



ICE LINED REFRIGERATORS AND FREEZERS

Laptop Ice lined Refrigerators are designed with temperatures range from 2.0°C to 8.0°C for safe and proper storage of vaccines as per WHO guidelines.. These refrigerators and freezers are made for extreme conditions and tested to perform in climates with ambient temperatures up to 43.0°C.

CABINET CONSTRUCTION

The cabinet of Laptop Ice lined refrigerator is insulated with high density CFC free Poly Urethane Foam. Interior of chamber is Stainless steel (304, 0.8 mm thick). The exterior is white powder coated (1.0 mm thick) Mild Steel and the door has a magnetic gasket with a keyed lock. Stainless steel trays are provided inside.

SAFETY FEATURES

- Miniature circuit breaker to protect electronic components in case of abnormal power supply
- Audio visual alarm when temperature deviates from set temperature
- Overload protector for safeguard the compressor
- 180 seconds time delay for compressor switch ON

REFRIGERATION SYSTEM

The cooling is effected by CFC free refrigeration system with a condensing unit located inside the chamber. Laptop condensing units are characterised by high-efficiency heat transfer and low power consumption.



- CFC free refrigeration with time delay to safe guard the compressor
- Inner grooved copper tubes and slit aluminum fins for superior heat transfer
- Filter drier for moisture and dirt protection
- Safety and control devices for better system protection
- Thermally protected and permanently lubricated fan motors

TEMPERATURE CONTROL SYSTEM

- Micro-control based Temperature controller
- 4 digit, 7 segment LED display
- Password protected keypad lock
- Visual alarm for faulty Sensor
- High quality PT-100 Sensor for better accuracy
- Temperature alarm system with adjustable high-low alarm limits.
- Display of Set Temperature and Process temperature



HOLD OVER TIME

In the event of power failure, “holdover time” for any cold-chain equipment is defined as “the time taken by the equipment to raise the inside cabinet temperature from its set temperature to the maximum temperature limit of its recommended range”, e.g. in the case of ILR, if the temperature is 2.0°C, then the time taken to reach 8.0°C from 2.0°C will be the holdover time for that ILR.

SPECIAL FEATURES



- Foamed in place CFC free PUF insulation ensures temperature stability and reduced power consumption.
- Specially designed trays ensure even temperature distribution.
- Castor wheels for ease of mobility
- Adjustable leveling jack
- Meets WHO / UNICEF standards
- Thermometer to check the temperature on power failure

TECHNICAL SPECIFICATIONS

Cat. No.	LIR-75	LIR – 150	LIR – 300
Net Volume (liters)	75	150	300
No. of tray	2	2	5
Temperature Range (°C)	2.0 - 8.0		
Maximum ambient temperature (°C)	43.0		
Accuracy (°C)	± 0.5		
Resolution (°C)	0.1		
Hold over Time (hrs)	24 / 48 / 72		
Refrigerant	R-134a		
Energy supply needed per 24 hours (hrs)	8		
Voltage (VAC)	230, 50/60 Hz		
Power (W)	250	350	500
Product verification protocol	E03/RF03-VP.1		
Specification reference	E03/RF03.1		
Sensor Position	30 mm from the chamber		
Operating condition	4 – 45 °C and 95 % RH		
Storage condition	0 – 50 °C and 95 % RH		
Internal Dim (WxDxH)mm	450x420x420	600x500x500	1000x600x500
External Dia (WxDxH)mm	550x520x825	990x740x850	1770x770x860
External Dia with packing (mm)	680x650x1025	1420x710x925	1780 x900x960
Net weight (Kg)	150	250	300
Gross Weight (Kg)	175	300	350

ICE LINED FREEZERS

GENERAL FEATURES

Labtop vaccine storage Freezers are specially designed for refrigerated storage of vaccine at -20.0° C as per WHO guide lines. These freezers are equipped with a micro controller based temperature controller includes digital temperature display of set value and process value. Temperature alarm system with adjustable high /low alarm limits includes audible and visual warning.



