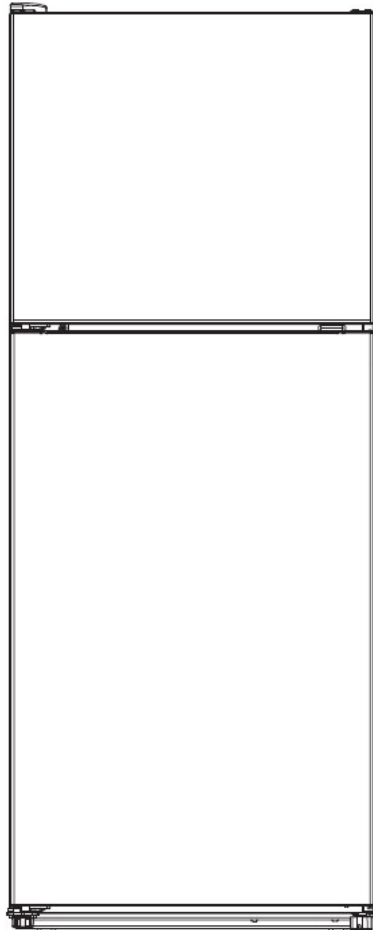




Built-in Vehicle
FROST-FREE REFRIGERATOR-FREEZER

INSTRUCTION MANUAL

Model No.: MRF-314W-BS



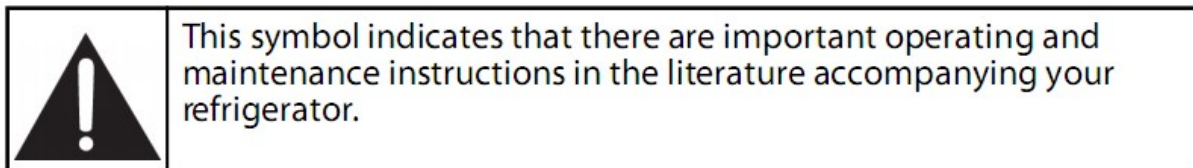
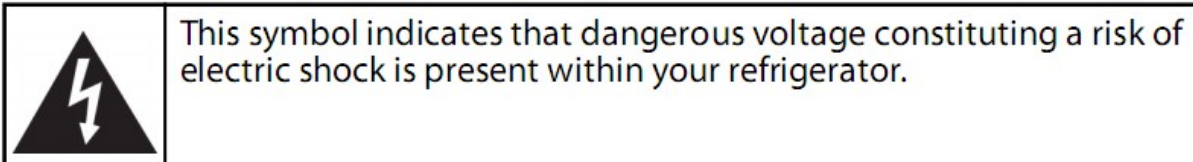
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Dear users, this manual contains the product's basic knowledge, how to use it, fault diagnosis and basic troubleshooting methods. In order to better understand and use this product, please take good care of this manual, and read it carefully.

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I. Important safety instructions



WARNINGS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use your refrigerator near water.
6. Clean only with a damp cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources, such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Refer all servicing to qualified service personnel. Servicing is required when your refrigerator has been damaged in any way, such as liquid has been spilled or objects have fallen into your refrigerator, your refrigerator has been exposed to rain or moisture, does not operate normally, or has been dropped.
10. To reduce the risk of fire or electric shock, do not expose your refrigerator to rain, moisture, dripping, or splashing, and no objects filled with liquids should be placed on top of it.
11. Your refrigerator is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of your refrigerator by a person responsible for their safety.
12. Children should be supervised to ensure that they do not play with your refrigerator.



ELECTRIC SHOCK HAZARD

Failure to follow these instructions can result in electric shock, fire, or death.

1.WARNING—Keep ventilation openings, in both your refrigerator and the built-in structure, clear of obstruction.

2.WARNING—Do not touch the interior of your refrigerator with wet hands. This could result in frostbite.

3.WARNING—Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.

4.WARNING—Do not damage the refrigerant circuit.

5.WARNING—Do not damage the refrigerant tubing when handling, moving, or using your refrigerator.

6.WARNING—DANGER—Never allow children to play with, operate, or crawl inside your refrigerator.

