GCI
LIFE SCIENCES

Scientific Freezer

Operation Manual

The following product models are applicable:

UC090F
UP668F
UP270F
UC090FE
UP270FE


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1. Application Notes

Thank you for choosing our products! To ensure safe and efficient operation, as well as proper maintenance of equipment, please read the content of this manual carefully.

The equipment operator may reference certain sections within this operation manual for internal training and or emergency procedures. Reference sections are clearly identified within the manual.

We are not liable for product damage resulting from the user's failure to comply in accordance with the manufacturer's instructions or recommended procedures.

Due to ongoing improvements, certain features and or functions described in this manual may be inconsistent with those of the products you have purchased.

- Please read all Attention and Safety Precautions carefully (in section 2 Safety Instructions).
- During transportation and use, avoid strong vibrations or collisions. It is critical to protect the refrigerator from extreme wet conditions. Store the unit in a clean, well-ventilated environment with humidity below 80% and free from corrosive gases.
- Scientific Freezer (hereinafter referred to as "the equipment") should only be operated by trained and authorized personnel.
- Equipment maintenance or repairs during the warranty period can only be completed an authorized organization
- If instruction or information within in this manual is not clear or not addressed, please contact our authorized agent for further details
- Improper use of the equipment or deviating from the specified instructions of this manual, may cause damage.
- Inspect and maintain the equipment regularly to ensure peak product performance.
- Do not use other means to accelerate the defrosting process, unless authorized by the manufacture

Warning:

After each access, be sure to dry the water stains around the sealing strip to prevent freezing.
Wear protective gloves when storing items in the equipment, and beware of frostbite!

Tips

- Use protective equipment properly (including protective clothing, protective gloves, goggles, etc.) as applicable.
- Please pay attention to safety when using this product.
- Do not obstruct the ventilation openings of the refrigeration enclosure section.

2. Safety Instructions

When using this product for the first time, please review the following warning symbols and related safety precautions to ensure safe and proper operation.

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 or equipmentfailure and related property losses.
Protective conductor terminal.	**Risk of Exploration** This sign indicates the risk of explosion when using volatile and explosive chemicals.
Beware of fire.	Warning: crushing of hands.

Manufacturer | SN Series NO | Date of production

Warning: Failure to observe the precautions may result in serious personal injury or death.
To avoid electric shock, do not touch the equipment with wet hands. Equipment shall not be grounded through gas pipeline, water supply pipeline, telephone line or lightning rod, which may easily cause electric shock.
Equipment can only be installed by qualified personnel .
The equipment shall be installed on a stable and level surface to prevent tipping. Installation on an unstable surface or in an unsuitable location may result in the equipment overturning, potentially causing damage or personal injury.
Handle the AC power cord with care to prevent short circuits or unintended disconnection. Always turn off at the power switch before unplugging the unit. When disconnecting, firmly grasp the plug, do not pull on the cord. Failure to do so may result in electric shock or fire .Do not bundle the power cord or place it under heavy objects, or expose it to high heat sources. Fully insert the plug into the AC outlet to ensure a secure connection and prevent electrical leakage. Ensure the plug remains accessible for quick disconnection in an emergency.
Independent AC circuits must be used and grounded reliably. The cross2-sectional area of the copper conductor in the wall connected with the outlet must be more than 4mm. Do not use AC extension cords.
Refer to the specifications for the required AC input voltage (rated voltage ±10%). If the operating voltage is outside this range, an appropriate automatic voltage stabilizer must be installed. Incorrect power supply may result in overheating or equipment damage.
Ensure that the equipment is positioned on a stable, level surface to prevent movement, tipping, or excessive vibration during operation.
Do not place the equipment in a dangerous area, and do not operate the equipment near flammable items to prevent explosion or fire accidents.

