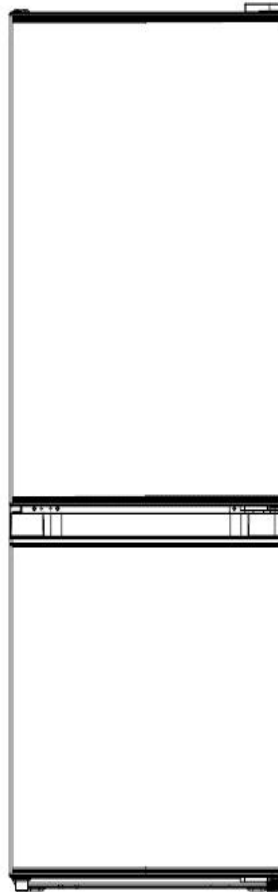


Service Manual

BMF SERIES

| Applicable Models | Model Code | Applicable Models |
|-------------------|----------------|-------------------|
| HD-220RN | CE-BCD169CM-JQ | 22031020009741 |
| | | |




The picture in this service manual is only for reference, and specific appearance and configuration are subject to the real product.

This manual mainly teaches the method, the specific work skill needs engineer to accumulate through the daily work.

 **WARNING**

Important Safety Notice

There are special components used in this equipment which are important for safety. These parts are marked by  in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

 **WARNING**

Important Safety Notice

The Maintenance Manual is only for the use of maintenance personnel with certain experience and background in electrical, electronic and mechanical field.

Any attempt to repair main devices may lead to personal injury and property loss.

Manufacturers or distributors are not responsible for the content of the Manual and interpretation thereof.



Contents





| | |
|---|-----------|
| 1. SIGNIFICANT UPDATE NOTES (NONE) | 5 |
| 2. SAFETY WARNING CODE | 6 |
| 2.1 WARNING FOR OPERATION SAFETY | 6 |
| 2.2 SAFETY INSTRUCTION FOR REFRIGERANT | 8 |
| 3. TRANSPORT | 9 |
| 3.1 HANDLING | 9 |
| 4. INSTALLATION AND COMMISSIONING | 10 |
| 4.1 DOOR DISASSEMBLY AND ASSEMBLY | 10 |
| 4.2 INSTALLATION LOCATION | 10 |
| 4.3 LEVELING OF THE REFRIGERATOR | 10 |
| 4.4 LEFT OR RIGHT OPEN DOOR REVERSAL | 11 |
| 5. PRODUCT CONFIGURATION AND DIMENSION | 13 |
| 5.1 MAIN PARTS AND THEIR NAMES | 13 |
| 5.2 EXTERNAL DIMENSION | 14 |
| 5.3 LOCATION OF S/N | 15 |
| 6. PRODUCT SPECIFICATION | 16 |
| 6.1 ELECTRICAL PARAMETERS | 16 |
| 6.2 COOLING TEMPERATURE SETTING RANGE | 17 |
| 6.3 CIRCUIT DIAGRAM | 17 |
| | |
| 8. DISMANTLING OF PARTS | 19 |
| 8.1 PARTS ON THE DOOR | 19 |
| 8.2 PARTS INSIDE THE REFRIGERATOR | 19 |

1. Significant update notes (None)

2. Safety Warning Code

2.1 Warning for operation safety

Important Safety Instructions

| | | |
|---|--|---|
|  | CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN |  |
|  | This symbol indicates that dangerous voltage constituting a risk of electric shock is present within your freezer. | |
|  | This symbol indicates that there are important operating and maintenance instructions in the literature accompanying your freezer. | |

WARNING

- 1) Read these instructions.
- 2) Keep these instructions.
- 3) Heed all warnings.
- 4) Follow all instructions.
- 5) Do not use this appliance near water.
- 6) Clean only with a damp cloth.
- 7) Do not block any ventilation openings.
- 8) Install in accordance with the manufacturer's instructions.
- 9) Do not install near any heat sources, such as radiators, heat registers, stoves, or other apparatus that produce heat.
- 10) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 11) Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the appliance.
- 12) Do not attempt to modify or extend the power cord of this appliance.
- 13) Unplug this appliance during lightning storms or when it will not be used for long periods of time.
- 14) Make sure that the available AC power matches the voltage requirements of this appliance.

