GCI
LIFE SCIENCES



Scientific Refrigerator

Operation Manual

The following product models are applicable:

UC130RG	UP395RG	UP650RG	UP1320RG2
UC130RGE	UP395RGE	UP650RGE	UP1320RS2
UC130RS	UP395RS	UP650RS	
UC130RSE		UP650RSE	


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Table of Contents

1. Application Notes 1

2. Safety Instructions 2

3. Precautions 4

4. Installation and Commissioning 4

4.1 Installation Environment 4

4.2 Installation Site 4

4.3 Preparation before Use 5

4.4 First Power-on 5

4.5 Operation after Power Failure 6

5. Product Composition and Overview 7

6. Operating Instructions 9

6.1 Function Introduction 9

6.2 Optional Function 17

7. Maintenance and Service 18

7.1 Equipment Maintenance 18

7.2 Equipment Discontinuation 18

7.3 Maintenance, Replacement, and Battery Recovery 18

8. Troubleshooting and Maintenance Services 19

9. Specifications 20

10.Packing List 20

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.
- Pharmacy and medical refrigerators (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.

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 equipment failure 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

- Ensure the freezer has reached the temperature set point and is stable before loading product. Load product in batches, ensuring that each batch does not exceed one-third of the chamber's internal volume to prevent excessive temperature rise.
- Upon initial start-up, it is normal to see a difference between the temperature reading at the display and the temperature at the center of the equipment. Once the equipment has reached set point and stabilized, the display temperature will align with the actual inside temperature.
- Clean the equipment using a diluted neutral cleaner. Do not use brushes, acids, gasoline, soap powder, polishing agents, or hot water, as these may damage painted surfaces and plastic or rubber components. Avoid wiping plastic or rubber parts with volatile solvents such as gasoline.
- When the equipment is not in use for an extended period, the unit shall be disconnected from the AC power supply, and the battery backup switch shall be set to the OFF position.

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

To ensure proper operation and optimal performance, the equipment must be installed in a location that meets the following requirements:

- The equipment should not be placed in a narrow or enclosed space. The door to the equipment destination must be large enough for equipment access, facilitating maintenance and preventing potential damage to stored items in the event of equipment failure.
- The installation floor must be solid, level, non-combustible, and capable of supporting the equipment's weight during operation.
- Allow for ≥ 12" clearance space surrounding the unit side an rear areas.
- The site must have adequate ventilation and protected from direct sunlight.
- Each unit should have an independent AC electrical outlet with current of ≥ 10 amps. Ensure that the AC power plug and outlet are securely connected.
- Refer to the specifications section for proper AC voltage. Verify the AC voltage before use. In areas with unstable voltage, consider using a voltage regulator suitable for the equipment load.

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 including the protective foam in the packaging box.

2.Verify all accessories and materials are installed or available in accordance with the packing list.

3. Clean the product once before use.

4. Installation of door handles (UP650RG).

The handles are packaged with the accessories.

Handle installation method:

a.Open the door handle as shown in the following figure Ⅰ;

b.Remove the screw for installing the door handle on the cabinet, and install the handle seat with this screw; Install the handle cover, insert both ends of the handle cover into the corresponding grooves of the handle seat, and then press it to close it.

5.Install the wall mounting brackets (If applicable ,you can refer to Figure Ⅱ.).

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.

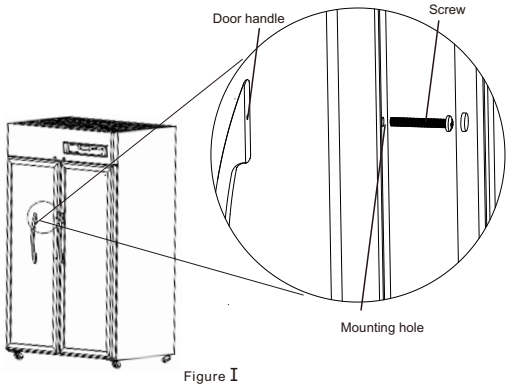
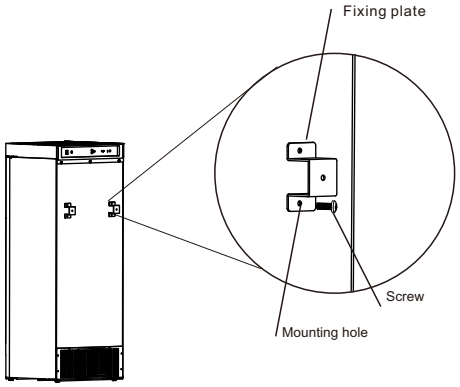


