



INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH  
THIRUVANANTHAPURAM (IISERTVM)  
(Govt. of India, Ministry of H.R.D)

PH: 0471-2597454  
FAX:0471-2597427  
EMAIL: PURCHASESTORES@IISERTVM.AC.IN

CET CAMPUS, KULATHUR, ENGINEERING COLLEGE.P.O  
THIRUVANANTHAPURAM 695016,  
KERALA, INDIA.

Date: 18<sup>th</sup> September 2017

**INVITATION TO TENDER**

No: IISER/PUR/0598/VK/SP/17-18

Due Date: 03<sup>rd</sup> October 2017 [4PM]

Date of Opening: 04<sup>th</sup> October 2017 [3PM]

Dear Sirs,

**SUB: Three zone split tube furnace with rotary vacuum system.**

We invite Sealed Tenders for the following items:

Sl.No	Description	Qty
1	Three zone split tube furnace with rotary vacuum system Specifications as per Annexure I	1

Please quote your lowest rate and shortest delivery period as per the following terms. Your offer in sealed cover **SUPERSCRIBING TENDER NUMBER AND DUE DATE** shall reach us on or before the due date and time.

- EMD** : Rs.16,000/- should be paid through State Bank Collect- Tender No & Company Name must be mentioned in the Remarks column. Quotes should accompany a copy of Transaction slip /Print out **OR** Bank guarantee equivalent to the EMD value with validity 90 days **OR** Bidders should submit an undertaking in their letter head as per clause 12 of Instructions to Tenders (Imports).
- Payment** : Within 30 days after supply and installation/Net 30 days /LC. **No advance payment will be made by IISERTVM.**
- Delivery** : To be delivered at our **stores** (Free delivery). If import, mention Ex-works/FCA/CIP terms with clear breakup charges.
- Taxes & Duties** : Indicate taxes and duties. We are exempted for customs duty under 51/96 notification and Excise duty under 10/97 notifications.
- Discount** : Indicate, if any.
- Delivery Schedule** : Required Immediately. Indicate your schedule
- Validity of quote** : 60 days

Thanking You,

**Please see the rear side for other Terms & Conditions**

**Please visit the following websites for more information**

[www.iisertvm.ac.in](http://www.iisertvm.ac.in)

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

Yours Faithfully

Deputy Registrar (I/C)  
Purchase & Stores

**P.S. CATALOGUE/LEAFLET FEATURING ALL TECHNICAL SPECS/INFORMATION OF THE PRODUCT QUOTED SHALL ACCOMPANY THE OFFER. OUR PREVIOUS TENDER OF EVEN NO. DATED 08.08.2017 STANDS CANCELLED AND THIS IS A RETENDER WITH SAME SPECIFICATIONS**

# IISER-TVM

## INSTRUCTION TO TENDERERS [IMPORTS]:

- PRICE:** The price quoted shall be firm. The terms of FOB/EXW/FCA/CIF/CIP etc shall be clearly mentioned.
- AGENT & AGENCY COMMISSION:** In case Tenderer is represented by any agent in India, their name and address shall be furnished. The amount of commission included in the price shall be clearly shown in the offer; which will be paid directly to the Indian Agents by purchaser in equivalent Indian Rupees. In case Indian agents existing and their agency commission is not shown in the Tender, reasons for the same shall be clearly mentioned in Tender. Details of Indian agent's statutory registration shall be stated. If Agency Commission is paid by Principals in foreign currency, the reasons for the same and exemption from Enforcement Directorate in India shall also be provided.
- LEAFLET/CATALOGUE:** Tenderer should furnish all necessary leaflet/catalogue etc., of the stores offered by him to enable the Purchaser to evaluate his offer correctly.
- MODE OF DESPATCH:** Tenderer shall indicate the mode of dispatch (i.e., Sea/Air-freight/Parcel Post, etc.) depending upon the normal mode of dispatch adopted by him for the type of stores offered for consideration of the Purchaser.
- COUNTRY OF ORIGIN:** Tenderer shall indicate in his offer the country of origin of goods offered and the name and address of the manufacture.
- INSURANCE:** If insurance of the goods is felt necessary, the same shall be advised by the Tenderer in the offer.
- DELIVERY/SHIPMENT:** The time for and date of delivery quoted shall be reasonable/realistic and shall strictly be adhered to in case of placing order on the Tenderer.
- MODE AND TERMS OF PAYMENT:** Payment in full (excluding the amount of Agency Commission included in the price payable directly by the Purchaser to the Indian Agents in Indian Rupees) will be made immediately on presentation of the prescribed documents against SIGHT DRAFT or LETTER OF CREDIT or WIRE TRANSFER against shipping documents. **OURS BEING A GOVT OF INDIA EDUCATIONAL INSTITUTE WE ARE UNABLE TO MAKE ANY ADVANCE PAYMENT**
- WARRANTY:** Period of warranty and conditions shall be clearly mentioned in the Tender.
- GENERAL:** The Tenderer shall also be complied with the following:
  - Mention your Banker's name and address.
  - Show approximate net and gross weight and dimensions of packages/ cases. If dimensional details are available the same should also be indicated in your offer.
  - Furnish list of recommended spares for satisfactory operation for a minimum period of one year if the quote is for Plant & Machinery, Equipments etc.
  - Details of any technical service, if required for erection assembly, commissioning and demonstration.
  - Conform that the prices quoted are inclusive of all taxes, levies, duties arising in the tenderer's country.
  - Samples, if called for, will be sent free of all charges.
  - Late tenders and Delayed will not be considered.
  - Offers made by Indian Agents on behalf of their Principals, should be supported by the Proforma Invoice of their Principals.
  - The authority of person signing the tender, if called for, shall be produced.
  - The purchaser reserves the right to accept or reject the lowest or any other offer in whole or in part without assessing any reason.
- Tender Opening:** All tenders will be opened at **Pratheeksha Building**. Authorized representatives with **authorization letters** of the bidders may attend the Tender Opening.
- As per GFR 2017 clause 170 (III) Bidders who fail to pay the Earnest money deposit has to mandatorily sign a bid securing undertaking that if the bidder withdraw or modify the Bids during the period of validity, or if the bidder is awarded with the contract and they fail to sign the contract, or to submit a Performance security before the deadline defined in the request for bids document, they will be suspended for the period of time decided by the institute.**