Risk of child entrapment. Before you throw away your old refrigerator:

- Take off the door.
 - Leave the shelves in place so that children may not easily climb inside.
- 7. WARNING**-Do not use electrical appliances inside the food storage compartments of the appliance unless they are of the type recommended by the manufacturer.
- 8.**Power source disconnected your refrigerator before carrying out user maintenance on it.
- 9.**If a component part is damaged, it must be replaced by the manufacturer, its service agent, or similar qualified persons in order to avoid a hazard.
- 10.**Follow local regulations regarding disposal of your refrigerator due to flammable refrigerant and gas. All refrigeration products contain refrigerants, which under the guidelines of federal law must be removed before disposal. It is the consumer's responsibility to comply with federal and local regulations when disposing of this product.
- 11.** Do not store explosive substances such as aerosol cans with a flammable propellant in this appliance.
- 12.** This appliance is intended to be used in the recreational vehicle.
- 13.** This appliance is intended to be used in recreational vehicle.

POWER SOURCE REQUIREMENT

The instructions for CLASS III APPLIANCES shall state that it must only be supplied at safety extra low voltage corresponding to the marking on the appliance.

If a STATIONARY APPLIANCE is not fitted with a SUPPLY CORD and a plug, or with other means for disconnection from the supply mains having a contact separation in all poles that provide full disconnection under overvoltage category III conditions, the instructions shall state that means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.

Before using, connect the product with a circuit breaker with all poles disconnected, and conduct wiring connections by reference to the wiring diagram.

Do not connect the unit to AC power supply.

USAGE NOTE

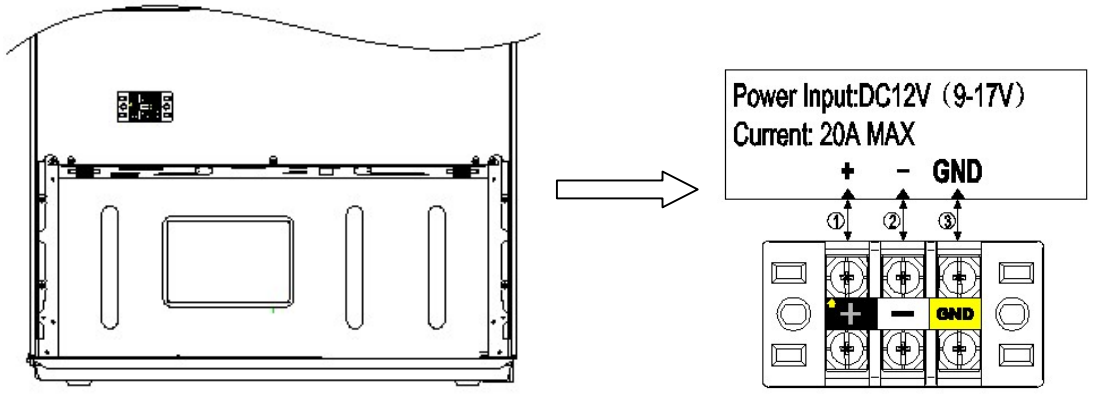
Do not remove the back panel during installation.

1. In order for normal use, the connection must be reliable. Besides the power source proper connection, the wire of the unit and outer wire must meet the following requirement:

| Wire size | The max length (Feet) |
|-----------|--|
| 14 AWG | 3.2 Feet |
| 13 AWG | 8 Feet |
| 12 AWG | 13 Feet |
| 10 AWG | 20 Feet |
| 8 AWG | 33 Feet |
| 6 AWG | 50 Feet |
| Remarks | 14 AWG wire is not recommended. 13 AWG wire or larger is recommended. |
| | This DC unit is not equipment with a power source. Please purchase a power source from an authorized dealer. |

