

**Tender notification for the procurement of a “Cryogen free He3 cryostat with magnet”**

**Tender number: PH/SMY-587\_2024-25**

This is an RFQ (Request for quotation) for the procurement of a “Cryogen free He3 system with 12 T magnet” for Department of Physics at Indian Institute of Science (IISc), Bangalore. This RFQ is from domestic (India-based) equipment manufacturers.

1	Section 1	Bid Schedule	
2	Section 2	Eligibility Criteria	As specified by IISc
3	Section 3	Terms and conditions	As specified by IISc
4	Section 4	Specifications	Technical specifications
5	Section 5	Technical Bid	Annexure 1: Bidder details
			Annexure 2: Declaration regarding experience of bidder
			Annexure 3: Declaration regarding clean track record of the bidder
			Annexure 4: Declaration of acceptance of tender
for			Annexure 5: Terms and conditions. Details of item quoted
6	Section 6	Commercial Bid	Quotation with price, Technical specifications of the equipment

### Section 1- Bid Schedule

1	Tender No.	PH/SMY-587_2024-25
2	Tender Date	6 <sup>th</sup> March 2025
3	Item Description	Procurement of Cryogen free He3 cryostat with magnet
4	Tender Type	Two bid system (i) Technical Bid (Part A) (ii) Commercial Bid (Part B)
5	Place of tender submission	Department of Physics, Institute of Science, Bangalore 560012
6	Last Date & Time for submission of tender	2 <sup>nd</sup> April 2025
7	For further clarification	Srimanta Middey, Associate Professor Department of Physics Indian Institute of Science Bangalore – 560012, India. Email: <a href="mailto:smiddey@iisc.ac.in">smiddey@iisc.ac.in</a>

## Section 2 – Eligibility Criteria

Prequalification criteria:

1. The Bidder's firm should have existence for a minimum of 5 years. (Enclose Company Registration Certificate)
2. 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%.
3. 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.
4. Purchase preference as defined by the recent edits to GFR (within the "margin of purchase preference") will be given to Class-1 supplier.
5. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.
6. The quotations should be on FOR-IISc Bangalore basis in INR only.
7. MSME can seek exemption to some qualification criteria. IISc follows GFR2017 for such details.
8. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per - Annexure 4.
9. 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 must be given as per Annexure 3.

### Section 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 systems).
  - a. **Technical Bid (Part-A)** – Technical bid consisting of all technical details and check list for 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.
    - 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 Indian Original Equipment Manufacturer (OEM) or from their distributors. You can use this opportunity to highlight technical features, qualify response of previous columns, or provide additional details, compare your solution with that of your competitors or provide details as requested in the technical requirements table below.
  - 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 Department of Physics, Indian Institute of Science, Bangalore 560012, India, on or before due date mentioned in the tender notice. In case the 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. All queries are to be addressed to the person identified in “Section 1 – Bid Schedule” of the tender notice.

6. GST/other taxes, levies etc., are to be indicated separately. The BIDDER should mention GST Registration and PAN in the tender document (Indian Bidders only).
7. If price is not quoted in Commercial Bid as per the format provided in tender document the bid is liable to be rejected.
8. 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 there by incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders.
9. Incomplete bids will be summarily rejected.
10. The technical proposal must include references of at least 3 previous installations done in India within last 5 years of similar cryogenic equipment from the equipment manufacturer. Please provide the names and contact addresses of the three independent referees, so that the committee can contact them independently to get reference. Please provide the installation report.
11. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.
12. The quotations should be on FOR-IISc Bangalore basis in INR only.

**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 90 Days from the date of opening of the commercial bid.

**D) Evaluation of the 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 construe that the BIDDER had accepted the clauses of the tender and no further claim will be entertained.
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, pre-processing and post processing, optional items, recommended spares, warranty, annual maintenance contract.

#### **E) Pre-requisites:**

The bidder will provide the prerequisite installation requirement of the equipment along with the technical bid.

#### **F) Warranty:**

The complete system is to be under warranty period of minimum 1 year including free supply of consumables, spare parts, and data analysis software from the date of functional installation. Vendor should include cost of any spares that are expected to be needed during the warranty period, including electronics, subcomponents, and

software. If the instrument is found to be defective, it must be replaced or rectified at the cost of the bidder within 30 days from the date of receipt of written communications from IISc, Bangalore. If there is any delay in replacement or rectification, the warranty period should be correspondingly extended.

#### **G) Annual Maintenance Contract (AMC)**

An annual maintenance contract for a period of at least 3 years post warranty should be provided as an essential optional item on completion of warranty period. If the purchase committee opt for the AMC, then the L1 will be calculated as instrument cost (A) Including warranty + cost of AMC per year (B)\*no of year. If we opt AMC period as 3 years, L1 will be calculated as  $A + 3*B$ .

The AMC costs will not be considered towards classifying the domestic nature (class 1 or class 2) of the vendor (see eligibility criteria in section 2).

