			重 要 度	

产 品 名称:	冷藏冷冻箱
产 品 型号:	BCD-543WP2BF1Z6/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:	BSSJ00004976
编 制 日期:	2022 年 4 月 15 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					BSSJ00004976

Hisense

Refrigerator

Service Manual

Model: BCD-543WP2BF1Z6/HC1(H)

Hisense Refrigerator

Contents

1. Warning and precautions for safety

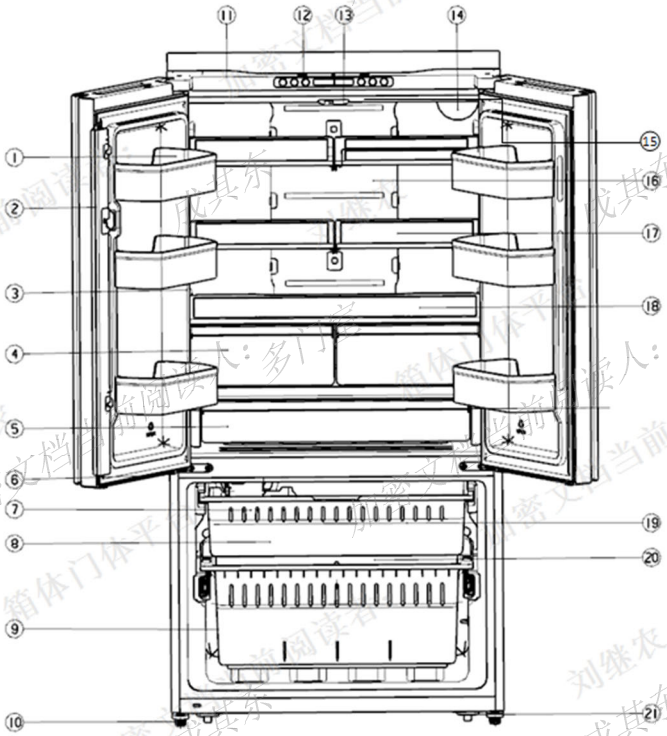
Please observe the following safety precautions in order to use safely and correctly the refrigerator and to prevent accident and danger during repair.

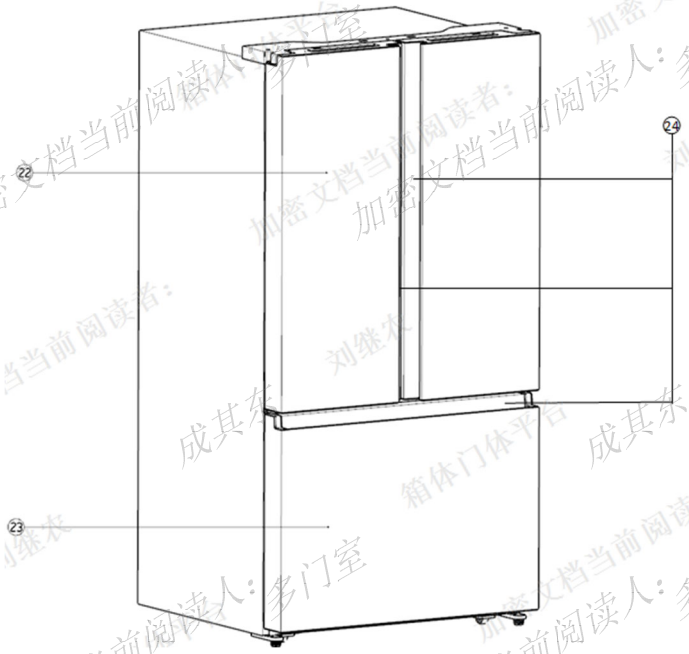
1. Be care of an electric shock. Disconnect power cord from wall outlet and wait for more than three minutes before replacing PCB parts. Shut off the power whenever replacing and repairing electric components.
2. When connecting power cord, please wait for more than five minutes after power cord was 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 touch the ice maker with hands or tools to confirm the operation of geared motor.
11. Do not let the customers repair, disassemble and reconstruct the refrigerator for themselves. It may cause accident, electric shock, or fire.
12. Do not store flammable materials such as ether, benzene, alcohol, chemicals, gas, or medicine in the refrigerator.
13. Do not put flower vase, cup, cosmetics, chemicals, etc., or container with full of water on the top of the refrigerator.
14. Do not put glass bottles with full of water into the freezer. The contents shall freeze and break the glass bottles.
15. 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 vegetables crisper
⑤ Multi-function drawer
⑥ Freezer LED light
⑦ Ice maker（inside）
⑧ Ice storage box（inside）
⑨ Lower freezer drawer
⑩ Adjustable bottom feet
⑪ Top cover
⑫ Display board
⑬ Vertical baffle guide block
⑭ Water filter
⑮ Refrigerator LED light（inside）
⑯ Wind channel
⑰ Glass shelf
⑱ Crisper cover
⑲ Upper freezer drawer
⑳ Lower diaphragm
㉑ Roll wheel
㉒ Refrigerator door
㉓ Freezer door
㉔ Handles



