

**Department of Chemistry**  
**Indian Institute of Technology Delhi, Hauz Khas, New Delhi-110 016**

***Notice Inviting Quotations (NIQ) for the Purchase of a Low Temperature Crystal Handling Facility***

Quotations (separate sealed envelopes of technical and commercial bids kept together in a single sealed outer envelope) are invited for the purchase of a ***“Low Temperature Crystal Handling Facility”*** as per the specifications given below. Your sealed quotations should reach the address given below at the latest by 5 p.m. (IST) on 25-03-2013 with the superscription ***“Low Temperature Crystal Handling Facility due on 25-03-2013”***:

***Dr. S. Nagendran,***  
***Department of Chemistry***  
***Indian Institute of Technology-Delhi (IIT-Delhi)***  
***Hauz Khas, New Delhi-110 016***  
***E-mail: [sisn@chemistry.iitd.ac.in](mailto:sisn@chemistry.iitd.ac.in)***

***Minimum Technical Specifications for the Low Temperature Crystal Handling Facility:***

Liquid nitrogen evaporator	:	Made of brass and should contain ceramic power resistors as main heater, transfer line, nozzle, and thermo insulation container.
Transfer line	:	Two vacuum jacketed and silver glass tubes that are interconnected by a Teflon adapter and screw cap. It should also contain an integrated heating coil.
Nozzle	:	Should be made of Teflon and contain a fan-shaped outlet. It should have a heater which is connected to the aforementioned main heater in series. Presence of an integrated thermosensor is also essential.
Liq. N <sub>2</sub> capacity	:	At least 4 L.
Minimum and maximum temperature	:	At least -125 °C and 30 °C.
Temperature reliability	:	At least ±2.5 °C.

Controller	:	Should be able to generate and regulate cold nitrogen gas stream. Should be able to give acoustic/visual alarm and shut-off all the heating elements at low level of nitrogen. Further, it should operate at 220 V and contain illuminated switches and an external thermosensor.
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All the other necessary items and accessories for making the unit complete and functional should be of supplied and should be mentioned in detail in the technical bid.

**Optional Accessories:**

Schlenk line	:	A double manifold with 5 stopcocks, 2 drying columns, and 1 trap (price can be quoted separately for a manifold with high-vacuum glass stopcocks and J-Young PTFE valves)
Schlenk flask	:	100 mL capacity with B14 mouth and stoppers - 10 Numbers (price can be quoted separately for flasks with high-vacuum glass stopcocks and J-Young PTFE valves)
Gas bubbler	:	Back-flow free bubbler with spring set-up - 2 Numbers
Liquid nitrogen Dewar flask	:	Suitably sized liquid nitrogen Dewar flasks to dip the aforementioned 100mL Schlenk flasks - 2 Numbers
Liquid nitrogen Dewar flask	:	Suitably sized liquid nitrogen Dewar flasks to dip the aforementioned Schlenk line trap - 2 Numbers
Metal clips	:	For fastening the glass joints, B14 - 50 Numbers and B24 - 10 Numbers
Perfluorinated polyethers	:	FOMBOLIN YR 1800 - 100 mL GALDEN HT 90 - 100 mL
Microscope slides	:	Glass slides - 10 Numbers

**Terms and Conditions:**

1. Please submit the TECHNICAL and FINANCIAL bids in separate sealed envelopes. Mark the two envelopes clearly as "Technical Bid" and "Financial Bid". Both the sealed envelopes should be sent

in a single sealed envelope, with the marking “Quotations for a **Low Temperature Crystal Handling Facility due on 25/03/2013**” on the top. The quote should reach the following address on or before 25/03/2013 (up to 5.00 PM).

S. Nagendran  
Associate Professor  
Department of Chemistry  
Indian Institute of Technology – Delhi (IIT Delhi)  
Hauz Khas, New Delhi - 110016

2. Please quote both FOB and CIF (New Delhi) prices. Include the installation charges also.
3. Quote should be valid for at least three months.
4. Attach all the relevant technical literature and a list of similar installations done in India.
5. Please mention clearly in the technical bid regarding the warranty.
6. If the quote is being submitted by the representative of the Principals/manufactures themselves, a valid Agency ship/Dealership Certificate authorizing the agent to quote to IIT Delhi on behalf of the Principals should be enclosed.
7. The Institute reserves the right to accept/reject any/all quotations without assigning any reasons thereof.
8. Complete set of manuals for the operations and servicing of equipment should be given during the delivery. All circuit diagrams, other mechanical, and electrical schematics must be provided to main unit, sub systems, and accessories, also during the delivery.
9. Delivery period: Within 2 months from the receipt of PO.
10. Clearly specify the installation requirements – such as space, power, frequency, environment (temperature and humidity) etc. in your technical bid.
11. If the items quoted are proprietary in nature, please enclose proprietary certificate from the principals stating “certified that ----- is a proprietary item of M/s. ----- and no other manufacturer make these items”.
12. If the bidder is Indian agent, the agency certificate should be enclosed.
13. Please produce compliance certificate for the aforementioned technical specifications with suitable details. Just mentioning “Yes” for all without adequate literature may lead to the rejection.
14. Payment terms and conditions should be mentioned clearly in the financial bid. Further, bank account details should also be provided.