Figure Ⅰ



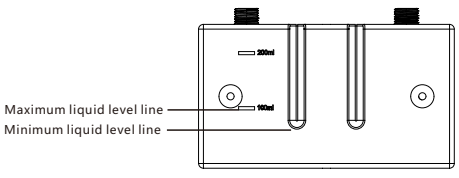
FigureⅡ

6.Please check the liquid level in the glycol bottle is within the standard range (see Figure III). If the liquid level is below the minimum level mark, add simulated solution. The liquid level after refilling must not exceed the 100 mL level mark.(Simulated solution composition: glycerol and purified water mixed at a ratio of 1:9.). The simulated solution should be inspected once every year.

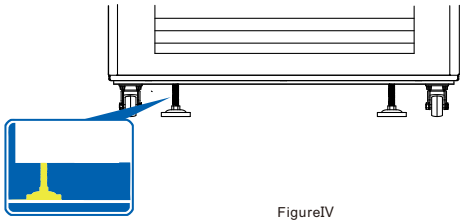
7. After the unit is placed in the designated location, it must be secured. If the front casters are equipped with brakes, press down the brakes. If leveling feet are provided, lower the leveling feet by turning them downward (see Figure IV). The detailed operation procedure is as follows:

■ 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!



FigureⅢ



FigureIV

4.4 Initial 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 to 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.

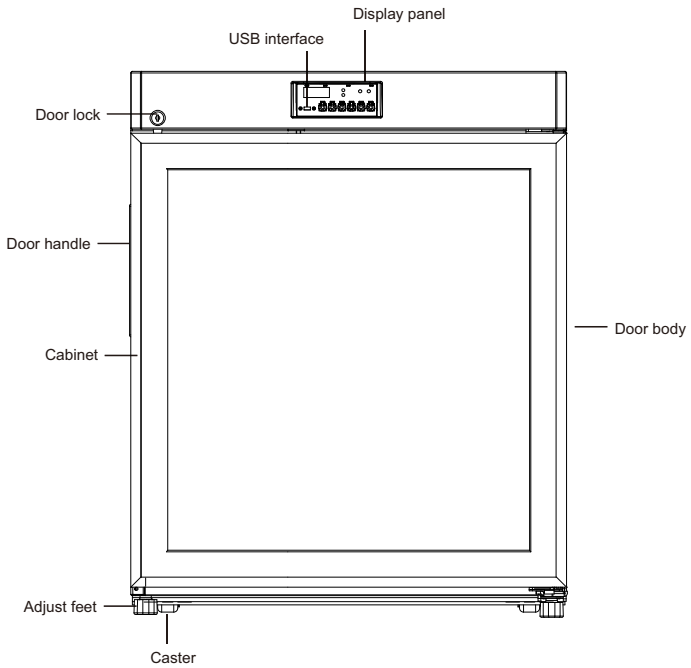
Notes:

- 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 floor (bottom) 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.

