

NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL

POST-SRINIVASNAGAR, MANGALURU – 575 025 (D K)
DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING

Phone: (0824) 2474000.

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**TENDER DOCUMENT**

Tender Notification No : **Met-Mat/ OH35/SM/VIAF/71/2022-23/04**

Date: 12/08/2022

Name of Goods	Vacuum & Inert Atmosphere Furnace
The estimated amount put to Tender	Rs.6,50,000 /- (including GST)
EMD Amount (2% of estimated amount)	Rs.13000/-
Time for Supply of item	30 Days
Date, Time & Venue of Pre-Bid Conference	NA
Bid Document Download Start Date	12/08/2022 @ 12.30 p.m
Clarification Start Date	12/08/2022 @ 12.30 p.m
Clarification End Date	16/08/2022 @ 12.30 p.m
Online Bid Submission Start Date	12/08/2022 @ 12.30 p.m
Online Bid Submission End Date	26/08/2022 @ 3.00 p.m
Address for Submission of Tender	https://eprocure.gov.in/
Date of opening technical bid	29/08/2022 @ 3.30 p.m
Contact Details of Buyer	Dr.Saumen Mandal, Assistant Professor Dept. of Metallurgical and Materials Engg. Ph-0824 2473752 email-smandal@nitk.edu.in
Purchase officer Name and Contact(Related to purchase inquiry)	Superintendent (purchase) Phone: +91-824-2473014,3114 Email: supdt-purchase@nitk.edu.in

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NOTICE INVITING e-TENDER (e-NIT)

The National Institute of Technology Karnataka, Surathkal (in short – NITK, Surathkal) is an Institute Of National Importance under Ministry of Education, Govt of India imparting Technical Education and engaged in Research Activities.

Online Tenders(<https://eprocure.gov.in/>) are invited for the following items in **two cover systems**(i.e., Technical bid and financial bid) subject to the following terms and conditions, from the reputed manufacturers or its authorized dealers so as to reach this office on or before scheduled date and time. The tender (Technical bid) will be opened online on the due date as mentioned. Bidders can verify their bid status through the online portal <https://eprocure.gov.in/>. The financial bid of only such bidders whose technical bid is accepted shall be opened on the same day or later pre-informed date.

Name of Goods	Vacuum & Inert Atmosphere Furnace
Estimated Cost	Rs.6,50,000 /- (including GST)
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Date, Time & Venue of Pre-Bid Conference	NA
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Contact Details of Buyer	Dr.Saumen Mandal, Assistant Professor Dept. of Metallurgical and Materials Engg. Ph-0824 2473752 email-smandal@nitk.edu.in

**Sd/-
HOD**

SECTION 1 A: Instructions for Online Bid Submission

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submit their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>.

REGISTRATION

- 1) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link “**Online bidder Enrollment**” on the CPP Portal which is free of charge.
- 2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 3) Bidders are advised to register their valid email addresses and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- 4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra, etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their user ID/password and the password of the DSC / e-Token.

SEARCHING FOR TENDER DOCUMENTS

- 1) There is various search options built-in in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords, etc. to search for a tender published on the CPP Portal.
- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents/tender schedules. These tenders can be moved to the respective ‘My Tenders’ folder. This would enable the CPP Portal to intimate the bidders through SMS / email in case there is any corrigendum issued to the tender document.
- 3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification/help from the Helpdesk.

PREPARATION OF BIDS

- 1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- 2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the documents that need to be submitted. Any deviations from these may lead to the rejection of the bid.
- 3) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document/schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with the black and white option which helps in reducing the size of the scanned document.
- 4) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates, etc.) has been provided to the bidders. Bidders can use the "My Space" or "Other Important Documents" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for the bid submission process.

Note: My Documents space is only a repository given to the Bidders to ease the uploading process. If Bidder has uploaded his Documents in the My Documents space, this does not automatically ensure these Documents being part of the Technical Bid.

SUBMISSION OF BIDS

1. Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
2. The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
3. Bidder has to select the payment option as "online" to pay the tender fee / EMD as applicable and enter details of the instrument.
4. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white-colored (unprotected) cells with their respective financial quotes and other details (such as the name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
5. The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, the opening of bids, etc. The bidders should follow this time during bid submission.
6. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The

confidentiality of the bids is maintained using the secured Socket Layer 128-bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system-generated symmetric key. Further, this key is subjected to asymmetric encryption using buyers/bid openers' public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

7. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.

8. Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.

9. The bid summary has to be printed and kept as an acknowledgment of the submission of the bid. This acknowledgment may be used as an entry pass for any bid opening meetings.

10. The off-line tender shall not be accepted and no request in this regard shall be entertained whatsoever.

11. All entries in the tender should be entered in online Technical & Commercial Formats without any ambiguity.

12. Any order resulting from this e-tender shall be governed by the terms and conditions mentioned therein.

13. No deviation from the technical and commercial terms & conditions are allowed.

14. The tender inviting authority has the right to cancel this e-tender or extend the due date of receipt of the bid(s).

ASSISTANCE TO BIDDERS

1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.

2) Any queries relating to the process of online bid submission or queries relating to CPP Portal, in general, may be directed to the 24x7 CPP Portal Helpdesk.

