



Blood Bank Refrigerator

LMBL-A101

Index

Sr.no	Title	Page no
1.	Safety Measures	2
2.	Introduction	6
3.	Features	6
4.	Specifications	7
5.	Instrument Introduction	8
6.	Installation	12
7.	Operations	16
8.	Maintenance	21
9.	Troubleshooting	23
10.	Accessories	25

1. Safety Measures

When using this product for the first time, kindly pay attention to the meaning of the following warning signs and carefully read the safety precautions, so that you can use this equipment safely and correctly.

Symbols	Meanings
	Warning! Failure to observe the precautions may result in serious personal injury or death.
	Attention! Failure to observe the precautions may result in personal injury, equipment failure, or related property losses.
	Protective conductor terminal
	Risk of explosion. This sign indicates the risk of an explosion when using volatile and explosive chemicals.
	Do not place it obliquely
	Avoid direct sunlight
	Beware of electric shock.
	Beware of fire
	This equipment is a precision instrument
	Warning: Failure to observe the precautions may result in serious personal injury or death.
	Do not touch the equipment with wet hands to avoid electric shock; Equipment shall not be grounded through a gas pipeline, water supply pipeline, telephone line, or lightning rod, which may easily cause electric shock.
	This equipment can only be installed by professional technicians or after-sales maintenance personnel, it may cause electric shock or fire.
	Be sure to install the equipment on solid and flat ground and take due care to prevent tipping over. If the ground is not solid enough or the installation location is not appropriate, it may cause the equipment to fall over and cause equipment damage or personal injury.

Blood Bank Refrigerator LMBL-A101

	Kindly handle the power cord carefully to avoid short circuits or open circuits. Kindly turn off the power before pulling out the power plug. Hold the power plug carefully and pull it out. Do not pull the wires of the power plug. Otherwise, it may cause electric shock or fire due to a short circuit. Don't bundle the power cord, don't press it under furniture or heavy objects, and don't get it close to heat sources such as compressors
	Kindly insert the power plug into the outlet tightly to ensure firmness and reliability to avoid electric leakage; After installation, the power plug must be within reach, so that the power cord can be unplugged in time in case of an emergency.
	Separate special outlets must be used and grounded reliably. The cross-sectional area of the copper conductor in the wall connected with the outlet must be more than 4mm ² . Do not lengthen the power cord without authorization to avoid heating or fire.
	Do not use a power supply that is not specified in the equipment design to avoid overheating, short circuits, and other faults. For example, connecting 110V-rated voltage products to a 220V power supply may cause faults such as overheating and equipment burning. This equipment uses a 110V/60HZ AC power supply. If the operating voltage is too low or too high, a suitable automatic voltage stabilizer must be installed for cooperative use.
	Kindly place the equipment steadily and avoid shaking.
	Do not place the equipment in a dangerous area and do not operate the equipment near flammable items to prevent explosion or fire accidents.
	Vents and drains are located at the bottom of the equipment. It is forbidden to place items at the bottom of the cabinet.
	Do not place the equipment in areas exposed to the sun or rain to prevent dangers such as short circuits or overheating.
	Do not tilt or lay the equipment sideways and do not impact the equipment body; refrigeration systems are installed in the equipment, which can be easily damaged by tilting or impact
	Kindly place the equipment in a dry and dust-free environment to avoid risks such as overheating and short-circuiting.
	In case of unexpected sounds, smells, smoke, etc. when the power is turned on, Kindly unplug the power in time.
	Kindly place the equipment in a dry and ventilated environment and ensure that the equipment vents and instrument surfaces are not blocked or shielded by walls or other objects; do not use it in a poorly ventilated environment to prevent damage caused by heat released by equipment.

Blood Bank Refrigerator LMBL-A101

	It is forbidden to disassemble and modify this equipment without authorization to avoid potential safety hazards. In this case, melting biomedical will not bear any responsibility for quality accidents
	It is forbidden to put inflammable and explosive dangerous goods, strong corrosive acids, alkalis, and other items unsuitable for the equipment in the equipment.
	When storing toxic, harmful, or radioactive materials, Kindly use the equipment in safe areas as Improper use may cause harm to human health or the environment.
	Metal objects such as nails or iron wires shall not be inserted into any aperture and gap or any outlet of the equipment, otherwise, an electric shock or injury may be caused due to accidental contact between the above objects and moving parts.
	To ensure the normal operations and ventilation and heat dissipation of the equipment, the back, left and right sides of the freezer body should be at least 30cm away from the wall, and obstacles must not block the air inlet and air outlet!
	This equipment must be connected to a ground wire.
	Note: Failure to observe the precautions may result in personal injury or equipment failure and related property losses.
	It is forbidden to store living animals, flowers, or other items with strict temperature requirements in the equipment.
	When the equipment is running, do not touch the inner surface of the cabinet without wearing protective gear.
	Hold the handle and close the door to avoid pinching your fingers. When the equipment is not used for a long time, Kindly unplug it and pack it for storage.
	When restarting the equipment after a power failure or power off, Kindly check the equipment settings first, otherwise the stored items may be damaged due to the change of settings
	The equipment can be used for item preservation, not as production equipment!
	Keep the keys properly to avoid accidents when children open the door accidentally.
	When handling the equipment, Kindly be careful not to tip over the equipment to prevent equipment damage or personal injury.
	When handling, it shall be lifted from the bottom, with the inclined plane not greater than 45° and it shall be handled with care. Kindly use the equipment in safe areas. Improper use may cause harm to human health or the environment.

