				重要度		
		产品名称:	冷藏冷冻箱			
		产品型号:	**BCD-543WPAZR/HC1(E)**			
		文件名称:	售后服务技术资料			
		文件编号:	**B08082021**			
		编制日期:	**2019 年 09 月 16 日**			
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							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						**B08082021**

Hisense

Refrigerator

Service Manual

Model: BCD-543WPAZR/HC1(E)

Contents

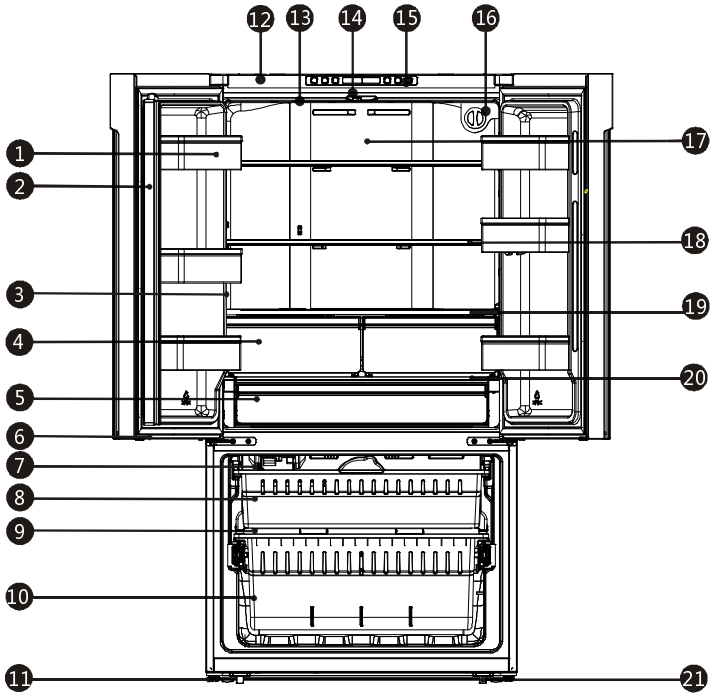
1.Warning and precautions for safety

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

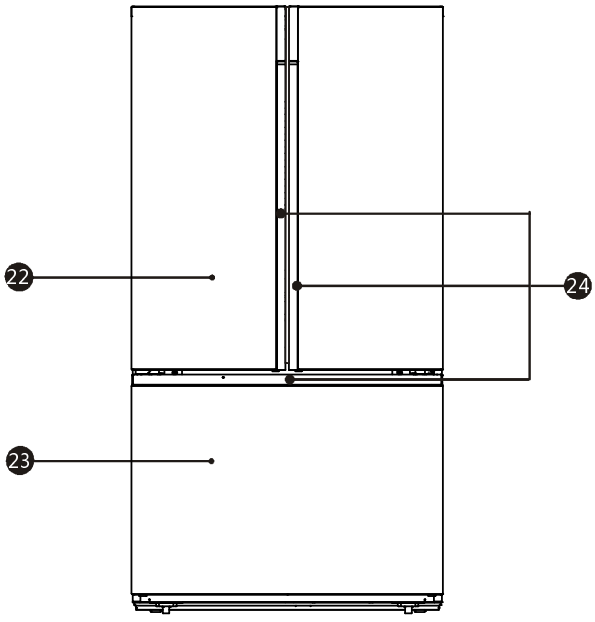
1. Be care of an electric shock. Disconnect power cord from wall outlet and wait for more than three minutes before replacing PCB parts. Shutoff the power whenever replacing and repairing electric components.
2. When connecting power cord, please wait for more than five minutes after power cord was disconnected 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



1 Door rack
2 Vertical baffle part
3 Water dispenser (Inside)
4 Fruit and vegetable crisper
5 Multifunctional drawer
6 Freezer LED light
7 Ice maker (Inside)
8 Ice storage box (Inside)
9 Upper freezer drawer
10 Lower freezer drawer
11 Adjustable bottom feet
12 Top cover
13 Fridge LED light (Inside)
14 Vertical baffle guide block
15 Display panel
16 Water filter
17 Wind channel part
18 Glass shelf
19 Crisper cover
20 Serving tray
21 Roll wheel
22 Fridge door
23 Freezer door
24 Handles

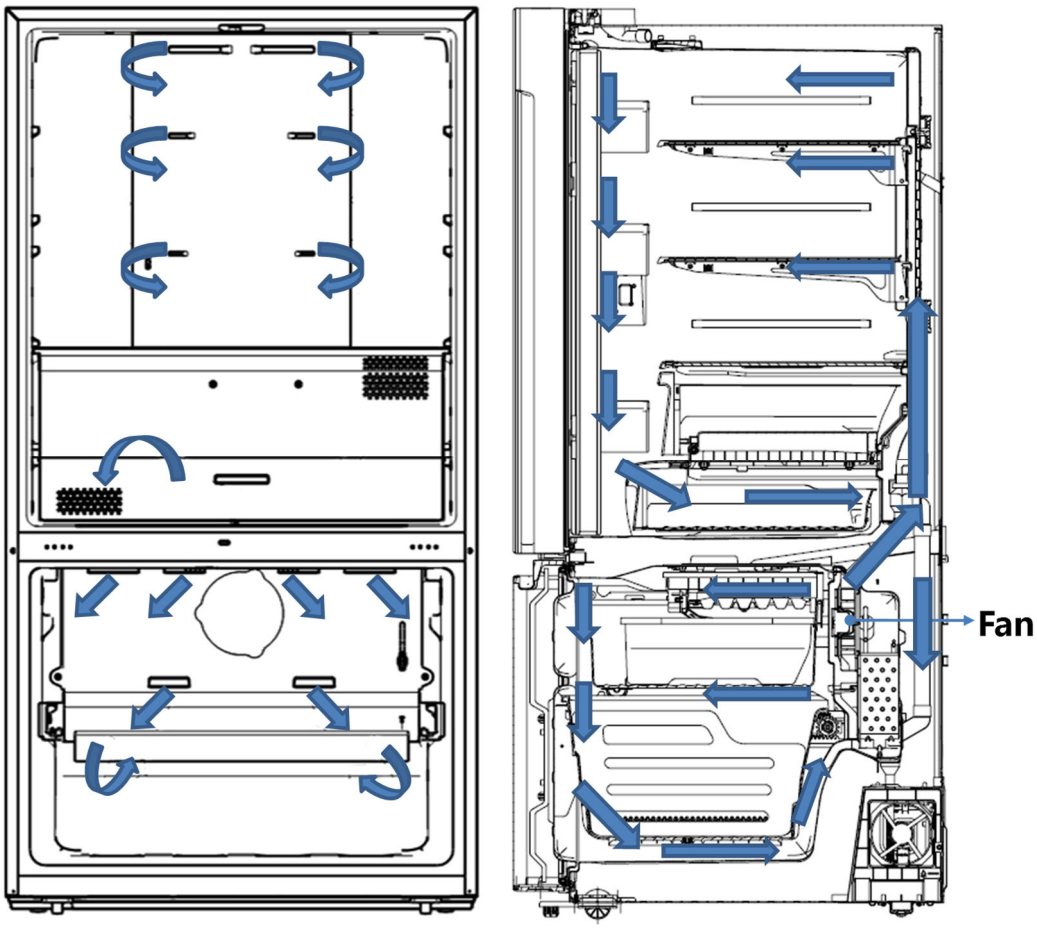


Note!

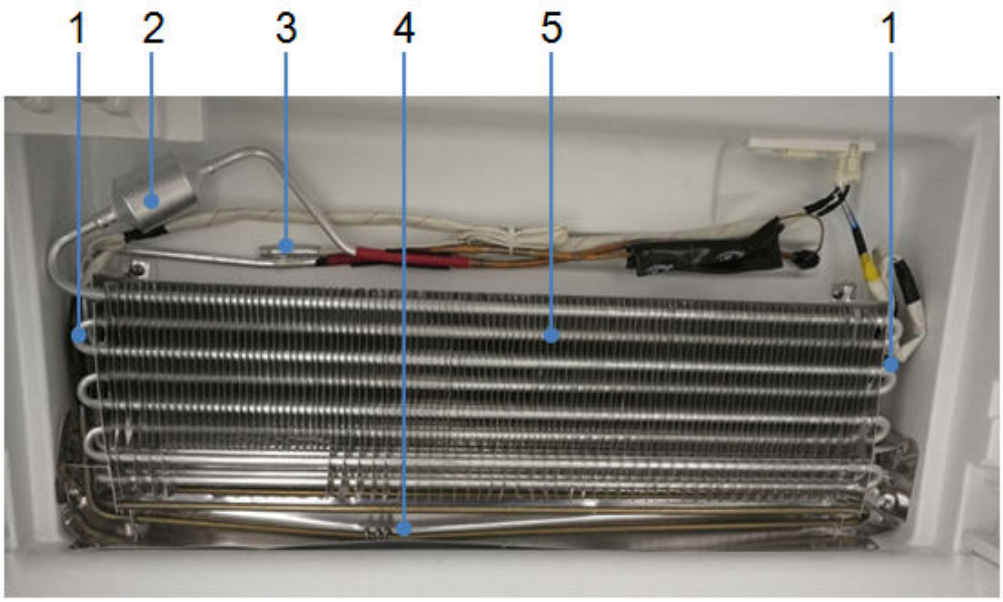
•Due to unceasing modification of our products, your refrigerator may be slightly different from this instruction manual, but its functions and using methods remain the same.

•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

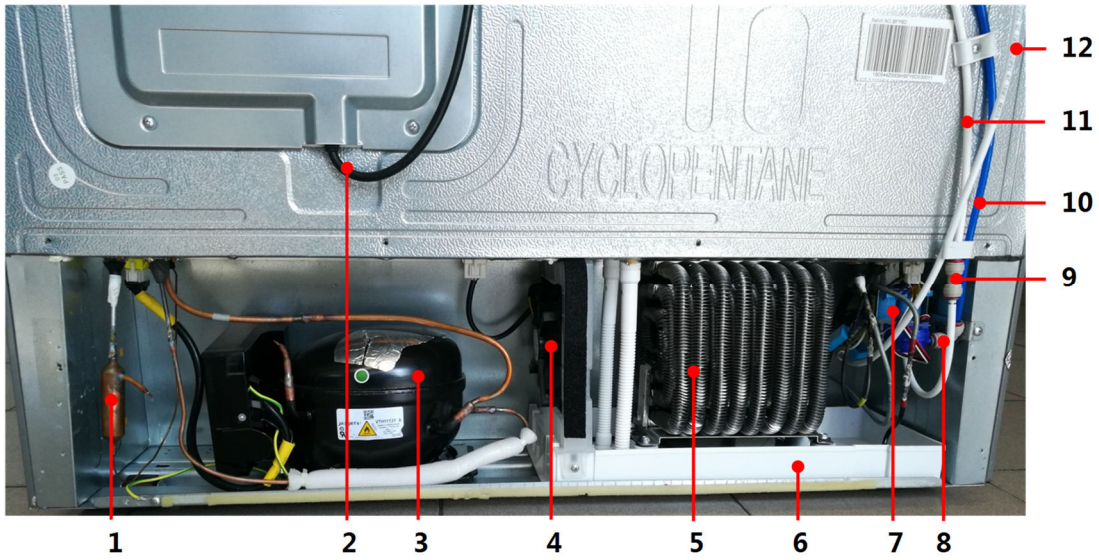


2.3 Evaporator structure



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

2.4 Compressor room structure



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

3. Basic parameters

SPECIFICATIONS	
DESIGN PRESSURE	
HIGH SIDE / LOW SIDE	250 psig / 88 psig
REFRIGERANT / AMOUNT	R600a (57g)
VOLUME (Refrigerator / Freezer)	20.9 (14.73 / 6.17) cu.ft
RATED VOLTAGE	AC115V
RATED FREQUENCY	60Hz
RATED CURRENT	2.4A
DEFROST POWER	240W
FOAMING AGENT	Cyclopentane
NET WEIGHT	113 kg
GROSS WEIGHT	123 kg
W×D×H (with hinges)	91.4×72.7×177.8cm
W×D×H (without hinges)	91.4×72.7×177.8cm

4. Operation and functions

4.1Display 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!

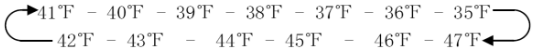
When you set a temperature, you set an average temperature for the whole refrigerator cabinet. Temperatures inside each compartment may vary from the temperatures displayed on the panel, depending on how much food you store and where you place it. High or low room temperature may also affect the actual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

Ice Control

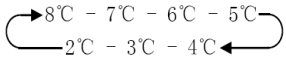
This button controls the ice maker. You can touch the "Ice On/Off" button to control the ice maker. When the "Ice On/Off" function light is on, the ice maker is working. If you want to lock the ice maker, please touch the "Ice On/Off" button again until the button light is off.

Fridge Temperature Control

Press the Fridge button to turn on the refrigerator temperature control, then press and hold the Fridge button to select a temperature setting. If you have set the temperature type to Fahrenheit, the temperature settings cycle from 47°F to 35°F in one degree decrements.



If you have set the temperature type to Celsius, the temperature settings cycle from 8°C to 2°C in one degree decrements.



Super Cool

If you want to increase the cooling accelerator to cool products in Fridge, please touch this button. The super cool icon " " will be illuminated, and the fridge temperature setting displays at 35°F.

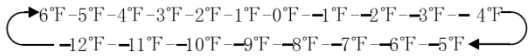
Super cool automatically switches off after 3 hours, and the refrigerator temperature setting will revert back to the previous setting.

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

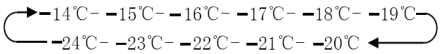
Freezer Temperature Control

Press the Freezer button to turn on the freezer temperature control, then press and hold the Freezer button to select a temperature setting. If you have set the temperature type to

Fahrenheit, the temperature settings cycle from 6°F to -12°F in one degree decrements.



If you have set the temperature type to Celsius, the temperature settings cycle from -14°C and -24°C in one degree decrements.



Super Freeze

If you want to increase the freezing accelerator in Freezer, please touch this button, the super freeze icon " ❄ " will be illuminated, the freezer temperature setting displays -12℉.

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 "Super Freeze" button again to switch off. If power cutoff happens while super freeze is activated, the super freeze will not be reactivated after power resupplied.

Note:

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

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 through 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 a new water filter, push and hold the "Ice On/Off" and "Super Freeze" 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 in a pan and wipe up any leakage that may have occurred.

Energy Saving

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

The temperature of the fridge is automatically switched to 42℉ and the freezer to 2℉. If Energy Saving is off, the icon " " will go off and the temperature setting will revert back to the previous setting.

Note:

•The control panel will light up when the fridge door is open, or you touch any button.

•The light will go off without touching any buttons or the doors have been closed over one minute.

•When the refrigerator is powered on, all the icons of the control panel will light up for 3 seconds, and a buzzer sounds. And the temperature setting reverts back to the

previous setting.

Alarm

•When fridge or freezer door has been opened for over 2 minutes, door alarm will sound. In case of door alarm, buzzer will sound 3 times every 1 minute and will stop alarming automatically after 8 minutes.

•To save energy, please avoid keeping the door open for a long time when using the appliance. The door alarm can also be cleared by closing the door.

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.

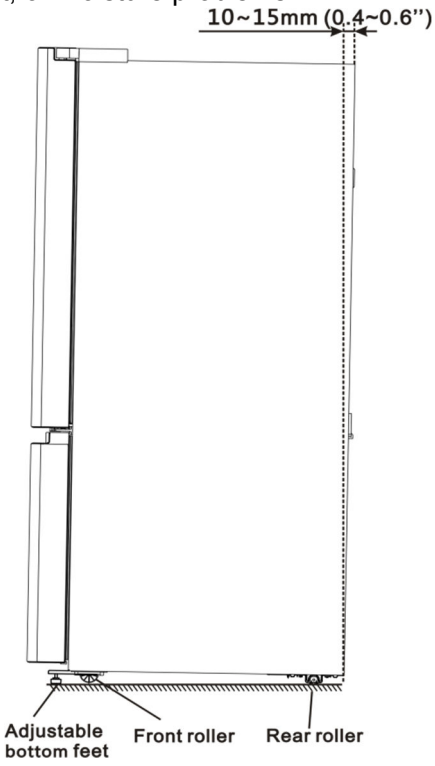
•To allow the doors to self-close, tilt the top backwards by 10~15mm.

