			重 要 度	

		产 品 名称:	冷藏冷冻箱
		产 品 型号:	BCD-740WPCZR/HC1(H) 型号包括原手册中已有型号和维修手册整合计划中的型号 每次更改需要增加型号
		文 件 名称:	售后服务技术资料
		文 件 编号:	**BSSJ0000**
		编 制 日期:	**2020 年 11 月 11 日**
借(通)用件登记			

						冰箱开发中心
旧底图总号						
底图总号	A					售后服务技术资料
	版本	更改单编号	签字	日期	重 量	比例
出图审查	设计		审核			
	标准化				共 张	第 张
日 期	批准					**BSSJ0000**

Hisense

Refrigerator

Service Manual

Model:BCD-740WPCZR/HC1(H)

Hisense Refrigerator

Contents

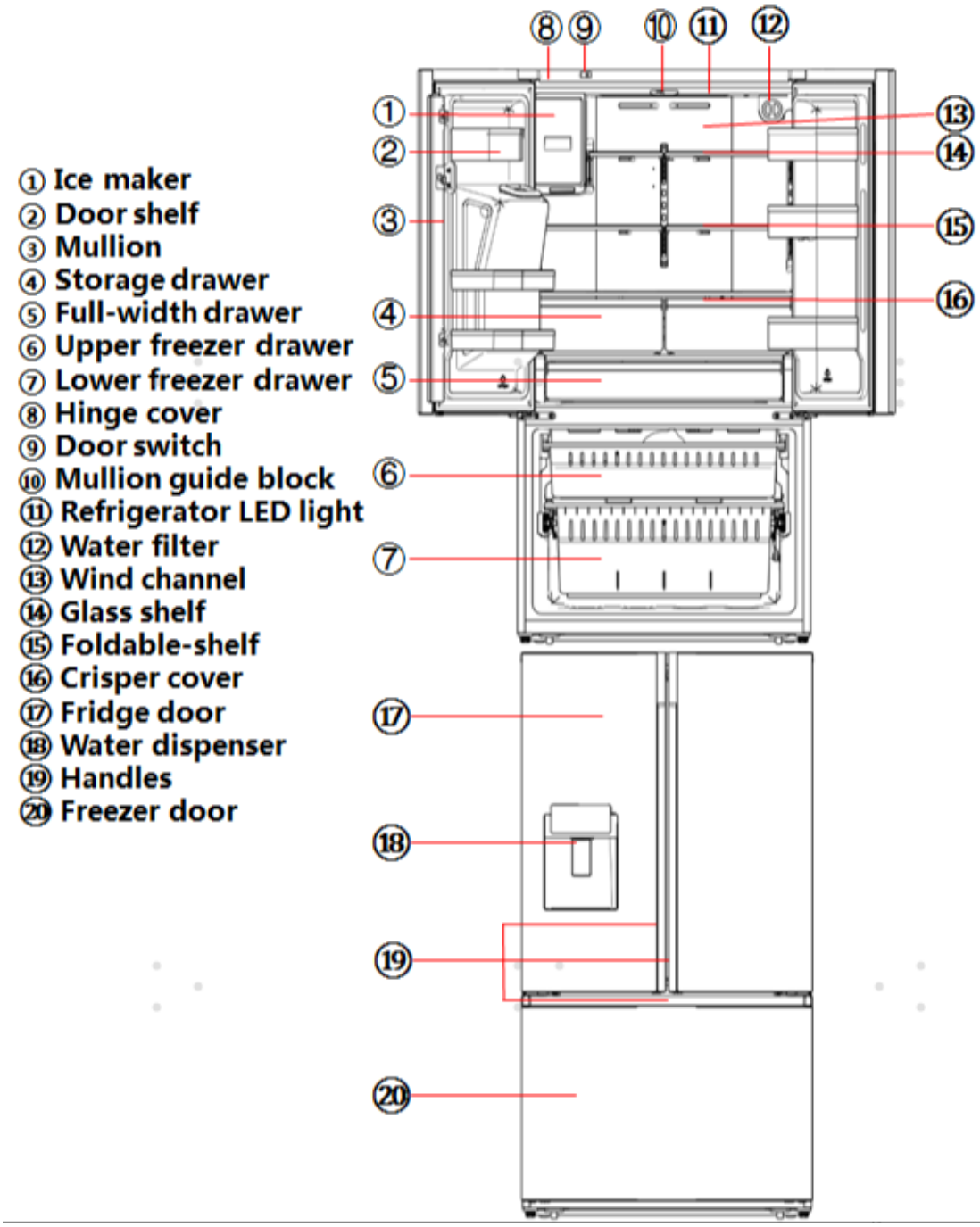
1. Warning and precautions for safety

Please observe the following safety precautions in order to use safely and correctly the refrigerator and to prevent accident and danger during repair.

1. Be care of an electric shock. Disconnect power cord from wall outlet and wait for more than three minutes before replacing PCB parts. Shutoff the power whenever replacing and repairing electric components.
2. When connecting power cord, please wait for more than five minutes after power cord was disconnected from the wall outlet.
3. Please check if the power plug is pressed down by the refrigerator against the wall. If the power plug was damaged, it may cause fire or electric shock.
4. If the wall outlet is over loaded, it may cause fire. Please use its own individual electrical outlet for the refrigerator.
5. Please make sure the outlet is properly earthed, particularly in wet or damp area.
6. Use standard electrical components when replacing them.
7. Make sure the hook is correctly engaged. Remove dust and foreign materials from the housing and connecting parts.
8. Do not fray, damage, machine, heavily bend, pull out or twist the power cord.
9. Please check the evidence of moisture intrusion in the electrical components. Replace the parts or mask it with insulation tapes if moisture intrusion was confirmed.
10. Do not let the customers repair, disassemble and reconstruct the refrigerator for themselves. It may cause accident, electric shock, or fire.
11. Do not store flammable materials such as ether, benzene, alcohol, chemicals, gas, or medicine in the refrigerator.
12. Do not put flower vase, cup, cosmetics, chemicals, etc., or container with full of water on the top of the refrigerator.
13. Do not put glass bottles with full of water into the freezer. The contents shall freeze and break the glass bottles.
14. When you scrap the refrigerator, please disconnect the door gasket first and scrap it.

2. Appearance and structure

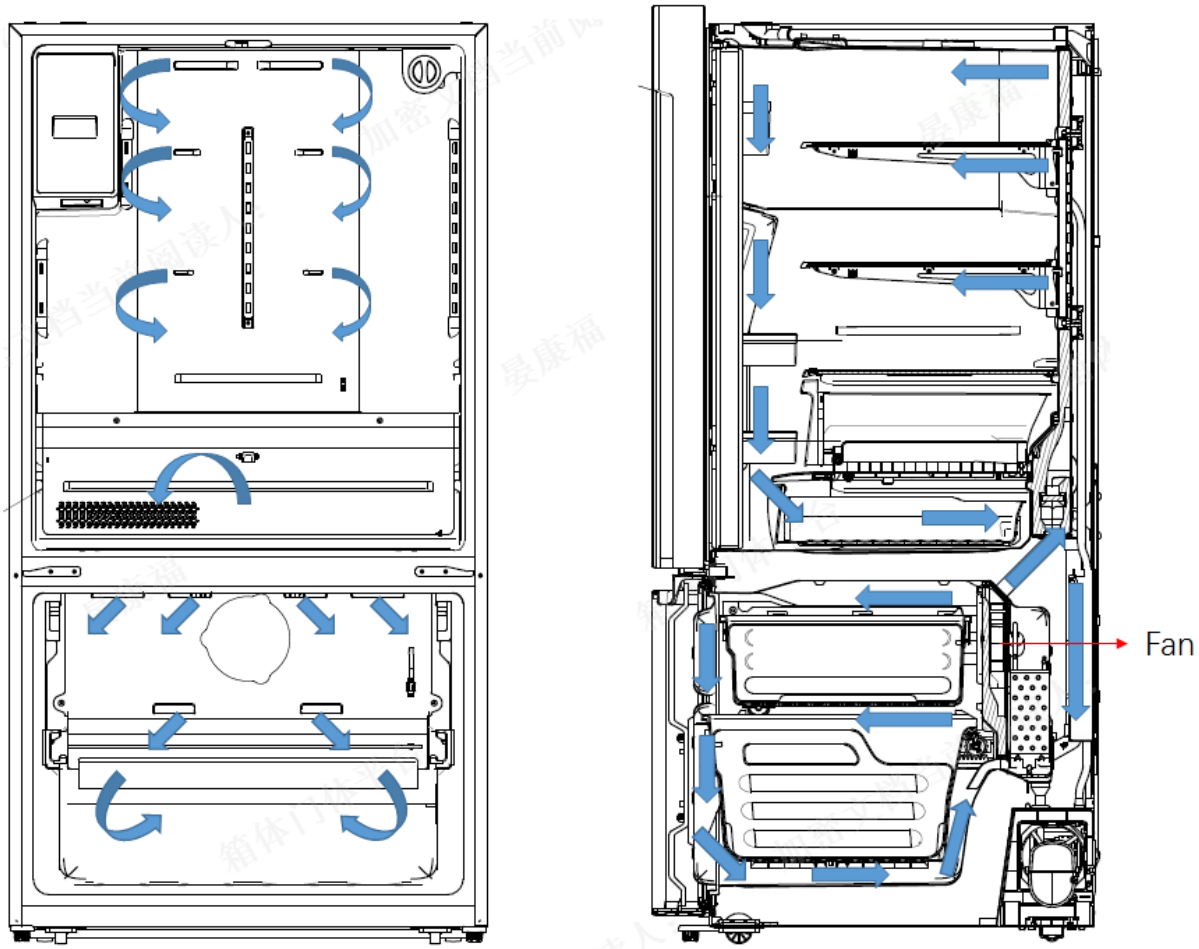
2.1 View of the appliance



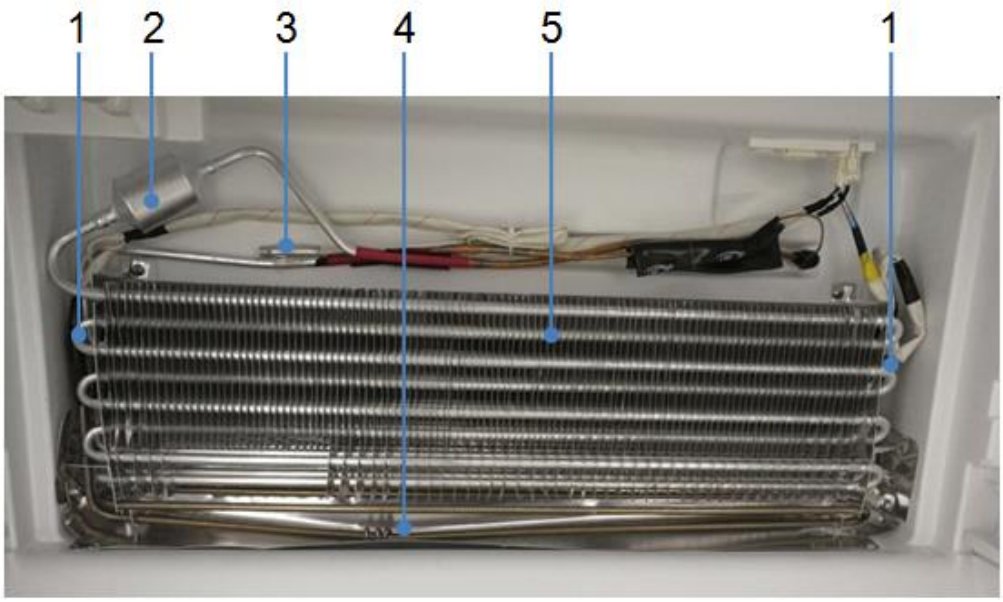
Note!

- Due to unceasing modification of our products, your refrigerator may be slightly different from this instruction manual, but its functions and using methods remain the same.
- To get the best energy efficiency of this product, please place all shelves, drawers and baskets on their original position as the illustration above.

2.2 Wind channel structure

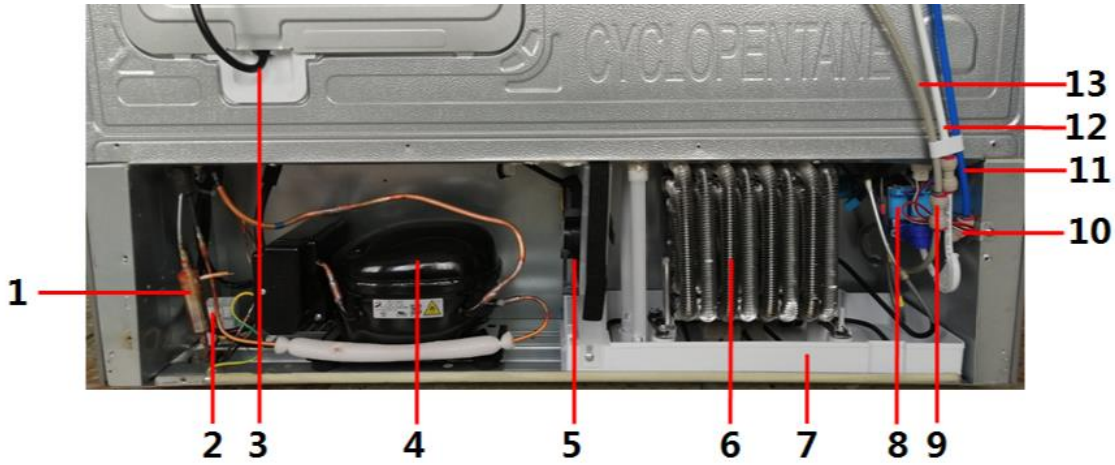


2.3 Evaporator structure



1—Fuse
2—Accumulator
3—Sensor
4—Heater
5—Evaporator

2.4 Compressor room structure



1—Dry filter
2—Motorized valve
3—Power cord
4—Compressor
5—Fan Motor
6—Bottom condenser
7—Evaporation dish
8—Motorized valve
9—Connector(180°)
10—Connector(90°)
11—Water tube (blue, flow to the icemaker in fridge room)
12—Water tube (white, flow to the dispenser on fridge door)
13—Water tube (grey, connect with the water filter)

3. Basic parameters

SPECIFICATIONS	
DESIGN PRESSURE	
HIGH SIDE / LOW SIDE	250 psig / 88 psig
REFRIGERANT / AMOUNT	R600a (62g)
VOLUME (Refrigerator / Freezer)	25.4 (17.6 / 7.8) cu.ft
RATED VOLTAGE	AC115V
RATED FREQUENCY	60Hz
RATED CURRENT	3.0A
DEFROST POWER	220W
FOAMING AGENT	Cyclopentane
NET WEIGHT	131kg
GROSS WEIGHT	142kg
W×D×H (with hinges)	91.4×85.4×177.8cm
W×D×H (without hinges)	91.4×85.4×177.8cm

4. Operation and functions

4.1 Display controls

Your product has one control panel which is installed on the top cover, it may be different depending on the model. Use your appliance according to the following control guidelines.

When the appliance is powered on for the first time, the backlighting of the icons on the display panel will light up immediately. If no buttons have been touched or the doors are closed, the backlighting will turn off after 60seconds.

The control panel consists of two areas about temperature, and one area about different modes.

Caution!

When you set a temperature, you set an average temperature for the whole refrigerator cabinet. Temperatures inside each compartment may vary from the temperatures displayed on the panel, depending on how much food you store and where you place it. High or low room temperature may also affect the actual temperature inside the appliance.

Child Lock and Door Alarm

This button serves two purposes:

1. Child Lock

Press and hold “Alarm” for 3 seconds to lock the all the control panel including dispenser function. If control panel is locked, the icon "🔒" will be on, and none of the buttons on the control panel work. To unlock the control panel, please press and hold “Alarm” for 3 seconds again.

2 .Door Alarm

When door opening alarm occurs, the alarm icon will be fashing and a buzzing sound will be heard. Touch the “Alarm” key, the alarm icon will changes from flashing normally on and the buzzing will stop. When the door is closed or opened for a long time, the alarm icon will turn off

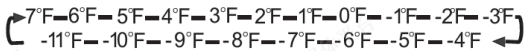
Ice Control

This button controls the ice maker. You can touch the "Ice Off" button to control the ice maker. When the "Ice Off" function light is off, the ice maker is working. If you want to close the ice maker, please touch the "Ice Off" button again until the button light is on.

Freezer Temperature Control

You can touch the “Freezer” button to activate the mode to control the freezer

temperature. When you press the button continuously, the temperature will be set in the following sequence.



If you want to decrease the time needed to freeze products in the freezer, please press and hold the “Freezer” button for 3 seconds, the Super Freeze icon “❄” will be illuminated, the freezer temperature setting displays -11°F. Super Freeze can quickly lower the temperature and freeze your food faster than usual. This can retain more of the vitamins and nutrients in fresh food and keep your food longer.

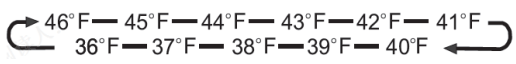
The Super Freeze mode allows you to freeze items inside with maximum speed. We recommend that you let the appliance operate for 6 hours first.

Super Freeze automatically switches off after 52 hours, and the freezer temperature setting will revert back to the previous setting.

When the Super Freeze function is on, you can touch the freezing temperature regulating or press “Freezer” button more than 3 seconds, " Super Freezer" will be off and the temperature setting will revert back to the previous.

Fridge Temperature Control

You can touch the “Fridge” icon to activate the mode to control the fridge temperature. When you touch the button continuously, the temperature will be set in the following sequence.



If you want to decrease the time needed to cool products in the Fridge, please touch and hold this button for 3 seconds. The Super Cool icon “” will be illuminated, and the fridge temperature setting displays at 36°F.

Super cool automatically switches off after 3 hours, and the refrigerator temperature setting will revert back to the previous setting.

When Super Cool function is on, you can touch the “Fridge” button again to switch it off. The fridge will not retain the Super Cool
function when powered off.

When the Super Freeze function is on, you you can touch the refrigerator temperature regulating or press “Fridge” button more than 3 seconds, " Super Cool" will be off and
the temperature setting will revert back to the previous

Note:

- If you want to exchange the "℉" to "℃", please press and hold the "Super Cool" and "Energy Saving” buttons for 3 seconds.

Energy Saving

You can touch this button to turn Energy Saver mode on and off. When you turn Energy Saver on, the Energy Saver icon “” lights up.

The temperature of the fridge is automatically switched to 43°F(6°C) and the freezer to 1°F(-17°C). When enter Energy Saver mode, " Super Cool" and " Super Frezeer" mode will be off.

Energy Saving

Water Filter

In general, you should change the water filter every 6 months to ensure the highest possible water quality.

After the refrigerator has dispensed about 300 gallons of water, the filter icon "" will blink, reminding you to replace the water filter.

First of all, you need to purchase a new water filer. You can purchase the new filter from the retailer where you purchased your refrigerator or the Hisense after-sales service system.
Before that, please check that the new filter is the same filter type that came with your fridge and can be correctly used in your refrigerator.
After you change the water filter, touch and hold the “Eco” buttons for 3 seconds to make the blinking stop. When you replace the water filter, some water may leak from the filter and lines. Please let the water flow into a pan and wipe up any leakage that may have occurred.

℉/℃

When the Child Lock is off, you can touch the "**℉/℃**" icon to switch between Celsius and Fahrenheit units. The default state is Fahrenheit display. When it is switched to Fahrenheit, the icon "" will be on.

Dispenser Control

When the Child Lock is on, the dispenser will not work. The Ice Type button includes “Cubed” and “Crushed” options.
You can press the " Cubed" or " Crushed" option to choose the type of Ice to be dispensed. You can touch the " Water" button to activate the water mode.
When you touch the Ice Type button, the cubed or crushed ice mode which you choose will be activated, and the Cubed “” or Crushed “” ice icon lights up.
If you don’t need ice, turn the function off to save on water and energy consumption(See Ice Off above). If you need water, please touch the“Water” button, and the water icon “” will light up. The mode is then set.

Demo mode

Demo mode is for store display, and it prevents the refrigerator from generating cool air. In this of Cooling off Mode, the refrigerator may seem like it is working but it will not make cool air. indicators on the control panel will show and hold “Alarm” and “Eco" keys at the double " 0F" . To cancel this mode, press and hold “Alarm” and “Eco" keys at the same time for 3 seconds until the buzzer beep three times and the display panel will light for 3 seconds.

4.2 Using your Appliance

This section tells you how to use most of the useful features. We recommend that you read through them carefully before using the appliance. It may be different depending on the model

For proper installation, this refrigerator must be placed on a level surface of hard material that is the same height as the rest of the flooring. This surface should be strong enough to support a fully loaded refrigerator.

Ventilation of appliance

In order to improve efficiency of the cooling system and save energy, it is necessary to maintain good ventilation around the appliance for the dissipation of heat. For this reason, sufficient clear space should be available around the refrigerator.

1. Leveling of appliance

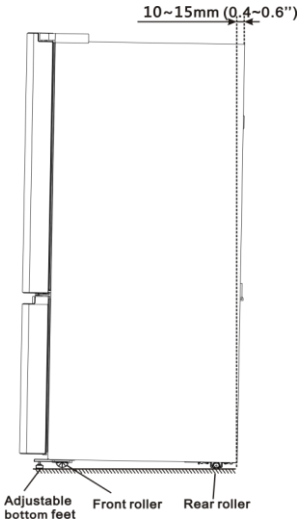
●For sufficient leveling and air circulating in the lower rear section of the appliance, the bottom feet may need to be adjusted.