Precautions in Use

- Before putting the items into the equipment, Kindly confirm that the temperature in the storage chamber has reached the set value first and then put the articles in batches. Every time you put in items; they shall not exceed 1/3 of the inner volume of the freezer to prevent excessive temperature rise.
- The equipment temperature display value is the temperature at the temperature sensor in the storage chamber. There is a certain gap between the displayed temperature and the actual temperature at the center of the equipment when the equipment just starts running, but as the equipment enters a stable state, the displayed temperature will gradually approach the actual temperature.
- The freezer body is provided with a test hole to lead out the test line from the cabinet during the test. After the test line is led out, it is necessary to plug the test hole with thermal insulation materials again, otherwise, the temperature inside the freezer may not reach the set value and condensation will appear around the outside of the hole.
- Kindly use a diluted neutral cleaner to clean the equipment and do not use brushes, acid, gasoline, soap powder, polishing agent, or hot water to clean the equipment, otherwise the painted surface and plastic rubber parts may be damaged. Be careful not to wipe plastic rubber parts with volatile solvents such as gasoline.
- When the equipment is not used for a long time, the power supply shall be cut of.

2. Introduction

Labmate **Blood Bank Refrigerator LMBL-A101** is a crucial and an explicitly designed equipment for immunohematology. It ensure the safe and appropriate storage of blood. It is also suitable for storing specific blood components. The multiple sensors present ensuring to provide the accurate temperature necessary for keeping the integrity of blood samples.

3. Features

- Stainless steel body and antibacterial powder coating
- Precise monitoring and programming
- R134a refrigerant for efficient cooling effect
- CFC-free refrigeration
- Microprocessor control system
- LED display
- Auto Defrost
- Transparent glass door for easy observation of samples
- Forced air refrigeration for uniform temperature
- Adjustable shelves for better utility of space
- Low battery, sensor error, and power failure
- Alarm with sound and light indicator
- Double door to avoid cooling loss
- Door ajar warning and safety lock system

4. Specifications

Model	LMBL-A2
Capacity	160 L
Temp Range	4 ± 1°C
Temp Accuracy	0.1°C
Display	LED
Power Consumption	257 W
Power	AC 110/ 220 V ±10%, 50/60 Hz
Casters	4 Casters
Adjustable shelves	4 pieces
Baskets	12 pieces
Blood Bags (450 ml)	120 pieces
External Dimension	530 x 593 x 1287 mm
Gross weight	104 kg