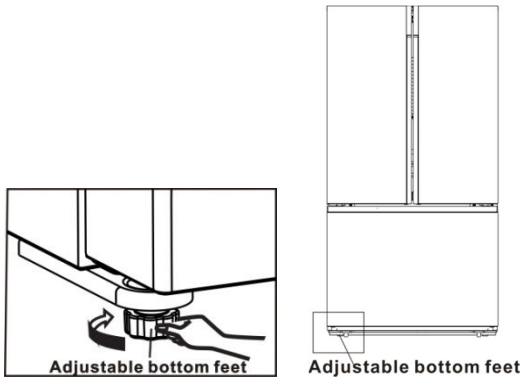
Caution!

•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.

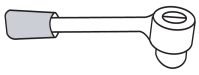




2. Door removal

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.

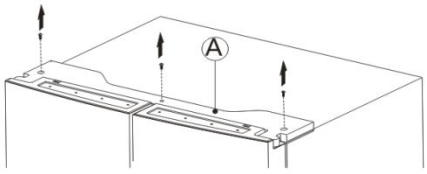
Tools you will need (Not provided):

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

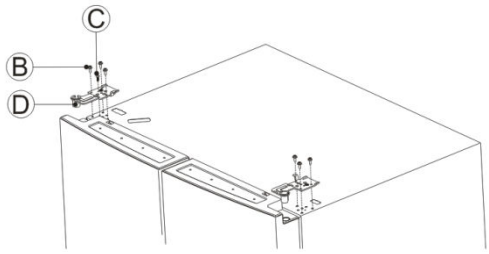
2.1 Disassembling the fridge door

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.

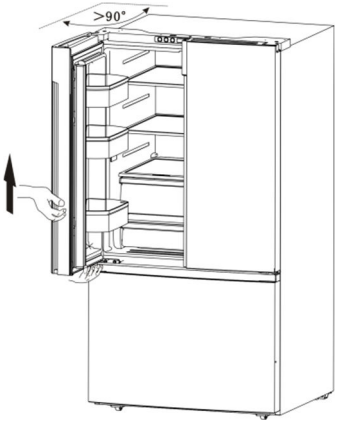
1. With the door closed, remove the 3 screws holding the top cover (A) with Philips (+) screwdriver, and then remove the top cover with the entire-harness attached.



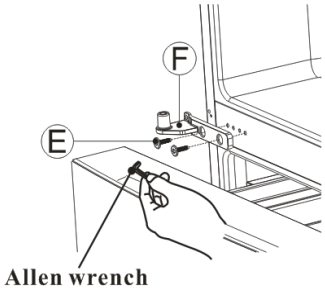
2. Remove the 3 screws (B) fixed on the hinges with a wrench (8mm) and 1 ground screws (C) attached to the hinge with Philips (+) screwdriver. Remove the upper left and right door hinges (D).



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

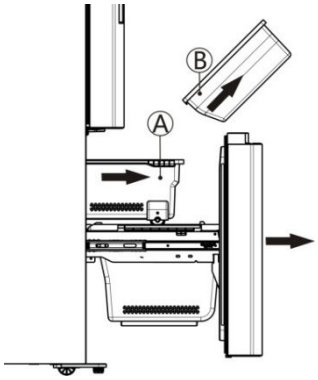
To reattach the fridge doors after you have moved the appliance to its final location, assemble the parts in reverse order.

Caution!

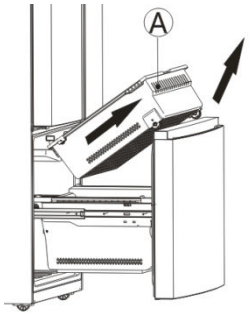
In case the fridge doors can't be self-closed, please make sure the door opened more than 90° when you remove or re-attaching the fridge doors.

2.2 Disassembling the freezer door

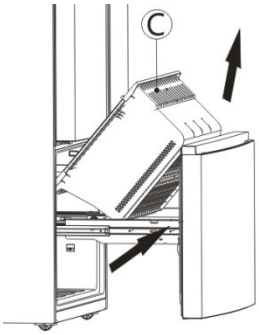
1. Pull out the freezer door and the upper freezer drawer (A) to the final position. Then take out the ice box (B) by lifting it up in the direction of the arrow.



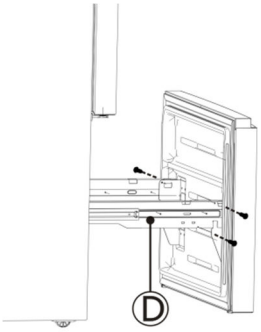
2. Take out the upper freezer drawer (A) by lifting it up from the rail system.



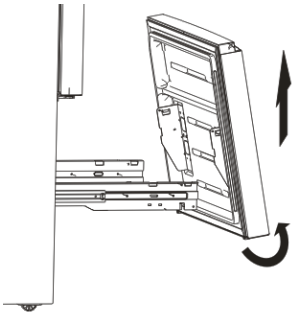
3. Remove the lower freezer drawer (C) by lifting it up.



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.

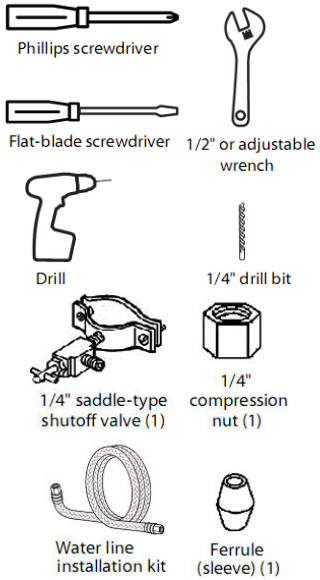
Under normal conditions, a200cc (5.75 oz.) cup can be filled in about 10 seconds.

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.



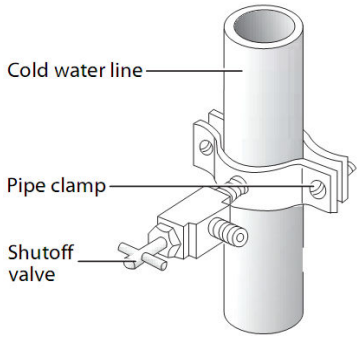
CAUTIONS:

Make sure that you:

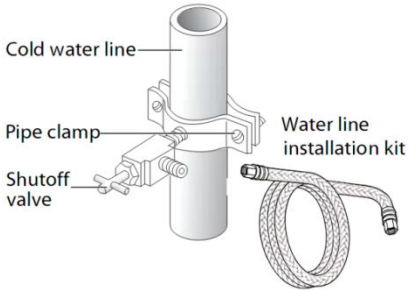
- Use the tubing that came with your refrigerator and the water supply installation kit. Do not use old tubing.
- Connect to the cold-water pipe. If you connect to the hot water pipe, the purifier may malfunction.
- Connect with the potable water only.
- Do not contaminate the water pipes during installation.

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.

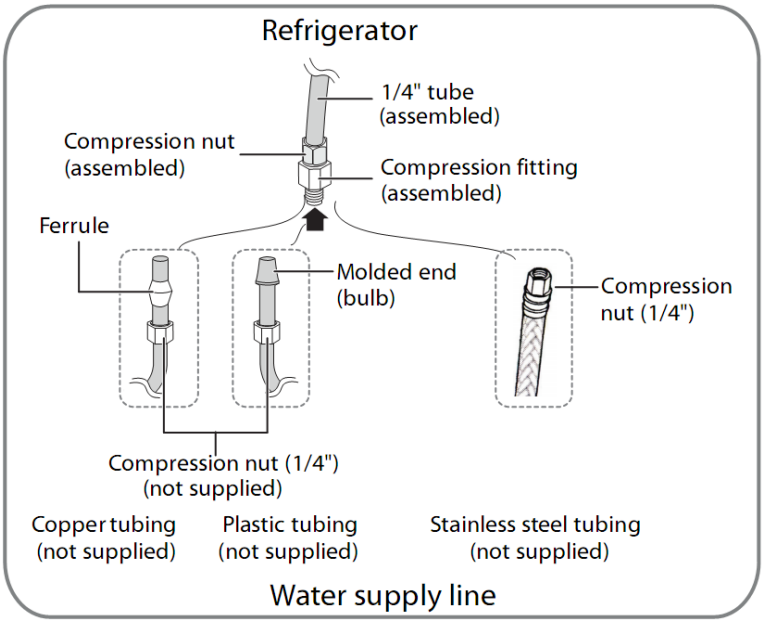
5. Turn off the shutoff valve.

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.

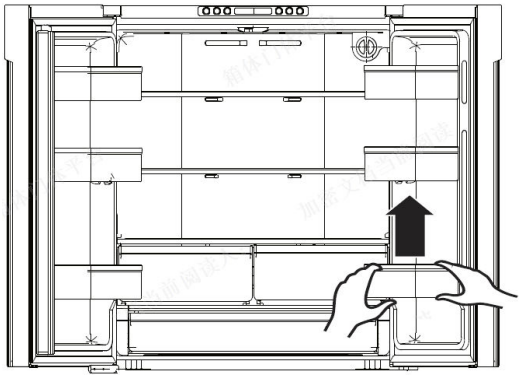
Caution!

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 racks

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 racks, simply lift the racks up and pull straight out.
2. To relocate the door racks, slide it in above the desired location and push down until it stops.



Warning!

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

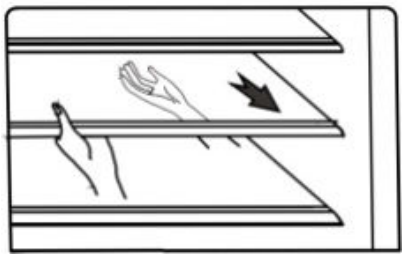
4.2 Glass shelves

The refrigerator compartment is provided with two glass shelves, which are suitable for the storage of eggs, canned liquid, bottled drinks and packed food.. They can be placed at different heights according to your need.

1. To remove a shelf, gently pull them forward until the shelf comes clear of the shelf guides.
2. To re-install a shelf, make sure there is no obstacle behind and gently push the shelf back into the position.

Warning!

- Do not place too many heavy things on glass shelves.
- Before you remove a shelf, please take food out.



4.2 Drawers

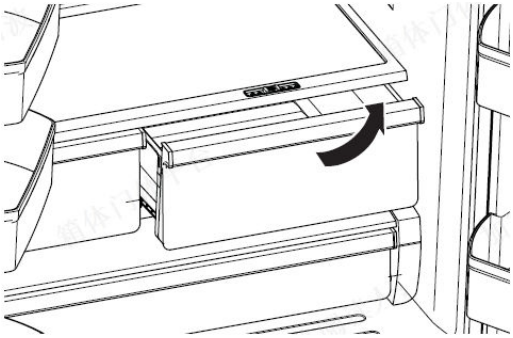
The fruit and vegetable crisper drawers are designed to store fruits and vegetables.

Putting fruits and vegetables inside the drawers helps avoid losing moisture and prevents flavor from getting into other foods.

To remove a drawer:

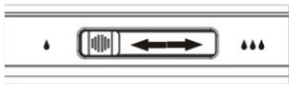
1 Open the refrigerator door all the way.

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.



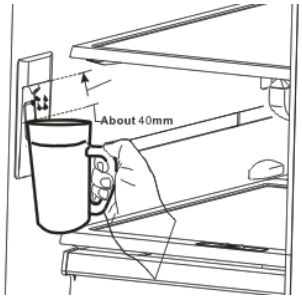
4.3 Using the dispenser to get cold water

The water dispenser is located at the left side of the fridge. To get cold water, refer to the following instructions.

1.Open the left refrigerator door.

2.Position you glass at the suggested position (about 1.5" / 40mm under the dispenser), then push the dispenser button with the glass to get water.

3. After releasing the dispenser button, a few drops may continue to drip. It's suggested to hold the glass under water dispenser for 2~3 seconds.



Note:

- Don't push the dispenser button forward without cup, it may cause water spreading.
- Take water frequently or a large amount, dispensing water may not cool enough. Please wait until water has been cooled down.
- Do not immediately removing your cup or glass from the dispenser after dispensing water you need. You should wait for 2 or 3 seconds to prevent spills.

Water clouding phenomenon

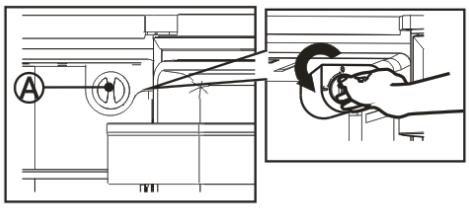
All water provided to the refrigerator flows through the filter which is an alkaline water filter. In the filtering process, the pressure of the water that has flowed out of the filter is increased, and the water becomes saturated with oxygen and nitrogen. When this water flows out into the air, the 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

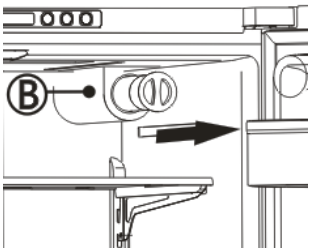
To drink the freshest and cleanest water from your refrigerator, change the filter on time.

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.

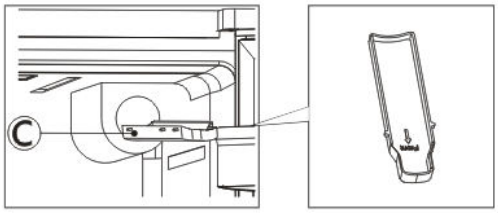


2. Pull the water filter (A) from the filter holder (B).

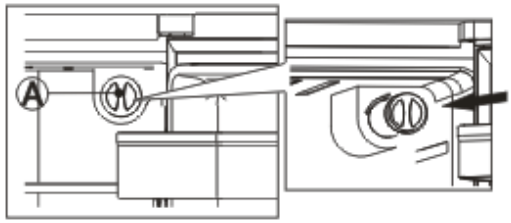


Note:

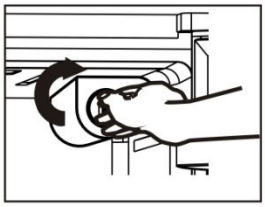
- To change the water filter easily, shut off the water supply valve.
- Sometimes, it is hard to disassemble the water filter because impurities in the water cause it to stick. If you are having difficulties, grip the water filter firmly and pull it out.
- When you pull the water filter, a little water 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 5 minutes) 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 freezer compartment

This appliance serves a huge volume to store food which need to be frozen.

The freezer compartment is provided with an upper drawer, a lower drawer and a ice box. To remove all of them, refer to "Disassembling the freezer door" part for disassembly instruction.

Caution!

1. Don't store bottled or canned liquid or drinks(especially carbonated drinks) in the freezer compartment. Bottles and cans may explode.
2. Keep the food in label bags or containers in order to keep the taste and nutrients.

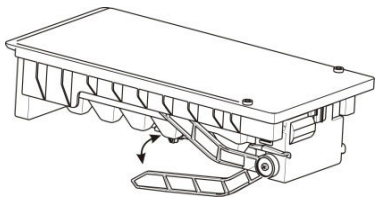
5.1 Using the automatic icemaker to get ice

The ice maker is located inside the left top of the freezer compartment, and a ice box is placed in the upper freezer drawer to store ice cubes.

1.Press **Ice On/Off** button to turn the ice maker on, then icon lights.

2.After the initial installation, it would take about 24 hours to stabilize and cool down the freezer compartment to a setting temperature, then ice maker starts to work.

3.To use ice cubes, open the freezer compartment door, then pull open the upper freezer drawer and get ice from the ice box.



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.

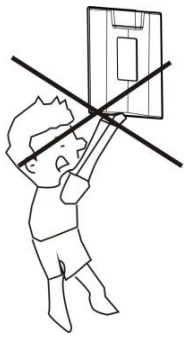
•Do not store ice cubes in ice box for a long time, they may stick to each other and may not be separated well. If this occurs, please remove all the ice and empty the box.

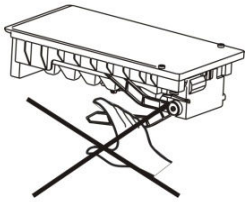
•If you are going on a long vacation or business trip and won't be using the water dispenser or ice maker part for period of time, please close the water supply to prevent leaks.

•Cannot store liquid cans in ice box, it may cause burst.