	This equipment contains a refrigeration system that may be damaged if subjected to tilting or sudden impact. Do not tilt the unit more than 45° when moving, lay it on its side, or expose it to physical shock
	Please place the equipment in a dry and dust-free environment to avoid risks such as overheating, and short circuit.
	If abnormal noise, odor, or smoke is detected during operation, immediately disconnect the power supply and contact the manufacturer or supplier for assistance
	Install the equipment in a dry, well-ventilated area. Keep ventilation openings and surfaces clear of obstructions. Do not operate in poorly ventilated spaces, as heat buildup may result in damage
	Unauthorized disassembly or modification of this equipment is strictly prohibited. The manufacturer or supplier will not be responsible for any resulting damage or accidents.
	Do not store flammable or explosive materials, strong corrosive acids, alkalis, or other items unsuitable for the equipment inside the unit. The product is not designed for this application.
	When storing toxic, harmful or radioactive materials, please use the equipment in safe areas. Improper use may cause harm to human health or environment.
	Maintain a minimum clearance of 30 cm or 12 inches between the back, left, and right sides of the cabinet and any walls to ensure proper operation, ventilation, and heat dissipation. Ensure that the air inlets and outlets remain unobstructed

	**Note:** Failure to observe the precautions may result in personal injury or equipment failure and related property losses.
	Only use the door handle when opening or closing the door. This practice will avoid the potential of pinching fingers.
	When restarting the equipment after a power failure or shutdown, verify the system settings before operation to prevent potential damage to stored items.
	Handle the equipment carefully to prevent tipping, which may cause equipment damage or personal injury.
	If transporting the equipment is necessary, only lift the unit from the base and do not tilt the equipment beyond 45° and ensure the equipment is upright 24 hrs before operating. Operate the equipment only in safe, suitable environments, as improper use may pose risks to human health or the surrounding environment.

3. Precautions in Use

- Before putting the items into the equipment, please 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 equipment so as to prevent excessive temperature rise.
- The freezer body is provided with a test hole so as 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 material again, otherwise the temperature inside the equipment may not reach the set value, and condensation will appear around the outside of the through hole.
- 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.
- Please 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.
- After a period of operation, a layer of frost will form on the inner wall and inner door of the cabinet body. Before defrosting, please take out the frozen items in the equipment and put them in an environment suitable for their storage, so as to prevent the item damage due to the temperature rise in the equipment during defrosting.
- When the equipment is not used for a long time, the power supply shall be cut off.

4. Product Installation

4.1 Installation Environment

- Ambient operating temperature is 60°F ~ 90°F.The most ideal temperature is 65°F ~ 77°F.
- Relative humidity: ≤80%RH.
- Avoid areas subject to vibration or the presence of corrosive gases.
- Avoid areas subject to dust or debris.
- Elevation of the working position of the equipment: less than 2000m.
- Indoor use, pollution degree 2, and overvoltage category II.
- Refer to the specifications section for proper AC voltage (Rated voltage ±10%).
- Avoid positioning the equipment in direct sunlight, in cold or heat sources or areas of strong electromagnetic interference, which will affect the normal operation of the control system and directly damage the system in severe cases.

4.2 Installation Site

In order 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 the normal access of the equipment, so as to avoid the 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 shall be with good ventilation, and direct sunlight shall be avoided;
- Each equipment needs to use a power outlet independently. Please 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;

Attention: The equipment's performance is highly affected by ambient temperature. If the specified environmental conditions are not met, the unit may not operate properly. Please ensure the environment meets these requirements before use. Note that the equipment is designed for intermittent operation.

4.3 Preparation Before Use

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

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

2. Inventory of accessories: Please check the accessories and materials according to the packing list.
3. Cleaning: Clean the product once before use.
4. Install the wall mounting brackets (If applicable ,you can refer to Figure Ⅰ).
   a. Remove the two mounting brackets and check for consistency.
   b. Remove the bolts from the mounting brackets and attach to the back of the refrigerator.
   c. Connect the mounting brackets to the wall and the back of the refrigerator. Verify the refrigerator is secure and stable.
5. After the unit is placed in the designated location, it must be secured. If the front casters are equipped with brakes, press down the brakes. If leveling feet are provided, lower the leveling feet by turning them downward (see Figure Ⅰ). The detailed operation procedure is as follows:

There are adjustable anti-skid leveling feet in front of the two front casters at the bottom of the equipment. Please use accompanying tools to turn the leveling feet downwards after the equipment is placed securely, so as to stabilize the machine.

When you need to move the equipment, please turn the leveling feet upwards. Do not move it forcibly so as to avoid damage!