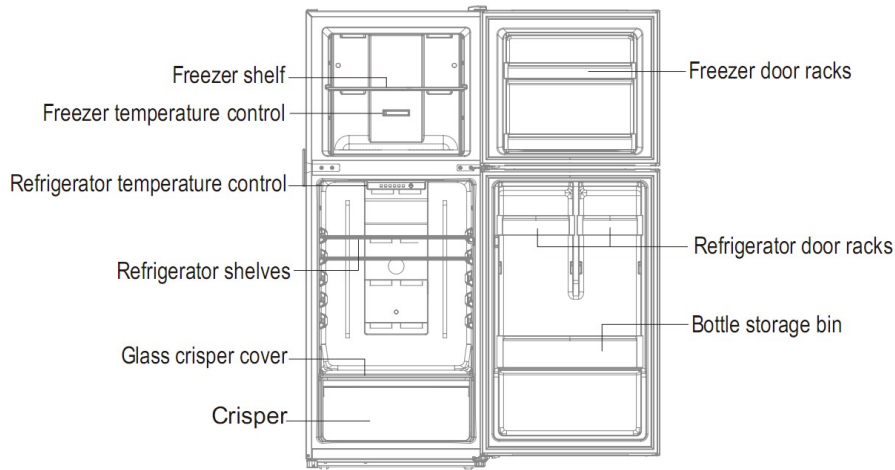
2. When using an adaptor or converter AC to DC, No DC power supply is recommended. The operation of the DC refrigerator is also dependent on a good, clean ground connections.
3. It is recommended that only authorized or qualified professionals perform repair services on unit.

WIRE CONNECTION DIAGRAM



1. Connect ① terminal with Positive pole of 12V DC.
2. Connect ② terminal with Negative pole of 12V DC.
3. If the unit is installed in an RV, the ③GND terminal should be connected directly to the RV CHASS.S.

Features and parts



Due to technological innovations, the product descriptions in this manual may not be completely consistent with your refrigerator. Detailed information is in accordance with the final product.

II. Preparations for use

Installation location:

1. Ventilation condition

The position you select for the refrigerator installation should be well-ventilated and has less hot air. Do not locate the unit near a heat source such as cooker, and avoid it from direct sunlight, thus guaranteeing the refrigerator effect while saving energy consumption. Do not locate the refrigerator in the damp place, so as to prevent it from rusting and leaking electricity. The result of the total space of the room in which the unit is installed being divided by the refrigerant charge amount of the unit shall not be less than 8 g/ M³.

Note: The amount of refrigerant charged for the unit can be found on the nameplate.

2. Heat dissipation space

When working, the unit gives off heat to surroundings. Therefore, at least 300mm of free space should be spared at the top side, more than 100mm on both sides, and above 50mm at the side of the refrigerator.

Dimensions in mm:

| W | D | H | A | B | C(°) | E | F |
|-----|-----|------|------|------|-------|----|-----|
| 604 | 671 | 1520 | 1003 | 1141 | 130±5 | 50 | 100 |

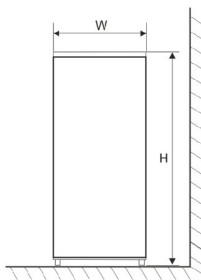


Fig. 1

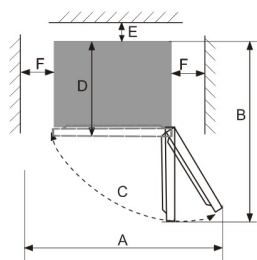


Fig. 2

Note: Figure 1, Figure 2 only illustrate the space demand of the product.

3. Level ground

Place the refrigerator on the solid and flat ground (floor) to keep it stable, or else, it will give rise to vibration and noise. When the refrigerator is placed on such flooring materials as carpet, straw mat, polyvinyl chloride, the solid backing plates should be applied underneath the unit, so as to prevent color change due to heat dissipation.



Unobstructed ventilation shall be maintained around the unit or in an embedded structure.

Preparations for use

1. Standing time

After the refrigerator is properly installed and well cleaned, do not switch it on immediately. Make sure to energize the refrigerator after more than 1 hour's standing, so as to ensure its normal operation.

2. Cleaning

Confirm the accessory parts inside the refrigerator and wipe the inside with a soft cloth.

3. Power-on

Connect the refrigerator power supply to the dedicated power supply battery in the RV, then the compressor starts working. After 1 hour, open the freezer door, if the compartment internal temperature drops significantly, it indicates the refrigeration system is working normally.

4. Storage of food

After the refrigerator runs for a period of time, the internal temperature of the refrigerator will be automatically controlled according to the user's temperature setting. After the refrigerator is fully cooled, put in foods, which usually need 2~3 hours to be fully cooled. In summer, when the temperature is high, it takes more than 4 hours for the foods to be fully cooled (Try to open the refrigerator door as less as possible before the internal temperature cools down).



