Haier Biomedical

Pharmaceutical Refrigerator
Instruction Manual

Certificate of Quality

checker:

Model:
HYC-639

Manufacturer:
Qingdao Haier Biomedical Co., Ltd.
Address:
No. 280 Fengyuan Road, High-tech Zone, Qingdao,
266111 Shandong, P.R. China
Web:www.haiermedical.com
Revision Date:06/2023
Version:2rd,2023
Dedicated code:0270503525
V13026

Haier Biomedical
Makes Life Better

- Please read this manual thoroughly before using the equipment.
- Haier Biomedical reserves the right to interpret the Operation Manual
- The appearance of a unit may be subject to change.
- Save the manual and the proof of purchase for easy future reference.
- Haier pharmaceutical refrigerators are for storage medicines and laboratory products at a temperature range of 2 to 8 C.
- This product need to be operated by professionals, and there are risks for home use.

Content

Safety Precautions 1
Usage Precautions 5
Product Installation 7
Refrigerator Components ● Control Panel 12
Application method 14
Alarm 17
Cleaning and Maintenance 19
Rechargeable battery recycling 20
FAQ 21
Refrigeration Schematic • Wiring Diagram 22
Specification • Packing List 24

Accessory Packing List

Name	HYC-639
Operation manual	2
Factory inspection report	1
Performance test report	1
Key	2
Shelf	4
Fixed card	16
Power cord Kits	1

Global Warming Potential

Model	Rated voltage (VAC)	Rated frequency (Hz)	CO_2 equivalent (Tonnes)
HYC-639	115~	60	0.0015

This product contains fluorinated greenhouse gases covered by the Kyoto Protocol. Do not vent into the atmosphere.

GWP=global warming potential

Refrigerant type	GWP
R600a	20

Specification • Packing List

Specification

Name	Pharmaceutical refrigerator
Model	HYC-639
Exterior Dimensions (W×D×H) (mm)	760*897*1993
Interior Dimensions (W×D×H) (mm)	620*706*1520
Storage Volume	600L
Door	Glass door
Insulation material	Rigid polyurethane foams (Fluoride-Free)
Compressor	Fixed frequency Compressor
Shelves	4
Cooling Type	Forced-air cooling
Exterior material/ Interior material	sprayed steel plate /sprayed steel plate
Condenser/Evaporator	Wire tube type / Finned type
Temperature Controller	Microprocessor
Refrigerant	R600a
Lamp	LED
Net Weight	240kg
Voltage	115V~/60Hz
Rated Power	400W
Noise Level(Lp)	45dB(A)
Anti-shock Safety Classification	I
Climate Type	ST(16℃ -38℃)
Insulation Thickness(mm)	70
Alarm	High and low temperature, high ambient temperature, door ajar, power failure, low battery, sensor error, communication failure, condenser heat, remote alarm
Battery duration for alarm system	at least 24h (when the battery is fully charged)

Safety Precautions

Dear Customers,

Thank you for choosing Haier pharmaceutical refrigerators. Before using the equipment, we advise that you carefully read and understood the contents and signs in this manual. This is to ensure your safety and prevent potential damage to stored products and the refrigerator.

Safety labels

The upper and lower limits of temperature shall be indicated adjacent to the upper and lower horizontal lines.	Symbol for “Manufacture”
Symbol for “Consult instructions for use”	Symbol for “Date of manufacture”

Safety precautions

Under all conditions marked with ⚠, it is necessary to consult the document, so as to clarify the nature of potential risks and any countermeasures that must be taken.

⚠Warning — Ignoring this warning may result in death or serious injury

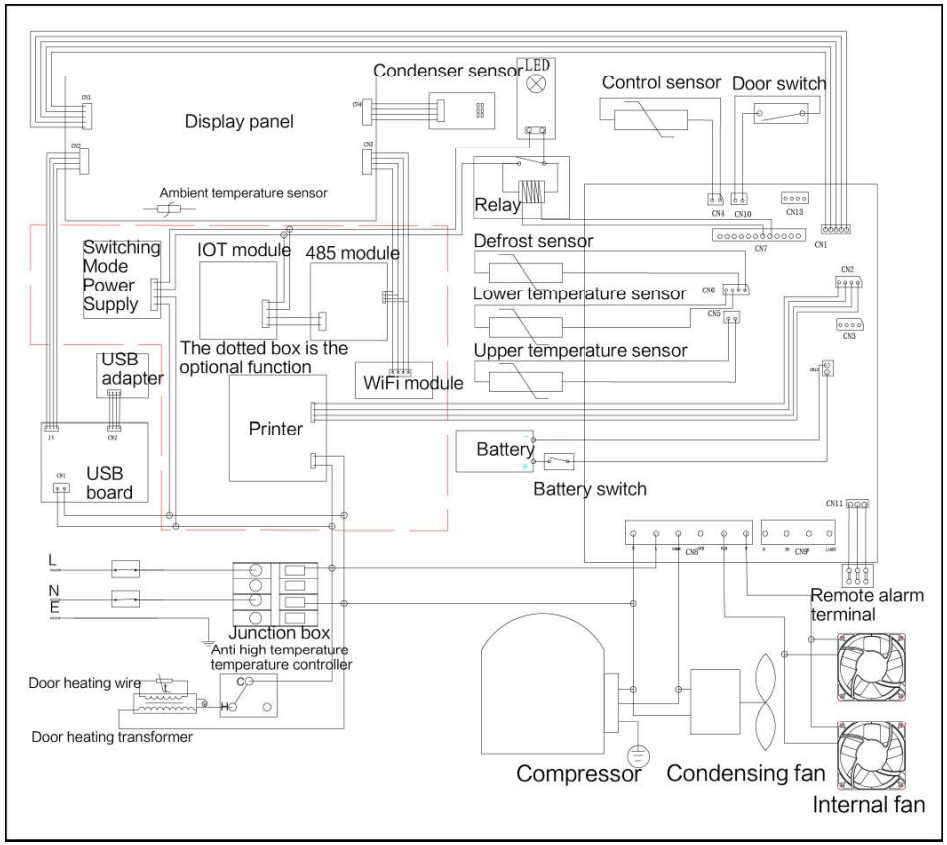
⚠Caution — Ignoring this warning may result in death or serious injury,and/or damage to the freezer and property

