



Blood Bank Refrigerator Instruction Manual

Dear Customer:

Congratulations on your purchase of this product. Like all of our products, this product has also been developed on the basis of the latest technology and produced using reliable and modern electrical components.

Please take a few minutes before starting operation of the appliance and read the following operating instructions. Save this manual for further reference.

Many thanks.



CAUTION!

All internal adjustments and maintenance must be performed by qualified service personnel. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.



Environmental Protection

Discarded electric appliances are recyclable and should not be discarded in the domestic waste! Please actively support us in conserving resources and protecting the environment by returning this appliance to the collection centers(if available).



Important operating and/or maintenance instructions. Read the accompanying text carefully.



Potential electrical hazards. Only qualified persons should perform procedures associated with this



Hot surface(s) present which may cause burns to unprotected skin or to materials which may be damaged by elevate



**Extreme temperature hazards, hot or cold.
Use special handling equipment or wear**

Always use the proper protective equipment (clothing,gloves,etc.)

Always use dissipate extreme cold or heat and wear protective clothing.

Always follow good hygiene practices.

Each individual is responsible for his or her own safety.

Table of Contents

1. Installation.....	1
1.1 Safety Information.....	1
1.2 Assembly.....	1
1.3 Positioning the Medical Refrigerator.....	2
1.4 Ventilation.....	2
1.5 Power Supply.....	3
2. Standard Control System.....	3
2.1 Indicator state instruction.....	4
2.2 Operation	5
2.3 Parameter.....	8
3. Product description.....	9
4. Introduction of integrated refrigeration unit.....	10
5. Cleaning.....	11
6. Maintenance.....	11
7. Disposal.....	12

If the user's manual is lost or damaged, you can through our website to download or contact us by E-mail.

1. Installation and operation

1.1 Safety Information

All electrical work must be executed by suitably qualified persons. When using any electrical appliance, safety precautions must always be observed.

- ◆ Do not use this appliance for other than its intended use. This product is intended for use as a beverage Medical Refrigerator. Consult your supplier for alternatives.
- ◆ Do not cover the front grille or block the rear air entry by placing object up against the cabinet.
- ◆ Please close attention, when used by or near children, infirm persons.
- ◆ Ensure adequate ventilation.
- ◆ Do not probe any openings.
- ◆ Do not touch any moving parts or hot surfaces.
- ◆ Regulations require that all electrical work be carried out by authorized persons. For your own safety and that of others please ensure this is done.
- ◆ Do not overload the power supply. Always ensure on the rating label. The rating label is located.

If have any problem, please consult a qualified electrician. Caution: Never use extension leads or multiple adaptors.

- ◆ If the mains supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified and skilled persons in order to avoid hazard.
- ◆ Disconnect the mains power supply before attempting any cleaning, removal of any covers, or maintenance work.
- ◆ Do not store explosive substances, such as aerosol cans with flammable propellant.
- ◆ Warning: Do not use mechanical devices or other means to accelerate the defrosting process. Defrosting is performed automatically.
- ◆ Warning: Do not damage the refrigeration circuit.
- ◆ Warning: Do not use electrical appliances inside the storage compartment of this appliance.

1.2 Assembly

- ◆ Remove the appliance from the packaging and peel off any protective film from all surfaces.
- ◆ Fit the shelf support clips onto the shelf support strips, making sure that the clips for each shelf are of the same height and that they are securely engaged on the support strip.
- ◆ Unwrapping each shelf carefully, to prevent damaging their protective coating or surface finish.
- ◆ Position the shelves onto the clips.



Please dispose of all waste packaging appropriately and in accordance with all local recycling laws.



WARNING

Do not overload the power supply. Always ensure that the power supply is adequate for the electrical requirements specified on the rating label and never use extension leads or multiple adaptors.