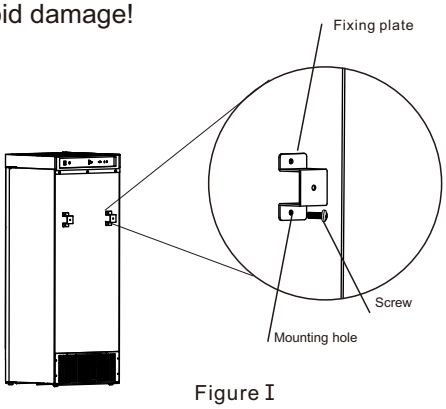


Figure Ⅰ

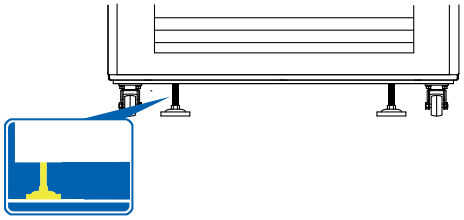


Figure Ⅱ

4.4 First Power-on

When using the equipment for the first time, please follow these steps:

1. Ensure the equipment is level, clean and in the upright position for a minimum of 24 hours.
2. With the unit deenergized and in the off condition, connect the AC power cord to a dedicated outlet with appropriate specifications.
3. Toggle the main power and battery backup switches to the ON position. Upon the initial power up, the display will initiate a startup sequence (all digits counting from 000.0 to 999.9). Once completed, the display may flash LOF and sound an audible alarm. LoF indicates that the internal data recorder is not activated. To initialize the recorder, press the and keys for 3 seconds. "LoF" will no longer appear in the display and the recorder has started.

   Note: All Freezers and Refrigerators are pre-set to default temperature set point values. (See Reference Parameter Display table).
4. The main display may flash H1, indicating a high temperature alarm. If present, the audible alarm will sound. Press to silence the audible alarm while the operating temperature drops below the high alarm default value. See function settings to change alarm values.
5. Allow the equipment will reach the set point value and operate at set point for a period of 24 hours before loading with product.
6. Load items in small batches not exceeding 1/3 of the cabinet volume at a time. Ensure that the equipment is running properly for more than 12 hours before putting in the next batch of items.

4.5 Operation after Power Failure

1. All products are equipped with a memory function that will preserve all preset values in the event of an AC power failure.
2. To avoid potential damage to the compressor, it is recommended to wait at least 5 minutes before restarting the unit.
3. While this equipment is designed to operate reliably under specified conditions, the manufacturer cannot be held responsible for any loss or damage to stored items resulting from a power failure.

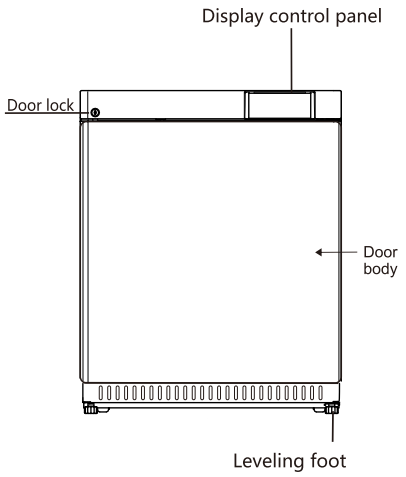
Notes:

- Before placing items into the equipment, verify the temperature range meets the storage requirements of the items to prevent potential damage. When loading items, ensure that the air inlet and outlet vents remain unobstructed to maintain proper airflow.
- Due to the refrigeration lag and variations with respect to product loading, the temperature display on the main panel may temporarily differ from the set point.
- Avoid changing the setpoint frequently, as this may prevent the unit from reaching the desired temperature.
- When loading product, allow for 1” of clearance of space to allow for adequate air flow and circulation. Allow for clearance from the internal temperature sensor, as this may affect temperature stability and control accuracy.
- Electrical appliances without production license shall not be used inside the equipment.
- The bottom (floor) of the equipment is not intended as a storage location. Only store items on shelves.
- Items with high or low moisture content can affect the internal humidity of the cabinet; therefore, it is recommended that all items be properly sealed. Additionally, frequent door openings or improper door closure may impact the cabinet’s humidity levels.

Warning:

- Modification of the equipment is strictly prohibited.
- Keep all ventilation openings in the enclosure clear of obstruction.
- Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.

