

**Department of Physics, Indian Institute of Technology
IIT.P.O. Madras-600 036**

Ref. No.

Date: 13/10/2017

Originally uploaded on 23/10/2017

PHY	2017	013	STORES
------------	-------------	------------	---------------

Dear Sir,

Extended due date: 24 / 11/ 2017

Please find below the specification of a closed cycle 10K He-cryostat we require for purchase.
Kindly send us a quotation by the due date mentioned above.

***Amended minimum specifications for closed cycle 10K Helium cryostat with optical access**

1	Sample environment	Vacuum
2	Cryogen	Cryogen free
3	He-compressor	i) Water cooled Compressor, 230V, single phase 50Hz, 2.6KW, with stand alone water cooling system/chiller. Please quote the chiller/cooling unit separately. ii) Cold Head power receptacle: Remote on/off receptacle to allow optional remote on/off capability of the compressor iii) Elapsed time meter - battery operated LCD display iv) Mounted on rolling casters v) Automatic restart after power interruption vi) Maintenance interval $\geq 30,000$ hours vii) Company should have more than 2500 units on field and should have been in business for atleast 30 years
4	Temperature range at "sample mount point"	Atleast 10K to 350K (please include datasheet)
5	Temperature stability	0.05K (at 10 K) with optical windows or better. Final test data must be provided

		showing this stability prior to release of shipment measured using a 50Hz power source with all attachments, windows and sample holders installed complete configured as the researcher will use the system.
6	Cooling power	0.4 W (or more) at 10 K, 1W (or more) at 20K (~50Hz). Final test data must be provided showing this performance prior to release of shipment measured using a 50Hz or 60Hz power source with all attachments, windows and sample holders installed complete configured as the researcher will use the system
7	Measurement type	Must have four windows for optical access. Windows must be replaceable. Radiation shield with appropriate optical access Clear sample space within radiation shield or atleast 30mm diameter and 40mm height
8	Windows details	Windows should have at least 1.25" or more clear aperture. Four high purity quartz/fused silica windows should be quoted separately.
9	Operation orientation	Must be operable at any orientation with negligible change in efficiency
10	Electrical access	Ports for electrical access to the sample must be present other than the contacts for temperature control and monitoring
11	Compatibility	Must be compatible with CryoCon Model 22-C-230 temperature controller with S900-BB Si diode temperature sensor
12	Temperature sensor	Please quote separately for Si-diode temperature sensor with atleast 1% accuracy, working in the cryostat temperature range or higher
13	Configuration	System must allow sample change without disturbing the optical alignment or removing the

		complete cryostat from the table. Both optical cube and radiation shield will be removable with atleast 4 inch clearance separating the optical table surface and the bottom of the cube to allow such sample change.
14	Shroud	Aluminium or non-magnetic Vacuum Shroud
15	Noise level	<60 dB
16	Radiation shield	Removable radiation shield must be included
17	Vibration	The amplitude of vibration along any direction should not be larger than 10 μm at the top end of cold finger. Data must be provided for this.
18	Operating voltage	Single phase, 200-260 V AC with input frequency 50 Hz
19	After sale service requirements and warrantee	The supplier should be able to immediately attend minor technical faults of the equipment including compressor in situ and procure spares if required.
20	References	Please enclose complete contact details of atleast five CFTI/national laboratories clients in past three years

- Please include at least one year warranty for the system. Please add optional warranty terms for another two years
- Please include compliance sheet
- Please send hard copy of the quotation (technical and price details) in two separate sealed envelopes before the due date.
- Please mark tender number on top of the cover envelope

Yours Sincerely,



Dr. Jayeeta Bhattacharyya
Co-ordinator
Department of Physics,
Indian Institute of Technology Madras,
Chennai - 600036, India.
Telephone : +91 44 2257 4856