As an additional option, provide cost of an annual maintenance contract (AMC) for 3 years, post warranty. The AMC must

- a. Cover 1 scheduled and 1 emergency visit per year
- b. The emergency visit should be supported with a 48-hour response window.
- c. clarify if maintenance will be done by a trained onsite engineer (MRC employee) or aspecialist from the OEM.
- d. In case the OEM is foreign, clarify if maintenance will be done by a trained engineer fromIndia (local representative or Indian subsidiary) or by a trained engineer from abroad.
- e. Include an itemized list of spares (e.g., maintenance kits) that are essential for scheduledvisits.

#### **H) 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 toincrease /decrease the quantity of the items depending on the requirement.
3. If the quality of the product and service provided is not found satisfactory, IISc, Bangalore reserves the right to cancel or amend the contract.

#### **I) Delivery, Installation and Training:**

The bidder shall provide the lead time to delivery, installation and ready to at IISc, Bangalore from the date of receipt of purchase order. The system should be delivered, installed, and made functional within 10 months 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 IISc, Bangalore. After successful installation and inspection, the date of taking over of entire system by 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.

**J) Payment Terms:**

100% payments (except AMC) 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. 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.

**K) 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 on to IISc, Bangalore.

**L) Dispute 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.

**M) 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.

#### Section 4 - Technical specifications

1. **Base unit:** Cryogen free He3 cryostat with at least 12 T magnetic field.
2. **Magnet:** 12 T superconducting magnet having field homogeneity better than 0.1 % over 10 mm diameter sphere & integrated switch heater so that magnet can also run-in persistent mode. Please provide drivers for the magnet.
3. **Magnet power supply:** Four quadrants magnet power supply. Interface using USB, TCP/IP and GBIP IEEE488. Mechanism of quench protection in case of power failure or problem with the pulse tube.
4. **He3 probe:** Guaranteed base temperature of at least 300 mK or less at the sample position with factory installed wiring and magnet fully energized. It should be demonstrated at the time of installation.
  - a. **Temperature stability:** The temperature range for the He3 probe should be < 300mK to 300K or more. The typical temperature stability should be better than +/- 3 mK till 1.2 K and +/- 0.1 K above 1.2 K. Please provide supporting data.
  - b. **Hold time:** The hold time at base temperature should be at least **40 hours** or more with no heat load.
  - c. **3He/4He mixture:** Please specify the volume of He3 and its purity.
  - d. **VTI Sample space:** at least 50 mm or more
  - e. **Sample space** and close loop He should be separated such that system can be maintained at low temperature for longer time without the need to warm up.
5. **1.5 K general purpose probe:** Temperature range of at least 1.5 K to 300 K or more, should be capable to perform electrical transport measurements from DC to few GHz, ESD protection must be provided in the sample probe, RC filters (cut off range, optional item), heater and sensors should be mounted on the probe, Mechanical rotator with 0 to 360 degree rotation out of plane.
6. **Temperature sensor and heater:** Appropriate heaters and calibrated sensors should be provided at first and second stage of the VTI. Calibrated Cernox sensor should be installed on the magnet. The calibrated ruthenium and Cernox sensors should be installed in He3 probe and 1.5 K probes, respectively. The data sheet should be provided with the calibration curve of each temperature sensor and the type of heater.
7. **Compressor and cryocooler:** Pulse tube should have vibrational isolation from rest of the cryostat. Pulse tube and compressor should be electrically isolated from the Cryostat [If that cannot be achieved, provide details of procedures for minimizing electrical noise]. Cooling power of the pulse tube should be at least 1 W at 4.2 K. Specify the pulse tube model.
8. **Gas handling system:** Gas handling system with required pressure gauges, etc., the pumps should be electrically isolated from the Cryostat. Appropriate provisions to collect the mixture back to the dump in case of emergencies.
9. **Electrical Isolation:** The Cryostat should be electrically isolated from Frame,

Controller unit, gas handling rack and compressor.

10. **Wiring:** All the wirings need to be thermally anchored at different stages of the cryostat. All the wiring should be terminated with suitable connectors at the room temperature.
  - (a) At least 24 (12 twisted pair) Constantan wire from room temperature to cold head.
  - (b) At least 4 coaxial cables from RT to cold head.
11. **Insulation** (> Giga Ohm) between twisted pair, between wire and chassis and between inner and outer coax.
12. **Integration of a strain cell:** The user will integrate a strain cell (diameter atleast 47 mm) to mount on the sample holder. The strain cell will require 4 wires rated for +/- 200 V power and additional 4 coax feedthroughs. All of these wiring should be provided by the bidder. All the wirings need to be thermally anchored at different stages of the cryostat. All the wiring should be terminated with suitable connectors at the room temperature.
13. Appropriate Water Chiller. Quote separately.
14. Appropriate dry scroll pump for the VTI space including hoses, valves. Quote separately.
15. One hour UPS back up for full system. Quote separately.
16. Software for the control of temperature, magnet, and the system. The software must allow manual, semi-automatic and fully automatic control of the equipment. Additionally, it should be possible to control the cryostat along with magnet using the standard worldwide used software (e.g., MATLAB, LabVIEW) based on GPIB/RS232. The software should be based on Windows 10 or higher versions. Free upgrade of software.
17. Testing and training should be done during onsite installation.
18. Manual and supporting documents; Soft Copy as well as hard copy.
19. Factory trained service people should be available in India and most preferably in Bangalore.
20. Please provide compliance statement.

