



15 November 2023

Request for quote and specifications for Closed cycle Optical cryostat

- Quantum Research Park (QuRP) at FSID- Foundation for Science Innovation and Development is seeking bids from qualified industries for the procurement of Closed cycle Optical cryostat. The specifications are listed on Page 2.
- Companies need to submit two bids, a technical bid, and a commercial bid, in two separate sealed envelopes. The bids should be submitted no later than 21 days from the date of posting of this tender, as listed on the website date/time stamp, and by 5 p.m. on the 21st day or the next weekday in case the 21st day falls on a weekend or a national holiday.
- Both technical and commercial bids should be addressed to “The Chief Executive, FSID, IISc, Bangalore-560012.”
- The envelopes should be addressed to “Prof. Akshay Naik, CeNSE, IISc, Bangalore, 560012” and submitted to the office at Cense, IISc in Room No. GF 15 between 9 am and 5 pm.
- All questions regarding this tender should be addressed to Prof. Akshay Naik at the email address anaik@iisc.ac.in
- Post such submission all vendors should send an email to anaik@iisc.ac.in with the subject line “QuRP_Bidder’s name_Tool Name” to inform him of the submission within one day.
- Deviations from the technical specifications requested are allowed. Such deviations must be highlighted and justified. Their acceptance or rejection will be left to the discretion of the technical committee.
- The equipment will be used at the Centre for Nano Science and Engineering (CeNSE), Indian Institute of Science (IISc). IISc is India’s No. 1 institution of higher learning, and the Centre for Nano Science and Engineering is home to one of the best academic fabs in the world.
- The technical response, corresponding to the tool being offered, should be in the form of a compliance table with at least 5 columns. Serial number in column 1. Each of the numbered technical items below should be addressed in a separate row of the table in column 2. Compliance with this requirement, in Yes/No, deviation from it, and justification should be provided in the neighboring columns 3-5. Post the opening of a hard copy of the technical bid the committee will request for a soft copy of the files for further processing. Companies should NOT mail soft copies of the files unless specifically requested.
- Detailed technical specifications of the Closed-cycle Optical cryostat being offered should be included.
- Any additional capabilities or technical details, that you would like to bring to the attention of the purchase committee, can be listed at the end of the technical table.
- Vendors are encouraged to highlight the advantages of their cryostat over the competitors.
- The commercial bid should be broken up to the maximum extent possible into separate items with a cost against each to enable better comparison of price for various configurations. Vendors are encouraged to quote for as many add-ons as their portfolio permits.
- The complete system is to be under warranty period of a minimum of 3 years (year-wise breakup value should be shown in the commercial bid) including free supply of consumables, spare parts, and data analysis software from the date of functional installation. 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.

Technical Specifications of the Closed-cycle Optical cryostat:

Sl.No.	Technical specifications	Compliance with this requirement		Justification
		Yes	No	
1	Type of cooling System for the compressor: Water cooled			
2	Should NOT require external He gas to run the system.			
3	Should have integrated temperature Controller for Fully automated and optimized temperature control operations.			
4	The system should include the user and system calibration thermometers.			
5	Positional flexibility of the cryostat is required so that the user can put it under the microscope or any part of a vibration isolation table, or from one table to another, as needed for different experiments. Cryostat should be mounted on to the optical table without any external stand or support.			
6	Vacuum pumping system including vacuum pump, gauges and plumbing lines and integrated with the system to be part of the system is required			
7	Input power as per Indian input power conditions.			
8	References: Vendor must have 5 or more similar/equivalent systems should be installed in India or globally for performance verifications. Names of Institutes with contact person and telephone/ email where similar equipment supplied by you should be mentioned in the bid.			
	Key Performance Specifications			
9	Cooling power at 4.2K: More than 120 mW			

10	Cool down time from room temperature to 4.2 K: less than 4 hours			
11	Sample space: Minimum of 50mm diameter and 100mm height			
12	Maximum peak-to-peak temperature variation (at sample) allowed: +/- 25mK			
13	Peak-to-peak sample stage vibration (xy) allowed: Less than 10 nm at base temperature			
14	Supporting data for temperature Stability & Vibration is Required			
	Optical part:			
15	Number of top optical windows: 1			
16	Working distance between sample and window: 10mm or less			
17	Number of side optical accesses: 4			
18	Window material : Fused Silica			
19	Optical fibers ports: 2			
	Electrical Part			
20	Electrical feedthrough DC: at least 40 user pins			
21	RF feedthrough lines (should include semi rigid lines which can handle upto 18 GHz): At least 2 lines			
22	Thermal anchoring of DC and RF lines: DC and RF lines should be thermally anchored at 30K stage			
23	sample mount: At least 12 DC Lines and 2 RF Lines			



General Specifications

- System must be water cooled.
- There should not be any need for He gas requirement to run the system.
- Cryostat should have integrated temperature Controller for Fully automated and optimized temperature control operations.
- The system should include the user and system calibration thermometers.
- Positional flexibility of the cryostat is required so that the user can put it under the microscope or any part of a vibration isolation table, or from one table to another, as needed for different experiments. Cryostat should be mounted on to the optical table without any external stand or support.
- Vacuum pumping system including vacuum pump, gauges and plumbing lines should be included and integrated with the system.
- Input power: As per Indian input power conditions.

Terms and conditions:

1. Vendors can quote for the above technical specifications.
2. Shipping: On all the items the cost of shipping up to IISc. IISc will help the shipping company to take care of the customs clearance at Bangalore Airport. Please include your payment option.
3. Training and demonstration for the equipment is essential.
4. References: Bidders should provide details of other locations/users across the globe where similar material was delivered.
5. The lead time for the delivery of the material should preferably be less than 4 weeks from the date of receipt of our purchase order. The smallest lead time will be appreciated. Otherwise, the lead time should be specified.
6. The validity period of the quotation should be 90 days at least.