Warning!

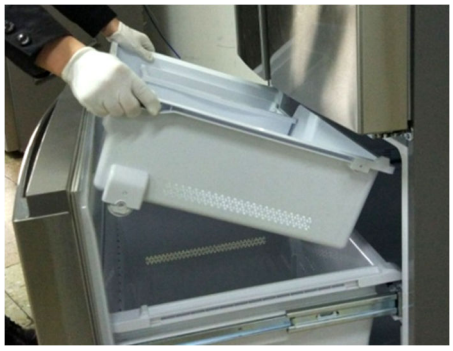
Do not allow your children to hang off the dispenser or touch the ice maker. This could cause injury.





5.2 Remove the ice maker

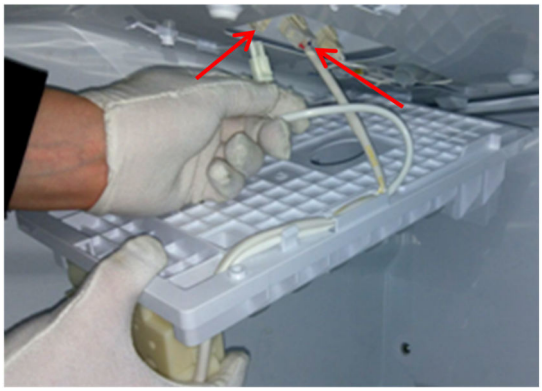
1. Open freezer door, take upper drawer out.

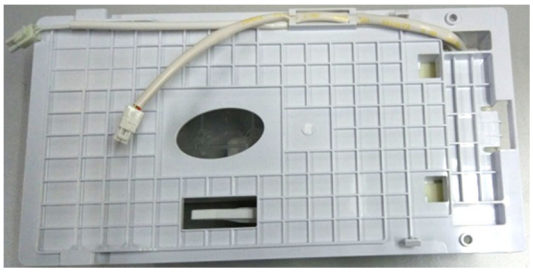


2. Disassemble two fixed screws with a cross screwdriver (+).

3. Pull out the ice maker part.

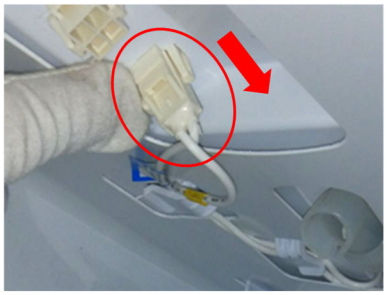
4. Unplug two terminals, then take out the ice maker part.



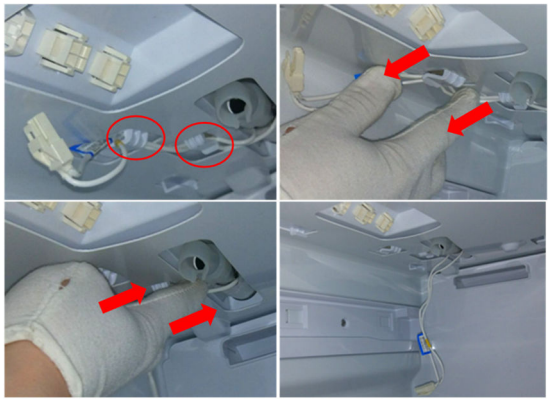


5.3 Remove the water pipe connector part

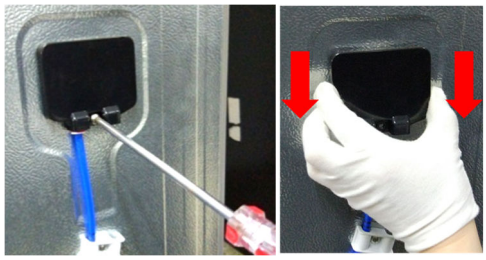
1. Remove the ice maker part.
2. Unplug the terminal.



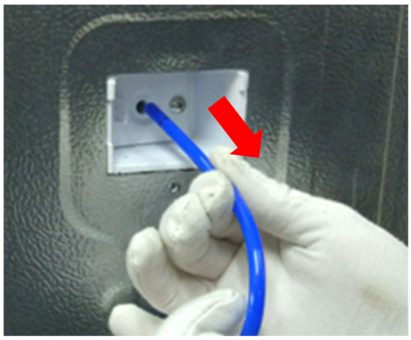
3. Remove wire line from two buckles in the direction of arrow one by one.



4. Disassemble the fixed screw with a cross screwdriver (+), then pull the ice maker inlet cover down.

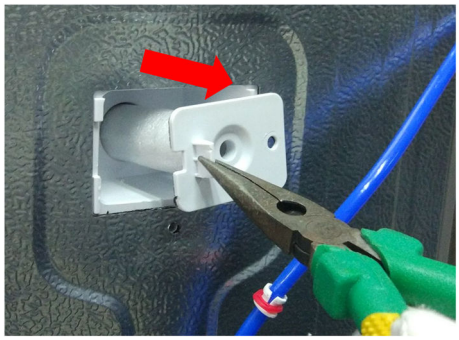


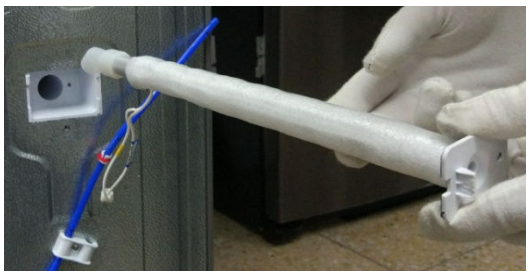
5. Pull the blue water tube out in the direction of arrow.



6. Disassemble the fixed screw with a cross screwdriver (+).

7. Pull the water pipe connector part out with pliers.





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!

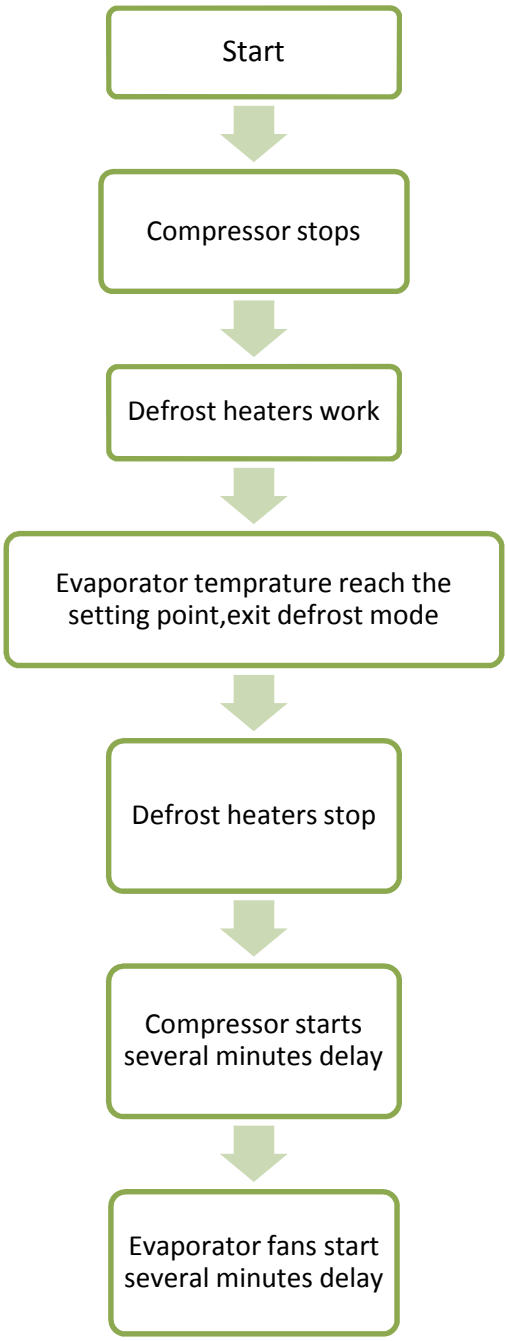
Do not use sharp objects to remove frost from the freezer compartment. Only after the interior is completely dry should the appliance be switched back on and plugged back into the mains socket.

4.3Defrost 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



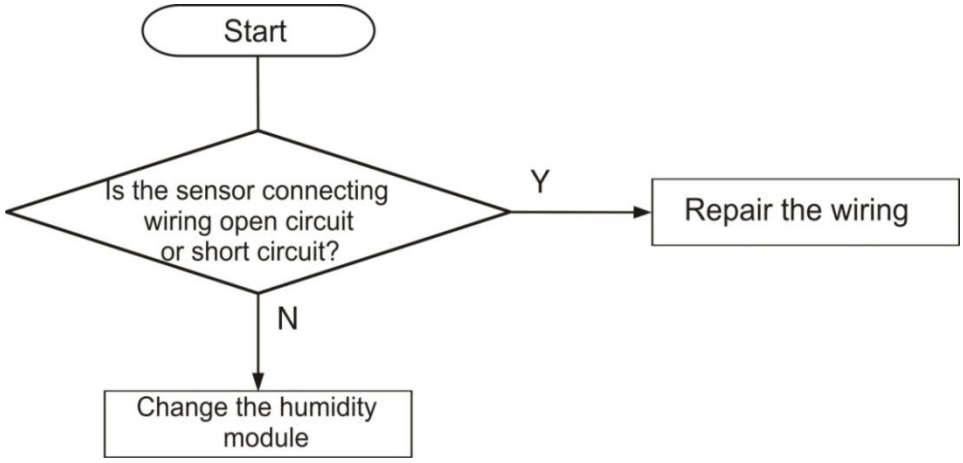
4.4 Error display

4.4.1 Error Code

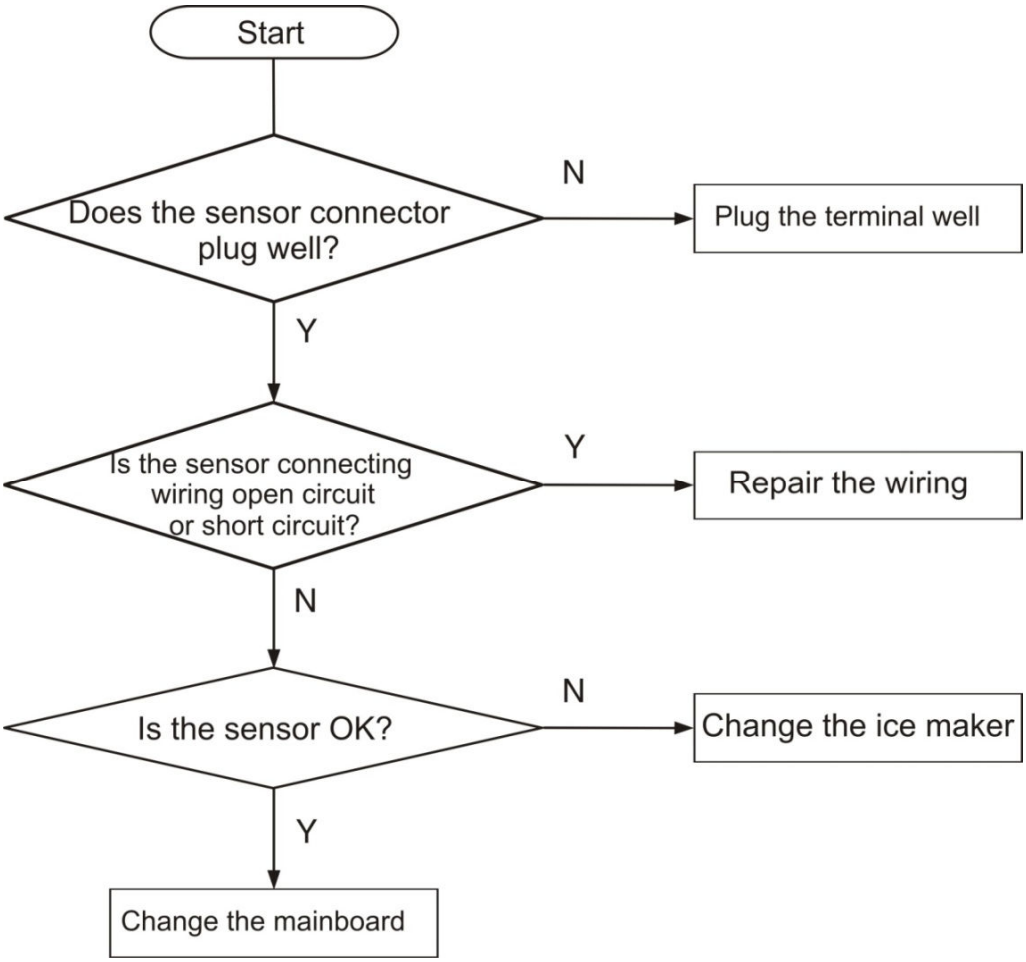
Code	Display area	Problem
E0	Refrigerator temperature display area	Environment sensor malfunctions
E1	Refrigerator temperature display area	Refrigerator sensor malfunctions
E2	Refrigerator temperature display area	Refrigerator defrost sensor malfunctions
E3	Freezer temperature display area	Freezer sensor malfunctions
E4	Freezer temperature display area	Freezer defrost sensor malfunctions
E8	Refrigerator temperature display area	Humidity sensor malfunctions
E9	Freezer temperature display area	Ice maker sensor malfunctions
Eb	Freezer temperature display area	Ice maker malfunctions
Ec	Refrigerator temperature display area	Communication sending malfunctions
Er	Refrigerator temperature display area	Communication receiving malfunctions
F1	Freezer temperature display area	Freezer fan malfunctions
F2	Refrigerator temperature display area	Refrigerator fan malfunctions
OP	Refrigerator temperature display area	High temperature in the refrigerator compartment
dr	Freezer /Refrigerator temperature display area	Closed Freezer /Refrigerator doors or the door switch malfunctions

4.4.2 Checking method

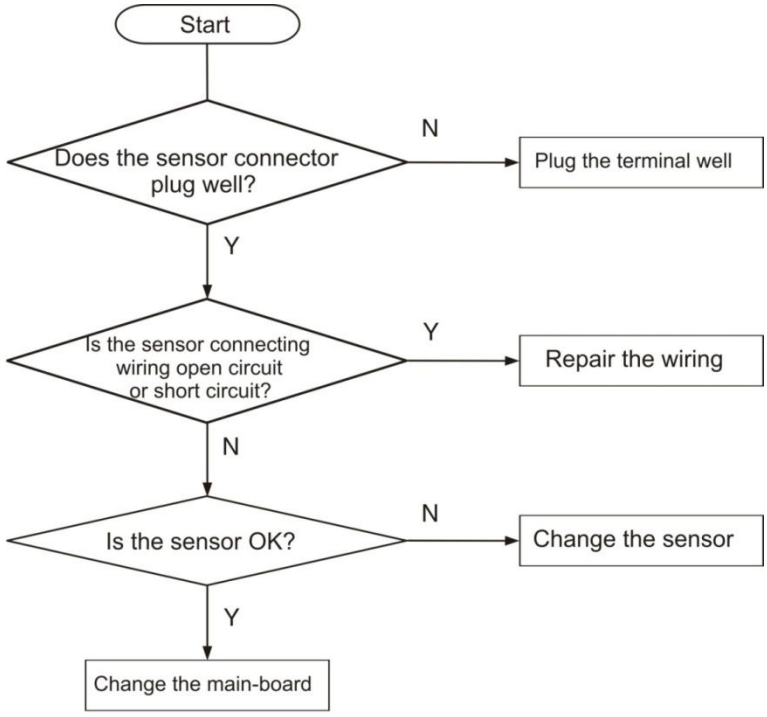
4.4.2.1 Environment sensor or Humidity sensor error



4.4.2.2 Ice maker sensor error

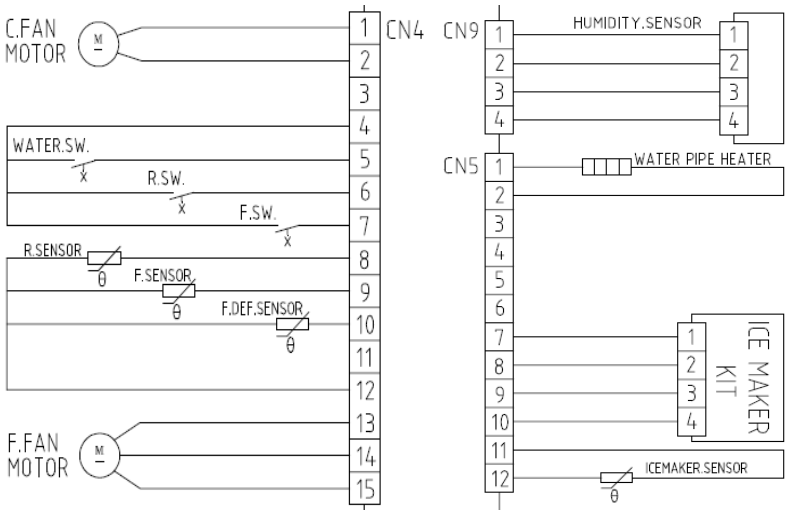


4.4.2.3 Other sensors error



Note:

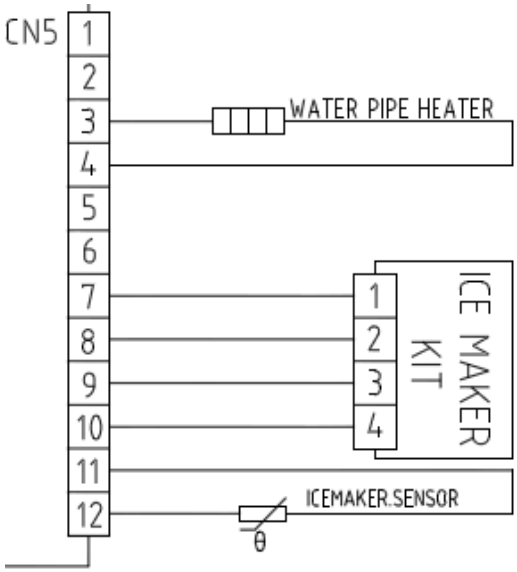
1. Refrigerator sensor corresponding pin No. 8 and No. 12 on CN4 connector of main-board.
2. Freezer sensor corresponding pin No.9 and No. 12 on CN4 connector of main-board.
3. Freezer defrost sensor corresponding pin No. 10 and No. 12 on CN4 connector of main-board.
4. Environment sensor corresponding pin No. 1 and No.3 on CN9 connector of main-board.
5. Humidity sensor corresponding pin No. 1 and No. 4 on CN9 connector of main-board.
6. Ice maker sensor corresponding pin No.11 and No. 12 on CN5 connector of main-board.