## INSTRUCTION TO TENDERERS [INDIGENOUS]

- Tenders should be sent in sealed envelopes superscribing the relevant tender no. and the due date of opening. Only one tender should be sent in each envelope.
- Sales Tax and /or other duties/levies where legally levies and intended to be claimed should be distinctly shown separately in the tender.
- Your quotation should be valid for a minimum period of 90 days from the date of opening of the Tender. Quotation with firm prices will be preferred.
  - Prices are required to be quoted according to the units indicated in the Invitation to Tender. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.
- (a) Preference will be given to those tenders offering supplies from ready stocks. The basis of delivery is at IISER site free of cost.**  
**(b) Our payment terms are within 30 days of receipt and acceptance of the item at our site.**
- All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.  
**Specifications:** Stores offered should strictly conform to our specifications. Deviations, if any should be clearly indicated by the tenderer in their quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary along with the quotations. Test Certificates wherever necessary should be forwarded along with supplies. Whenever specifically mentioned by us the tenderer could suggest changes to specifications with appropriate reasons for the same.
- IISER shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portion of the quantity offered and the tenderers shall supply the same at the rates quoted.
- Corrections, if any, in the Quotation must be attested. All amounts shall be indicated both in words as well as in figures. Where there is difference between amounts quoted in words and figures, amount quoted in words shall prevail. Quotation must have price for each line item and totaling of the price including taxes and duties should be clearly mentioned.
- The tenderer should mention the name of his bankers, Sales Tax Registration, PAN number etc in the tender.
- The authority of the person signing the tender, if called for, should be produced.
- IISER being a Govt of India Educational and Research Institute, is exempted from payment of Excise Duty under Notification No. 10/97 and Customs Duty under Notification No. 51/96- Customs dated 23<sup>rd</sup> July 2009. Also, we can issue Form 16 as per VAT Rules.
- The stores supplied should be covered with minimum of 1 year warranty from the date of supply, installation and commissioning.
- Earnest Money Deposit/ Bid Security should be submitted alongwith your quote as mentioned in Invitation for Tender. EMD should be in favour of Indian Institute of Science Education and Research Thiruvananthapuram valid for 90 days.