5. Instrument Introduction

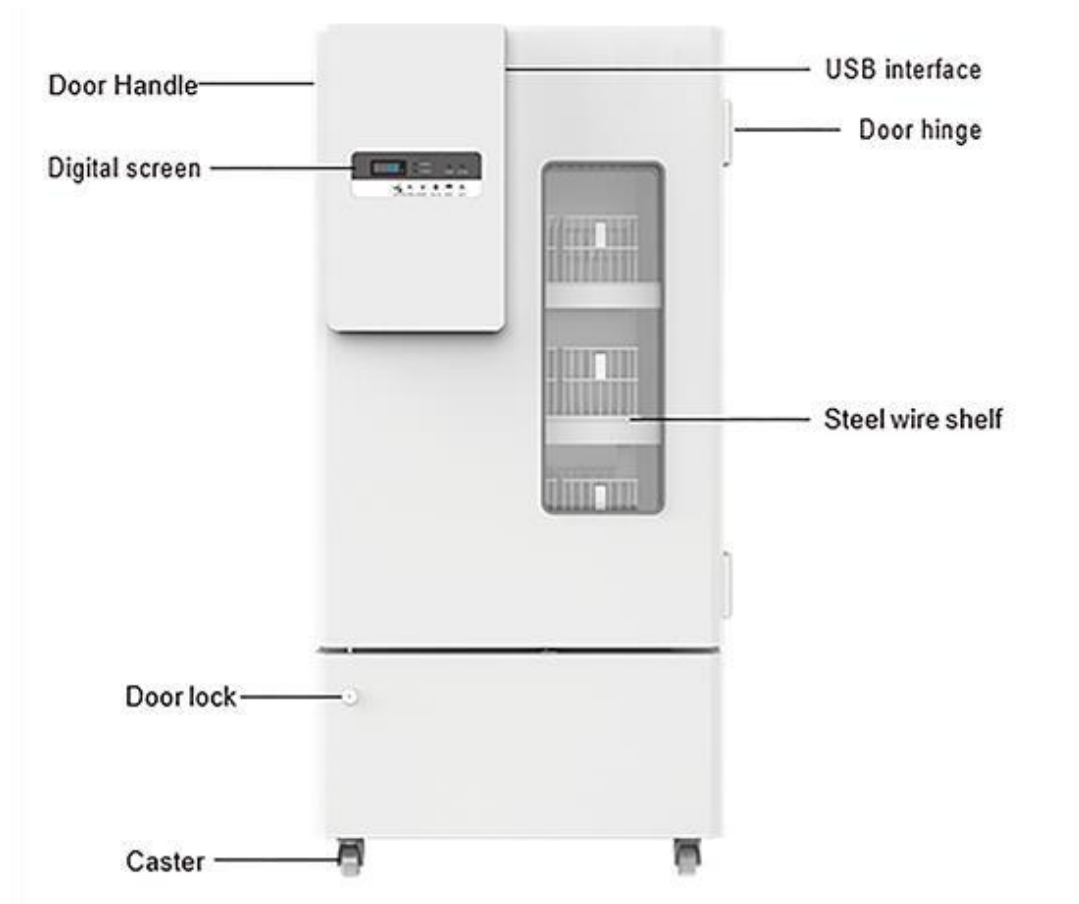


Figure-1

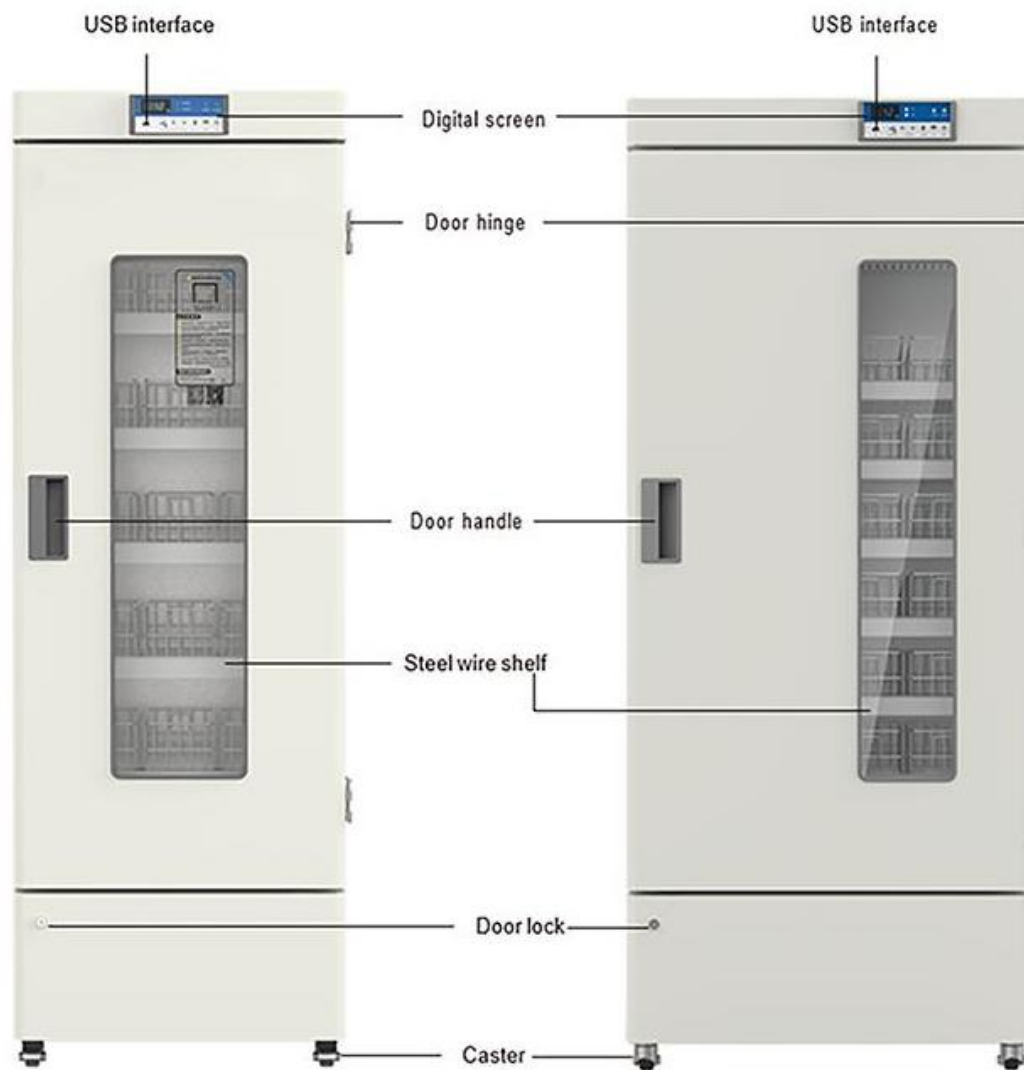


Figure-2

Figure-3

The product has two rollers and two supporting feet, each with an adjustable height of 21m