CONNECTING ELECTRICITY



WARNING

Electrical Shock Hazard.

Plug into a grounded 3-prong outlet.
Do not remove the ground prong.
Do not use an adapter.

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



WARNING

Electric Shock Hazard

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

- 1) **WARNING**—Keep ventilation openings, in both the freezer and the built-in structure, clear of obstruction.
- 2) **WARNING**—Do not touch the interior of the freezer with wet hands. This could result in frost bite.
- 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 the freezer.
- 6) **WARNING—DANGER**—Never allow children to play with, operate, or crawl inside the freezer. Risk of child entrapment. Before you throw away your old freezer:
 - 6-1) Take off the doors
 - 6-2) Leave the shelves in place so that children may not easily climb inside
- 7) Unplug the freezer before carrying out user maintenance on it.
- 8) This freezer can be used by children age eight years and older and persons with reduced physical or mental capabilities or lack of experience and knowledge if they are given supervision or instruction concerning the use of the freezer in a safe way and understand the hazards involved. Children should not play with the freezer. Cleaning and maintenance should not be performed by children without supervision.
- 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) Please dispose of the freezer according to local regulations as the freezer contains flammable gas and refrigerant.
- 11) Follow local regulations regarding disposal of the freezer 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.
- 12) This freezer is intended to be used in household and similar environments.

13) Do not store or use gasoline or any flammable liquids inside or in the vicinity of this freezer.

14) Do not use extension cords or ungrounded (two-prong) adapters with this freezer. If the power cord is too short, have a qualified electrician install an outlet near the freezer. Use of an extension cord can negatively affect the freezer's performance.

Grounding requirement

This freezer must be grounded. This freezer is equipped with a cord having a grounding wire with a grounding plug. The plug must be inserted into an outlet that is properly installed and grounded.

Improper use of the grounding plug can result in a risk of electric shock. Consult a qualified electrician or service person if the grounding instructions are not completely understood, or if doubt exists as to whether the freezer is properly grounded.

2.2 Safety instruction for refrigerant

 **WARNING**



Explosion Hazard.

Keep flammable materials and vapors, such as gasoline, away from freezer. Failure to do so can result in fire, explosion, or death.



Safety instruction for refrigerant

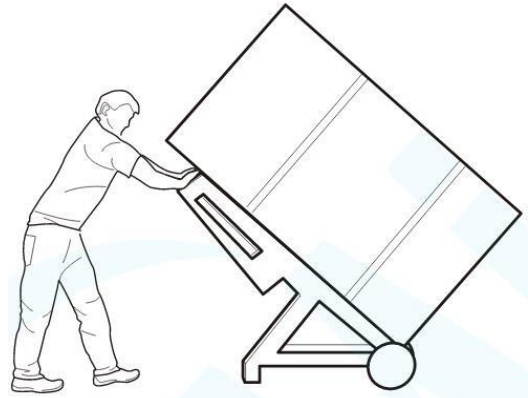
DANGER–Risk of Fire or Explosion. Flammable Refrigerant Used. To Be Repaired Only By Trained Service Personnel. Do Not Use Mechanical Devices. Do Not Puncture Refrigerant Tubing. CAUTION–Risk of Fire or Explosion. Flammable Refrigerant Used. Consult Repair Manual/Owner's Guide Before Attempting To Service This Product. All Safety Precautions Must be Followed. CAUTION–Risk of Fire or Explosion. Dispose of Properly In Accordance With Federal Or Local Regulations. Flammable Refrigerant Used. CAUTION–Risk of Fire or Explosion Due To Puncture Of Refrigerant Tubing; Follow Handling Instructions Carefully. Flammable Refrigerant Used.

