

Tender Notification for the Procurement of one Variable Temperature Liquid Nitrogen based Cryostat (Last Date for Bid Submission: Friday, October 29th, 2021)

Best quotations are invited for the procurement of a **Variable Temperature Liquid Nitrogen based Cryostat** interfacing with the PerkinElmer frontier FTIR Spectrometer and the PerkinElmer UV-Visible spectrometer (Model: Lambda 750 and 1050) with temperature controller and sample measurement temperature ranging from **77 K – 500 K** with following technical specifications in INR only (FOR-IISc Bangalore basis) and the quotation should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor only. Your quotation should mention the terms of delivery, delivery schedule, estimated delivery date, and payment terms. The tender should be submitted in two separate sealed envelopes: one containing the technical bid and the other containing the commercial bid, both of which should reach us, duly signed on or before 17:00 hours on 29th October 2021, Friday.

The bids should be addressed to:

The Chairman,

Solid State and Structural Chemistry Unit
Indian Institute of Science (IISc)
Bengaluru, India - 560012.

Kind attention: **Dr. Abhishake Mondal**

email: chair.sscu@iisc.ac.in, mondal@iisc.ac.in

The sealed bids should be sent to:

Dr. Abhishake Mondal

Solid State and Structural Chemistry Unit
Indian Institute of Science (IISc)
Bengaluru, India - 560012.

Ph: +91-9932207177

email: mondal@iisc.ac.in

Please enclose a compliance statement along with the technical bid.

Section 1: Bid Schedule

1.	Tender No	<i>IISc/SSCU/2021/LN2Cryostat01</i>
2.	Tender date	13 th October, 2021
3.	Instrument	Liquid Nitrogen Variable Temperature Cryostat
4.	Tender type	i) Technical bid (part A) ii) Commercial bid (part B)
5.	Place of tender submission	The Chairman, Solid State and Structural Chemistry Unit Indian Institute of Science (IISc) Bengaluru, India – 560012 Kind attention: Dr. Abhishake Mondal
6.	Last date and time of tender submission	29 th October 2021, Friday, 17:00 hours
7.	For Further clarification	Dr. Abhishake Mondal Solid State and Structural Chemistry Unit Indian Institute of Science (IISc) Bengaluru, India - 560012. Ph: +91-9932207177 <i>email: mondal@iisc.ac.in</i>

Section 2 - Technical Specifications for Liquid Nitrogen Variable Temperature Cryostat

Items	Specification
Operating Temperature range	77 K – 500 K
Temperature stability	± 50 mK
liquid N ₂ storage	<ul style="list-style-type: none"> • Minimum 0.4 L Nitrogen reservoir with built in charcoal getter
Refilling of liquid N ₂	<ul style="list-style-type: none"> • Funnel for filling reservoir • Refill displacer assembly (to permit refill without affecting temperature control)
Compatibility	<ul style="list-style-type: none"> • The instrument should have modified base plate and slide mount for interfacing the cryostat with PerkinElmer frontier MIR/NIR/FIR Spectrometer. • The instrument should also have modified integration mount for interfacing with PerkinElmer UV-Visible spectrometer (Model: Lambda 750 and 1050)
Essential accessories	Instrumentation skirt with one 10-pin electrical feedthrough for heater and sensor wires and three blank ports, an evacuation valve, and a safety pressure relief valve
Sample holder	<ul style="list-style-type: none"> • Gold plated OFHC copper optical sample holder with M3 tapped hole for temperature sensor • Sample holder should be provided, and it should be capable of holding KBr pellet and thin film
Liquid sample holder	<ul style="list-style-type: none"> • Special 3-piece liquid cell sample holder • Four pairs of O-rings and UV-vis-NIR grade windows for liquid sample holder should be included
Sample space	<ul style="list-style-type: none"> • Sample should be under Vacuum • 3.0" O.D. sample area with 1.25" diameter sample mount.
Heater	50-ohm control heater

Temperature sensor	Standard curve silicon diode temperature sensor
Cryostat windows	<ul style="list-style-type: none"> • Outer shroud with 3.25" square window block • Four 1.63" diameter parallel IR-grade KBr windows (49 mm diameter (+/-0.2 mm), 6 mm thick (+/-0.5 mm)) • Four 1.63" diameter clear view plane parallel UV-vis-NIR grade fused silica or quartz windows • Four aluminium window blanks to be included
Warranty and AMC	Warranty of minimum 12 months from the date of Installation

Optional item: The following items should be quoted as optional item in the price bid

1. Temperature controller:

- Should operate down to 4 K with appropriate sensors
- Two independent diode/resistor input channels
- Two independent heater output loops (1st loop 25 W max banana plug output; 2nd loop 2 W max detachable terminal block)
- Autotuning PID, audible and visual alarms, and relays.
- GPIB (IEEE-488) parallel computer interfaces.
- Should include a serial RS-232C port
- Cable to connect the cryostat
- Power requirement: 100, 120, 220, or 240 VAC, (+6%, -10%), 50 or 60 Hz