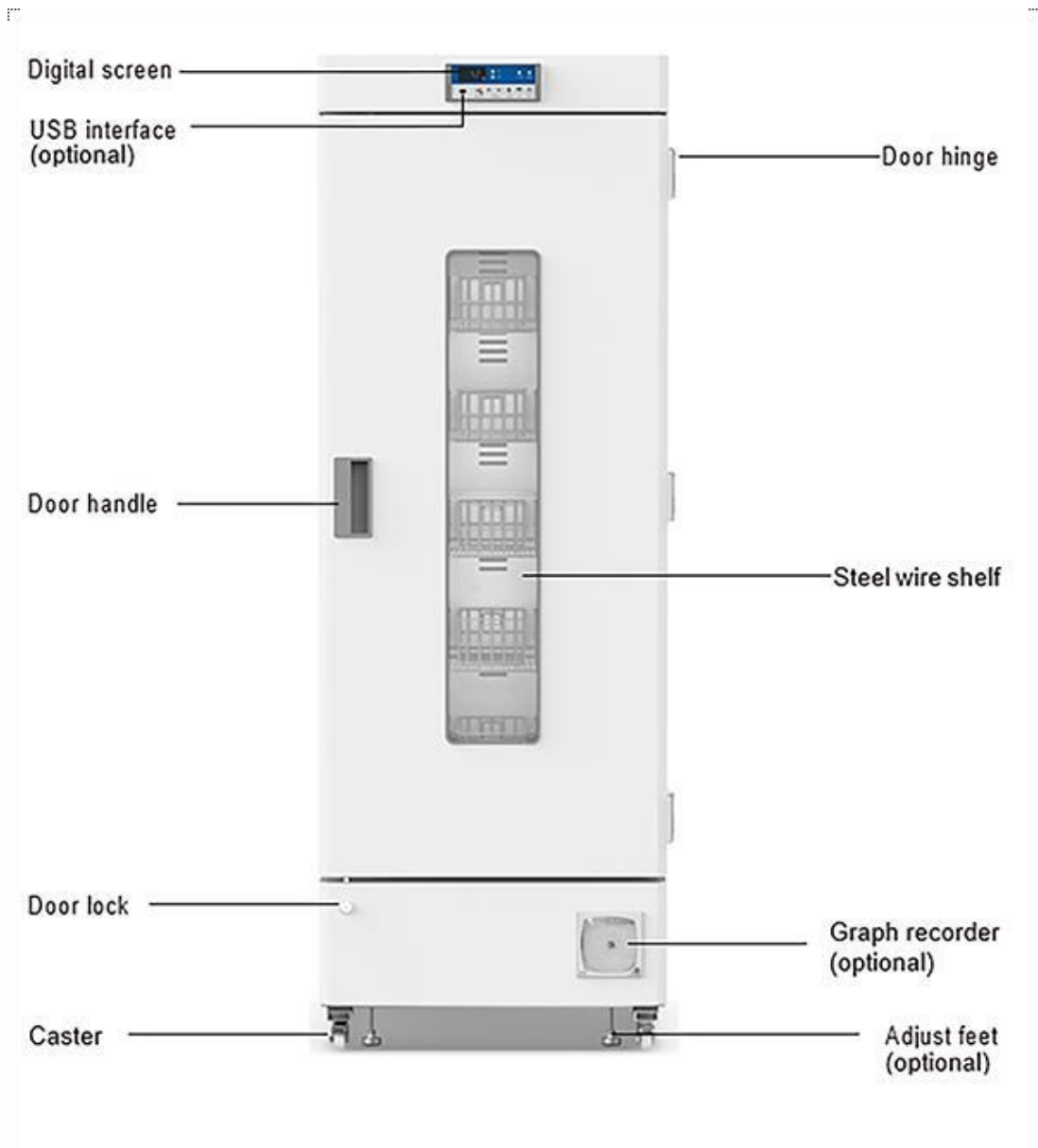


Figure-4

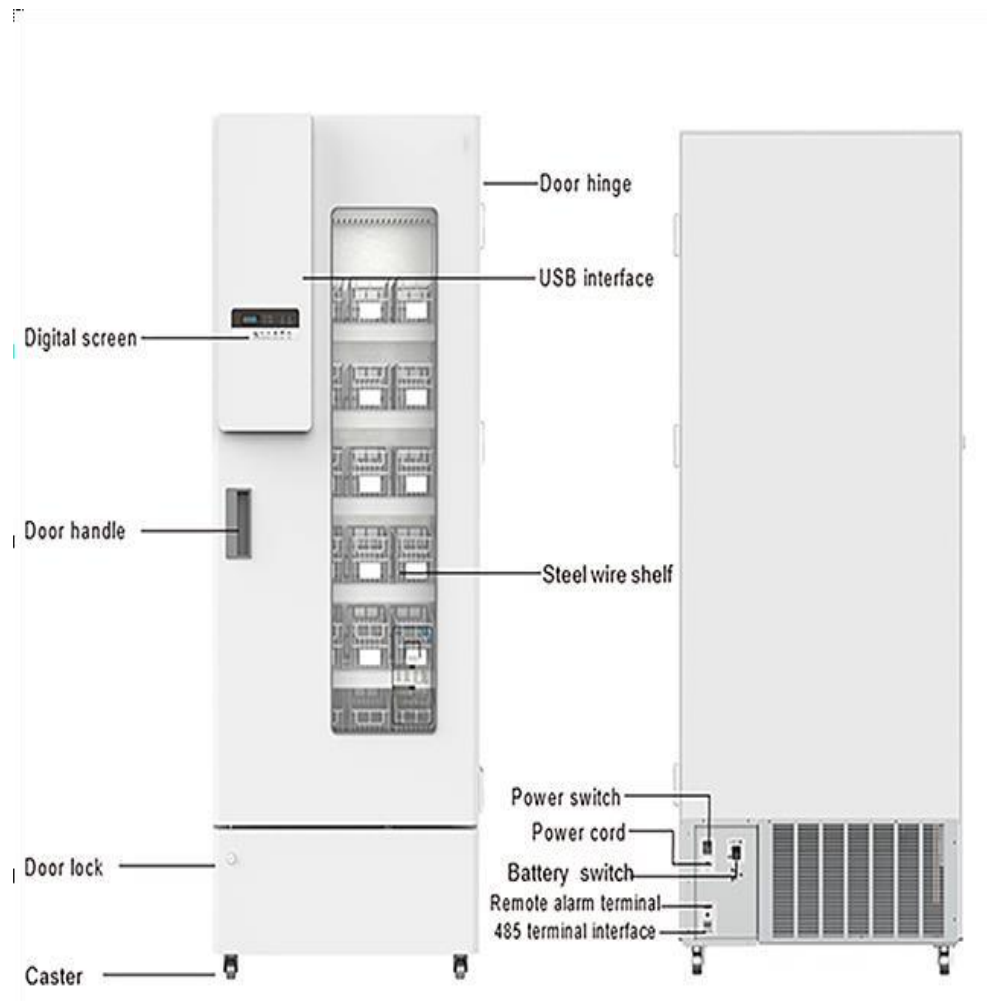


Figure-5

- Due to the improvement of products and model differences, the actual products may be different from the diagram. Kindly refer to the actual products! The diagram is only used for functional parts description.
- **Structure and composition:** the product consists of a freezer body, door (glass door structure or foam door-structure), refrigeration system, and control system.
- **Scope of application:** it can be used by hospitals, epidemic prevention stations, scientific research institutes, and other places needing to store blood.