SECTION 1B: INSTRUCTION TO BIDDER (ITB)

1. The bid should be submitted in two covers **System-Technical Bid and Financial Bid** through <https://eprocure.gov.in/>
2. **Technical Bid: Documents related to the Technical Bid** should be submitted in PDF format through the E-Tendering portal <https://eprocure.gov.in/>.
3. **The Technical Bid should contain the following documents:**
 - a) Compliance statement of specifications as per **Annexure - 'A'**.
 - b) License certificate for manufacture /supply of the item & Factory license
 - c) Agreements/Purchase Orders/Completion certificates if any, for similar items from other Universities, Institutes, and Government Department/Undertakings/Public sectors the details of such supplies for the preceding three years should be given together with the prices eventually or finally paid with contact details of persons as per **Annexure – 'B'**.
 - d) List of Owner/partners of the firm and their contact numbers (Bidder Information)
 - e) Declaration of abandoned or suspended any awarded service & Blacklist Certificate. **Annexure 'C'**
 - f) Integrity Pact (for procurements above Rs1.0 Crore (Rs10.0 Million). **Annexure 'D'**
 - g) Copy of GST certificate & PAN No.
 - h) Catalog of the Product with detailed product specifications.
 - i) Undertaking that the successful BIDDER agrees to give a Performance Security amounting to 3% of the purchase order value in favor of "The Director, NITK Surathkal".
 - j) A copy of the Balance sheet, Profit & Loss A/c., Trade or Manufacturing A/c for the last 3 years should be enclosed and the turnover must be 30% of the estimated cost.
 - k) Duly filled in the checklist should be submitted along with the Technical Bid.
 - l) The contract form given in Section 5 needs to be submitted.
 - m) EMD must be in the form of Bank Guarantee **Annexure-J** (Fixed Deposit Receipt/Insurance surety bonds/DD/e-Payment mode (through Credit/Debit cards/Net Banking). It will be valid for 180 days from the date of opening of the tender. In case of EMD payment made through E-Payment, UTR Number with details should be uploaded. The firm registered with MSME/NSIC as per MSME procurement policy order 2012 will be exempted from submission of EMD. Intended parties will have to give proof of registration along with their tender. EMD of the unsuccessful bidders shall be refunded without any interest at the earliest after finalization of the purchase of the concerned item.
 - i) The EMD will be returned to the BIDDERS(s) whose offer is not accepted by NITK within one month from the date of the placing of the purchase order(s) on the selected BIDDER(s). In the case of the BIDDER(s) whose offer is accepted the EMD will be returned on submission of Performance Security in the form of Bank Guarantee (BG). However, if the return of EMD is delayed for any reason, no interest/penalty shall be payable to the Bidders.

ii) The successful BIDDER, on the award of contract/order, must send the contract/order acceptance in writing, within 15 days of award of contract/order failing which the EMD will be forfeited.

iii) The EMD shall be forfeited in case a successful BIDDER fails to furnish the Performance Security.

iv) Bidder should prepare the EMD as per the instructions specified in the tender document. The original EMD should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission as specified in the tender documents. The details of the BG/DD/FD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise, the uploaded bid will be rejected.

- n) The bidder needs to comply with restrictions under rule No 144 (xi) of GFR (General Financial Rules) 2017 and the clause pertaining to Public Procurement Division Order (Public Procurement no 1,2 & 3 vide ref. F.No.6/18/2019-PPD dated 23.07.2020 and 24.07.2020 of Dept of Expenditure (DOE), Ministry of Finance). In this Connection Bidder has to submit Self Certification (as per Annexure G or H), depending on the status of the bidder.
- o) The bidder needs to submit a Self-certification in line with Make in India, Public Procurement Order No. P-45021/2/2017-BE-II dt. 15.06.2017, P 45021/2/2017-PP (BE-II) dated 28.05.2018, P-45021/2/2017-PP (BE-II) dated 29.05.2019 and P45021/2/2017- PP (BE – II) dated 16.09.2020 of DPIIT, Ministry of Commerce & Industry. The Bidder who will not meet this criterion will be rejected in the technical bid. The Self-certification should be provided as per Annexure I.

4. **Financial bid:** The bidders should submit their financial bid as per the format given in Section 4(A standard BoQ format has been provided with the tender document in the form of an Excel sheet) of the Notice Inviting Tender in the online bid through the e-Tendering portal <https://eprocure.gov.in/>. After evaluation of technical bid, the technically successful bidder shall be intimated to witness the opening of their financial bid along with the date, time and venue through e-mail. The financial bid of only those bidders will be opened who are declared "Technically Successful or Technically Responsive".

5. **Bid Evaluation:**

On the due date, the Technical bids will be opened and referred to the Purchase Committee which is duly constituted by the Director, NITK. The committee will go through the technical aspects of the tender and recommend shortlisted firms. The recommendation of the committee is final and binding on all the parties. The committee may visit the manufacturing site to assess the capabilities to manufacture the tendered items as per the specifications. In case of any remarks/default noted, the Company will be debarred from competing for bids in our esteemed Institute for a period of one year from the date of occurrence of such breach.

6. Quoting of Price(s):

a. The Indian bidder should quote firm prices in the Indian rupee only unless otherwise specified elsewhere in this tender. Prices quoted in any other currency shall not be considered.

7. The Bid will be accepted only from the manufacturers (OEM) or its authorized supplier.

8. The Institute reserves the right to visit the factory before or after the issue of supply order to satisfy itself regarding the quality of production. In case of any remarks /default noted, the Company will be debarred from competing for bids in our esteemed Institute for a period of one year from the date of occurrence of such breach.

9. The item to be used is strictly according to the specification and subject to test by the Institute/concerned authorities. It must be delivered and installed in good working condition.

10. The incomplete or conditional tender will be rejected.

11. The Institute reserves the right to cancel at any time after acceptance of the tender with a notice. The Supplier shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which might have derived from the execution of the supply.

12. Performance Security: The successful bidder shall deposit performance security of 3% of the quoted price in the form of Bank Guarantee (**ANNEXURE -F**)/Demand Draft/Fixed Deposit Receipt of any scheduled bank drawn in favour of **The Director, NITK Surathkal, Mangaluru** payable at Mangaluru. In case the bidder fails to deposit the said Performance Security within the stipulated period, including the extended period if any, the Earnest Money Deposited by the bidder shall be forfeited automatically without any notice. Please note the following points:

- a) **Successful bidder should submit performance Security as prescribed above to the purchase Section, NITK Surathkal, on or before 30 days from the date of issue of order acknowledgment.**
- b) Performance Security shall be for the due and faithful performance of the contract and shall remain binding, notwithstanding such variations, alterations for extensions of time as may be made, given, conceded, or agreed to between the successful bidder and the purchaser under the terms and conditions of acceptance to tender.
- c) The successful bidder is entirely responsible for the due performance of the contract in all respects according to the terms and conditions of the tender.
- d) The validity of the Performance Security must cover the warranty period plus two months.