**Optional Items:**

1. Air compressor for the pneumatic valve.
2. Turbo pumping station from reputed companies.
3. Vibration isolation support mount.
4. 14 T superconducting magnet having field homogeneity better than 0.1 % over 10 mmdiameter sphere & integrated switch heater so that magnet can also run-in persistent mode.
5. Additional two-year warranty.

## **Section 5 – Technical Bid**

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

The Chairperson,  
Attn: Prof. Srimanta Middey  
Department of Physics  
Indian Institute of Science  
Bangalore – 560012,  
India  
Email: [smiddey@iisc.ac.in](mailto:smiddey@iisc.ac.in)

**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 Chairperson,  
Department of Physics,  
Indian Institute of Science,  
Bangalore – 560012, India

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Supply and installation of cryogen free He3 cryostat with magnet at Department of Physics, IISc, Bangalore.

Sir,

I've 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 -----

(Signature of the Bidder)

Printed Name

Designation, Seal

Date:

**Annexure-3:**

**Declaration regarding track record**

To,  
The Chairperson,  
Department of Physics  
Indian Institute of  
Science,  
Bangalore – 560012, India

Ref: Tender No: XXXXXXXX Dated: XXXXX

Supply and installation of cryogen free He3 cryostat with magnet at Department of Physics, IISc Bangalore.

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 / SemiGovernment 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

(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 Chairperson,  
Department of Physics,  
Indian Institute of  
Science,  
Bangalore – 560012, India

Ref: Tender No:

XXXXXX Dated: XXXX

Supply and installation of cryogen free He3 cryostat with magnet at the  
Department of Physics, IISc Bangalore.

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.

## Section 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	...				
	1.b	...				
2.	Optional items noted in the technical specification					
	2.a	...				
	2.b	...				
3.	Accessories for operation and installation					
4.	All Consumables, spares and software to be supplied locally					
5.	Warranty (3 years)					
6.	AMC 3 years beyond warranty					
7.	Cost of Insurance and Airfreight					
8.	CIP/CIF IISc, Bengaluru					

Any additional items

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

The

Chairperson,

Attn: Srimanta Middey

Department of Physics

Indian Institute of Science

Bangalore – 560012, India

Email: [smiddey@iisc.ac.in](mailto:smiddey@iisc.ac.in)

## Section 7 – Checklist

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

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

A. 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.

B. 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.

Thanking you,  
Srimanta Middey  
Associate Professor  
Department of Physics  
Indian Institute of Science, Bangalore 560012,  
India  
E-mail: [smiddey@iisc.ac.in](mailto:smiddey@iisc.ac.in)

\*(To be submitted In the company letter head by supplier)

## Declaration of Local Content by Local supplier

**Subject:** Public Procurement (Preference to Make In India)

**References:**

Preference to Make in India including counter offering will be as per the Public Procurement (Preference to Make in India), Order 2017 available in the following links <https://dipp.gov.in/public-procurements>

[http://dipp.nic.in/sites/default/files/publicProcurement\\_MakeinIndia\\_15June2017.pdf](http://dipp.nic.in/sites/default/files/publicProcurement_MakeinIndia_15June2017.pdf)

[http://dipp.nic.in/sites/default/files/Revised-PPP-MII-Order-2017\\_28052018.pdf](http://dipp.nic.in/sites/default/files/Revised-PPP-MII-Order-2017_28052018.pdf)

[https://dipp.gov.in/sites/default/files/PPP-MII%20Order%20dt%2029th%20May%2019\\_0.pdf](https://dipp.gov.in/sites/default/files/PPP-MII%20Order%20dt%2029th%20May%2019_0.pdf)

<https://dipp.gov.in/sites/default/files/PPP%20MII%20Order%20dated%204th%20June%202020.pdf>

We hereby declare with reference to above subject and references that

M/s -----(Tick whichever is applicable as below)

"Class-I local supplier" meeting the requirement of minimum local content equal to 50% (fifty percent) or more defined in the above government notification for the goods and services

(or)

"Class-II local Supplier" meeting the requirement of local content 20% to less than 50% (fifty percent) defined in the above government notification for the goods and services

(or)

Non Local supplier (If not belonging to Class-I & Class-II)

Please mention the details against the following:

Enquiry no:----- dated. -----

Type of Supplier (Class-I/Class-II) .....

Product:-----

Project:.....

Details of location at which local value addition will be made is as follows: \_\_\_\_\_

We also understand that the false declarations will be in breach of the code of Integrity under rule 175(1)(i)(h) of the General financial rules for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.

Authorized Signature M/s-----

(Signature and seal)

Place:.....

Date:.....