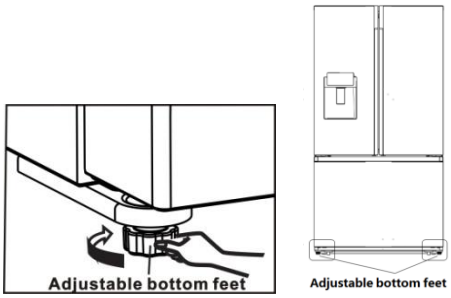
You can adjust them manually by hand or by using a suitable tool.

- To allow the doors to self-close, tilt the top backwards by 10~15mm.

Caution!

- Let your refrigerator stand upright for approximately 4 hours before connecting it to power. This reduces the possibility of a malfunction in the cooling system from improper handling during transportation.
- Wait for approximately 2 hours after moving your appliance or plugging it in for the first time so that the coolant fluid settles.
- If you do not level your refrigerator during installation, the doors may not close or seal correctly which can cause cooling, frost, or moisture problems.





2. Door removal

In case your home access door is too narrow for the refrigerator to pass through, remove the refrigerator doors and drawers by the following instructions.

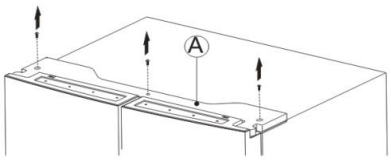
Tools you will need (Not provided):

	
Allen Wrench (4mm)	Wrench (8mm)
	
Philips Screwdriver	

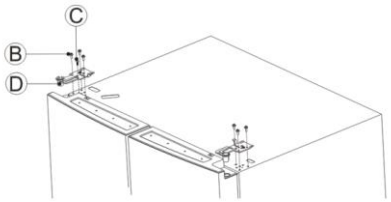
2.1 Disassembling the fridge door

Some models may be slightly different from pictures. If some parts shown in the picture cannot be found in your appliance, please ignore the relevant description.

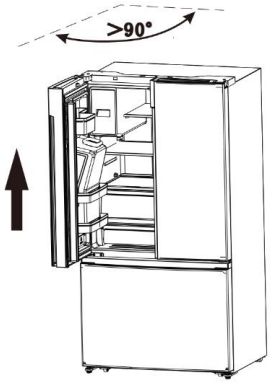
1. With the door closed, remove the 3 screws holding the top cover (A) with Philips (+) screwdriver, and then remove the top cover with the entire-harness attached.



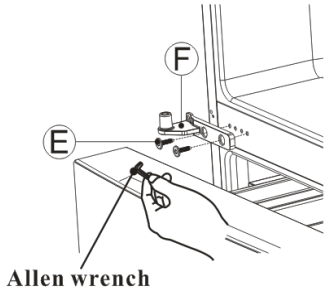
2. Remove the 3 screws (B) fixed on the hinges with a wrench (8mm) and 1 ground screws (C) attached to the hinge with Philips (+) screwdriver. Remove the upper left and right door hinges (D).



3.Use your both hands to open the door more than 90°.Lift it up and take it off.



4. Remove the 4 hex head bolts hinges (E) with an Allen wrench (4 mm).Remove the lower left and right door hinges (F).



Re-attaching the fridge doors

To reattach the fridge doors after you have moved the appliance to its final location, assemble the parts in reverse order.

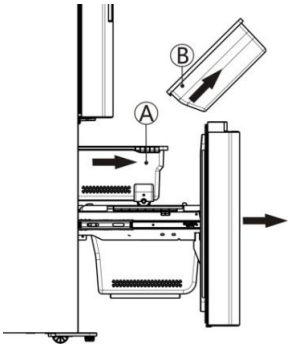
Caution!

In case the fridge doors can't be self-closed, please make sure the door opened more than 90°when you remove or re-attaching the fridge doors.

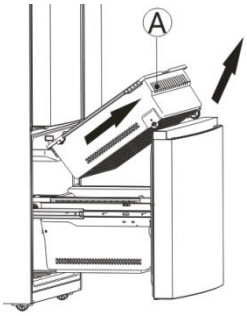
2.2 Disassembling the freezer door

1. Pull out the freezer door and the upper freezer drawer (A) to the final position.

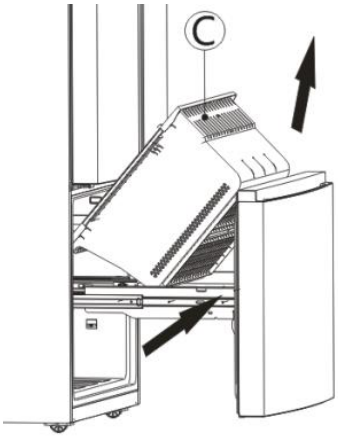
Then take out the ice box (B) by lifting it up in the direction of the arrow.



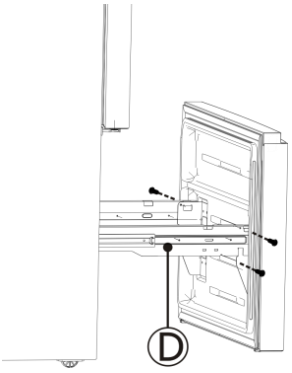
2. Take out the upper freezer drawer (A) by lifting it up from the rail system.



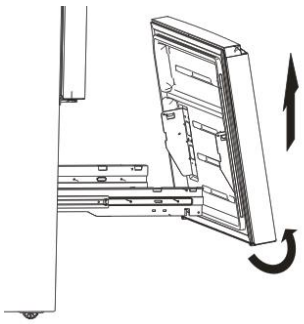
3. Remove the lower freezer drawer (C) by lifting it up.



4. Remove the 4 screws attached to the supporting frame (D).



5. Pull out the freezer door and lift it up in the direction of the arrow.



Re-assembling the freezer door

To reattach the drawer after you moved the appliance to its final location, assemble the parts in reverse order.

Warning!

Switch off the appliance and disconnect it from the main power before removin g or re-assembling the door.

3. Installing the water lines

A water dispenser with a filter is one of the helpful features on your new appliance. To help promote better health, the water filter removes unwanted particles from your water. However, it does not sterilize or destroy microorganisms. You may need to purchase a water purifying system to do that.

In order for the ice maker to operate properly, a water line is required.

-the maximum inlet water pressure is 896kPa;

-the minimum inlet water pressure is 207kPa.

Warning:

The water connection must be made by a qualified plumber. Operation outside the water pressure range may cause malfunction, severe and damaging water leaks.

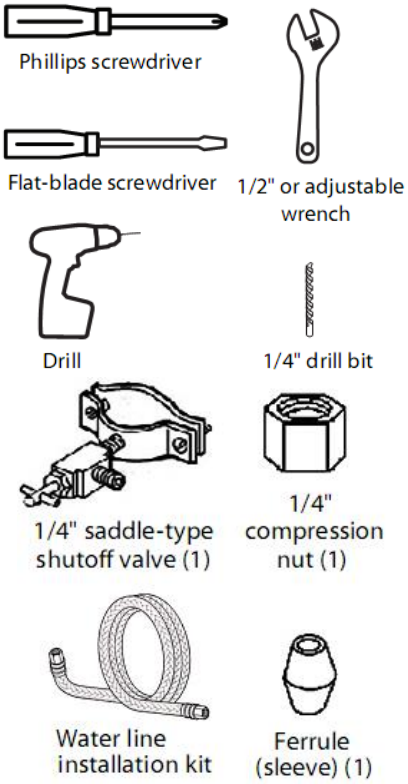
Under normal conditions, a200cc (5.75 oz.) cup can be filled in about 10 seconds.

If the refrigerator is installed in an area with low water pressure (below 30 psi), you can install a booster pump to compensate for the low pressure.

3.1 Connecting the water supply

You will need the following tools and parts (not included):

You need to purchase several items to complete this connection. You may find these items sold as a kit at your local hardware store.

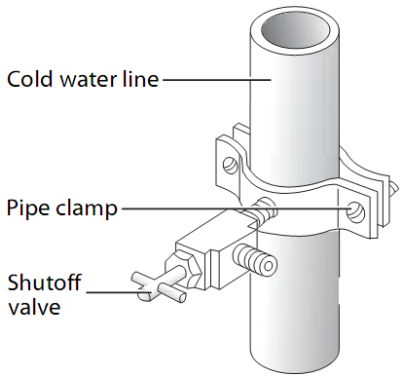


CAUTIONS:

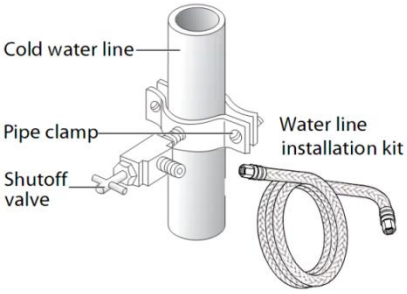
Make sure that you:

- Use the tubing that came with your refrigerator and the water supply installation kit. Do not use old tubing.
- Connect to the cold-water pipe. If you connect to the hot water pipe, the purifier may malfunction.
- Connect with the potable water only.
- Do not contaminate the water pipes during installation.

1. Shut off the main water supply.
2. Using a 1/4" drill bit, drill a hole into the cold water line, then install the saddle-type shutoff valve.



3. Connect the water line installation kit (not included) to the shutoff valve.



4.Turn the main water supply back on, then turn on the shutoff valve and flush out the tubing until the water runs clear.

Note:

•The initial dark discoloration of water is normal.

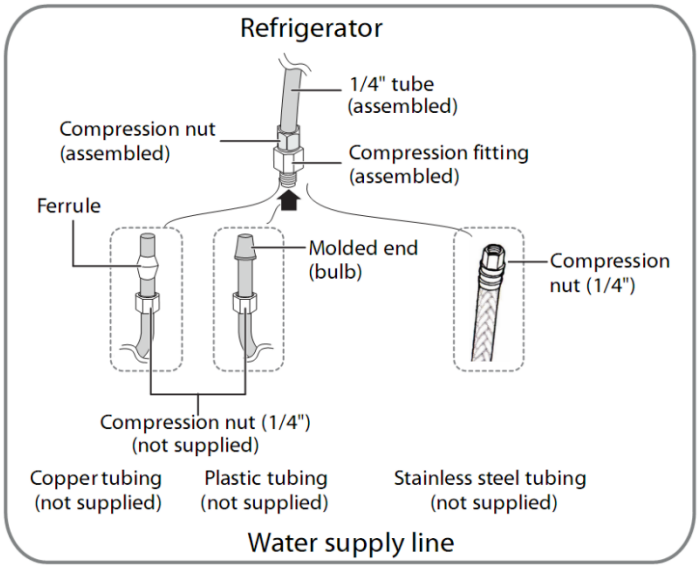
5. Turn off the shutoff valve.

3.2 Connecting the water supply line to the refrigerator

You need to purchase several items to complete this connection. You may find these items sold as a kit at your local hardware store.

You can use plastic tubing, copper tubing, or stainless steel tubing as the water line installation kit.

PLASTIC TUBING	COPPER TUBING	STAINLESS STEEL TUBING
•1/4" plastic tubing →molded end (bulb)	•1/4" copper tubing	•1/4" stainless steel tubing
•1/4” compression nut (1)	•1/4" compression nut (1) Ferrule (2)	•1/4" compression nut (1)



1. Connect the water supply line to the compression fitting (assembled with a 1/4" tube, at the back of refrigerator).

•If you are using copper tubing, slip the compression nut (not supplied) and ferrule (not supplied) on the copper tubing(not supplied).

•If you are using plastic tubing, insert the molded end (bulb) of the plastic tubing into the compression fitting.

Important:

Do not use without the molded end (bulb) of the plastic tubing.

•If you are using stainless steel tubing,

slip the compression nut on the copper tubing (not supplied).

2. Tighten the compression nut onto the compression fitting. Do not over-tighten the compression nut.

3. Turn water on and check for any leakage. If you find water drops or leakage in the connection areas, turn off the main water supply. Check the connections and, tighten, if necessary.

4. Flush one gallon of water (approximately five minutes)through the filter before drinking or using the water from your refrigerator. To flush, press a large glass or cup against the water dispenser lever. Fill the glass, then empty it into the kitchen sink. Repeat until you dispense about one gallon of water.

5. After you turn on the refrigerator, let the ice maker make ice for one to two days. Over that period of time, throw out the first one or two buckets of ice the freezer makes to ensure all impurities have been removed from the waterlines.

Note:

- Make sure that you connect the water line to a drinkable water source.
- You can test the water line quickly using a paper cup.
- The first time you use the water dispenser, you may hear the sound of water pushing air out of the water dispenser. This is normal.
- If you have to repair or disassemble the water line, cut off 1/4'' of the plastic tubing to make sure you get a snug, leak-free connection.

3.3 Reverse osmosis water supply:

The pressure of the water supply coming out of a reverse osmosis system going to the water inlet valve of the refrigerator needs to be between 30 and 100psi (207and 700kPa). If a reverse osmosis water system is connected to your cold water supply, the water pressure to the reverse osmosis system needs to be a minimum of 40 to 60 psi (276 to 414 kPa). If the water pressure to the reverse osmosis system is less than 40 to 60 psi (276 to 414 kPa):

- Check to see whether the sediment filter in the reverse osmosis system is blocked. Replace the filter if necessary.
- Allow the storage tank on the reverse osmosis system to refill after heavy usage.
- If your refrigerator has a water filter, it may further reduce the water pressure when used in conjunction with a reverse osmosis system. To resolve it, remove the water filter.

4. Using your refrigerator compartment

The refrigerator compartment is suitable for storage of vegetables and fruit. Food inside should be packed to store in order to avoid losing moisture or flavor permeating into other foods.

Caution!

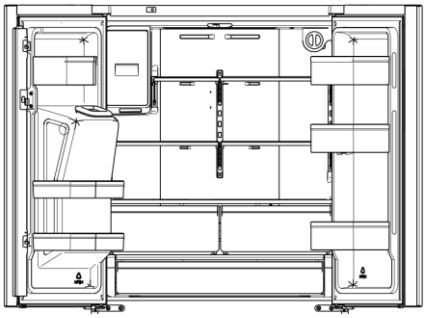
Never close the refrigerator door while the shelves, crisper and/or telescopic slides are extended. It may damage both them and the refrigerator.

4.1 Door shelf

The refrigerator compartment is provided with six door baskets, which are suitable for the storage of canned liquid, bottled drinks and packaged food.

1. To remove the Door shelf, simply lift the racks up and pull straight out.

2. To relocate the Door shelf, slide it in above the desired location and push down until it stops.

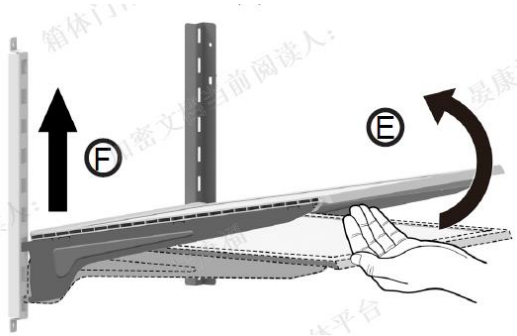


Warning!

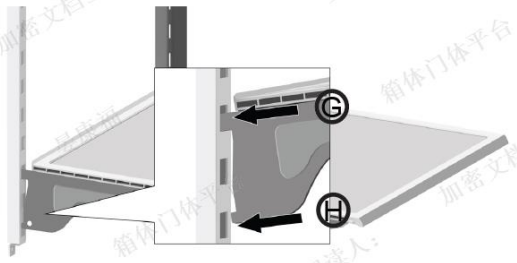
- Do not place too many heavy things in the Door shelf.
- Before you lift up the door shelf vertically, please take the food out.

4.2 Glass shelves

To remove the glass shelves, tilt up the front
of the shelf in the direction shown (E) and lift it up vertically (F).Pull the shelf out.



To re-install the glass shelves, tilt the front of the shelf up and guide the shelf hooks into the slots at a desired height (G). Then lower the front of the shelf so that the hooks can drop into the slots (H).



The refrigerator compartment is also provided with a foldable shelf. It can be folded as required. To fold the shelf, hold the removable glass(I) and lift it up slightly, then push it slightly in the direction of the arrow.

To unfold the shelf, hold the removable glass(I) and pull it out slightly in the direction of the arrow until it can't move.

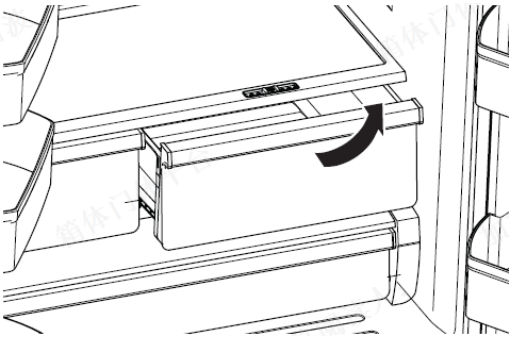
4.2 Drawers

The fruit and vegetable crisper drawers are designed to store fruits and vegetables. Putting fruits and vegetables inside the drawers helps avoid losing moisture and prevents flavor from getting into other foods.

To remove a drawer:

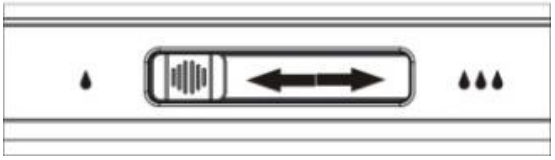
1 Open the refrigerator door all the way.

2 Pull the drawer completely open and move it slightly toward the compartment wall, then lift the drawer up and pull it out of your refrigerator.

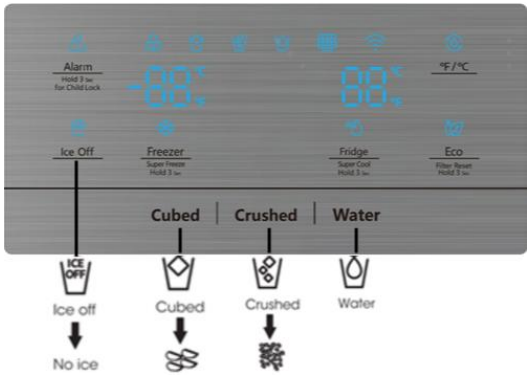


Note:

You can move the slider on the crisper box cover part to control the humidity in drawers, in order to prevent water desorption of food in the fruit and vegetable crisper.

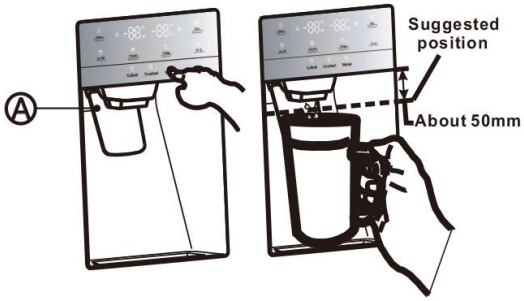


4.3 Using the dispenser to get cold water and Ice



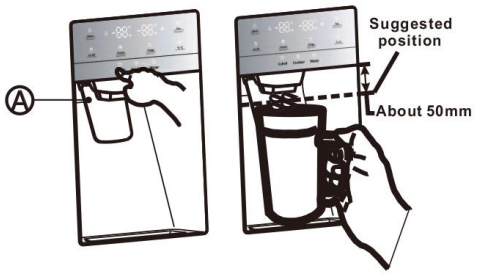
Getting Cold Water

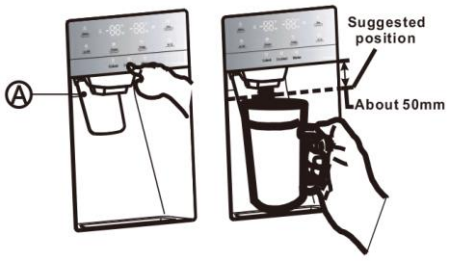
The water dispenser is located in the fridge door. To get water, push the water button. Then move your glass down the dispenser lever (A) in the suggested position and press it.



Getting Ice

To get ice, push the cubed or crushed ice button as req uired. Then move your glass down the dispenser lever in the suggested position and press it.





Water clouding phenomenon

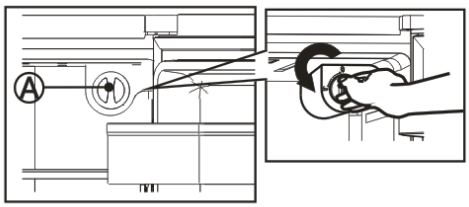
All water provided to the refrigerator flows through the filter which is an alkaline water filter. In the filtering process, the pressure of the water that has flowed out of the filter is increased, and the water becomes saturated with oxygen and nitrogen. When this water flows out into the air, the pressure plummets and the oxygen and nitrogen get supersaturated, which results in gas bubbles. The water may temporarily look misty or cloudy due to these oxygen bubbles. After a few seconds, the water will look clear.

4.4 Changing the water filter

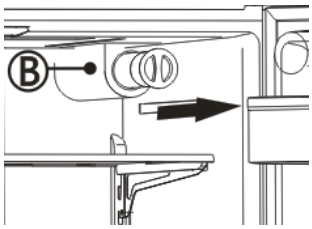
To drink the freshest and cleanest water from your refrigerator, change the filter on time.

To change the water filter, follow these steps:

1. Shut off the water supply. Then turn the water filter (A) about a 1/4 turn, counter-clockwise.



2. Pull the water filter (A) from the filter holder (B).



Note:

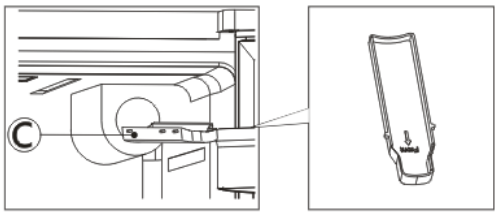
- To change the water filter easily, shut off the water supply valve.
- Sometimes, it is hard to disassemble the water filter because impurities in the water cause it to stick. If you are having difficulties, grip the water filter firmly and

pull it out.