1.3 Positioning the Medical Refrigerator

- ◆ Please position the cabinet carefully being careful not to bump it.
- ◆ The power supply flex exits the Medical Refrigerator at the bottom right hand side (as viewed from the front). For ease of access; the flex should be retrieved prior to positioning the Medical Refrigerator in its final location.
- ◆ The maximum recommended ambient temperature for this Medical Refrigerator is 38°C
- ◆ Avoid positioning the appliance in direct sunlight or damp areas.
- ◆ Allow adequate space for the door(s) to fully open.
- ◆ Ensure that this Medical Refrigerator is positioned on a level surface, so as to allow the door(s) to shut and seal correctly, as well as to allow proper drainage from the evaporator tray, to prevent any overflow. If necessary, adjust the screw feet of the appliance to make it level.

Note: If the unit has not been stored or moved in an upright position, let it stand upright for approximately 12 hours before operation.

1.4 Ventilation

- ◆ All models must have clear and unobstructed ventilation from the entire surface area of the front grille.
- ◆ The 2 and 3 door models may be built into an enclosure without the need for ventilation other than at the front.
- ◆ The single door of Medical Refrigerators must have a minimum ventilation space of 20mm at sides and rear.
- ◆ Dimensions of the space to be provided for the appliance are referenced on page 13 of this manual.
- ◆ Dimensions and position of the means for supporting and fixing the appliance within this space are referenced on page 13 of this manual.



- ◆ **WARNING:** Failure to provide the minimum ventilation space will harm the performance of your Medical Refrigerator could cause fire and will invalidate the warranty.



- ◆ **WARNING:** Keep clear of obstruction all ventilation openings in the appliance enclosure or in the structure for building in.

1.5 Power Supply

The Medical Refrigerator uses a three-pin plug which must be well grounded. Never ground the Medical Refrigerator through a gas pipe, tap water pipe OR the grounded wire of single-phase power supply etc. Never share same circuit with other appliances. Before plugging in your Medical Refrigerator for the first time make sure the power cable is free from damage and check that your voltage corresponds to that on the serial plate.

Once plugged in the display will show the temperature inside the Medical Refrigerator and the compressor will run late on (the indicator light of cooling will be on at the same time). This temperature is the actual temperature recorded by the probes inside the Medical Refrigerator and as the fridge cools to the set point (factory set at 4°C/39°F) so the number on the display will descend accordingly. If power is cut off, wait for at least 5 minutes before plugging the unit in again to avoid damaging the compressor.



2. Standard Control System



Key

KEY	NAME
	SET/MUTE
	UP
	DOWN
	PRINT
	LIGHT

Indicator staute instrustion

indicator	Display	status	Function
Door		on	Door oppen
		off	Door closed
Wifi		on	Connected WIFI
		off	Unconnected WIFI
Defrost		on	Defrost status
		off	Non-defrost status
Key lock		on	Key locked
		off	Key unlocked
Power cut off		On	Working power supply broken off
		off	Working power supply normal
printer		On	Printer working
		off	Print off work
Door heating		on	Door heating on
		off	Door heating off
Cooling		on	Compressor enabled
		off	Compressor off
mute		on	Alarm buzzer mute
		off	Alarm buzzer normal
Low power		on	Low battery voltage
		off	Batter voltage normal
RS485		on	Connected RS-485
		off	Unconnected RS-485
Fan		on	Fan on
		off	Fan off

Operation

view outdoor temperature (Environmental temperature)

- a) At the status of Key locked, press SET/MUTE, display the outdoor temperature, To exit and display normal press UP and DOWN key or wait 5s without pressing any key.
- b) At the status of key unlocked, press SET/MUTE, display the outdoor temperature, to exit and display normal wait 5s without pressing any key

Ps1 manual Parameters setting

At the status of unlocked, press and hold SET/MUTE 3s until display "PS1", press UP or DOWN select the parameters or set the value of them, press SET/MUTE change the label and the corresponding value, set value stored and to exit press SET/MUTE 3s or wait 60s without pressing any key.

View humidity

Press and hold SET/MUTE and DOWN until display the humidity. Display as normal wait 5s without pressing any key or press UP and DOWN

Manual print

Key unlocked status and work voltage normal, press PRINT, then display "P01", press UP or DOWN to set "P00~P07"

Press SET/MUTE or PRINT, cancel this print (P00) or print the data sheet of (1-7) days ago from current.