13. The validity of bids: The rate quoted should be valid for a minimum of 180 days. No claim for escalation of the rate will be considered after opening the Tender. The bid validity date will start from the last date of bid submission (Including date corrigendum)

- 14. Warranty/Guarantee & On-site skill support:** On-site comprehensive warranty will be effective from the date of successful installation and commissioning. The OEMs/Authorized Distributors and Dealers must attach a certificate of sales and service facilities, escalation support for on-call service or station engineer, etc.
- 15. Clarification of Tender Document:** Through pre-bid Conference (Under Section 1, clause No. 35).
- 16. Amendment of Tender document:** At any time before the last date for receipt of bids, Institute may for any reason, whether at its initiative or in response to a clarification requested by a prospective bidder, modify the Tender document by an amendment. Further, Institute may at its discretion extend the last date for the receipt of bids.
- 17.** The bids shall be written in the English language and any information printed in another language shall be accompanied by an English translation, in which case for the purpose of the interpretation of the bid, the English translation shall govern.
- 18.** The Institute reserves the right of accepting any bid other than the lowest or even rejecting all the bids. The decision of the Purchase Committee is final in all matters of tender and purchase.
- 19. Cancellation of Tender:** Notwithstanding anything specified in this tender document, NITK Surathkal in its sole discretion, unconditionally and without having to assign any reasons, reserves the rights:
- a) To accept OR reject the lowest tender or any other tender or all the tenders.
 - b) To accept any tender in full or in part.
 - c) To reject the tender offer not conforming to the terms of the tender.
 - d) To give purchase preference to Public Sector undertakings when applicable as per Govt. Policy/ Guidelines.
- 20. Delivery Period:** The Delivery Period/Time shall be deemed to be the essence of the Contract and delivery must be completed not later than such date(s). If the Supplier does not perform its obligations within the Delivery Period/Date mentioned in the Contract, the same would constitute the breach of the Contract and the Institute shall have the right to cancel or withdraw the Contract for the unsupplied portion after the expiry of the original or extended delivery date or period stipulated in the Contract. Such cancellation of the contract on account of non - performance by the Supplier would entitle the Buyer to forfeit the EMD/Performance Security besides other actions such as debarment from the Institute as per GFR 2017.
- 21. Liquidated Damages:** Timely delivery is the essence of the contract and hence if the Supplier fails to deliver Goodswithin the original/extended delivery period(s) specified in the contract, the Institute will be entitled to deduct/recover the Liquidated Damages for the delay, unless covered under Force Majeure conditions aforesaid, @ **1% per week or part of the week of the delayed period** as pre-estimated damages not exceeding 5% of the contract value without any controversy/dispute of any sort whatsoever.

22. Terms of Payment:

- a. Payment within 30 days from the date of delivery, installation and acceptance certificate of concerned Department/Section/Purchase Section.
 - b. Payment shall be made by Cheque or such other mode/electronic fund transfer offered by the Bank. NITK, Surathkal will not pay advance payment to the party. Any request for Advance payment will be rejected summarily. In case if it is necessary, the advance payment will be paid strictly against Bank Guarantee only.
 - c. Payment will be made by Standard Payment terms and conditions of NITK, Surathkal as per tender document only. Any request for a change in payment terms and conditions will not be accepted.
 - d. If the above conditions are not acceptable then tender will be rejected.
23. Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bid as to the nature of the installation site, the means of access to the site and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the installation to be done and local conditions and other factors having a bearing on the execution of the bid.
24. If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the bidder.
25. The rate quoted by the bidder **shall be firm throughout the contract** period and there shall be no revision of the rates for any reasons whatsoever. It should be clearly understood that any claim for changes will not be entertained in any case once the bids are opened.
26. **One bid per bidder:** Each bidder shall submit only one bid either by himself or by representing a firm.
27. **Cost of bid:** The bidder shall bear all costs associated with the preparation and submission of his bid. The Institute in no case shall be responsible or liable for those costs.
28. The bidder shall not make or cause any alteration, erasure, or obliteration to the text of the tender document.
29. The Institute will declare a bidder ineligible, either indefinitely or for a specified period of time, at the sole discretion of the Institute, for the award of contract/ participating in any other tender, if at any time the Institute determines that he has furnished false information/ engaged in corrupt or fraudulent practices.
30. If any overpayment is detected as a result of the post-payment audit, it shall be recovered by the Institute from the Supplier out of his Performance Security.

31. **Determination of successful bidder**: The technically qualified bidder whose offer is evaluated as the **lowest total bid** shall be the successful bidder subject to its meeting the statutory requirements.

32. **Price variation**: The rate quoted by the bidder shall be firm throughout the contract period. No price variation clause applies to this contract.

33. **CANVASSING**:

- a) Canvassing in connection with tenders is strictly prohibited and the Tenders submitted by the Tenderers who resort to canvassing shall be liable to rejection.
- b) Subject to the provisions concerning clarification of Bids, no Bidder shall contact the purchase committee on any matter relating to its bid from the time of the bid opening up to the time that the contract is awarded.
- c) Any effort by the Bidder or Bidder's representative however described to influence the purchase committee in any way concerning scrutiny, consideration, evaluation of the Bid(s) or decision concerning award of contract shall entail rejection of Bid and action against the bidder as deemed fit.
- d) The purchase committee will deal with the Bidder on a Principal basis, without involvement in any manner in India or abroad of any agent or consultant or associate or another person howsoever described.

34. **Legal Matter**: All Domestic and International disputes are subject to Mangaluru Jurisdiction only.