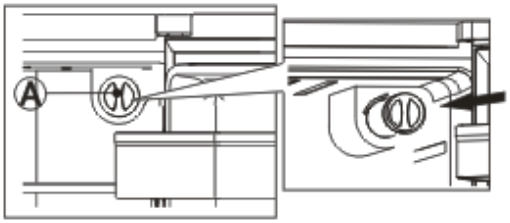
•When you pull the water filter, a little water can leak from the opening. This is normal. To minimize the water leaks, keep the filter cartridge horizontal when pulling it.

•To prevent overflow, empty the water filter tray(C) and dry around the filter case.

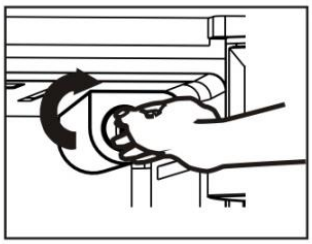
•To insert the new water filter, follow the directions below.



3. Insert the new filter into the filter holder.



4. Push the filter, and then turn it clockwise until it locks.



•If you have trouble inserting the water filter because of high water pressure, shut off the water supply valve.

5. If you turned off the water supply, turn it back on.

Note:

After turning on the water supply, you should check the leaks. If leaks occurs, repeat the step 1,2,3,4,5. If leaks persist, discontinue use and call you supporting dealer.

Removing any residual matter inside the water supply line after installing the water filter

1.After the water filter is replaced, dispense 2.5 gallons of water (flush for approximately 5minutes)to remove trapped air and contaminants from the system.

2. Additional flushing may be required in some households.

3. Open the refrigerator door and make sure there are no water leaks coming from the water filter.

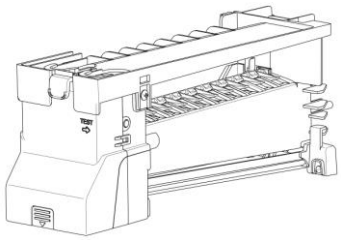
Note:

•Be sure to flush the dispenser thoroughly, otherwise water may drip from the dispenser. This means that there is still air in the line.

• Do not dispense the entire 2.5 gallon amount continuously. Depress and release the dispenser pad for cycles of 30 seconds ON and 60 seconds OFF.

5.Using the automatic ice maker

Press ICE Off to turn the icemaker on and Off. The Ice Maker icon "" is off when the ice maker is functioning.



Caution:

•The ice made by the ice maker first batches cannot be used for eating or drinking cause it is unhealthiness.

•When the ice maker dumps ice into the ice box, any sounds you hear are part of normal operation.

•Do not store ice cubes in ice box for a long time, they may stick to each other and may not be separated well. If this occurs, please remove all the ice and empty the box.

•If you are going on a long vacation or business trip and won't be using the water dispenser or ice maker part for period of time, please close the water supply to prevent leaks.

5.1 Maintaining the ice bucket

•To clean the ice bin/bucket, wash with a mild detergent, rinse well, and dry thoroughly it. Do not use harsh or abrasive cleaners or solvents.

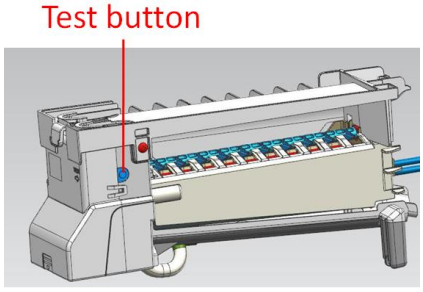
•Ice is made in cubes. When you select 'Crushed', the ice maker grinds the ice cubes into crushed ice.

•When you select Cubed ice, a small amount of crushed ice might be produced.

• When you select Crushed ice, a small amount of cube ice might be produced.

•The ice cubes generated by the rapid ice making process will look white, which indicates they were generated normally.

•If ice doesn't come out, pull out the ice bucket and press the test button located on the right side of ice maker. To test the ice maker, stay pressing the test button on the ice maker for 10 seconds before released it. See the illustration blow.



•Do not press the test button continuously when the tray is filled with ice or water. Water may overflow or ice may jam the bucket.

5.2 Making ice

•To fill the ice bucket to maximum capacity after installation, follow these steps:

1. Allow your refrigerator to operate and cool down for 24 hours (or 1 full day).Waiting 24 hours will allow your ice maker to cool properly.
2. Dispense 4 to 6 ice cubes into the glass.
3. After 8, and then 16 hours, dispense a full glass of ice.

Warning!

•Do not put food in the ice bucket. If you store food in the ice bucket, the food can strike the ice maker when you open or close the door, causing damage to the ice maker.

•Note that the ice cubes in the ice bucket may spill out over the drawer. If this occurs, be sure to clear the ice cubes that spilled out of the drawer.

•If a power failure occurs, ice cubes may melt, and then freeze together when the power comes back on, causing the dispenser to stop working.

To prevent this problem, after a power failure, pull out the ice bucket and residual ice or water.

Note:

•Don't push the water dispenser lever forward without a cup below since it may cause water spilling.

•To avoid cold air leaking out from cabinet, keep the water dispenser parts still be installed even if the water dispenser was out of use.

5.3 Using the ice off function

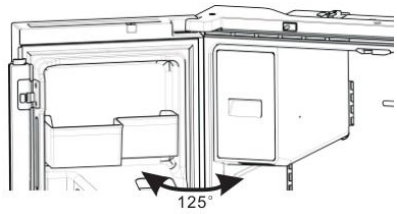
When you select the ice off mode, remove all ice cubes from the bucket.

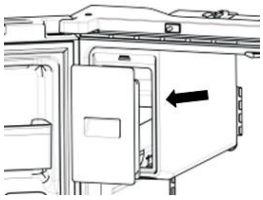
If you leave the ice cubes in the bucket, the ice cubes may clump together, making it difficult to remove them.

To remove the ice bucket safely and avoid injury, open and keep the door at the maximum angle.

Then, lift up the ice bucket, and pull it straight out in the direction of the arrow.

To put the ice bucket in, push it firmly straight back. If the bucket does not fit, turn the helix 90 degree (see the last illustration on the right, below) and try again.





Note:

- The inside of the ice bucket is very cold when the refrigerator is operating. Don't reach deep inside the ice bucket.
- Use only the ice maker provided with the refrigerator. The water supply to this refrigerator must only be installed by a suitably qualified person.

Warning!

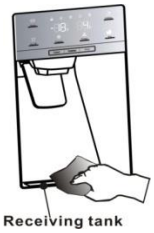
- Do not put your fingers, hands or any other unsuitable objects in the chute or ice-maker bucket. It may result in personal injury or material damage.
- Never put your fingers or any other objects in the dispenser opening. It may cause injury.
- Do not try to disassemble the ice maker.
- Do not wash or spray the ice bucket with water while it is in the refrigerator. Remove it to clean it.

5.5 Water clouding phenomenon

All water provided to the refrigerator flows through the filter which is an alkaline water filter. In the filtering process, the pressure of the water that has flowed out of the filter is increased, and the water becomes saturated with oxygen and nitrogen. When this water flows out into the air, the pressure plummets and the oxygen and nitrogen get supersaturated, which results in gas bubbles. The water may temporarily look misty or cloudy due to these oxygen bubbles. After a few seconds, the water will look clear.

Cleaning

After using for a period, water accumulated in receiving tank might overflow, thus you should clean it with dry towel regularly to avoid water spilling out onto the floor.



Note:

In case of stained by dust or other pollutant, dispensing water with unpleasant smell, *etc*., water dispenser parts should be cleaned thoroughly.

6. Frost removal

Although this appliance automatically defrosts, a layer of frost may occur on the freezer compartment's interior walls if the freezer door is opened frequently or kept open too long. If the frost is too thick, choose a time when the freezer is nearly empty and proceed as follow:

1. Remove existing food and accessories baskets, unplug the appliance from the mains power and leave the doors open. Ventilate the room thoroughly to accelerate the process.
2. When defrosting is completed, clean your freezer as described above.

Warning!

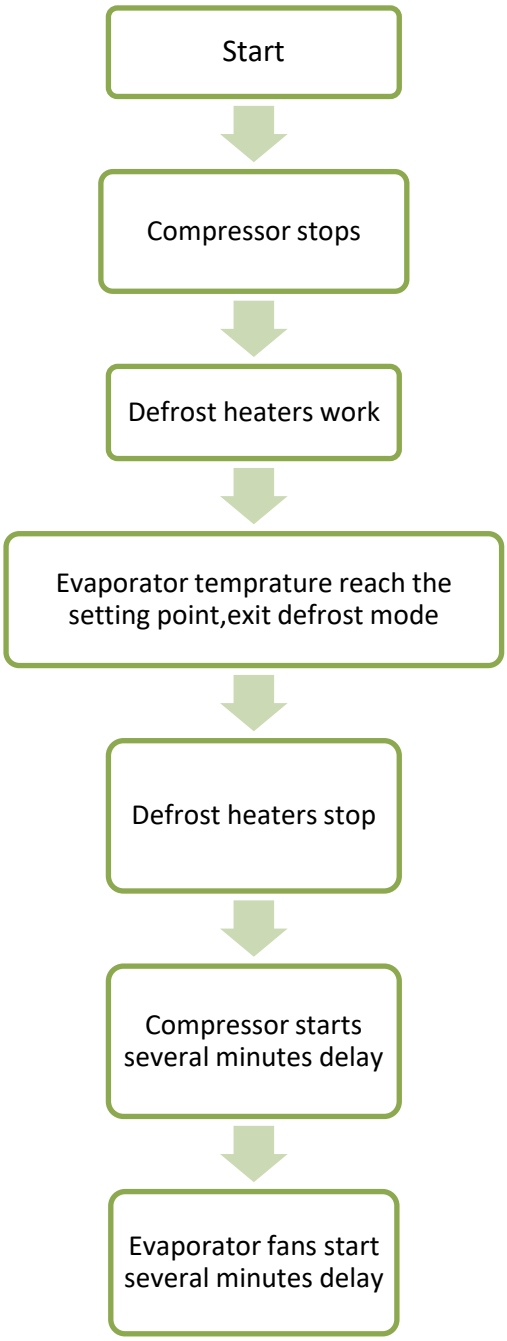
Do not use sharp objects to remove frost from the freezer compartment. Only after the interior is completely dry should the appliance be switched back on and plugged back into the mains socket

4.3 Defrost mode

4.3.1 Start condition

When compressor accumulated running time reach the setting point (depends on the environment temperature), it will enter defrost mode automatically.

4.3.2 Defrost flow



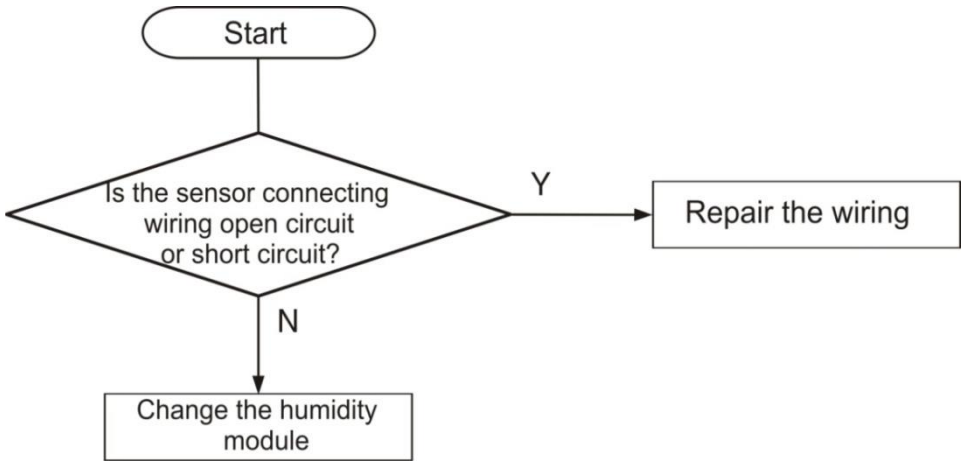
4.4 Error display

4.4.1 Error Code

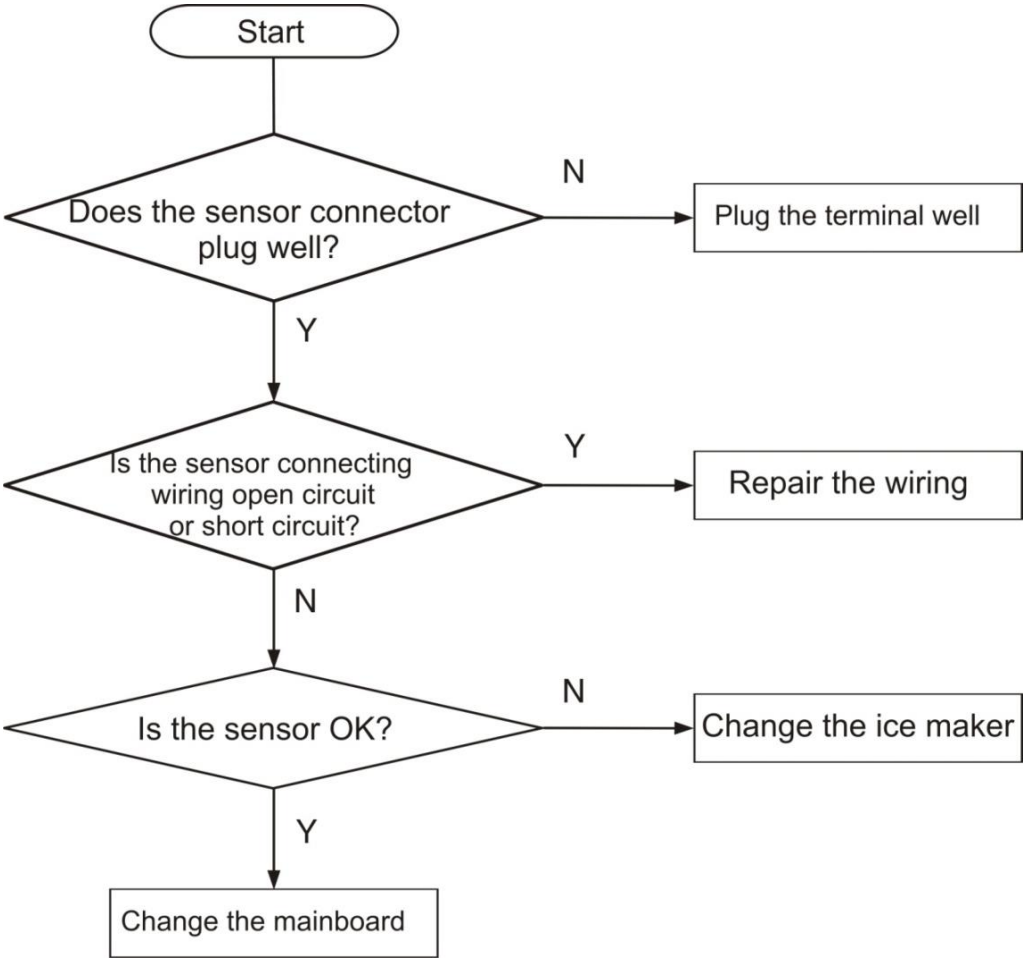
Code	Problem
E0	Environment sensor malfunctions
E1	Refrigerator sensor malfunctions
E3	Freezer sensor malfunctions
E4	Freezer defrost sensor malfunctions
E8	Humidity sensor malfunctions
E9	Ice maker sensor malfunctions
EA	**Ice room sensor malfunctions**
Ec	Communication sending malfunctions
Er	Communication receiving malfunctions
F1	Freezer fan malfunctions
dr	The door alarm

4.4.2 Checking method

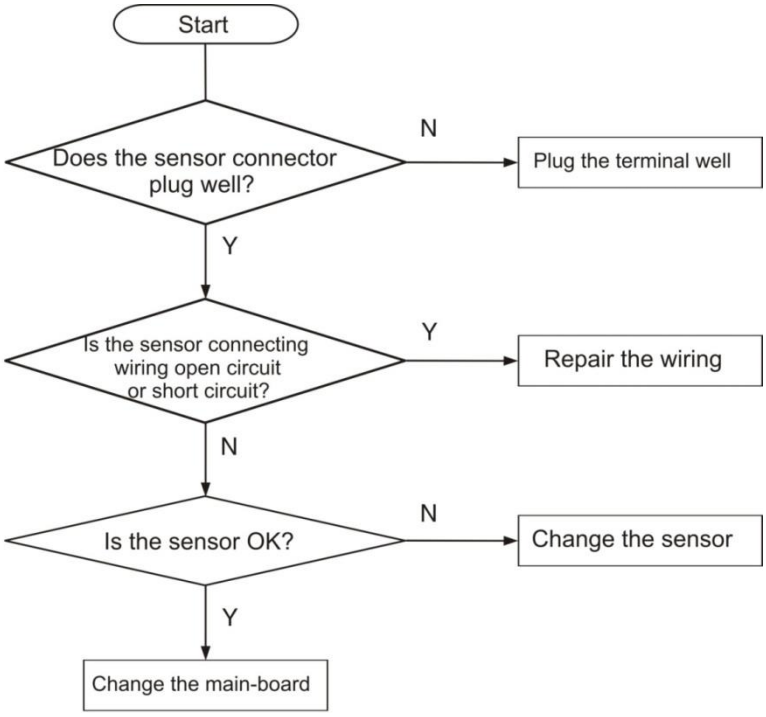
4.4.2.1 Environment sensor or Humidity sensor error



4.4.2.2 Ice maker sensor error



4.4.2.3 Other sensors error



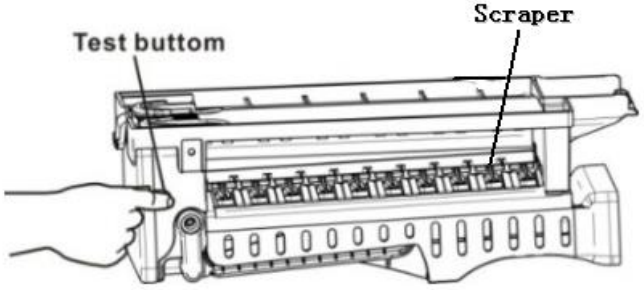
Note:

1. Refrigerator sensor corresponding pin No. 2 and No. 9 on CN8 connector of main-board.
2. Freezer sensor corresponding pin No. 4 and No. 9 on CN8 connector of main-board.
4. Ice room sensor corresponding pin No. 12 and No. 9 on CN8 connector of main-board.
5. Freezer defrost sensor corresponding pin No. 6 and No. 13 on CN8 connector of main-board.
7. Environment sensor corresponding pin No. 1 and No. 7 on CN8 connector of main-board.
8. Humidity sensor corresponding pin No. 3 and No. 7 on CN8 connector of main-board.
9. Ice maker sensor corresponding pin No. 2 and No. 7 on CN7 connector of main-board.

4.4.2.4 Ice maker error

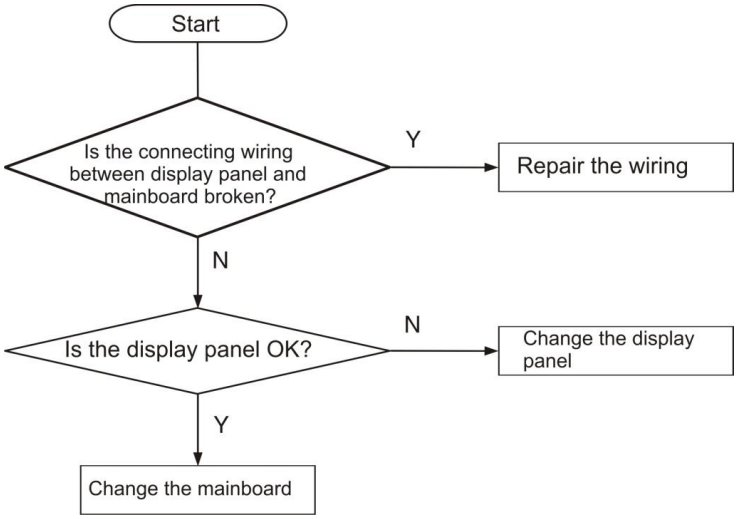
Eb error :

1. Check the connecting wiring between main-board and ice maker (corresponding pin No. 2~10 on CN7 & CN5 connector of main-board, as the drawing below) and repair if it is broken.



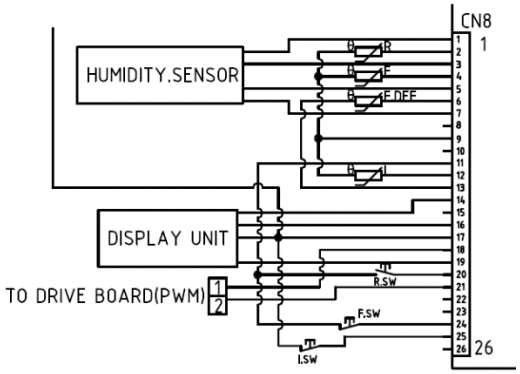
4.4.2.5. Communication error

Ec or Er error:



Note:

The display panel corresponding pin No.14、No.16、No.17and No.19 on CN8 connector of the main-board as the drawing below.