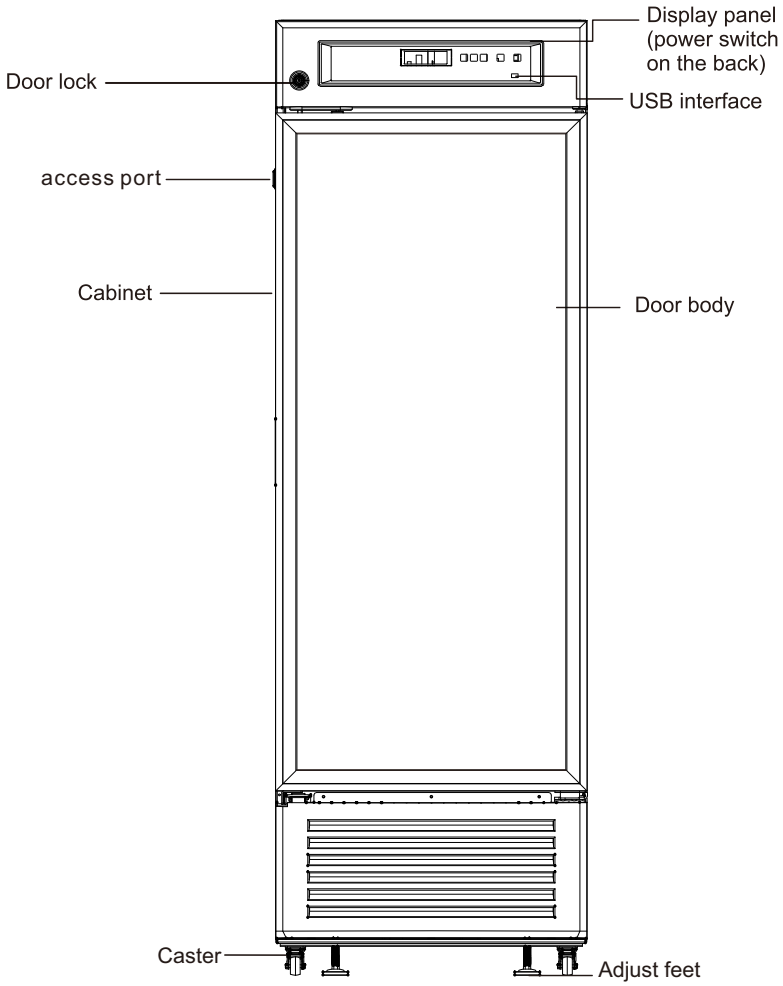
Warning:

- 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.