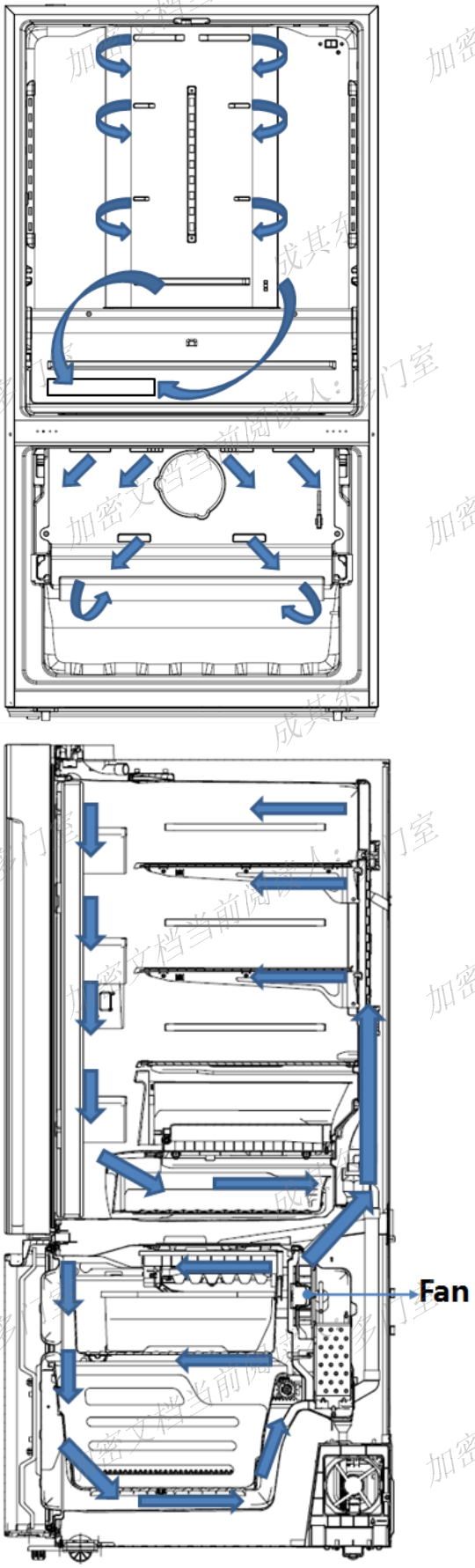


Note！

•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.

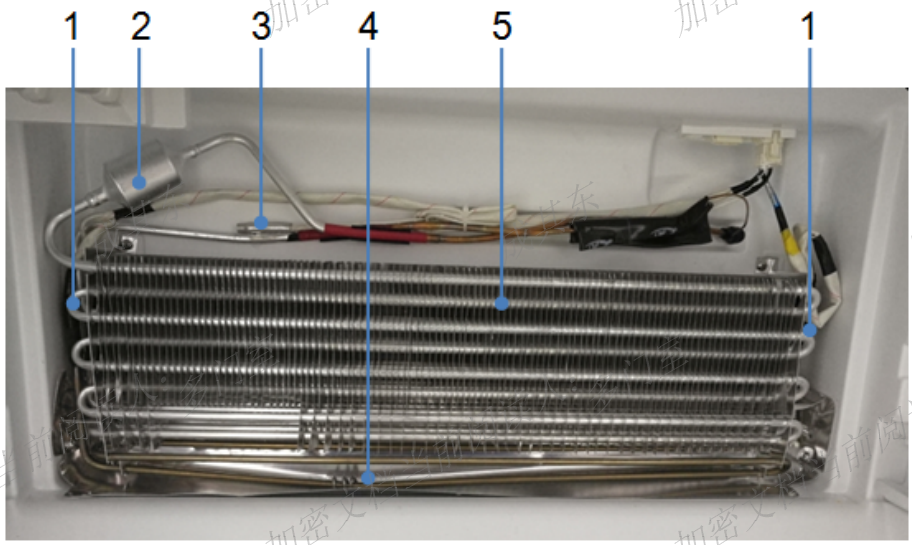
•To get the best energy efficiency of this product, please place all shelves, drawers and baskets on their original position as the illustration above.

