



# **PONDICHERRY UNIVERSITY**

## **Tender document for supply of Equipment**

**Item no.1: High Temperature Tubular  
Furnace**

**Item no.2: Platinum Crucibles**

**Under DST-SERB Project  
EMR/2017/000320  
Department of Physics  
Pondicherry University**

### **NOTE**

For further details and submitting bid please  
see CPP portal

<https://eprocure.gov.in/epublish/app>

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**TERMS AND CONDITIONS (UNDER TWO BID SYSTEM)**

**I. Instructions to the Bidder: -**

**1. Purchase of Tender Document**

The Tender document can be downloaded from the website  
<https://eprocure.gov.in/eprocure/app>

**2. Tender Document fee and EMD to be submitted**

S.No	Equipment	Tender Document fee ₹	E.M.D ₹
1.	High Temperature Tubular Furnace	2,500/-	12,500/-
2.	Platinum Crucible		

**3. Last Date & Time for submission of Tender Documents**

**19.09.2019 at 2.00 p.m and it will be opened on 20.09.2019 at 3.00 p.m**

**4. Submission of tender Document**

Tender (**technical bid and price bid separately**) must be submitted through CPP Portal addressed to “Prof. V V Ravi Kanth Kumar, Principal Investigator, Department of Physics, Pondicherry University, R.V Nagar, Kalapet, Puducherry-605 014, India” positively before the scheduled time.

**5. Payment of EMD & Tender Document fee:**

The Tender must be accompanied with EMD (refundable) and Tender document fee (non-refundable), as stated above, by means of a separate Demand Drafts, in favour of the Finance Officer, Pondicherry University, payable at Puducherry.

**6. Quoting the Core price & Tax, Duties, Discount etc.**

The taxes / duties / discounts, if applicable, are to be explicitly and separately shown in the bid and under no circumstances these components shall be added to the basic price and shown as single price. All the components of taxes, if applicable, should be shown explicitly and separately.

**7. Electrical Power**

All equipment must operate at 230V/50 Hz single phase and / or equivalent three phase electrical power.

**8. The validity of the Quotation**

The validity of the quotation should be for at least 365 days from the opening date of the tender.

**9. Late Bids**

The offers will not be considered if received after the bid closing date and time.

**10. Invalid quotes**

The offers received through telex / tele-fax / e-mail will not be accepted by the University under any circumstances.

**11. No unsolicited correspondence**

No unsolicited correspondence shall be entertained after the submission of the offer.

**12. Purchase Agreement**

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.

**13. Additions in terms and conditions**

Additional terms and conditions will be incorporated in the purchase order, if needed, to safeguard the interests of the University.

**14. Non-transferable**

Tender is not transferable.

**15. Power to reject the offer**

Any offer containing incorrect and incomplete information shall be liable for rejection.

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. *However, deficiencies on any one or, more of the following crucial criteria will be a material factor, for consideration other than the Lowest Quotation: -*

- a) *Total Number of installations of the similar Equipment in the premier Research Institutes in India.*
- b) *Valuable feedback from the present users about the performance, service support, accuracy of result, etc.*
- c) *Any other techno commercial information which is deemed fit to be important in the opinion of the University.*

**II. Price Schedule**

- 16.** The bidder who is capable of supplying the entire solutions for the instrument quoted as per the list of ITEMS mentioned in the schedule, is alone need to submit their quotation.

17. The rates should be quoted for a single unit.
18. The price should include the delivery and installation at the Department of Physics, Pondicherry University, Puducherry and training charges (if any).
19. In price bid no other documents like technical manuals, number of installations, Customer list etc. must be there. All such documents must be enclosed in the technical bid.

**III. Eligibility:**

20. The firm must have the requisite domain expertise with regard to supply, installation and post-sale service of the items they are quoting.
21. The firm should have been in existence for at least **six years** as on the date of this document and must have sufficient number of installations at least three orders of the similar equipment in the premiere Research/academic institutes in India.
22. The feedbacks from the present users of the similar equipment about the performance, service support, accuracy of result, etc. are to be submitted along with the Tender Document.
23. Any other techno commercial information, pertaining to this particular Equipment, principal suppliers, technical background and capability, local agents' background on Scientific Equipment Business, etc. may also be appended along with testimonials and documentary proof.

