

**Specifications of Benchtop Freeze Dry System with -50°C condenser temperature:**

- The system should be capable of handling aqueous samples.
- The system should be a benchtop with a small footprint.
- Should have an upright stainless steel collector coil with SS condenser.
- Should have an Ice Holding capacity 2.5 Liters or more of ice before defrosting.
- It should have a single 1/3 hp or more HCFC/CFC-free refrigeration system to cool the collector to -50°C or below.
- Should have hot gas defrost function with auto shut off at +55°C or +60°C.
- Should have a Vacuum control option to maintain a set point vacuum level.
- System lines should be protected with the latest moisture sensing technology to prevent the vacuum pump from vapors or liquid.
- The system should have a special arrangement for preventing the oil back-streaming into the collector chamber during the power outage.
- Should Have a Color touchscreen display that displays operating parameters, set up parameters and alarm messages, vacuum level and optional endpoint detection of the sample.
- Should have a facility for an Email alert about the sample.
- The system should have an Audible and visual alarm system for alarm conditions like Power failure (An inbuilt feature to protect the system from Power cuts/failure), an Auto emailer to the user for any abnormal event during freeze-drying, improper line voltage supply etc.
- Should have facility for data logging stores and displays data in the table or chart format.
- The system should have a USB Port for data transfer and having inbuilt facility for Ethernet connection.
- Stainless steel drying manifold with 4 Ports or more to connect flasks of different sizes complete with adaptors/ valves etc.
- Rotary Vane Vacuum Pump with minimum displacement capacity of 90 L/min. Ultimate vacuum  $2 \times 10^{-3}$  mBar. It must be two-stage, oil-sealed.

- All information must be available on the manufacturer's website.
- If quoting on behalf of a foreign manufacturer an authorization letter specific to this particular enquiry/tender must be enclosed otherwise the quotation will not be considered.