3. Transport

3.1 Handling

Handling

- 1)Protect the refrigerator in moving it, Same as shown as right photo, please move it by handcart with cushion
- 2)Remove all packing materials and bottom cushion, then move into house for placement
- 3)After moving it to appropriate location, wait for 2 hours before power on.



4. Installation and commissioning

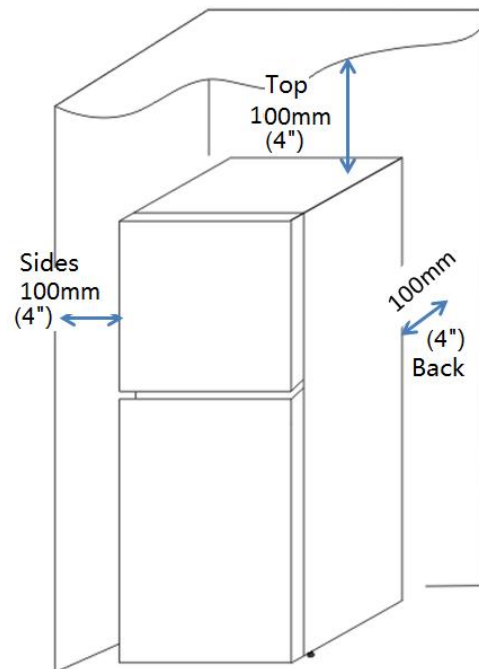
4.1 Door Disassembly and Assembly

The refrigerator door needs to be dismantled if it cannot enter the room in the whole.

4.2 Installation location

Installation location

Location that is easy for ventilation shall be chosen to facilitate heat dissipation, enhance its performance and reduce the energy consumption.

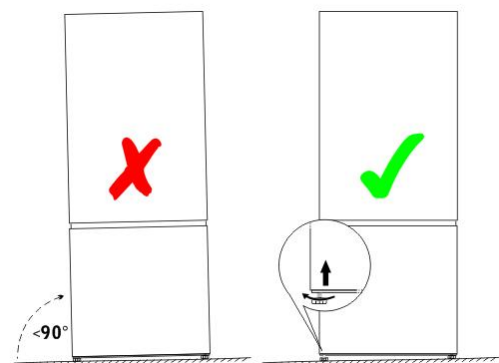


(The picture is only for reference)

4.3 Leveling of the refrigerator

Leveling of the refrigerator

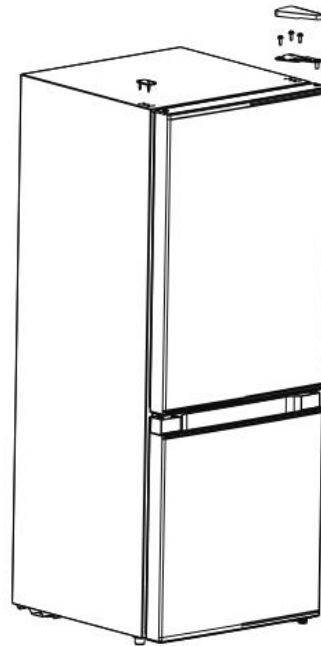
If the refrigerator cannot be placed steadily, adjust the footing to level it.