4.4.2.4 Ice maker error

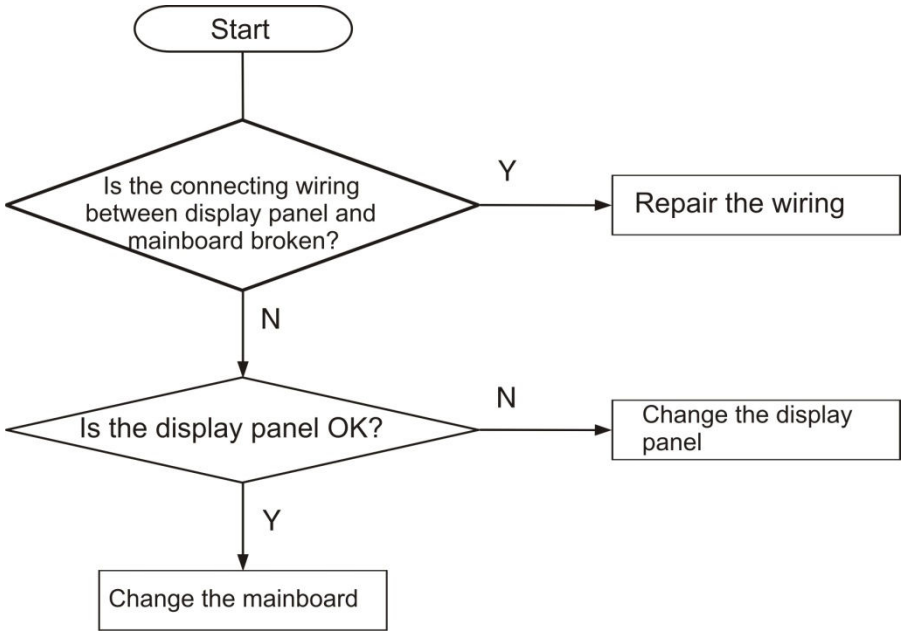
Eb error:

1. Check the connecting wiring between main-board and ice maker (corresponding pin No. 7~10 on CN5 connector of main-board, as the drawing below, and repair if it is broken.
2. Input 12V power to pin No.7 and No.8 on CN5 connector of mainboard, check the ice maker can positive rotating(Red wiring connect power, white wiring connect GND) and negative rotating
(white wiring connect power, red wiring connect GND) normally or not. If it is abnormal, change the ice maker or mainboard.

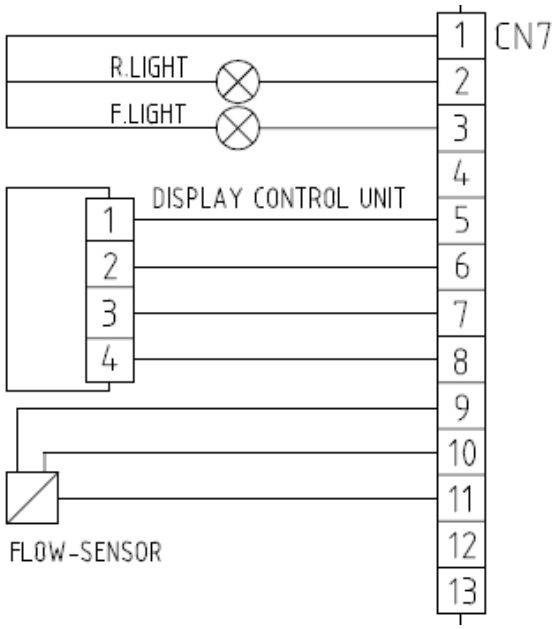


4.4.2.5. Communication error

Ec or Er error:

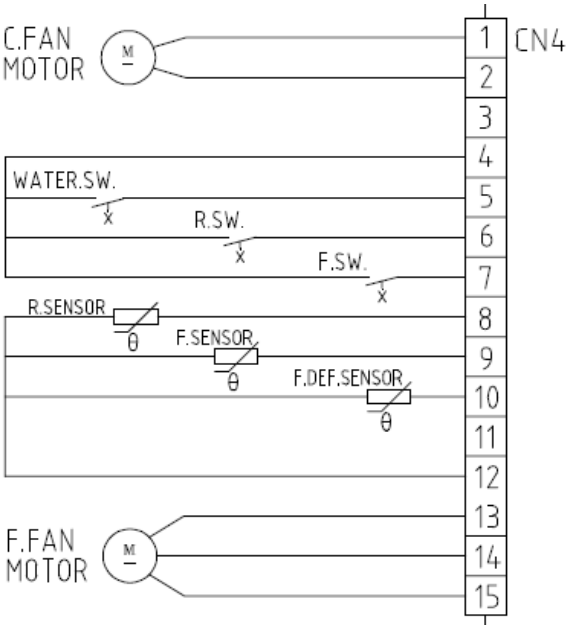


Note:
The display panel corresponding pin No.5~8 on CN7 connector of the main-board as the drawing below.



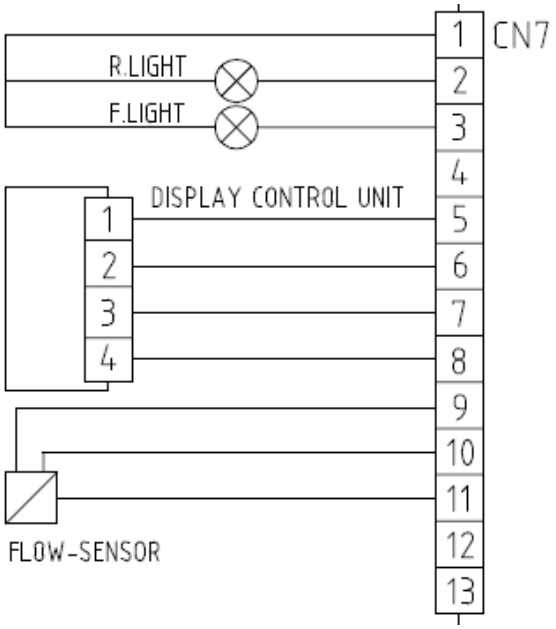
4.4.2.6. Fan error

1. Check the connecting wiring of fan motor is well or not, repair if it is broken.
The freezer fan motor corresponding pin No. 13~15 on CN4 connector of main-board, as the drawing below.
The condenser fan motor corresponding pin No. 1~2 on CN4 connector of main-board, as the drawing below.
2.Pin No.14 connect 12V power and pin No.13 connect GND, if the freezer fan motor works normally, change the main-board; If not , change the freezer fan motor.
Pin No.2 connect 12V power and pin No.1 connect GND, if the condenser fan motor works normally, change the main-board; If not , change the condenser fan motor.



4.4.2.7. Flow sensor error

1. Check the water supply whether ok, if water supplied ok then check the connecting wire. The flow sensor corresponding pin No. 9~11 on CN7 connector of main-board, as the drawing below. If the wire is broken, repair the wiring otherwise change the main-board or the water valve.



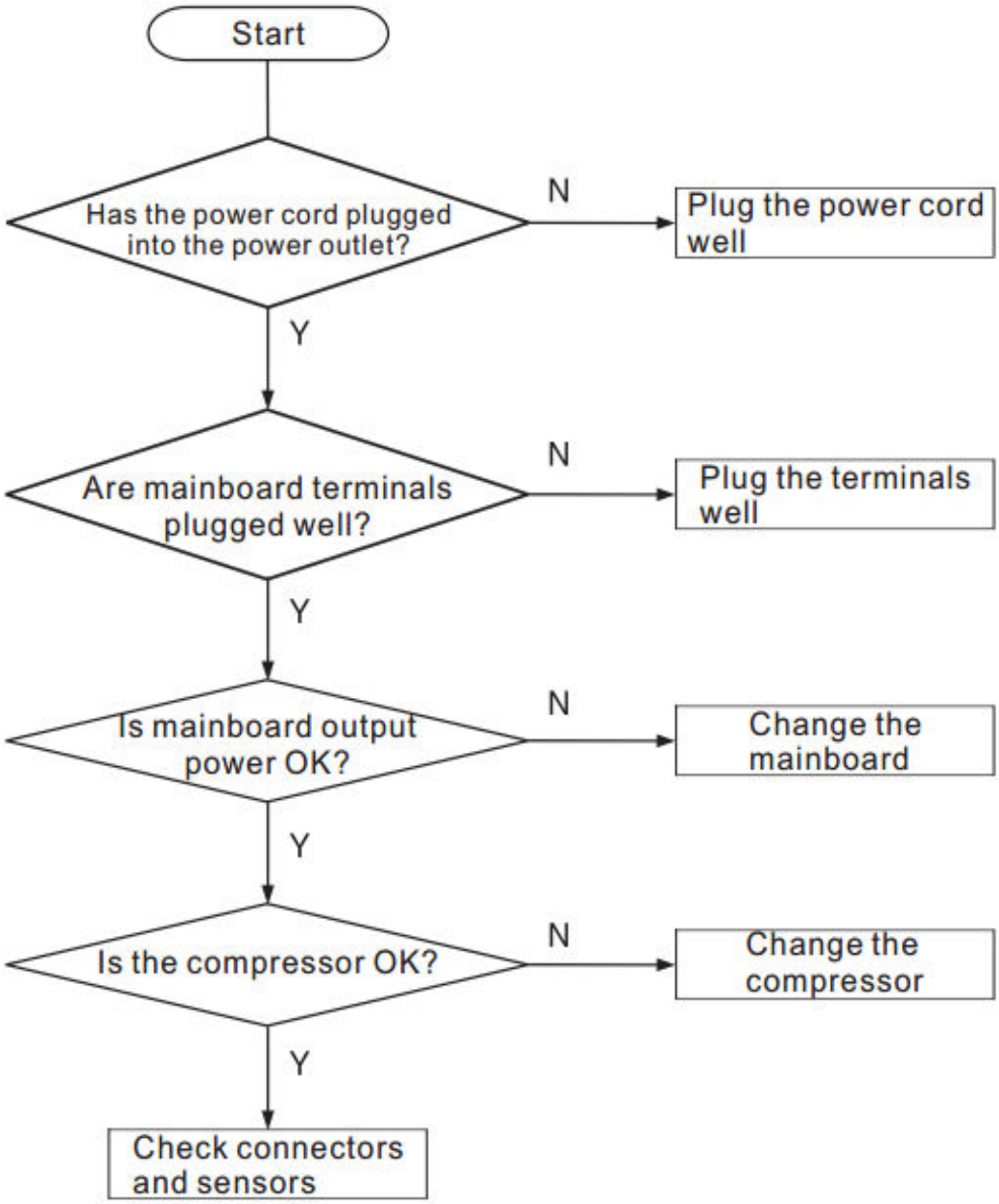
5. Troubleshooting

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

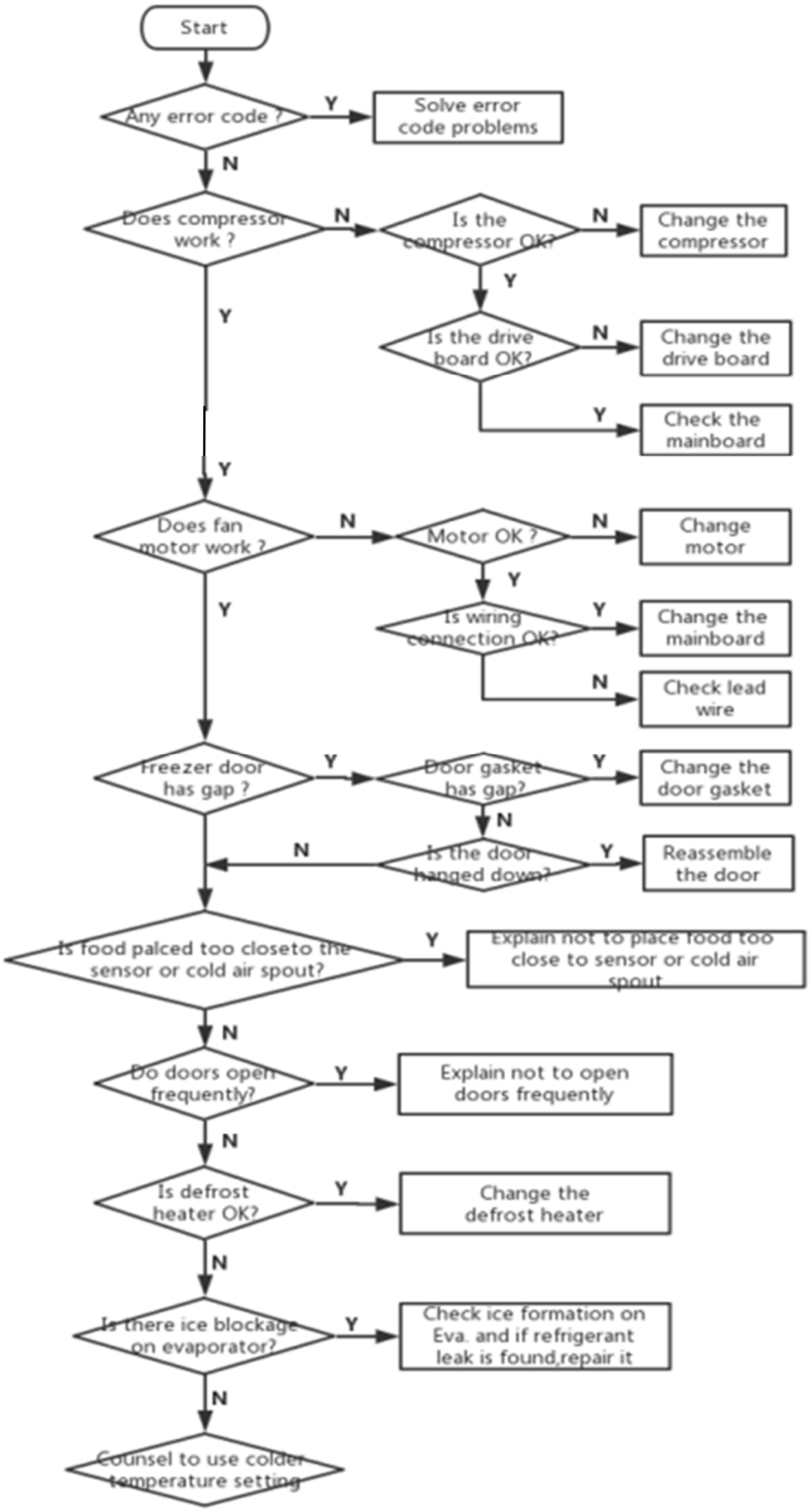
	for a long time.
A layer of frost occurs in the compartment	Check that the air outlets are not blocked by food and ensure food is placed within the appliance to allow sufficient ventilation. Ensure that door is fully closed. To remove the frost, please refer to "Frost removal" part.
Temperature inside 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