6. Installation

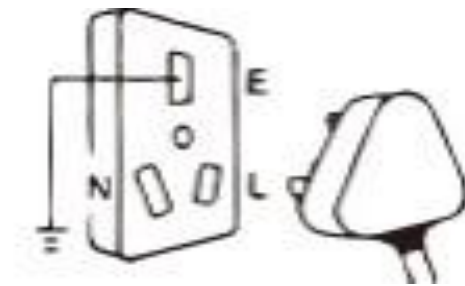
Installation Environment

- Ambient temperature: 16°C ~ 32°C, the most ideal temperature is 18°C~ 25°C and the air conditioning system shall be used when necessary.
- Relative humidity: $\leq 80\%RH$.
- There is no strong vibration or corrosive gas around.
- Avoid the existence of a large amount of dust.
- Avoid rocking or shaking the equipment.
- Elevation of the working position of the equipment: less than 2000m.
- Indoor use, pollution degree 2, and overvoltage category II.
- Input voltage AC single-phase 110V.
- There is no direct sunlight, other cold and heat sources, and strong electromagnetic interference, which will affect the normal operations of the control system and directly damage the system in severe cases.

Installation Site

To operate the equipment normally and obtain the best performance level, the installation site of the equipment shall meet the following requirements:

- It cannot be installed in a narrow and closed space and the door of the room shall not be smaller or lower than this equipment, which shall at least ensure normal access to the equipment, to avoid maintenance difficulties in case of equipment failure, which may result in damage to stored items due to the failure to repair the equipment in time.
- The installation floor must be solid, flat, non-combustible, and able to bear the weight of the equipment during operation.
- It should be with good ventilation and direct sunlight should be avoided.
- Each piece of equipment needs to use a power outlet independently. Kindly ensure that the plug and outlet are firmly connected.
- Check the working voltage before use. In areas with unstable voltage, consider using a voltage stabilizer suitable for the equipment load to ensure that the input voltage requirements in the installation environment are met.
- Equipment shall be reliably grounded. If the power cord outlet is equipped with a grounding wire, check whether the grounding is good before use. If the outlet is not equipped with a grounding wire, it must be installed by professional engineers and techniques.



Figures N and E cannot be connected

Attention: Since the ambient temperature has a great influence on the equipment if the above environmental requirements cannot be met, the equipment may not run normally. Kindly improve the environment before using the equipment; the equipment is operated intermittently.

Preparation Before Use

Remove the outer packaging of all products (including the protective foam in the packaging box)

Warning: Don't put plastic bags within reach of children to prevent suffocation accidents.

Inventory of accessories: Kindly check the accessories and materials according to the packing list.

Cleaning: Clean the product once before use.

Ensure that the temperature control probe is immersed in the test solution contained in the test bottle before use.

Cabinet fixation: Retract the four wheels at the bottom of the cabinet to ensure that the cabinet does not move when in use.

First Power-on

- When using the equipment for the first time, Kindly follow these steps:
- After the equipment is placed, leveled, and cleaned, it shall stand for more than 24 hours and then power on to ensure the normal operations of the equipment.
- Under no-load conditions, connect the power cord to a special outlet with appropriate specifications.
- After powering on, turn on the power switch of the equipment.
- Check whether the operating temperature of the equipment reaches the required value, observe the normal start and stop of the equipment for more than 24 hours, and put a small number of items in the freezer after confirming the normal performance.

- Kindly store items in batches, with the items not exceeding 1/3 of the freezer volume each time. Ensure that the equipment is running properly after shutdown for more than 12 hours before putting in the next batch of items).
- Try not to open the door during cooling, otherwise the temperature will rise.

Operations after Power Failure

- The equipment has a memory function for the set value. When the power is restored after a power failure, the equipment will continue to operate before power failure.
- Once the equipment is powered off, it requires 5 minutes before it can be switched on again to avoid damaging the compressor.
- We guarantee the normal operation of this equipment under certain conditions, but we are not responsible for any loss or damage of stored items after a power failure.



Notes:

- The transportation and movement of equipment is done by using casters.
- A special person shall be responsible for checking and recording the running status of the equipment every day (record and check once every 2-4 hours). In case of failure or shutdown, the temperature in the storage chamber will rise. If it cannot be repaired in a short time, Kindly take out the stored items and transfer them to a place that meets the temperature requirements for storage to avoid damage to the items.
- Before putting items into the equipment, it shall be confirmed in advance whether the temperature range of the equipment meets the temperature requirement of the items to avoid damage to stored items due to the difference between the settable temperature of the equipment and the required temperature of the items. Kindly pay attention not to block the air outlet and air inlet when putting items into the equipment.
- Due to the refrigeration inertia, there is a certain difference between the actual display temperature and the set temperature of the equipment, which is a normal phenomenon.
- The equipment is an item storage equipment, which cannot be used for routine production operations. It is strictly forbidden to put too many items that are relatively hot into the equipment at one time, otherwise, the compressor will run for a long time and be burned due to high temperature. Items must be put in batches to ensure that the storage chamber is cooled step by step until the temperature required for storing items is reached.
- Electrical appliances without a production license shall not be used inside the equipment.
- Do not change the set temperature frequently within a short time, otherwise, the

the expected setting effect may not be achieved due to the large temperature inertia. Ensure that there is a certain air circulation space around the cabinet when putting in items, especially do not block the temperature sensor in the cabinet (for collecting the temperature of the cabinet), otherwise, it will affect the stability and accurate control of the temperature in the freezer body!