2.2 Wind channel structure



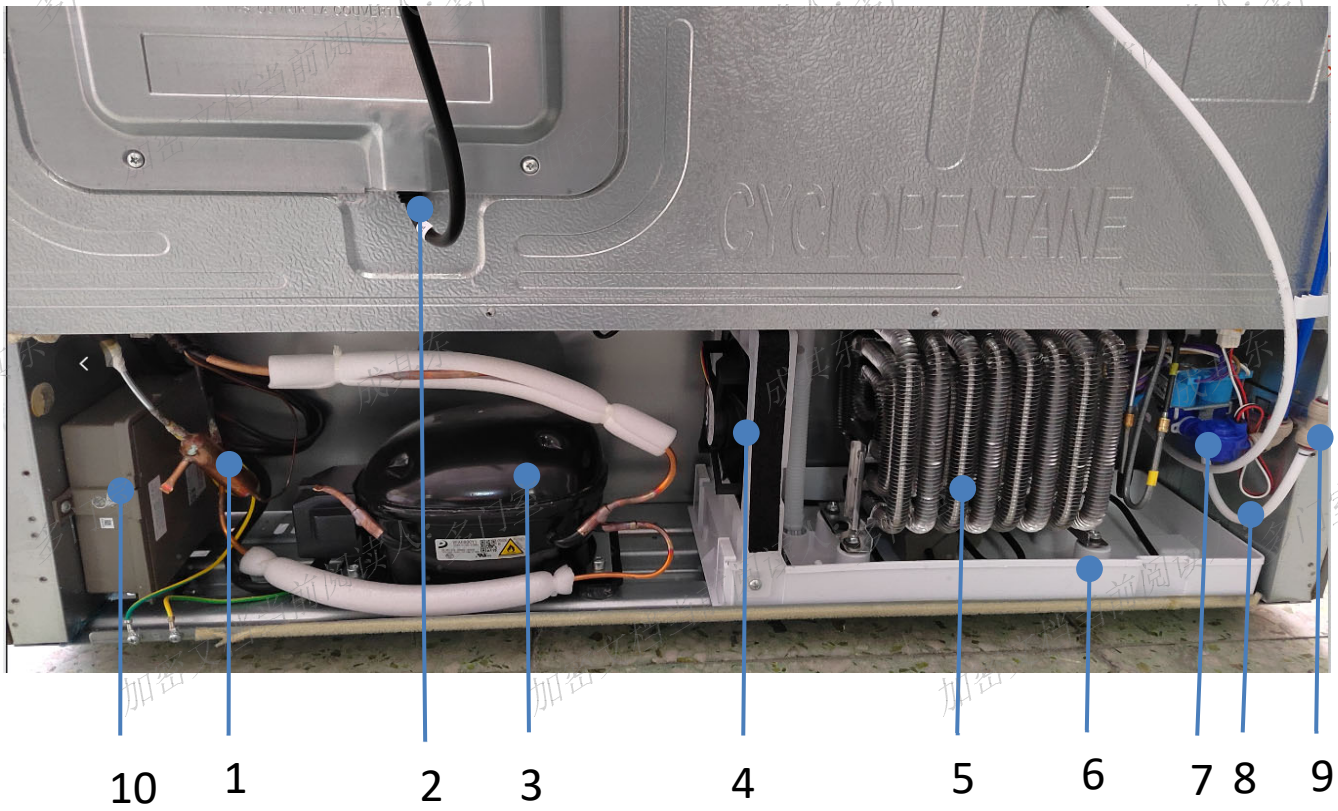
2.3 Evaporator structure

2.3.1 Freezer 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-Water valve(SOLENOID –VALVE)
8- Water tube
9-Connector（ Water tube ）
10-Drive board

3. Basic parameters

SPECIFICATIONS	
DESIGN PRESSURE	
HIGH SIDE/LOW SIDE	250psig/88psig
REFRIGERANT/AMOUNT	R600a/57g
RATED VOLTAGE	AC115V
RATED FREQUENCY	60Hz
RATED CURRENT	3A
DEFROST POWER	240W
FOAMING AGENT	Cyclopentane
NET WEIGHT	113kg
WxDxH(with hinges)	91.4x72.7x177.8cm
WxDxH(without hinges)	91.4x72.7x177.8cm

4. Operation and functions

Your product has one control panel which is installed on the top cover. 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 start working. If no buttons have been touched or the doors are closed, the backlighting will turn off after 60 seconds.
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

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.

47°F→46°F→45°F→44°F→43°F→42°F→41°F→35°F→36°F→37°F→38°F→39°F→40°F→

Super Cool

If you want to decrease the time needed to cool products in the 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

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.

6°F→5°F→4°F→3°F→2°F→1°F→0°F→-1°F→-2°F→-3°F→-4°F→-12°F→-11°F→-10°F→-9°F→-8°F→-7°F→-6°F→-5°F→

Super Freeze

If you want to decrease the time needed to freeze products in the freezer, please touch this button, the Super Freeze icon "❄" will be illuminated, the freezer temperature setting displays -12°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 26 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 remain active after power is resupplied.

Note:
If you want to exchange the "°F" to "°C", 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 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, 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 into a pan and wipe up any leakage that may have occurred.

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 42°F and the freezer to 2°F. If Energy Saver 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 door is open, or you touch any button. The light will go off without touching any buttons or if the doors have been closed for 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. The temperature setting reverts back to the previous setting.