35. **Pre-Bid Conference**:

- a) All prospective bidders are requested to kindly submit their queries through E-mail to & cc to _____ so as to reach the buyer, on or before 4.00p.m. on dd/mm/yyyy
- b) A Pre-bid Conference shall be held as indicated in Invitation to Bid. All prospective bidders are requested to kindly attend the Pre-bid Conference. In order to facilitate NITK for the proper conduct of the Pre-bid Conference, all prospective bidders are requested to kindly submit their queries through E-mail to the indicated mail address (with Tender No. and Date) so as to reach the Buyer as indicated in Invitation to Bid.
- c) NITK shall answer the queries during the pre-bid conference, which would become a part of the proceedings of the Pre-bid Conference. These proceedings will, in turn, become a part of clarifications/amendments to the bidding documents and would become binding on all the prospective bidders. These proceedings would also be hosted on the NITK website www.nitk.ac.in for the benefit of all prospective bidders. Before formulating and submitting their bids, all prospective bidders are advised to surf through the NITK website after the Pre-bid Conference, in order to enable them to take cognizance of the changes made in the bidding document.
- d) Any Statement made at the pre-bid conference shall not modify the terms of the bidding documents unless such statement is made part of clarification in the proceeding of the Pre-Bid Conference

e) Only queries formally submitted in advance, will be answered in the pre-bid conference and will become part of the Corrigendum/Amendment.

36. Relaxation for startups, MSEs, Make in India will be as per GOI norms.

37. Estimated price put up in tender is inclusive of all.

38. Abnormally quoted low bid will be liable for rejection as per the OM No.F.12/17/2019-PPD of Department of Expenditure, Ministry of Finance dated 6th February 2020.

SECTION 2: CONDITIONS OF CONTRACT.

1. The supplier should quote the rate for Door Delivery (FOR).
2. The Rate should be quoted in INR only.
3. The item should be landed at NITK Surathkal and this responsibility is with the bidder.
4. No custom duty exemption certificate will be provided from the institute.
5. The rate quoted should be on a per-unit basis. Taxes and other charges should be quoted separately, considering exemptions, if any.
6. The rate quoted should be inclusive of Testing, Commissioning and Installation of Equipment and Training.
7. **Payment:** No advance payment will be made. Payment will be made only after the supply and installation of the item in good and satisfactory condition and receipt of performance security by the supplier.
8. Guarantee and Warranty period should be specified for the complete period conforming to Section 3 of this tender document.
9. The period required for the supply and installation of Equipment should be specified conforming to Section 3 of this tender document.
10. In case of dispute, the matter will be subject to Mangaluru Jurisdiction only.

SECTION 3: SCHEDULE OF REQUIREMENTS, SPECIFICATIONS AND ALLIED DETAILS

[To be filled up by the Department / Center of NITK, Surathkal]

Item(s) Name to be Procured : Vacuum & Inert Atmosphere Furnace

Type (Equipment/Software/Furniture/Others) : Equipment

Brief Specifications of the Item(s)
(Attach Additional Sheet if necessary) : As Per Annexure 'L'

Quantity : 01

Any other details/requirement :

Warranty Period (in months) : 1 years

Delivery Schedule expected
after the release of a Purchase order
(in Weeks) : 4 weeks

Performance Security to be given
by Successful Bidder after release of
Purchase Order (in Rupees) : 3% of Purchase Order

SECTION 4 - PRICE BID

[To be used by the bidder for submission of the bid]

Tender Inviting Authority:

Name of Work/Goods/Services:

Contract No:

Name of the Bidder/ Bidding Firm / Company :

PRICE SCHEDULE

(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

Number	TEXT #	NUMBER #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER #	TEXT #
Sr. No.	Item Description	Quantity	BASIC RATE in Figures To be entered by the Bidder in Rs. P	COST	GST rate in %	GST Amount	TOTAL AMOUNT with Taxes Rs. P	TOTAL AMOUNT In Words
1								
Total in Figures								
Quoted Rate in Words								

SECTION 5:CONTRACT FORM

[To be provided by the bidder in the business letterhead]

1. (Name of the Supplier's Firm) hereby abide to deliver by the delivery schedule mentioned in section 3 tender document for supply of the items if the purchase order is awarded.
2. The item will be supplied conforming to the specifications stated in the tender document without any defects and deviations.
3. Warranty will be given for the period mentioned in the tender document and service will be rendered to the satisfaction of NITK, Surathkal during this period.

Signature of the Bidder : _____

Name and Designation: _____

Business Address : _____

Place:
Date:

Seal of the Bidder's Firm

Compliance Statement of Specifications

Annexure –‘A’

Sl.No.	Name of specification/Part/Accessories of tender inquiry	Specifications of the quoted Model / Item	Compliance YES or NO	Whether	Deviations if any to be indicated in unambiguous terms

(Add more rows if required)

Signature and Seal of the Bidder

Previous Supply Orders Executed

Name of the firm: _____

Order placed by [Full address of the purchaser]	Order No. and Date	Order Value	Specified Delivery Date	Actual Delivery Date	Remarks indicating reasons for late delivery, if any and justification for the price difference of their supply order and those quoted to us	Has the equipment been installed satisfactorily?	Contact person along with telephone, mobile number, fax, and E-mail address (other Universities, Institutes, and Government Department/Undertakings/Public sectors)

(Add more rows if required)

Signature and Seal of the Bidder

FORMAT OF DECLARATION
(To be submitted on Letterhead)

I/We Mr./Ms. _____, S/o/ of Mr. _____ aged about _____ years, resident of _____ ,
working as -----(designation) for ----- (name and address of the bidding agency).