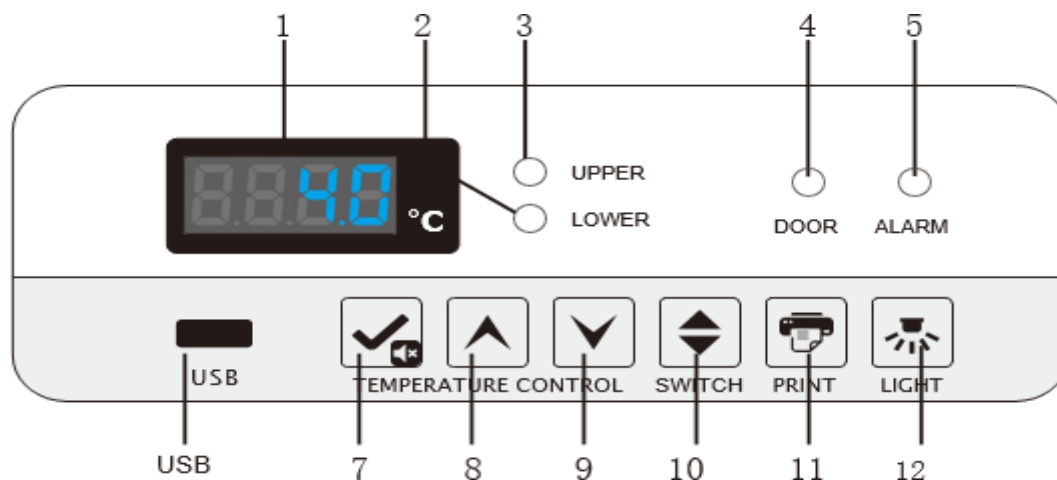
- Items shall not be placed directly at the bottom of the freezer, but on the bottom shelf, otherwise, the refrigeration effect of the equipment will be affected.
- When putting in items, if the moisture content of the items is too much or too little, it will affect the humidity change in the cabinet, so it is best to keep the items sealed.

The humidity of the working environment will affect the change of humidity in the cabinet, especially if the door is opened too frequently and the door is not closed properly.

Warning: Children are not allowed to play with this equipment as a game prop, otherwise the injury or loss caused there will be at their own risk.

7. Operations

7.1 Function Introduction



7.1.1 Temperature display window

Under normal circumstances, the display shows the temperature in the current cabinet; in case of an alarm, the display flashes; if the self-diagnosis function detects an abnormality, the display will alternately display the fault code and the temperature in the cabinet.

Lower chamber

Press the "SWITCH" key. When the "Lower" chamber indicator is on, the temperature display (Figure 1 above) shows the temperature of the lower test bottle.

Upper chamber

Press the "SWITCH" key. When the "Upper" chamber indicator is on, the temperature display (Figure 1 above) shows the temperature of the upper test bottle.

Door opening alarm

The red LED lights up when the outer door is opened. After the door alarm light is on for 2 minutes, the buzzer starts to sound to remind the user that the door body of the equipment is not fully closed.

7.1.2 Temperature alarm

- After the system detects a fault or when the power supply is in a power-off state, the red LED will flash and sound an alarm. Remind the user that the equipment is in a fault state.
- USB interface (see the schematic diagram for specific location)
- The USB interface provides a data interface between the external equipment and the refrigerator for conserved blood, and the operating status parameters recorded by the refrigerator for conserved blood can be exported by this USB interface.

Confirm/Mute key

When the alarm indicator flashes and the buzzer sounds, press this key to stop the buzzer.

Upper Control button

This key is used for the calibration of the temperature sensor and the display. In the calibration mode, pressing this key will increase the value.

Lower Control button

This key is used for the calibration of the temperature sensor and the display. In the calibration mode, pressing this key will decrease the value.

Switch key

When you need to let the temperature, display show the upper test bottle temperature or the lower test bottle temperature separately, press this key to show the upper-temperature value in the chamber and the lower temperature value in the chamber separately.

Print key (optional)

The refrigerator for conserved blood is equipped with a printer and can use this key to start the printer to print data when the user needs to print out the status parameters recorded by the equipment.

Light key

The refrigerator for conserving blood is equipped with a 12 V LED light. Open the door, then the light is on. Without opening the door, the user can click on this key to turn on the light to view the inside.

7.2 Function

Settings Key settings

Temperature display window

Under normal circumstances, the display shows the temperature in the current cabinet; in case of an alarm, the display flashes; if the self-diagnosis function detects an abnormality, the display will alternately display the fault code and the temperature in the cabinet.

Lower chamber

Press the "**SWITCH**" key. When the "Lower" chamber indicator is on, the temperature display (Figure 1 above) shows the temperature of the lower test bottle.