Actions or operations which are prohibited

Actions or operations which must be followed

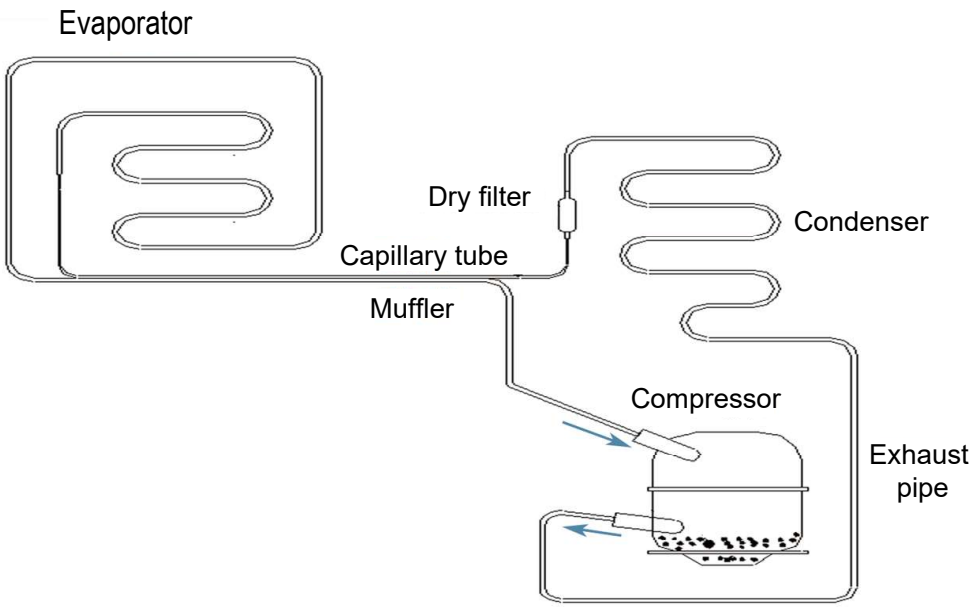
- In case of flammable gas leakage such as coal gas, shut off the valve of leaked gas, open windows for ventilation and exhaust; do not plug in or pull out the power plug of refrigerator to prevent explosion and fire.
- The refrigerator shall be installed by professional technical staffs or after-sale maintenance staffs to prevent electric shock or fire.
- Place the refrigerator on a solid and flat ground in a stable manner. The refrigerator will be tipped over or personal injuries will be caused if the refrigerator is placed on improper ground or place.
- Apply the dedicated power supply marked on the nameplate of refrigerator to prevent fire or electric shock.
- If the voltage being used is 10% higher or lower than the rated voltage, an automatic voltage regulator above 1000 W and appropriate for motor load shall be installed.
- If the power line needs to be extended, the extended line shall be no smaller than 2mm² in sectional area and no longer than 3m in length. Otherwise, fire or electric shock may be caused.
- The power line for this refrigerator is provided with a standard three wire (grounding) plug,which complies with 10A. Do not remove or dismantle the grounding pin of power line in any case.
- Apply socket with ground wire to prevent electric shock.If the socket fails to be grounded,ground wires must be installed by professional technical staffs.
- The refrigerator shall not conduct outdoor service. Electrical leakage or shock may be caused if wet by rainwater.
- Do not place the refrigerator in humid places or places where the refrigerator may suffer splashing water, to prevent electric leakage or shock due to deterioration of insulation.
- Do not pour water on the refrigerator to prevent electric shock or short circuit.
- Do not place containers with water or heavy stuffs on the refrigerator. Personal injuries may be caused by falling articles and electrical leakage or shock may be caused by out flowed water due to deterioration of insulation.
- Do not ground the refrigerator through gas pipes, water supply pipes, telephone lines or lightning conductors as electric shock or other dangers may be caused.
- Do not touch electrical parts such as power plug or switches with wet hands to prevent electric shock.
- Hold the power plug rather than the wire when pulling the plug from the socket as electric shock or fire due to short circuit may be caused.
- Pull out the power plug when the refrigerator is under abnormal performance as electric shock or fire may be caused.
- Users are not allowed to dismantle, repair or retrofit the refrigerator by themselves as fire or personal injuries may be caused due to improper operation.
- Disconnect the refrigerator when repairs or maintenance are performed on the refrigerator to prevent electric shock or personal injuries.
- Do not inhale airborne chemicals inside and / or near the refrigerator during maintenance as health hazard may be caused.