5. Component Composition



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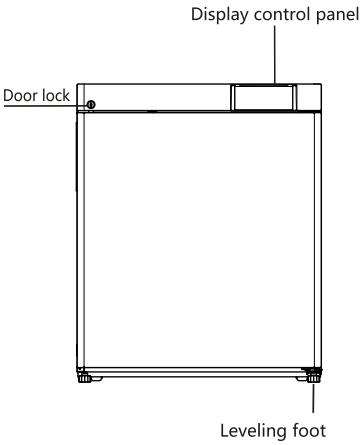

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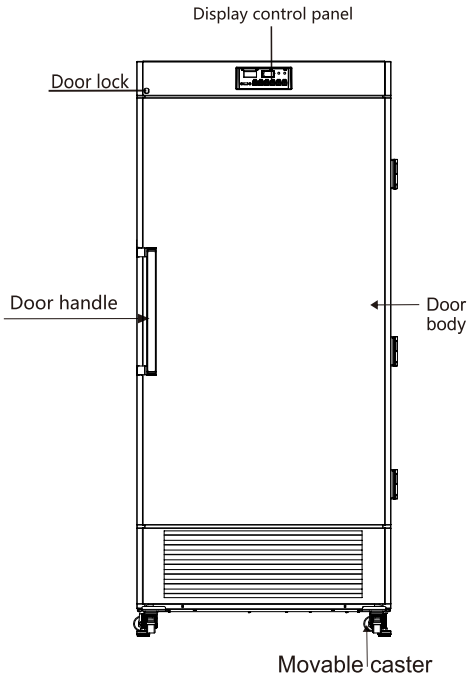

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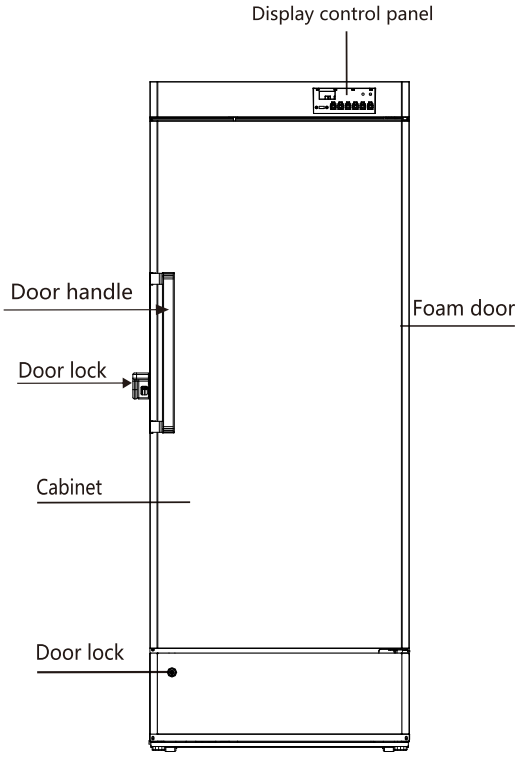

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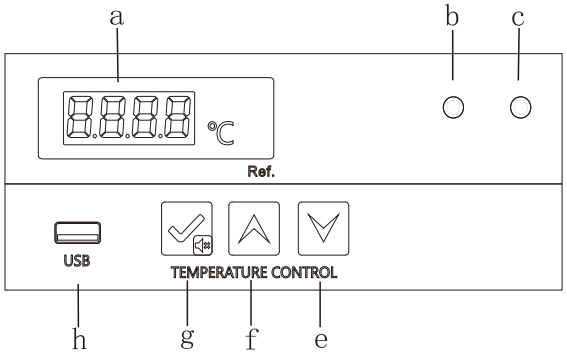
* Due to the improvement of products and model difierences, the actual products may be different from the diagram. Please refer to the actual products! The diagram is only used for functional parts description.

* Structure and composition The product consists of freezer body, door (glass door structure or foam door structure), refrigeration system and control system.