## Annexure - I

### Horizontal split type three zone tube furnace specifications.

1.	Furnace Design	<ul style="list-style-type: none"> <li>• Horizontal design</li> <li>• three equal zones of (300 mm each)</li> <li>• split tube furnace</li> <li>• using free radiating ceramic (SiC) heating elements embedded within the insulation of the furnace body.</li> <li>• Furnace body should be hinged and split into two halves along its length</li> </ul>
2	Temperature & Number of zones	Maximum temperature: 1500 °C and continuous 1450 °C (for all the zones)
3	Heating element	<ul style="list-style-type: none"> <li>• Alpha Recrystallized rods of SiC 1450 °C for long duration.</li> <li>• Matched elements are connected in series parallel arrangement to ensure maximum life of elements</li> <li>• Specify the dimensions and details of heating element.</li> </ul>
4	Construction	<ul style="list-style-type: none"> <li>• Powder coated MS outer for superior finish and inner body fabricated from 16'' and 14'' CRC sheet,</li> <li>• Double layer steel body with outer fan cooling</li> <li>• Designed for low surface temperature and long life of refractory.</li> <li>• Tube support and external flange support</li> </ul>
5	Insulation type	<ul style="list-style-type: none"> <li>• All vacuum formed latest technology fiber board insulation</li> <li>• light weight and heats the furnace with lowest energy consumption</li> <li>• Total thickness of insulation is minimum at least 125 mm on side and at least 150 mm on ends.</li> <li>• Three insulation layers having temperature rating 1700, 1425 and 1260</li> <li>• Hot face insulation temperature rating 1700 °C</li> </ul>
6	Outer dimensions	Maximum 1275 x 480 x 775 mm (L X W X H)
7	Skin temperature at 1350 °C	Maximum 50 °C
8	Number of colling fans	three
9	Number of air filters	one
10	Work tube package	<ul style="list-style-type: none"> <li>• 99% Alumina work tube for vacuum atmospheres</li> <li>• Good chemical and thermal resistant</li> <li>• Dimensions: Ø 72 OD, Ø 62 ID &amp; 1475 mm length.</li> </ul>
11	Vacuum atmosphere and flanges	<ul style="list-style-type: none"> <li>• Vacuum atmosphere suitable for work tube operation with SS flange having double viton o-rings</li> <li>• Two numbers of viton o-ring in a flange</li> <li>• Provision for gas flow control in flange (minimum two gas inlets with valves)</li> <li>• Provision for vacuum working and Port for vacuum gauge connection</li> <li>• Vacuum pressure to at least 10<sup>-2</sup> mbar with rotary vane vacuum pump (to be supplied) and also compatible with 10<sup>-5</sup> mbar with a turbo pump (not included).</li> </ul>
12	Radiation shields for low and high vacuum application	<ul style="list-style-type: none"> <li>• Two number of high temperature fibre block for operation at temperature 1450 °C and vacuum upto 10<sup>-2</sup> torr.</li> <li>• Two number of high inconel radiation shield for operation at temperature 1100 °C and vacuum upto 10<sup>-5</sup> torr.</li> </ul>

*[Handwritten Signature]*  
18/09/20

13	Thermocouple	Type R thermocouple in protective High Alumina tube, simplex, three number, 24 gauge or better. All thermocouples to have calibration certificate
14	Dimensions	<ul style="list-style-type: none"> <li>• Heated length : 900 mm</li> <li>• Furnace dimensions external (maximum) H x W x D (mm): 480 x 1275 x 775 (Including control module)</li> <li>• Furnace body length (mm) : 1300 &amp; weight: 70 kg maximum</li> </ul>
5	Control unit	<ul style="list-style-type: none"> <li>• Panel mounted <b>Eurotherm</b> digital PID programmable temperature controller with at least 16 segments for ramp, step or dwell and 4 programs.</li> <li>• +/- 1 °C control resolution</li> <li>• Over temperature protection control</li> <li>• Over current protection</li> <li>• Fuses, MCB, Current meter all mounted</li> <li>• Provison for PC connectivity</li> <li>• Current limit and feedback for improved life of heating element</li> </ul>
16	Temperature uniformity	Uniformity of $\pm 5^{\circ}\text{C}$ (or better) at length of: 750 mm. (This will be one of the main criteria for selection)
17	Power requirements	Single or Three Phase, 12 KW maximum, 220 V, 20 A maximum
Other Items to be quoted		
1	Rod for Sample placement to center zone	2 numbers
2	Spare heating elements	4 numbers

**Other Terms and Conditions:**

1. The supplier or their local vendor should be a reputed company with supplies of similar high temp. furnaces to IITs, IISc, IISERs and other Govt. of India organizations. Please attach a reference list of supplies in last 5 years with contact details (Name, Phone, email address of atleast 7-10 users).
2. The item supplied should ensure safe and hasslefree operations on installation site.
3. The company should be an Original equipment manufacturer of the furnace, please attach authorization certificate with quote.
4. The supplier must have proven track record of supply, without any complaints regarding supply, service or manufacturing (shall be verified with existing users if required)
5. The manufacturer must be an ISO9001 company & equipment must be with CE compliance. Please attach certificates.
6. The equipment should come with three year warranty from the date of installation. The annual maintance charges should also be quoted separately.
7. A compliance report with furnace design and elaborate details on all the above points must be supplied along with the quote.

*[Handwritten Signature]*  
18/9/20