

Cryo-Free Cryogenic Probe Station

NOTICE INVITING DOMESTIC TENDER



Department of Electronic Systems Engineering,
Indian Institute of Science, Bangalore

July 2, 2025

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1. Bid Schedule

1	Tender No	DESE/LU/MSA/05/25-26
2	Tender Date	02.07.2025
3	Item Description	<u>Cryo-Free Cryogenic Probe Station</u>
	Tender Type	Two bid system (i) Technical Bid (Part A) (ii) Commercial Bid (Part B)
5	Place of tender submission	The Chairman, Department of Electronic Systems Engineering Indian Institute of Science, Bangalore – 560012
6	Last Date & Time for submission of tender	23.07.2025, 10 AM
7	For further clarification	Prof. Mayank Shrivastava Professor Department of Electronic Systems Engineering, Indian Institute of Science, Bangalore, Karnataka 560012, India Secretary (Ms. Rekha's) Contact: 9972525771 (On Behalf of Purchase Committee) Email: msdlab.ece@iisc.ac.in (for tender related queries)

2. Eligibility Criteria

Prequalification criteria:

1. The Bidder should belong to either class 1 or class 2 supplier distinguished by their “local content” as defined by recent edits to GFR. They should mention clearly which class they belong to in the cover letter.
 - a. Class 1 supplier: Goods and services should have local content of equal to or more than 50%.
 - b. Class 2 supplier: Goods and services should have local content of equal to or more than 20 % and less than 50%.)
2. Purchase preference as defined by the recent edits to GFR (within the “margin of purchase preference”) will be given to Class-1 supplier.
3. MSME can seek exemption to some qualification criteria. IISc follows GFR2017 for such details
4. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per - Annexure 4.
5. The Bidder must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect has to be given as per Annexure 3.
6. Necessary training to operate the procured setup and required literature support should be provided without additional cost.
7. In principle onsite installation should be free of cost. The amount of time / day committed by the engineer during installation must be clearly stated.
8. Software upgrade, if any, must be free of cost for next 5 years.
9. The vendor must assure that there are no bugs and glitches with the integration. In case of glitches or bugs at the time of installation, vendor must fix the issues in less than three days from the start date.
10. In case of hardware/software issues or support, vendor should be able to provide required solution within three days.
11. All equipment must be well calibrated before and after installation.
12. Additional quote for an annual maintenance contract should be included for the next 5 years.
13. The vendor should have a good track record of delivering such equipment at universities/research institutions (please furnish the details).
14. Please provide list of customers who have procured your equipment in last 5 years.
15. The vendor should be able to repair and maintain the equipment, once it is installed in India. No travel claims must be made by vendor for servicing during the warranty/guarantee period.
16. The system must be delivered at the earliest. The smallest lead time will be appreciated. Our expectation is shipment immediately after PO and full or part payment post installation.
17. On all systems the payment terms will be specified in the commercial proposal and is subject to negotiation.
18. The validity period of the quotation should be 90 days at least.
19. Please provide details of the number of trained personnel in India, who can service the machine.
20. Highlight the system/computer requirement to integrate the setup, if any other than specified in the specifications above.
21. The supplier will provide comprehensive support to the user for the software and instrument for a minimum period of 3 years.
22. Bidder shall have to submit audited accounts (Balance sheet profit and loss account) of last three financial years. Audited statements must be signed and stamped by a qualified chartered accountant.
23. Bidder must submit Income Tax return for last three financial assessment years.
24. Bidder must submit up to date sales tax or GST clearance certificate.

Vendor Eligibility Criteria:

1. Sales Confirmation: The vendor company should provide comprehensive details regarding their **Cryo-Free Cryogenic Probe Station** in the last 5 years in India for multinational companies/PSUs/government organizations. The vendor should have sold the similar setup to at least 3 entities as depicted above in last 5 years in India. Furthermore, they must substantiate their claims by furnishing relevant supporting documents.
2. Bidders offering imported products will fall under the category of non-local suppliers. They cannot claim themselves as Class-1 local suppliers/Class-2 local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training, and other sales service support like AMC/CMC, etc., as local value addition.

