

Advertised Tender Enquiry Documents
INDIAN INSTITUTE OF TECHNOLOGY (BHU), VARANASI
(NOTICE INVITING TENDER)

On behalf of the Director, IIT (BHU) Varanasi, online tender from manufactures (or their 'authorized' dealers that they have been authorized to quote in response to this NIT) of the following items are invited:

Sl. No.	Tender No. and Last Date	Specifications & Quantity of the item
1.	Ref. No. IIT(BHU)/2018-19/SERB-ECR/PHY/Bridgman Furnace Dated: 31-05-2018 Last Date: 31-07-2018, 4:00 PM	Name of the Instrument- Bridgman Single crystal growth furnace (Technical Specifications as per Annexure-I) Qty.: 01 Approx Cost: Rs. 42/- lakhs

The Tender Documents for the given item will be on Two Bid System consisting of Technical Bid and Price Bid. The Tender Documents will be submitted item-wise in online. Any firm may bid for item but each offer must be item-wise in two bid cover enclosing Technical Bid and Price Bid. **Manual Bid will not be accepted.**

The Tender Document along with detailed specifications, terms and conditions may be downloaded **from the institute website (www.iitbhu.ac.in) under Tenders (www.iitbhu.ac.in/iitnotifications/purchase_enquiries/) & (<https://www.eprocure.gov.in/cppp>) by the interested supplier.**

The Tender Fee for this Tender to be paid in the form of Bank Draft in favour of Registrar, IIT (BHU) payable at Varanasi before the Bid Opening Date as non-refundable Tender price of Rs. 1000/-. The hard copy of DD for tender fee should be reached on or before the Bid Opening Date and Time at the address: Dr. Swapnil Patil, Assistant Professor, Department of Physics, IIT (BHU), Varanasi – 221005.

The Tender should be addressed to **Dr. Swapnil Patil, Assistant Professor, Department of Physics, IIT (BHU), Varanasi – 221005**, and should be submitted on or before the date and time of Bid opening date as mentioned in critical date sheet on e-portal.

The Institute shall not be responsible for any delay in submitting Bids by online. The Institute reserves the right to accept or reject any bid, cancel the Tender without assigning any reason thereof. No correspondence in this regard will be entertained.

sd/-
(Dr. Swapnil Patil)

TENDER DOCUMENT FOR: Bridgman Single Crystal Growth Furnace

CRITICAL DATE SHEET

Published Date	01-06-2018
Bid Document Download Start Date	01-06-2018 (02:00 PM)
Clarification Start Date	01-06-2018 (02:00 PM)
Clarification End Date	21-07-2018 (04:00 PM)
Pre bid meeting	NA
Bid Submission Start Date	01-06-2018 (02:00 PM)
Bid Document Download End Date	30-07-2018 (04:00 PM)
Bid Submission End Date	30-07-2018 (04:00 PM)
Bid Opening Date	01-08-2018 (02:00 PM)
Address For Communication	Dr. Swapnil Patil Assistant Professor Department of Physics Indian Institute of Technology (Banaras Hindu University), Varanasi – 221 005, U.P., INDIA E-mail: spatil.phy@itbhu.ac.in

FORMAT OF BANK GUARANTEE FORM

1. This guarantee should be furnished by a Nationalized Bank / scheduled Bank, authorized by RBI to issue a Bank Guarantee.
2. This bank guarantee should be furnished on stamp paper of Rs. 100/-
3. The stamp paper should have been purchased in the Name of the Bank executing the Guarantee.
4. **In the case of foreign bidder the B.G may be furnished by an international reputed bank acceptable to the PURCHASER countersigned by any Nationalized / Scheduled Bank in India authorized by Reserve Bank of India.**

DATE:
BANK GUARANTEE NO:

Ref.: _____
To
Indian Institute of Technology
(Banaras Hindu University)
Varanasi-221005

Dear Sirs,

In accordance with your ‘Invitation to Bid’ under your Tender No: _____
M/s: _____
herein after called the Contractor/supplier, with the following Directors on their Board of Directors / partners of the firm.

- | | |
|----------|----------|
| 1. _____ | 2. _____ |
| 3. _____ | 4. _____ |

Agrees for the contract/supplies:

As an irrevocable Bank Guarantee for an amount of Rs. _____ (in words and figures) valid for _____ days from _____ is required to be submitted by the Contractor/Supplier which amount is liable to be forfeited by the purchaser in the event of 1) the withdrawal or revision of the offer by the Bidder as a condition within the validity period. (2) non-acceptance of the Letter of Intent / purchase order by the bidder when issued within the validity period. (3) failure to furnish the valid contract performance guarantee by the bidder within one month from the receipt of the purchase order and (4) on the happening of any contingencies mentioned in the bid documents such as _____.