Demo mode (Freezer/ Fridge Temperature Indicator moving)

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. The indicators on the control panel will show double "0F". To cancel this mode, press and hold "Ice On/Off" and "Energy Saving" keys at the same time for 3 seconds until the buzzer beep three times and the display panel will light for 3 second.

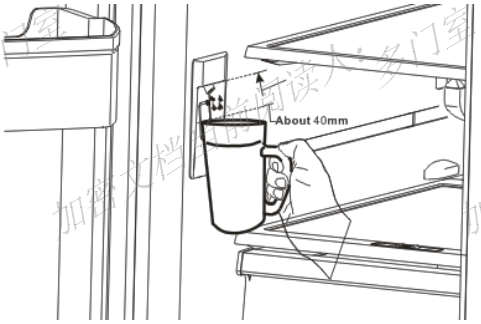
4.2 Using the appliance

This section tells you how to use most of the useful features. We recommend that you read through them carefully before using the appliance.

Getting cold water

The water dispenser is located in the left side of fridge room. Open the refrigerator doors, and push the water dispenser button to get water,. Then move your glass down the dispenser lever in the suggested position and press it.

Hold the glass underneath the dispenser for 2~3 seconds after releasing the dispenser button. Water may continue to dispense after the button is released.



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.

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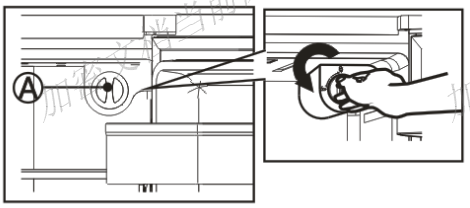
1. Changing the water filter

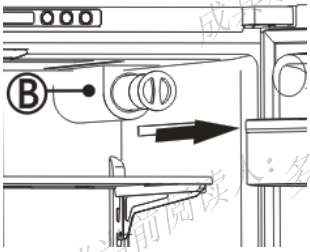
To drink the freshest and cleanest water from your refrigerator, change the filter on time.

To change the water filter, follow these steps:

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

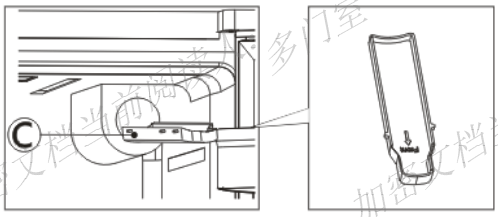


2. Pull the water filter (A) from the filter holder (B).

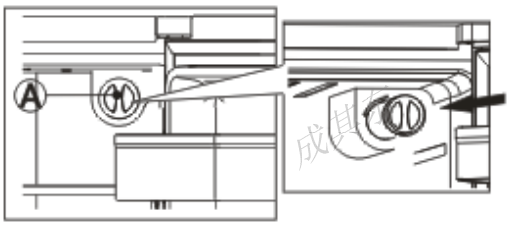


Note:

- To change the water filter more 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 pull it.
- To prevent overflow, empty the water filter tray (C) and dry around the filter case.
- You should re-install the water filter tray before inserting the new filter followed the direction 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.

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

1.Turn on the main water supply and supply water from water supply line.

2.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.

3. Additional flushing may be required in some households.

4. 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.

Reverse osmosis water supply important:

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 125 psi (207 and 862 kPa).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 press when used in conjunction with a reverse osmosis system. Remove the water filter.

2. Using your fridge 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.

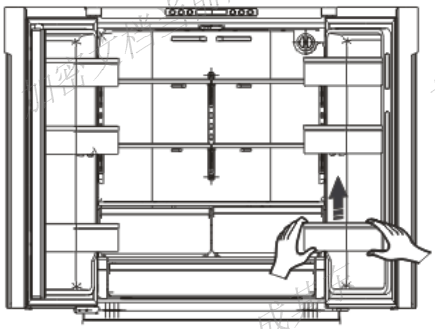
Caution! Never close the refrigerator door while the shelves, crisper and/or telescopic slides are extended. It may damage both them and the refrigerator.

Door baskets

The refrigerator compartment is provided with six same door baskets, which are suitable for the storage of canned liquid,
bottled drink sand packed food.

To remove the door baskets, simply lift the racks up and pull straight out.

To relocate the door baskets, slide it in above the desired location and push down until it stops.

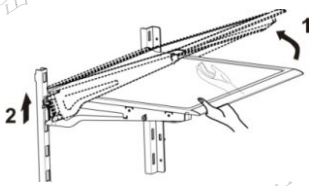


Warning!

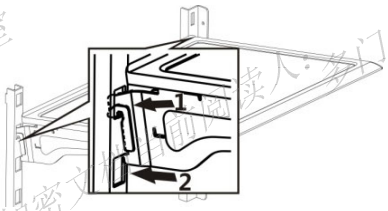
Do not place too many heavy things in the baskets. Before you lift up the door shelf vertically, please take the food out.

Glass shelves

To remove the glass shelves, tilt up the front of the shelf in the direction shown (1) and lift it up vertically (2).Pull the shelf out.



