

Solar Powered Blood Bank Refrigerator

Environmentally friendly Solar Ice Lined Blood Bank refrigerator powered by Meditech Technology for safe storage of Blood between 2°C to 6°C . Meditech Refrigerators with Anti-Freeze technology ensure perfect temperature control with no risk of freezing.

Features

- Reliable temperature between +2°C to +6°C
- The Temperature of the refrigerator is maintained between +2 and +6 centigrade.
- Self-regulating cooling system
- Air flow system in vaccine compartment
- Cooling coil of copper
- CFC-free refrigerant and insulation
- Compressor made for use in the tropics
- Solid lid with handle and lock
- 2 baskets for organized storage
- Available in 220V-240V 50HZ



- Alarms –12 Types
- Battery Backup-48 Hours
- Cooling Backup – 12 Days+Hours in case of power and technical failure
- Inbuilt USB and Data Logger
- Real Time Clock and Calendar Setting

Hold over time of the equipment is 72 hours. The equipment shall maintain temperature between 2 to 6 when the power is cut off

solar panels, stands to mount solar panel on rooftop/outdoor, electrical cables and other accessories required to operate the ILR using solar panel will be provided

Temperature Variations Prevented

The Meditech Series is designed to minimize cold air loss even with frequent door openings.

Foamed-in-place insulation in the walls and magnetic sealed outer doors prevent chamber air leakage and promote complete door closings

Calibration shall be conducted once in every six months during warranty and CMC period

Temperature recorder: Battery backup of 24 hours, 7 days circular chart recorder

Internal chamber is made up of stainless steel material

Outer chamber is made up of galvanized bacteria resistant powder coated CRCA sheet

CFC Free Puff Insulation

Ice Pack compartment: Built in Ice compartment to maintain temperature

Compressor: Branded hermetically sealed DC compressors.

Air circulation: Fan air cooling to ensure uniform temperature throughout the refrigerator chamber

Combi Condenser: Skin condenser on inner lining of external body + Air cooled type condenser with grooved aluminium fin for effective heat transfer.

The ILR function on Solar Direct Drive using photovoltaic system of solar array to freeze the water. Cooling power this ice bank is used to run refrigeration equipment complying with specification E03/RF05.2

The Solar Blood Bank Refrigerator shall be of vertical Type

solar should have temperature monitoring system

ambient Temperature +10 to 45

Temperature sensor PT100

Microprocessor based temperature controller

Safety fuse for equipment

Power supply: DC

The solar Ice Lined Blood Bank Refrigerator is CE certified.

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Why choose Meditech Refrigerators with Anti-Freeze technology?

- **Guaranteed never to freeze:** Meditech Anti-Freeze technology guarantees never to freeze Blood. The temperature shall always be maintained between 2 to 8 degree C. The unique technology limits the temperature variation in the cabinet to less than 1°C. This eliminates the stratification and freezing problems found in conventional refrigerators and ensures blood are kept at a constant safe temperature.
- **Minimises thermal shock:** Damage can occur to blood through a single exposure to heat when there is a power outage. It can also occur through several short exposures to heat when standard equipment fails to meet the twin challenges of high ambient temperatures and unreliable electricity supply. Meditech Medical Refrigerators with Anti-Freeze technology are different. They deliver outstanding performance with as little as 2½ hours of electricity per day at high ambient temperatures. If the power goes off completely, Meditech can keep vaccines at a safe temperature for 3 days or more, even with the refrigerator in normal use.
- **Patented Anti-Freeze technology:** Anti-Freeze works on the principle that water is at its densest at 4°C. Water, not ice, surrounds a Meditech refrigeration compartment. When power is supplied to the refrigerator, the water cools and ice is formed above the compartment leaving only water at 4°C cooling the contents. When the power is switched off, the water warms and rises while the ice begins to melt. This keeps only water at a perfect 4°C cooling the contents of the compartment. The system can operate like this, without any power whatsoever, for many days
- **A sound investment:** Blood are a major investment. Over the course of its lifetime millions of dollars worth Blood will be stored in it. Thousands of lives will depend on its performance. It makes sense to invest in a vaccine refrigerator that can ensure the safe storage of Blood even under the most challenging conditions. An inferior refrigerator is a false economy and one that could cost lives.

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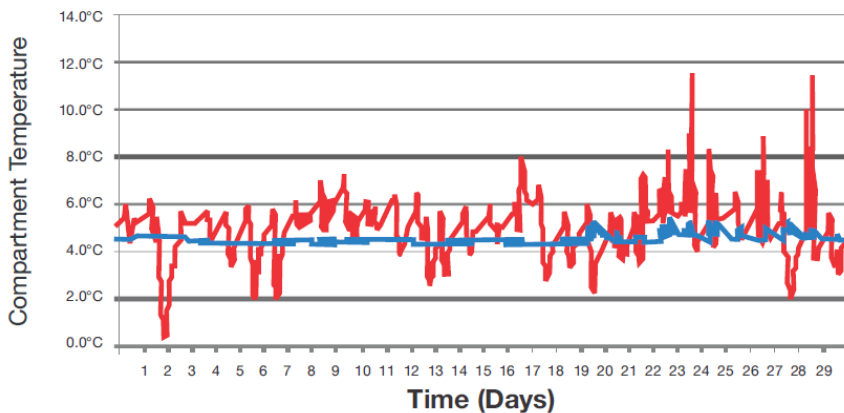
Environmentally friendly Solar Ice Lined Blood Bank refrigerator powered by Meditech Technology for safe storage of Blood between 2°C to 6°C . Meditech Refrigerators with Anti-Freeze technology ensure perfect temperature control with no risk of freezing.

- Uncompromised cooling
- Anti-Freeze technology limits temperature variation within the cabinet to less than 1°C and guarantees never to freeze vaccines
- The technology provides exceptionally long holdover times to cope with periods of no power
- Ice never forms on the cabinet walls - no risk of freezing and no need to ever defrost the refrigerator

Compliant with International Standards

- All models are being independently tested for WHO prequalification
- All models are extensively tested to simulate the harshest environmental conditions
- Independent study confirms Anti-sure technology provides dependable cooling

30 day compartment temperature monitoring study



Other Blood bank Refrigerators

Meditech Blood Bank Refrigerators

Saving lives around the world

- Anti-Freeze technology is in use in over 30 countries across the world

Trusted by Ministries of Health

- *“meditech Anti Freeze Blood Bank Refrigerator has not only ensured that our Blood are stored at the right temperature even without power for a long time, but also relieved us of the tension of getting the valuable vaccines spoiled due to regular outage of power and ambient temperatures.”*

“WORLD HEALTH ORGANISATION”

Solar Powered Blood Bank Refrigerator PLC Based Controller



LED INDICATION

1. Line In
2. Power
3. Comp On
4. Heater On
5. Battery On
6. Battery Low
7. Temp High
8. Temp Low
9. Power Fail
10. Sensor Fail
11. System On

Scrolling LIVE Data logger on LED screen

1. Temperature
2. Incoming Voltage
3. Ambient Temperature
4. Time in hours of revolution chart
5. Current Date
6. Current Time
7. Battery Voltage


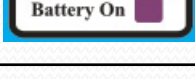
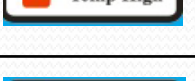



User Friendly Settings

1. Date
2. Time
3. High Temp Alarm
4. Low Temp Alarm
5. Hysteresis
6. Compressor Delay

Model	MTBTS01	MTBTS02	MTBTS03
Gross Storage Capacity (L)	80	160	240
Blood Storage Capacity (L) 450 ml	60	120	200
No Of sliding Trays	2	3	4
Energy Consumption Stable Running	0.56 kWh/ 24 hours	0.75 kWh/ 24 hours	1.1 kWh/ 24 hours
Energy Consumption Cool Down Test,	0.64 kWh/ 24 hours	1.90 kWh/ 24 hours	2.60 kWh/ 24 hours
Refrigerant	R134a		
PQS Code	E003		
Weight (Kg)	125	160	185
Quality Standard	ISO 9001:2008		
Holdover Time Holdover	3+ days (12 Days hold over time can be provided on request)		
Controller	Advance LED Controller		

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6.0 LED Indicators










Sl.No	Photos	Function Indication
1.		This LED is on when there is a power supply to the machine from the main source
2		This LED is on when the Controller is in working condition.
3		This LED is on when the compressor is in working condition
4		This LED is on when the heater is in working condition
5		This LED is on when the battery is in working condition
6		This LED is on when the battery is discharged
7		This LED is on when the inside compartment temperature of the refrigerator is high above the set temp
8		This LED is on when the inside compartment temperature of the refrigerator is Low below the set temp
9		This LED is on when there is power failure.
10		This LED is on when there is sensor fail
11		This LED is on when after 162 hours of charge change (6 hours before the completion of 7 days)
12		This LED is on when all functions of the System is in working condition

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Keypad Functions



Sl.No	Photos	Function Indication
1		The Menu button is pressed to enter into MENU option.
2		The Enter button is pressed to enter into “ENTER” option.
3		The Up Arrow button is pressed to go Upwards in the menu option.
4		The Down Arrow button is pressed to go Downwards in the menu option.
5		The data logger is pressed to get the data from the PLC to the computer
6		The MUTE button is pressed to MUTE any Alarms and sounds
7		The Door Open LED is activated along with the buzzer sound indicating the Door Open function
8		The ON button is pressed to switch on the refrigerator
9		The USB is provided to connect the Refrigerator to the computer system.