**IV. Conditions of Contract: -**

24. The offer must be in English. The rates should be indicated both in figures and words against item specified in the given Annexure. The price should be quoted in Indian Rupees.
25. The prices quoted shall remain firm until equipment is supplied to the Department of Physics, Pondicherry University, Puducherry.
26. 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 dt. 23.07.96 respectively.

**In respect of**

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

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

27. Infra-structural, power and any other requirement for satisfactory installation and commissioning of the whole system must be provided, at least 120 days in advance of the installation to be commenced. All drawing for electrical connections, electrical safety items piping work etc. must be provided in detail.
28. Complete technical specifications and literature, including process flow, to be included with the quotation. Manufacturers of various major parts/equipment must be mentioned explicitly.
29. A clear statement regarding availability of after-sales service and availability of spare- parts for next 10 years should be included.
30. Please give a recent customer list (within last five years) with contact details including email address.
31. The tenderer should have the technical ability to take care of the problems in the system, if developed later within the warranty and outside the warranty period and ability of the tenderer has to be provided clearly.
32. **Warranty:** The material 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 installation and the system into operation** at the Pondicherry University, or at least 42 months from the date of receipt of the last lot of the consignment. (A signed Bidder's Warranty as per Annexure – I has to be submitted along with the Bid Document)  
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.
33. **Payments terms:**  
The bills in triplicate along with account details and advance stamped receipt immediately after the execution of the supply order in full or in part for arranging payment. All the expenses incurred for the supply to F.O.R destination shall be borne by the supplier. Prices should be inclusive of all charges towards packing, freight, transit etc.
34. **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.
35. The training should be provided by the firm on the specimen and operation of the equipments for a minimum period of three weeks from the date of installation with an expert team for two persons.

For any clarification with respect to technical specifications, please contact  
Prof. V V Ravi Kanth Kumar, Principal Investigator,  
Department of Physics,

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Department of Physics, Pondicherry University

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Pondicherry University, Puducherry.

Email: ravi.phy@pondiuni.edu.in

vv\_ravikanth@yahoo.com

Tel: +91-413-2654406

Cel : +91 9487436539

For CPP Portal clarification :

eProcurement Cell, Chief Secretariat,

Puducherry-605 001

Tel : 0413-2233262 / 2220225

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**Checklist is to be submitted along with the Technical bid**

		To be submitted by the firm	To be verified by the Pondicherry University
1	Name of the firm and address		
2	Two sealed covers (Technical bid / Commercial bid)		
3	Earnest Money Deposit (EMD)	Name of the bank:	
		Amount:	
		Date:	
4	Tender Document Fee	Name of the bank:	
		Amount:	
		Date:	
5	GST Registration Copy		
6	Income Tax Returns details for the last three years.		
7	Letter of Authorization from the Original Equipment Manufacturer (OEM) Distributor		
8	Tenderer should be in the business of similar products atleast for 6 years as on the date of submission of the bid. Proof to be submitted		
9	A list of customers with contact details to whom supply were made during last 3 years may be furnished		
10	Name of the service engineer to be deployed and his Contact No.	1. Name & Cell No.	

**Signature of the authorized person of the firm**

**Committee Members:**



## II. Descriptions & Technical Specifications of Instruments required

### Item 1: High Temperature Tubular Furnace

#### Technical Specification for High Temperature Tubular Furnace

S. No	Details	Description
<b>I</b>	<b>Tubular Furnace</b>	
1.	Type of the furnace	Horizontal Vacuum Tubular Furnace
2.	Maximum operating temperature	1400 °C
3.	Continuous operating temperature	1400° C with alumina tube
4.	Heating element	SiC solid heaters- Kanthal make
5.	Muffle tube	Alumina tube (Minimum 99.5% or greater purity)
6.	Muffle dimension	60 mm x 70 mm x 900 mm
7.	Dimensions of Hot zone	200 mm
8.	Vacuum Compatibility	1x10 <sup>-5</sup> m.bar
9.	Heating Uniformity	± 5 deg. C. within 150 mm (or) better
10.	Thermocouple	S-Type
11.	Type of temperature control	<ul style="list-style-type: none"> <li>Ⓞ Digital PID controller</li> <li>Ⓞ Accuracy ± 1° C</li> <li>Ⓞ <b>Internal 0.1° resolution</b></li> <li>Ⓞ <b>Alarm system higher and lower limit and deviation high and lower</b></li> <li>Ⓞ <b>Multiple programs and each with steps minimum</b></li> <li>Ⓞ <b>Auto tune function</b></li> <li>Ⓞ <b>Program entry in steps of 1°C or 1 min</b></li> <li>Ⓞ <b>Built in protection for overheated and broken thermocouple</b></li> <li>Ⓞ <b>Suitable for any type of thermocouple</b></li> <li>Ⓞ <b>Heating rate up to 10 °C per minute</b></li> <li>Ⓞ <b>Cooling rate controllable</b></li> </ul>
12.	Instrument outer dimension	600 mm x 450 mm x 600 mm
13.	Power input	220 Volts, Single phase
14.	Control zone	single
15.	Flange for Alumina tube	Watercooled Stainless steel flanges with high vacuum compatible with Viton O-rings. → Provision for connecting a rotary pump and providing gas inlet/outlet → Refractory tube block for temperature protection
16.	Gas Flow controller	Needle valve, 2 numbers Rotometer, 2 numbers, 0-1 L flow range, USA/Europe make