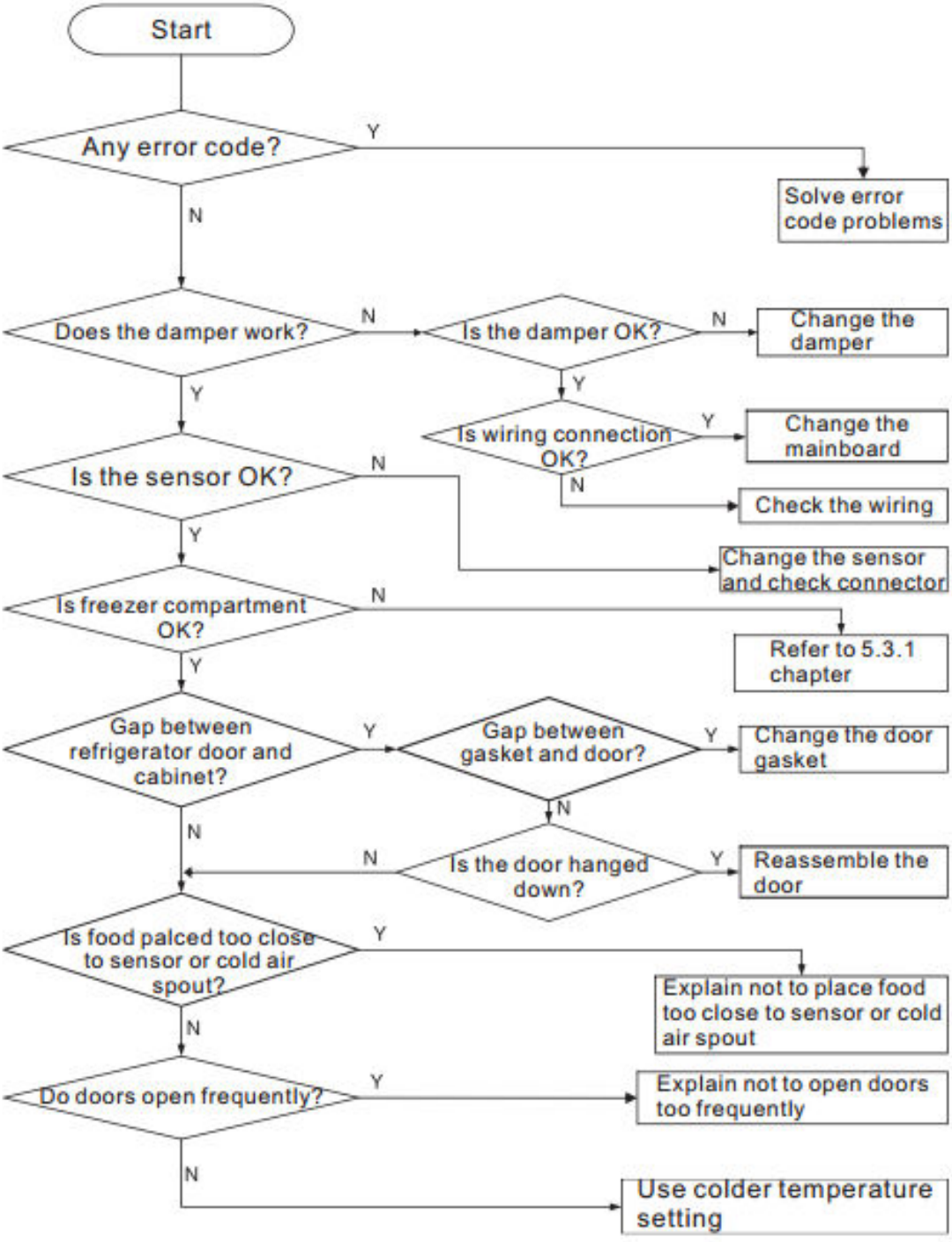


5.3 Refrigeration failure

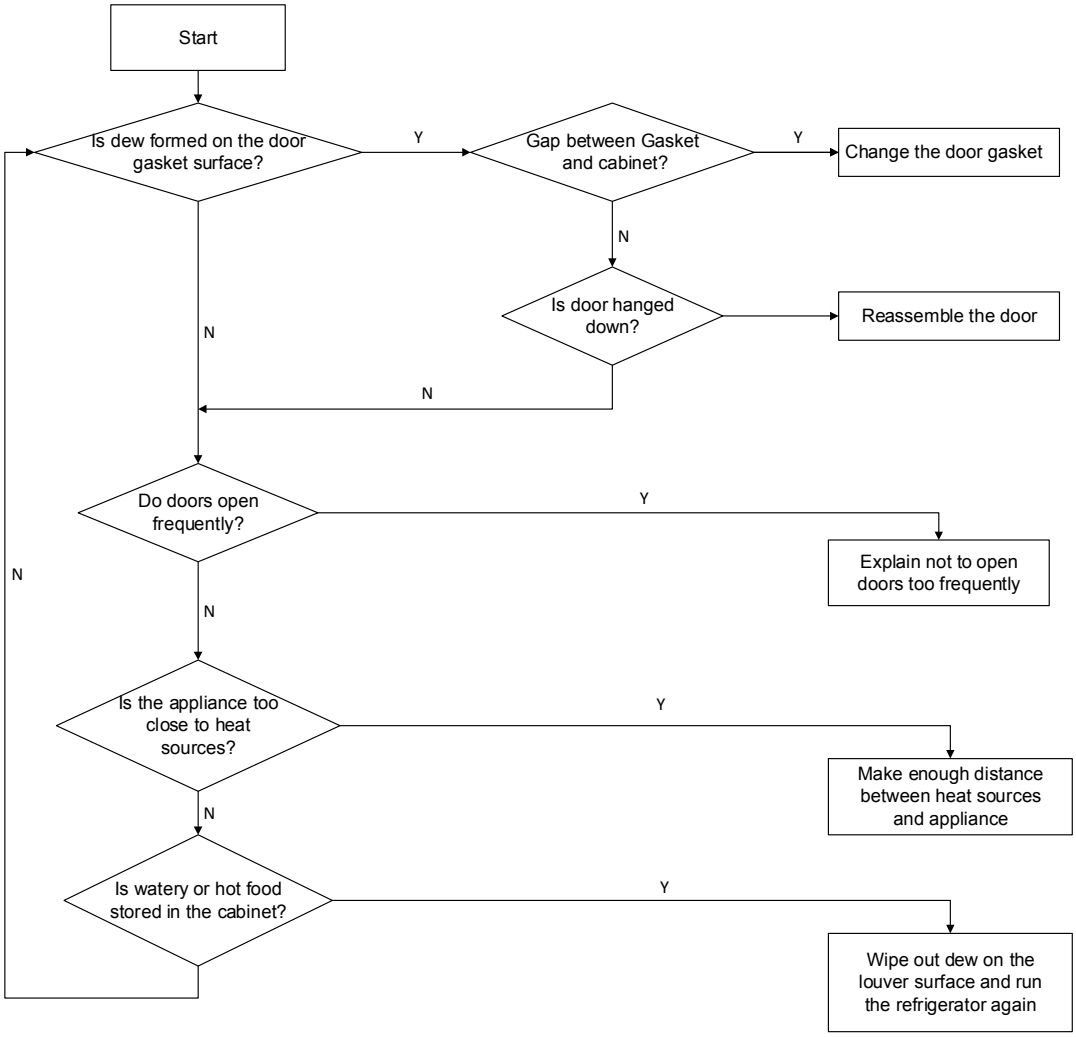
5.3.1Freezer compartment



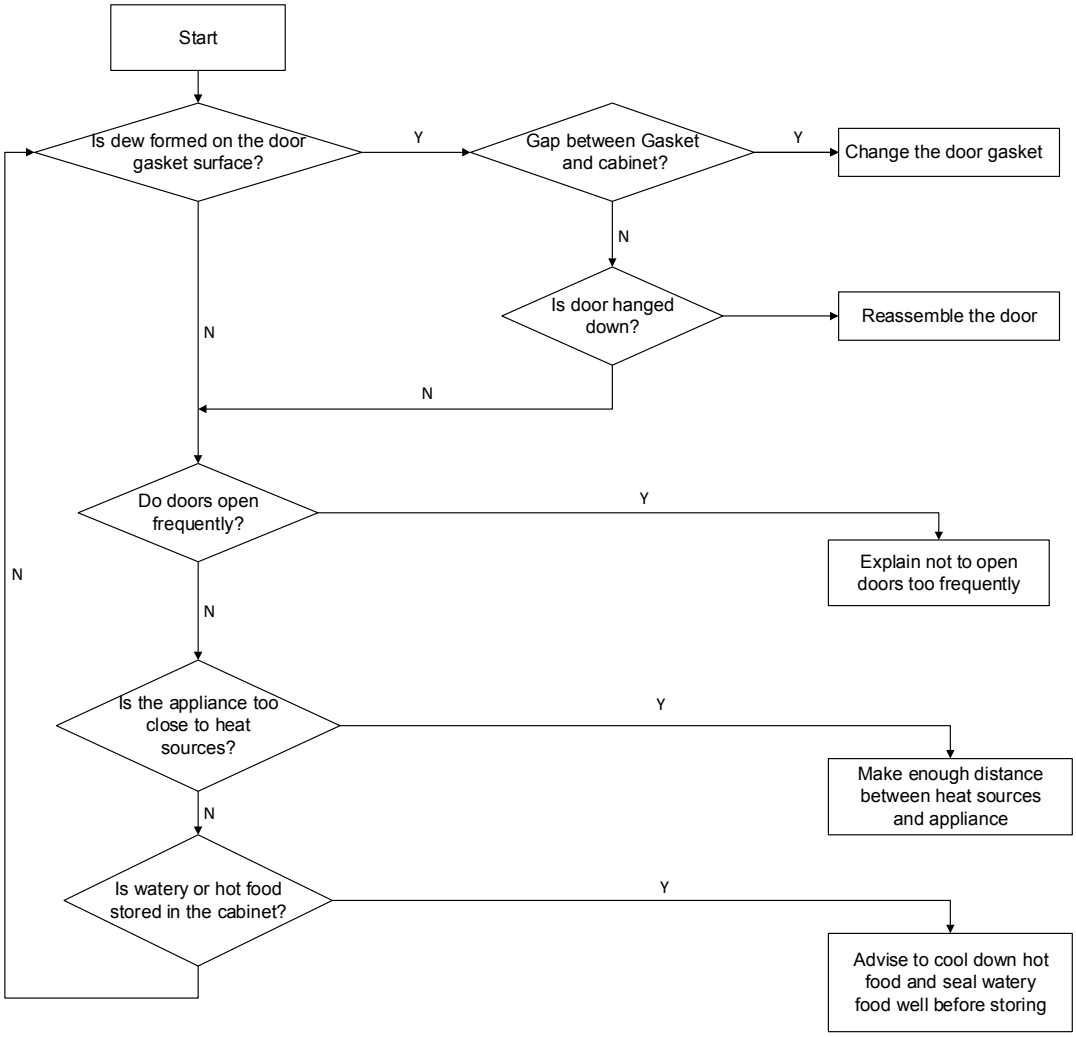
5.3.2 Refrigerator compartment



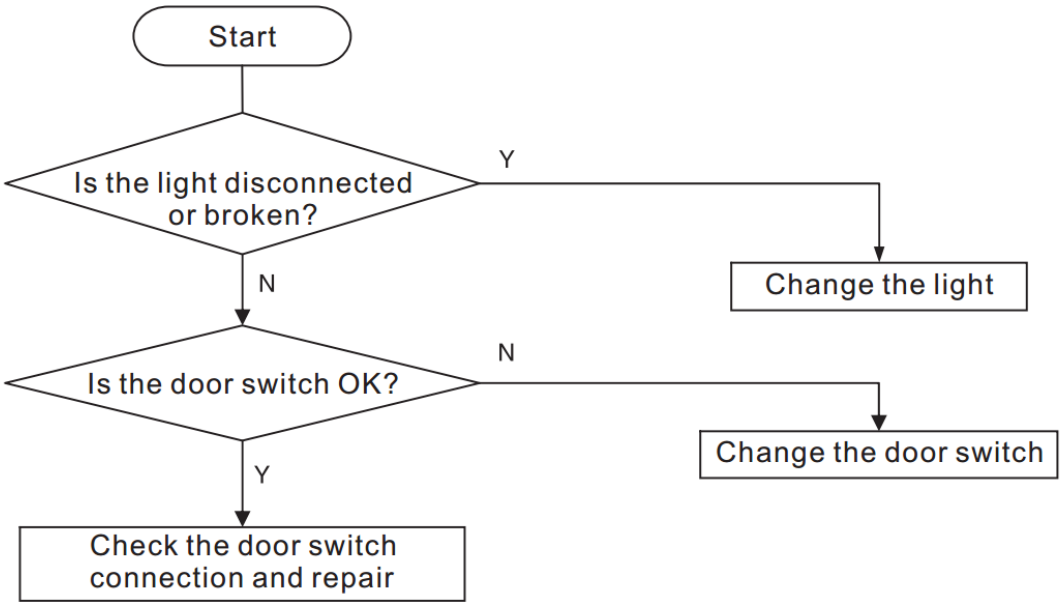
5.4Thick frost in freezer compartment



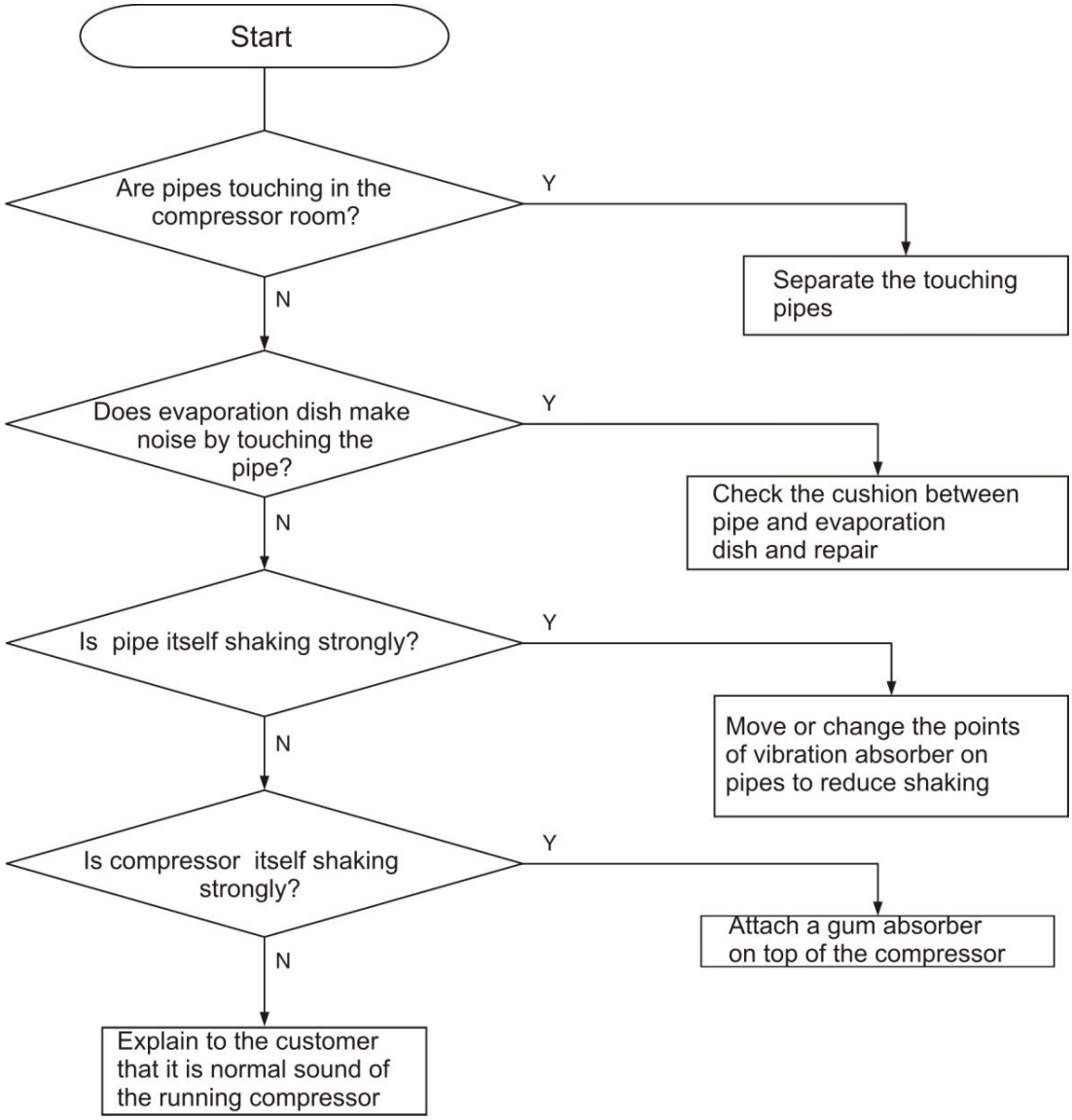
5.5Dew in refrigerator compartment



5.6Breaking of light

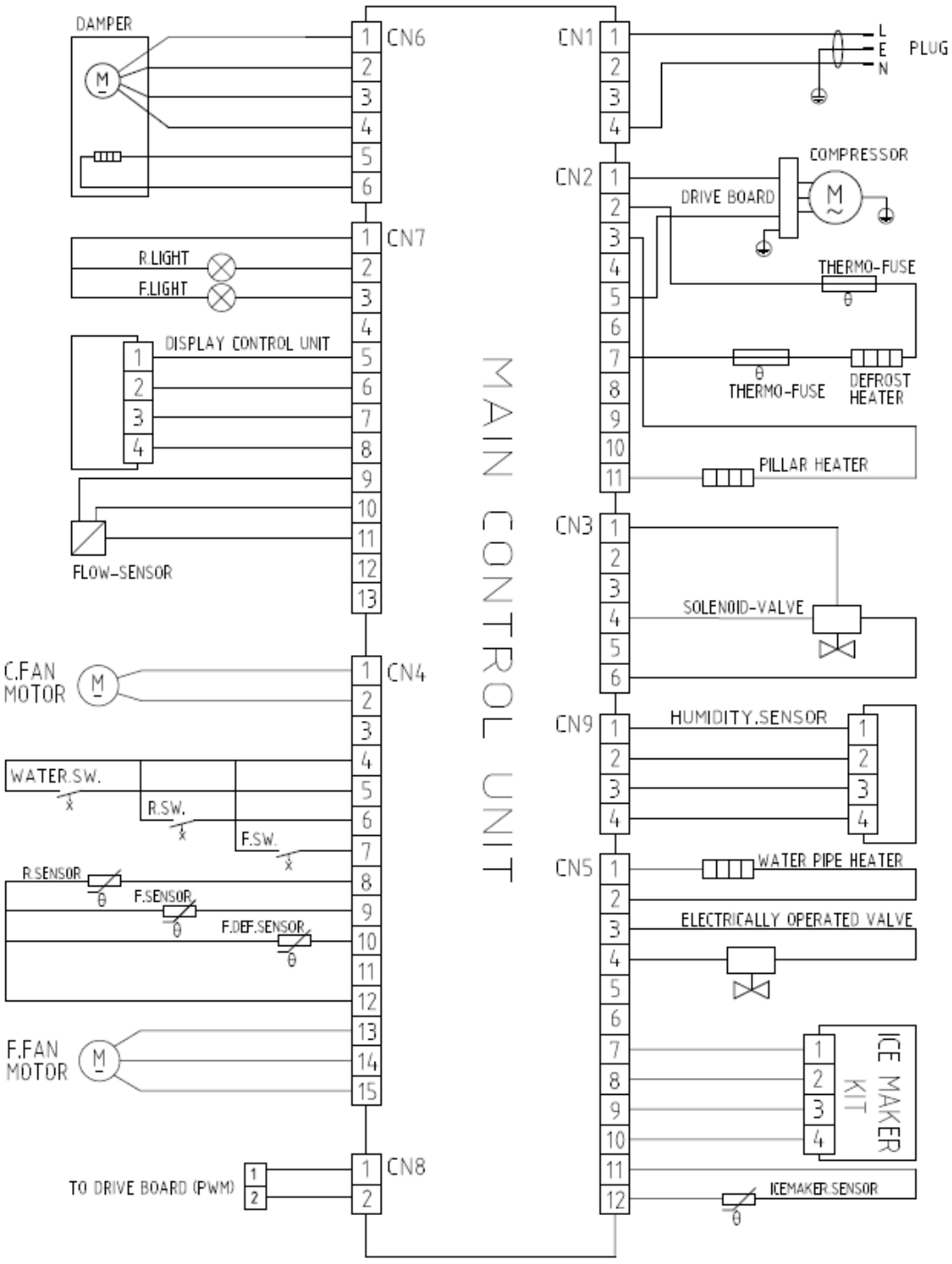


5.7Pipe noise



6. Circuit and checking

6.1 Circuit diagram



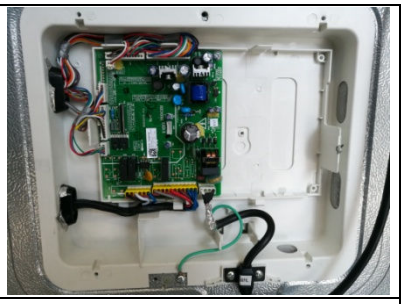
6.2 Mainboard

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**

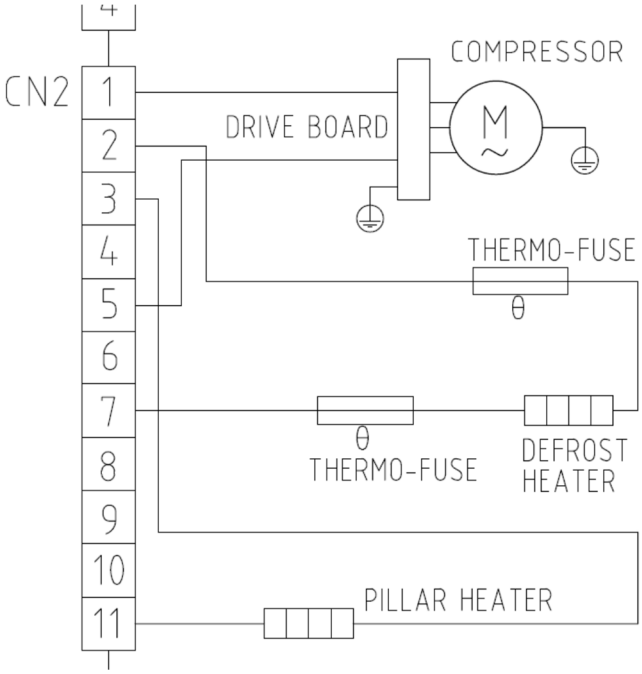
6.3 Compressor

6.3.1 Basic parameters

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

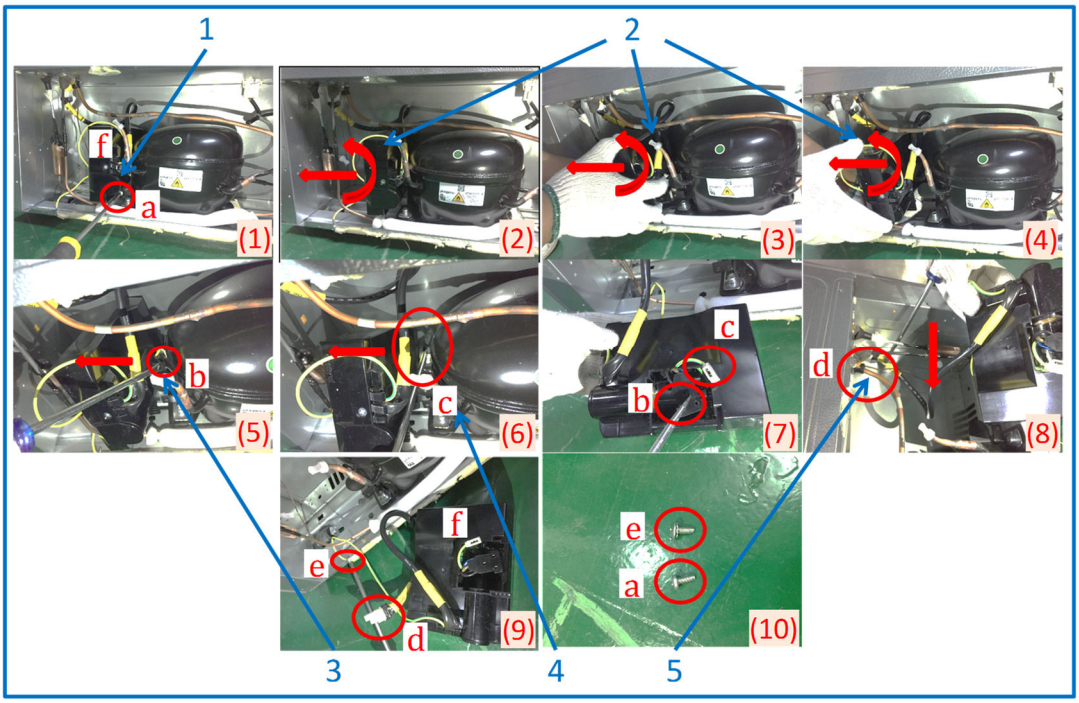
6.3.2 Checking method

1. Power on the Refrigerator, Check if the compressor is working .If not, remove the compressor frequency converter box and check, replace it if it is broken.
2. Check the connecting wiring between compressor and mainboard and repair if it is broken.
3.Use a multimeter to measure voltage between N label and COMP label on CN2（Pin.1 and Pin No.5）connector of mainboard. If the voltage equal to electric supply power, change the drive board ; 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)).