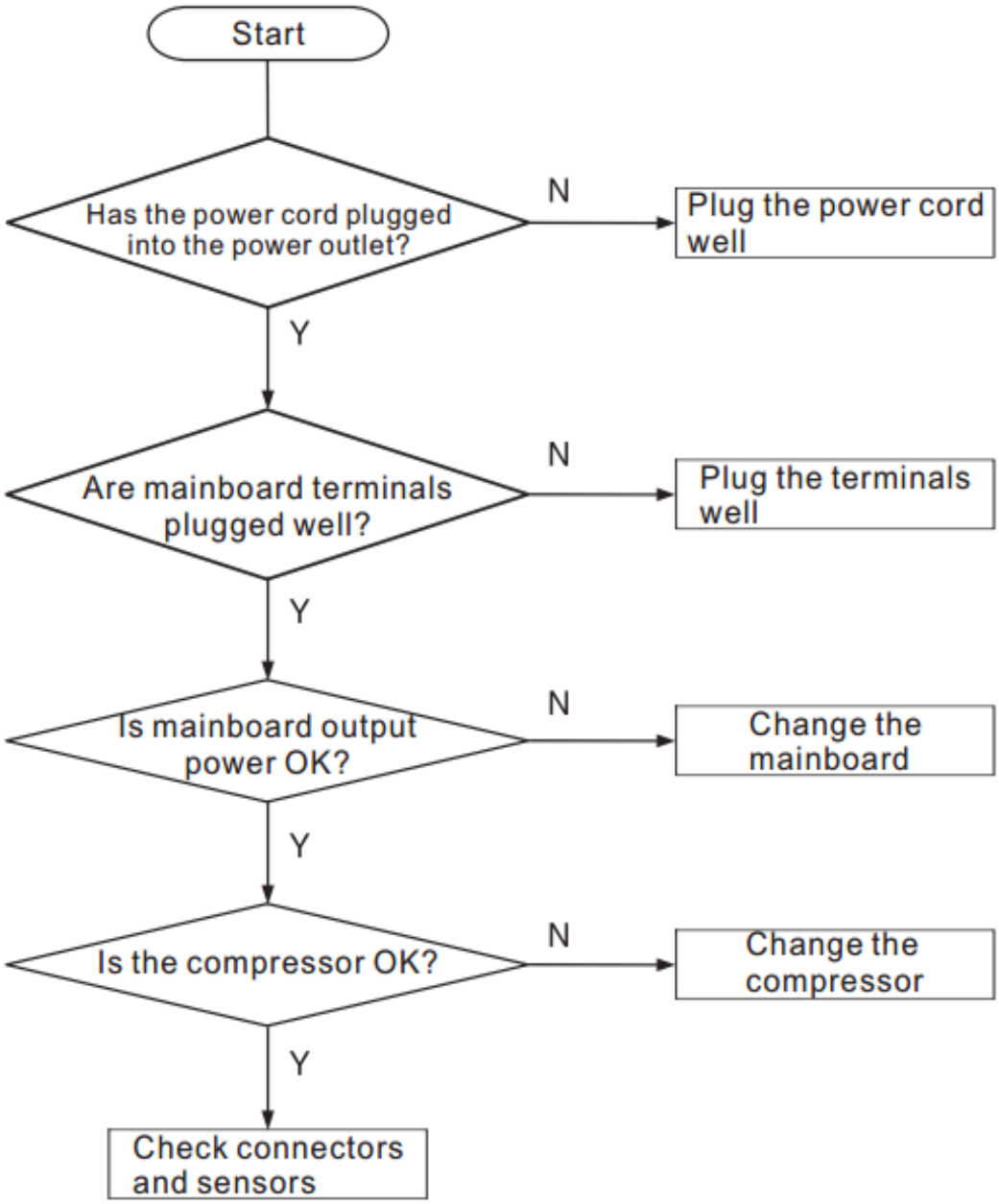
5. Troubleshooting

5.1 Common problem and checking

Problem	Possible cause & Solution
Appliance is not working correctly	Check whether the power cord is plugged into the power outlet properly.
	Check the fuse or circuit of your power supply, replace if necessary.
	The ambient temperature is too low. Try setting the chamber temperature to a colder level to solve this problem.
	It is normal that the freezer is not operating during the defrost cycle, or for a short time after the appliance is switched on to protect the compressor.
	If the power supply is removed forcibly ,the compressor will not work immediately .It takes about 20 minutes to make the compressor work again.
Odours from the compartments	The interior may need to be cleaned
	Some food, containers or wrapping cause odours.
Noise from the appliance	The sounds below are quite normal: •Compressor running noises. •Air movement noise from the small fan motor in the freezer compartment or other compartments. •Gurgling sound similar to water boiling. •Popping noise during automatic defrosting. •Clicking noise before the compressor starts. • Clicking noise when you get the water. •The motor running noises when you get the ice.
	Other unusual noises are due to the reasons below and may need you to check and take action: The cabinet is not level. The back of appliance touches the wall. Bottles or containers fallen or rolling.
The motor runs continuously	It is normal to frequently hear the sound of the motor, it will need to run more when in following circumstances: •Temperature setting is set colder than necessary •Large quantity of warm food has recently been stored within the appliance. •The temperature outside the appliance is too high. •Doors are kept open too long or too often. •After your installing the appliance or it has been switched off

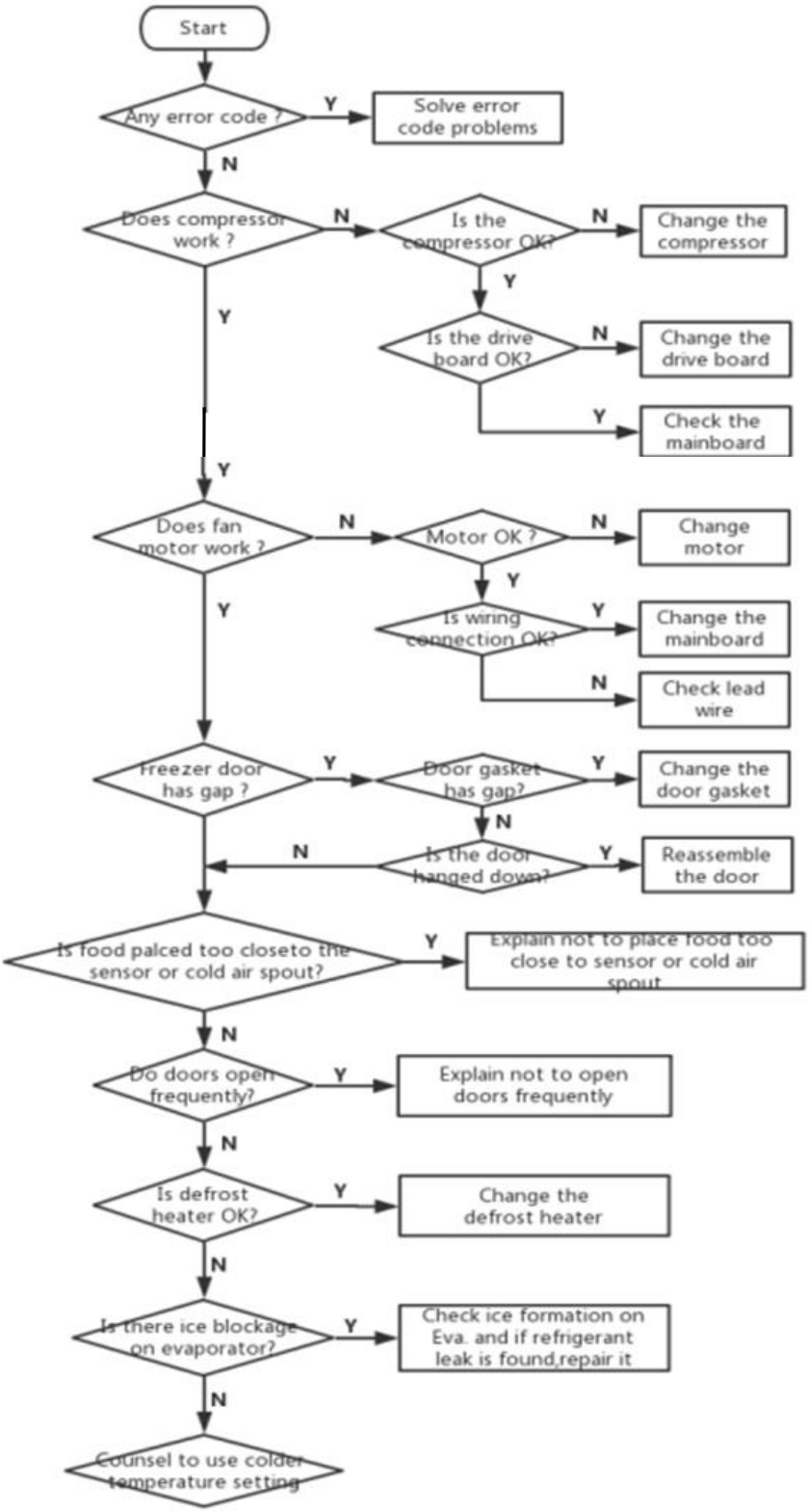
	for a long time.
A layer of frost occurs in the compartment	Check that the air outlets are not blocked by food and ensure food is placed within the appliance to allow sufficient ventilation. Ensure that door is fully closed. To remove the frost, please refer to "Frost removal" part.
Temperature inside is too warm	You may have left the doors open too long or too frequently; or the doors are kept open by some obstacle; or the appliance is located with insufficient clearance at the sides, back and top
Temperature inside is too cold	Increase the temperature by following the “Display controls” chapter.
Doors can’t be closed easily	Check whether the top of the refrigerator is tilted back by 10-15mm to allow the doors to self close, or if something inside is preventing the doors from closing.
The light is not working	•The LED light may be damaged. Refer to "LED light removal" part. •The control systems has disabled the lights due to the door being kept open too long, close and reopen the door to reactivate the lights.
Ice is not dispensing	•Did you wait for 12 hours after installation of the water supply line before making ice? If it is not sufficiently cool, it may take longer to make ice, such as when first installed. •Is the water line connected and the water valve open? •Did you manually stop the ice making function? Make sure you do not set the ice off mode. •Is there any ice blocked within the ice maker bucket or ice chute? • Is the water pressure less than 30 psi? Install a booster pump to compensate for the low pressure. •Is the freezer temperature too warm? Try setting the freezer temperature lower. •Whether the quantity supplied is larger than the quantity supplied? Please wait for at least 90 minutes.
Water dispenser is not functioning	•Is the water line connected and the water valve open? •Has the water line been crushed or kinked? Make sure the water line is free and clear of any obstruction. •Is the water tank frozen because the refrigerator temperature is too low? Try selecting a warmer setting on the display panel. •Check if the filter is properly installed. If it is not properly installed, the water dispenser may not work. •Is the Child Lock on?
Hear water bubbling in the refrigerator	This is normal. The bubbling comes from the refrigerant coolant liquid circulating through the refrigerator.