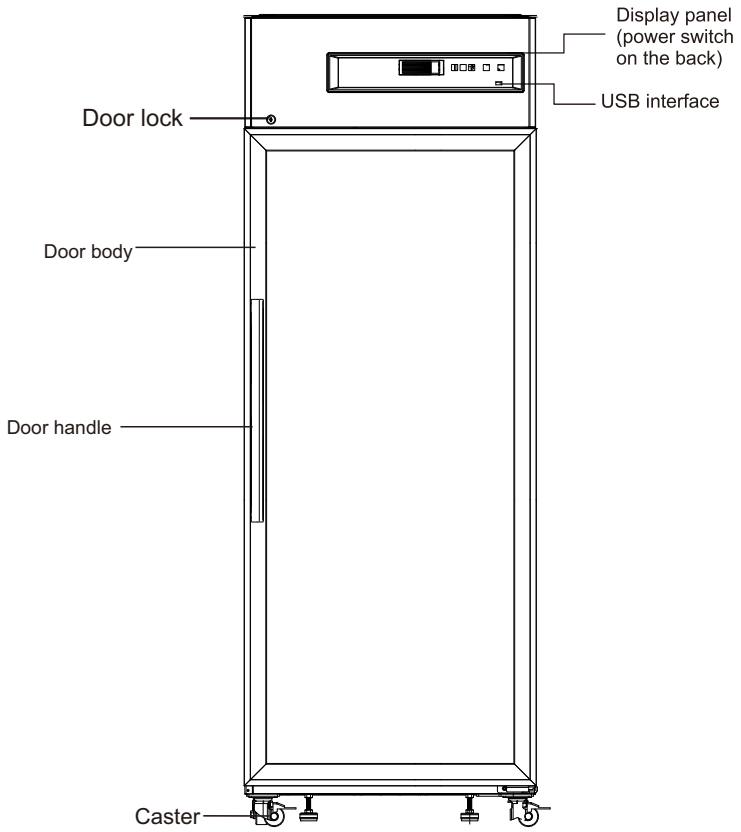
5. Product composition and overview



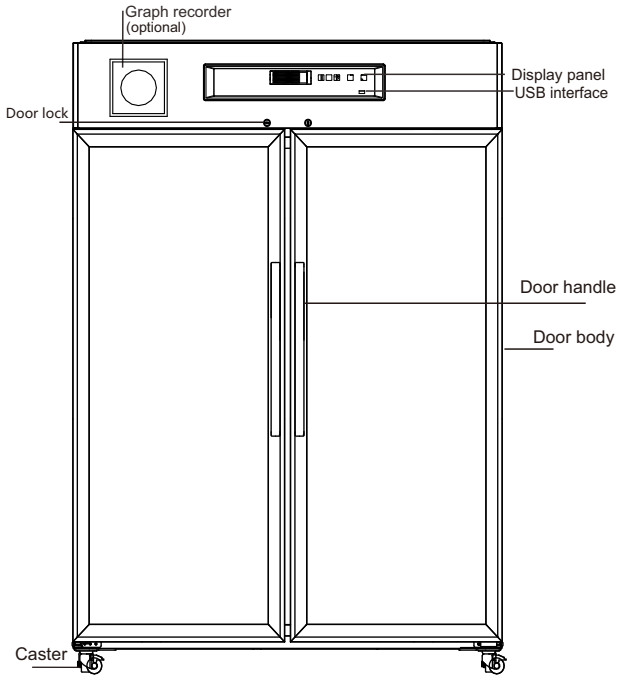
UC130RG、UC130RS、UC130RGE、UC130RSE



UP395RG、UP395RGE、UP395RS



UP650RG、UP650RGE、UP650RS、UP650RSE



UP1320RG2、UP1320RS2

* The actual equipment may be different from the diagram. The diagram is only used for functional parts identification and description.

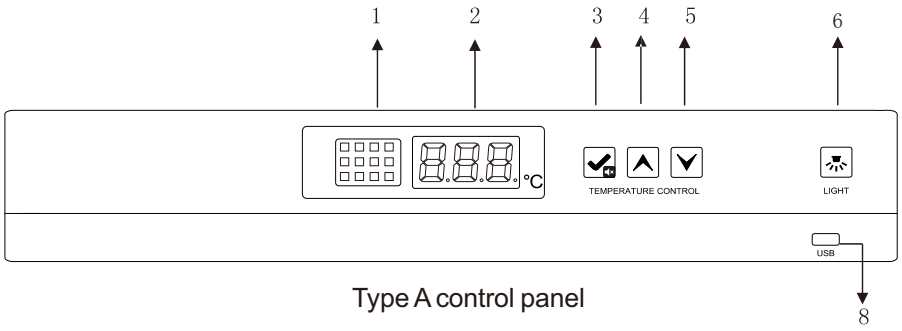
Intended use:

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

6. Operating Instructions

6.1 Function Introduction

This series of products include two control systems, based on which different adjustment methods apply. Please select the proper adjustment method according to the type of control system with the storage box you purchased.



Type A control panel

1. Function description of Type A control panel (Except UC130RG、UC130RS、UC130RGE、UC130RSE)

1) Description of display icon indicator (as shown in the right diagram);



Door open	WIFI	Defrosting	Key lock
Power failure	Print	Door heating	Refrigeration
Mute	Electric quantity	Serial port	Fan

a. Door switch indicator

When the door is opened, the door open indicator is Illuminated; When the door is closed, the door open indicator is not illuminated.

b. Defrosting indicator

When the refrigerator enters the defrosting state, the defrosting indicator is illuminated; When the refrigerator exits the defrosting state, the defrosting indicator is not illuminated.

c. Key lock indicator

While in the locked state, the key lock indicator is illuminated and function keys will not respond when pressed. To enter the unlocked state, press the up + down keys for 3 seconds. The display panel will indicate 0000, prompting you to enter the password. Use the up arrow to enter the default password of "005.", then press the Set/Mute Multiplex key to access the unlocked state. The key lock indicator is not illuminated.