Circuit diagram



Refrigeration Schematic • Wiring Diagram

Refrigeration Schematic



- The refrigerator shall be used in safe regions when toxic, harmful or radioactive articles are stored inside, as improper use may pose danger to human health or environment.
- Pull out the power plug if the refrigerator has been out of service for long time to prevent electric shock, leakage or fire caused by aging power lines.
- If the refrigerator is left unused in areas where supervision is unavailable for a long time,make sure children will not get close to the refrigerator and the door can not be completely closed.
- End-of-life disposal shall be performed by competent staffs. Remove the door to prevent accidents such as suffocation.
- Do not store explosive substances such as aerosol cans with a flammbale propellant in this appliance.
- Do not store corrosive articles such as acid or alkali in the refrigerator to prevent damage to internal components or electrical parts.
- Do not place packaging plastic bags within the reach of children to prevent suffocation accidents.
- Do not climb on or place articles on the refrigerator as personal injuries or refrigerator damage may be caused due to turnover of refrigerator.
- Do not plug metal articles such as iron nails or wires into the holes and gaps or vents for internal air circulation, to prevent electric shock or personal injuries due to contact of articles above with moving parts.
- Check refrigerator settings when restarting the refrigerator after power failure or the power is shut off. Changes of settings may damage the articles stored.
- The refrigerator shall be reconnected after more than 5 minutes once it is shut off, to prevent damage to compressor or system.
- Wear gloves when performing maintenance to prevent personal injuries due to sharp edges or corners.
- Hold the knob when closing the door to prevent finger pinching.
- The angle of inclination shall not be greater than 45°when handling the refrigerator.
- Be careful not to be tripped up by the refrigerator during handling, to prevent refrigerator damage or personal injuries.
- Do not lift or handle equipment with door knob to prevent refrigerator damage or personal injuries.
- Do not damage refrigerating circuit.
- Do not use any electrical appliances inside the appliance, unless it is approved by the manufacturer.
- The appliance must be positioned so that the plug is accessible.
- The appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capacibilities 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.

- The appliance must be placed on a solid and flat surface, or excessive vibration and noise may be produced when the appliance in operation.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

  Keep ventilation openings, in the appliance enclosure or in the built-in structure, clear of obstruction.
- If your cabinet is to be discard, you must remove the door and leave the shelves in place. This will reduce the posibility of danger to children. And the flammable foaming needs to be disposed by professional persons.
- Keep all ventilation openings in the enclosure or, in the structure for building-in, clear of obstruction.
- Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
- Do not damage the refrigerant circuit.
- NSF 456 requires the temperature display probe to be recalibrated. Haier recommends recalibration 12 months from the original date of calibration on the certificate of traceability supplied with your equipment at the time of purchase.
- DANGER – Risk Of Fire Or Explosion. Flammable Refrigerant Used. To Be Repaired Only By Trained Service Personnel. Do Not Puncture Refrigerant Tubing.
- CAUTION – Risk Of Fire Or Explosion. Flammable Refrigerant Used. Consult Repair Manual / Owner's Guide Before Attempting To Install Or Service This Equipment. All Safety Precautions Must be Followed.
- CAUTION – Risk Of Fire Or Explosion. Dispose Of Properly In Accordance With Federal Or Local Regulations. Flammable Refrigerant Used.
- CAUTION – RISK Of Fire Or Explosion due to Flammable Refrigerant Used. Follow Handling Instructions Carefully in Compliance with U.S. Government Regulations.
- This unit is intended for use in commercial, industrial, or institutional occupancies as defined in the Safety Standard for Refrigeration Systems, ANSI/ASHRAE 15.
- DANGER – Risk Of Fire Or Explosion. Flammable Refrigerant Used. To Be Repaired Only By Trained Service Personnel. Do Not Puncture Refrigerant Tubing.
- CAUTION – Risk Of Fire Or Explosion. Flammable Refrigerant Used. Consult Repair Manual / Owner's Guide Before Attempting To Install Or Service This Equipment. All Safety Precautions Must be Followed.
- CAUTION – Risk Of Fire Or Explosion. Dispose Of Properly In Accordance With Federal Or Local Regulations. Flammable Refrigerant Used.
- CAUTION – RISK Of Fire Or Explosion due to Flammable Refrigerant Used. Follow Handling Instructions Carefully in Compliance with U.S. Government Regulations.
- This equipment is intended for use in commercial, industrial, or institutional occupancies as defined in the Safety Standard for Refrigeration Systems, ANSI/ASHRAE 15".
- Caution – RISK Of Fire Or Explosion due to FLAMMABLE REFRIGERANT Used. Follow Handling Instructions Carefully in Compliance with U.S. Government Regulations.