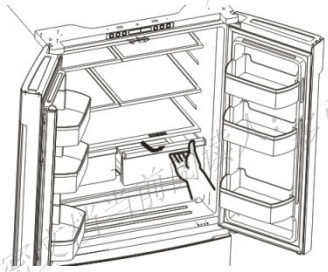
To re-install the glass shelves, tilt the front of the shelf up and guide the shelf hooks into the slots at a desired height (1). Then lower the front of the shelf so that the hooks can drop into the slots (2).



Vegetable and fruit crispers

The crispers are suitable for storage of vegetable and fruit. To take them out, open the door to the final location first.

Then pull out the draw and tilt up the front of the crisper after moving slightly in the directing of the arrow.



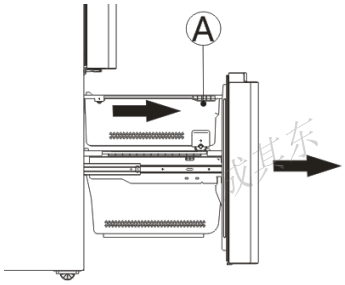
Using the freezer compartment

The freezer compartment is provided with an upper drawer, a lower drawer and a ice box.

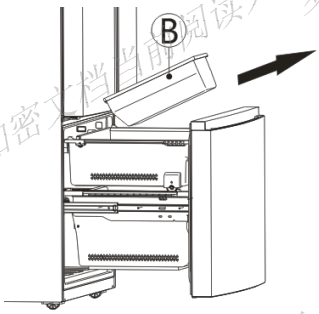
To remove all of them, refer to page 8 for disassembly instruction.

Disassembling the freezer door

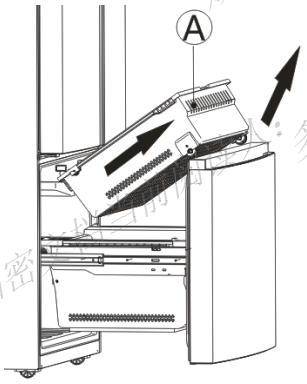
1. Pull out the freezer door and the upper freezer drawer (A) to the final position.



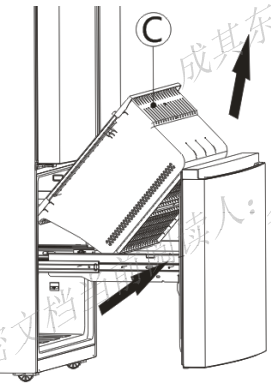
2. Take out the ice storage box (B) by lifting it up in the direction of the arrow.



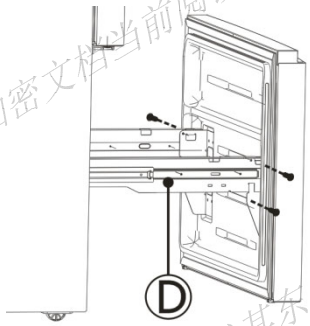
3. Take out the upper freezer drawer (A) by lifting it up from the rail system.



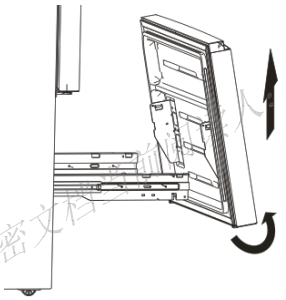
4. Remove the lower freezer drawer (C) by lifting it up.



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



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

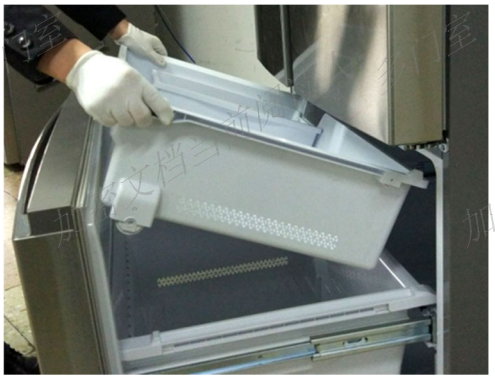


Re-assembling the freezer door

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

Remove the ice maker part

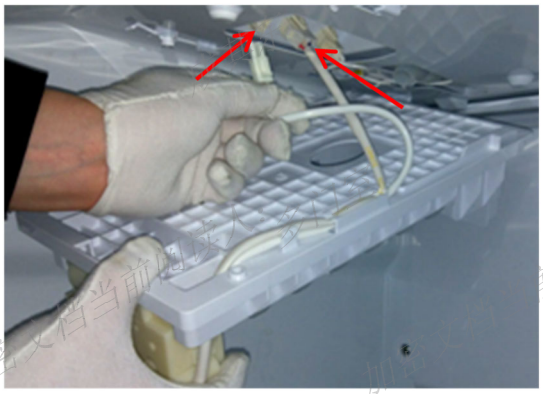
1. Open freezer door, take upper drawer out.