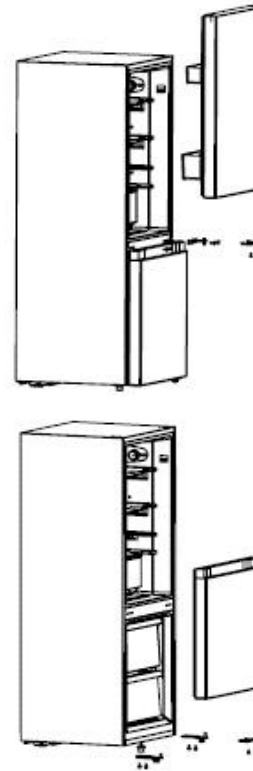
4.4 Left or right open door reversal

Door Right-Left Change

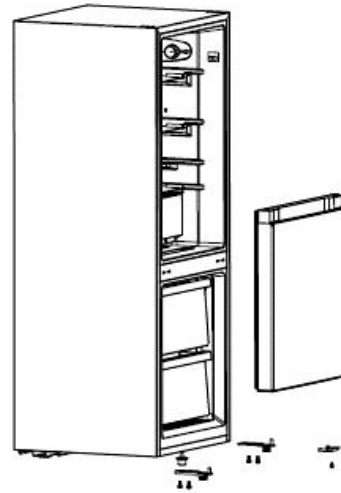
- 1) Power off the refrigerator, and remove all objects from the door trays.
- 2) Remove the hinge cover, then remove the upper hinge screws, upper hinge and hole cap on the other side.



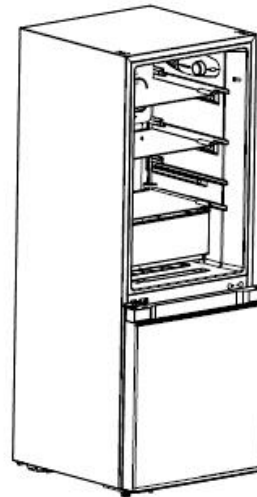
- 3) Remove the refrigerating door, the middle hinge, the screw hole caps. Remove the screws and limit blocks fixed on the lower end cover of refrigeration.
- 4) Remove the freezer door, remove the bottom hinge and adjustable foot of the other side..



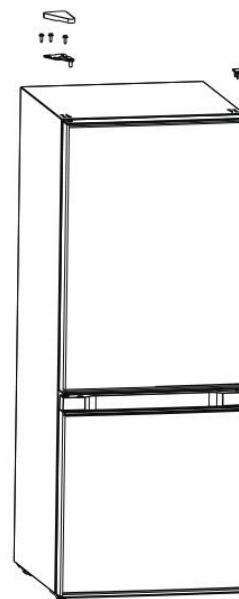
5) Install the adjusting foot to the right side, take out 2 limit blocks from the plastic bag in the instruction manual and fix them to the left side of the lower end cover respectively with screws, and freeze the left side of the lower end cover, remove the other side of the lower hinge from the instruction bag and install it on the left side.



6) Place the freezer door from top to bottom, take out the gasket from the plastic bag in the instructions and put it into the axle hole on the left side of the freezer door, as shown in the picture. Fix the center hinge with screws and install the studs.