Switch on data logger

Key unlocked status, data logger switches off, display "LoF", at the meantime to press SET/MUTE and UP 3s until "LoF" disappear, data logger switches on.

PDF data sheet

Key unlocked status, connect USB driver, press UP 3s until display "do1", press UP or DOWN to set the "d00~d12", press SET/MUTE, USB cancel the data sheet document (d00) this time or create the data sheet PDF document of the month (1~12) ago from current.

Light

Working voltage normal, press LIGHT, switch on or off the light.

alarm buzzer mute

When alarm buzzer occur, press SET/MUTE to cancel the buzzer this time, alarm mute indicator switch on, then go in to the status of outdoor temperature viewing;

When cancel the alarm buzzer, press SET/MUTE, the buzzer will be restored, alarm buzzer indicator switch off, then go in to the status of outdoor temperature viewing.

Key unlocked status, and view the outdoor temperature, press SET/MUTE, can cancel or restore the alarm buzzer.

Key lock

key unlocked status, press UP and DOWN 3s meantime or wait 60s without pressing any keys, the key locked and KEY LOCK indicator switch on.

b) key locked status, view the outdoor temperature、mute、light switch on or off, other key function locked; press UP and DOWN 3s meantime until display “000”, then press UP or DOWN set the passwords as the value of PS1 or 99 (universal password, PS1 will restore to after password correct, back to normal display, KEY LOCK indicator switches off.

controlling loads

Light

First power on, the light is switch off as default. Press Light key can control the switch on or off. When light switched off, opening the door can switch on the light, door closed, switch off; When light switch on, whatever door opening or closed, light will be switched on always.

door heating

(1) Door heating mode P1=1: door open then closed for one time, will start the heating t9 minutes, If during he heating time, the door open and closed again, the heating re-timing.

(2) Door heating mode P1=2: after the compressor start, the heater start; when the compressor stop, the heater stop after the 1min delay.

(3) Door heating mode P1=3: when the room humidity higher than 80%, door heating on, when the room humidity lower than 60%, door heating off.

(4) Door heating mode P1=4: door heating on always;

(5) Door heating mode P1=5: door heating off always;

defrost

When the compressor cumulative running time up to tp8, start the defrost, during the defrost, compressor switch off, evaporator keep running (at this time, evaporator fan is not affected by the opening of the door, and room high temperature not alarm during the defrost)

When tp5 > tp8 (defrost probe work normal and not disable) or defrost time up to t8, exit defrost.

alarm

Room high and low temperature alarm

a、 when tp1 >Set + H, and after the alarm delay t3, alarm buzzer occurs, digital tube display “H1” and flashing as 3s interval.

b、 when tp1 < Set - L, and after the alarm delay t3, alarm buzzer occurs, digital tube display “L1” and flashing as 3s interval.

Outdoor temperature alarm (Environmental temperature)

when tp4 > tH1(outdoor temperature probe work normal and not disable), and after the alarm delay t3, alarm buzzer occurs, digital tube display “H2” and flashing as 3s interval.。

Condenser high temperature alarm

When tp6 >tH2(condenser probe work normal and not disable), and after the alarm delay t3, alarm buzzer occurs, digital tube display “H3” and flashing as 3s interval.。

Door opening alarm

When door opening time up to t_4 , alarm buzzer occurs, digital tube display “do” and flashing as 3s interval; door closed, alarm off and back to normal.

Power cut-off alarm

When the power voltage lower than 9.5V, alarm buzzer occurs, digital tube display “PF” and flashing as 3s interval, when the power voltage higher than 11V, back to normal; power supply voltage higher than 20V, power supply voltage test as circuit fault, alarm buzzer occurs, digital tube display “EP” and flashing as 3s interval.

low battery alarm

When the battery voltage lower than 10.8V, alarm buzzer occurs, digital tube display “BL” and flashing as 3s interval, when the battery voltage higher than 12V, back to normal; Battery voltage higher than 20V, power supply voltage test as circuit fault, alarm buzzer occurs, digital tube display “Eb” and flashing as 3s interval

probe fault alarm

All the temperature probe work normal and not disable, test probe temperature $\leq -50^{\circ}\text{C}$ or $\geq 100^{\circ}\text{C}$, it will be judged as the sensor fault. When $tp_1 \sim tp_6$ fault, the alarm code as E1~E6, the humidity probe work normal and not disable, the humidity probe fault, the alarm code as E7, alarm occurs, digital tube display “E7” and flashing as 3s interval.