FAQ

Do you have questions during using? Do you doubt that the refrigerator breaks ead description here. This chapter is to give answers in respect of potential fault phenomenon as well as respective solutions.If your question is still unresolved after operation, please contact Haier after-sales service.Do not maintain and dismantle the refrigerator by yourself!

Fault	Troubleshooting
The refrigerator does not work	Whether the input power meets the requirements
	Whether the plug and socket are in loose contact
	Whether the input line and control line break down
	Whether the voltage is too low
Refrigeration effects are not apparent, temperature exceeds the standard	Whether too much or too hot articles are stored
	Whether there is certain clearance among stored articles
	Whether the refrigerator is exposed to direct sunlight or radiation of other heat sources
	Whether the door is opened too often
	Whether the ambient temperature is too high
	Whether the air duct is blocked
Noise is too significant	Whether the refrigerator is placed steadily
	Whether part of the refrigerator contact external objects or wall
	The noise noted in technical data is average data measured in standard laboratory without noise when the refrigerator with no stored articles is put on a rubber blanket and operates steadily after the door is closed, and data measured during startup & shutdown and at 1 m above the surface is not included. It is normal that actual noise differs from stated value because of loaded articles, environmental noise, no door closing, startup & shutdown of the compressor during using.
Alarm light flashes, the buzzer alarms	Whether the articles are newly put in the refrigerator and the temperature is not stabilized at 3~7℃ . The fault will be eliminated automatically after refrigeration for a while.
	Whether the door is not closed completely, which triggers alarm of door opening
	Whether the power fails, the refrigerator returns to normal condition after starting up for a while
	Whether the temperature exceeds the standard

Rechargeable battery recycling

The refrigerator has a built-in rechargeable battery, which is recyclable. When the battery reaches the end of its service life, please contact the relevant local battery recycling agency to check or dispose of the battery correctly.

Location of the battery

The battery is used for power failure alarm, and the location of the battery is in the cabin above the box.

There are high-voltage electrical components in the electric control box.
In order to prevent electric shock, the work of opening the cover needs to be completed by professional engineers or maintenance personnel.

Take out of battery

1.Turn off the power switch and pull out the power plug from the socket;

2.Use a screwdriver to remove the fixing screws of the top cover of the engine room;

3. Loosen the plug-in terminal of the battery;

4. Take out the battery from the fixing strap;

5. Recycle the battery or dispose of it properly in accordance with the regulations.

Usage Precautions

• Make sure the temperature inside the refrigerator has reached the set value and put articles in the refrigerator by batch. Volumes accounted by articles shall not be greater than 1/3 of refrigerator to prevent rise of temperature.

• The temperature display value of refrigerator refers to the temperature value at the temperature sensing probe inside the refrigerator. Though the temperature displayed is different from the actual one at the center of refrigerator, it will approach to the real temperature gradually.

• Clean the refrigerator with mild detergent water. Brushes, acids, gasoline, soap powders,polishing powders or hot water are prohibited to clean refrigerator as these materials may damage the painting surface and plastic & rubber components and parts. Never wipe the plastic & rubber components and parts with volatile solvent such as gasoline.

• Shut off the power if the refrigerator will be out-of-service for a long time.

• Reduce the time of keeping door open when storing or taking articles each time, to prevent great fluctuation to the temperature and humidity inside the refrigerator.

• The refrigerator will see a sharp temperature increase in a short time when the door is opened,which is normal, and the temperature will resume 1h after the door is closed.

• The refrigerator shall operate with ambient temperature as 18-38℃ ; if the humidity is higher than 85%,condensation will occur on the glass door in high temperature and high humidity condition, which is normal and will not affect the storage temperature inside the refrigerator; in the event of condensation, please improve ventilation conditions as soon as possible and reduce ambient temperature simultaneously.

• Please keep the article inside at least 20mm away from the cabinet back wall!

• The maintenance should be supplied by professional after-sales service people once the equipment is faulty.

• Please calibrate the temperature probe once a year to ensure that the temperature probe is in good condition;

Meaning of crossed –out wheeled dustbin:

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact you local government for information regarding the collection systems available.If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

Product Features

The product is applicable to pharmacies, pharmaceutical factories, quarantine stations, health centers and hospitals, used to store biological products and those need to be stored at a temperature between 2-8℃ .

1.Temperature Control

The refrigerator is controlled with a microcomputer. Temperature display and adjustment is with an increment of 0.1 ℃ .

2. Safety System

•Multi-fault alarm (high and low temperature alarm, high ambient temperature alarm, door open alarm, power failure alarm, low battery alarm, sensor failure alarm, communication failure alarm, condenser heat alarm)

•Multi-fault alarm methods (audible buzzer, visual,remote)

•All independent components are safely grounded

3.Refrigeration System

•Optimized refrigeration system, hermetically sealed refrigeration compressor

•Automatic defrost maintains optimum cooling capacity

4.User-friendly Design

•User-friendly design, Microprocessor control, smart and carefree, adjustment not required

•High-performance thermal insulation layer, with excellent insulation effect

•Automatic condensate removal, no drain lines required

Note: Technical information might be somewhat different on your refrigerator than published due to continuous improvement.

Cleaning and Maintenance

⚠Warning

• To avoid electric shock or staff injuries, please switch off power of the refrigerator before conducting any repairment or maintenance.

