

**Annexure-1**

**TECHNICAL SPECIFICATIONS: VACUUM FREEZE DRYER**

<b>S.No</b>	<b>Technical Specification</b>	<b>Comply/Non Comply</b>
1	Ice condenser Capacity: Minimum 2.5 kg	
2	Condenser temperature: $-55 \pm 5$ °C	
3	Drying performance: 2 kg or more in 24 hours.	
4	Vacuum Pump: Vacuum level of $5 \times 10^{-3}$ mbar or better that must be appropriate for vacuum freeze drying. Pump must be OEM made part of the package.	
5	Pump Displacement capacity: 40 to 100 L/min.	
6	Vacuum connection: All connections to vacuum to be included.	
7	Electromagnetic vacuum control for faster drying.	
8	Vacuum sensor Gauge to be provided to monitor the vacuum.	
9	Defrost capability to be there.	
10	Ports: 6 – 8 ports with individual control rubber valves and complete connection	
11	Tray/Shelves: Minimum 3 shelves to be provided.	
12	Drying flask: Compatible freeze-flask, minimum 3 Nos. of different capacity starting from 100 ml to be provided	
13	Graphic LC display to show process data.	
14	Power connection: Indian condition for all parts, 230 V, 50 Hz	
15	Documentary evidence to be provided for all the above specs	
16	List of existing users to be provided.	
17	Companies well known and established in the field are only required to bid. For imported products of overseas manufacturers with local content are allowed to quote only through Indian agents.	

**Note:** Technical compliance is subject to scrutiny. It is mandatory to furnish three or more Installation certificates /satisfactory reports for the same equipment supplied to IIT's (or) other renowned research institute in India.