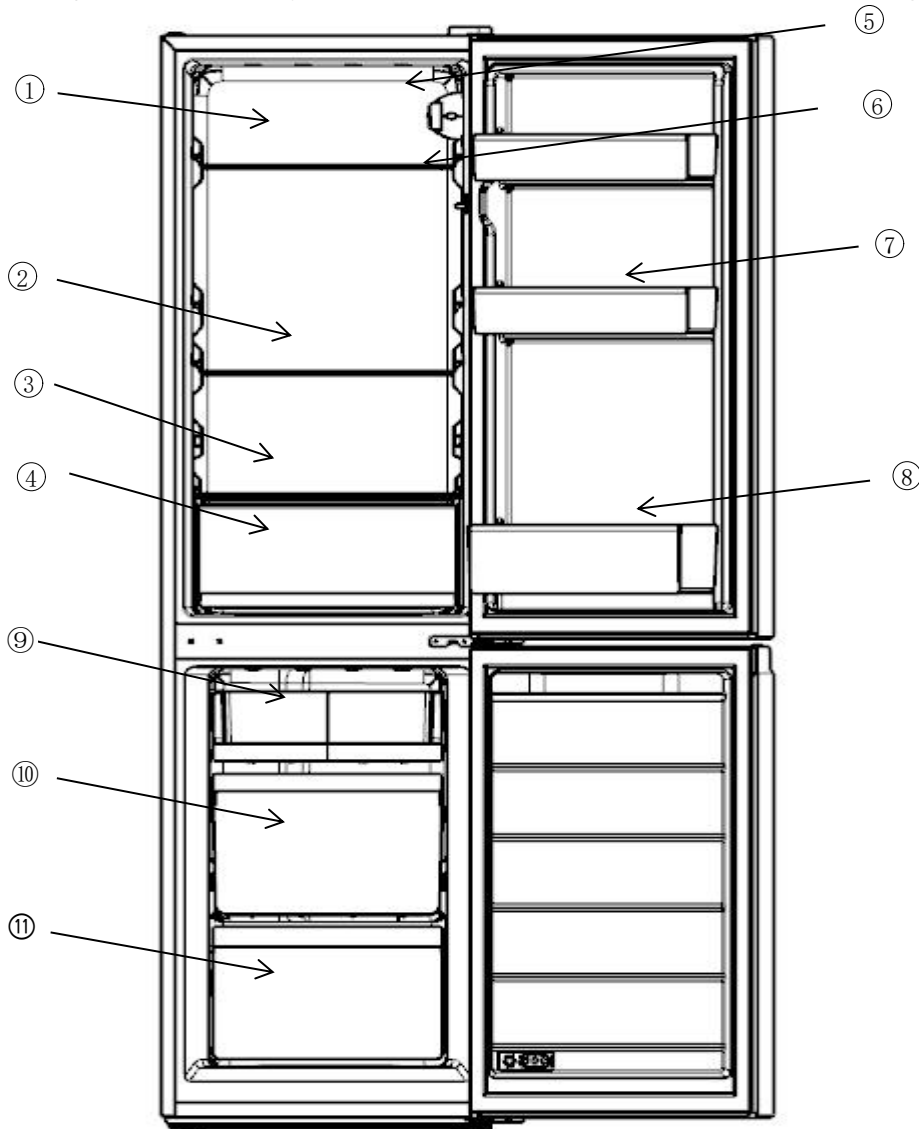
7) Put the refrigerating door on the middle hinge , assemble the upper hinge on the other side ,fix the hinge cover on the upper hinge and fix hole cap on the other side.



5. Product configuration and dimension

5.1 Main parts and their names

(The picture is only for reference, and specific appearance and configuration are subject to the