6. Operating Instructions

6.1 Function Introduction



1.Controlboard introduction:

a. is display window for temperature. Under normal operating conditions,the averagetemperature of the freezer compartment in the cabinet is displayed in units of °C; Different runningstatus can be displayed in the setup state (see below for details).

b.Door opening indicator:when the dooris opened, the indicator light will be on.when the door is opened more than 1 minute, the indicator lighting with buzzer alarm, display*do".

c. Fault indicator: The indicator is off when the product is operating normally; the indicator is on when the product is operating abnormally.

d. In parametersetting mode,move to the previous parameter ordecrease the value of the parameter.For example,when adjust the set temperature, press this button to reduce the set temperature.When adjust the parameter value, long press the key to quickly decrease the parameter.

e. In parameter setting mode, you can move to the next parameter or increase the value of the parameter.For example, when adjust the set temperature, press this button to increase the set temperature value.When adjust the parameter value,press and hold theup button fora long time and the parameter will increase rapidly. Under normal conditions, press and hold the key for 3 seconds to export the data thru U disk (up to12 months' data once time)

f. is the button for set/mute, when there is no alarm state and the key is not unlocked, press , Displaying ambient temperature for 5 seconds and then restores normal display; In the unlockedstate,press for 3 seconds, can enter the user menu.When buzzer alarm (including high temperature alarm, door open alarm, sensorfault alarm,etc.),in the locked state first time press ,Buzzer stops tweeting,5 seconds after showing ambient temperature,resume normaldisplay(The key mute is only to turn off the buzzer of this abnormal state alarm. If the fault is not eliminated, the buzzer will continue to alarm when the next exception occurs), press again, buzzer alarms, After the ambient temperature is displayed for 5 seconds, the cabinet temperature and alarm status are restored.When the press is under unlocked state, canbe used as a set button.

In the unlock state,in the parameter setting mode,press thiskey to display the value and the parameter name.If the pressed time is longer than 3 seconds, the setting will be saved and returned to normal interface.

g.USB data

Automatic export: when the U disk is connected to the USB interface, the recorder buzzer will chirp once and display "on". PDF files of data that not currently exported will be generated in the U disk. After data transmission, the buzzer will chirp once again and display "End".After 6s, it will return to normal display.

Manual export of USB data: While in the key unlock state and when the USB flash drive is connected and the file is not being generated, press the up key for 3 seconds, and "d01" will appear in the display. Press the key up or down key to adjust "d00~d12," and press ☑ key to cancel the file generation (d00) or generate the PDF file of the record data of the previous 12 months .(The temperature and humidity data recorded in the PDF file represent the average temperature and humidity inside the chamber."Invalid" indicates invalid data, a code error, a communication error with the data logging module, or that the sensor reading is out of range.)

Note: When there is less data, "USB," "on" and "End" prompts are not displayed.

Note: When the alarm of the digital tube flashes and displays "LoF," the recorder is not started; Meanwhile press ☑ and ▲ key for 3s， and "LoF" disappears, the recorder is started.

2. Function setting

1). After powering on, the machine will enter into the working state;

2). User parameter settings:

Unlock:under normal operating state,simultaneously press ▲ and ▼ keys for 3s and the digital tube will display the parameter code"0000";By pressing ▲ to enter the password"0005"and holding ☑ to unlock. Then press ☑ key for 3s,the digital tube will display the parameter and enter the setting and adjustment parameters.Use ▲ or ▼ key to scroll the parameters;

① Use ☑ to scroll the parameters；

② Use ▲ or ▼ to increase or decrease the value;

③ Use ☑ to temporarily store the modified values and return to the display parameters;

④ If other parameters are modified, repeat steps ①～③.

⑤ Press ☑ for more than 3s, save the modified parameters and return to the display parameter category.

3). Press ☑ for more than 3s, or press no key in 60S to exit the parameter setting program.

3. Parameter display

No.	Menuitem	Parameter Range	Suggested settings	Remarks
1	MAX	_	_	The highest temperature since last clerance
2	MIN	_	_	The lowest temperature since last clerance
3	CLR	_	_	Clearance of the Max and Min temperature records
4	CF	C/F	_	Temperature unit selection, C-degrees Celsius, F-degrees Fahrenheit
5	Set	-10~ -30	-30	Temperature setting
		-20~ -40	-40	
6	H	0.0-10.0	10	Set value of high temperature alarm set+H; When H =0, High temp alarm is disabled; When the alarm is over high temp alarm set, H1 will be displayed on the controller
7	L	0.0-10.0	10	Set value of 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
8	n	Set logger module time - year	_	_
9	y	Set logger module time - month	_	_
10	r	Set logger module time - day	_	_
11	s	Set logger module time - hour	_	_
12	F	Set logger module time - minute	_	_
13	Pt	0-240min	20	Print interval
14	tH1	20.0-50.0℃	40.0	Upper limit of ambient temperature alarm
15	Ps1	0-9999	5	User menu password settings
16	b1	_	_	Repair Information 1
17	b2	_	_	Repair Information 2