2. Turbo pumping station

- Turbomolecular pump with nominal 47 liter/second capacity.
- 0.8 CFM dry diaphragm backing pump.
- All mounting frame with rubber feet and cutouts for easy handling.
- Wide range vacuum gauge (atmosphere to 10^{-6} Torr) with digital display.
- Controller with integral air cooler, digital display of turbo speed, and input for one vacuum gauge
- 5-foot flexible stainless-steel pumping line.
- Vacuum isolation valve.
- Power Requirement: 100 - 240 VAC, 50/60 Hz

Additional requirements need to be included:

- 1) The cryostat must also include Four (4) special retainers for mounting 6 mm thick windows on cryostat.
- 2) The cryostat must be able to hold Liquid Nitrogen at least for 8 hours at 77 K.
- 3) Cryostat should be compatible for both existing FT-IR (Model no: PerkinElmer FT-IR MIR Frontier) and UV-vis-NIR spectroscopy (Model no: PerkinElmer LAMBDA 750) measurement which will be carried out for all three types of samples KBr pellet, thin film, and liquid sample.
- 4) All type electrical connection between the temperature controller and cryostat should be done by the vendor.

The following technical requirements should be strictly met, and necessary documentation must be enclosed along with the main quotation.

_The Liquid Nitrogen Variable Temperature Cryostat unit has to be optimized for the standard test/reference.

samples and to be successfully demonstrated at our site.

_Complete product catalogue describing all the required basic and optional items should be produced.

- Submit Technical Compliance with Proof documents.
- Submit Similar Equipment's PO copy, user list and performance certificate to demonstrate technical competence and service capability in India and Bangalore.

_ Installation should be done at free of the cost.

_ Technical and commercial bids should be submitted separately.

Section 3- Terms and Conditions:

1. All documentations in the tender should be in English.
2. Tender should be submitted in two envelops (two bid system).
 - a) Technical Bid (Part-A) – Technical bid consisting of all technical details and check list for conformance to technical specifications. The proposal should contain a compliance table with 4 columns in addition to the ones in the technical requirements table that has been included with this RFQ above. The compliance table should include all the items in the same order and format. The first column should describe your compliance in a “Yes” or “No” response. If “No” the second column should state, the extent of deviation. The “third” column should state the reasons for the deviation if any. The fourth column can be used to compare your tool with that of your competitors or provide details as requested in the technical requirements table below. (Suppliers who include any indication of prices in the technical bid will be automatically disqualified).

- b) Commercial Bid (Part-B) – Indicating item wise price for the items mentioned in the technical bid, as per the format of quotation provided in tender, and other commercial terms and conditions.
3. The technical bid and price bid should each be placed in separate sealed covers, superscripting on both the envelopes the tender no. and the due date. Both these sealed covers are to be placed in a bigger cover which should also be sealed and duly superscripted with the Tender No, Tender Description & Due Date.
 4. The SEALED COVER superscripting tender number / due date & should reach the office of the Chairman, Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore – 560012, India, **Kind attention: Dr. Abhishake Mondal** on or before due date mentioned in the tender notice. In case due date happens to be holiday the tender will be accepted and opened on the next working day. If the quotation cover is not sealed, it will be rejected.
 5. Notwithstanding anything specified in this tender document, IISc Bangalore, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:
 - a) To accept OR reject 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 confirming to the tender terms.
 6. Any statutory increase in the taxes and duties subsequent to bidder's offer, if it takes place within the original contractual delivery date, will be borne by IISc, Bangalore subject to the claim being supported by documentary evidence. However, if any decrease takes place the advantage will have to be passed on to IISc, Bangalore. Any information furnished by the bidder found to be incorrect, either immediately or at a later date, would render the bidder liable to be debarred from tendering/taking up of work in IISc, Bangalore.
 7. The bidder will provide the prerequisite installation requirement of the equipment along with the technical bid.
 8. The vendor is responsible for the installation of the system at the institute.
 9. The price quotation should include the cost of installation and training of potential users.
 10. GST must be not more than 5% (Institute will provide you GST exemption certificate).
 11. The system should be provided with at least three years of warranty, on all parts and labor, from the date of installation.
 12. All items should be delivered FOR-IISc Bangalore basis in INR only and from domestic vendors only.
 13. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.
 14. The vendor should have qualified technical service personnel for the equipment based in India and should assure a response time of <48 hours.
 15. Vendor must provide a user list (with contact details including emails and phone numbers) of at least at least five identical instruments in JNCASR, IITs, IISERs, NITs with above mentioned specifications. Details of such systems should be provided.