SPECIAL FEATURES

- Foamed in place CFC free PUF insulation ensures temperature stability and reduced power consumption.
- Specially designed trays ensure even temperature distribution.
- Castor wheels for ease of mobility
- Adjustable leveling jack
- Meets WHO / UNICEF standards
- Thermometer to check the temperature on power failure

TECHNICAL SPECIFICATIONS

Cat. No.	LIF-75	LIF - 150	LIF - 300
Net Volume (liters)	75	150	300
No. of tray	2	2	5
Temperature Range (°C)	0 to - 20.0		
Maximum ambient temperature (°C)	43.0		
Accuracy (°C)	± 0.5		
Resolution (°C)	0.1		
Hold over Time (hrs)	24 / 48 / 72		
Refrigerant	R-134a		
Energy supply needed per 24 hours (hrs)	8		
Product verification protocol	E03/RF03-VP.1		
Specification reference	E03/RF03.1		
Sensor Position	30 mm from the chamber		
Operating condition	4 – 45 °C and 95 % RH		
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External Dia (WxDxH)mm	550x520x825	990x740x850	1770x770x860
External Dia with packing (mm)	680x650x1025	1420x710x925	1780 x900x960
Net weight (Kg)	150	250	300
Gross Weight (Kg)	175	300	350

COMBINED ICE LINED FREEZERS AND REFRIGERATORS

GENERAL FEATURES

Labtop Two-in-one vaccine storage refrigerators and Freezers are specially designed for refrigerated storage of Vaccines as per WHO guideline. These refrigerators are equipped with micro a controller based temperature controller includes digital temperature display of set value and process value. Temperature alarm system with adjustable high /low alarm limits includes audible and visual warning.



SPECIAL FEATURES :

- Foamed in place CFC free PUF insulation ensures temperature stability and reduced power consumption.
- Specially designed Stainless steel trays ensure even temperature distribution.
- Castor wheels for ease of mobility
- Adjustable leveling jack
- Meets WHO / UNICEF standards

TECHNICAL SPECIFICATIONS

Cat. No.	LIR-75F	LIR – 150F	LIR – 300F
Gross volume (liters)	75	150	300
Volume of refrigerator (liters)	50	90	180
Volume of Freezer (liters)	25	60	120
No. of tray	2	2	5
Temperature of refrigerator (°C)	2 - 8		
Temperature of Freezer (°C)	- 20.0		
Accuracy (°C)	± 0.5 C		
Resolution (°C)	0.1 °C		
Hold over time (hrs)	24 / 48 / 72		
Refrigerant	R-134a		
Energy supply needed per 24 hours (hrs)	8		
Product verification protocol	E03/RF03-VP.1		
Specification reference	E03/RF03.1		
Sensor position	30 mm from the chamber		
Operating condition	4 – 45 °C and 95 % RH		
Storage condition	0 – 50 °C and 95 % RH		
Power (W)	250	350	500
Voltage (VAC)	230, 50/60 Hz		
Internal Dim (WxDxH) mm	450x420x420	600x500x500	1000x600x500
External Dia (WxDxH)mm	550x520x825	990x740x850	1770x770x860
Packing size (WxDxH) mm	680x650x1025	1420x710x925	1780 x900x960
Net Weight (kg)	150	250	300
Gross weight (kg)	175	300	350

OPTIONAL ACCESSORIES

PC interface communication

Micro controller based PID controller to record, store and print the set values, process values, Date & time with variable print time intervals with RS-485

Central monitoring Software

“LABTOPWARE” CFR 21 Part 11 compliance windows based communication software for data management. Complete with RS-485 multi dropping to monitor chambers to one software.

DOCUMENTATION

LABTOP offers IQ, OQ, PQ and DQ validation with documentation, reports, calibration and test certificates.

CALIBRATION

The equipment is calibrated with the help of master calibrator, which is certified for its accuracy by Electronics Regional Testing Laboratory (ERTL West) Government of India recognized testing laboratory with traceable reference to National Physical Laboratories (NPL).

SERVICE AND SUPPORT

The training undertaken by our Channel partners and engineers is of the highest standard in the industry, ensuring that our customers are supported by the highest level of technical expertise and as such can be assured that their equipment will perform to the standards required at all times.

Our wide network of Engineers/Technicians enables us to respond to any technical query, ensuring that our customers receive the maximum benefit from their equipment.

NB: Specifications are subject to change without prior notice.



Labtop Instruments Pvt. Ltd.

Labtop House, Plot No. 59, Waliv Phata, Sativali Road, Vasai (E),
Dist - Palghar - 401208, Maharashtra, India.
Tel.: +918446053761 to 70 (10 lines)
Email: info@labtopinstruments.com
Web: www.labtopinstruments.com