I solemnly affirm and the state as under:

1. That I am working as ----- /proprietor of the ----- (name of the firm) and authorized to sign this declaration.
2. That the firm M/s---- (complete address of the firm) has not abandoned or suspended any contract work of any organization/ department so far/ during the previous five financial years.
3. That the firm M/s---- (complete address of the firm) has not been blacklisted/ debarred for competing in tenders by any organization/ department so far/ during the previous five financial years.
4. I solemnly confirm that the facts stated above are true and nothing has been concealed.

Seal and Signature of Bidder

INTEGRITY PACT AGREEMENT

(To be signed by the bidder/same signatory authorized to sign the relevant contact)

This Integrity Agreement is made at Surathkal on this day of20

BETWEEN

National Institute of Technology Karnataka, Surathkal, an Institute of National Importance (under NIT Act -2007) represented through The Registrar, NITK, Surathkal (hereinafter referred as the '**Buyer**, which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

.....
(Name and Address of the Individual/Firm/Company)

Through (Hereinafter referred to as the "Bidder/Contractor" and which expression shall unless repugnant to the meaning or context hereof include its succession and permitted assigns)

Preamble

WHEREAS **NITK Surathkal** has floated the Tender (Hereinafter referred to as "Tender/Bid") and intends to award, underlaid down organizational procedure, contract for "Equipment"

[Hereinafter referred to as the "**Contract**").

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "**Integrity Pact**" or "**Pact**"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this witness as under:

Seal and Signature of the bidder

Registrar, for NITK Surathkal

Article 1: Commitment of NITK Surathkal

- i. **NITK Surathkal** commits to take all measures necessary to prevent corruption and to observe the following principles:
 - (a) No employee of NITK Surathkal, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - (b) NITK Surathkal will, during the Tender process, treat all Bidder(s) with equity and reason. NITK Surathkal will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
 - (c) NITK Surathkal shall endeavor to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
- ii. If NITK Surathkal obtains information on the conduct of any of its employees which is a criminal offense under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, NITK Surathkal will inform the Chief Vigilance Officer and in addition, can also initiate disciplinary actions as per its internal laid down policies and procedures.

Article 2: Commitment of the Bidder(s)/ Contractor(s)

- 1) It is required that each Bidder/Contractor (including their respective officers, employees and agents) adheres to the highest ethical standers, and report to the Government / Department all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and through the negotiation or award of a contract.
- 2) The Bidder(s)/Contractor(s) commit himself to take measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contact execution:
 - a. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contractor to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contractor.

Seal and Signature of the bidder

Registrar, for NITKSurathkal

- b. The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into an undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
 - c. The Bidder(s)/Contractor(s) will not commit any offense under the relevant IPC/PC Act. Further, the Bidder(s)/Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as
 - d. part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - e. The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India if any. Similarly, Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives if any. Either the Indian agent on behalf of the foreign principals or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participates in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.
 - f. The Bidder(s)/Contractor(s) will when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers, or any other intermediaries in connection with the award of the Contract.
- iii. The Bidder(s)/Contractor(s) will not instigate third persons to commit offenses outlined above or be an accessory to such offenses.
 - iv. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce a public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to a justified interest of others and/or to influence the procurement process to the detriment of the Government interests.**
 - v. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive practices (means the act of obtaining something, compelling action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/her reputation or property to influence their participation in the tendering process).

Seal and Signature of the bidder

Registrar, for NITK Surathkal

Article 3: Consequences of Breach

Without prejudice to any rights that may be available to NITK Surathkal under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidders/Contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right:

- 1) If the Bidder(s)/Contractor(s), either before awarded or during the execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving a 14-day notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determinate the Contract - if already executed or exclude the Bidders/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. **Such exclusion may be forever or for a limited period as decided by NITK Surathkal.**
- 2) **Forfeiture of EMD/Performance Guarantee/Security Deposit:** If NITK Surathkal has disqualified the Bidder(s) from the tender process before the award of the Contract or terminate/determinate the Contractor has accrued the right to terminate/determinate the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to NITK Surathkal, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Security of the Bidders/Contractor.
- 3) **Criminal Liability:** If NITK Surathkal obtains knowledge of the conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of Indian Penal code (IPC)/Prevention of Corruption Act, or if the Principal/Owner has substantive suspicion in this regard, NITK Surathkal will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

- 1) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country conforming to the anti-corruption approach or with Central Government or State Government or any other Central/State Public Enterprises in India that could justify his exclusion from the Tender process.
- 2) If the Bidder makes an incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/Owner.
- 3) If the Bidder/Contractor can prove that he has resorted/recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its discretion, revoke the exclusion prematurely.

Seal and Signature of the bidder

Registrar, for NITK Surathkal

Article: 5 Equal Treatment of all Bidder/Contractors/Subcontractors

- 1) The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidders/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Sub-contractors/sub-vendors.
- 2) The Principal/Owner will enter into pacts on identical terms as this one with all Bidders and Contractors.
- 3) The Principal/Owner will disqualify Bidders, who do not submit, the duly signed pact between the Principal/Owner and the bidder, along with the Tender, or violate its provisions at any stage of the Tender process, from the Tender process.

Article 6: Duration of the Pact

This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12months after the completion of work under the contractor or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.

If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of these pacts as specified above, under it is discharged/determined by the Competent Authority of NITK, Surathkal.

Article 7: Other Provisions

- 1) This Pact is subject to Indian Law, place of performance and jurisdiction is **Mangaluru**, the Headquarters of NITK Surathkal, who has floated the Tender.
- 2) Changes and supplements need to be made in writing. Side agreements have not been made.
- 3) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partners holding power of attorney signed by all partners and consortium members. In the case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
- 4) Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement with their original intentions.
- 5) It is agreed on term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action was taken by the Owner/Principal in accordance with this **Integrity Agreement/Pact or interpretation thereof shall not be subject to arbitration.**

Seal and Signature of the bidder

Registrar, for NITK Surathkal

Format for Bank Account details of the bidder

Name of the account holder (the bidder)	
Complete address	
Contact number	
Email address	

Bank Account details:

Bank name	
Branch name	
MICR number	
Account type	
Account Number	
Please re-type the Account number again	
IFSC code of the Bank	

I hereby declare that the particulars given above are correct and complete. If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold the Institute responsible for this.