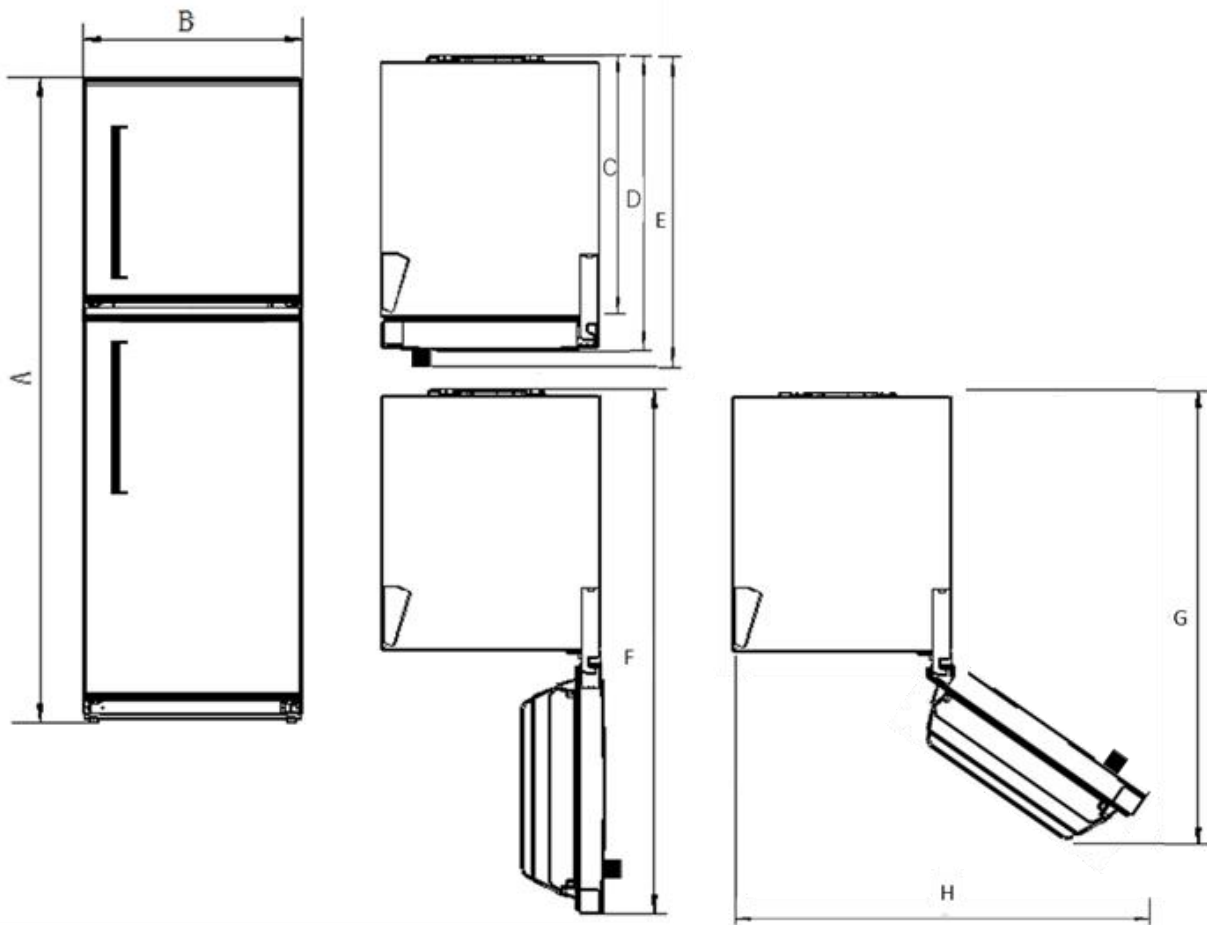


real product)

| Refrigerator chamber | Freezer chamber |
|---|---|
| 1. Shelf 2. Shelf 3. Shelf 4. Fruits and vegetables box 5. Temperature-control 6. LED Switch | 7. Door tray 8. Door tray 9. Freezer tray 10. Freezer drawer 11. Drawer panel |

5.2 External dimension

| Description | Code | Size (mm) |
|------------------------------|------|-----------|
| Height to Top of Case | A | 1500 |
| Width | B | 470 |
| Depth w/Cabinet | C | 445 |
| Depth w/Door | D | 511 |
| Depth w/Handle | E | 511 |
| Depth (Door open 90 deg. w) | F | 937 |
| Depth (Door open 150 deg. w) | G | 794 |
| Width (Door open 150 deg. w) | H | 865 |