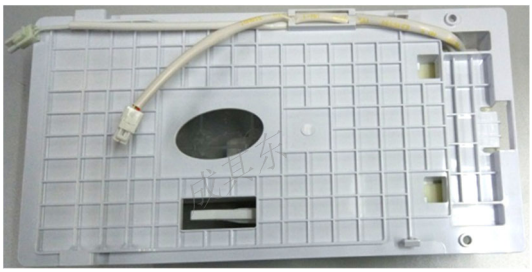


2. Disassemble two fixed screws with a cross screwdriver (+).

3. Pull out the ice maker part.

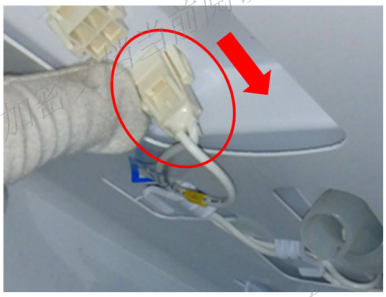
4. Unplug two terminals, then take out the ice maker part.



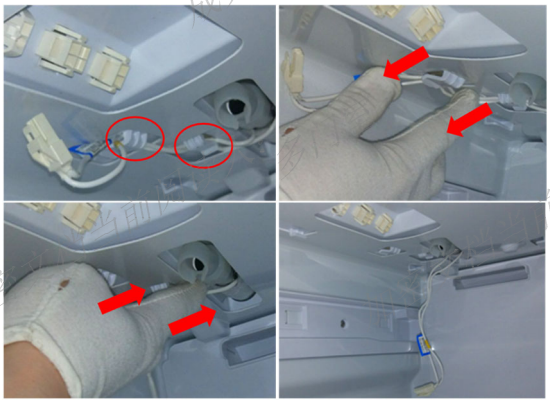


Remove the water pipe connector part

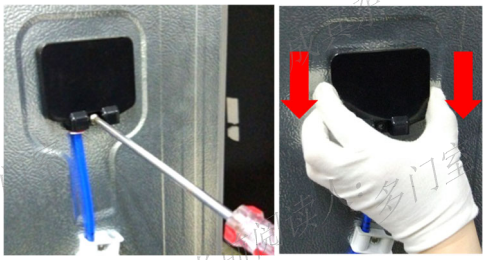
1. Remove the ice maker part.
2. Unplug the terminal.



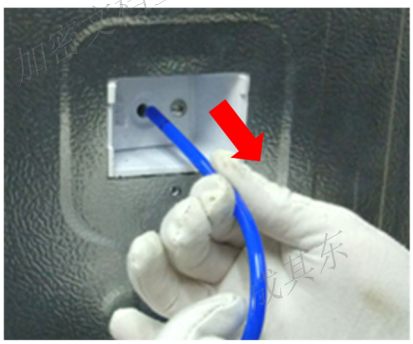
3. Remove wire line from two buckles in the direction of arrow one by one.