Upper chamber

Press the "**SWITCH**" key. When the "Upper" chamber indicator is on, the temperature display (Figure 1 above) shows the temperature of the upper test bottle.

Door opening alarm

The red LED lights up when the outer door is opened. After the door alarm light is on for 2 minutes, the buzzer starts to sound to remind the user that the door body of the equipment is not fully closed.

operations or 3 seconds of long press on the Set/Mute key, saving parameters will exit and the buzzer will sound once.

Alarm mute: when the alarm sounds, press the Set/Mute key to cancel this alarm sound and the alarm mute indicator will be on and the device will enter the state of View Ambient Temperature; when the alarm sound is canceled, press the Set/Mute key to resume the alarm sound, the alarm mute indicator will be off and the device will enter the state of View Ambient Temperature; when the key is unlocked, press the Set/Mute key to cancel or resume the alarm sound in the state of View Ambient Temperature.

USB data export: when the USB interface is connected to the USB flash drive, the buzzer of the recorder beeps once, the digital tube displays Upload Data Code "on" (when data volume is high) and PDF files of the data of the current month and the previous month are generated in the USB flash drive. After the data transmission is completed, the buzzer beeps once, and the digital tube displays "End" and resumes to normal display after 6s.

Note: when there is less data, the digital tube will not display "on" and "end."

7.2.1 Parameter Settings

- Power on and turn on the power switch on the right if the freezer body and the equipment enter the working state:
- User parameter settings:
Unlock: under normal operating state, simultaneously press  and  Keys for 3 seconds, and the digital tube will display the parameter code "0000", enter the password '0005" to unlock other keys, then press  key for 3 seconds, The digital tube will display the parameter code "PS1" and enter the setting and adjustment parameters. Use  or  key to scroll the parameters; The display order is as follows: MAX→NIN→CLR→PS1→H→L→n→y→r→S→F→Pt→Th1→P1→PS1→b1→b2

Press  to confirm the parameter type and the first parameter name of this type of parameter will be displayed.

1. Use  or  key to scroll the parameters.
 2. Press  Key to display the corresponding parameter value.
 3. Use  or  to increase or decrease the value.
 4. Use  to temporarily store the modified values and return to the display parameters.
 5. If other parameters are modified repeat step 1 and 4.
- Press  for more than 3 seconds or press no key in 60Seconds to exit the parameter setting program.

7.2.2 Parameter Display

No	Menu Item	Parameter settings	Suggested settings	Remarks
1.	MAX	-	-	The highest temperature since the last clearance
2.	NIN	-	-	The lowest temperature since the last clearance
3.	CLR	-	-	Clearance of the Max and Min temperature records
4.	H	0.0 to 10.0	6.0	Set value of high-temperature alarm set + H; when = 0, High temp alarm is disabled; When the alarm is over high temp alarm set, H1 will be displayed on the controller
5	L	0.0 to 10.0	2.0	Set the value of the low-temperature alarm set- L; when L= 0, low temp alarm is disabled; when the alarm is below low temp alarm set, L1 will be displayed on the controller
6.	Pt	0 to 240 min	20	Print interval
7.	tH1	20.0 to 50.0°C	50.0	The upper limit of ambient temperature alarm
8.	P1	- Automatic Heating Mode 1 - Automatic heating mode 2 - Automatic heating mode 3 - Always on - Always off	1 (Set to mode 4 when there is condensation on the door surface.)	- Mode1 when opening the door, single activation of the glass door defrosting system. Mode 2 When cooling, the Glasdoor defrosting system starts. - Mode3 When the humidity in the refrigerator is high, the glass door defrosting system starts. - Mode4 glass door defrosting system starts. Mode5 glass door defrosting system off.
9.	PS1	000 to 999	005	User menu password settings
10.	B1	-	-	Hardware version
11.	B2	-	-	Software version

Quick setting of time after power on

After the power-on self-test on the display board is completed, the quick setting menu is displayed.

Menu Item	Menu	Menu description	Set Range	Default	Unit
Quick Settings menu	N	Set logger module time - year	10 to 50		/
	Y	Set logger module time - month	1 to 12	--	/
	R	Set logger module time - day	01 to 31	--	/
	S	Set logger module time - minute	00 to 59	--	/
	F	Print interval	0 to 240	20	Min
	Pt	Temperature data recording period	0 to 240 0: shielded recorded	10	Min
	SCY				

If there is no operation for 60 seconds under the quick setting menu, it will automatically exit it and return to normal display.

7.2.3 Alarm Display

Alarm Code	Default Description
H1	High-temperature alarm
L1	Low-temperature alarm
H2	High ambient temperature alarm
H3	High condenser temperature alarm
d o	Door opening alarm
PF	Power failure alarm
BL	Low battery alarm
Er	The recorder is not connected
Pr	The recorder is not started
E1-E6	Sensor Failure

8. Maintenance



Warning:

- To prevent people from getting electric shock or injury, Kindly cut off the power supply of the equipment before any repairs and maintenance/
- Make sure that you don't inhale drugs or suspended particles around it when maintaining the equipment, otherwise, it will harm your health.

8.1 Equipment Maintenance

Defrosting: the equipment will automatically defrost during operations, which will make it convenient to use.

Cleaning and maintenance: the equipment should be cleaned and maintained regularly (for safety, Kindly unplug the power plug) and the inner and outer surfaces of the freezer should be wiped with a warm, damp soft cloth.

