

## **-86 Deep Freezer**

### **CAPACITY**

- Freezer shall hold 400 Nos 2" boxes or 40000 2ml Vials and capacity of above 545 liters with temperature range from -50 degree Celsius to -86 degree Celsius.

### **CONSTRUCTION**

- The freezer must be constructed using 1" thick vacuum panel insulation in conjunction with environmentally-friendly water blown foam
- Freezer shall be painted with high-impact, scratch resistant powder coat finished interior and exterior to ensure long term viability and enhanced temperature uniformity.
- Door latch allows one-handed opening and closing. Handle must include door key lock as well as padlock provision for added security.
- Freezer shall have 4 or 5 internal storage compartments with a minimum of 4 polystyrene insulated inner doors to ensure sample security. Inner doors should have no latches or external magnets and must be removable for easy cleaning without the use of tools.
- Freezer shall have an automatic heated pressure equalization port which allows for rapid re-entry to cabinet.
- Freezer shall have two-1 inch access ports as standard.

### **CONTROLS**

- Freezer should come with touch screen display with data logging and temperature mapping. Data to include number of door opening, perform preventative maintenance, voltage details etc.
- Freezer must recognize if line voltage and frequency does not match freezer specification and alert user.
- Freezer must work on line voltage of 208-230V/ 50Hz
- Empty freezer shall recover from door opening to -75°C set point in under 12 minutes Supplier must provide test data verify freezer performance.

### **Sound**

- Freezers must maintain a sound level no louder than 52 Db(a)

### **REFRIGERATION SYSTEM**

- Freezer shall use only natural, commercially available refrigerants (Hydrocarbon) with no special blends required.
- Freezer shall utilize single speed controls to optimize temperature performance and energy.
- Freezer refrigeration system shall incorporate a brazed plate heat exchanger. Heat exchanger shall be placed in a thermal box in the deck of the freezer to optimize freezer storage capacity.
- Induction brazing shall be used on refrigeration connections to minimize leaks
- Freezer must be built to and contain the registration mark for UL, cUL, and CE standards for safety and performance