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	10~50		/
	y	Set logger module time - month	1~12	--	/
	r	Set logger module time - day	01~31	--	/
	S	Set logger module time - hour	00~23	--	/
	F	Set logger module time - minute	00~59	--	/
	Pt	Print interval	0~240	20	min
	SCY	Temperature data recording period	0~240 0: shielded recorder	10	min

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

4.Alarm display

Alarm Code	Fault description
H1	High temperature alarm
L1	Low temperature alarm
H2	High ambient temperature alarm
door	Door open alarm
PF	Power failure alarm
bL	Low battery alarm
Er	Data Logger not connected
LoF	Data Logger not started
EE	Communication error
E1. 2. 3. .	Sensor（NTC） failure alarm

5. Alarm Demonstration Function

Under "key lock state"Long press ☑ the digital tube displays the temperature value and alarm code of the over-temperature alarm, and the buzzer beeps.

7. Maximum and minimum Temperature display

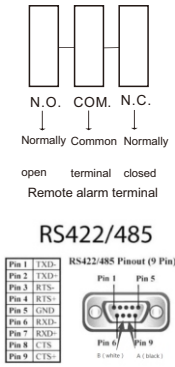
Under the key lock state,short press the ▲ to view the maximum value: after blinking 3 times ,the maximum value menu and the maximum temperature displays; short press ▼ to view the minimum value, after blinking 3 times , the minimum value menu and maximum temperature displays. Long press combination key 3 seconds ▲ + ▼ + ☑ to clear the current maximum and minimum value data, at the same time, the buzzer beeps a reminder.

6.2 Optional function

1. Remote alarm terminal, RS485 interface

Remote alarm terminal, RS485 interface and network interface are installed in the lower part of the back of the freezer body.

Note: These configurations are standard for some models.



7. Maintenance and Service

Warning:

- To prevent the risk of getting electric shock or injury, always disconnect the equipment from the power supply before performing repairs or maintenance

7.1 Equipment Maintenance

Cleaning and Maintenance: The equipment should be cleaned and maintained regularly. For safety, always unplug the power cord before cleaning. Wipe the interior and exterior surfaces of the cabinet with a soft cloth dampened with warm water.
Condenser Cleaning: Regularly remove dust from the condenser to maintain optimal cooling performance.
Condenser Cleaning method: Unscrew the ventilation or front hood, and gently brush away dust from the condenser surface using a soft brush.

Notes:

- Do not spray water directly on the cabinet, lest the insulation performance of electrical components decrease and metal parts rust.
- Do not use hot water, corrosive detergent or organic solvent to clean the cabinet.
- Do not place heavy objects on top of the equipment, as the equipment may deform under pressure.
- The integrated overload protector in our products is designed to automatically shut off the power supply in the event of a short circuit or system overload, safeguarding the entire system and critical components,

7.2 Equipment Discontinuation

Deactivation: If the equipment is to be unused or stored for an extended period, disconnect the power supply. Clean the interior and exterior surfaces with a soft cloth dampened with warm water, allow the cabinet to air out, and then seal it.
Scrapping: When the equipment reaches the end of its service life, it should be scrapped and must be handed over to a qualified professional recycling agency for disposal per local regulations. Do not disassemble or break down the equipment without authorization. The scrapped equipment should be placed in a designated area inaccessible to children to avoid danger.

7.3 Maintenance, Replacement, and Recovery of Rechargeable Batteries

Battery installation position: top of the cabinet and bottom inside the electrical box.

1. Battery maintenance

①The equipment should be connected to AC power regularly (generally once a month) and for a period of 24 hours to refresh the battery charge.

②If discontinuing the equipment, the battery switch should be turned to the off position to prevent capacity loss or permanent damage.