During the unlocked state, If function keys are not pressed for 60 seconds, the unit will revert to the locked state and the key lock indicator is Illuminated. To initiate an immediate locked state, press and hold the up + down key for 3 seconds.

d.Power-off indicator

The refrigerator is normally powered by 220V/110VAC. When AC power is not present, an audible alarm will trigger and the display panel will flash the power-off code "PF" at 3 seconds intervals, and the power-off icon indicator will illuminate. When the AC power has returned, the display will return to normal, the audible alarm is no longer audible, and the power-off indicator is not illuminated.

e. Door heating indicator

When the door heating is in the off position, the door heating indicator is not illuminated; When the door heating is turned energized, the door heating indicator will illuminate.

f. Refrigeration indicator

If the compressor is in the energized state and running, the refrigeration indicator is illuminated; If the compressor is not energized and not running, the cooling indicator is not illuminated .

g. Mute indicator

When the mute key is activated, the audible alarm is muted and the mute indicator is on. When the mute key is deactivated, the audible alarm will sound if an alarm event is present and mute indicator is not illuminated .

h. Low battery level indicator

If the battery charge is less than 10.8 volts, an audible alarm will sound, the low battery indicator will illuminate, and the display will flash "BL" (battery low) at 3 second intervals. The battery low alarm will not active during normal battery voltage of 12V or greater.

i. Serial port indicator

When the RS-485 serial port is not connected to the equipment, the serial port indicator will not be illuminated; When the equipment is successfully connected to the RS-485 serial port, the serial port indicator will be illuminated.

j. Fan indicator

When the evaporator fan is energized and operating, the fan indicator is illuminated. When the evaporator fan is not energized and operating, the fan indicator is not illuminated.

2） Is the main display for various functions. Under normal operation, the display is presenting average internal temperature in °C;

To view ambient temperature:

In the key lock or unlocked state, press the key, and the display will indicate ambient temperature. The display will return to the internal temperature after 5 seconds of no key operation

To view humidity (Optional):

In the key unlocked state, press and hold the and keys and the display will indicate the internal humidity level in the unit. The display will return to indicating internal temperature after 5 seconds of no key operation.

3） is the set/mute key;

In the unlock state, press , afor more than 3 seconds, to enter the user menu.

If the unit is in the unlocked state and an audible alarm is triggered (example: cabinet high temperature alarm, door opening alarm, sensor failure alarm, etc.), and s pressed for the first time, the audible alarm will stop sounding, and the ambient temperature will display for 5s, after which the normal display value is resumed. Pressing the mute button will only disable the audible alarm for during the alarm state. If the alarm condition is not cleared and pressed again, the audible alarm will sound and the display will indicate the ambient temperature for 5s, and resume the display of chamber temperature and alarm state.

While in the unlock state, can be used as a setting key. In the unlock state and in the parameter setting mode, press this key to display parameter values and parameter names. If the pressing time is longer than 3 seconds, it will save the settings and return to the normal interface.

4） is the up key;

In parameter setting mode, pressing the up-arrow key will move to the next parameter or increase the parameter value. For example, when setting the set temperature, pressing the up arrow will increase the set temperature value. When setting the parameter value, press and hold the up button, and the parameter will increase rapidly.

To export data to a USB flash drive for a period up to 12 months, the unit must first be in normal operation mode, then press and hold the up key for 3 seconds.

5） is the down key;

In parameter setting mode, pressing the down arrow key will navigate to the previous parameter or decrease the selected parameter value.

For example, if in the temperature set point parameter, pressing the down arrow will reduce the displayed set temperature.

When adjusting a parameter value, press and hold the down button to decrease the value rapidly.

6） is the interior light on / off key;

Internal lights are deenergized by default. To energize the lights, press the light key.

7） USB data export;

Automatic export: when the USB flash drive is connected to the USB port, the recorder audible tone will chirp once and the display will indicate "on". PDF files of data that have not been previously exported will be copied to the USB disk. After data transmission, the audible tone will chirp once again and will display will indicate "End". After 6s, it will return to the normal display.

Note: If no data is available, the digital screen will not display "on" and "End".

Manual export: 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.)

