

## **Ultra-low temperature Freezer (-86 °C), Upright model,**

<b>Item</b>	<b>Make</b>	<b>Model</b>
Deep freezer (-80 °C)	Eppendorf	F570

- Freezer should be of 550 to 580 Liters capacity
- System should have Programmable operating temperature from –50°C up to –86°C with 1°C increment
- Fully programmable microprocessor controlled with membrane keypad and eye level control panel.
- Construction should be of Polyurethane foam insulation.
- System should be made up of 18 gauge Steel, 1.2 mm thick with powder coated paint to resist scratch and rust and the interior should be Polished with 304 SS for easy cleaning and to eliminates potential for oxidation.
- Inner door should have silicone seal to prevent temperature loss and Outer door should have safe silicone triple point seal
- Freezer should have 5 Compartment with five inner doors.
- Ambient to -85 C pull down timing should be 5.1hrs
- Freezer should have the sample (2" vials) capacity of 40,000 or more.
- Freezer should be supplied with One Shelf's loaded with Racks and 2" cardboard boxes.
- Freezers should have heated air vent and front panel air filter.
- Should have security keyed locks on the outer doors and lids keep out unauthorized users
- Freezer must have battery back-up and 4 PIN security lock for unauthorized tampering.
- Freezer must have RS 485 interface data logging port and it must also have on board diagnostic software.
- Freezer must have three compartments with three inner doors for easy handling of samples.
- Audible and visible alarms for temperature, power failure, system failure, battery low etc. and it also have remote alarm port for connection to an auto dialer.
- Freezer must use CFC-FREE, HCFC-FREE non flammable refrigerants, and refrigerationsystem must be energy efficient and hermetically sealed two stage cascade refrigeration system.
- Compressor should be capable to run any voltage between 190 – 270V.
- Freezer must have ISO 9001 standard quality test requirements and IEC 61010 Electrical safety CE & UL certified.
- Freezer must have capacity to hold 16 racks and 400 boxes of 2" height vials
- Freezer should have electric supply of 230v/50hz, 10 amps and
- Power Consumption should not more than 10.5 -11kWh/day .
- Heat Output should not more then 438-440W.
- Freezer should be supplied with 5KVA voltage stabilizer.
- Freezer should be supplied with Factory calibrated certificate and IQ,OQ, PQ should be provided.
- Theses accessories should also be supplied - liquid nitrogen cylinders (5 lts, 10 ltr and 20 ltr one each), cryo gloves (3pairs), cryoboxes (5), coolpacks (20)