5.2 Faulty start

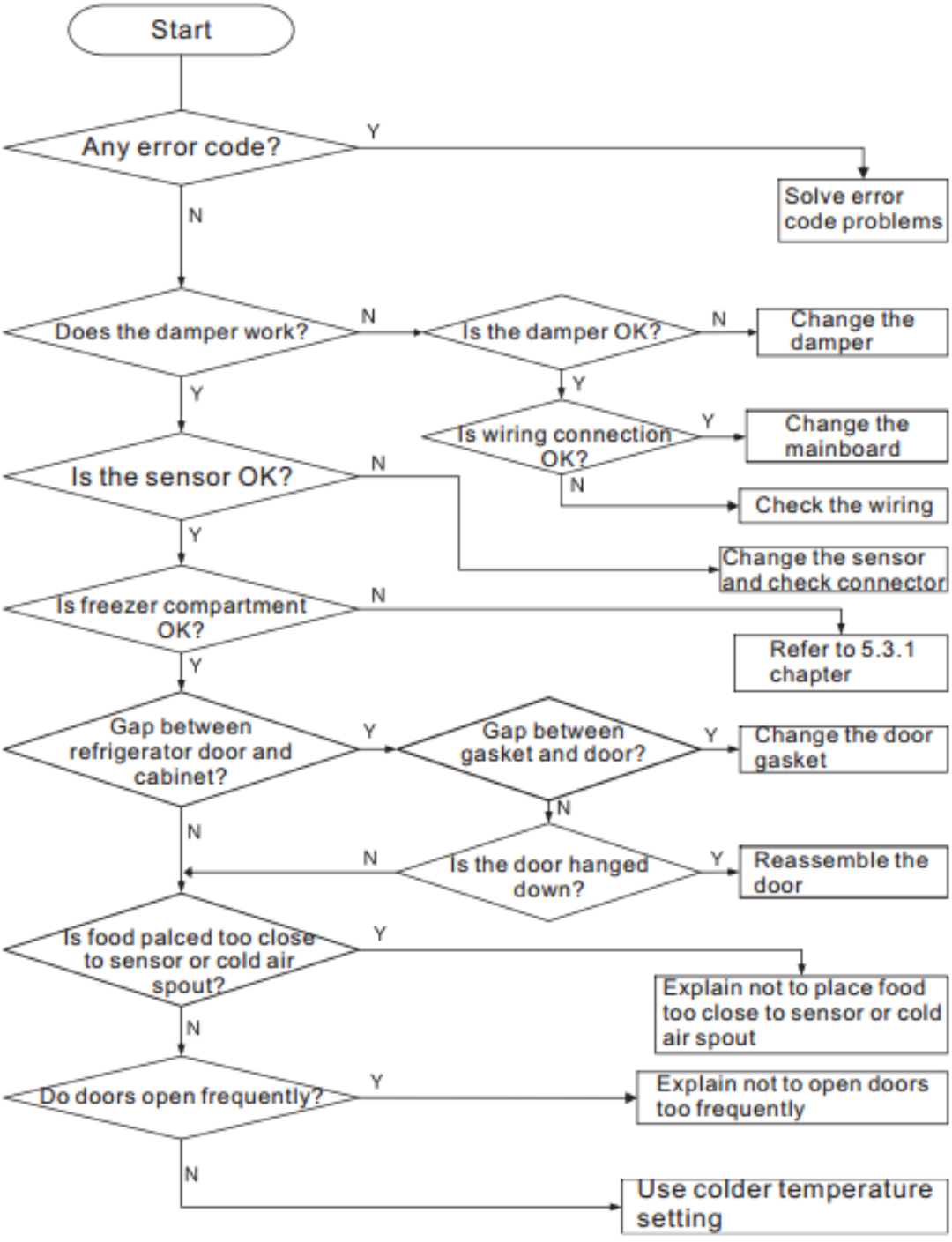


5.3 Refrigeration failure

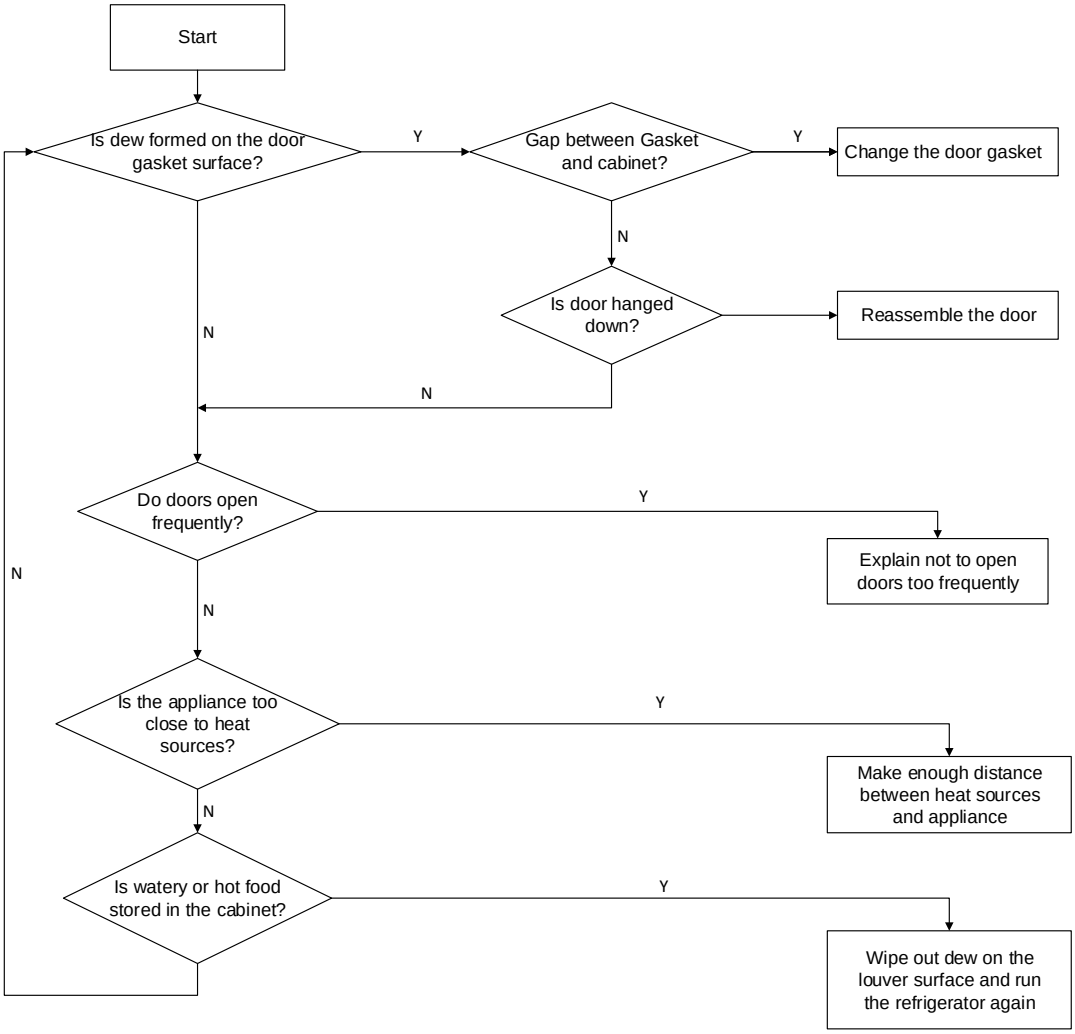
5.3.1 Freezer compartment



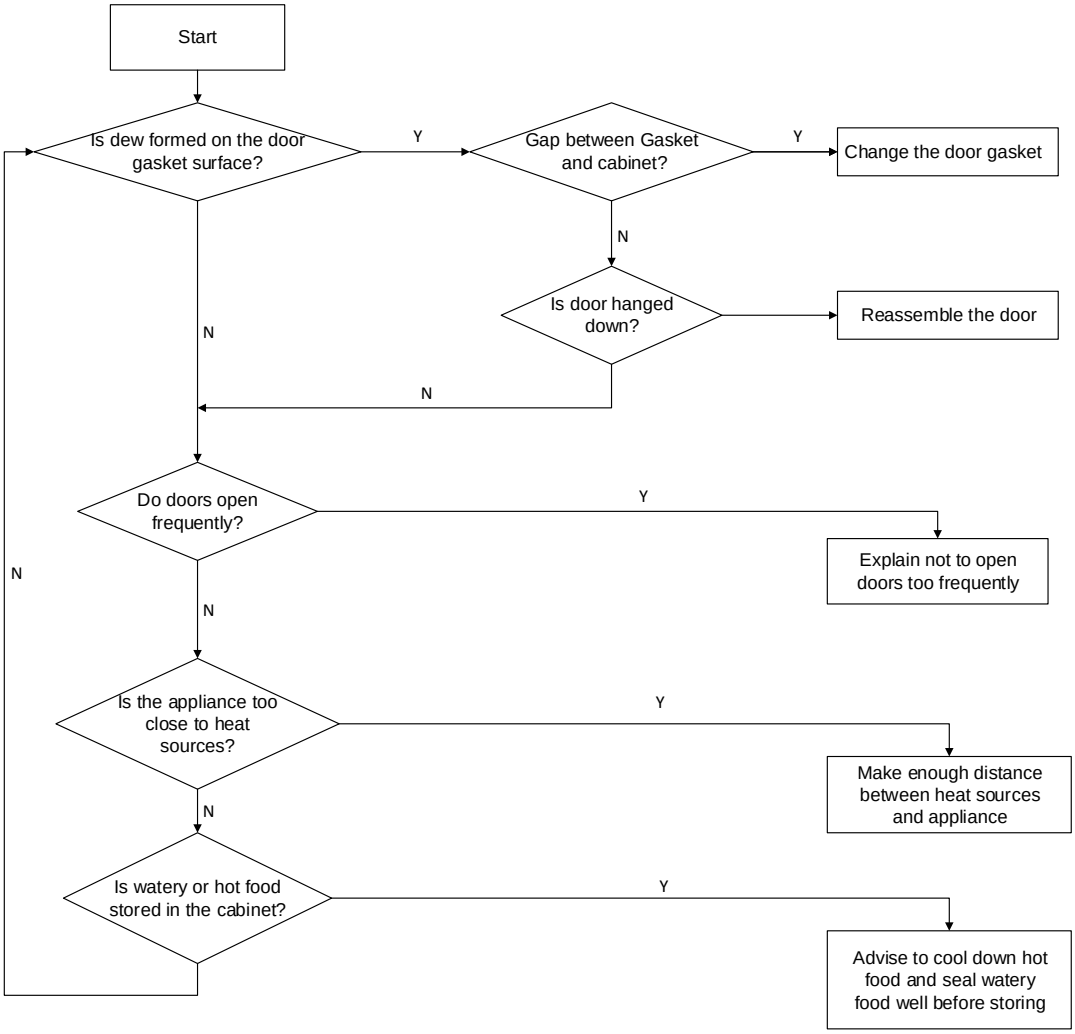
5.3.2 Refrigerator compartment



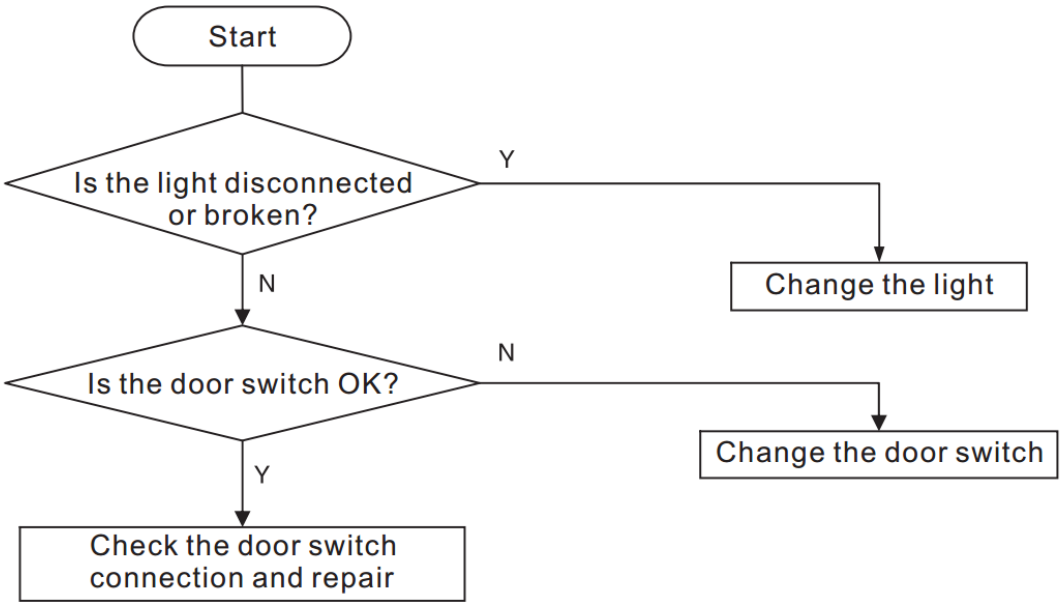
5.4 Thick frost in freezer compartment



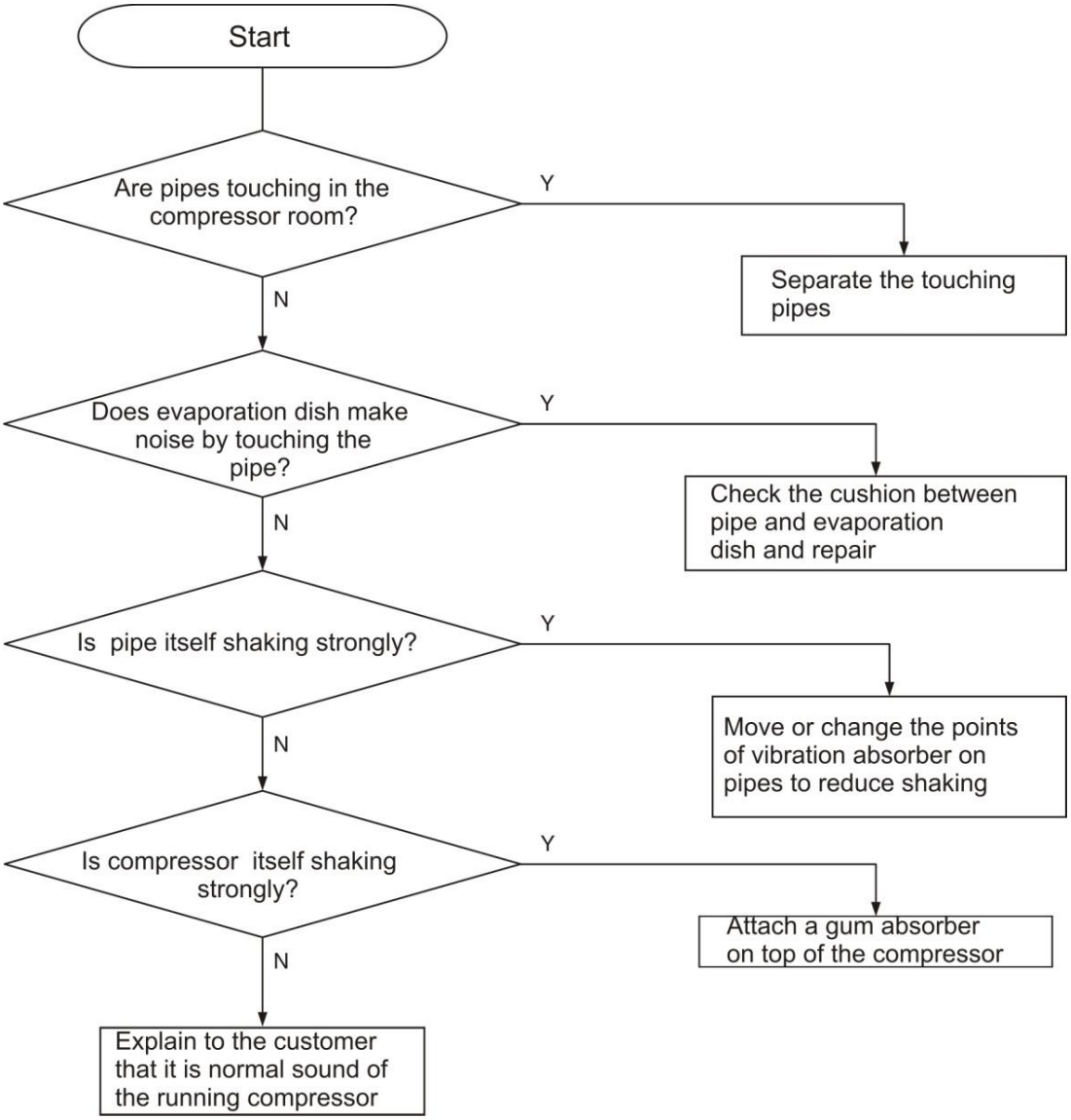
5.5 Dew in refrigerator compartment



5.6 Breaking of light

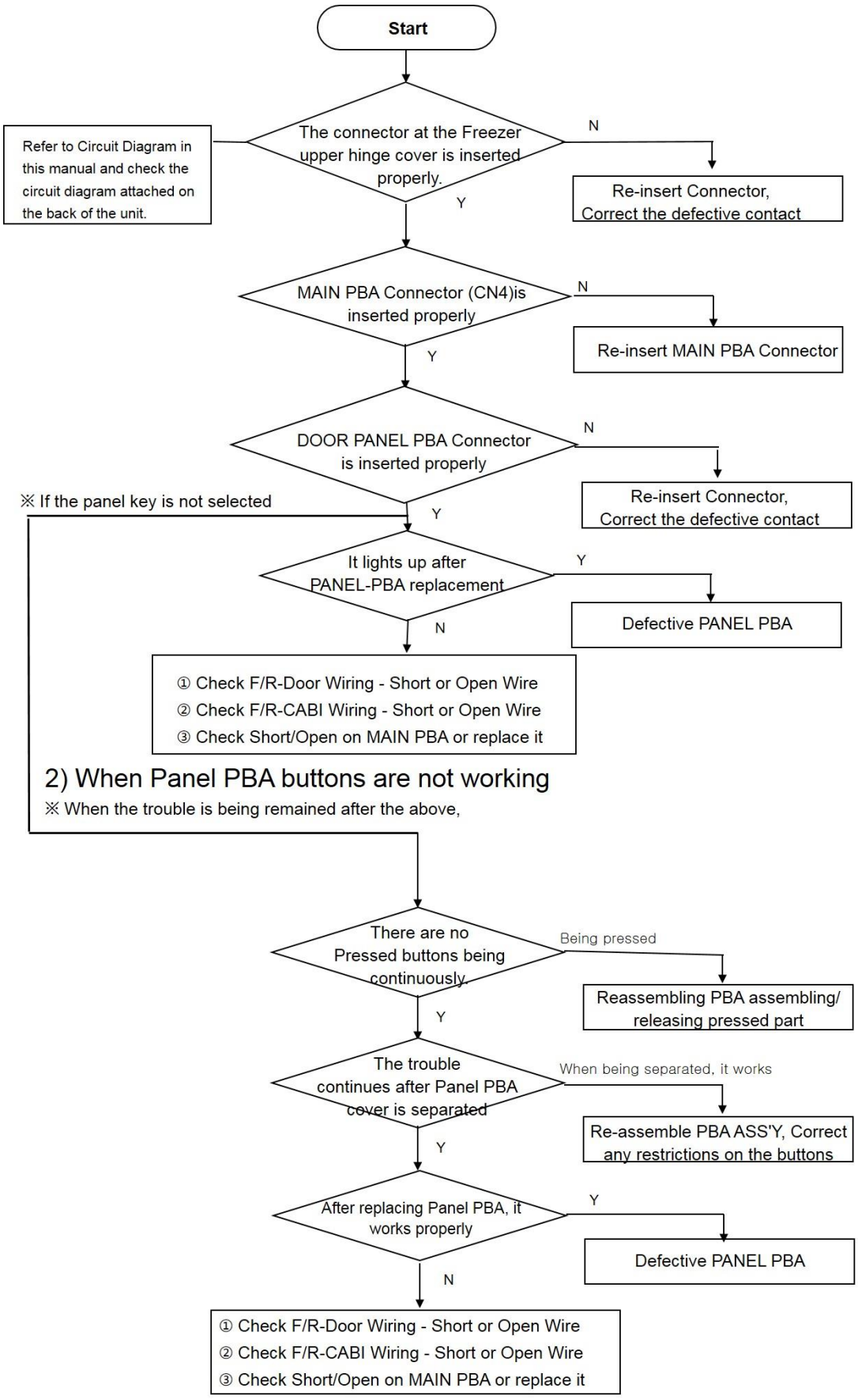


5.7 Pipe noise



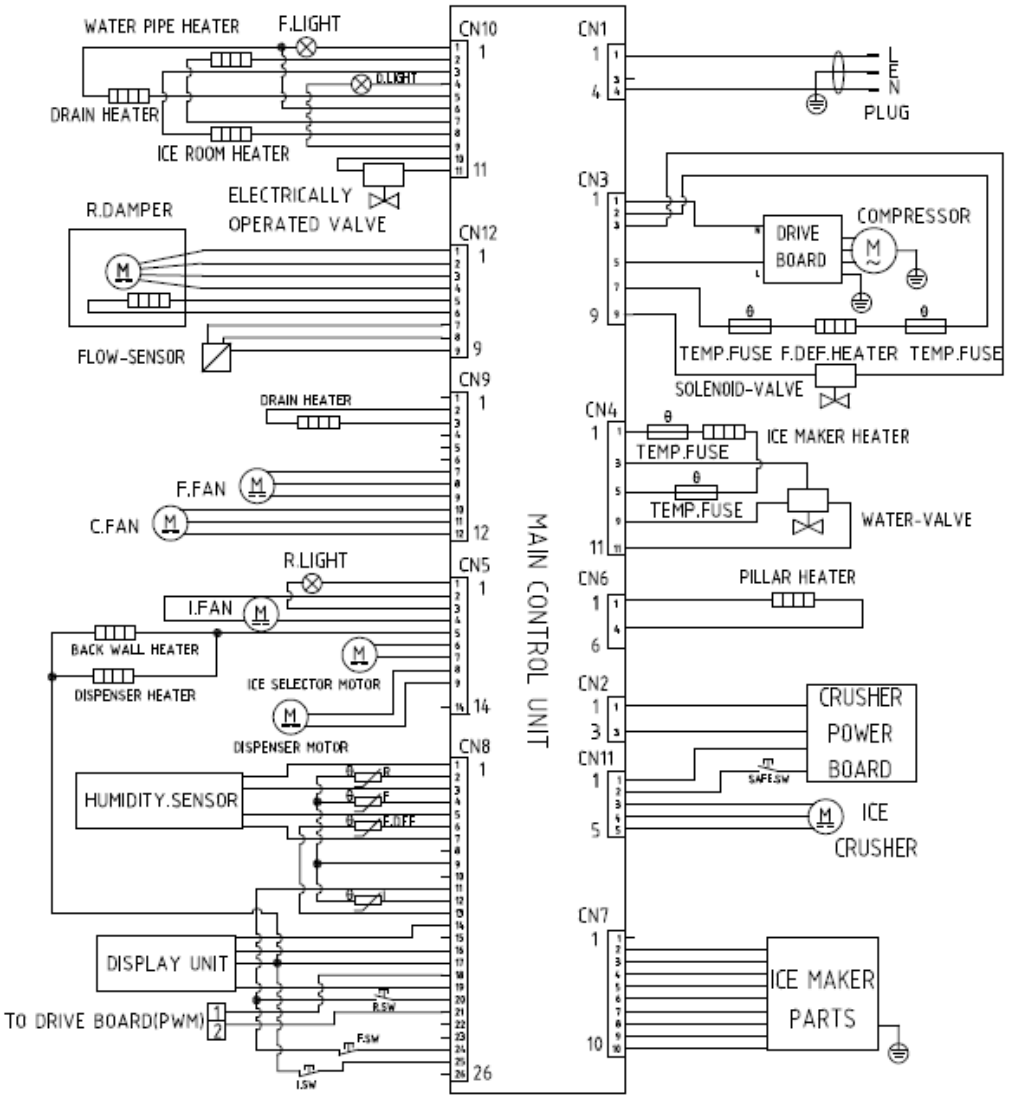
5.8 PANEL PBA operates abnormally

1) When PANEL PBA does not light up or partially does


Start
The connector at the Freezer upper hinge cover is inserted properly.
N
Re-insert Connector, Correct the defective contact
Y
Refer to Circuit Diagram in this manual and check the circuit diagram attached on the back of the unit.
MAIN PBA Connector (CN4)is inserted properly
N
Re-insert MAIN PBA Connector
Y
DOOR PANEL PBA Connector is inserted properly
N
Re-insert Connector, Correct the defective contact
Y
※ If the panel key is not selected
It lights up after PANEL-PBA replacement
Y
Defective PANEL PBA
N
① Check F/R-Door Wiring - Short or Open Wire
② Check F/R-CABI Wiring - Short or Open Wire
③ Check Short/Open on MAIN PBA or replace it
2) When Panel PBA buttons are not working
※ When the trouble is being remained after the above,
There are no Pressed buttons being continuously.
Being pressed
Reassembling PBA assembling/ releasing pressed part
Y
The trouble continues after Panel PBA cover is separated
When being separated, it works
Re-assemble PBA ASS'Y, Correct any restrictions on the buttons
Y
After replacing Panel PBA, it works properly
Y
Defective PANEL PBA
N
① Check F/R-Door Wiring - Short or Open Wire
② Check F/R-CABI Wiring - Short or Open Wire
③ Check Short/Open on MAIN PBA or replace it

6. Circuit and checking

6.1 Circuit diagram



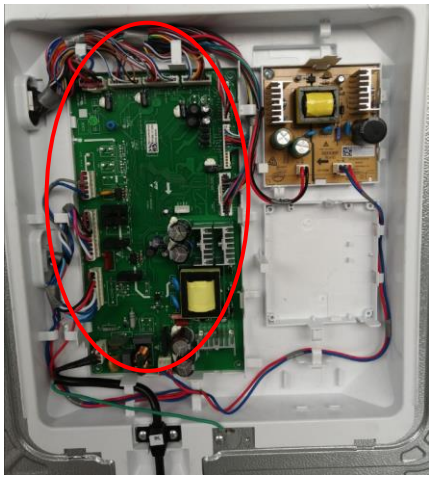
6.2 Mainboard

6.2.1 Checking method

If the problem is probably caused by the mainboard, change it directly to confirm.

6.2.2 Removing the mainboard

1. Unplug the appliance
2. Remove the screws by screwdriver and remove the electric box cover, as picture 1.
3. Remove the screw, then remove the mainboard, as picture 2.

	
Picture1	**Picture2**

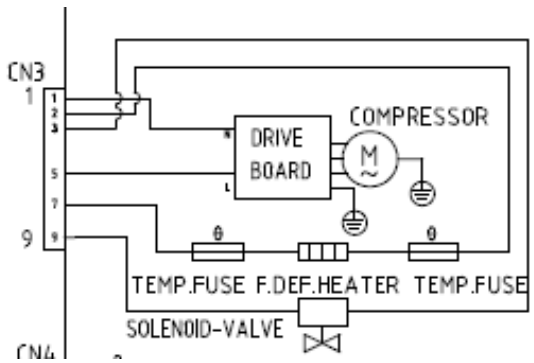
6.3 Compressor

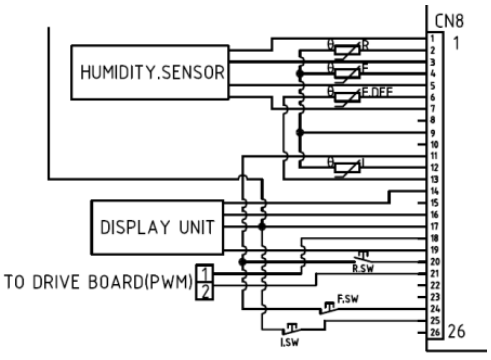
6.3.1 Basic parameters

Input voltage/frequency: 115V/60Hz
Input power:≤300W

6.3.2 Checking method

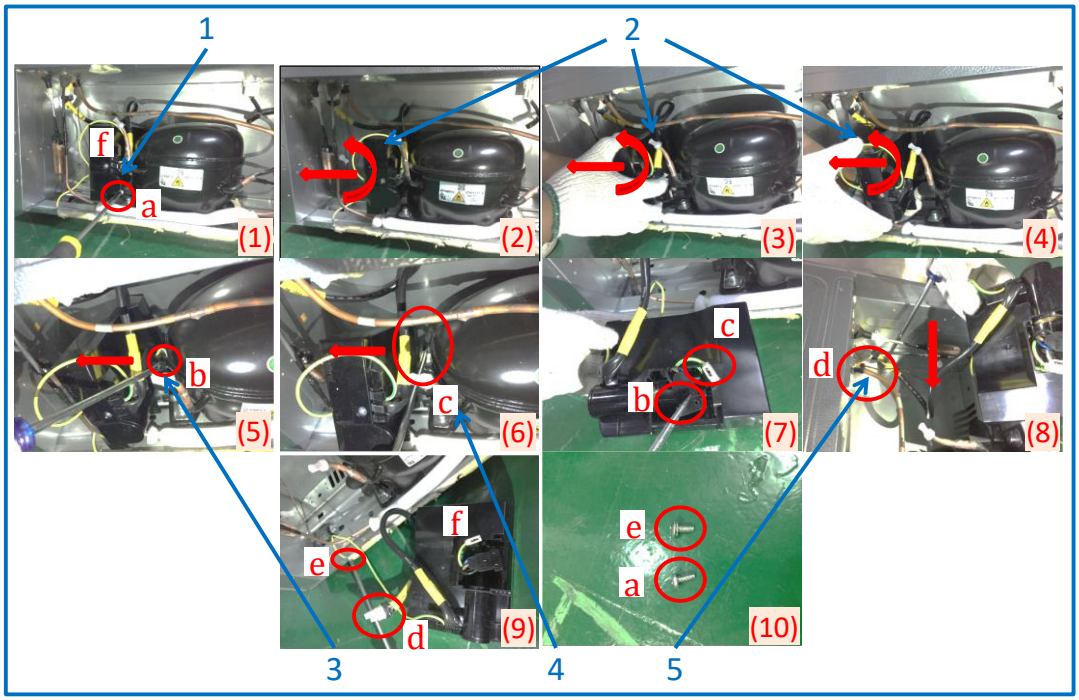
1. Power on the Refrigerator, when the cooling fan is working, Check if the compressor is working .If not, remove the electric box cover and check.
2. Check the connecting wiring between compressor and mainboard and repair if it is broken.
3. Use a multimeter to measure voltage between No.1 and No.5 on CN3 connector of mainboard, then measure frequency between No.18 and No.20 on CN5 connector of mainboard. If the voltage equal to electric supply power and there is stabilized frequency, it means the compressor or drive board is broken, change the drive board or compressor; If not, change the mainboard.





6.3.3 Removing the drive board

Attention: Before you removing the drive board, please unplug the appliance.
Step 1. Remove the (a) screw of the drive board box by screwdriver.(pic.(1))
Step 2.Remove the drive board box following the picture (2~4).
Step 3.Remove the black installation clip (b) by screwdriver following the picture (5)
Step 4.Remove the white installation clip (c) by screwdriver following the picture (6)
Step 5. Unplug the installation clip (d). (pic.(8))
Step 6.Unplug the connector (f)connected with the compressor and remove the screw (e)(pic.(9)).



6.4 Fan motor

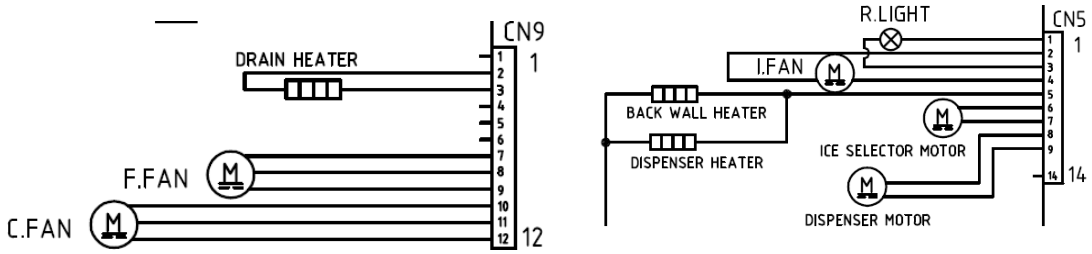
6.4.1 Basic parameters

Rated voltage:
F.FAN: DC12V
C.FAN: DC12V

6.4.2 Checking method

1. Check the connecting wiring of fan motor is well or not, repair if it's broken.
   - The freezer fan motor corresponding pin No.7~No.9 on CN9 connector of main-board, pin No. 8 connect 12V power and pin No. 9 connect GND, as the drawing below.
   - The condenser fan motor corresponding pin No. 10~ No.12 on CN9 connector of main-board, pin No.11 connect 12V power and pin No.12 connect GND, as the drawing below.