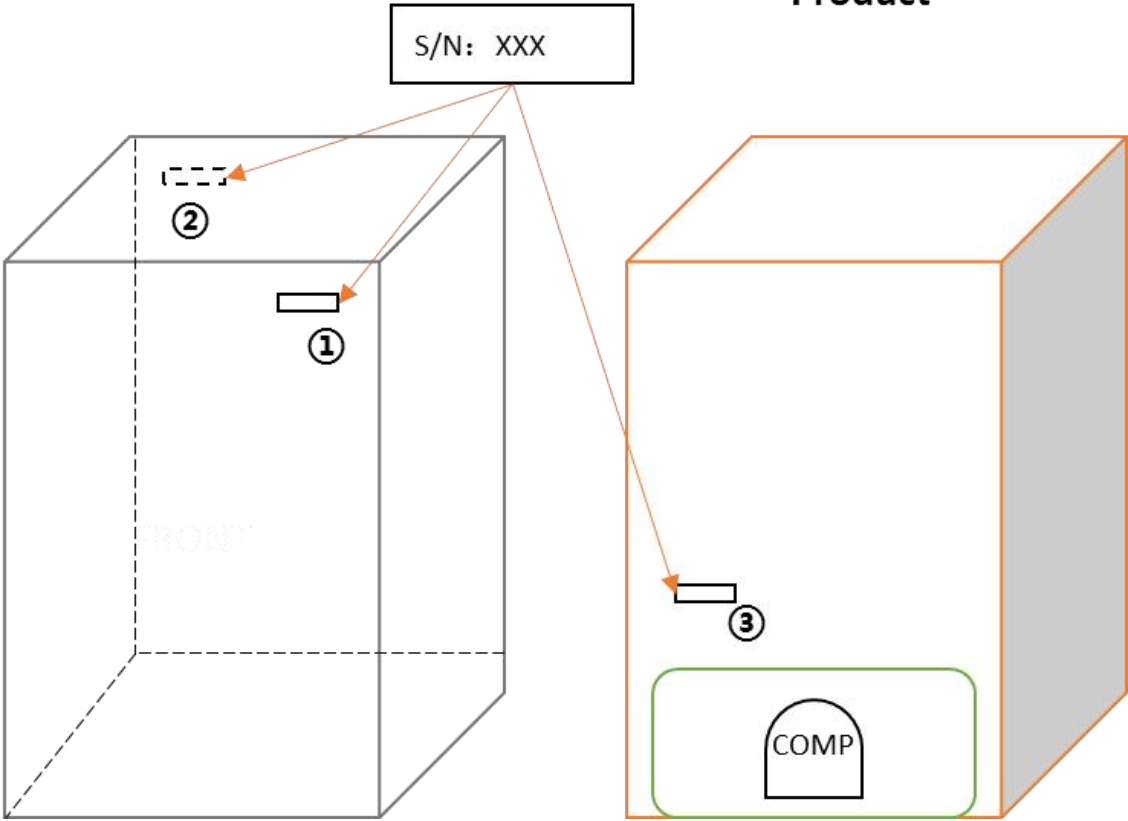


(The picture is only for reference)

5.3 Location of S/N

Carton Box

Product

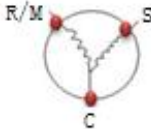


Some

products also have S/N on the lower part of the right side of the Cabinet.