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

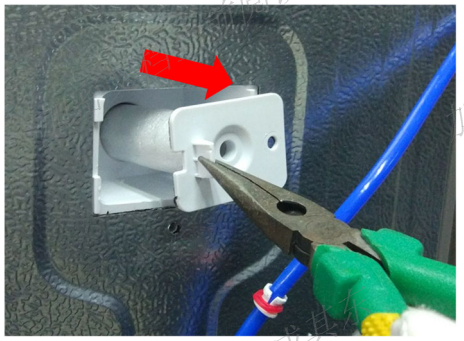


5. Pull the blue water tube out in the direction of arrow.



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

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



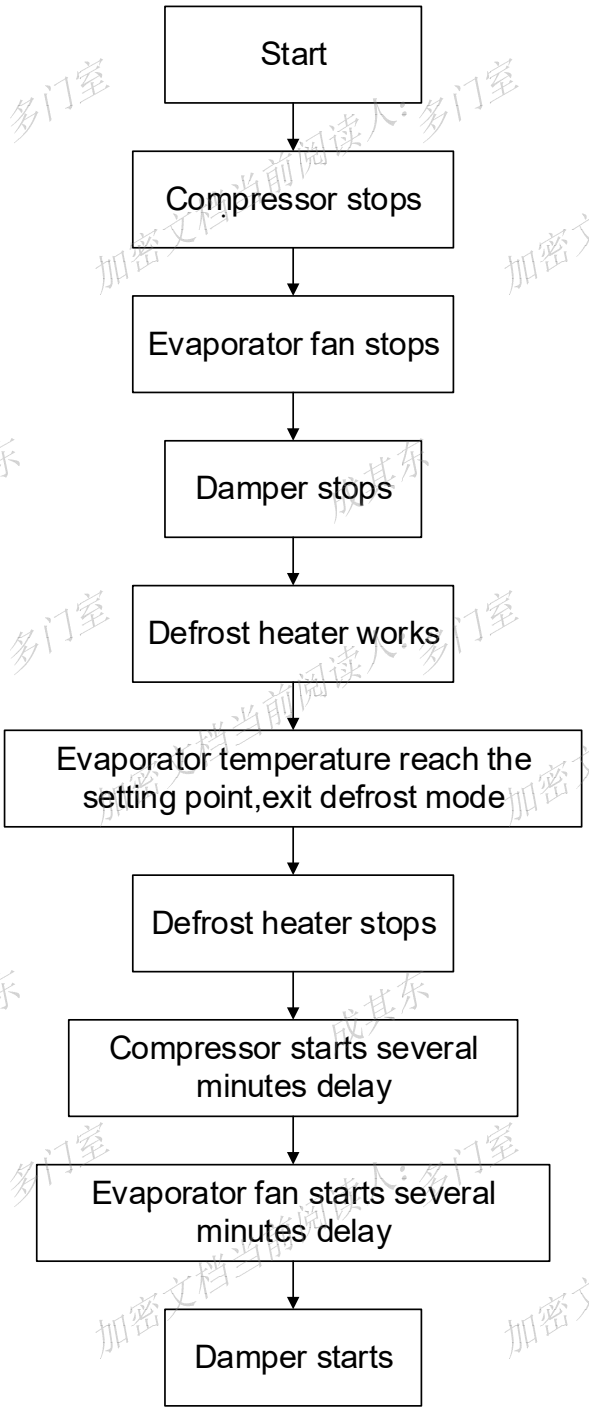
4.3 Defrost mode

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.

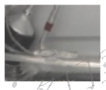
Forced defrost mode: Opened the freezer door, touch and hold “Ice On/Off” button +“Freezer” button for 3 seconds in 10 minutes after power-on, the freezer heater will turn on at the same time.

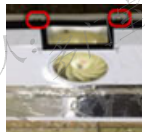
4.3.2 Defrost flow



4.4 Error display

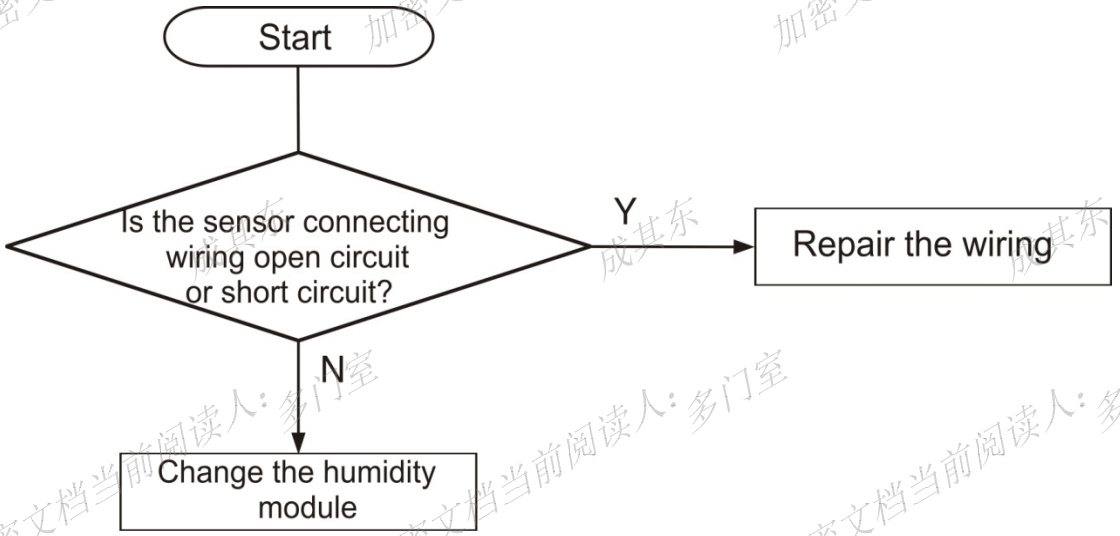
4.4.1 Error Code

Code	Description	Trouble contents	Diagnostic method	Detection value	image
E0	Environment sensor malfunctions	Display error: separation of sensor housing part, contact error, disconnection, short circuit. Display error of detecting temperature of sensor : more than 40°C or less than -40°C	Measuring the voltage between the Main PCB CN9 PIN No.1-No.3	0.5V~4.3V	
E1	Refrigerator sensor malfunctions		Measuring the voltage between the Main PCB CN4 PIN No.8-No.12	0.8V~4.6V	 
E3	Freezer sensor malfunctions		Measuring the voltage between the Main PCB CN4 PIN No.9-No.12	0.5V~4.3V	 
E4	Freezer defrost sensor malfunctions		Measuring the voltage between the Main PCB CN4 PIN No.10-No.12	0.8V~4.6V	 
E8	Humidity sensor malfunctions		Measuring the voltage between the Main PCB CN9 PIN No.1-No.4	1.235-3.53V	 
E9	Ice maker sensor malfunctions		Measuring the voltage between the Main PCB CN5 PIN No.11-No.12	0.8V~4.6V	 
Eb	Ice maker malfunctions		Under ice tray forced to turn, measuring the voltage between the Main PCB CN5 PIN No.7-No.8	12V	