We, the _____ Bank at _____
having our Head office at _____ (Local address) Guarantee and undertake to pay immediately on first demand by IIT (BHU) the amount of _____ (in figure and words) without any reservation., protest, demur and recourse. Any such demand made by the Purchaser shall be conclusive and binding on the Bank irrespective of any dispute or difference raised by the purchaser.

The guarantee shall be irrevocable and shall remain valid up to _____ (This date should be 6 months after execution of the order). If any further extension of this guarantee is required the same shall be extended to such required period (not exceeding one year) on receiving instruction from M/s _____ on whose behalf this guarantee is issued.

In witness whereof the Bank, through its authorized officer has set its hand and stamp on this _____ day of _____ at _____ witness _____.

WITNESS

(Signature).....

Name in (Block letters)

Designation

(Staff Code No.)

(Bank's common Seal)

Official address:

Attorney as per power of Attorney No.

Date:

DECLARATION

1. I, ----- Son /Daughter of Shri -----
----- Proprietor/ Partner/ CEO /MD/ Director/ Authorized Signatory of M/s. -----
----- am competent to sign this declaration and execute this tender document.
2. I have carefully read and understood all the terms and conditions of the tender and hereby convey my acceptance of the same.
3. The information/ documents furnished along with the above application are true and authentic to the best of my knowledge and belief.
4. I/ we/ am are well aware of the fact that furnishing of any false information/ fabricated document would lead to rejection of my tender at any stage besides liabilities towards prosecution under appropriate law.
5. Each page of the tender document and papers submitted by my Company is authenticated, sealed and signed, and I take full responsibility for the entire documents submitted.

Signature of the Authorized Person

Date: -----

Place: -----

Full Name: -----

Company Seal: -----

Bridgman Single Crystal Growth Furnace

<p>Vertical High Temperature Tube Furnace. Max. temperature of 1400 °C or more. Heated length around 250 mm. Total furnace height should be around 510 mm. Around 70 mm max. outer work tube diameter without work tube. Adjustable digital overtemperature protection with separate thermocouple and controller. Power supply: 400 V - 3 phases - 50 Hz or 230 V - 50 Hz; Total furnace power ~ a few kW.</p>
<p>Basic frame with mechanical guiding system for the Vertical High Temperature Tube Furnace Feed through with a water cooled pulling shaft with a centre thermocouple Moving drive motor for fast positioning, growth speed and rotation Growth motor ON/OFF, Growth motor UP/DOWN Adjustable Growth motor speed 0.03 to 50 mm/h. Rotation ON/OFF; Rotation upto few RPMs. Fast positioning ON/OFF; Fast positioning UP/DOWN. Potentiometer for the adjustment of the fast positioning speed. Absolute position in mm, 0.0 mm – 999.9 mm Shows value of absolute position, Point of starting to count needs to be set by customer. Sample thermocouple up to crucible bottom. Electronic cabinet for the drive motors and the temperature controlling system.</p>
<p>The Inert-Gas-Package should provide inert gas operation for the tube furnaces. The Inert-Gas-Package should contain water cooled stainless steel flanges and they are gas tight as well as vacuum tight. Gas inlet valve for Argon and flow controller with fine needle valve mounted in the frame of the furnace. Overflow valve to release gas in case of high pressure with two flange supports. L-Stativ Frame (Floor L-stand).</p>
<p>Digital programmer for programming temperature profiles with large no. (~ 20) of segments (ramps and dwell times). Digital temperature adjusting. Digital display of the actual value.</p>
<p>Serial communications port to connect the temperature controller with a computer. Software for configuration, monitoring and data recording of/from the furnace. Cable to the temperature controller with plugs.</p>
<p>ISO 9001:2008. CE mark.</p>
<p>User List - List of users with contact details of the furnace model quoted in tender. The quoted model of furnace should be off the shelf available and not be in development stage.</p>

Warranty: Comprehensive warranty for 3 years will be preferred from the date of commissioning for the main system and all accessories.

Note: Bid should include FOR IIT (BHU), Varanasi prices (Custom Clearance will be the responsibility of the supplier and IIT (BHU) will provide Custom Exemption Certificate). Transportation cost with insurance from port of destination to IIT (BHU) Varanasi should also be clearly mentioned separately.

Submit Electronic copy of the Technical specifications and bids.