③The main power switch must in the off position during a long-term power outage or during transportation, otherwise long- term discharge causes power loss in battery and even permanent damage to the battery, and the display is abnormal after re-energizing.

④The expected service life of the battery is approximately 2–3 years. Improper use, power loss, or end-of-life conditions may trigger a low battery alarm. While refrigeration performance will not be affected, the alarm functions may fail to operate. If this occurs, please contact your local distributor's after-sales service team for battery replacement.

2. Battery replacement and recovery

① Turn off the power switch and pull the power plug from the outlet;

② Remove the screws at the top rear of the unit to access the interior control panel area. (Note: The electrical box can only be opened by a qualified engineer or maintenance person as this is a high voltage area with risk of electrical shock. Turn off the power supply, unplug the AC power and turn off the main power switch.

③ Remove the connecting cables from the battery, starting with the red (+) first, then the black(-) note: the red cable is connected to the red positive (+) post on the battery and the black cable is connected to the black negative (-) post on the battery.

④ Use a screwdriver to remove the fastening screws on the battery fixing plate and take out the battery. Replace with new battery. Place fixing plate and reconnect cables starting with (-) black cable to black post, then (+) red cable to red post.

⑤ Properly dispose the used battery at a local battery recycling agency.

Tips:

In order to effectively ensure that the battery replacement meets the requirements of the control system and avoid the influence of improper operation on the system, please contact our after-sales personnel for replacement or guidance.

When the circuit is short or overloaded, the overload protector will disconnect the power supply of the device.

8. Troubleshooting and Maintenance Services

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

Problems	Causes and solutions
Equipment does not run	Ensure AC power is present, appropriate voltage and securely plugged into the AC outlet Ensure the power fuse is not disconnected.
Compressor is not running	Ensure the temperature is set correctly and thetemperature inside the cabinet is not lower than the set temperature value
The temperature does not reach the set value	Ensure the door is closed tightly and sealed. Ensure the door has not been opened for an extended period. Verify if multiple items have been placed in the unit at once. Verify the ambient temperature is not too high.
	Ensure the cabinet is level, secure and without vibration. Ensure the cabinet is not in contact with the wall.
Condensation on cabinet surface High noise	Excessive door condensation is normal, and can be wiped off with a dry cloth.
Undesirable odor	Equipment may need to be cleaned.
The door is not closed properly, and the cool air leaks	Ensure the temperature is set correctly. Verify the temperature inside the cabinet is too low

The following conditions are not faults

① A slight impact sound when the compressor cycles on and off.

② The high temperature alarm and high humidity alarm after warm product is placed in the refrigerator or when the door is opened after an extended period. (if this occurs, refer to the alarm display table).

Solution: It is recommended to pre-chill (or place in small batches) prior to placing into the refrigerator. Once temperatures have returned to set point and stable, the high temperature alarm and high humidity alarm will automatically return to non-alarm state.

Warning:

- The system contains refrigerant under high pressure. Do not tamper with the system. It must be serviced by qualified persons only.
- In order to reduce flammability hazards the installation of this appliance must only be carried out by a suitably qualified person.

9. Specification

Model	Ambient temperature (℃)	Climate type	Refrigerant and loading amount	(Rated) voltage (V~)	Rated frequency (Hz)	Temp Range (°C)	Volume (L)	(Rated) current (A)	Weight (kg)	Exterior dimensions (DxWxH) (mm)
UC090F	16-32	N	R290/ 36g	110	60	-15~-30	90	1.7	52	624X600X812
UP668F	16-32	N	R290a/ 125g	110	60	-15~-30	668	3.68	150	890X883X1936
UP270F	16-32	N	R290a/ 110g	110	60	-20~-40	270	4.22	98	700X746X1792
UC090FE	16-32	N	R290/ 50g	220-240	50	-20~-40	90	1.33	54	645X660X815
UP270FE	16-32	N	R290a/ 115g	220-240	50	-20~-40	270	2.80	98	700X746X1792

* The foaming agent of this product is cyclopentane.

10. Accessories

Name	Operation Manual	Key	Ice scraper
Number	1	2	1

* The specific accessories shall be subject to the physical objects received.

Production Date: See nameplate on the freezer body
Prepared in: June 2026
Material Code: