

21 May, 2019

## Tender Notification for the Procurement of two closed cycle cryostats

Kindly send your best quotation for two closed cycle cryostats on C.I.P. Bangalore basis. Your quotation should clearly indicate the terms of delivery, delivery schedule, estimated delivery date, and payment terms. Each 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 1700 hours on 04 June, 2019.

**Please enclose a compliance statement along with the technical bid.**

All bids should be addressed to:

*The Chairman,  
Department of Physics  
Indian Institute of Science (IISc)  
Bengaluru, India - 560012*

The sealed bid for the first cryostat (ref. number: PH/SMI/320/2019-20) should be sent to:

*Dr. Srimanta Middey  
Assistant Professor  
Department of Physics  
Indian Institute of Science (IISc)  
Bengaluru, India - 560012.  
Ph: +91-80-2293 2861  
Email: [smiddey@iisc.ac.in](mailto:smiddey@iisc.ac.in)*

The sealed bid for the second cryostat (ref. number: PH/AD/321/2019-20) should be sent to:

*Dr. Anindya Das  
Assistant Professor  
Department of Physics  
Indian Institute of Science (IISc)  
Bengaluru, India - 560012.  
Ph: +91-80-2293 2525  
Email: [anindya@iisc.ac.in](mailto:anindya@iisc.ac.in)*

## Specifications for the first closed cycle cryostat with the following components (Ref. number: PH/SMI/320/2019-20)

### **A. Two stage closed cycle cryostat with the following minimum specifications:**

1. Operation over the temperature range 4K-325K with sample in vacuum.
2. Cooling power of the cold head @ 4.2K should be at greater than 0.15 Watts.
3. Appropriate water cooled helium compressor with full charge of high purity Helium gas.
4. Appropriate helium hoses/flex lines of minimum length 10 feet.
5. One calibrated temperature sensor mounted on the cold head calibrated over the entire temperature range of operation.
6. Another temperature sensor (preferably calibrated cernox sensor) near the sample holder.
7. Sample holder for electrical measurement.
8. Appropriate heater mounted on the cold head for temperature control.
9. Two sets of electrical feedthroughs (hermetic) with minimum 10 pins each.
10. One of the feedthroughs to be used for thermometry. This feedthrough should be connected to the heater and temperature sensors by the vendor.
11. The other feedthrough will be used for electrical connections.
12. Ten miniature resistive co-axial cables or five resistive twisted pairs connected to the second electrical feedthrough at one end. The other end of the cable/wire should be at the connected with the sample holder with extra length of 4 inch or more.
13. Appropriate safety pressure release valve on the cryostat.
14. The vacuum shroud and radiation shield should allow optical measurement. Vacuum shroud should have at-least two optical windows made of quartz/sapphire.
15. Appropriate blanking plates for the window ports for non-optical operation of the cryostat.
16. KF25 evacuation valve.

### **B. Optional items**

1. One spare heater
2. Optional upgrade cost for narrow optical vacuum shroud with reduced dimension (< 55 mm) and length appropriate enough such that it can be inserted within the pole pieces of an electromagnet with maximum pole gap of 55 mm.

## Specifications for the second closed cycle cryostat with the following components (Ref. number: PH/AD/321/2019-20)

### **A. Two stage closed cycle cryostat with the following minimum specifications:**

1. Operation over the temperature range 4K-325K with sample in vacuum.
2. Cooling power of the cold head @ 4.2K should be greater than 0.15 Watts.
3. Appropriate water cooled helium compressor with full charge of high purity Helium gas.
4. Appropriate helium hoses/flex lines of minimum length 10 feet.
5. One calibrated temperature sensor mounted on the cold head calibrated over the entire temperature range of operation.
6. No Sample holder required.
7. No temperature sensor is required at the sample holder.
8. Appropriate heater mounted on the cold head for temperature control.
9. One electrical feedthrough (hermetic) with minimum 10 pins. This feedthrough to be used for thermometry. This feedthrough should be connected to the heater and temperature sensor by the vendor.
10. Another 10 pins hermetic feedthrough for electrical measurements should be provided.  
*No wiring from the sample holder to this feedthrough is required.*
11. Appropriate safety pressure release valve on the cryostat.
12. The vacuum shroud and radiation shield should allow optical measurement. Vacuum should have at-least two optical windows made of quartz/sapphire.
13. Appropriate blanking plates for the window ports for non-optical operation of the cryostat.
14. KF25 evacuation valve.

### **B. Optional items**

1. One spare heater
2. An 8x double ended SMA feedthrough for electrical measurements instead of 10 pin hermetic feedthrough mentioned in item A10.

## Terms and conditions:

1. Both users will provide two-channel temperature controllers. The vendor should show the proper operation of the close-cycle cryostat using these temperature controllers during installation.
2. The vendor should have a track record of having previously supplied at least five similar equipment in India (please furnish the details of the user, year of purchase).
3. The payment will be through confirmed irrevocable Letter of Credit or wire transfer.
4. The vendor should have qualified technical service personnel for the equipment based in India (preferably in Bangalore).
5. The lead time for the delivery of the equipment should not be more than four months from the date of receipt of our purchase order.
6. The instrument must carry comprehensive warranty of at least 1 years from the date of installation.
7. 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.

Yours Sincerely,

*Dr. Srimanta Middey*  
*Assistant Professor*  
*Department of Physics*  
*Indian Institute of Science (IISc)*  
*Bengaluru, India - 560012.*  
*Ph: +91-80-2293 2861*  
*Email: [smiddey@iisc.ac.in](mailto:smiddey@iisc.ac.in)*

*Dr. Anindya Das*  
*Assistant Professor*  
*Department of Physics*  
*Indian Institute of Science (IISc)*  
*Bengaluru, India - 560012.*  
*Ph: +91-80-2293 2525*  
*Email: [anindya@iisc.ac.in](mailto:anindya@iisc.ac.in)*