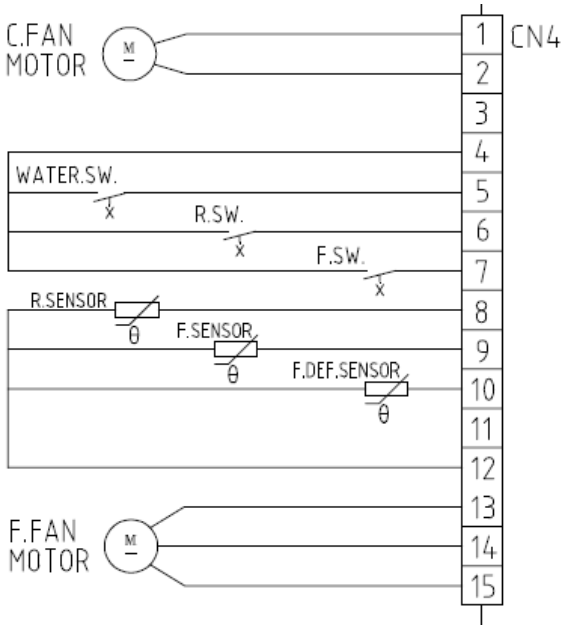
6.4 Fan motor

6.4.1 Basic parameters

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

6.4.2 Checking method

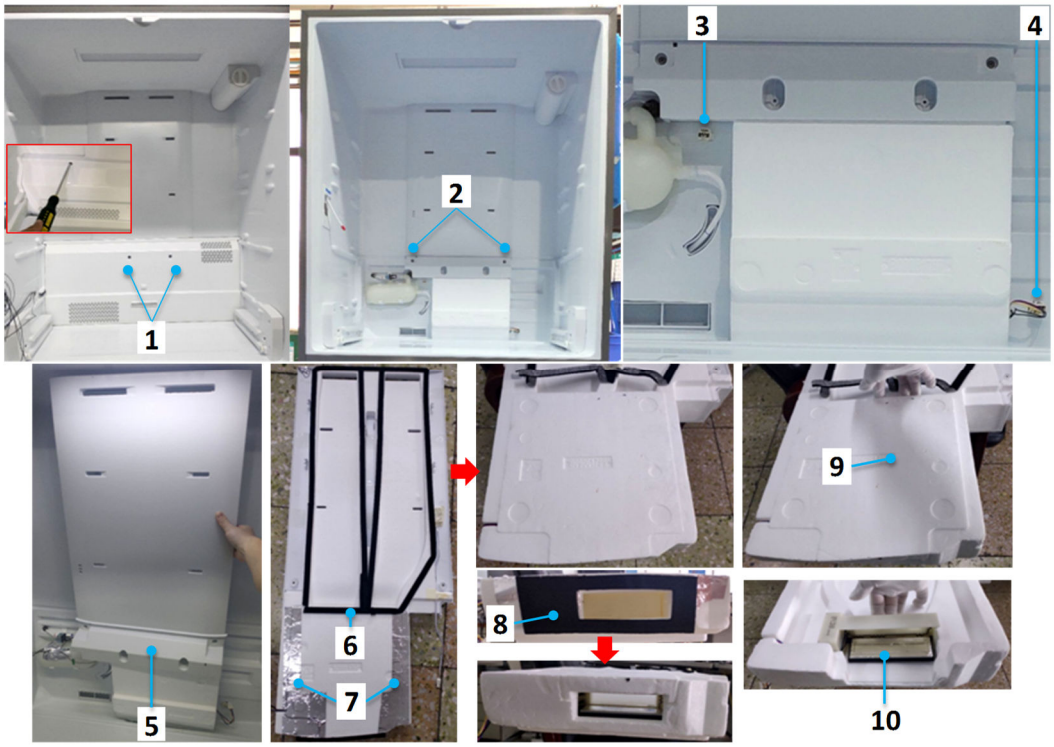
1. Check the connecting wiring of fan motor is well or not, repair if it's broken.
The freezer fan motor corresponding pin No. 13~15 on CN4 connector of main-board, as the drawing below.
The condenser fan motor corresponding pin No. 1~2 on CN4 connector of main-board, as the drawing below.
2. Pin No. 14connect 12V power and pin No. 13connect GND, if the freezer fan motor works normally, change the main-board; If not , change the freezer fan motor.
Pin No. 2 connect 12V power and pin No. 1 connect GND, if The condenser fan motor works normally, change the main-board; If not , change the condenser fan motor.



6.4.3 Removing the fridge electric wind gate

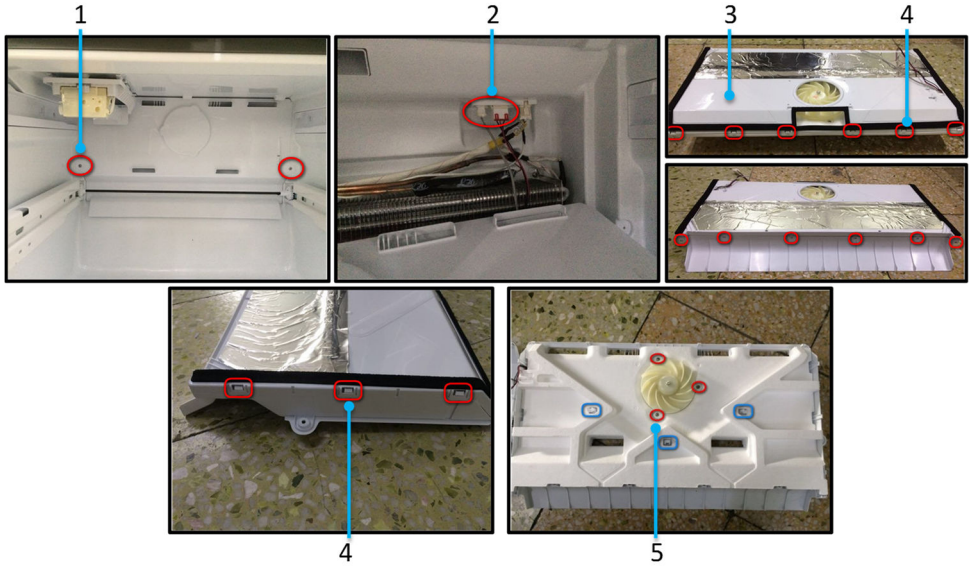
Step 1: Remove two screws (1) holding the fridge air return cover with a Philips screwdriver.
Step 2: Remove two screws (2) holding the fridge air duct with a Philips screwdriver.
Step 3: Remove two wire connectors (3) and (4) by pressing the top of them.
Step 4: Remove the fridge air duct (5) with your both hands.