• Do not inhale any air borne particles when conducting maintenance on your refrigerator.

Refrigerator cleaning

1.Clean the refrigerator once a month. Regular cleaning keeps appearance of the refrigerator new.

2.Wipe off any dirt with a cleaning cloth with mild detergent water.

3.Do not dump water on enclosure or inner chamber of the refrigerator, otherwise electrical apparatus insulation may be damaged, causing occurrence of faults.

4.The compressor and other mechanical parts are completely sealed. No lubrication is required.

Lamp replacement

The refrigerator is equipped with a LED lamp. The lamp has low energy consumption and long service life. Any doubt, please contact the after-sales service personnel for changing it.

Deactivate the refrigerator

•If the refrigerator needs to be out of use for a long time, the power supply should be cut off;

•Open the door of the refrigerator and take out the inner shelf;

•Thoroughly clean up the freezer;

•Clean up the shelves;

•After the freezer and shelf are dry, put the shelf back into the freezer;

•Close the door, put a plastic bag and seal it.

⚠Warning

•If the condition that caused the alarm within 30 minutes is not corrected, the buzzer and remote control contacts will be triggered again.

•In the event of a power failure, a fully charged backup battery can keep the alarm function working for 24 hours.

•To fully charge the battery after starting the refrigerator for the first time or after a long period of power outage, the refrigerator needs to run for 2 days.

•"Alarm test" button: press it once to test the alarm function, the buzzer will sound 3 times at 1 Hz, and the alarm indicator will flash several times simultaneously. When a fault occurs, each fault code will be displayed in turn. If it is not in the remote hardware alarm state , The remote alarm relay is disconnected and closed after 3s, and then determines the action according to whether it is necessary to alarm.

Automatic alarm recovery

This series of refrigerators has the function of automatic alarm recovery:

• In the case of an alarm, press the buzzer cancel button on the display panel to stop the buzzer alarm (remote alarm will not be stopped).

• If the alarm condition still exists, the buzzer alarm will automatically resume after a 30-minute pause.

⚠Warning

•The remote alarm function requires the user to install an alarm device by himself and use it in conjunction with the remote alarm interface.

•The remote alarm has normally open and normally closed functions. When the external power is cut off, the remote alarm can be activated regardless of whether the battery switch is turned on or not.

•The remote alarm interface works in conjunction with the sound alarm on the refrigerated box. Therefore, pressing the buzzer cancel button can only cancel the alarm sound, and the remote alarm status remains unchanged.

Product Installation

Installation environment

• Ambient temperature: 16 ℃ to 38 ℃ , 16 ℃ to 25 ℃ are optimal and air conditioning system is required as necessary.

• Ambient humidity: 32℃ 85%Rh;

• Avoid excessive dust.

• Avoid mechanical swing or vibration.

• The refrigerator shall operate at an altitude lower than 2000m.

• Input voltage: no greater than ±10% of rated voltage.

⚠Caution

•Normal operation will be impossible for refrigerator if it is installed in environments other than those described above as it is sensitive to ambient temperature. Start operation after the environment is improved.

•It is prohibited to install the refrigerator outdoor. Electric leakage or shock may be caused if the refrigerator gets wet by rainwater.

Installation Site

The installation site shall meet following requirements for normal operation and best performance of refrigerator:

• Do not install the refrigerator in a narrow and confined space and the door of the installation space may not be smaller or lower than the refrigerator, to ensure smooth entry and exit of the refrigerator as well as to prevent damage to the stored articles due to not timely repair of refrigerator as the installation site is not easy to be accessed.

• The ground at the installation site shall be solid and flat.

• It is well ventilated and free from direct sunshine.

• Do not share the same power outlet with other equipment. The power plug must be plugged into the outlet securely.

• Do not twist or compress the power line.

• If the power line needs to be extended, the extended line shall be no smaller than 2mm² in sectional area and no longer than 3m in length.

• Check the operating voltage before operation and voltage regulator appropriate for motor load may be applied in regions with unstable voltage.Ensure the normal input voltage stands at rated voltage ± 10% and the power of voltage regulator is greater than 1000W.

• The refrigerator shall be grounded in a reliable manner.

• If the socket is provided with grounding wire, check if it is well grounded before operation.

• If the socket is not provided with grounding wire, a new one shall be installed by professional engineers.

⚠Warning

• Do not ground the refrigerator through gas pipes, water supply pipes, telephone. lines or lightning conductors as electric shock may be caused.

• The power plug should be accessed after installation to ensure the power line can be pulled immediately in case of an emergency. The air vents should be free from any obstruction.

Preparation before use

1. Remove the packaging materials and strings

   Remove all packaging materials and strings for transport.

⚠Caution

•When handling the refrigerator before unpacking, use forklift or package lifter. When using a forklift, insert the fork from the bottom of the wood pallet from front or back of the refrigerator and then handle the refrigerator.

•When using a package lifter, clip the machine from the bottom of the wooden pallet. Be aware to clip the sides of the refrigerator only.

•After unpacking, use the casters of the refrigerator to handle the refrigerator.

•When handling the refrigerator, the titling angle shall not be more than 45°.