display panel communication failure alarm

When the communication failure between the display panel and control panel, alarm buzzer occurs, digital tube display “EE” and flashing as 3s interval.

data logger communication failure alarm

When the communication failure between the data logger and the control panel, alarm buzzer occurs, digital tube display “EE” and flashing as 3s interval.

Alarm relay

When the alarm occurs (except for power cut-off alarm), the alarm relay switch on, after all the alarm released, alarm relay breaks off.

temperature data log

Data logger record each Sy

USB data report download

(1) When USB driver connected, data logger buzzer occurs, digital tube display upload data sheet code “on” (the situation of the large data amount), then the PDF data sheet of current month and last month save at the USB driver, done, buzzer occurs, digital tube display “End”, after 6s, display normal.

Note: when the data amount less, the digital tube will not display “on” and “end”

(2) when the USB driver always connect with the data logger, the PDF data sheet should be import to the USB driver each month. data logger buzzer occurs, digital tube display upload data sheet code “on” (the situation of the large data amount), done, buzzer occurs, digital tube display “End”, after 3s, display normal.

(3) when the USB driver connect with the data logger and there isn't the data sheet, can manual download the pdf data sheet of the current month and 12 months before

data print

Auto print, when the printer interval $Pt \neq 0$, each Pt , the printer will print the current data.

Note: when $Pt \leq Scy$, print as the record interval; The other printing intervals are printed by the integral multiple of the record interval Scy , that is, the print interval Pt should be set as the integral multiple of the record interval.

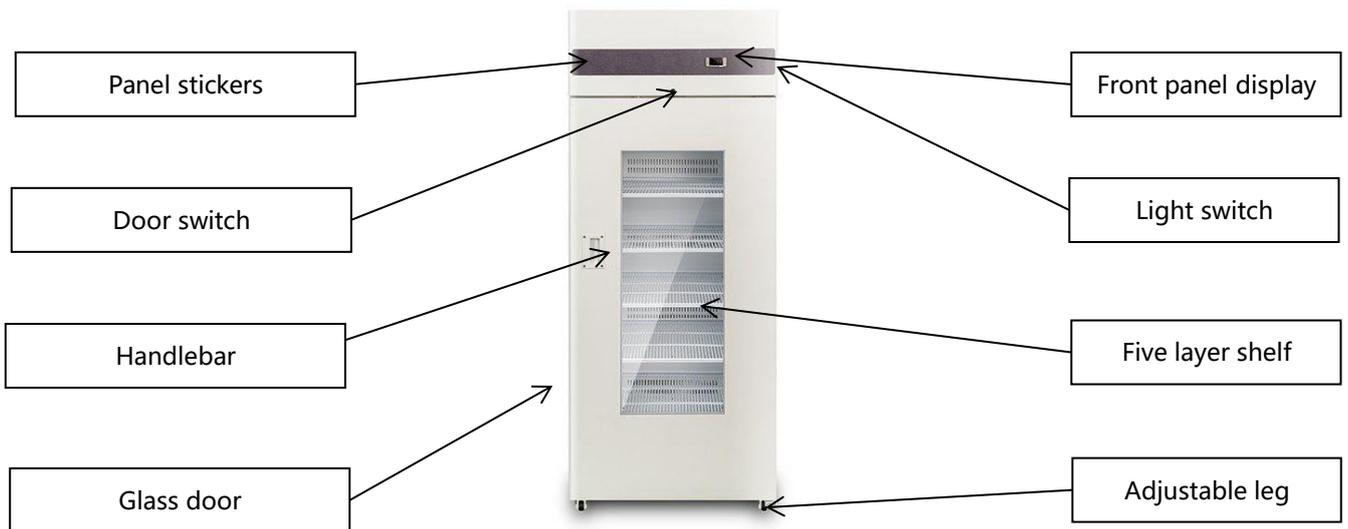
Manual print, can print the data of current day and 7 days before, the print interval equal to the auto print interval.