6. Product specification

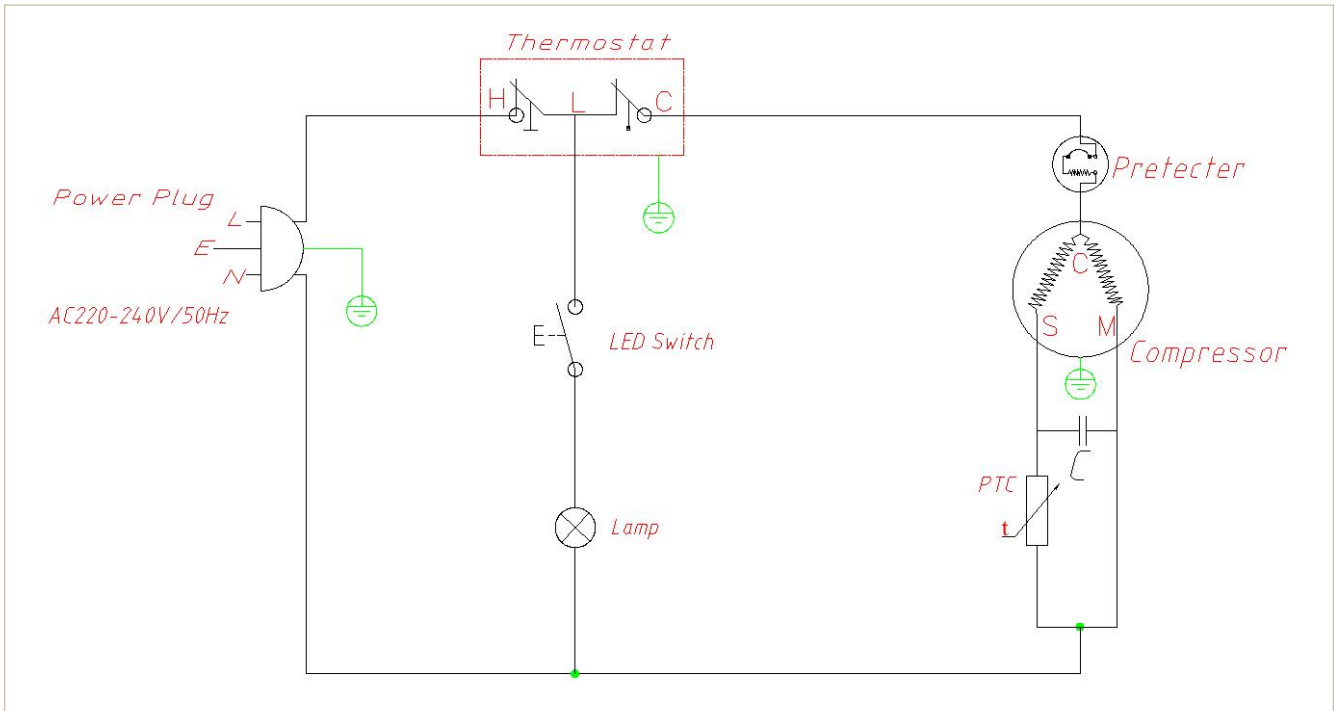
6.1 Electrical parameters

| | |
|---|--|
| Product Name | CE-BCD169CM-JQ |
| Applicable Models | HD-220RN |
| Item | Specification |
| Refrigerant | R600a |
| Compressor | PZ65H1Z |
| Starter(PTC) | TY-QZ-003/QPE2-A15MD3 |
| Overload protector(OLP) | 3TM117TF2/DRB12T61A1 |
| Integrate PTC+OLP | None |
| Variable frequency driver board | None |
| Capacitor | None |
| Power filter | None |
| Winding resistance of compressor wiring terminal | Rmc: 34.06±7%Ω Rsc: 34.07±7%Ω Rms=Rmc+Rsc |
| Winding resistance picture |  |
| The input power of compressor | 66.3W |
| Motor | None |
| Fan motor of the freezing chamber | None |
| Fan motor of the refrigerating chamber | None |
| Ventilation door of the refrigerating chamber | None |
| Condensation fan | None |
| separation the ice motor | None |
| ice output motor | None |
| Open door motor | None |
| Lights inside the refrigerator | |
| Lights inside the freezing chamber | None |
| Lights inside the refrigerating chamber | LED 230V/2W |
| Lights inside the variable chamber or others | None |
| Switch of the refrigerator door | <input checked="" type="checkbox"/> Mechanical switch <input type="checkbox"/> Magnetism control switch |

6.2 Cooling temperature setting range

| Compartment | The highest (°C) | Lowest (°C) |
|----------------------|------------------|-------------|
| Freezing | -12 | -24 |
| Refrigerating | 10 | 1 |
| Variable temperature | / | / |

6.3 Circuit diagram



8. Dismantling of parts

8.1 Parts on the door

Door seal

Door seal is installed into door liner groove.

- 1) Open the refrigerator door.
- 2) Take the door seal out of door liner.



Door tray

While squeezing it inward, lift up the door tray and take it out from door liner.



8.2 Parts inside the refrigerator

Refrigerator Fruit box cover

Remove the crisper cover of ref. compartement according to below steps:

- 1) Take out the crisper firstly.
- 2) Lift up the Fruit box cover, and then pull out it.



Shelves

- 1) Pull out the partition plate.
- 2) Lift it up and take it out from the refrigerator.



Freezer Drawer

Lift it up and take it out from the refrigerator.



Drawer panel

- 1) Pull out the Drawer panel.
- 2) Remove the drawer panel fixing card and remove the drawer panel.