2. Count refrigerator accessories accompanied

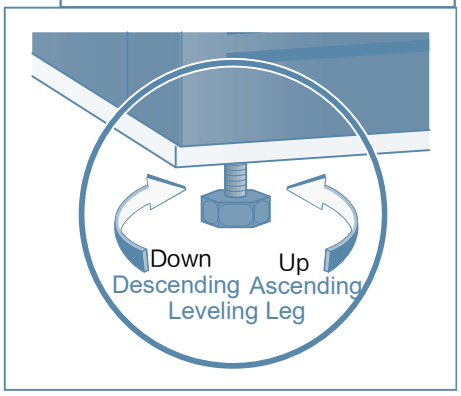
   Check the articles inside the refrigerator against the packing list; if any difference, contact the after-sale service.

3. Installation site

   Choose the appropriate distance according to the space requirement.

4. Adjust the leveling leg

   Rotate the leveling legs with a wrench in clockwise to extend them out and secure them onto the ground. This is to make sure the refrigerator does not move during operation.



Alarm

Alarm function

This refrigerator has the alarm function in the table below, and also has a self-diagnosis function.

Alarm	Code	Means	Alarm mode
High temperature alarm	E00	Temperature sensor over limit	Beep + alarm light flashing + Remote
Low temperature alarm	E01	Temperature sensor over limit	Beep + alarm light flashing + Remote
High Ambient temperature alarm	E09	Ambient temperature sensor over limit	The alarm light is always on
Power failure alarm	E02	Power off or fault	Alarm lamp flashing + Beep + alternate display of temperature on the screen + code + remote
Door ajar alarm	E06	Open for more than 2 minutes	Alarm lamp flashing + Beep + alternate display of temperature on the screen + code + remote
Communication failure alarm	E03	Display board and power board can't send and receive data for 5 times	Beep + alarm light flashing + code +Remote
	E16	Did not receive the requested temperature data from the USB module for 1 min	The alarm light is always on
Sensor error alarm	E04	Control sensor failure (open circuit or short circuit)	Alarm lamp flashing + Beep+ alternate display of temperature on the screen + code + remote
	E07	Upper display sensor failure (open or short circuit)	Alarm lamp flashing + Beep+ alternate display of temperature on the screen + code + remote
	E08	Ambient temperature sensor failure	The alarm light is always on
	E12	Below display sensor failure (open or short circuit)	Alarm lamp flashing + Beep + alternate display of temperature on the screen + code + remote
	E13	Defrost sensor failure	Alarm light is always on
	E14	Condenser sensor failure	Alarm light is always on
Low battery alarm	E05	Battery voltage < 2.0V	Alarm light is always on
High air temperature alarm	E10	In high temperature alarm mode, the temperature of the control sensor over the limit	Alarm light flashes+Beep+remote
Low air temperature alarm	E11	In low temperature alarm mode, the temperature of the control sensor over the limit	Alarm light flashes+Beep+remote
Condenser high temperature	E15	Condenser temperature over limit	Alarm light is always on

USB(Optional)

• USB interface function:

The computer board has USB output function, which can export the temperature and other test data by U disk. The computer board can automatically collect and store temperature and other test data. The data is collected every 6 minutes and automatically saved after collection. When the data storage is full, the latest storage data will automatically replace the earliest storage space. Insert the U disk, automatically identify and start to import data to the U disk. In the process of data export, press the "Lower" button, and the display board flashes "USB", indicating that the data export is in progress and has not been completed. After flashing for 5 seconds, exit and display the actual temperature in the box. If the display panel displays "all" stably, it means that the data export is completed. After 5 seconds, it exits and displays the actual temperature in the box. You can remove the U disk from the USB interface. The export data format is as follows:

Date	Time	Inner Temp.	Setting Temp.
20191108	11:21	5.1	5
20191108	11:27	5.1	5
20191108	11:33	5.1	5
20191108	11:39	5.0	5
...	...	...	...

• USB module time setting (system current time setting)

Long press the "Lower" button for 10 seconds, the display area will display "1P" steadily, press the "Upper" or "Lower" button to switch to 2P (month), 3P (day), 4P (hour), 5P (minute), 6P (seconds). To set the year, press the "Set" button on the 1P interface, and the year will flash in the display area. Press the "Lower" button or the "Upper" button to select the year, and display it in a loop from 15 to 99. If you set 2019, select 19 , Press the "set" button to save and confirm and automatically return to 1P. Press the "Alarm test" key or no operation for 10 seconds, and return to the temperature display in the box. In the same way, you can set month, day, hour, minute, and second.

⚠Warning

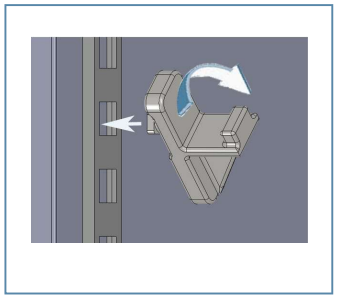
•Before using, please confirm the data recording time of USB flash disk interface. If the time does not correspond, please adjust it according to the above method. After adjustment, it will take one minute to export the data.
•The U disk with FAT32 file formate is used to inport data;
•If FAT32 USB flash disk cannot export data, please reformat the file backup in USB flash disk or replace another FAT32 USB flash disk.