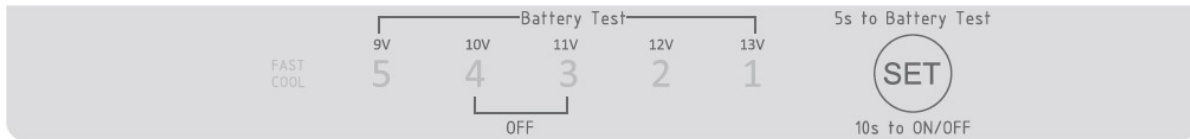
When used in an ambient temperature of higher than 50 °C, in order to guarantee the service life and function of the electronic components of the refrigerator, it may not get started at the first time or not be cooling.

III. Functions

When the refrigerator system is connected to the power supply for the first time, all icons on the display panel gets illuminated for 2s.

1. Functions

1.1 Temp. setting



“SET” is the key to set temperature mode. Every time when this key is pressed, the current indicator light will be off, with the next indicator light illuminated; and if no key operation within 5s, the temperature mode setup will be validated. Once the setting takes effect, the temperature will be controlled accordingly, with the corresponding indicator light normally ON. The temperature setting progresses through the following cycle: 3→2→1→FAST COOL→5→4→3.

1.2 Fast Cool

The “Fast Cool” function makes foods cool down quickly, so that the nutrition of foods will not be lost and tastes are kept fresh.

The longest running period (power-on time) for the ‘Fast Cool’ function is 30h, beyond which it will exit automatically, and the refrigerator restores to the temperature mode set before the ‘Fast Cool’ function is enabled.

1.3 Standby

1) After the standby function of the refrigerator is enabled, the mode indicator lights "4" and "3" will be flashing. When the refrigerator is at standby state, the lighting lamp will be off, with no cooling and defrosting action to be performed. Users can set this function when they are on holiday for a short time.

⚠ Before setting this function, be sure to take out all the items in the refrigerator!

2) To enable the “Standby” function:

- Press and hold down the ‘SET’ button for 10s.

3) To exit the “Standby” function:

- When the ‘standby’ function is active, press and hold down the ‘SET’ button for 10s.

1.4 Battery test

1) The Battery Test function can display the current input voltage value of the refrigerator, helping the user understand the current battery level.

2) Enable the "Battery Test" function:

- Press and hold down the “SET” button for more than 5 seconds (but within 10 seconds);

3) Exit the "Battery Test" function:

After the "Battery Test" function is activated, it will automatically get exited after displaying the battery level for 30s.

4) After the "Battery Test" function is enabled, the current input voltages of the refrigerator will be indicated as below:

| Voltage values | Indicators |
|----------------|--|
| <10V | "Fast Cool" and "5" ON |
| 10V - 11V | "Fast Cool", "5", and "4" ON |
| 11V - 12V | "Fast Cool", "5", "4", and "3" ON |
| 12V - 13V | "Fast Cool", "5", "4", "3", and "2" ON |
| ≥13V | "Fast Cool", "5", "4", "3", "2", and "1" ON. |

1.5 Door open alarm

If any door is open for more than 3 minutes, buzzer alarms will be continuously issued, which can be stopped when any key is pressed, but will be restored after 3 minutes if the door keeps open. The alarms will not be lifted until the door is closed.

1.6 Power cut memory

In case of power outage, the refrigerator will maintain the running state that is set before power failure after the power recovery.

1.7 Power-on delay

In order to protect the refrigerator compressor from being damaged in the case of short-time power failure (i.e., less than 5 minutes), the compressor will not be started immediately after it is powered on.

1.8 Overvoltage or undervoltage protection

In order to prevent damage to the refrigerator and the battery itself caused by abnormal or insufficient battery voltage, the refrigerator is designed with undervoltage and overvoltage protection function, so that the refrigerator will be compulsorily powered off or the compressor will be shut down for protection once this function is activated, with the corresponding alarm indicator ON. (See the following self-checking function table)

1.9 Maintenance function

1) The refrigerator is designed with the maintenance function. When the maintenance function is activated, you can control the startup of each refrigerator load through the button on the control panel, in order to assist in the diagnosis and maintenance of the refrigerator.

2) Entering the maintenance program:

When you press the Key1 button on the control panel to activate the maintenance function, the defrosting heater gets started by force, with the red indicator light on the control panel ON;

When you press the Key2 button on the control panel to activate the maintenance function, the compressor and fan get started by force, with the blue indicator light on the control panel ON.