Parameter

Level	label	name	range	default	Unit
Ps1	SEt	Set point	0.0~10.0	4.0	°C
	H	High temperature positive differential	0.0~10.0 0: alarm disable	5.0	°C
	L	Low temperature nagtive differential	0.0~10.0 0: alarm disable	4.0	°C
	n	view the current date-year	--	--	/
	y	view the current date-month	--	--	/
	r	view the current date-day	--	--	/
	S	view the current date-hour	--	--	/
	F	view the current date-minute	--	--	/
	Pt	Print internal	0~240	20	min
	tH1	Ourdoor high temperature alarm	20.0~50.0	40.0	°C
	P1	Door heatting mode	1: auto-heating mode 1 2: auto-heating mode 2 3: auto-heating mode 3 4: on always 5: off always	1	/
	P2	Temperture display	1: average temp. 2: up temp. 3: down temp.	1	/
	Ps2	PS1	Ps1 manuel password setting	000~999	005
b1		Hardware version	V1.0~9.9	1.2	/
b2		Solftware version	V1.0~9.9	1.3	/
n		data logger time -year set point	10~50	--	/
y		data logger time -month set point	1~12	--	/
r		data logger time -day set point	01~31	--	/
Ps2	S	data logger time -hour set point	00~23	--	/
	F	data logger time -minute set point	00~59	--	/
	PS2	PS2 password set	000~999	022	/