➢ The ice maker fan motor corresponding pin No.2 and No.4 on CN5 connector of main-board, pin No. 4 connect 12V power and pin No. 2 connect GND as the drawing below.



2. Freezer fan motor

Check output voltage corresponding freezer fan motor, if the voltage range between DC 9V and 12V when working conditions are met, it means the mainboard is OK, change the freezer fan motor. If not, change the mainboard.

The convertible fan motor

3. Condenser fan motor

Check output voltage corresponding condenser fan motor, if the voltage range between DC 9V and 12V when working conditions are met, it means the mainboard is OK, change the condenser fan motor. If not, change the mainboard.

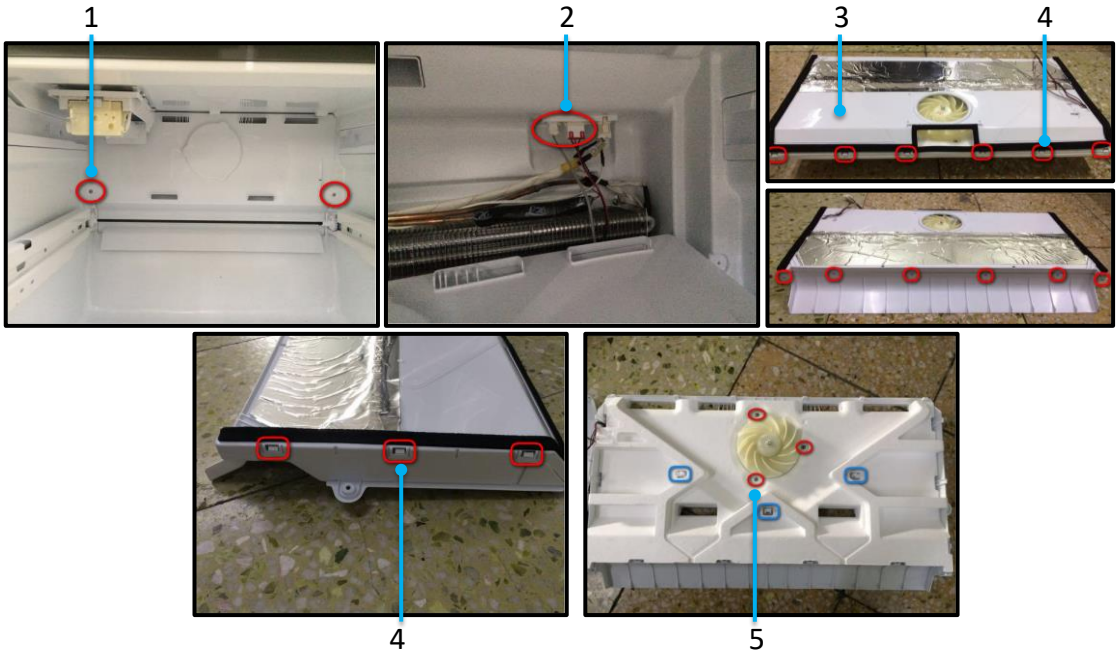
6.4.3 Removing the freezer fan motor

Step 1: Remove the freezer door (refer to "Door removal" part).

Step 2: Remove the two screws (1) holding the freezer air duct with a Philips screwdriver, and then remove the wire connectors(2) and freezer air duct.

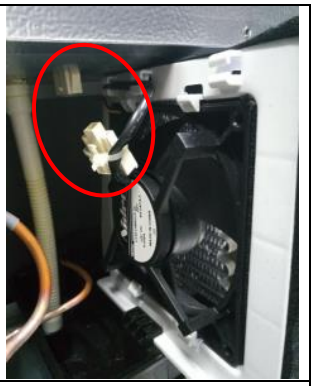
Step 3:Remove the clasp(4) of the cover(3) with your both hands.

Step 4:Remove the fan motors after removed the three screws (5) holding the fan motors with a Philips screwdriver.



6.4.4 Removing the condenser fan motor

Step 1. Unplug the appliance.
Step 2. Remove the 6 screws by screwdriver then remove the cover as picture 1.
Step 3. Remove the 1 screws by screwdriver as picture 2.
Step 4. Unplug the terminal as picture 3.
Step 5. Pull out the fan motor as the picture 4, then remove the fan motor as picture 5.

		
Picture1	**Picture2**	**Picture3**
		
Picture4	**Picture5**	

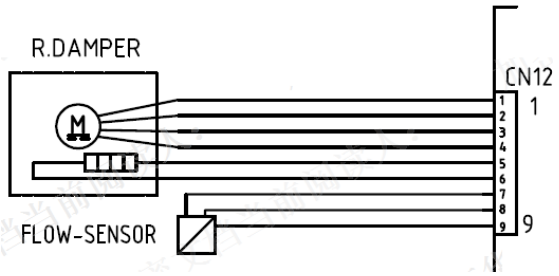
6.5 Damper

6.5.1 Basic parameters

Rated voltage: DC12V
Rated current: 60mA

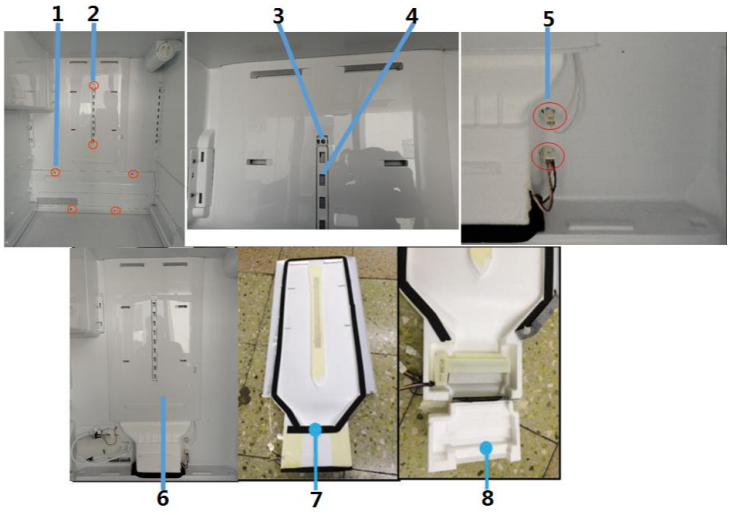
6.5.2 Checking method

1. Check the connecting wiring of the damper is well or not, repair if it is broken. The damper corresponding pin No.1~6 on CN6 connector of mainboard, as the drawing below.
2. The damper will turn on and off for one time after power-on, if not, change the mainboard first and change the damper if problem remains.



6.5.3 Removing the damper

Step 1:Remove the four screws (1) with a Philips screw driver.
Step 2:Remove the bracket cover(2).
Step 3:Remove the two screws (3) holding the fridge air duct with a Philips screwdriver, and then remove the fixed board (4).
Step 4:Remove the two wire connectors(5).
Step 5: Remove the fridge air duct(6) with your both hands.
Step 6: Rive off the foam strip (7) ,and then remove the wind gate foam(8).
Step 7: Remove the fridge electric wind gate.



6.6 Light

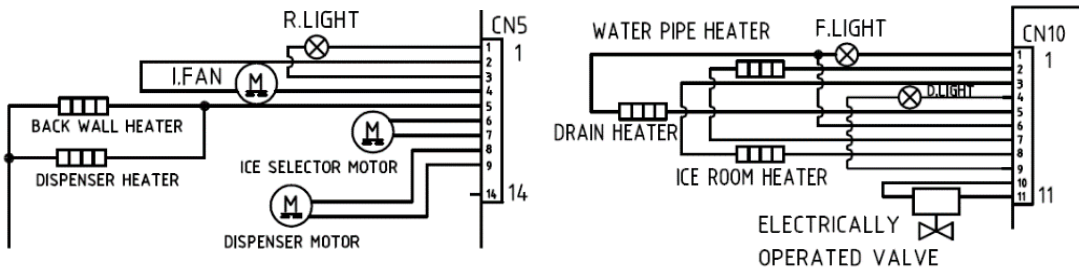
6.6.1 Basic parameters

Rated voltage: DC12V

6.6.2 Checking method

6.6.2.1 Check the connecting wiring between light and mainboard is well or not. Repair if it is broken.

- Refrigerator light corresponding pin No.1 and No.3 on CN5 connector of the mainboard.
- Freezer light corresponding pin No.1 and No.6 on CN10 connector of the mainboard.
- Dispenser light corresponding pin No.4 and No.9 on CN10 connector of the mainboard, as the drawing below.



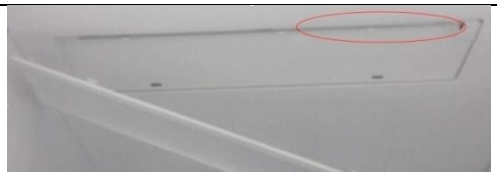
6.6.2.2 Checking method

Check output voltage corresponding light of the mainboard, if it is 12V when working conditions are met, it means the mainboard is OK, change the light; If not, it means the mainboard is not OK, change it.

6.6.3 LED light removal

6.6.3.1 Removing the refrigerator top light

1. Unplug the appliance.
2. Remove the light cover, as picture 1.
3. Remove the light, as picture 2.

 	 
Picture1	Picture2

6.6.3.2 Removing the refrigerator side light

1. Remove the light cover by prying open the light cover with a screwdriver, as picture 1;
2. Remove the light and remove the wire connector by pressing the top of them, as picture 2;

 	
Picture1	Picture2

6.7 Door switch

6.7.1 Basic parameters

Load voltage: DC5V
Load current: 0.05A

6.7.2 Checking method

Fridge door switch
1.Check the connecting wiring of door switch is well or not, repair if it is broken. Refrigerator freezer door switch corresponding pins as the drawing below.
2.The fridge doors switch is corresponding pin No.11 and No.20 on CN8 connector of mainboard, as the drawing below.
3.Check the magnet on the fridge doors is dropped out or not.

4. Normally, when the door is closed, the two pins of door switch should be short circuit; When the door is open, the two pins should be open circuit. If the result is not abnormal, change the door switch.

If all above is OK ,change the mainboard.

Freezer door switch

1. The freezer Door switch corresponding pin No.11 and No.24 on CN8 connector of mainboard, as the drawing below.

2. Normally, when the door is closed, the two pins of door switch should be open circuit ;When the door is opening ,the two pins should be short circuit. If the result is abnormal, change the door switch.

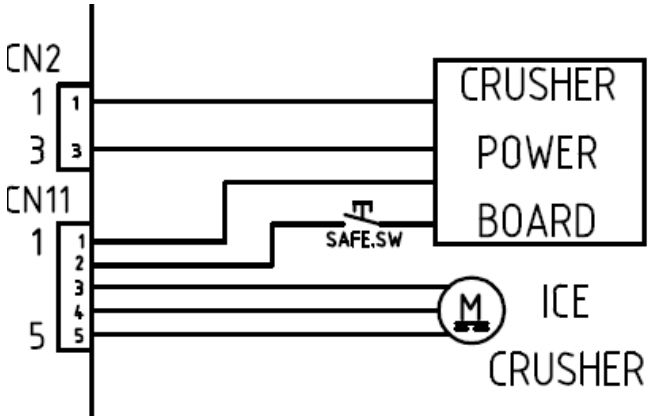
3. If all above is OK, change the mainboard.

Ice crusher motor switch (safe switch)

1、Check the connecting wiring of door switch is well or not, repair if it is broken.

2、the corresponding pin No.2 on CN11 connector to crusher power board.

3、Normally, when the door is closed, the two pins of switch should be short circuit; When the door is open, the two pins of switch should be open circuit. If the result is not abnormal, change the switch. If all above is OK, change the mainboard.



6.8 Defrost heater

6.8.1 Basic parameters

Freezer:

Rated voltage: AC115V; Rated power: 220W

6.8.2 Checking method

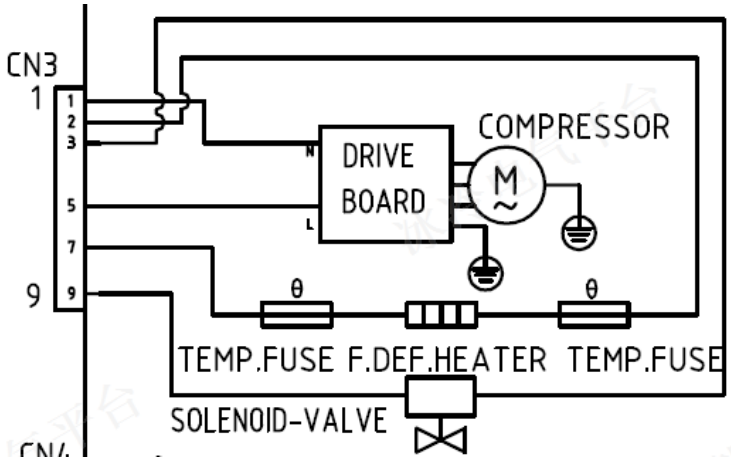
1.Check the connecting wiring of the defrost heaters are well or not, repair it if it is broken. Feezer defrost heaters corresponding pins as the drawing below.

2. Within 10 min after power on , press the button “Alarm”+“Freezer” more than 3 second. After the display illumine all the leds for 1 second and occur a long sound, it means have entered compulsory defrost mode.

During compulsory defrost mode, the display board will display “dF”, use a multimeter to measure the voltage between pin No.2 and No.7 on CN3 connectors of the mainboard, if

the voltage doesn't equal to electric supply power, it means the mainboard is broken, change it.

3.Use a multimeter to measure resistance of the heaters, if the value isn't 60.1Ω±10%, it is broken, change the heater.



6.9 Removing the Display Component

6.9.1 Basic parameters

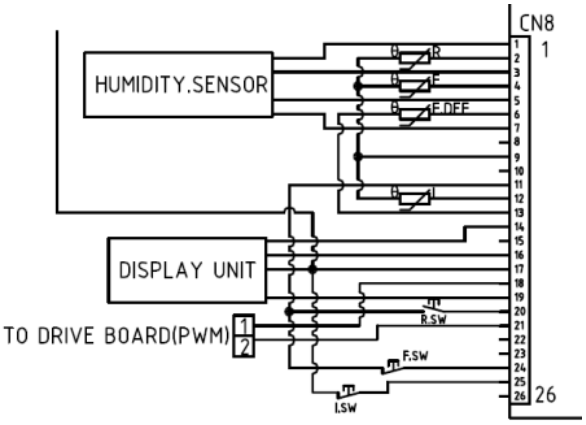
Rated voltage: DC5V

6.9.2 Checking method

1. Check the connecting wiring of the display component and the connecting on top of refrigerator, is well or not, repair if it is broken.

2.The display panel corresponding pin No.14、No.16、No.17 and No.19 on CN8 connector of the main-board as the drawing below.

3. Check output voltage corresponding display between No.17 and No.19 on CN8 connector of mainboard. if the voltage equal to DC 5V, it means the mainboard is OK, change display component; If not, it means the main control board is broken, change it.



6.9.3 Removing the Display Component

Step 1: Remove the display component by digging the bottom edge with fingers as the picture below.

Step 2: Remove the wire connector by pressing the top of them.

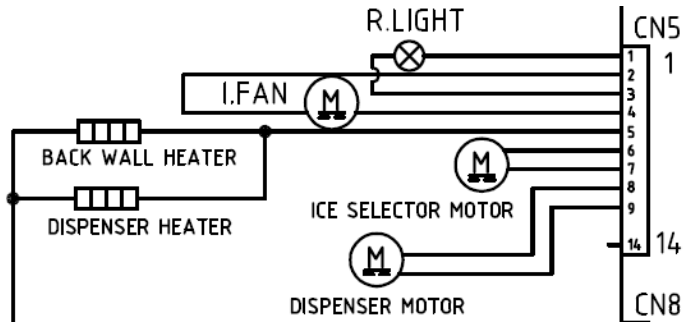
6.10 Dispenser motor

6.10.1 Basic parameters

Rated voltage: DC 12V

6.10. 2 Checking method

1. Check the connecting wiring of the motor is well or not, repair if it is broken. The **motor** corresponding pin No.8 and No. 9 on CN5 connector of the main-board as the drawing below.
2. Check output voltage corresponding pin No.8 and No.9 on CN5 connector of mainboard, if the voltage equal to DC 12V when working conditions are met, it means the mainboard is OK, change dispenser motor; If not, it means the main control board is broken, change it.



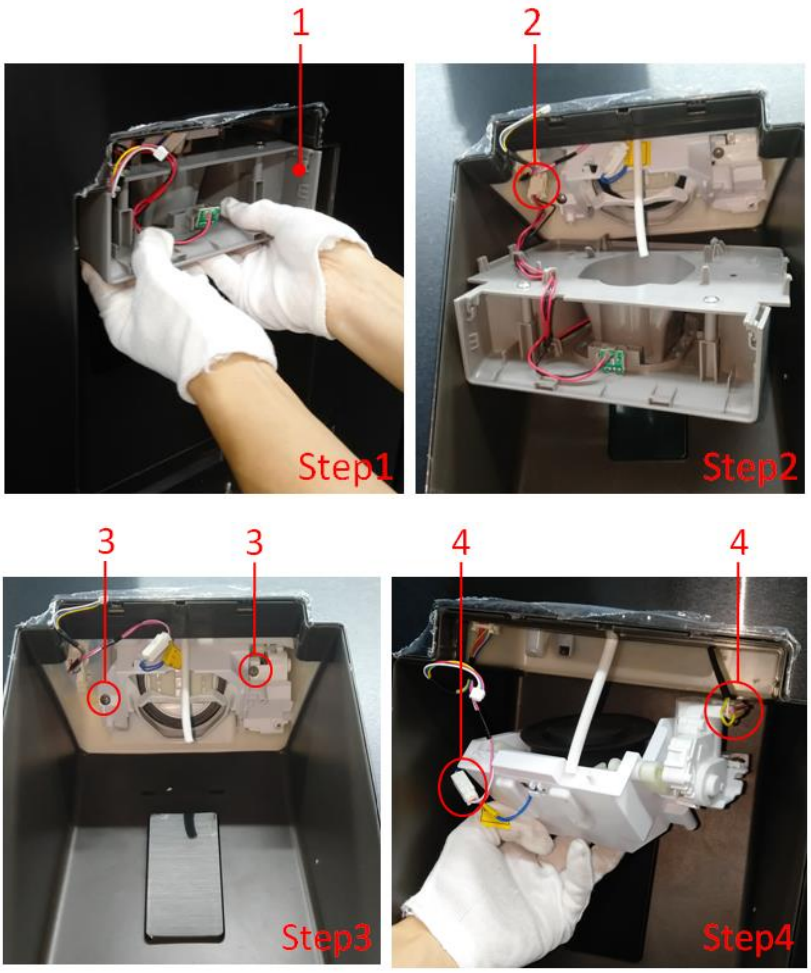
Removing the dispenser motor

After you have removed the display component, you can remove the dispenser in the following steps:

Step 1: Remove the function part(1) by pulling down with your hands as the picture below.

Step 2: Remove the wire connector (2) by pressing the top of them.(After you have removed the function part, you can change the led light of the function part)

Step 3: Remove the two screws (3) with a Philips screwdriver.
Step 4: Remove the dispenser and remove the two wire connector (4) by pressing the top of them.