3) Exiting the maintenance program:

When you press Key1 and Key2 on the control panel simultaneously for 3 seconds, the maintenance function gets disabled.

4) When the maintenance function is active, all the refrigerator indicators light up and keep flashing (i.e., On for 0.5s, and Off for 0.5s).

5) Do not keep this function working for a long time, because the heater or compressor may get damaged after running an extended period.

6) The maintenance function should only be used by authorized personnel.

1.10 Self-checking function

1) The refrigerator is designed with self-checking function. In case of sensor failure or compressor failure, the indicator will be flashing for alarm purpose.

2) Indicator alarm rules are as follows:

| S/N | Fault Display | Item Information |
|-----|--|--|
| 1 | Fridge sensor fault | Indicator light "5" keeps flashing; (On for 0.5s, and Off for 0.5s)) |
| 2 | Freezer defrosting sensor fault | Indicator light "3" keeps flashing; (On for 0.5s, and Off for 0.5s)) |
| 3 | Communication fault | Indicator light "2" keeps flashing; (On for 0.5s, and Off for 0.5s)) |
| 4 | Ambient temp. sensor fault | Indicator light "1" keeps flashing; (On for 0.5s, and Off for 0.5s)) |
| 5 | The compressor not working properly; (Insufficient battery level may also cause this fault.) | Indicator light "Fast Cool" keeps flashing; (On for 0.5s, and Off for 0.5s)) |

3) When the refrigerator indicator lights are flashing in the above manner, please contact for maintenance;

IV. Instructions for food storage

Precautions for use

- The appliance might not operate consistently (there is possibility of defrosting or temperature becoming too warm in the frozen food compartment) when sited for an extended period of time below the cold limit of the temperature range for which the refrigerating appliance is designed
- The information of climate type of the appliance is provided on the rating plate.
- The internal temperature could be affected by such factors as the location of refrigerating appliance, ambient temperature, and frequency of door open, etc., and if appropriate, a warning that setting of any temperature control device might have to be varied to allow for these factors should be made.
- Effervescent drinks should not be stored in the freezer compartment or the low-temperature compartment.

Food storage location

Due to the cold air circulation in the refrigerator, the temperature of each area in the refrigerator is different, so different kinds of food should be placed in different areas.

The fresh food compartment is suitable for the storage of such foods as need not to be frozen, the cooked food, beer, eggs, some condiments that need cold preservation, milk, fruit juice, etc. The crisper box is suitable for the preservation of vegetables, fruits, etc.

The freezer compartment is suitable for the storage of ice cream, frozen food and the foods to be preserved for a long time.

Use of the fresh food compartment

Set the temperature of the fresh food storage compartment between 2 °C ~ 8 °C, and store the foods that are intended for short-term storage, or to be eaten at any time in the fresh food compartment.

Fridge shelf: When removing the shelf, lift it up first, and then pull it out; and when installing the shelf, place it into position before putting it down. Keep the shelf rear flange upward, to prevent foods from contact the liner wall. When taking out or putting in the shelf, hold it firmly, and handle with care to avoid damage.

Crisper box: Pull out the crisper box for access to food. After using or cleaning the cover plate of the crisper box, be sure to put it back onto the crisper, so that the internal temperature of the crisper box will not be affected.

Cautions for food storage

You'd better clean the foods and wipe them dry before storing them inside the refrigerator. Before foods are put in the refrigerator, it is advisable to seal them up, so as to prevent water evaporation to keep fresh fruits and vegetables on one hand, and prevent taint of odor on the other hand.

Do not over pack the refrigerator compartment. Keep enough space between foods; if too close, the cold air flow will be blocked, thus affecting the refrigeration effect. Do not store excessive or overweight foods, to avoid the shelf from being crushed. When storing the foods, keep a distance away from the inner wall; and do not place the water-rich foods too close to the fridge rear wall, lest they get frozen on the inner wall.

Categorized storage of foods: Foods should be stored by category, with the foods you eat every day placed in front of the shelf, so that the door open duration can be shortened and food spoilage due to expiration can be avoided.

Energy-saving tips: Allow hot food to cool down to room temperature before putting it in the refrigerator. Put the frozen food in the fresh food compartment to thaw, using the low temperature of the frozen food to cool the fresh food, thus saving energy.