3. Terms and Conditions

A) Submission of Tender:

1. All documentations in the tender should be in English.
2. Tender should be submitted in two envelopes (two bid system).
 - a. Technical Bid (Part-A) – Technical bid consisting of all technical details and check list for conformance to technical specifications.
The technical proposal should contain a technical compliance table with 5 columns.
 - I. The first column must list the technical requirements, in the order that they are given in the technical requirement below.
 - II. The second column should provide specifications of the instrument against the requirement. Please provide quantitative responses wherever possible with technical details in annexure.
 - III. The third column should describe your compliance with a “Yes” or “No” only. Ensure that the entries in column 2 and column 3 are consistent.
 - IV. The fourth column should state the reasons/explanations/context for deviations, if any.
 - V. The fifth column can contain additional remarks from the OEM. You can use this opportunity to highlight technical features, qualify response of previous columns, or provide additional details.
 - 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 Chairperson Office, Materials Engineering, Indian Institute of Science, Bangalore – 560012, India 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.

All queries are to be addressed to the person identified in “Section 1 – Bid Schedule” of the tender notice.
5. The price must be quoted in INR (Indian Rupee). Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor. The quotations should be on FOR-IISc Bangalore basis in INR only.
6. The Institute reserves the right to accept or reject any bid and to annul the bidding process and reject all bids at any time prior to the award of contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders.
7. Incomplete bids will be summarily rejected.

B) Cancellation of Tender:

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.

C) Validity of the Offer:

The offer shall be valid at least 90 Days from the date of opening of the commercial bid.

D) Evaluation of Offer:

1. The technical bid (Part A) will be opened first and evaluated.
2. Bidders meeting the required eligibility criteria as stated in Section 2 of this document shall only be considered for Commercial Bid (Part B) opening. Further, agencies not furnishing the documentary evidence as required will not be considered.
3. Pre-qualification of the bidders shall not imply final acceptance of the Commercial Bid. The agency may be rejected at any point during technical evaluation or during commercial evaluation. The decision in regard to acceptance and / or rejection of any offer in part or full shall be the sole discretion of IISc Bangalore, and decision in this regard shall be binding on the bidders.
4. The award of contract will be subject to acceptance of the terms and conditions stated in this tender.
5. Any offer which deviates from the vital conditions (as illustrated below) of the tender is liable to be rejected:
 - a. Non-submission of complete offers.
 - b. Receipt of bids after due date and time and or by email / fax (unless specified otherwise)
 - c. Receipt of bids in open conditions.
6. In case any BIDDER is silent on any clauses mentioned in these tender documents, IISc Bangalore shall consider that the BIDDER had accepted the clauses as of the tender and no further claim will be entertained. Further if the BIDDER is silent or does not give detail justification of their claim regarding those mentioned in technical specifications, IISc Bangalore reserves the full right to reject the tender due to non-compliance without any further discussion.
7. No revision in the terms and conditions quoted in the offer will be entertained after the last date and time fixed for receipt of tenders.
8. Lowest bid will be calculated based on the total price of all items tendered for Basic equipment along with accessories selected for installation, operation, preprocessing and post processing, optional items, recommended spares, warranty.

E) Pre-requisites:

The bidder will provide the prerequisite **Cryo-Free Cryogenic Probe Station**.

F) Warranty:

The vendor should be able to repair and maintain the equipment, once it is installed in India. No travel claims must be made by vendor for servicing during the warranty/guarantee period. If the setup is found to be defective, it must be repaired or replaced at the cost of the bidder within 30 days of receiving written notification from IISc, Bangalore. In the event of any delay in the repair or replacement of the setup, the warranty period will be extended by a corresponding amount of time to account for the downtime.

G) Purchase Order:

1. The order will be placed on the bidder whose bid is accepted by IISc based on the terms & conditions mentioned in the tender document.
2. The quantity of the items in tender is only indicative. IISc, Bangalore reserves the right to increase /decrease the quantity of the items depending on the requirement.
3. If the quality of the software and service provided is not found satisfactory, IISc, Bangalore reserves the right to cancel or amend the contract.