OTHER TERMS:

1. **Spares:** state availability of spares for ten years.
2. **Indian agency commission:** Should be clearly stated in the financial bid in Indian currency.
3. **Consumable & spares:** List of the consumables and spares to be supplied with the system.
4. **Penalty:** A penalty of 1% of the order value will be applied for late delivery of the goods for each week thereof subject to a maximum of 10%.
5. **Bank Guarantee (BG):** Successful bidder have to furnish **5%** of the order value as a performance security in the shape of Fixed Deposit Receipt / Bank Guarantee in favour of the Registrar, Indian Institute of Technology (BHU) which will be valid for a period of sixty days beyond the date of completion of all contractual obligations of the supplier including warranty obligations. Fixed Deposit Receipt / Bank Guarantee should be issued from a schedule bank in India. Bank guarantee is only applicable for the Supplier who will get the Award of Contract and will submit at the time of installation of the instrument.
6. **Payment:** The payment shall be made by LC. (Where 90% of payment against shipment and balance 10% payment at the time of satisfactory installation and submission of BG).
7. **User List:** Provide users for last 5 years with contact person name, address, phone, and email IDs.
8. **Manuals/Documents:** 1 set of hard copy and 1 set of soft copy in English (preferred as following).
 - i. Operating manual
 - ii. Maintenance manual
 - iii. Servicing manual
 - iv. Programming manual
 - v. Spare parts list with source of supply and prices
 - vi. Description of control interface
 - vii. Circuit diagrams of PLC, drive controls etc
 - viii. Manuals of bought out items incorporated in the system
 - ix. Details of any custom made ICs & components & their sources
 - x. Flow charts of all resident software
 - xi. Test Chart
 - xii. Pre-installation requirements of foundation plan details, electromagnetic interference and vibration (if needed).
9. Details of the standard samples to be provided by the company for testing the instruments at the time of installation at site for the demonstration of the performance of equipment.
10. Please provide the segmented quotation for each optional measurement capability.
11. The Tender document should also indicate what kind of service/maintenance is required for the system. Whether this service has to be carried out by a company engineer or it can be carried by trained service personnel within India. The frequency of visit and the charges should be mentioned.
12. The Tender should be enclosed with proper certifications like **Authorization Certificate and Proprietary Certificate** in case of Proprietary items.
13. Complete computer control of operation and measurement on Windows based platform. Give the details of software for measurement and analysis.
14. Pre-installation site preparation/inspection requirements to be indicated and specified along with the bid.
15. Installation and training should be provided free of cost otherwise clearly mentioned with justification.
16. Warranty period to be clearly mentioned and should begin from the date of installation. Annual Maintenance Contract Charges should be clearly mentioned after warranty period.

17. Guaranteed specifications to be demonstrated at the time of installation. Any necessary standard samples for that purpose should be brought by the Service Engineers.
18. On – site training of our staff in operation and maintenance is essential by factory trained personal and provision for training for one person for minimum one week at factory site.
19. Bid should include FOR IIT(BHU), Varanasi prices (Custom Clearance will be the responsibility of the supplier and IIT(BHU) will provide Custom Exemption Certificate).
20. Service manuals with complete circuit diagram and PCB layout for all equipment to be provided with the instrument.
21. Submit Electronic copy of the Technical specifications and bids.
22. The vendor to provide compliance statement with respect to each technical specification in the tender document duly supported by the manufacturer’s literature. Any other claim will not be accepted and may lead to rejection of the bid.
23. Printed literature in support of compliance to the prescribed specifications is to be submitted.
24. Compliance report needs to be submitted as a part of the technical bid.
25. In case during shipment period newer versions of software/hardware is available with vendor in lieu of the existing one for which Letter of Credit was opened, then improved version should be made available without any extra cost.
26. Institute reserves the right to visit installation in India of similar capabilities the details with to regard to such installation should be given as a part of technical bid.
27. Technical evaluation by the Institute may include demonstration to verify functionalities and capabilities of the system quoted.

Services: Vendor must submit Factory Acceptance Test procedure supported with relevant printed literature and certificates.

sd/-
(Dr. Swapnil Patil)

TECHNICAL COMPLIANCE STATEMENT

(To be submitted by bidder duly filled)

SL No.	Technical Requirement	YES/NO
1.	Maximum temperature of the vertical high temperature furnace is 1400 °C or more	
2.	Temperature Accuracy is better than $\pm 5^{\circ}$ C	
3.	Adjustable digital overtemperature protection with separate thermocouple and controller	
4.	Basic frame with mechanical guiding system for the Vertical High Temperature Tube Furnace	
5.	Moving drive motor for fast positioning, growth speed and rotation	
6.	Adjustable Growth motor speed of about 0.03 to 50 mm/h	
7.	The Inert-Gas-Package with prescribed specifications	
8.	Digital programmer for programming temperature profiles with prescribed specifications	
9.	Software control for configuration, monitoring and data recording of/from the furnace.	
10.	ISO 9001:2008 CE mark	
11.	Warranty: Comprehensive warranty for 3 years from the date of commissioning for the main system.	
12.	Spares: State availability of spares for ten years.	
13.	Indian agency Commission (if applicable): Should be clearly stated in the financial bid in Indian currency.	

**Signature of the Authorized
Official with Seal**