Storage of fruits and vegetables

In the case of refrigerating appliances with chill compartment, a statement to the effect that some types of fresh vegetables and fruits are sensitive to cold and therefore are not suitable for storage in this kind of compartment should be made.

Use of the frozen food storage compartment

The freezer temperature is controlled below -18 °C, and it is advisable to store the food for long-term preservation in the

freezer compartment, but the storage duration indicated on the food packaging should be adhered to. The freezer drawers are used to store food that needs to be frozen. Fish and meat of large block size should be cut into small pieces and packed into fresh-keeping bags before they are evenly distributed inside the freezer drawers.

Energy saving tips

- Let hot foods cool to room temperature before placing in the refrigerator.
- Be sure to wrap foods properly, and wipe container dry before placing them in the refrigerator. This cuts down on frost build-up inside the refrigerator.
- Organize and label food to reduce door openings and extended searches.

Tips for shopping the frozen foods

1. When you are buying frozen food, look at the Storage Guidelines on the packaging. You will be able to store each item of frozen food for the period shown against the star rating. This is usually the period stated as "Best to use them before*", found on the front of the packaging.
2. Check the temperature of the frozen food cabinet in the shop where you buy the frozen foods.
3. Make sure the frozen food package is in perfect condition.
4. Always buy frozen products last on your shopping trip or visit to the supermarket.
5. Try to keep frozen food together whilst shopping and on the journey home, as this will help to keep the food cooler.
6. Don't buy frozen food unless you can freeze it straight away. Special insulated bags can be bought from most supermarkets and hardware shops. These keep the frozen foods cold longer.
7. For some foods, thawing before cooking is unnecessary. Vegetables and pasta can be added directly to boiling water or steam cooked. Frozen sauces and soups can be put into a saucepan and heated gently until thawed.
8. Use quality food and handle it as little as possible. When foods are frozen in small quantities, it will take less than for them to freeze up and thaw.
9. Estimate the amount of foods to be frozen up. When freezing large amounts of fresh food, adjust the temperature control knob to the low mode, with the freezer temperature lowered. So, foods can be frozen up in fast manner, with the food freshness well kept.

V. Tips for special needs

Moving the refrigerator/freezer

•Location

Do not place your refrigerator/freezer near a heat source, e.g. cooker, boiler or radiator. Avoid it from direct sunlight in out-buildings or sun lounges.

•Leveling

Make sure to level your refrigerator/freezer using the front leveling feet. If not level, the refrigerator/freezer door gasket sealing performance will be affected, or even it may lead to the operating failure of your refrigerator/freezer.

After locating the refrigerator/freezer in position, wait for 4 hours before using it, so as to allow the refrigerant to settle.

•Installation

Do not cover or block the vents or grilles of your appliance.

When you are not in the RV for a long time

- If the appliance will not be used for several months, turn it off first, and then **disconnected the power source**.
- Take out all foods.
- Clean and dry the interior thoroughly. To prevent odor and mold growth, leave the door ajar: block it open or have the door removed if necessary.
- Keep the cleaned appliance in a dry, ventilated place and away from the heat source, place the appliance smoothly, and do not place heavy objects on top of it.
- The unit should not be accessible to child's play.

VI. Maintenance and cleaning



When cleaning, Do not stretch your hands into the bottom of the refrigerator, since you might be scratched by sharp metal corners.

Internal cleaning and external cleaning

The food residuals in the refrigerator are liable to produce bad odor, so the refrigerator must be cleaned regularly. The fresh food compartment is usually cleaned once a month.

Remove all shelves, crisper box, bottle racks, cover board, and drawers etc., and clean them with a soft towel or sponge dipped in warm water or neutral detergent.

Clear off the dusts accumulated on the rear panel and side plates of the refrigerator often.

After using detergent, be sure to rinse it with clean water, and then wipe it dry.



Do not use bristle brush, steel wire brush, detergent, soap powder, alkaline detergent, benzene, gasoline, acid, hot water and other corrosive or soluble items to cleanse the cabinet surface, door gasket, plastic decorative parts, etc., so as to avoid damage.

Carefully wipe dry the door gasket, clean the groove. After the cleaning, fix the four corners of the door gasket first, and then embed it segment by segment into the door groove.