16. The lead-time for the delivery of the equipment should not be more than 6 months from the date of receipt of our purchase order.
17. The indenter reserves the right to withhold placement of final order. The right to reject all or any of the quotations and to split up the requirements or relax any or all of the above conditions without assigning any reason is reserved.
18. Wherever requested data must be supplied along with technical compliance documents. Technical bids without supporting data will be deemed as technically non-compliant.
19. All guaranteed specifications may have to be demonstrated at the time of installation. Any necessary standard samples for that purpose should be brought by the service engineers.
20. Printed literature and published papers in support of all compliance with the prescribed specifications may be provided.
21. The vendor must provide a compliance statement in a tabular form concerning each technical specification in the tender document duly supported by the manufacturer's literature and published papers. Any other claim will not be accepted and may lead to rejection of the bid.
22. Technical evaluation by the institute may include a demonstration to verify functionalities and capabilities of the system quoted. The institute reserves the right to provide samples after opening the technical bids for verification of promised specifications. Any discrepancy between the promised specifications and measurements will be deemed as technical non-compliance.
- 23. The vendor must quote for the minimum 1-year warranty period for whole cryostat set up.**
24. The payment will be through FOR-IISc Bangalore in INR only.
25. Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within the city of Bangalore, India.

Annexure 1:

Details of the Bidder: The bidder must provide the following mandatory information & attach supporting documents wherever mentioned:

Sr. No.	Type	Details
1.	Name of the Bidder	
2.	Nature of Bidder (Attach attested copy of Certificate of Incorporation/ Partnership Deed)	
3.	Registration No/ Trade License, (attach attested copy)	
4.	Registered Office Address	
5.	Address for communication	
6.	Contact person- Name and Designation	
7.	Telephone No	
8.	Email ID	
9.	Website	
10.	PAN No. (attach copy)	
11.	GST No. (attach copy)	

Signature of the Bidder

Name:
Designation, Seal

Date:

Annexure 2:

Declaration regarding experience

To,

The Chairman,
Solid State and Structural Chemistry Unit,
Indian Institute of Science,
Bangalore – 560012,
India

Kind attention: **Dr. Abhishake Mondal**

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Supply and installation of Liquid Nitrogen Variable Temperature Cryostat

Sir,

I have carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company / firm has ---- years of experience in supplying and installing Liquid Nitrogen Variable Temperature Cryostat.

(Signature of the Bidder)

Printed Name Designation, Seal

Date:

Annexure 3:

Declaration of track record

To,

The Chairman,
Solid State and Structural Chemistry Unit,
Indian Institute of Science,
Bangalore – 560012,
India
Kind attention: **Dr. Abhishake Mondal**

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Supply and installation of Liquid Nitrogen Variable Temperature Cryostat

Sir,

I have carefully gone through the Terms & Conditions contained in the above referred tender.

I hereby declare that my company / firm is not currently debarred / blacklisted by any Government / Semi-Government organizations / institutions in India or abroad. I further certify that I am competent officer in my company / firm to make this declaration.

OR

I declare the following:

Sr. No.	Country in which the company is debarred/ blacklisted / having pending case	Blacklisted / debarred by Government / Semi Government Organizations or Institutions / having pending case	Reason	Time Period

(Note: In case the company / firm was blacklisted previously, please provide the details regarding period for which the company / firm was blacklisted and the reason/s for the same).

(Signature of the Bidder)

Printed Name Designation, Seal

Date:

Annexure 4:

Declaration of acceptance of terms and conditions

To,

The Chairman,
Solid State and Structural Chemistry Unit,
Indian Institute of Science,
Bangalore – 560012,
India
Kind attention: **Dr. Abhishake Mondal**

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Supply and installation of Liquid Nitrogen Variable Temperature Cryostat

Sir,

I have carefully gone through the Terms & Conditions contained in the above referred tender document. I declare that all the provisions of this tender document are acceptable to my company. I further certify that I am an authorized signatory of my company and am, therefore, competent to make this declaration.

Yours faithfully

(Signature of the Bidder)

Name:

Designation, Seal:

Date:

Section 5: Checklist

The following items must be checked before the bid is submitted.

1. Sealed Envelope "A": Technical Bid
Technical bid (each page signed by the authorized signatory and sealed) with the below annexures:
 - a. Annexure 1: Bidders details
 - b. Annexure 2: Declaration regarding experience
 - c. Annexure 3: Declaration of track record
 - d. Annexure 4: Declaration of acceptance of terms and conditions
 - e. Annexure 5: Details of item quoted.

2. Sealed Envelope "B": Commercial Bid

Your quotation must be submitted in two separate sealed envelopes: Technical Bid (Envelope A) and Commercial Bid (Envelope B) super scribing on both the envelopes with Tender No. and due date and both in sealed covers and put in a bigger cover which should also be sealed and duly super scribed with Tender No., Tender description & Due Date.