H) Delivery, Installation and Training:

The bidder shall provide the lead time to delivery, installation and made functional at IISc, Bangalore from the date of receipt of purchase order. The setup should be delivered, installed and made functional **within 180 days** from the date of receipt of purchase order. The supply of the items will be considered as effected only on satisfactory installation and inspection of the system and inspection of all the items and features/capabilities tested by the IISc, Bangalore. After successful installation and inspection, the date of taking over of entire system by the IISc, Bangalore shall be taken as the start of the warranty period. No partial shipment is allowed. The bidder should also arrange for technical training to the local facility technologists and users.

I) Payment Terms:

100% payments will be released after completion of delivery and satisfactory installation subject to TDS as per rules. AMC cost (if ordered), after completion of warranty period) will be released on half - yearly basis at the end of each six months subject to satisfactory services. The AMC will be comprehensive. Price basis must be on FOR-IISc Bangalore basis only. As per GFR, no advance payment can be made to domestic vendors unless an equal amount of bank guarantee is provided.

J) Statutory Variation:

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 onto IISc, Bangalore.

K) Disputes and Jurisdiction:

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.

L) General:

1. All amendments, time extension, clarifications etc., within the period of submission of the tender will be communicated electronically. No extension in the bid due date/time shall be considered on account of delay in receipt of any document(s) by mail.
2. The bidder may furnish any additional information, which is necessary to establish capabilities to successfully complete the envisaged work. It is however, advised not to furnish superfluous information.
3. The bidder may visit the installation site before submission of tender, with prior intimation.
4. 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.

4. Technical Specifications

Technical Specifications of Different Parts and Features of the Cryo-Free Cryogenic Probe Station

The general specification of the **Cryo-Free Cryogenic Probe Station** is as below:

Sl. No.	Technical Specifications
1	<ul style="list-style-type: none"> • Probe Arms – 6 nos.
2	<ul style="list-style-type: none"> • 4 arms must support DC to pulse measurements with Triaxial probe cable and ports. • The remaining 2 arms must support DC-40GHz (RF measurements) with SMA cables and ports. • Infinity probe loading compatible RF arms. • Non-magnetic hermetic semirigid microwave coaxial probe cable • The probe must be anchored to the probe arm • Probe arms must be thermally anchored to the radiation shield • The probe mount must be thermally anchored to the sample stage • The probe mount must be cooled and should have <10K having temperature variation with the sample less than 20mK at Tmin (Tmin range in spec. item 2)
3	Temperature Range on sample holder <ul style="list-style-type: none"> • $\leq 6.5\text{K}$ (Tmin) – specify Tmin • $\geq 375\text{K}$ (Tmax) – specify Tmax • 20mK accuracy or better
4	Vacuum level of the sample chamber <ul style="list-style-type: none"> • $\leq 50\mu\text{Torr}$ in less than 45 mins & $\leq 20\mu\text{Torr}$ in less than 60 mins
5	Temperature cycle duration from Tmax to Tmin <ul style="list-style-type: none"> • Pump down ≤ 0.5 hour • Chamber cool down ≤ 2.5 hour • Chamber warm up ≤ 2 hour
6	Micro-manipulated stage <ul style="list-style-type: none"> • The micro-manipulated stage must come with thermal radiation shields, welded bellows and feedthrough ports. • Must include probe arm and base along with probes, probe tips, and cables that are compatible with the frequency of operation mentioned in the specification 1. • Stainless steel is a must
7	Sample holder <ul style="list-style-type: none"> • ≥ 2inch • Should have a triaxial module • Flexibility to ground or bias the sample holder (co-axial port)
8	Measurable area <ul style="list-style-type: none"> • ≥ 1inch
9	Probe arm positioning: Travel distance <ul style="list-style-type: none"> • $X \geq 50\text{mm}$ • $Y \geq 20\text{mm}$ • $Z \geq 15\text{mm}$
10	Active Vibration Isolation table (provide details / specs). <ul style="list-style-type: none"> • Vibration at the sample should be less than 0.5 μm
11	Viewport <ul style="list-style-type: none"> • Ensemble should have a top view access • Viewport $\geq 50\text{mm}$ diameter • Optically accessible area ≥ 50 mm diameter • Viewport window must be made of an Infrared absorbing transparent material
12	Closed cycle refrigerator setup

