

Indian Institute of Technology Delhi
Department of Chemical Engineering

Date: 3rd November, 2012

Ref:

The Department of Chemical Engineering invites quotation for lyophilizer /freeze dryer and other essential accessories for working configuration with following specification.

- Should be an upright compact floor-standing / bench top lyophilizer capable of drying mixtures with low eutectic point for research purposes.
- Should be a complete drying unit with vacuum drum, gasket, and all the control instruments.
- Should have condensing capacity of 3-4 litres with condensing temperature of atleast -40 C.
- Should have Microprocessor based digital temperature controller for measurement of temperature and electronic digital vacuum indicator.
- Should have chemical resistant direct drive rotary vane / diaphragm vacuum pump capable with displacement of greater than 95 Litres per minute with ultimate vacuum of $1.0 - 3.0 \times 10^{-3}$ mbar, equipped with inlet and exhaust mist filters.
- Vacuum drum should have provision for a manifold with atleast 6 ports for attachment of flasks, vials and ampoules.
- Vacuum drum should be constructed of stainless steel non-magnetic grade or Perspex with Perspex lid.
- Should have stainless steel condenser for easy cleaning, longest life and faster freeze drying.
- Should have high performance refrigeration system with eco-friendly refrigerants with minimum of 2 year refrigeration warranty
- Should have user friendly control system for releasing vacuum hot gas defrosting, vacuum on, selection button manual or automatic run.

- Should have an In-built user friendly digital display system for showing operation settings, user settings, alarm messages, vacuum and temperature graphs with PC control.
- Should have audible and visual alarms to alert power failure and maintenance / service due time.
- Should have valves to protect air-suction and oil-back suction in to system and to prevent breakage of vacuum and to control vacuum based on eutectic point.
- Should run at single phase, 230 volts, 50Hz power supply.

Other accessories:

- Essentials accessories such as glass flasks [50-200 mL(Qty: 2) 500-600ml (Qty: 2) – 1000-1500mL(Qty: 2)], ampoules of 3-7ml (Qty: 100), other glass containers, bottles, vials, tube holders, tray drying shelves, connector tubings, vacuum hose, plastic plugs, knobs, and spare parts for vacuum pump, if needed, should be quoted.
 - Stabilizer should also be quoted.
- Warranty: A comprehensive on-site warranty for 3 years (including the spare parts and labor charges) should be provided.**

Terms and conditions

- The technical and commercial bids must be submitted in separate sealed envelopes subscribed with “**Technical Bid**” or “**Commercial Bid**” as appropriate. Both the technical and the commercial bids should be enclosed in an envelope subscribed “**Quotation for Lyophilizer /Freeze Dryer**” and should be submitted to the undersigned.
- The supplier must be an authorized dealer/distributor of the principal/manufacture and should furnish an authorization certificate from the principal/manufacture. Quotations without authorization certificate will be rejected.
- A copy of order enlisting the Indian agent with Department of Expenditure, Ministry of Finance should be enclosed.

- CIF New Delhi prices should be quoted with all the terms and conditions i.e. applicable taxes, installation, warranty and delivery schedule.
- Quotations must be valid for at least three months from the date of the NIQ.
- The supplier should provide a list of institutions in India with the details of the syringe pumps supplied and with the contact details of the institution/department.
- A special discount/rebate wherever admissible keeping in view that supplies are being made for educational purpose in respect of public institution of national importance may please be indicated.
- The institute reserves right to accept or reject any or all quotations without stating the reasons thereof.
- The quotations should reach Dr. Sanat Mohanty, Block-II, Room-273, Chemical Engineering Department, Indian Institute of Technology-Delhi, Hauz Khas, New Delhi 110016 latest by 5.00 pm on 26th November ,2012

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