

# Solar Walk In Freezer

ISO 9001, ISO1400, ISO13485, CE  
and WHO certified.

**Robust Construction, Technology, Quality, Reliability and Repeatability for extreme Tropic Conditions**



- 12 V - 24 V DC operating voltage featuring shut-off at low voltage
- Dual Mode - Can work as Freezer and Refrigerator
- Eco-friendly cooling agent (R-134a)
- Maintenance Free Brushless DC Compressor
- Adjustable interior temperature
- Very low energy requirement
- Highly-efficient cooling
- Low Maintenance
- Double gasket to keep long cooling
- Easy to installation



**Environmentally friendly Solar Walk in Freezer powered by Meditech Technology**

ISO 9001, ISO1400, ISO13485, CE and WHO-GMP certified.

**Meditech<sup>®</sup>**



Bio Fresh provides the ultimate technology for all health-conscious food lovers. With Bio Fresh, fruit and vegetables, meat, fish and dairy products retain their healthy vitamins, delicate aroma and appetising appearance much longer than in a conventional fridge compartment.

Bio-fresh



## Why Meditech Solar Walk In Freezer

Discover Technology, Quality, Reliability and Repeatability

Meditech Solar Freezer are rugged and designed for extreme tropic climatic conditions. Save on costs with Meditech high efficiency walk in freezers . It has exceptionally low energy consumption, requiring smaller, less expensive power systems and low operating expense. High quality construction provides excellent reliability and long life.

### Applications

<b>Medical Clinics</b>	<b>Unreliable grid</b>	<b>Micro-enterprises</b>	<b>Boats and Marine</b>	<b>cabins</b>
<b>Remote Stores</b>	<b>Ice Making</b>	<b>Beverage Vending</b>	<b>Eco-Resorts</b>	<b>Farms</b>
<b>Remote Homes</b>	<b>Missionaries</b>	<b>Disaster Preparedness</b>	<b>Mobile Vendors</b>	<b>caravans</b>

**Meditech<sup>®</sup>**

## Environmentally friendly solar walk in Freezer powered by Meditech Technology

Temp. Range /Accuracy - (-) 20°C to (+) 60°C /± 0.1°C  
Temp Uniformity : ± 1°C

### • **Standard features include:**

- Temperature uniformity ±0.1°C
- Temperature gradient of 1.0°C Max.
- No-waste, custom-cut wall panels
- Average 70dBA maximum noise level
- Digital temperature controls with Touch Screen
- Narrow-range chart recorder, accurate to ±0.5% of the -100 to 100°C spare on demand
- Intelligent, active high/low alarms
- CFC Free insulated panels with SS304 inside and Galvaneled Mild steel with powder coated Outside (or) SS304 inside and outside

### **Complete utilization of costly space**

Unlike vendors which provide a limited number of standard-size rooms, Meditech insulated panels can be made to fit each installation exactly. This means your limited space will be fully utilized for productive activity. In some cases, particularly where structural columns must be surrounded by the room enclosure, Meditech custom-cut panels can increase floor space by more than 15% over rooms built with restrictive, standard size panels.

### **Surface finish**

Standard surface finishes for walk in freezer include baked white enamel powder coated Mild Steel, with SS extrusions to join panels. For exceptionally corrosive environments SS panels are available as best option. These options are usually avoided except in extreme cases.

### **Air Flow Pattern**

Our center-mount, low velocity air handler provides an "umbrella airflow" pattern which envelopes the room with conditioned air, providing maximum uniformity (1.0°C or better) without the need for lay-in ceiling tiles which are difficult to clean and represent a prime location for mold and spore growth over time. All walk in freezer are equipped with precision 100 ohm, 3-wire platinum RTD (Band 5) temperature sensors and thin-film polymer capacity humidity sensors with hermetically sealed microprocessor transmitters, representing the latest in sensor technology

### **Eliminate product stability problems**

Temperature deviations at the working height can make compounds unstable and research results unpredictable. Meditech walk in freezer meet and surpass uniformity requirements of ±0.5°C and maximum temperature gradients of 1.0°C. The temperature is constant even when transient heat loads occur from process equipment and door openings.

### **Comfortable work environment**

Productive research and manufacturing requires exceptional illumination and a quiet environment. Meditech cold rooms are equipped with recessed fluorescent lighting fixtures, which deliver a full 70 to 100 foot candle illumination at the working surface. Air handling systems are designed with components sized to limit noise to an average maximum of 70dBA – the level of normal human conversation.

### **Intelligent, active alarms**

Unlike passive systems, Meditech alarm circuits take action to mitigate an out-of-spec condition. For example, if temperature is too low, all cooling is automatically shut down while the system provides visual and audible warning of the problem. Such intelligent alarms ensure that basic corrective measures are taken immediately.