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17.	Pump and gauges	→Vacuum pump (rotary) with 100 lts/min. capacity (Should be compatible to evacuate hot gas from furnace) ☉ Valve and bellows to connect rotary pump → Digital Pirani gauge which measures up to $1 \times 10^{-3}$ mbar with digital meter
18.	Skin temperature	< 60° C @ 1400°C
19.	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) Current meter d) Mains and output indicator e) ON/OFF switch f) water cooling indication
20.	Furnace body	Powder coated dual structure rust free mild steel body with fan cooling for low surface temperature and long life of refractory.
21.	Insulation	2 layer insulation
22.	High temperature glove	1 quantity
23.	Sample pulling rod	1 quantity
24.	Stand	To hold alumina tube on both sides.
<b>II Optional accessory items</b>		
1.	Diffusion vacuum pump	1. Displacement capacity 300 ltrs/sec 2. Power supply 230 V, 50 Hz, 1 Phase
2.	Alumina tube	1. 99.5% or greater purity 2. 60 mm x 70 mm x 900 mm
3.	Quartz tube	1. 99.5% or high purity 2. 60 mm x 70 mm x 900 mm
4.	Mass flow controller	Flow range 0-200 sccm from reputed company including power supply and mixing chamber calibrated with different gases.

## Item 2: Platinum Crucibles

### Technical Specifications for Platinum Crucibles:

S. No	Parameters	Specific requirements
1.	Capacity	25 cc
2.	Purity	99.9%
3.	Rim	Without rim
4.	Lid	Without lid
5.	Minimum wall thickness	0.5 mm
6.	Minimum Diameter	35 mm
7.	Weight	25 g or less

**ANNEXURE - I**

**BIDDER'S WARRANTY**

The Registrar, Pondicherry University, Puducherry invited Bid Document for Supply of Sophisticated Instruments at Department of Physics, Pondicherry University and M/s.

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thereinafter referred to as "The Bidder" having carefully studied all the bid documents, Specifications, etc. accompanying the tender for supply of the \_\_\_\_\_ (Name of the Instrument) and desirous to submit the bids as per the Tender Document advertised vide Notification -Tender No..... dated.....

**DO HEREBY WARRANTY THAT**

1. The bidder is familiar with all the requirements of the bid documents.
2. The bidder has investigated the site and satisfied, he regarding the character and scope of the work and local conditions that may affect the supply or its Performance.
2. The bidder is satisfied that the supply can be performed and completed as required in the contract.
4. The bidder accepts all risk directly or indirectly connected with the performance of the contract.
5. The bidder has had no collusion with other contractors, with any of the men of Pondicherry University, Puducherry, or with any other person in preparation of the bid.
6. The bidder has not been influenced by any statement or promise of the Officials of Pondicherry University, Puducherry but only by the bid documents.
7. The bidder is financially solvent.
8. The bidder is experienced and competent to perform the contract to the satisfaction of the Co-ordinator, Central Instrumentation Facility, Pondicherry University, Puducherry.
9. The statements submitted with the bid are true.
10. The contractor is familiar with all general and special laws, acts, ordinances, rules and regulations of the Municipal, District, State and Central Government that may affect the work, its performance or personnel employed therein.
11. All the terms & conditions of the Supply Order will bind the bidder once his quote is accepted and supply order issued.