	<ul style="list-style-type: none"> • Enabling cryo-free operation • Multistage (at least 2) to avoid sample condensation (sample condensation is not acceptable) • Multistage heater at the sample stage and CCR stages
12	<p>Optical monitoring</p> <ul style="list-style-type: none"> • Optical Zoom better than 7:1 to ensure we can probe 50um x 50um sized pad with resolution better than 5µm • 22" Monitor • High-Definition colour camera • Switchable illumination schemes – coaxial and ring light • Brightness and focus control • X-Y motion control of the camera
13	<p>Equipment for temperature control/sweep/heating/monitoring system(s) Using a diode sensor, the controller should be able to monitor and control the temperature on</p> <ul style="list-style-type: none"> • Radiation shield • Multistage CCR • Sample stage • Temperature Sensor on one of the probe arms
14	<p>Safety monitor gauge of the chamber Must have a relief valve</p>
15	<p>Vacuum chamber ports</p> <ul style="list-style-type: none"> • A pumping port • Purge gas inlet port • Should have a vacuum isolation valve between the vacuum chamber and the pump
16	<p>GSG RF probes – 2 No. (connected on the manipulator/probe arms supporting measurements up to 40GHz).</p> <ul style="list-style-type: none"> • Should operate in 6-350K temperature range • Pitch = 150µm • Infinity Probe or better • Up to 40GHz or better
17	<p>DC Probes – 20 nos.</p> <ul style="list-style-type: none"> • Should operate in 6-325K temperature range • Probe tip diameter < 10µm
18	<p>Calibration substrate for low temperature measurements SLOT calibration compatible with 150µm pitch probes</p>
19	<p>Turbo Pump – 1 set</p> <ul style="list-style-type: none"> • Oil-free dry scroll back pump • Full range pressure gauge • GUI for pressure monitoring system • Pump line vibration isolator • Mechanical connectors, steel bellows, rings, cables, clamps/fittings and adaptors.
20	<p>Compressor maintenance cycle ≥15,000 hrs</p>
21	<p>Chamber</p> <ul style="list-style-type: none"> • Stainless Steel. • Should be able to support Ultra High Vacuum (<0.1uTorr). • He leak detection test report must be provided at the time of delivery.

Other Necessities

- Should include a written guide (tutorial) as well as a demonstration of how to operate the system.
- The setup should include all the hardware and software modules that are necessary for the system setup.
- All installation tools should be included.
- Packing freight and Installation cost should be included.

II. Optional Items

- Fiber-optic cable compatibility for optical measurements
- Should be able to use a current-controlled setup to apply a magnetic field to the device placed on the sample holder.
- Temperature extension to >500K

III. Additional Items (Must be added to compliance certificate as well):

- Support: Please provide details of support provided within the warranty period
- Shipping: The quote must be in FOR-IISc Bangalore.
- Installation: Please list a set of acceptance tests for on-site (vendor) inspection and after installation at IISc Bangalore.
- Other Options: Necessary spare parts should be quoted as an option.
- Please include any other options currently available that can be added on in the future.
- Training: Please state if training is required to operate this instrument, and if yes, please highlight the extent of training provided as part of this purchase and for how many days.

All the above-mentioned technical specifications are highly desired. However, lower technical specifications may be considered if the above-mentioned specifications are found to be unsuitable in financial terms. The Institute reserves the right to go for lower specifications taking into consideration its technical preferences and financial constraints. Vendors are encouraged to highlight the advantages of their product over comparable products from the competitors.

PI Terms and conditions (should be included in compliance certificate):

1. Necessary training to operate the procured setup and required literature support should be provided without additional cost.
2. In principle onsite installation should be free of cost. The amount of time / day committed by the engineer during installation must be clearly stated.
3. Software upgrade, if any, must be free of cost for next 5 years.
4. The vendor must assure that there are no bugs and glitches with the integration. In case of glitches or bugs at the time of installation, vendor must fix the issues in less than three days from the start date.
5. In case of hardware/software issues or support, vendor should be able to provide required solution within three days.
6. All equipment must be well calibrated before and after installation.
7. Additional quote for an annual maintenance contract should be included for the next 5 years.
8. The vendor should have a good track record of delivering such equipment at universities/research institutions (please furnish the details).
9. Please provide list of customers who have procured your equipment in last 5 years.
10. The vendor should be able to repair and maintain the equipment, once it is installed in India. No travel claims must be made by vendor for servicing during the warranty/guarantee period.
11. The system must be delivered within 6 weeks after PO.
12. On all systems the payment terms will be specified in the commercial proposal and is subject to negotiation.
13. The validity period of the quotation should be 90 days at least.
14. Please provide details of the number of trained personnel in India, who can service the machine.
15. Highlight the system/computer requirement to integrate the setup, if any other than specified in the specifications above.
16. See other Terms & Conditions, guidelines, eligibility criteria etc. in enclosed document in the next pages.