Step 5: Peel off the foam strip (6), aluminum foil (7) and foam block (8).
Step 6: Remove the wind gate foam cover (9).
Step 7: Remove the fridge electric wind gate (10).



6.4.4 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.



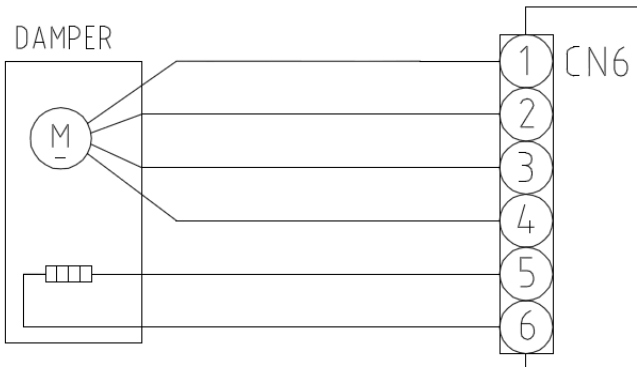
6.5 Damper (Electric wind gate)

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.



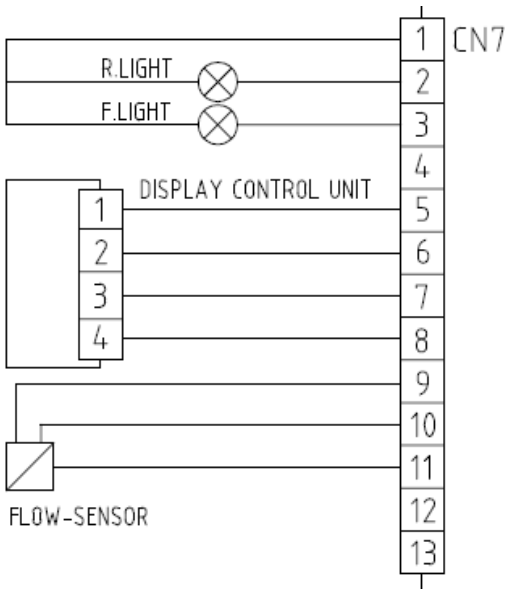
6.6 Light

6.6.1 Basic parameters

Rated voltage: DC12V

6.6.2 Checking method

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.2 on CN7 connector of mainboard.
freezer light corresponding pin No.1 and No.3 on CN7 connector of the mainboard.
As the drawing below.
Check output voltage corresponding light of the mainboard, if it is 12V, 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

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

	
Picture1	Picture2

6.7 Door switch

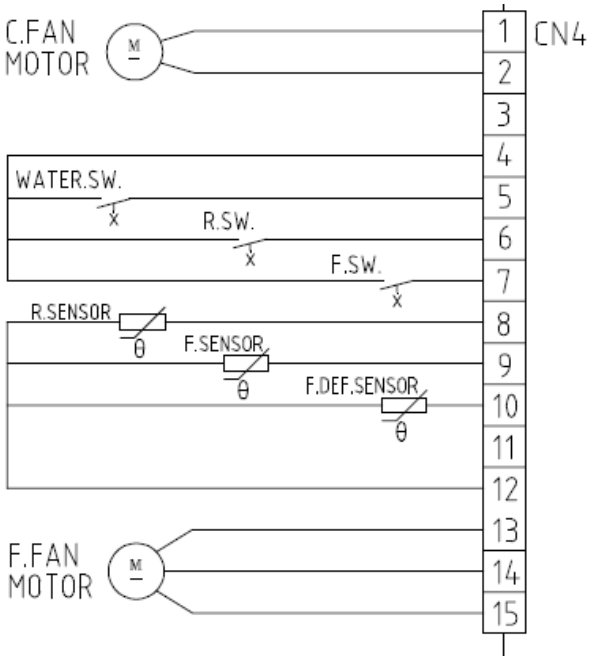
6.7.1 Basic parameters

Load voltage: DC5V
Load current: 0.05A

6.7.2 Checking method

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.4 and No.6 on 15 pins connector of mainboard, as the drawing below. Check the magnet on the fridge doors is dropped out or not.
3. 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.
4. The freezer Door switch corresponding pin No.4 and No.7 on 15 pins connector of mainboard, as the drawing below.
5. 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.
6. If all above is OK, change the mainboard.
7.The water sw corresponding pin No.4 and No.5 on 15 pins connector of mainboard, as the drawing below.
8.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.
9.If all above is OK, change the mainboard.



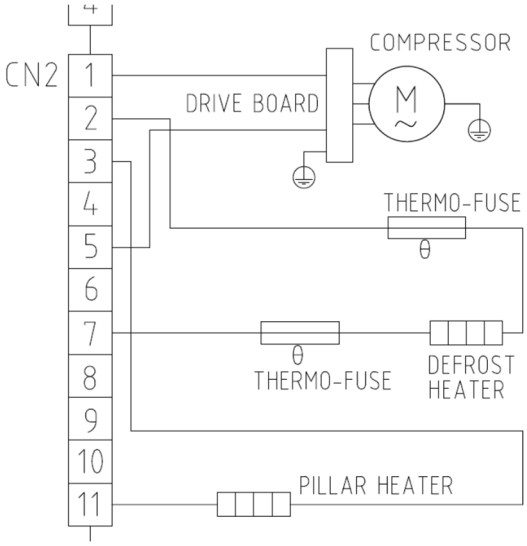
6.8 Defrost heater

6.8.1 Basic parameters

Freezer:
Rated voltage: AC115V; Rated power: 240W

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.Enter compulsory defrost mode, use a multimeter to measure the voltage between pin No.2 and No.7 on CN2 connectors of the mainboard, if the voltage doesn't equal to electric supply power, it means the heater is broken, change it.
3.Use a multimeter to measure resistance of the heaters, if the value isn't 55.1Ω±10%, it is broken, change the heater.

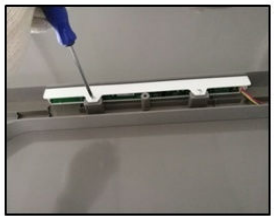


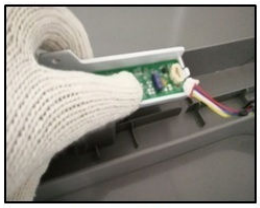
6.9 Removing the Display Component

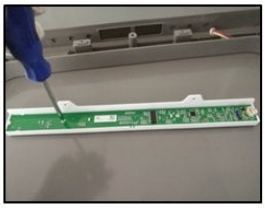
Step 1. Use Philips screwdriver to remove three fixed screws, as picture 1.
Step 2. Unplug the connecting terminal, as picture 2.
Step 3. Disassemble the fixed screws, as picture 3.
Step 4.Remove the terminal, as picture 4.
Step 5.Remove the two fixed screws, as picture 5.
Step 6.Take out the display component, aspicture6.

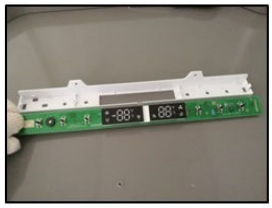

Picture 1


Picture 2


Picture 3

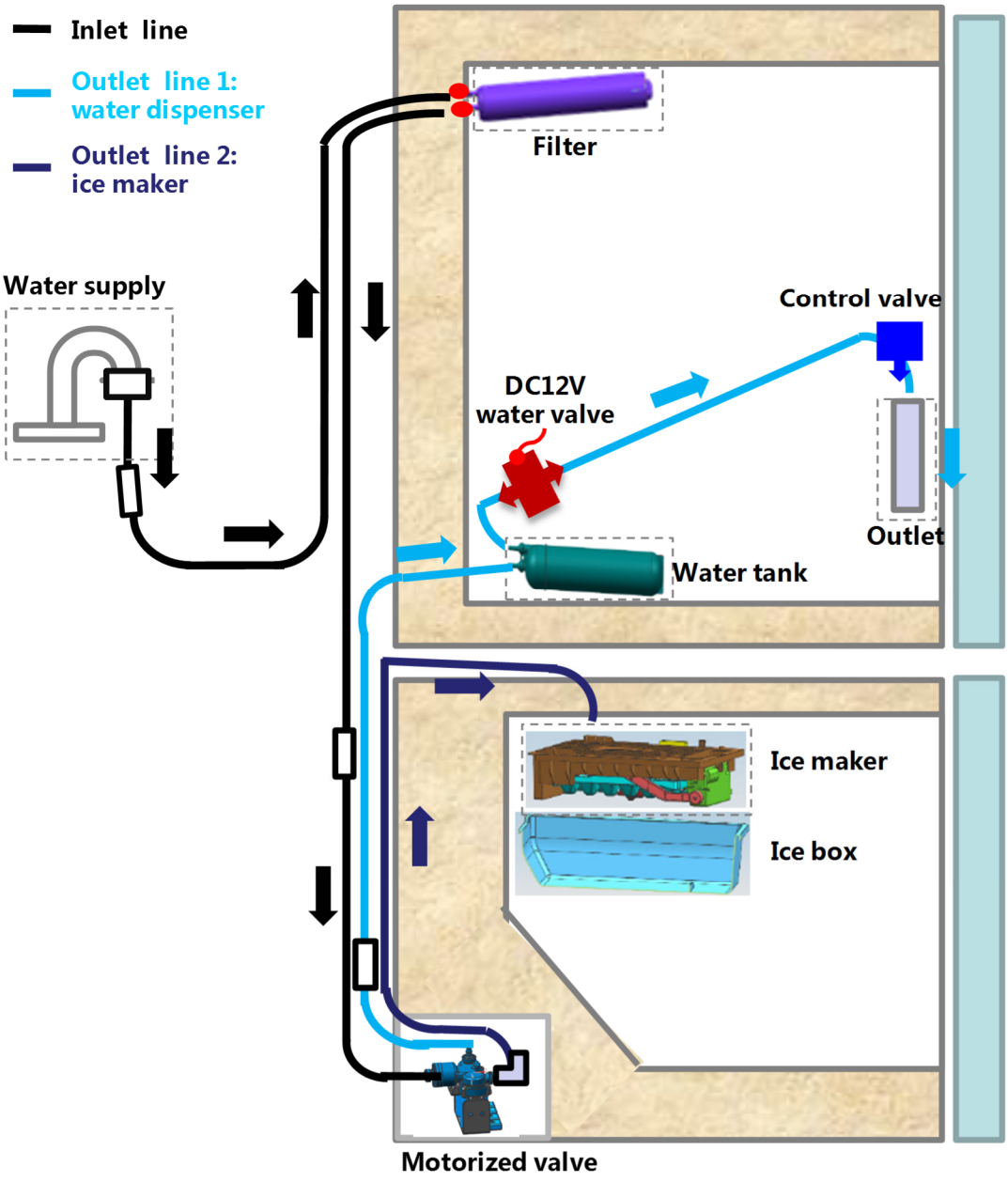

Picture 4


Picture 5

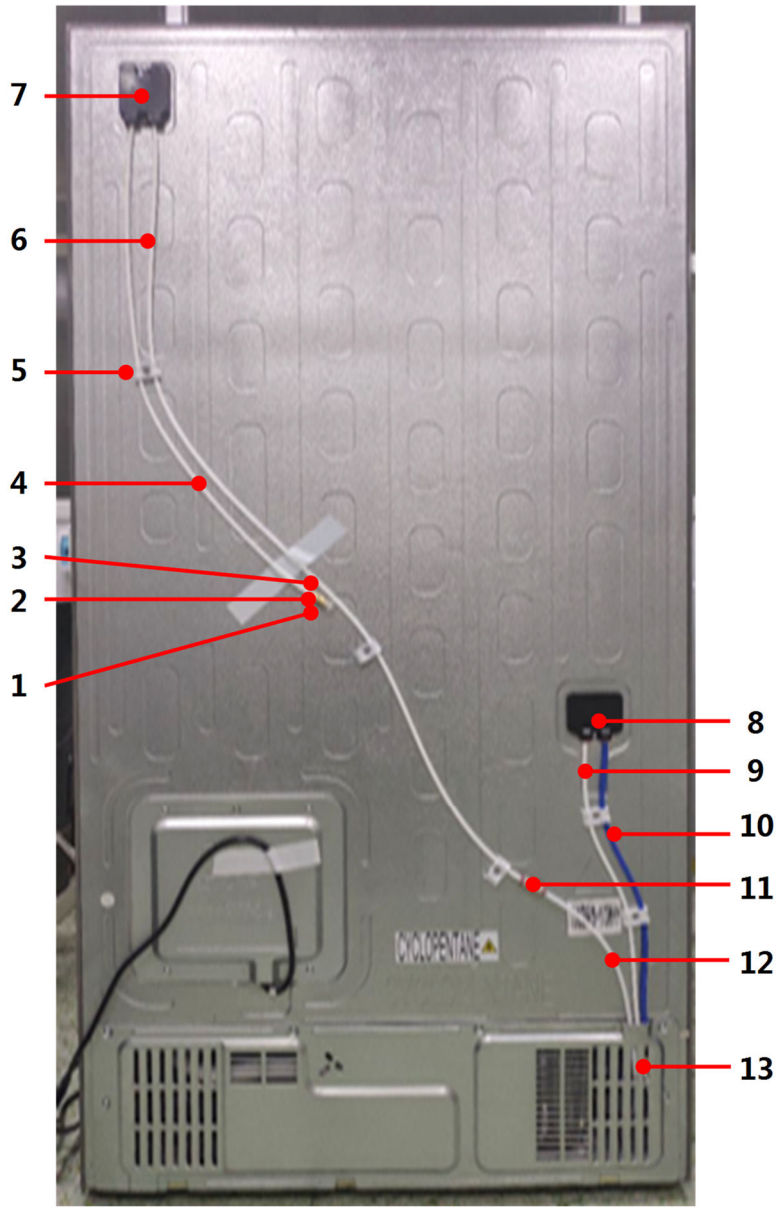

Picture 6

6.10 Water system

6.10.1 Schematic diagram of water system

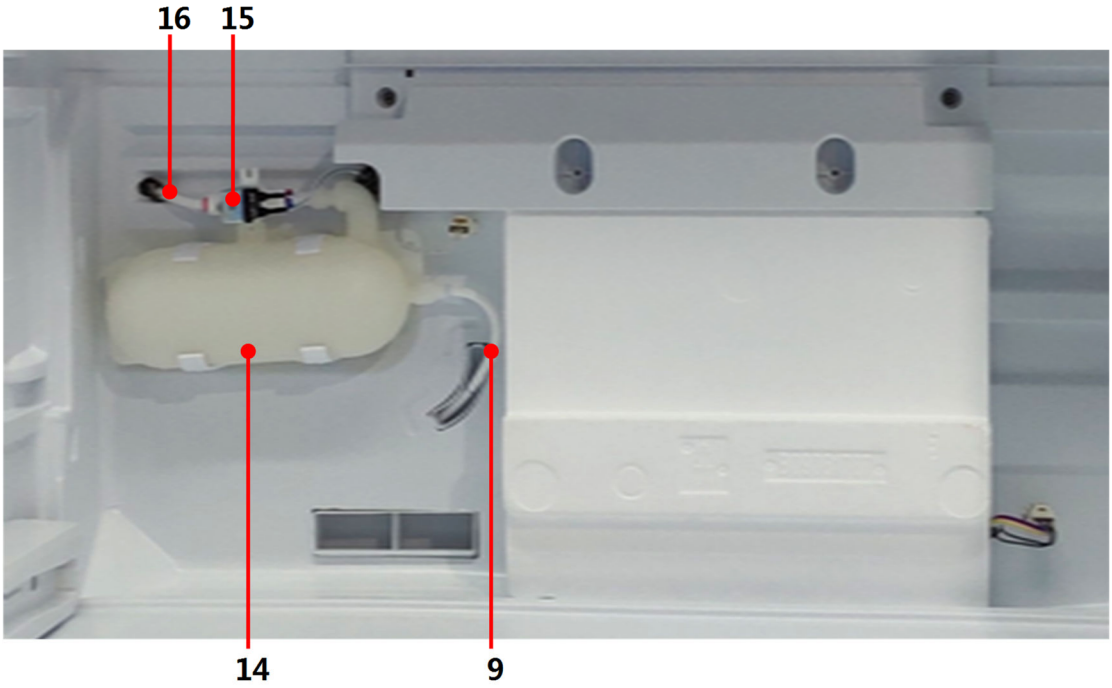


6.10.2 Water system out of the freezer room



1—Pipe cover
2—Connector Nut
3—Tap Water Joint Connector
4—Water tube (white, flow into the water filter)
5—Installation clip
6—Water tube (white, flow out the water filter, flow into motorized valve)
7—Water supply inlet cover
8—Icemaker inlet cover
9—Water tube (white, flow into the water tank in fridge room)
10—Water tube (blue, flow into the icemaker in freezer room)
11—Connector (180°)
12—Water tube (white, Motorized valve inlet tube)
13—Motorized valve

