receipt of approved drawings.

6) ***Duty Exemption***

The University has been granted the benefit of exemption from the payment of the Central Excise Duty and Customs Duty by the Department of Scientific and Industrial Research (DSIR), India, vide their Notification No.10/97 dt. 01-03-1997 and 51/96 dated 23.07.96 respectively, in respect of

- a) Scientific and technical instruments, apparatus, equipment, Software including computers.
- b) Accessories and spare parts of goods specified in above and consumables.
- c) Computer software, compact disks, CD ROM, Recording magnetic tapes, microfilms, microchips etc.
- d) Prototypes.

Customs duties at Indian port, if any, will be to the account of the University.

7) ***Warranty and other conditions:***

- i) The equipment covered under the purchase order, when installed, shall be warranted for the quality, workmanship, trouble free operation and performance for a period of at **least 36 months** from the date of putting the system into operation at the Centre for Nanoscience and Technology, Pondicherry University, or at least 42 months from the date of receipt of the last lot of the consignment in India.
- ii) If any item covered under warranty fails, the same shall be replaced free of cost including all the applicable charges including shipping cost both ways.
- iii) Complete technical specifications to be included in the Technical bid.
- iv) The necessary service support should be provided by Bidder during the agreement period.

- v) The training should be provided by the supplying companies for a minimum period of two days from the date of installation with an expert team.
 - vi) Technical post sale support by email and telephone will be provided during the period.
 - vii) Operating Manual should be provided in English.
 - viii) A clear statement regarding availability of after-sales service and availability of spare-parts for next 5 to 10 years should be included.
 - ix) A recent customer list (within last five years) with contact details including email address is to be submitted with technical bids / bids as the case may be.
 - x) If the equipment is proprietary a product, a proprietary product certificate should be enclosed.
 - xi) The information pertaining to infrastructural, power and any other requirement for satisfactory installation and commissioning of the whole system must be provided by the bidder, at least 30 days in advance of the installation to be commenced if purchase order is issued.
 - xii) The equipment must operate at 230V/50 Hz single phase and / or equivalent three phase electrical power.**
 - xiii) If the bidder is an authorized representative in India, they are requested to inform their technical ability to take care of the problems in the system, if developed later within the warranty and outside the warranty period. The responsibility of the Indian agent must be clearly specified.
- 8) The bidder from abroad shall obtain, if required, export permission from the appropriate authorities in his country or the country of origin for items to be shipped to India in case of items to be imported. The University shall provide necessary information if required for this purpose.
- 9) **The validity of the each quotation should be at least for SIX MONTHS from closing date.**
- 10) The offers will not be considered if received after the bid closing date and time.
- 11) The offers received through telex / telefax / e-mail will not be accepted by the University under any circumstances.
- 12) The University shall not be responsible for any delay / loss or non-receipt of quotations by post /courier service.
- 13) No unsolicited correspondence shall be entertained after the submission of the offer.
- 14) If an order is placed with the firm, the purchase shall be governed by an agreement as per the University rules in force at the time.
- 15) **Additional terms and conditions will be incorporated in the purchase order, if needed, to safe guard the interests of the University.**
- 16) Quotation is not transferable.

17) In case of any dispute in respect of the quotation, all legal matters shall be instituted within the jurisdiction of the place where the purchaser ordinarily resides.

18) *Power to reject the offer:*

Pondicherry University reserves the right to accept / reject any offer in full or in part or accept any offer other than the lowest offer without assigning any reason thereof. Any offer containing incorrect and incomplete information shall be liable for rejection.

19) No Agency commission will be paid to any authorized agent in India.

20) *Liquidated damages:*

Timely supply of the ordered items, installation, commissioning (wherever is applicable) and training etc. is the essence of the contract. In case of failure to supply within the time specified in the Purchase order, a penalty / LD of 0.5% of the total value per week or a part thereof shall be levied subject to a maximum of 7.5% in respect of items which are not supplied. The decision of Pondicherry University shall be final in this regard.

21) Bidder(s) must be authorized business partners of Global / National service providers of the respective equipment.

22) The Bidders must enclose authorization letter from the respective global / national service providers of the above equipment particularly mentioning an undertaking that in case of default by the Bidder, they (Global Service Provider) shall take over all the responsibilities of the Bidder.

23) The Bidder should not be involved in any Bankruptcy filing for protection from it.

24) **The training should be provided by the supplying companies on the specimen and operation of the equipment for a minimum period of two weeks from the date of installation with an expert team.**

III. Specific Conditions for Imported Equipments

1) *Payment of EMD:*

The Quotation must be accompanied by EMD as stated above, by means of a Demand Draft, drawn in favour of *The Finance Officer, Pondicherry University, payable at Puducherry.*

2) *Payments terms:*

- a. Normally a letter of Credit will be opened for 90% of CIP price, on receipt of order acknowledgement. However, 100% of the LC also be considered, if the supplier provide Bank Guarantee towards performance Security for the 10 % of the total cost of the equipment to cover the Warranty Period.
- b. Bank charges in India shall be borne by the purchaser and outside India shall be borne by the contractor / supplier.
- c. The offer must be in English. The rates should be indicated both in figures and words against item specified in the given table. It is preferable that the price be quoted in Rupees or in US Dollars or in major foreign currencies.

- d. The total cost should be quoted for FOB as well as CIF – Pondicherry University.
- e. However, the price quoted under FOB or should also include the following cost if they are required during the initial stage:
 - i. Local freight / insurance for Chennai airport to University laboratory.
 - ii. Installation cost if any.
 - iii. Cost of consumables which are required for the equipment for initial operation upto a reasonable time.
- f. In case of the Principal supplier of foreign country unable to meet the conditions, the local agent / dealer should fulfil the above said conditions in respect of Local Insurance, Freight, safety transport and installation, etc.
- g. The bidder from within India shall obtain the requisite approval for Imports etc., if required.

For any clarification with respect to technical specifications, please contact the PI of the project as per the details given below:

Name of the Centre	Name of the PI	Contact Details
Centre for Nanoscience and Technology	Dr. K.Vijayarangamuthu DST-Inspire Faculty & PI	+91 94-8994-2024 vijayaemlab@gmail.com