5.Standing

After leveling and cleaning the machine body, do not power on the refrigerator immediately. Allow the refrigerator to stand for more than 24 hours, and then power it on to ensure that it can operate normally.

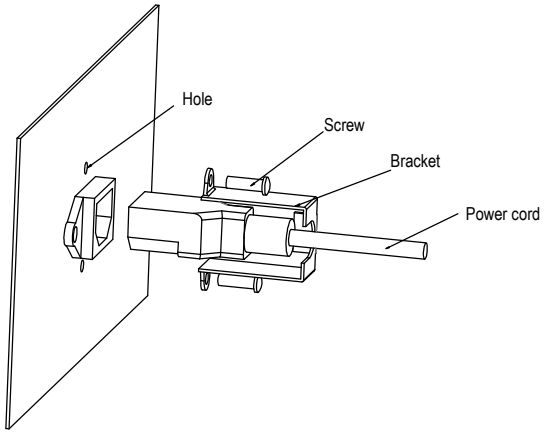
6.Installation shelf and price tag

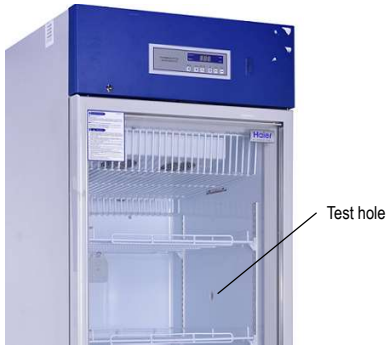
After the shelf and price bar are clamped, insert the shelf into the inner tank slot according to the appropriate distance and height.



7.Power cord fixing bracket installation instructions

The plug-in power cord needs to be fixed with the plug fixing bracket, as shown in the figure below, after the power cord is plugged in, install the power cord fixing bracket. And fix it with screws.





8.The third-party temperature detection equipment installation instructions manual

Products are equipped with a third-party monitor installation port. Clients are required to refer to CDC Vaccine and handling toolkit (cdc.gov) for proper placement of the probe within the cabinet to ensure proper performance.

Initial Power-on

Observe the rules below for initial start-up and continuous operation:

Connect the power cord to a dedicated socket with appropriate specification with the unit empety-loaded, make sure the power supply and rating is 115V/60Hz.

Switch on the refrigerator and turn on the power switch on the electric control box on the right side of it. The alarm buzzer sometime operates, which is normal.

Turn on the battery switch and press the SET button to silent the alarm. The light alarm continues to operate until the chamber temperature reaches 2°C -8°C.

The refrigerator is set to operate at 5°C at the factory. There is no need to change the control settings.

The temperature of the refrigerator can be stabilized at 2-8°C after a few hours of running.

Turn on the light switch to check whether the lamp inside the refrigerator can work normally.

Once the refrigerator has reached the stable condition and all functions are normal, load in the products gradually.

Power failure alarm function

When the power is down, power-off alarm function is activated, buzzer with 1 Hz frequency continuously beeps,at the same time alarm indicator light of the board flashes, if alarm equipment is connected to the remote alarm port, it will alarm synchronously and last at least 24 hours. Press the "Alarm" button to cancel the power off alarm, while the remote alarm function is cancelled.

Battery Switch

1.Battery switch is installed under the front cover，with“Charge Battery Switch”label；

2.Battery switch “ON” indicates that battery is on ；

“OFF” indicates that battery is off。

Operation of the Overcurrent Protecter

Installation position:The device is installed at the rear of the product,and there is a special warning label to mark it.

Working principle: When the internal circuit of the product is abnormal and reaches the protection limit of the over-current protector, the device will pop up automatically and disconnect the connection with the external circuit to protect the circuit of the whole machine; When it is used again, the device needs to be pressed manually and the product is powered on.

Inner light

In order to see the stored goods clearly, a LED light has been installed in the cabinet. You can control light “on” or “ off ” by “ Light ” button to save energe, please turn off the light after observing the stored goods in the refrigerator.

Application method

Temperature Controller

⚠Warning

The temperature displayed represents the temperature sensed by the monitoring bottle. The temperature shown is not always at 5 ℃ . The temperature sensor represents the average temperature in the storage box.

⚠Warning

When the accumulated start-up time of the compressor reaches a certain value (8 hours by default), the machine will automatically enter the forced defrosting cycle. Once the forced defrosting cycle is completed, the refrigerator will return to normal operation, and the temperature in the refrigerator may rise during the defrosting cycle.refrigerator may rise during the defrosting cycle.will return to normal operation, and the temperature in the refrigerator may rise during the defrosting cycle.

1.Temperature adjustment

Factory pre-set to 5℃ .

Set inner temperature: Press “Set” button for 5 seconds, LED dispalys “TS”. Press “Set” again, the current set temperature value flashes. Make adjustment to specified value through Up Key "Upper" and Down Key"Lower". Press “Set” to save and return.

The set temperature will be reached after running for a period of time.

2.Check recent highest and lowest inner temperature

Press both “Alarm Test” and “Upper” buttons to check the recent highest inner temperature within 24 hours. Release the buttons to return to the inner cabinet temperature display.