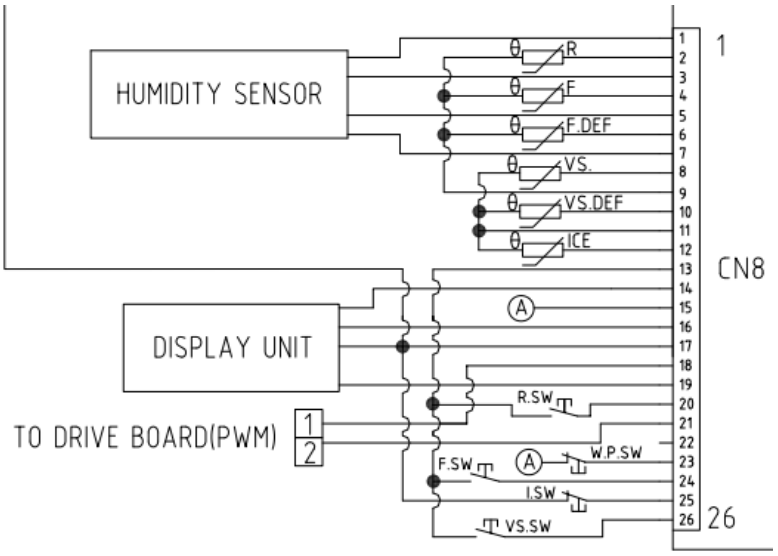
6.11 Lever switch

6.11.1 Basic parameters

Rated voltage: DC 5V

6.11.2 Checking method

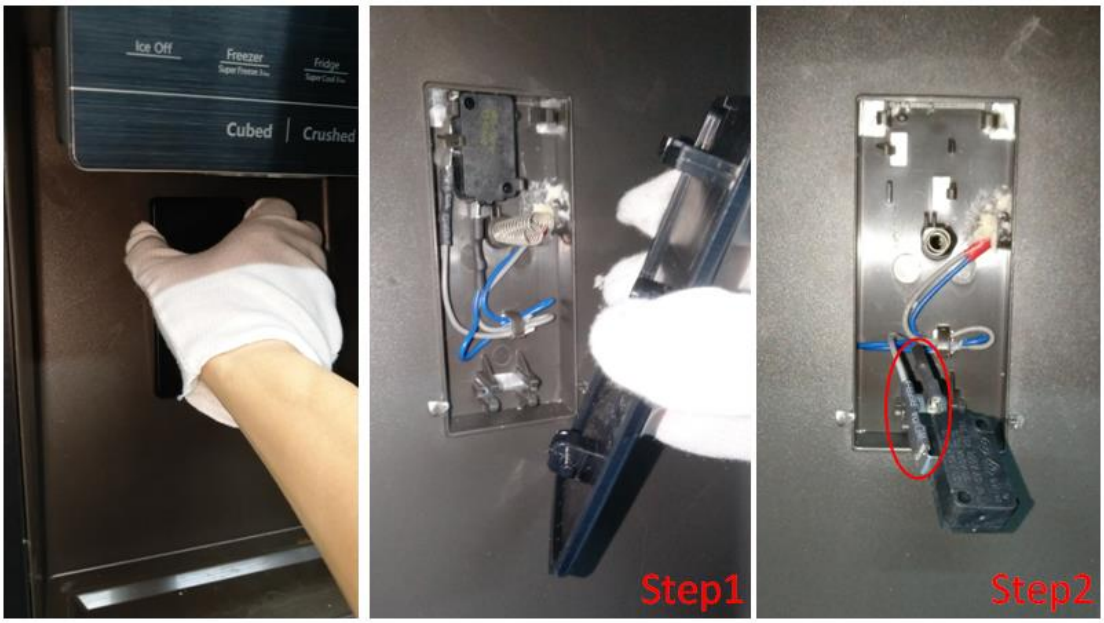
1. Check the connecting wiring of the switch is well or not, repair if it is broken. The switch corresponding pin No.17 and No.25 on CN8 connector of the main-board as the drawing below.
2. Under normal condition, the two pins of switch is open circuit; Under press condition, the two pins of switch is short circuit. If the result is abnormal, change the switch.



6.11.3 Removing the lever switch

Step 1: Remove the lever by pulling the upper part of the lever with your hand as the picture below.

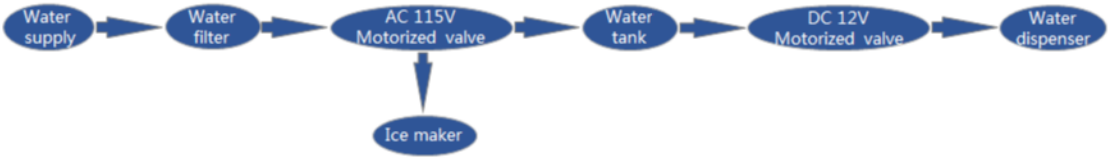
Step 2: Remove the dispenser switch and pull out wire terminal.

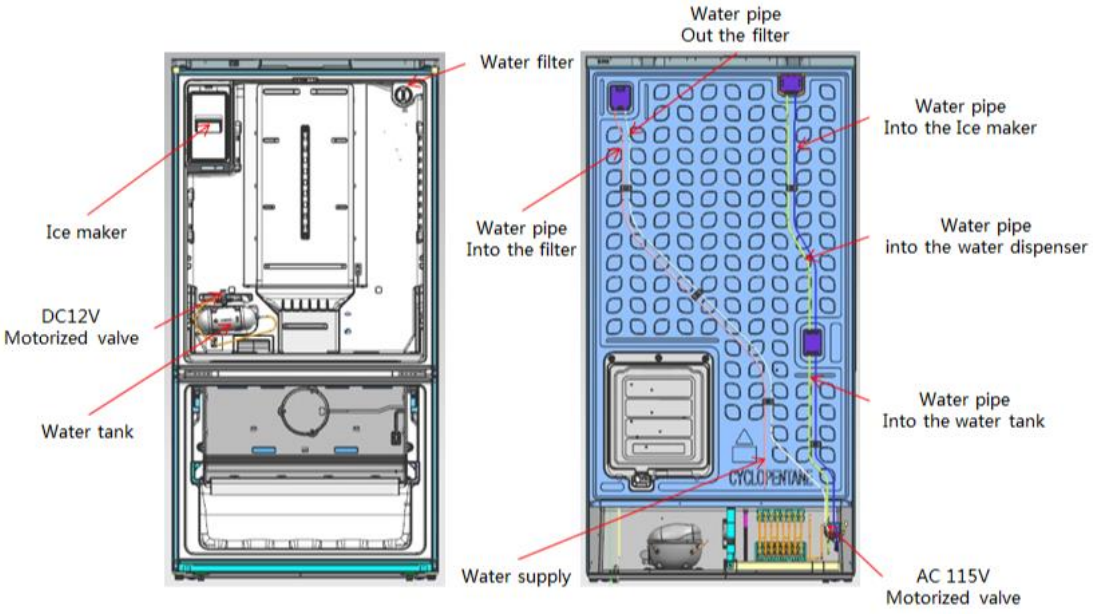


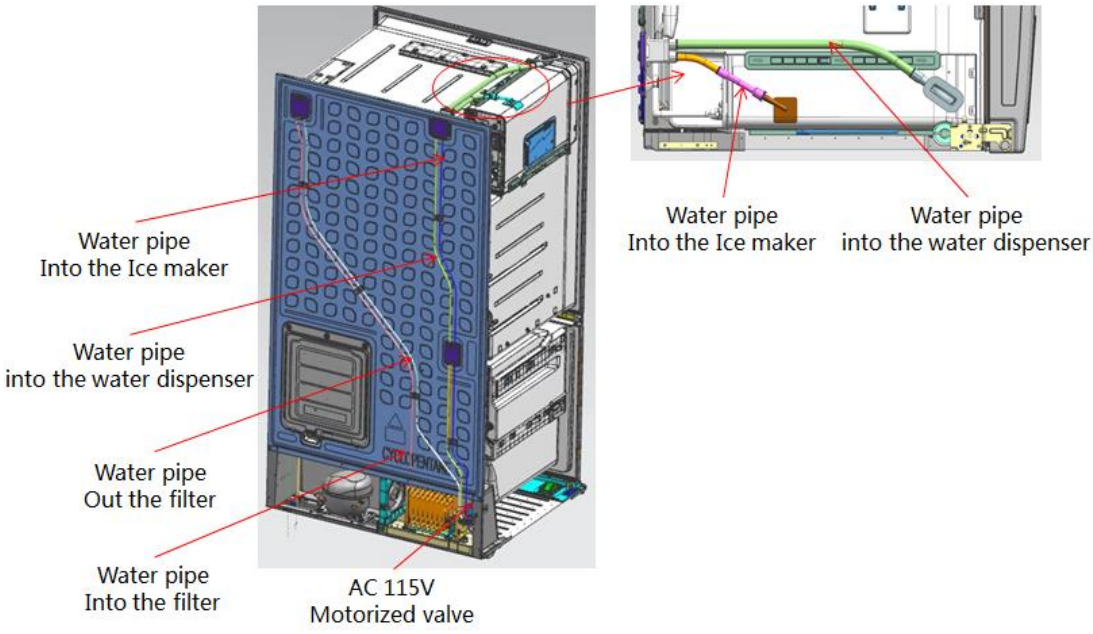
6.12 Water system

6.12.1 Schematic diagram of water system

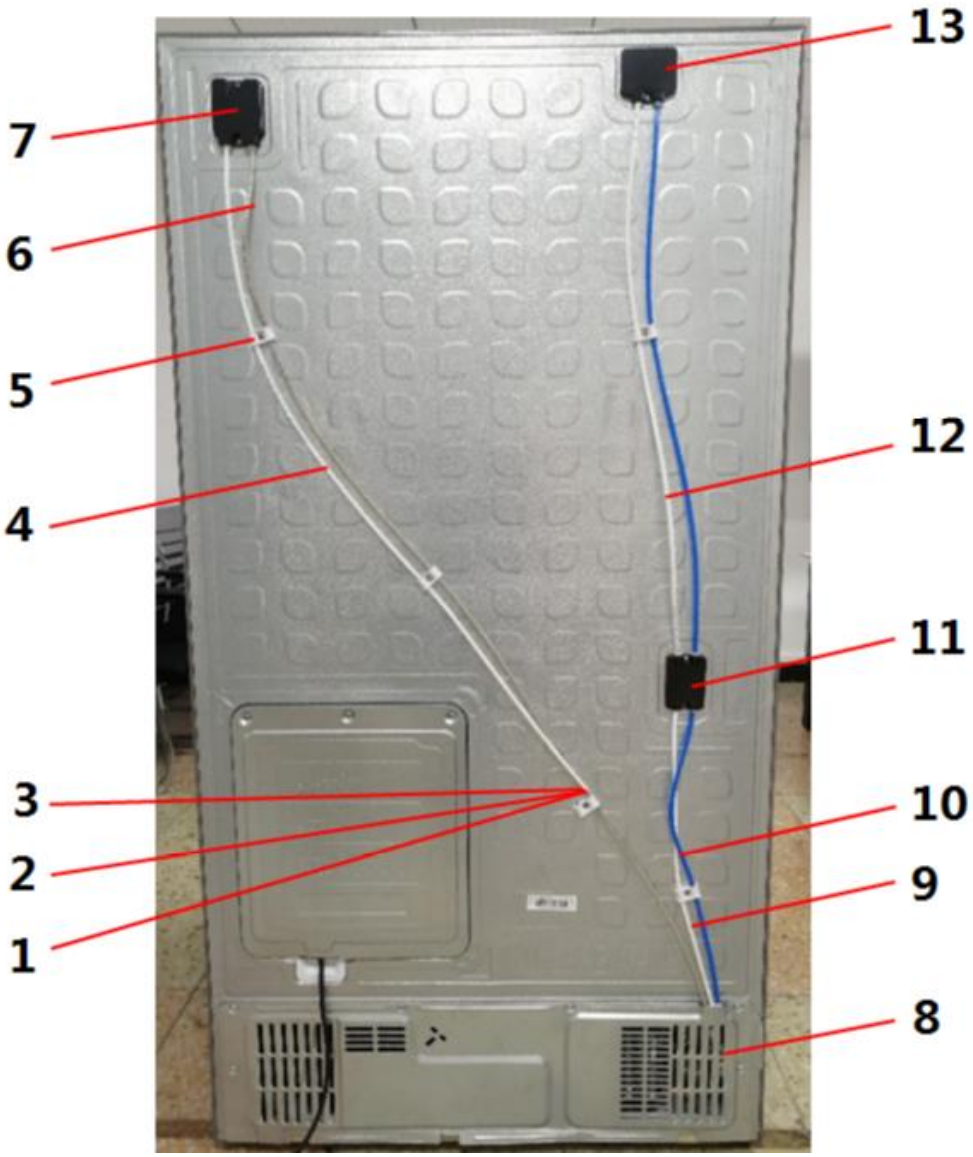
Waterway design scheme





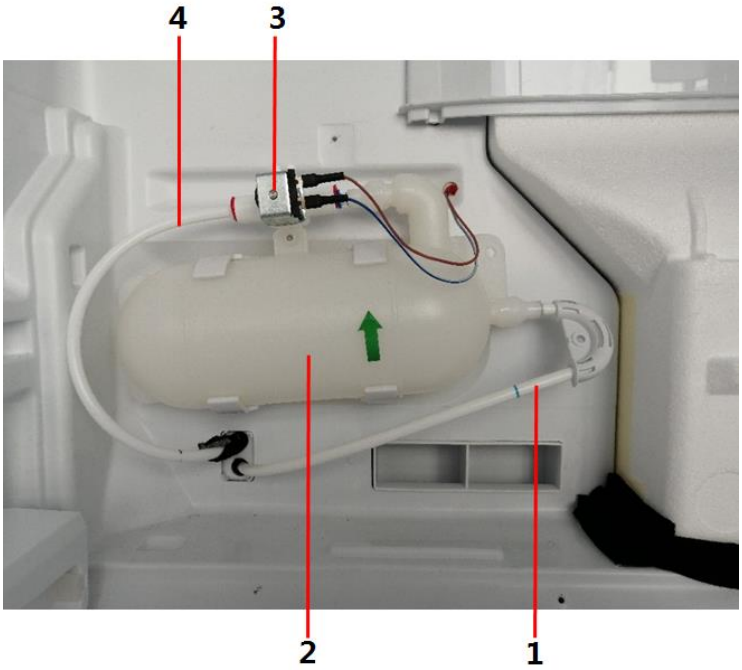


6.12.2 Water system out of the freezer room



1—Pipe cover
2—Connector Nut
3—Tap Water Joint Connector
4—Water pipe (white, flow into the water filter)
5—Installation clip
6—Water pipe (grey, flow out the water filter, flow into motorized valve)
7—Water filter inlet cover
8—Motorized valve
9—Water tube (white, flow into the water tank in fridge room)
10—Water pipe (blue, flow into the icemaker room)
11—Water tank inlet cover
12—Water pipe (white, flow into the water dispenser in fridge door)
13—Icemaker inlet cover

6.12.3 Water system in the fridge room



1—Water tube (white, flow into the water tank in fridge room)
2—Water tank
3—Electrically operated valve (DC12V)
4—Water pipe (white, flow from water tank to the dispenser on fridge door)

6.12.4 Electrically operated valve

6.12.4.1 Basic parameters

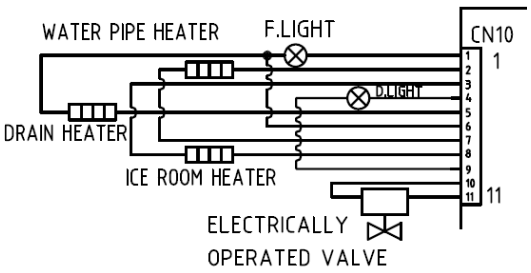
Rated voltage: DC12V

6.12.4.2 Checking method

1. Check the connecting wiring between Electrically operated valve and mainboard is well or not. Repair if it is broken.
2. Electrically operated valve corresponding pin No.10 and No.11 on CN10 connector of the mainboard. Use a multimeter to measure coil resistance，the resistance value is

32Ω±5Ω(at 20℃)

3. Check output voltage corresponding Electrically operated valve of the mainboard, if it is 12V when working conditions are met, it means the mainboard is OK, change the water pump; If not, it means the mainboard is not OK, change it.



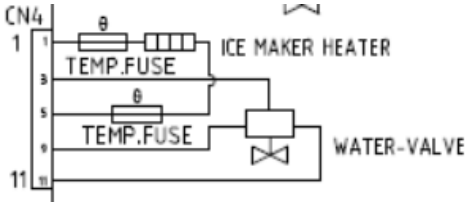
6.12.5 Water valve

6.12.5.1 Basic parameters

Rated voltage: 110-127V,50-60Hz,20W

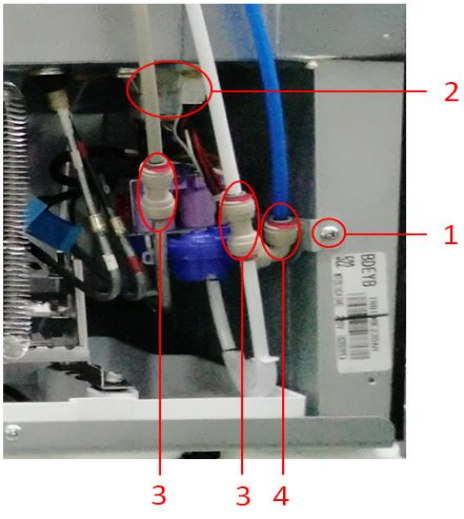
6.12.5.2 Checking method

1. Check the connecting wiring between water **valve** and mainboard is well or not. Repair if it is broken.Water valve corresponding pin No.3,No.9 and No.11 on CN4 connector of the mainboard.
2. Check water line connected well.
3. Touch and hold “Alarm”button+“Crushed” button for 3 seconds in 10 minutes after power-on, the ice valve will opened for 180S, the water and ice valve will opened for 180S, if not, please replace the motorized valve. It can be stopped in the process by touch and hold “Alarm”button+“Crushed” button for 3 seconds.



6.12.5.3 Removing the water valve

1. Remove the screw (1) with a Philips screwdriver.
2. Remove the wire connector (2) by pressing the top of them.
3. Disconnect the water line at the check valves (3) and quick connector (4).



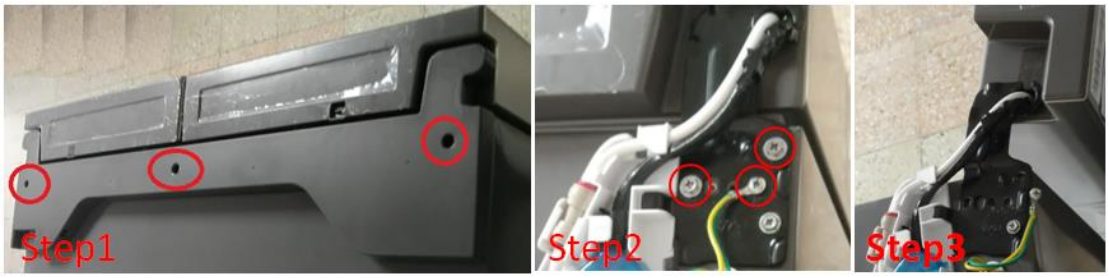
6.13 Ice maker

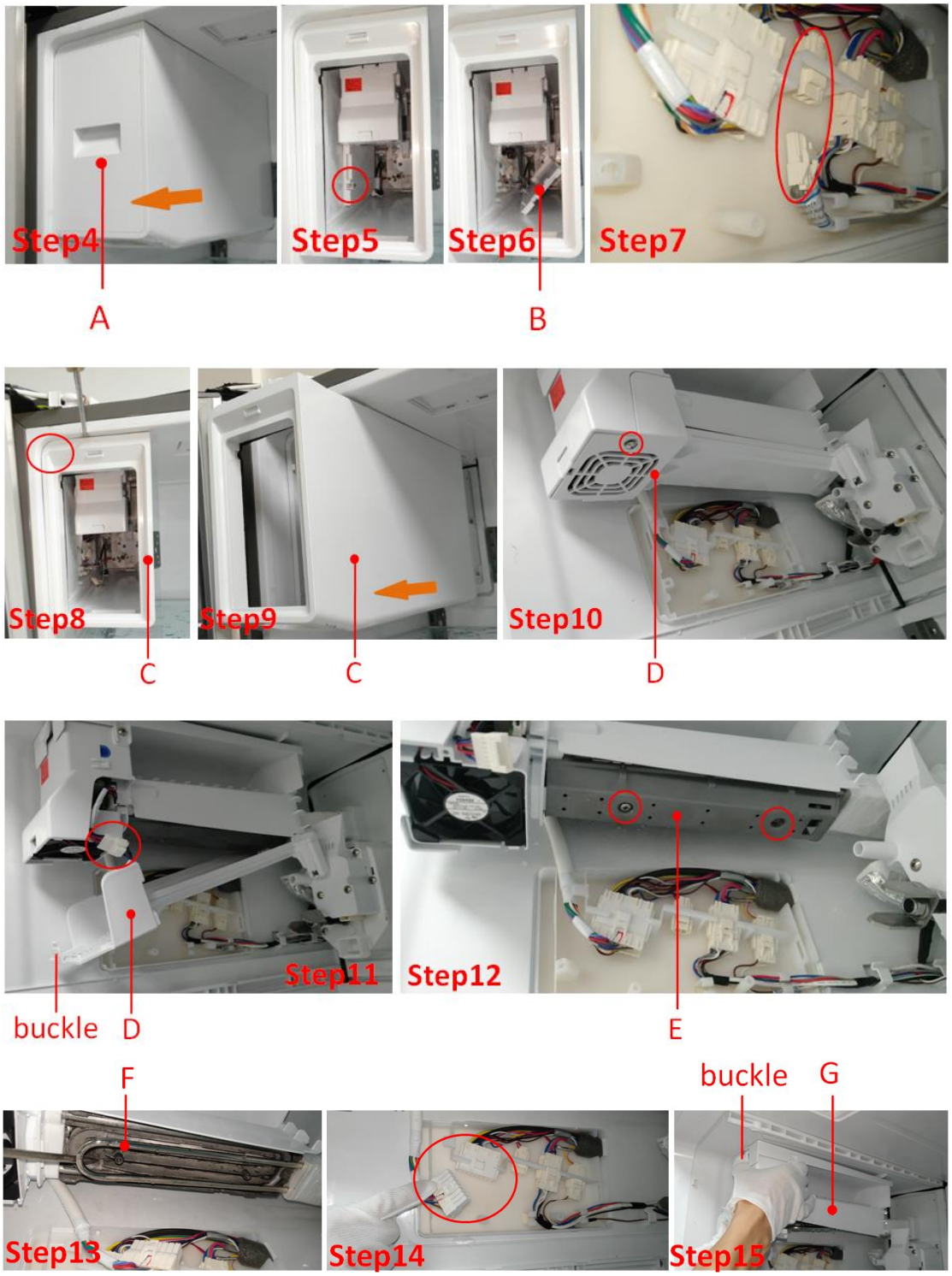
6.13.1 Checking method

When the ice maker can not work, please check according to the following steps
Step 1.Check water line connection
Step 2.Check the connecting wiring between icemaker and mainboard is well or not. Repair if it is broken.
Step 3. Touch and hold“Alarm”button+“Ice Off” button for 3 seconds in 10 minutes after power-on, the ice maker will be operated, if not, please change ice maker part.