2. Function setting of Type A control panel

1) After powering on, the equipment will initialize and enter the normal operating state.
2) User parameter settings:
To Unlock the display and while under normal operating state, press ▲ and ▼ keys simultaneously for 3 seconds. The display will indicate”000"; Press the▲ to enter the password”005",then press ✔ to unlock.
Then press✔ key for 3 seconds ,the digital screen will display the parameter code”MAX"and enter the "setting and adjustment" parameters.
a. Use ▲ or ▼ key to scroll the parameters;
b. Press ✔ key to display the corresponding parameter value;
c. Use ▲ or ▼ key to scroll the value within the parameter;
d. Use ✔ to store the modified values and return to the display parameters;
e. If other parameters are modified, repeat a through above.
f. Press ✔ for more than 3 seconds, save the modified parameters and return to the display parameter category.
3) Press ✔ for more than 3 seconds, or press no key in 60s to exit the parameter setting program.
4)Parameter display

No.	Menuitem	Parameter Range	Suggested settings	Remarks
1	MAX	_	_	The highest temperature since last clearance
2	MIN	_	_	The lowest temperature since last clearance
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	0.0-10.0	5.0	Temperature setting
6	H	0.0-10.0	5.0	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	5.0	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

No.	Menu item	Parameter Range	Suggested settings	Remarks
15	P1	1.Automatic heating mode 1 2.Automatic heating mode 2 3.Automatic heating mode 3 4.Always on 5. Always off	1.(Set to 4 when the door is with condensation) (Set to 1 when the door is a glass door) (Set to 5 when the door is a foaming door)	Mode 1: It shall be judged as once after the door is opened and closed once and heated for 5min (time setting). If the door is opened and closed again during the heating period, the heating time will be updated again; Mode 2: When the compressor runs, heater is on;When the compressor stops, the heater will turn off after one min Mode 3: When the humidity in the cabinet is more than 80%, the door heating is on, and when the humidity in the cabinet is moderately less than 60%, the door heating is off; Mode 4: Door heating is always on; Mode 5: Door heating is always off.
16	Ps1	0-999	5	User menu password settings
17	b1	_	_	Repair Information 1
18	b2	_	_	Repair Information 2

Quick setting of time after power on
After the power-on self-test on the display board has 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.

5) Alarm display

Code	Error Description
H1	High temperature alarm
L1	Low temperature alarm
H2	Alarm for high ambient temperature
H3	Condenser overheat alarm
do	Door opening alarm
PF	Power failure alarm
bL	Battery low alarm
Er	The recorder is not connected
LoF	Recorder did not start
EE	Communication failure
E1.2.3....	Sensor（NTC） failure alarm

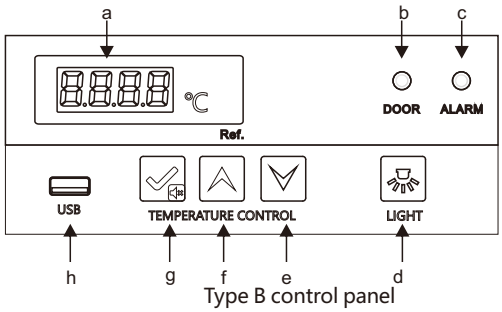
6) Alarm Test Function

To test the alarm demonstration function, start from the "key lock state", then press and hold for 3 seconds. The audible tone will pulse while the display indicates a warm temperature value, followed by the H1 alarm code, a cool temperature value is displayed followed by L1 alarm code. The display icon indicator panel will illuminate each icon (red or green) in sequential order until complete. Once completed, the audible pulse will stop.

7) Maximum and minimum Temperature display

To view the maximum and minimum recorded temperatures, start from the “key lock state”, then press and “max” will blink 3 times, followed by the maximum temperature value blinking 3 times. Press and min will blink 3 times, followed by the minimum temperature value blinking 3 times.

To clear the maximum and minimum recorded temperature values, press and hold the 3 keys + + at the same time for 3 seconds. Once cleared, the audible tone beeps as a reminder.



Type B control panel

1. Function description of Type B control panel (Applicable to UC130RG、UC130RS、UC130RGE、UC130RSE)

a. Is the temperature display window, which displays the average temperature inside the cabinet in °C under normal operation; Different prompt characters can be displayed in the setting state (see below for details).

b. Door opening indicator: When the refrigerator door is opened, the door indicator illuminates. If the door remains open for more than 1 minute, the door alarm indicator will be illuminated and the audible alarm is triggered, The display will indicate "do". Close the door and “do” is no longer displayed and the audible alarm is silenced.

c. Fault indicator: When the product runs normally, the indicator is not illuminated; When the product is not running normally, the indicator is illuminated.

d.“LIGHT” : Pressing the light button will energize or deenergize the internal light

e. : In parameter setting mode, pressing the down arrow will reduce the parameter value. For example, when setting the setpoint temperature, it will decrease the setpoint. When setting the parameter value, press and hold the down button, and the parameter will decrease rapidly.

f. : In parameter setting mode, this key is used to increase the parameter value. For example, when setting the setpoint temperature, it will increase the setpoint. When setting the parameter value, press and hold the up button, and the parameter will increase rapidly.