5. Technical Bid

The technical bid should furnish all requirements of the tender along with all annexures in this section and submitted to

The Chairman,
Department of Electronic Systems Engineering
Indian Institute of Science, Bangalore – 560012

Annexure-1

Details of the Bidder

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

Details of the Bidder

Sl. No	Items	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,
Department of Electronic
Systems Engineering
Indian Institute of Science,
Bangalore – 560012

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Cryo-Free Cryogenic Probe Station

Sir,

I've carefully gone through the Terms & Conditions contained in the above referred tender. I hereby declare that my company / firm has XXXXXX years of experience in **Cryo-Free Cryogenic Probe Station**

(Signature of the Bidder)

Printed Name

Designation, Seal Date:

Annexure-3

Declaration regarding track record

To,
The Chairman,
Department of Electronic
Systems Engineering
Indian Institute of Science, Bangalore
– 560012

Ref: Tender No: XXXXXXXX

Dated: XXXXX

Cryo-Free Cryogenic Probe Station

Dear Sir,

I've 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'm competent officer in my company / firm to make this declaration.

Or

I declare the following

Sl.No	Country in which the company is Debarred /blacklisted / case is Pending	Blacklisted / debarred by Government / Semi Government/Organizations /Institutions	Reason	Since when and for how long
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(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).

Yours faithfully
(Signature of the Bidder)

Name
Designation, Seal

Date:

Annexure-4

Declaration for acceptance of terms and conditions

To,
The Chairman,
Department of Electronic
Systems Engineering
Indian Institute of Science, Bangalore – 560012

Ref: Tender No: XXXXXX

Dated: XXXX

Cryo-Free Cryogenic Probe Station

Dear Sir,

I've carefully gone through the Terms & Conditions as mentioned 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'm an authorized signatory of my company and am, therefore, competent to make this declaration.

Yours faithfully,

(Signature of the Bidder)

Name
Designation, Seal

Date:

Annexure-5

Details of items quoted:

a. Company Name	
b. Product Name	
c. Part / Catalogue number	
d. Product description / main features	
e. Detailed technical specifications	
f. Remarks	

Instructions to bidders:

1. Bidder should provide technical specifications of the quoted product/s in detail.
2. Bidder should attach product brochures along with technical bid.
3. Bidders should clearly indicate compliance or non-compliance of the technical specifications provided in the tender document.

6. Commercial bid

The commercial bid should be furnished with all requirements of the tender with supporting documents as mentioned under:

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total
1.	Essential items noted in the technical specification				
1.a	... (details of essential items)				
1.b	...				
2.	Optional items noted in the technical specification				
2.a	... (details of Optional items)				
2.b	...				
3.	Accessories for operation and installation				
4.	All Consumables, spares and software to be supplied locally				
5.	Warranty (1 year)				
6.	AMC 2 years beyond warranty				

Any additional items

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total

Addressed to

The Chairman,

Department of Electronic

Systems Engineering

Indian Institute of Science,

Bangalore – 560012

7. Checklist

(This should be enclosed with technical bid- Part A)

The following items must be checked before the Bid is submitted:

1. Sealed Envelope "A": Technical Bid

1. Section 5- 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 regarding clean track record
 - d. Annexure 4: Declaration for acceptance of terms and conditions
 - e. Annexure 5: Details of items quoted
2. Copy of this tender document duly signed by the authorized signatory on every page and sealed.

2. Sealed Envelope "B": Commercial Bid

Section 6: Commercial Bid

Your quotation must be submitted in two envelopes: Technical Bid (Envelope A) and Commercial Bid (Envelope B) super scribing on both the envelopes with Tender No. and due date and both of these 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.