6.13.2 Remove the ice maker part

Before removing all parts in the ice-making room, you must do forced defrosting for your appliance. After thoroughly defrosting, unplug the appliance.
Step 1: Remove the three screws holding the top cover with a Philips screwdriver.
Step 2: Remove the two screws holding the upper hinge and the earthing screw with a Philips screwdriver.
Step 3: Rotate door hinge as picture, loosen the last screw holding the door hinge if necessary.
Step 4: Remove the ice bucket (A) with your hand in the direction of the arrow.
Step 5: Remove the screw holding the wire harness cover (B) with a Philips screwdriver.
Step 6: Remove the wire harness cover(B) by sliding out.
Step 7: Remove the second wire connector by pressing the top of it as picture shown.
Step 8: Pry the Ice making chamber (C) out the cabinet liner with a Philips screwdriver, especially the corner as shown in the picture.
Step 9: Remove the Ice making chamber (C) with your both bands in the direction of the arrow.
Step 10: Remove the screw holding the ice maker fan cover (D) with a Philips screwdriver.
Step 11: Remove the ice make fan cover (D) by pressing the buckle and remove the wire connector by pressing the top of them.
Step 12: Remove the screw holding the fix block (E).
Step 13: Pry the evaporation tube (F) out the ice maker with a Philips screwdriver.
Step 14: Remove the first wire connector by pressing the top of it as picture shown.
Step 15: Remove the ice maker (G) by pressing the buckle as picture shown.



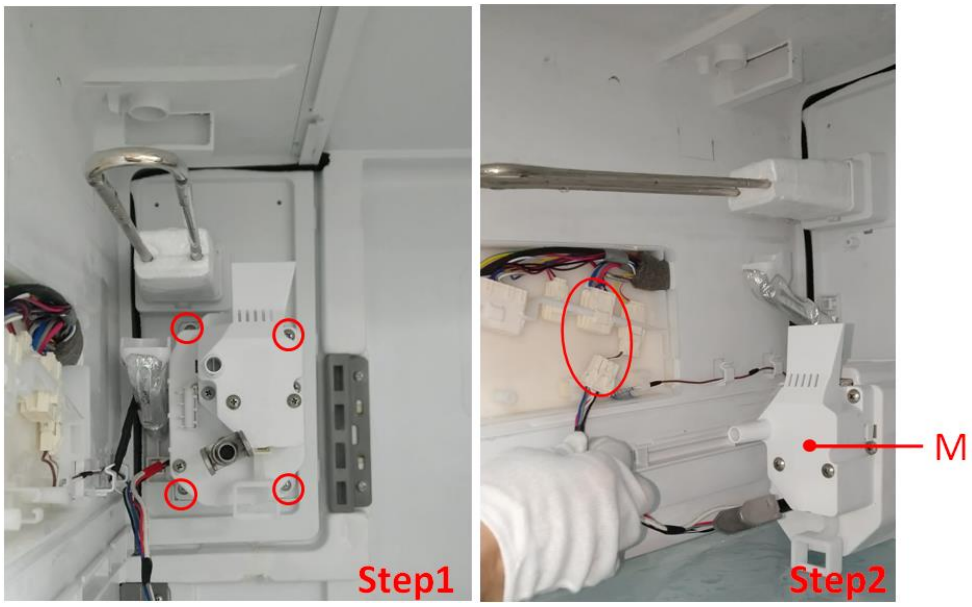


6.13.3 Remove the ice crusher motor

After you have removed the ice maker, you can remove the ice crusher motor in the following steps:

Step 1: Remove the four screws holding the motor part (M) with a Philips screwdriver.

Step 2: Remove the third wire connector by pressing the top of it.



6.13.4 Remove the water nozzle

After you have removed the ice maker and the ice crusher motor, you can remove the water nozzle in the following steps:

Step 1: Remove the water nozzle by pressing the hook with a Philips screwdriver.

Step 2: Remove the fourth wire connector by pressing the top of it.

6.14 Checking the electromagnetic valve

Fault phenomenon 1：Leak

Detection method ： Use soap water coating on the welding place of the electromagnetic valve, pour the refrigerants into the system, to see if having the bubble, If yes, meaning the electromagnetic valve itself has the leakage.

Fault phenomenon 2：Not reversing

Detection method ：With the hand to touch the electromagnetic valve, and power on it ,the voltage is 100－120V, then to fell if the electromagnetic valve has reversing action or hear

if the electromagnetic valve has the sound of reversing action, If yes, meaning the electromagnetic valve is good.

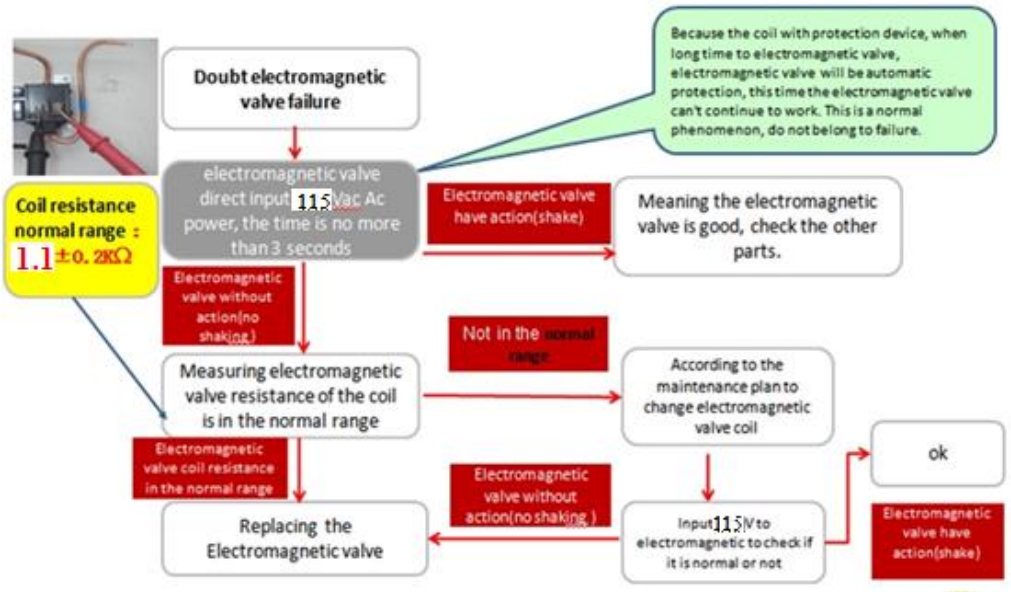
Fault phenomenon 3：Reversing not reliable.

Detection method ：

Touch and hold “Alarm” button +”℉/℃” button for 3 seconds in 10 minutes after power-on, it will enter maintenance model. The display will show “00” on freezer temperature display area and “0” on fridge compartment temperature display area.

- Press “ Eco” button until the display show “06” on freezer temperature display area. Then press “℉/℃”button, when the display show “0” fridge compartment temperature display area. It is forced order fridge compartment cooling at this moment. If the temperature of fridge compartment does no drop, it means the fridge compartment cooling system is abnormal.

Press “Eco” button until the display show “06” on freezer temperature display area. Then press“ ℉/℃” button, when the display show “1” fridge compartment temperature display area. It is forced order freezer compartment cooling this moment. If the temperature of freezer compartment does no drop, it means the freezer compartment cooling system is abnormal.



Note：

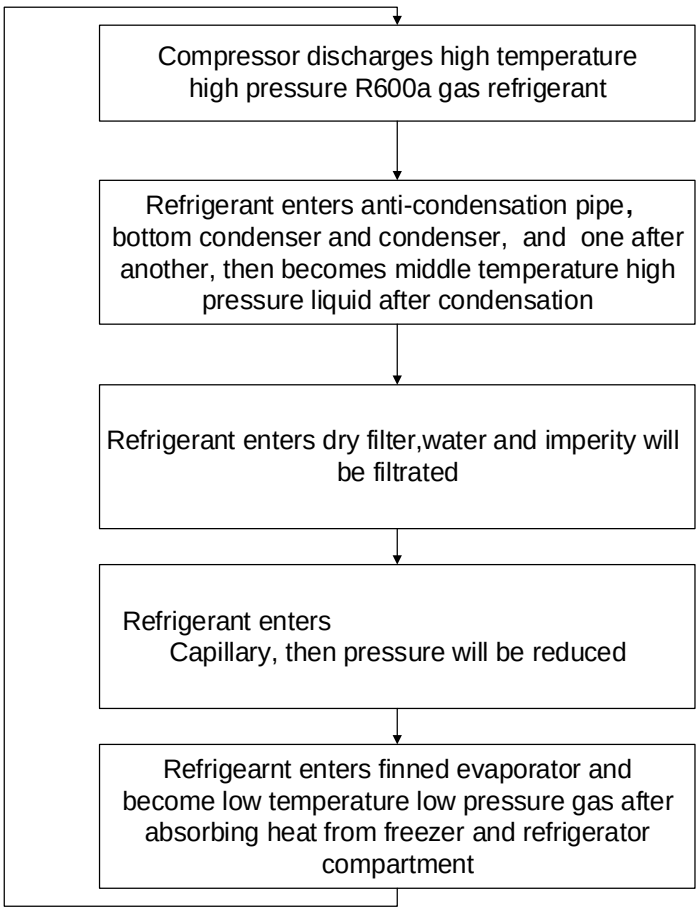
When assembly the electromagnetic valve, pay attention to mark the pipeline, avoid connection error；

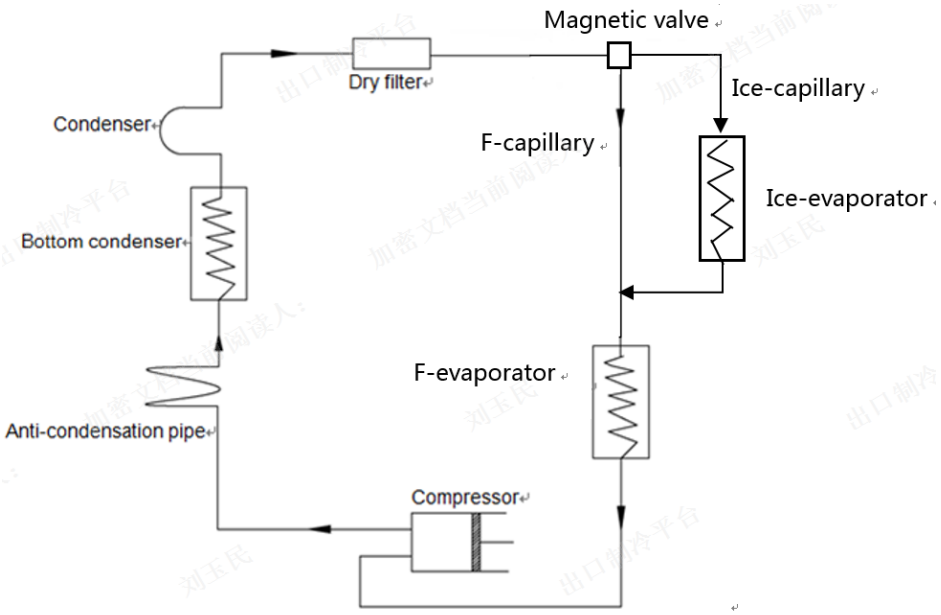
Due to the electromagnetic valve internal seal uses rubber material , so when welding the electromagnetic valve , the time should be not more than 5S. Long time to weld will lead to high temperature and will be transfer to electromagnetic valve internal rubber, causes the change of rubber, and may lead to electromagnetic valve abnormal work. (when welding, winding some wet cloth on pipe and drench it at the same time).

7. Cooling system repairing

7.1 Refrigeration system

The refrigerator system is Single cooling system:

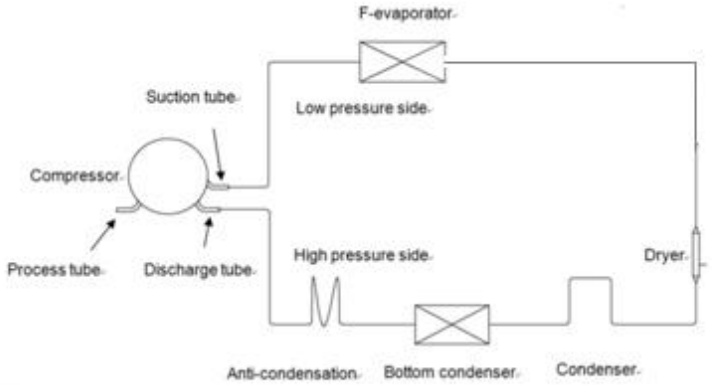




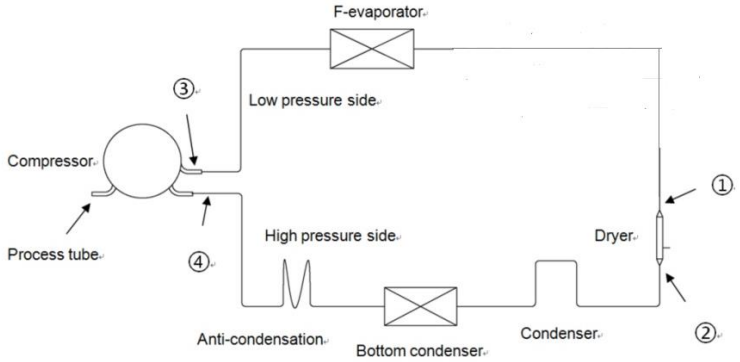
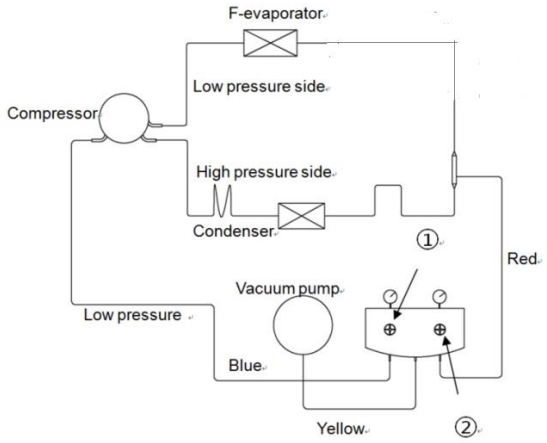
7.2 Summary of repair

Process	Contents	Tools
Remove refrigerant Residuals	* Cut charging pipe ends (Comp. & Dryer) and discharge refrigerant from drier and compressor.	* Nipper, side cutters
Parts replacement and welding	* Confirm refrigerant (R-134a or R-600a) and oil for compressor and drier. * Confirm N2 sealing and packing conditions before use. Use good one for welding and assembly. * Repair in a clean and dry place.	* Pipe Cutter, Gas welder, N2 gas
Vacuum	* Evacuate for more than forty minutes after connecting manifold gauge hose and vacuum pump to high (drier) and low (compressor) pressure sides.	* Vacuum pump , Manifold gauge.
Refrigerant charging and charging inlet welding	* Weigh and control the bombe in a vacuum conditions with electronic scales and charge through compressor inlet (Process tube). * Charge while refrigerator operates). * Weld carefully after inlet pinching.	* Bombe (mass cylinder), refrigerant manifold gauge, electronic scales, punching off flier, gas welding machine
Check refrigerant leak and cooling capacity	* Check leak at weld joints. Note :Do not use soapy water for check. * Check cooling capacity → Check condenser manually to see if warm. → Check hot pipe manually to see if warm. → Check frost formation on the whole surface of the evaporator.	* Electronic Leak Detector, Driver.
Compressor compartment and tools arrangement	* Remove flux from the silver weld joints with soft brusher wet rag. (Flux may be the cause of corrosion and leaks.) *Clean tools and store them in a clean tool box or in their place.	* Copper brush, Rag, Tool box
Transportation and installation	* Installation should be conducted in accordance with the standard installation procedure. (Leave space of more than 5 cm from the wall for compressor compartment cooling fan mounted model.)	

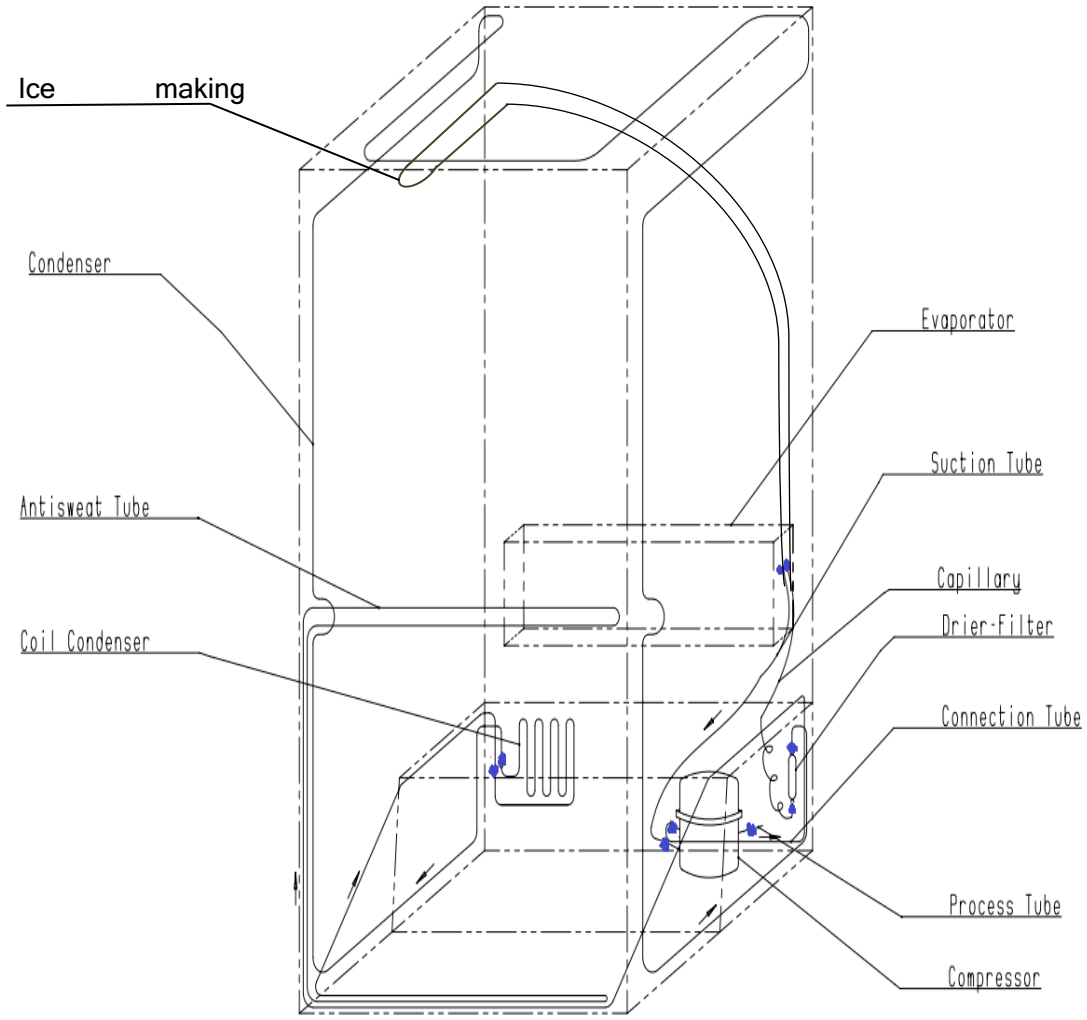
7.3 Regulation of repair

Items	Precautions
Use of tools.	1) Use special parts and tools for R-134a or R-600a
Removal of retained refrigerant.	1) Remove retained refrigerant more than 5 minutes after turning off a refrigerator. (If not, oil will leak inside.) 2) Remove retained refrigerant by cutting first high pressure side (drier part) with a nipper and then cut low pressure side. (If the order is not observed, oil leak will happen.) 
Replacement of drier.	1) Be sure to replace drier when repairing pipes and injecting refrigerant.
Nitrogen blowing welding.	1) Weld under nitrogen atmosphere in order to prevent oxidation inside a pipe. (Nitrogen pressure : 0.1~0.2 kg/cm2.)
Others.	1) Nitrogen only should be used when cleaning inside of cycle pipes inside and sealing. 2) Check leakage with an electronic leakage tester. 3) Be sure to use a pipe cutter when cutting pipes. 4) Be careful not the water let intrude into the inside of the cycle.

7.4 Practical work of repair

Items	Precautions
1. Removal of residual refrigerant.	1) Remove residual refrigerant more than 5 minutes later after turning off the refrigerator. (If not, compressor oil may leak inside.) 2) Remove retained refrigerant slowly by cutting first high pressure side (drier part) with a nipper and then cut low pressure side. 
2. Nitrogen blowing welding.	 *** When replacing a drier:** Weld 1 and 2 parts by blowing nitrogen (0.1~0.2kg/cm2) to high pressure side after assembling a drier. *** When replacing a compressor:** Weld 3 and 4 parts by blowing nitrogen to the low pressure side. Note) For other parts, nitrogen blowing is not necessary because it does not produce oxidized scales inside pipe because of its short welding time. - **KEYPOINTING** Welding without nitrogen blowing produces oxidized scales inside a pipe, Which affect on performance and reliability of a product.

7.5 Brazing reference drawing



Refrigerant flowing direction

- Welding point