

**LYOPHILIZER – 1No.**  
**Doc. No: ST/12/ Lyophilizer/2016-17/16**

**Application:** To freeze dry food materials or organic, acidic and aqueous solvents and Compounds.

**Features:**

- Bench mounted table top freeze dryer with small footprint
- To handle 2.5-3liters of condensate
- Automatic start-up feature, which allows one button start-up of all functions for ease of use
- Hot gas defrost for fast turnaround time, eliminating waiting time between freeze drying cycles
- Access drain hose to be located on front of the cabinet for easy cleanup
- Microprocessor control for monitoring of critical parameters and vacuum level control to assist in speeding up the drying process
- High deposition rate loading with robust stainless steel condenser
- System maintenance by display of message for oil change, current temperature and pressure
- System should have vacuum brake solenoid (VBS) valve for extra protection against Vacuum pump oil being drawn back into product chamber in the event of power failure or Accident shut down
- Display of condenser temperature, ambient room temperature, vacuum levels & status.
- System also should have self system for rapid vial freezing.
- Automatic restart in case of power failure
- System Refrigerant should be CFC-free and energy efficient refrigeration

**Specifications:**

Ice condenser Temperature	:	-100°C to -110°C
Temperature sensitivity	:	±1°C
Condenser performance in 24hours	:	2.5 -3L
Overall condenser capacity	:	7L-8L
Control System Display	:	LCD/LED
Condenser Temperature Scale	:	-150°C to +100°C
Vacuum pump	:	Chemical resistant rotary vane
Vacuum Indicator	:	760Torr to 1Millitorr
Vacuum Regulation	:	Vacuum Bleed type
Defrost Method	:	Hot Gas/Hot water
Condenser with cooling coil	:	SS 316
Compressor Horsepower	:	2 x 1/2HP
Average time to 100mtorr	:	<20min
System vacuum	:	10mtorr
Manifolds	:	Corrosion free stainless steel
		Vertical with minimum of 12drying ports to accommodate multiple small samples and large flasks, flask Bottles, ampules etc
Operating Voltage	:	220VAC, 50Hz

**Essential:**

1. Thick walled glass flasks of volumes: 150-200ml (6nos), 500-600ml (6nos) and 1200-1500ml (4nos) with appropriate adapters and rubber seals should be quoted under optional items with each price separately.
2. Ampoule manifold with at least 16 ports (2nos).
3. Chamber acrylic/polycarbonate 200mm with 4shelves (1no).
4. Product should carry 3years warranty and 2years non-comprehensive AMC
5. High Vacuum oil for vacuum pump & silicon oil for cold bath – 5litres each

**Optional:**

Spares required for 5 years to quote under optional items.

Benchtop prefreezer (-90°C) for facilitating prefreezing of sample prior to lyophilization along with required liquid quantity of silicon oil to be quoted.

- **Any items required to complete the system may be quoted.**