I have read the option invitation letter and agree to discharge the responsibility expected of me as a participant under the scheme.

Seal and signature of the bidder.

Certification from the banker:

Certified that the particulars furnished above are correct as per our records.

Seal and signature of the authorized officer of the bank.

FORMAT FOR PERFORMANCE GUARANTEE BOND

(To be typed on Non-judicial stamp paper of the value of Indian Rupees of One Hundred)

(TO BE ESTABLISHED THROUGH ANY OF THE NATIONAL BANKS (WHETHER SITUATED AT MANGALURU OR OUTSTATION) WITH A CLAUSE TO ENFORCE THE SAME ON THEIR LOCAL BRANCH AT MANGALURU OR ANY SCHEDULED BANK (OTHER THAN NATIONALISED BANK) SITUATED AT MANGALURU. BONDS ISSUED BY COOPERATIVE BANKS ARE NOT ACCEPTED.)

To,
Director,
National Institute of Technology Karnataka,
Srinivasnagar P.O., Surathkal
Mangaluru – 575025

LETTER OF GUARANTEE

WHEREAS National Institute of Technology Karnataka (Buyer) has invited Tenders to vide Tender No..... Dt. for purchase of AND WHEREAS the said tender document requires that any eligible successful tenderer (seller) wishing to supply the equipment/machinery, etc. in response thereto shall establish an irrevocable Performance Guarantee Bond in favour of “**The Director, National Institute of Technology Karnataka, Surathkal**” in the form of Bank Guarantee for Rs (**3% (Three percent) of the purchase value**) and valid till **one year or upto warranty period whichever is later** from the date of issue of Performance Guarantee Bond may be submitted within 30 (Thirty) days from the date of Order Acknowledgement as a successful bidder.

NOW, THIS BANK HEREBY GUARANTEES that in the event of the said tenderer (seller) failing to abide by any of the conditions referred in tender document/purchase order/performance of the equipment/machinery, etc. this Bank shall pay to National Institute of Technology Karnataka, Surathkal on demand and without protest or demur Rs (Rupees.....).

This Bank further agrees that the decision of the National Institute of Technology Karnataka, Surathkal (Buyer) as to whether the said Tenderer (Seller) has committed a breach of any of the conditions referred in the tender document/purchase order shall be final and binding.

We, (name of the Bank & branch) hereby further agree that the Guarantee herein contained shall not be affected by any change in the constitution of the Tenderer (Seller) and/ or National Institute of Technology Karnataka, Surathkal (Buyer).

Notwithstanding anything contained herein:

1. Our liability under this Bank Guarantee shall not exceed Rs. (Indian Rupees only).
2. This Bank Guarantee shall be valid up to(date) and
3. We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only and only if National Institute of Technology Karnataka (NITK) Surathkal serve upon us a written claim or demand on or before.....(date).

This Bank further agrees that the claims if any, against this Bank Guarantee, shall be enforceable at our branch office at situated at (Address of local branch).

Yours truly,

Signature and seal of the guarantor:

Name of Bank & Address:

Date:

Instruction to Bank: Bank should note that on the expiry of the Bond Period, the Original Bond will not be returned to the Bank. The bank is requested to take appropriate necessary action on or after the expiry of the bond period.

(Compliance to be submitted in the bidder’s letterhead)
(as applicable)

Sub: Compliance to Government of India order OM No.6/18/2019-PPD dated 23.07.2020 & 24.7.2020 regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017

Item Name:	
Enquiry No.:	

WeM/s. _____ (name of the bidder company) have read the clauses pertaining to the Department of Expenditure’s (DoE) Public Procurement Division Order (Public procurement no 1,2 & 3 vide ref. F.No.6/18/2019-PPD dated 23.07.2020&24.7.2020) regarding restrictions on procurement from a bidder of a country that shares a land border with India.

We hereby certify that **we are not from such a country** and eligible to be considered for this tender.

(Note: Non-compliance of above said GoI Order and its subsequent amendment, (if any), by any bidder(s) shall lead to commercial rejection of their bids by NITK)

For and behalf of _____ (Name of the bidder)

(Signature, date & seal of an authorized representative of the bidder)

**(Compliance to be submitted in the bidder's letterhead)
(as applicable)**

Sub: Compliance to Government of India order OM No.6/18/2019-PPD dated 23.07.2020 & 24.7.2020 regarding restrictions under Rule 144 (XI) of the General Financial Rules (GFRs), 2017

Item Name:	
Enquiry No.:	

WeM/s. _____ (name of the bidder company) have read the clauses pertaining to the Department of Expenditure's (DoE) Public Procurement Division Order (Public procurement no 1,2 & 3 vide ref. F.No.6/18/2019-PPD dated 23.07.2020 & 24.7.2020) regarding restrictions on procurement from a bidder of a country which shares a land border with India.

We are from such a country which shares a land border with India & have been registered with the Competent Authority as specified in the above-said order. We hereby certify that we fulfill all requirements in this regard and are eligible to be considered.

Evidence of valid registration by the Competent Authority is attached.

(Note: Non-compliance of above said GoI Order and its subsequent amendment, (if any), by any bidder(s) shall lead to commercial rejection of their bids by NITK)

For and behalf of _____ (Name of the bidder)

(Signature, date & seal of an authorized representative of the bidder)

Self-Certification on the letterhead of the company

In line with Government Public Procurement Order No. P-45021/2/2017-BE-II dt. 15.06.2017, P-45021/2/2017-PP (BE-II) dated 28.05.2018, P-45021/2/2017-PP(BE-II) dated 29.05.2019 and P-45021/2/2017-PP (BE-II) dated 16.09.2020, we hereby certify that

.....
(Supplier name) are local supplier meeting requirement of minimum local content %defined in as above orders for the material against Enquiry / Tender No

.....
.....
.....