3. Product description

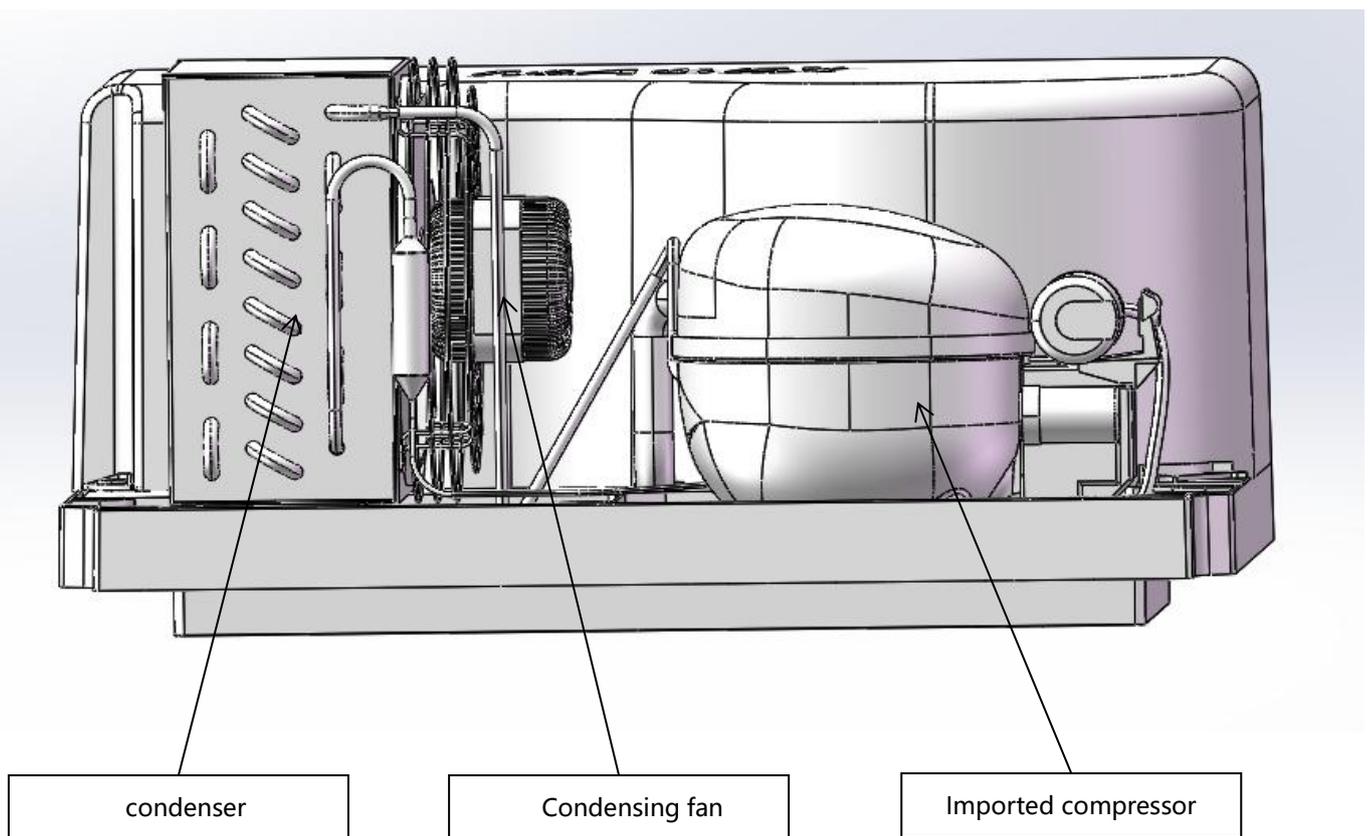
Refrigerator



Freezer



4. Introduction of integrated refrigeration unit



- ◆ 4.1 The unit has the advantages of high efficiency, low noise, reasonable structure, simple operation, safe operation and so on.
- ◆ 4.2 The compressor, fan and refrigeration system accessories of the unit are imported from famous foreign companies, with good quality, accurate control and reliable performance.
- ◆ 4.3 It has strong adaptability to possible bad working conditions and simple maintenance.
- ◆ 4.4 A set of unit drives the refrigeration of the whole product with high efficiency.

5. Cleaning

- ◆ **WARNING:**  You must disconnect the plug before cleaning or maintenance.
- ◆ Do not use abrasive cleaning agents which may scratch and harm the delicate interior finishes of your appliance.
- ◆ Always wipe dry after cleaning.
- ◆ An agent or qualified technician must carry out repair if required.

5.1 Clean the filter of single door Medical Refrigerator

- ◆ The filter must be kept clean and free of dust at all times. It is recommended that the cleaning routine be conducted at interval appropriate to the speed of accretion of dust on the filter and in any event at least every month. Failure to keep the filter clean will damage the refrigeration system and invalidate the warranty.
- ◆ Pull the filter upwards to remove it from its locating place under the glass door.
- ◆ Use a vacuum cleaner, preferably with a rush attachment, to remove built up dust.
- ◆ Refit the filter to its original location to ensure continual efficient operation is maintained.

- ◆ **WARNING:**  The condenser is a delicate component and is easily damaged. Never use a stiff brush or sharp objects to clean it. Never use water.

6. Maintenance

If your appliance develops a fault, please check the following table before making a call to the helpline.

Fault	Possible Cause	Action
The appliance is not working	The unit is plugged in correctly	Check the unit is plugged in correctly
	Plug or lead is damaged	Call Our agent or qualified technician
	Power supply	Check power supply
	Internal wiring fault	Call Our agent or qualified technician
The appliance turns on, but the temperature is too high or too low	Filter or condenser blocked with dust	Clean filter or condenser
	Doors are not shut properly	Check doors are shut and seal are not damaged
	Appliance is located near a heat source or air flow to the condenser is being interrupted	Move the appliance to a more suitable location
	Ambient temperature is too high	Increase ventilation or move appliance to a

		Medical Refrigerator position
	Insufficient airflow to the fans	Remove any blockages to the fans
	Appliance is overloaded	Reduce the amount stored in the appliance
	Factory default parameters adjusted	Call Our agent or qualified technician
The LED lights not working	Led light short Leaded damage	Call Our agent or qualified technician
The appliance appear BT alarm	See description below	See description below
The appliance is unusually loud	The appliance is touching a neighboring object	Check installation position and change if necessary
	The appliance has not been installed in a level or stable position	Check installation position and change if necessary

7. Disposal

If in any doubt, please consult your Local Authority, contact us or contact the reseller from whom you purchased the appliance.