Interruption of power supply or failure of the refrigerating system

- Take care of the frozen foods in the event of an extended non-running of the refrigerating appliance (such as interruption

of power supply or failure of the refrigerating system).

- Try to open the refrigerator door as least as possible, this way food can safely and freshly be kept for hours even in hot summer.
- If you get the power outage notice in advance:
 - 1) Adjust the thermostat knob to the high mode an hour in advance, so that foods get fully frozen (Do not store new food during this time!). Restore the temperature mode to the original setting when power supply becomes normal in a timely manner.
 - 2) You can also make ice with a watertight container, and put it in the upper part of the freezer, so as to extend the time for fresh food to be stored.

Defrosting

This appliance is designed with automatic defrosting function, thus no need to defrost it manually.

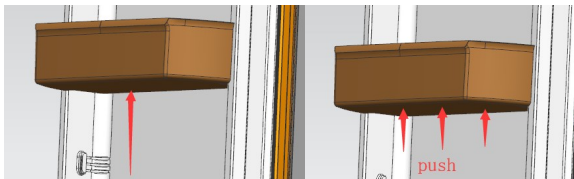
Changing the lamp

The LED lamp is used by the refrigerator for lighting, which features low energy consumption and long service life. In case of any abnormality, please contact the after-sales personnel service.

How to disassemble the parts.

Fridge door bottle rack:

Hold the bottle rack with both hands, and then push it up.



Fridge shelf:

Hold one end of the shelf, and lift it up while pulling it outwards.

VII. Simple fault analysis and elimination

You can solve many common refrigerator problems easily, saving you the cost of a possible service call. Try the suggestions below to see if you can solve the problem before calling for service.

| Case | Inspection | Solutions |
|---|--|---|
| ·Completely non-refrigeration | <ul style="list-style-type: none"> • Power source connected is OK? • Are breakers and fuses broken? <ul style="list-style-type: none"> • No electricity or line trip? | <ul style="list-style-type: none"> • Refer to the wiring diagram, check the power wiring connection. • Opening the door and checking whether the lamp is lit. • Check fuse |
| ·Abnormal noise | <ul style="list-style-type: none"> • Is refrigerator stable? • Does refrigerator contact the wall? | <ul style="list-style-type: none"> • Adjusting refrigerator's leveling feet. • Off the wall. |
| ·Poor refrigerating efficiency | <ul style="list-style-type: none"> • Do you put hot food or too much food? • Do you open the door frequently? • Do you clip food bag to the door gasket? • Direct sunlight or near a furnace or stove? • Is it well-ventilated? • Temperature setting in too high? | <ul style="list-style-type: none"> • Putting food into refrigerator when hot food becomes cool. • Checking and closing the door. • Removing the refrigerator from the heat source. • Emptying the distance to maintain good ventilation. . • Setting to the appropriate temperature. |
| ·Peculiar smell in refrigerator | <ul style="list-style-type: none"> • Any spoiled food? • Do you need to clean refrigerator? • Have you packed food of strong flavors? | <ul style="list-style-type: none"> • Throwing away spoiled food. • Cleaning refrigerator. • Packing food of strong flavors. |
| Fridge light Out; | Is there a door open alarm? Has the door been open for more than 10 minutes? | If there is a door open alarm, close the door, and open it again after 5s, observing whether the fridge LED light turns on. |
| Refrigerator not cooling; | Are indicator lights "4" and "3" flashing? Is the 'standby' function activated? | Press the corresponding key to exit the 'Standby' function. |
| Compressor fault with "Fast Cool" indicator light flashing; | Does the battery have sufficient electricity? | 1) Enter the Battery Test program to observe whether the battery level is less than 10V (if the battery power ever falls below 9V, it may lead to the compressor undervoltage protection), and charge or replace the battery if necessary. 2) If the battery level is high (above 11V), or the battery with sufficient power has been replaced, wait for 5 minutes to observe whether it can return to normal; if not, please contact the after-sales personnel for service. |



Note: If the above descriptions are inapplicable to troubleshooting, do not disassemble and repair it yourself. Repairs carried out by inexperienced persons may cause injury or serious malfunctioning. Contact the local store where your purchase was made. This product should be serviced by an authorized engineer and only genuine spare parts should be used.

When the refrigerator is not in use for long periods, disconnect from the electricity supply, empty all foods and clean it, leaving the door ajar to prevent unpleasant smells.