Details of the location at which local value addition will be made are as follows:

.....
.....
.....

We also understand false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h)oftheGeneralFinancialRulesforwhichabidderoritssuccessorscanbedebarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permitted underlaw.

Date:
Place:

Signature:
Name andDesignation:
Mobile no:
Office Telephone No: Email ID:
Office Seal:

FORMAT FOR EARNEST MONEY DEPOSIT / BID BOND

(To be typed on Non-judicial stamp paper of value Indian Rupees One Hundred)

(TO BE ESTABLISHED THROUGH ANY OF THE NATIONAL BANKS (WHETHER SITUATED AT MANGALURU OR OUTSTATION) WITH A CLAUSE TO ENFORCE THE SAME ON THEIR LOCAL BRANCH AT MANGALURU OR ANY SCHEDULED BANK (OTHER THAN NATIONALISED BANK) SITUATED AT MANGALURU. BONDS ISSUED BY COOPERATIVE BANKS ARE NOT ACCEPTED)

LETTER OF GUARANTEE

To
Director,
National Institute of Technology Karnataka,
Srinivasnagar P.O., Surathkal
Mangaluru – 575025

IN ACCORDANCE WITH YOUR TENDER for the supply of, M/s..... (hereinafter called the “Bidder”) having its Registered Office at, wish to participate in the said bid for the supply.....as an irrevocable Bank Guarantee against Earnest Money Deposit for an amount of Rs. (Rupees.....) valid up to **(180 days from the date of issue of Bank Guarantee)**, is required to be submitted by the bidder as a condition precedent for participating in the said bid, which amount is liable to be forfeited by the Purchaser on (1) the withdrawal or revision of the offer by the bidder 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 execute the contract as per contractual terms and condition within the contractual delivery period and (4) on the happening of any contingencies mentioned in the bid documents.

During the validity of this Bank Guarantee:

We,(Bank name) having the registered office at.....guarantee and undertake to pay immediately on first demand by NITK Surathkal, an amount of Rs..... (Rupees.....)without any reservation, protest, demur and recourse. Any such demand made by theNITK Surathkal shall be conclusive and recourse. Any such demand made by the purchaser shall be binding on the Bank irrespective of any dispute or difference raised by the Bidder.

The Guarantee shall be irrevocable and shall remain valid up to.....(180 days from the date of issue of Bank Guarantee) If any further extension is required, the same shall be extended to such required period on receiving instruction from the Bidder, on whose behalf the is Guarantee is issued.

Notwithstanding anything contained herein:

- * Our liability under this Bank Guarantee shall not exceed Rs..... (Rupees.....).
- * This Bank Guarantee shall be valid up to.....(date).
- * 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 on or before(date).

This Bank further agrees that the claims if any, against this Bank Guarantee shall be enforceable at our branch office atsituated at(Address of local branch).

Yours truly,
Signature and seal of the guarantor: Name of Bank:

Address:

Date:

Instruction to Bank: Bank should note that on expiry of Bond Period, the Original Bond will not be returned to the Bank. The bank is requested to take appropriate necessary action on or after the expiry of the bond period

Checklist for BIDDERS

BIDDERS are to indicate whether the following documents are uploaded by striking out the non-relevant option and the relevant technical bid documents should be in order.

Sl. No.	Documents	Content	Document Attached
1	Technical Bid	A signed copy of the tender document should be uploaded	(Yes /No) Pg. No.
2		Self-Attested copy of GST & PAN Number	(Yes /No) Pg. No.
3		License certificate for manufacture /supply of the item &Factory license. Registration with EPF and ESI	(Yes /No) Pg. No.
4		Undertaking that the successful BIDDER agrees to give a 3% Performance Security.	(Yes /No) Pg. No.
5		Catalogue of the Product with detailed product specifications.	(Yes /No) Pg. No.
6		Copy of the Balance Sheet	(Yes /No) Pg. No.
7		List of Owner/partners of the firm and their contact numbers (Bidder Information)	(Yes /No) Pg. No.
8		The contract form is given in section 5	(Yes /No) Pg. No.
9		Format of compliance statement of specification as per Annexure-‘A’	(Yes /No) Pg. No.
10		Previous Supply Order as per Annexure-‘B’	(Yes /No) Pg. No.
11		Declaration of abandoned or suspended any awarded service & Blacklist Certificate. Annexure ‘C’	(Yes /No) Pg. No.
12		Integrity Pact. Annexure ‘D’	(Yes /No) Pg. No.
13		Bank details of the bidder. Annexure ‘E’	(Yes /No) Pg. No.
14		EMD FORMAT Annexure ‘J’	(Yes /No) Pg. No.
15		Document as per specification (if any)	(Yes /No) Pg. No.
16		Annexure –‘G’	(Yes /No) Pg. No.
17		Annexure –‘H’	(Yes /No) Pg. No.

18		Annexure -'I'	(Yes /No) Pg. No.
1	Financial- Bid	Price bid	(Yes /No)

Seal and Signature of the bidder

Detailed Technical Specifications

Item: Vacuum and inert atmosphere furnace

Quantity: 1 (One)

Warranty: Minimum 12 Months

Specification for furnace:

1. Maximum operating temperature = 1400 °C
2. Continuous working temperature = 1350 °C

(A) Work tube & flanges

3. Hot zone dimension requirement = Outer diameter: 90 mm and length: 250mm
4. Size of the work tube = Outer diameter: 90 mm, inner diameter: 80 mm and length 1000 mm
5. Tube material = Alumina (99.7 %)
6. Flanges = Vacuum compatible water-cooled stainless-steel flanges
7. Flanges type = Window
8. Vacuum port type = KF25
9. Flanges compatibility = 10^{-4} mbar vacuum level