6.10.3 Water system in the fridge room



9—Water tube (white, flow into the water tank in fridge room)
14—Water tank
15—Water valve (DC12V)
16—Water tube (white, flow from water tank to the dispenser on fridge wall)

6.11 Ice maker

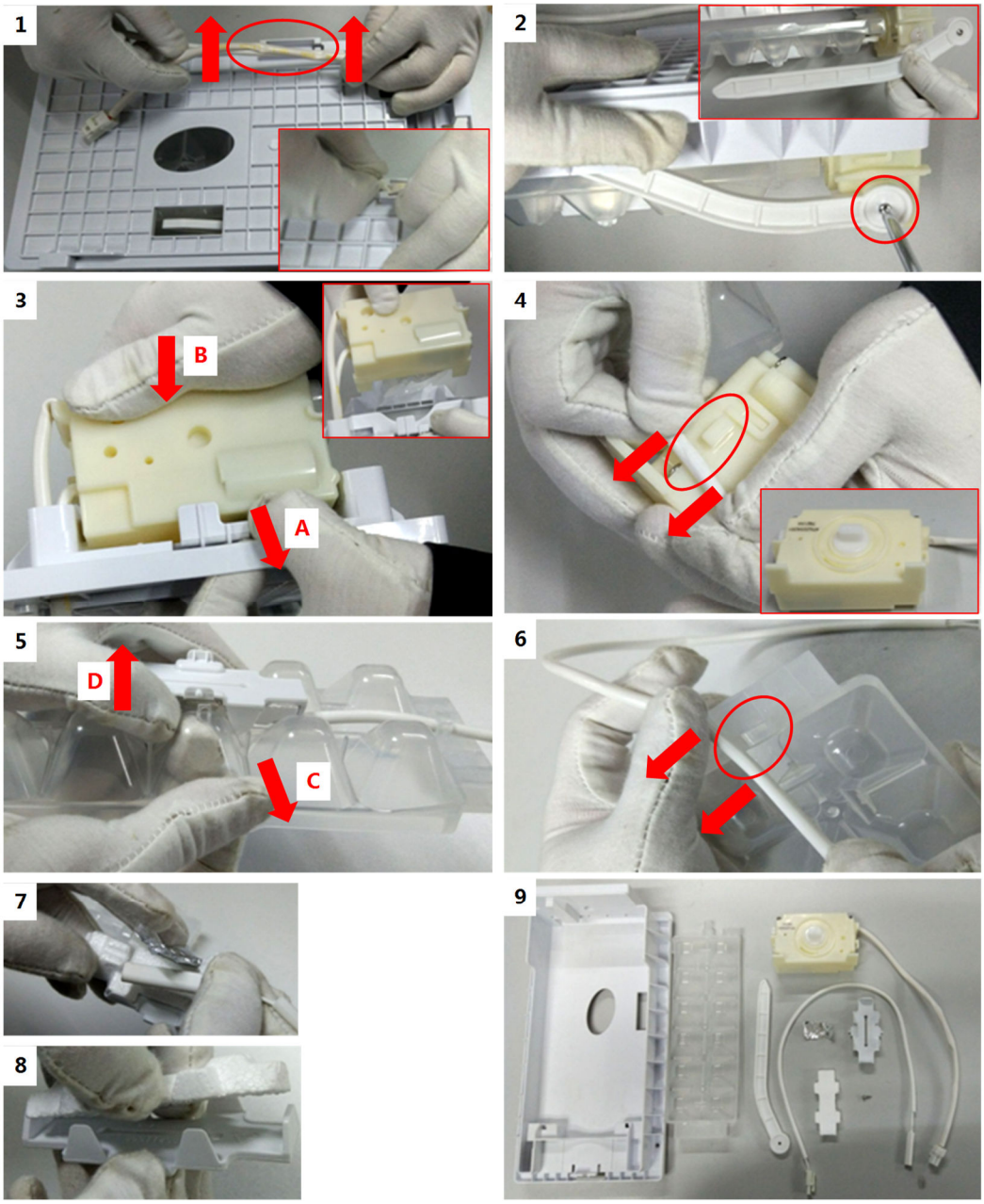
6.11.1 Checking method

Step 1.Check water line connected well.
Step 2.Touch and hold “Super Freeze” button and “Freezer” button at the same time for 3 seconds in 15 minutes after power-on, ice tray will be turned, if not, please replace the ice maker part.
Step 3.Touch and hold “Super Freeze” button and “Fridge” button at the same time for 3 seconds in 15 minutes after power-on, the ice valve will opened for 180S, if not, please replace the motorized valve.
Step 4.Touch and hold “Super Freeze” button and “Super Fridge” button at the same time for 3 seconds in 15 minutes after power-on, the water and ice valve will opened for 180S, if not, please replace the motorized valve.

6.11.2 Disassemble the ice maker part

Step 1. Remove two lines from buckle in the direction of arrow one by one.

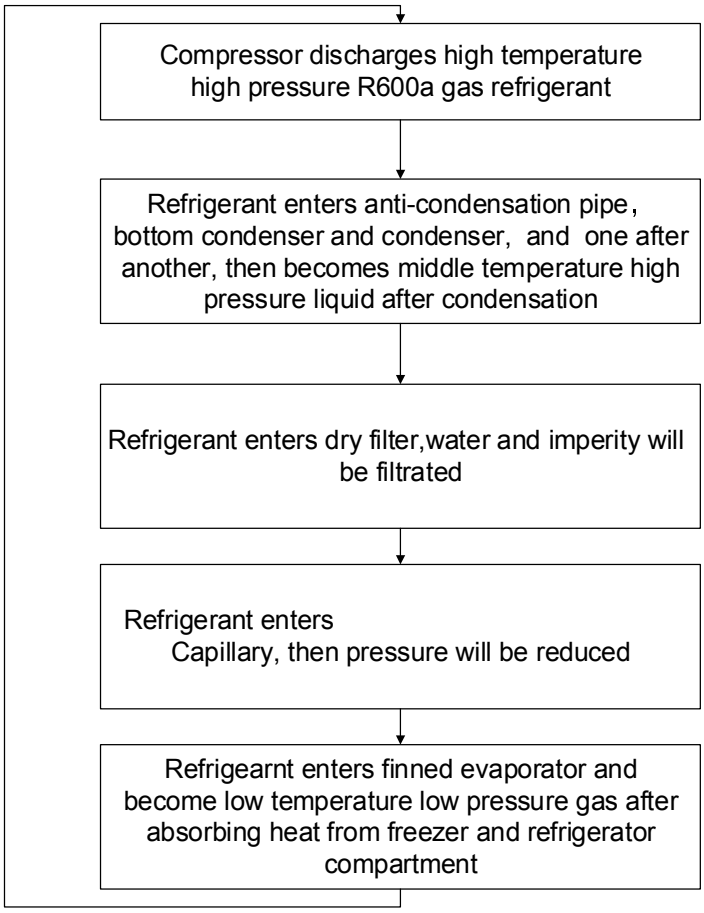
Step 2. Remove the screw holding the ice checking pole with a cross screwdriver (+).
Step 3. Pull out in the direction of arrow A, and push down in the direction of arrow B; then take the electronic motor out.
Step 4. Remove the white line from buckle in the direction of arrow.
Step 5. Push out in the direction of arrow C, and pull up in the direction of arrow D; then take the combine part out.
Step 6. Remove the white line from buckle of ice tray in the direction of arrow.
Step 7. Peel off the aluminum foil then take the temperature head out.
Step 8. Take the insulation foam out.
Step 9. All parts of the ice maker part show in picture 9.

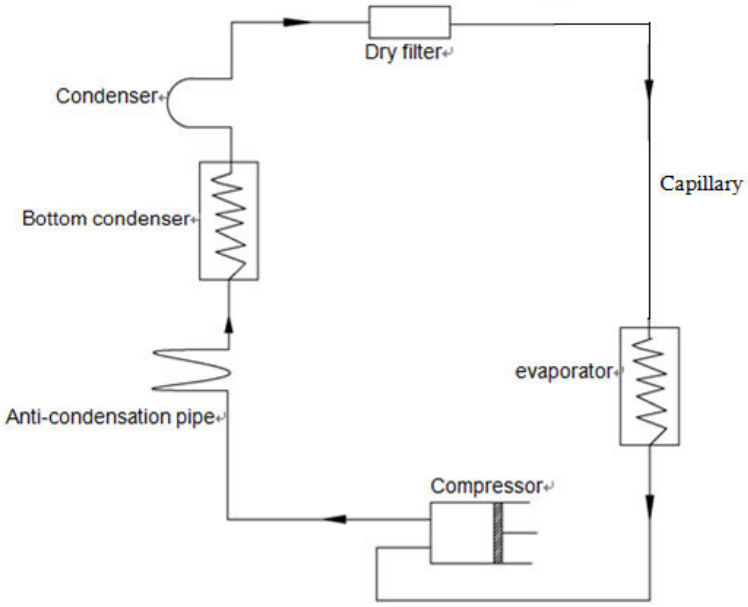


7. Cooling system repairing

7.1 Refrigeration system

The refrigerator system is Single cooling system:

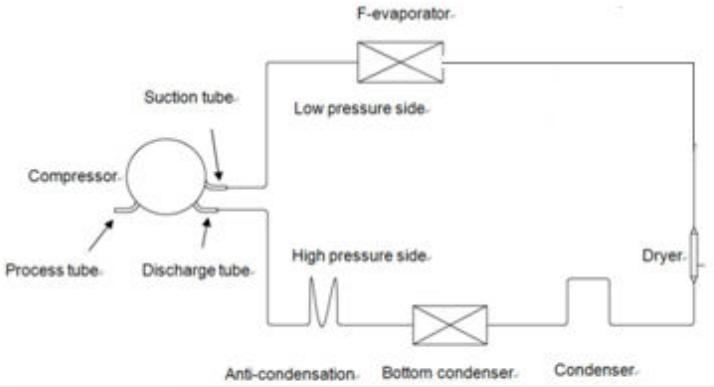




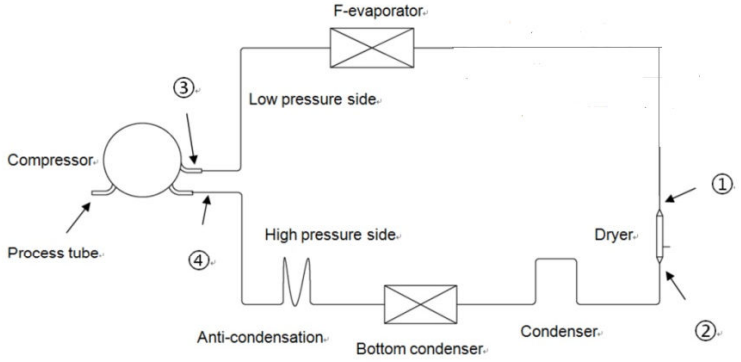
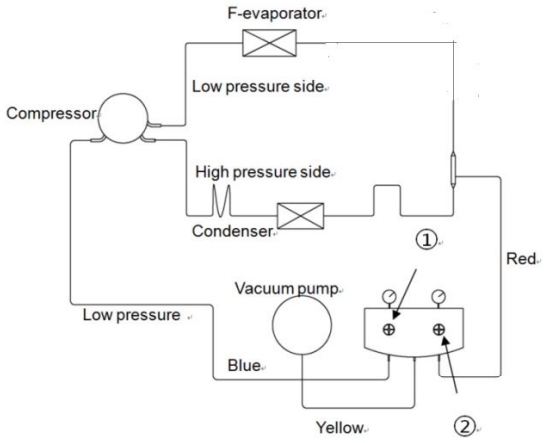
7.2 Summary of repair

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.)	

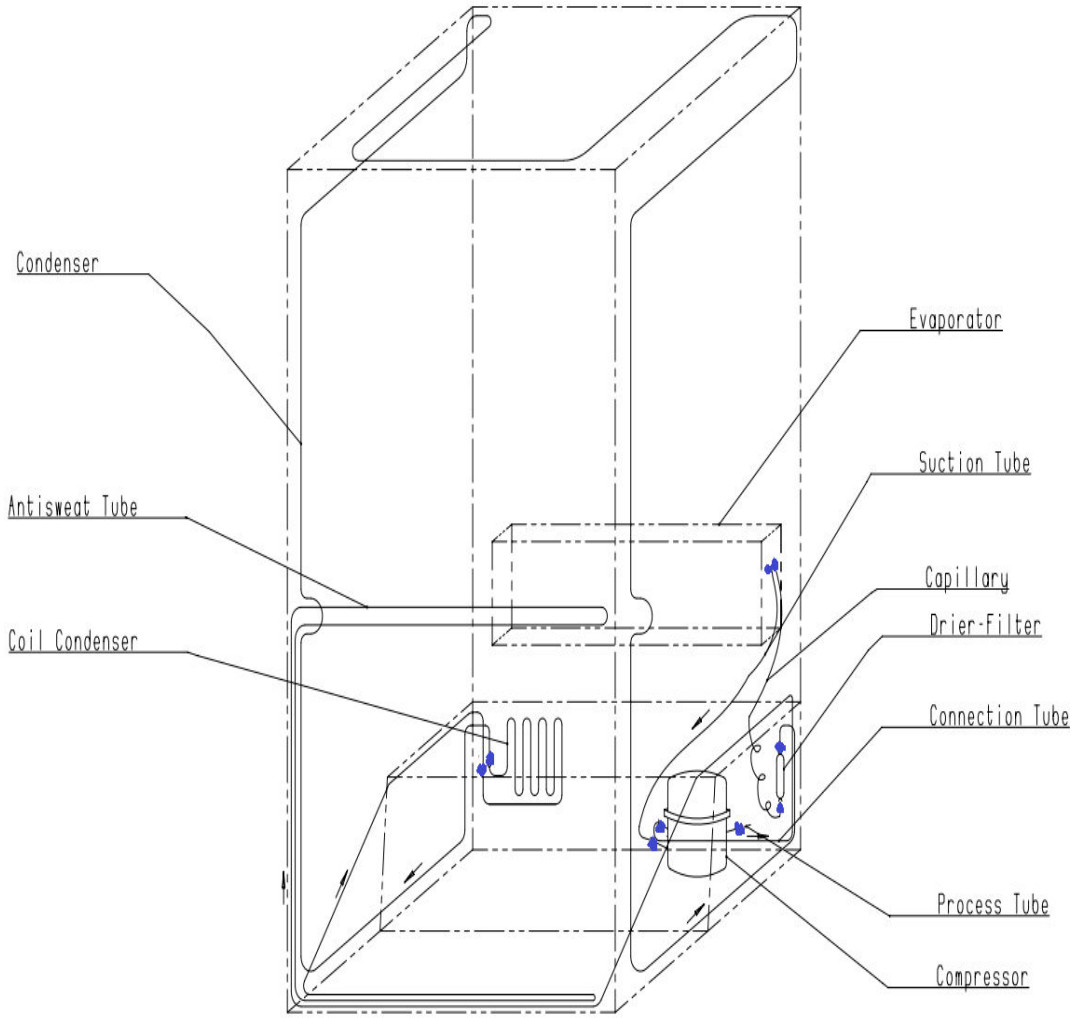
7.3 Regulation of repair

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