**Signature of the Bidder**

**ANNEXURE - II**

**BANK GUARANTEE**

Pondicherry University

Bharat Ratana Dr. B R Ambedkar Administrative Building  
R Venkataraman Nagar  
Puducherry 605 014

This guarantee made on this \_\_\_\_\_ day of \_\_\_\_\_ 201\_ by \_\_\_\_\_ Bank having its Registered Office at \_\_\_\_\_ and \_\_\_\_\_ one of its branches at \_\_\_\_\_ (hereinafter referred to as “the Guarantor” which expression shall, unless it be repugnant to the subject, meaning or context thereof, be deemed to mean and include its successors and assigns) in favour of the Pondicherry University, Puducherry 605 014 represented by its Registrar, having his office at R. Venkataraman Nagar, Kalapet hereinafter referred to as the “University” which expression shall include his successors in office for an amount not exceeding Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) at the request of M/s. \_\_\_\_\_ (more fully described hereunder)

2. Whereas the University has placed work Order No: PU/ \_\_\_\_\_ dated \_\_\_\_\_ for \_\_\_\_\_ with M/s. \_\_\_\_\_ having its office at \_\_\_\_\_ and hereinafter referred to as the “Contractor” which expression shall include their successors and assigns.

3. And whereas the Contractor has accepted and agreed to execute the work as per the work order as per undertaking / agreement dated \_\_\_\_\_ within the time stipulated and in the manner specified therein.

4. And whereas the University has called upon the Contractor to furnish Bank Guarantee for the sum of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) for fulfilment of the said work as specified in the work order and as agreed to by the Contractor.

5. And whereas the Contractor has requested the Guarantor herein to furnish an irrevocable and unconditional Bank Guarantee in favour of the University for an amount of Rs. \_\_\_\_\_ as guarantee towards execution of the work as agreed to by the contractor to the University.

6. Now, therefore, we \_\_\_\_\_ Bank, the Guarantor herein, do hereby irrevocably and unconditionally Guarantee the payment to the University the sum not exceeding Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) in the event of any breach, failure, neglect or inability on the part of the Contractor in the execution of the said work, on demand without reference of the matter to the Contractor and without any prior consent of the Contractor, at all times throughout the period of execution of the work, without demur, cavil or argument or delay.

7. The Guarantor agrees and undertakes that the decision of the University as to whether the contractor has committed any breach of the obligation with respect to the work to be

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executed, and the quantum of amount therefore payable by the Contactor to the University in that regard, shall be final, binding and conclusive as against the Guarantor and the Guarantor shall make payment accordingly, on demand by the University.

8. The Guarantor further agrees and undertakes to pay to the University the amount demanded by the University irrespective of and notwithstanding any dispute raised by the Contractor in any suit or proceeding before any judicial forum relating to the Contracted work and the Guarantor's liability under this Guarantee shall be absolute and unequivocal.

9. This Guarantee is issued subject to the condition that the liability of this Guarantor under this guarantee is limited to the maximum of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) and the guarantee shall remain in full force up to \_\_\_\_\_ and cannot be invoked otherwise than by a written demand or claim by the University for the payment of the said amount by the Guarantor on or before \_\_\_\_\_ or any extended date as decided by the University.

10. This University shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the contracted work or to extend time for performance of the work by the Contractor. Any change to the contracted work shall not in any way release the Bank (Guarantor) from liability under this Guarantee and we waive notice of any such change. The University shall have full liberty to forbear or enforce any of the terms and conditions of the contracted work.

11. This Guarantee shall not be affected by any legal limitation, disability or other circumstances relating to the Contractor or the Guarantor.

12. This Guarantee shall be valid for the period upto \_\_\_\_\_ and shall extend further and beyond \_\_\_\_\_ for such period as determined by the University.

13. The Guarantor undertakes not to revoke this guarantee except with the previous consent of the University in writing.

14. Notwithstanding anything contained herein:

- Our liability under this guarantee shall be limited to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only)
- This guarantee shall be valid upto \_\_\_\_\_ and for such further period as determined by the University for fulfilment of the contract.
- We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before \_\_\_\_\_ or such extended period / date.

In witness whereof, this Guarantee has been executed by \_\_\_\_\_ for an on behalf of the Bank (Guarantor) on the day, month and year first above written.

**SIGNATURE AND SEAL**

**NAME OF THE BANK (GUARANTOR):**

**ADDRESS:**