(B) Furnace body

10. Body structure of the furnace = (a) MS fabricated with duly powder coated and (b) dual body structure to maintain skin temperature <60°C
11. Location of the control panel = Bottom of the furnace

(C) Insulation

12. Insulation material = Vacuum formed fibres
13. Type of insulation = Triple wall insulation with 1600 °C HD grade

(D) Control system

14. Input power of control system = 230 V, 5.2 KW (approx.), Single phase
15. Uniformity of temperature = ± 2 °C
16. Accuracy of temperature = ± 1 °C
17. Skin/surface temperature = < 60 °C at 1300 °C
18. Heating rate = 1 to 10 °C/min but preferably at 5 °C/min

19. Heating element = SiC
20. Type of thermocouple = R type with alumina sheath
21. Number of thermocouples = 2
22. One thermocouple will be placed just outside the alumina tube to control the furnace heating.
23. Another thermocouple will be near the sample (to get the exact temperature of the sample) through the flange. Thermocouple will be of length = 700 mm with 3 meter compensating cable and connected with a temperature reader.
24. Temperature controller = Honeywell make Digital Temperature Programmable PID controller with 2 Programs and 8 segments in each program. (Quantity =1)
25. Thyristor unit = Autonics make thyristor power controller. (Quantity =1)
26. Temperature limiter = Autonics make temperature limiter. (Quantity =1)
27. Control switch = High quality Rocker switch. (Quantity =1)
28. Safety switch = High quality Selector switch. (Quantity =1)
29. MCB = Siemens make MCB for over current and short circuit protection to the circuit. Also, as the main incomer of the system. (Quantity =1)
30. Ammeter = Rishabh Make digital ammeter. (Quantity =1)

(E) Safety Device

31. Multyspan make safety device/tool to protect against over and under voltage, over current, over and under frequency, short circuit protection and unbalanced loading. In case of any fault/problem so mentioned here, main supply should automatically go off and buzzer should beep. As soon as the buzzer reset or the buzzer button is pressed, system should be ready to start again.
32. A Thermostat switch fitted to the cooling fin housing of the diffusion pump protects from excessive heating by switching off the heater. Over Load protection devices for the vacuum pump motor and diffusion pump are required.
33. The Furnace will switch off in case of (a) over temperature and (b) over current.
34. Mechanical pressure controller during operation at high temperature to release accidental over pressure. SS pressure relief valve to release over pressure.

(F) Gas supply system

35. Gas cylinders capacity = 47 litres
36. Gas cylinder = 2 (One Argon and one nitrogen)
37. Gas flow controller = Rotameter 0-500 LPH
38. Gas manifold = 2/1 (minimum)

39. Pressure controller and release valve = Digital pressure gauge with selection of pressure values. Control of pressure with the needle valve.
40. Pipe line: SS 316
41. Pipeline fitting: Standard Vales and Fittings

(G) Vacuum system

Rotary Vacuum Pump

42. Direct drive Rotary Vacuum Pump should have a displacement capacity of 200 Lit/Min ($12 \text{ m}^3 / \text{hr}$) and must give an ultimate vacuum of 10^{-3} mbar under no load condition.
- Oil Capacity: 0.9 Lts,
- Exhaust Connection: Theeta 50 Kf flanges/Nozzle,
- Nominal Pumping Speed: 12 (200) m^3/hr (L/min) @50 Hz,
- Ultimate Pressure: 10^{-3} mbar,
- Vacuum compatible butterfly valve should be there
- Vacuum compatible non-returnable valve should there

Oil diffusion pump

43. Water cooled Oil Diffusion Pump should have nominal dia of 80mm with unbaffed pumping speed of 240 lit / sec.

High vacuum valve

44. A high vacuum valve of 4" size to provide maximum pumping capacity is required above the diffusion pump. This facilitates isolation of the diffusion pump, even when the chamber/load is exposed to atmosphere.

Vacuum collar

45. A vacuum collar is mounted above the high vacuum valve and is versatile for multiple needs of the user. The top port is blanked off and can be connected after removing the top plate when maximum pumping speed is required. In case of a connection to a smaller opening a KF-25 side port is required.

Plumbing lines & valves

46. Plumbing lines made of stainless steel incorporate 2 nos. of 1" quarter swing butterfly valves for backing and roughing operations. An air admittance valve to release vacuum into the collar and a fine control needle valve for controlled admittance of inert gas are required.

Vacuum measuring gauges

47. **Pirani Gauge:** Digital Pirani Gauge with two-gauge heads are required to independently monitor the roughing and backing pressure in the range of 1 to 0.001 mbar through a selector switch.

48. **Penning Gauge:** A Digital Penning gauge with one gauge head is required to monitor high vacuum in the range of 1×10^{-5} mbar.

49. Necessary vacuum fittings = KF 25 SS Bellow 1.5 meter,

Pirani Gauge with sensor (For Rotary Pump), Penning Gauge with sensor for diffusion pump,

KF25-KF10 SS T, Quantity = 1.

KF25 clamp plus centre ring, Quantity = 4.

KF10 clamp and centre ring, Quantity = 1.

KF25 dummy, Quantity = 1.

Overall vacuum requirement for the furnace

50. Ultimate vacuum capacity = 1×10^{-4} mbar

51. Regular vacuum level for operation (at high temperature) = 10^{-3} to 10^{-4} mbar

(H) Chiller Unit

52. Tempo Instrument make Chiller unit of minimum 20 litre to cool the Flanges

53. Cooling = Automatic cooling ON/OFF facility

54. Working temperature range = 5 to 20°C

Other requirements

1. Supplier must submit the list of credentials (the party/organization where they have supplied similar equipments along with the contact person name, contact number (mobile/land line) and email address).
2. Supplier must submit the compliance statement as per the specification (as mentioned in Annexure A).
3. The supply of the item includes successful installation, commissioning, demonstration (with the maximum temperature at least two run) and training to the NITK Surathkal personals at NITK Surathkal site (mentioned in Section 2: Conditions of contract).