The up-arrow button can also be used to import data to a flash drive for the last 12 months. If desired, and while Under normal conditions, press and hold the up key for 3 seconds.

g. : is the set/mute key; if the unit is not in alarm state and in the unlocked state, press , and the display will indicate ambient temperature for a period of 5 seconds, then return to normal display.

While in the unlock state, press for more than 3 seconds to enter the user menu.

If an alarm event is triggered while in the unlocked state, the audible alarm is activated (including cabinet high alarm, door opening alarm, sensor failure alarm, etc.). Press and the audible alarm will silence and ambient temperature is displayed for 5 seconds then will resume to normal display values.

If the alarm condition is resolved during the silence period, the audible alarm will trigger upon the next abnormality.

Press again, will trigger the audible alarm, the display will indicate the ambient temperature for 5s, and then resume the display of cabinet temperature and alarm state.

can be used as a setting key while in the unlocked state.

In unlock state and in the parameter setting mode, press this key to display parameter values and parameter names. If pressed more than 3 seconds , the setting will be saved and the display will return to the home screen .

h . USB interface

Automatic export of USB data: When the USB interface is connected to a USB flash drive , an audible tone will beep once , the display will indicate "ON" , and PDF data files of the current month and the previous month are generated in the USB flash drive. After the data transmission is completed, the audible tone beeps once , displaying " End ," and the normal display resumes after 6 seconds.

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

Manual export of USB data: In the key unlock state, when the USB flash drive is connected and the file is not being generated, press the up key for 3 seconds, and the digital screen in the lower chamber will display "d01." 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 the digital display flashes and displays "LoF," and the audible alarm is beeping, this indicates the data recorder is not activated. To activate the data recorder, the display must be in the Unlock state. Once unlocked, then press the and key for 3 seconds ." LoF" will disappear and the recorder function has started.

2. Function setting of Type B control panel

1) After powering on, the equipment will initialize and enter the normal operating state;

2) User parameter settings:

To Unlock: under normal operating state, simultaneously press and keys for 3 seconds , the digital screen will display t”0000";Press to enter the password”0005"and holding to unlock.

Then press key for 3 seconds ,the digital screen will display the parameter ”MAX"and enter the setting and adjustment parameters.

a. Use or key to scroll the parameters;

b. Press key to display the corresponding parameter value;

c. Use or key to increase or decrease the values within the parameters;

d. Use to temporarily store the modified values and return to the display parameters;

e. If other parameters are modified, repeat steps a through above；

f . Press for more than 3 seconds, save the modified parameters and return to the display parameter category.

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

4) Parameter display

No.	Menu item	Parameter Range	Suggested settings	Remarks
1	MAX	_	_	The highest temperature since last clearance
2	MIN	_	_	The lowest temperature since last clearance
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	0.0-10.0	5.0	Temperature setting
6	H	0.0-10.0	5.0	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	5.0	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	P1	1.Automatic heating mode 1 2.Automatic heating mode 2 3.Automatic heating mode 3 4.Always on 5. Always off	1.(Set to 4 when the door is with condensation) (Set to 1 when the door is a glass door) (Set to 5 when the door is a foaming door)	Mode 1: After the door is opened and closed once and heated for 5min (time setting). If the door is opened and closed again during the heating period, the heating time will be updated again; Mode 2: When the compressor runs, heater is on;When the compressor stops, the heater Will turn off after one min Mode 3: When the humidity in the cabinet is more than 80%, the door heating is on, and when the humidity in the cabinet is less than 60%, the door heating is off; Mode 4: Door heating is always on; Mode 5: Door heating is always off.
16	Ps1	0-9999	5	User menu password settings
17	b1	_	_	Repair Information 1
18	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.