Press both “Alarm Test” and “Lower“ buttons to check the recent lowest inner temperature within 24 hours. Release the buttons to return to the inner cabinet temperature display.

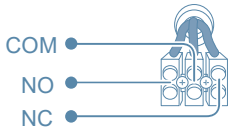
3.Set values of high temperature alarm “ALH” and low temperature alarm “ALL”

Press “Set” button for 5 seconds. LED dispalys “TS”. Press “Upper” button to show “ALH”. Press “Set” again, the current high alarm temperature value flashes. Make adjustment to specified value through Up Key "Upper" and Down Key"Lower". Press “Alarm” to return.

Press “Upper” button or “Lower” to show “ALL”. Set low temperature alarm value in the same way.

Remote Alarm Terminal

1.Remote alarm terminal is installed on the refrigerator and the alarm signal behind the compartment is output by the terminals.



2.Terminal output:Remote alarm terminals include NO, NC and COM. The user can choose “NO” or “NC” if needed.

3.This series refrigerators are equipped with RS485/232 network interface(optional):
The interface terminal is on the electric control box cover at the back of the refrigerator. After connection, the temperature data can be transmitted to the user monitoring software.

•This unit should be managed by a dedicated person. Inspection should be performed daily to keep appropriate records. When the temperature is out pf specification, action should be taken to move the products to a safe place.

•This product is pharmaceutical refrigerator with temperature ranging from 2-8℃ inside. Please make sure articles to be stored conform to environment inside to avoid damages of articles and economic loss.

•Because of refrigeration inertia, display temperature of the product may differ from actual temperature and humidity inside, which is normal.

•All refrigerators are refrigerator equipments. Relatively too hot articles must not be put in the refrigerator by one time. Otherwise the compressor will not stop for a long time, no temperature fall may be apt to burn the compressor. Therefore, articles shall be put in batches and cooling shall be conducted in batch until required temperature is reached!

•Do not damage refrigerating circuit.

•Do not use electrical apparatus without production permit in the refrigerator.

Operation after recovery from power failure

The refrigerator has memory of the set values. In case of power on after power failure, the refrigerator will continue to operate according to the set parameters before the power failure.

⚠Warning

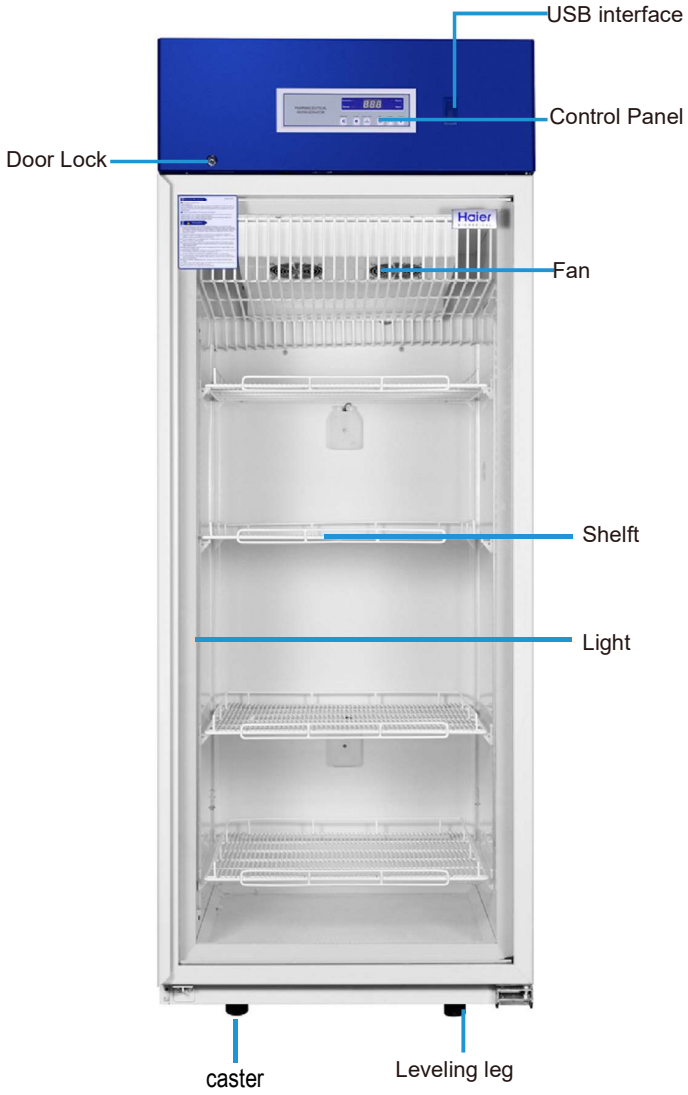
•Once the refrigerator is powered off, wait for at least five minutes before restart it, so as to avoid damage to the compressor or system.

•When the refrigerator is not in use for a long time, remove the power plug and turn off the battery switch to prevent electric shock, electric leakage or fire due to aging of the plug cord.

•If the refrigerator is left unused for a long time in an unsupervised area, make sure that no child can get access to it and the door is not completely closed.

Refrigerator Components ● Control Panel

Refrigerator Components



Control Panel