## Reliable, trouble-free operation

**Meditech** Walk in Freezer is equipped with extra equipment capacity for unusual peaks in cooling and heating loads. Also, all Meditech refrigeration systems have safety features such as automatic compressor restarts. Such robust design-features help ensure continuous reliability of Meditech mechanical systems.

## SPECIFYING Walk in Freezer

Walk In Freezer can be designed to maintain virtually any temperature required for life science and food storage applications. To ensure the room meets your particular requirements, consider these issues as you develop your specification

### Active alarms = no loss of product

Alarms advise walk in freezer operators of fault conditions, but when specified, these circuits can provide other useful functions.

For example, if the room goes above the high alarm set point, the door heaters, lights, fans, and hot gas valves should be shut off automatically. Active alarms can help prevent “runaway” conditions rather than just announcing that a problem is occurring, and should be clearly specified by the designer in critical applications.

Meditech also provides SMS features that can be incorporated to send SMS to officer in case of alarms and emergency.

## Humidity control

In most walk in freezer, humidity control is not essential. In those cases, the designer should avoid specifying a defined humidity level in order to minimize equipment costs. There are, however, two reasons end users sometimes include humidity control in the specification: to reduce excessive defrost cycles or to avoid problems with humidity-sensitive products.

Walk in Freezer systems operate at temperatures cold enough to freeze water on heat transfer surfaces. This frost must be melted off when it begins to block air flow. When the system defrosts, the air handler shuts down, and room temperature can rise slightly above set point for 5 to 12 minutes. This occurs about four times in 24 hours. In other circumstances, sensitive materials demand a uniform humidity.

### Benefits of humidification in food and produce cold stores include:

Raising the relative humidity inhibits moisture loss. The right humidity level ensures that product quality is maintained.

Fresh, just picked appearance increases value. Improved profitability through maintained product weight.

Longer storage and greater shelf life reduce waste. Direct room humidification ensures the right humidity level evenly around the store, maintaining produce quality throughout.

Close humidity control means the right humidity for the right product

## Refrigeration controls

To avoid any confusion among suppliers, the room designer should clearly specify PID temperature controls when the uniformity requirement is  $\pm 0.1^{\circ}\text{C}$ . This will alert the vendor that controls suited only for cold storage rooms are not acceptable. Meditech uses PLC based touch screen controller for the application.

## Technical Data

Standard Model(S): Inside S.S.304 with mirror polish & outside mild steel powder coated.

GMP Model(G): Inside and outside with SS 304 matt buff.

Temp. Range /Accuracy - (-) 20°C to 60°C /± 0.1°C

Temp Uniformity : ± 1°C

		Dimensions in meters					
Models	Capacity	Internal			External		
		W	D	H	W	D	H
MTBBR	ltrs.						
MTBBR80	8000	2	2	2	2.16	2.95	2.16
MTBBR125	12500	2.5	2.5	2	2.7	3.45	2.16
MTBBR187	18750	2.5	3	2.5	2.7	3.95	2.7
MTBBR225	22500	3	3	2.5	3.16	3.95	2.7

# Solar Walk in Freezer

## Advance LED based 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

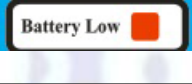
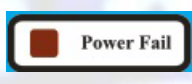

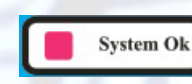
### Scrolling LIVE Data logger on LED screen

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

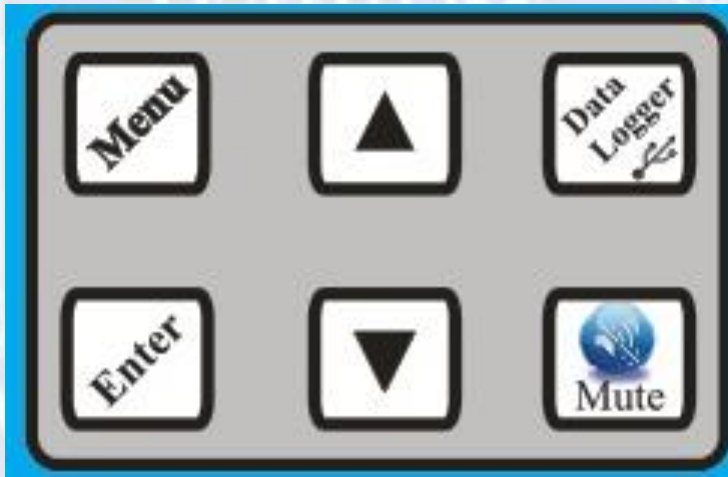
1. Date
2. Time
3. High Temp Alarm
4. Low Temp Alarm
5. Hysteresis
6. Compressor Delay










# Solar Walk in Freezer

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 all functions of the System is in working condition

# Solar Walk in Freezer

## 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.