5) Alarm display

Alarm Code	Error Description
H1	High temperature alarm
L1	Low temperature alarm
H2	High ambient temperature alarm
H3	Condenser overheat alarm
do	Door opening alarm
PF	Power failure alarm
bL	Battery low alarm
Er	The recorder is not connected
LoF	Recorder did not start
EE	Communication failure
E1. 2. 3. . . .	Sensor（NTC） failure alarm

6) Alarm Test Function

To test the alarm demonstration function, start from the "key lock state", then press and hold  for 3 seconds. The audible tone will pulse while the display indicates a warm temperature value, followed by the H1 alarm code, a cool temperature value is displayed followed by L1 alarm code. The display icon indicator panel will illuminate each icon (red or green) in sequential order until complete. Once completed, the audible pulse will stop.

7) Maximum and minimum Temperature display

To view the maximum and minimum recorded temperatures, start from the “key lock state”, then press and “max” will blink 3 times, followed by the maximum temperature value blinking 3 times. Press  and min will blink 3 times, followed by the minimum temperature value blinking 3 times.

To clear the maximum and minimum recorded temperature values, press and hold the 3 keys + + at the same time for 3 seconds. Once cleared, the audible tone beeps as a reminder.

6.2 Optional function

6.2.1 Remote alarm terminal, RS485 interface and network 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

Defrosting: The equipment will automatically defrost during the working process for the convenience of use.
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, including the compressor.

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 the temperature 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.
High noise	Ensure the cabinet is level, secure and without vibration. Ensure the cabinet is not in contact with the wall.
Condensation on cabinet surface	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.
Lighting damage (refrigeration equipment)	Please contact sales service personnel for replacement parts. Please do not replace the parts by yourself.

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.

Notes:

- Repairs, maintenance, and modifications to the equipment must be performed only by authorized personnel to ensure proper operation and compliance with applicable safety standards.
- Please clean and disinfect the equipment prior to contacting a maintenance engineer. During the warranty period, the Company will not be responsible for repairs or damages resulting from improper use by the user.
- Temperature range for product storage: -40°C-+55°C, relative humidity: 10% ~ 90%.

9. Specifications

Model	Ambient temperature (℃)	Climate type	Refrigerant andloading amount	(Rated) voltage (V~)	Rated frequency (Hz)	Temp Range (°C)	Volume (L)	(Rated) current (A)	Weight (kg)	Exterior dimensions (DxWxH) (mm)
UP395RG	16~32	N	R290/60g	110	60	2~8	395	4.76	95	673X650X1992
UC130RG	16~32	N	R290/26g	110	60	2~8	130	2.28	51	625X650X810
UP650RG	16~32	N	R290/80g	110	60	2~8	650	5.77	157	890X715X1985
UP650RS	16~32	N	R290/80g	110	60	2~8	650	5.77	148	890X715X1985
UP395RS	16~32	N	R290/60g	110	60	2~8	395	4.76	93	652X650X1992
UC130RS	16~32	N	R290/26g	110	60	2~8	130	1.66	45	625X650X810
UP395RGE	16~32	N	R290/28g	220-240	50/60	2~8	395	1.39	95	673X650X1992
UC130RGE	16~32	N	R134a/110g	220-240	50/60	2~8	130	1.10	51	625X650X810
UC130RSE	16~32	N	R600a/55g	220-240	50	2~8	130	0.98	51	625X650X810
UP650RGE	16~32	N	R290/85g	220-240	50/60	2~8	650	3.06	157	890X715X1985
UP650RSE	16~32	N	R290/75g	220-240	50/60	2~8	650	1.67	148	890X715X1985
UP1320RG2	16~32	N	R290/150g	110	60	2~8	1320	10. 55	258	1453X82615X1998
UP1320RS2	16~32	N	R290/150g	110	60	2~8	1320	10. 55	240	1453X82615X1998

* The foaming material of this product is cyclopentane.

10. Packing List

Item	Operation Manual	Accessory package	Key
Quantity	1	1	2

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



Production Date: See nameplate on the refrigerator body
Prepared in: October 2026
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