Notes:

- Do not sprinkle water directly on the freezer body, lest the insulation performance of the electrical components decrease and metal parts rust.
- Do not use hot water, corrosive detergent, or organic solvent to clean the freezer body.
- Do not place heavy objects on top of the equipment, as the equipment may deform under pressure.

8.2 Equipment Discontinuation

Deactivation: if the equipment is stored in an unsupervised area for a long time and not used, the power supply should be cut off and the inner and outer surfaces of the freezer should be cleaned with a warm, damp soft cloth, aired and sealed. The equipment must be locked to ensure that children cannot open the freezer door.

Scrapping: When the equipment reaches the end of its service life, it should be scrapped and handed over to a qualified professional recycling agency for disposal per local regulations. Non-professionals are not allowed to disassemble or break down the equipment without authorization. The scrap equipment should be placed in a designated area inaccessible to children to avoid danger.

8.3 Maintenance, Replacement and Recovery of Rechargeable Batteries (optional)

Battery installation position: on top of the freezer body or in the electrical box at the bottom.

8.3.1 Battery Maintenance:

- To prolong the service life of the battery and avoid the product being left unused for a long time, the product must be operated for more than 24 hours every month to facilitate charging.
- When the equipment is not used for a long time, it should be connected to the
- working power regularly (generally once a month), and the power lock switch should be turned
- on so that the preservation box can run for a period to complete, and each charging time should be no less than 24 hours.
- When the working power supply is interrupted, the power lock switch of the equipment shall be turned off in time, otherwise, it will cause a power loss in the battery and even permanent damage to the battery in severe cases.
- The main power switch must be turned off during a long-term power outage or transportation, otherwise long-term discharge causes power loss in the battery and even permanent damage to the battery, and the display is abnormal after re-energizing.
 - The battery is consumable, with a service life of about 2-3 years. If the battery is used improperly, such as power loss or reaching the end of battery life, it will cause a low battery alarm (refrigeration is not affected, but there is an alarm failure, and the printing function is affected).

8.3.2 Replacement and recovery of batteries

- Turn off the power switch and pull out the power plug from the outlet.
- Remove the screws of the electrical box with a screwdriver. (Note: there are high-voltage electrical components in the electrical box, therefore before opening, turn off the power supply, unplug the power plug, and turn off the power lock switch of the preservation box the electrical box can only be opened by qualified engineers or maintenance personnel).
- Pull out the battery connecting cable. (Before unplugging the battery fixing cable, pay attention to the cathode/anode of the battery and the sequence of the connecting cables, to prevent burning down the control system due to the installation of the new battery with the cathode/anode reversed. Generally, the red wire is connected to the cathode and the black wire is connected to the anode.
- Use a screwdriver to remove the fastening screws on the battery fixing plate and take out the battery.
- The battery model is BT-12M4.0AC (12V4.0AH);

9. Troubleshooting

Any product may fail. Kindly observe the operations of equipment in time during use. If there is any abnormality, Kindly check and handle it according to the following table first. If the abnormality can't be changed, Kindly inform our service center in time and we will serve you wholeheartedly to avoid losses.

Problem	Causes and Solution
The equipment does not work	- Kindly make sure that the outlet is energized. - Kindly make sure the power plug is plugged in, not loose. Kindly make sure the power fuse is not disconnected. - Kindly make sure the supply voltage is appropriate, not too low or too high.
The compressor is not running	- Kindly make sure that the temperature is set correctly. - Kindly check whether the temperature inside the cabinet is too low
The temperature does not reach the set value	- Kindly make sure that the door is closed tightly and don't open it too many times during a short time. - Kindly don't put too many items in at one time. - Kindly make sure that the ambient temperature is not too high.
High noise	- Kindly make sure that the cabinet is placed on flat ground. - Kindly make sure that the cabinet does not contact the wall.
Condensation on the freezer body surface	In rainy and humid seasons, door condensation is normal, and it shall be wiped off with a dry cloth.
Abnormal smell	Equipment needs to be cleaned. Items with a heavy smell are not packed.
The door is not closed properly and the cool air leaks	- After the equipment is used for some time, the door seal becomes hard and deformed. - Maintenance method: Blow the deformed part of the hot seal with a blower to soften it and then close and compress it after the door seal becomes soft.
The alarm lamp flashes, and the buzzer is triggered	- Kindly make sure that it will be automatically eliminated after running for some time when the items are just put in and the temperature has been stable. - Kindly make sure that the alarm is generated for door opening since the door is not locked. Kindly make sure that it will be automatically eliminated after running for a while because of the low battery. Kindly make sure that the temperature does not exceed the standard.

The following conditions are not faults

- When the compressor starts and stops, the equipment parts will make a slight impact sound.
- When overheated items are put in after the door is opened, the high-temperature alarm and high-humidity alarm will be triggered in the control system (if this function is available, kindly refer to the alarm display table); Solution: Put the items into the equipment after they are naturally cooled. Put the items in small quantities in batches, and do not put too much at a time. After the system runs steadily, the high-temperature alarm and high-humidity alarm will be released automatically.
- Slight sound of running water caused by refrigerant flowing in the pipeline.

10. Accessories

Standard Accessories

Accessories	Quantity
Temperature printer	LMBL-SA-01
Probe access port	LMBL-SA-02
LED Lamp	LMBL-SA-03
Door key	LMBL-SA-04

Optional Accessories

Temperature recorder-LMBL-OA-01



Labmate Scientific Inc

Email: info@labmate.com | Website: www.labmate.com