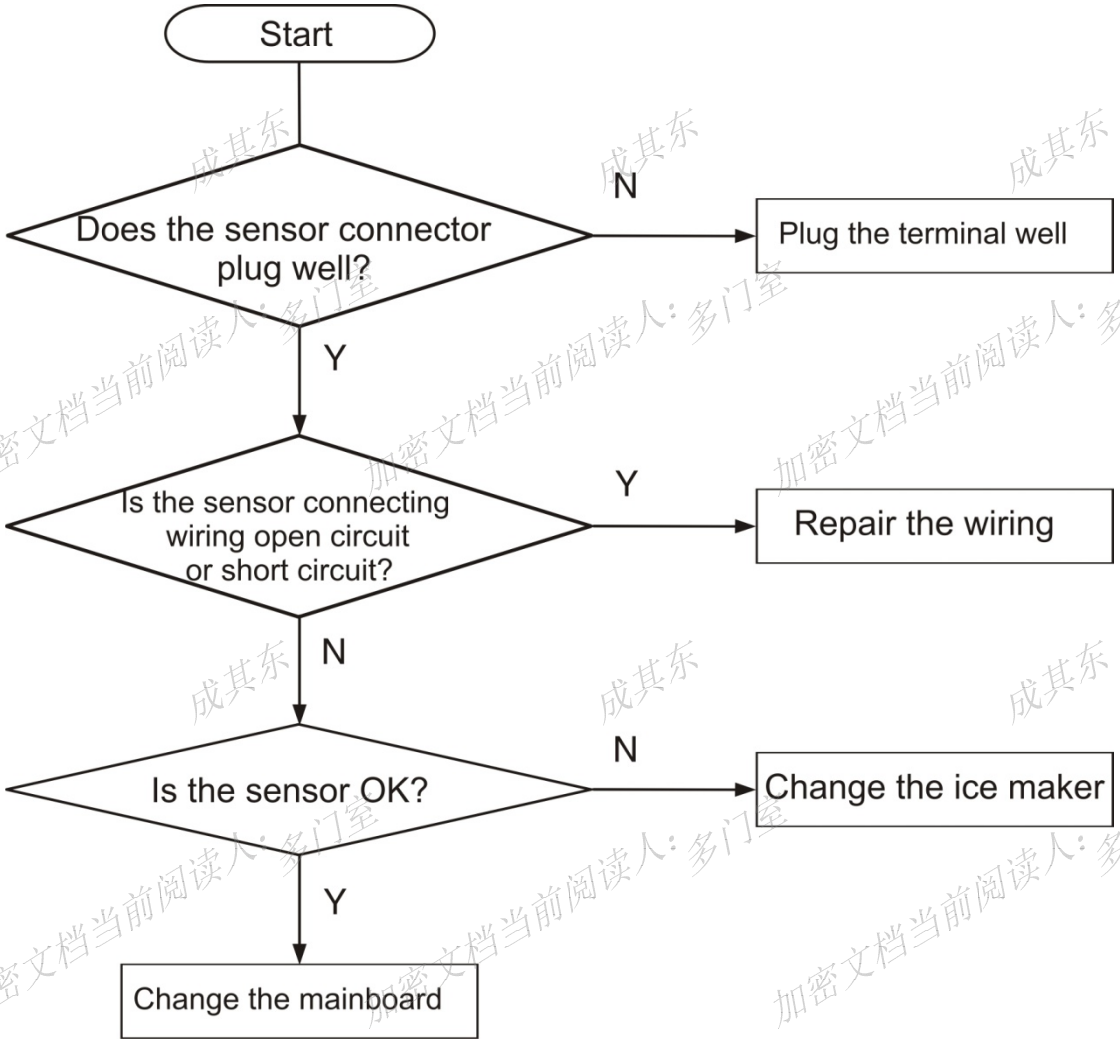
Ec	Communication sending malfunctions	Display board cannot send signal to main control board	1. Checking the connecting is well or not. 2. Replace the display board. 3. Replace the control PCB.	/	 
Er	Communication receiving malfunctions	Display board cannot receive signal from main control board		/	
F1	Freezer fan malfunctions	separation of fan housing part, contact error, disconnection, short circuit.	1. Checking the connecting is well or not. 2. Replace the freezer fan. 3. Replace the control PCB.	9V-12V	 
dr	Closed Freezer /Refrigerator doors or the door switch malfunctions	1. Door is not closed properly. 2. Door switch contact error, disconnection, short/open circuit.	1. Checking the connecting is well or not. 2. Check the magnet on the door is dropped out or not. 3. Replace the door switch. 4. Replace the control PCB.	/	  
OP	High temperature in the refrigerator compartment	/	1. Checking the compressor is working or not. 2. Refrigerator sensor Refrigerator sensor	/	 

4.4.2 Checking method

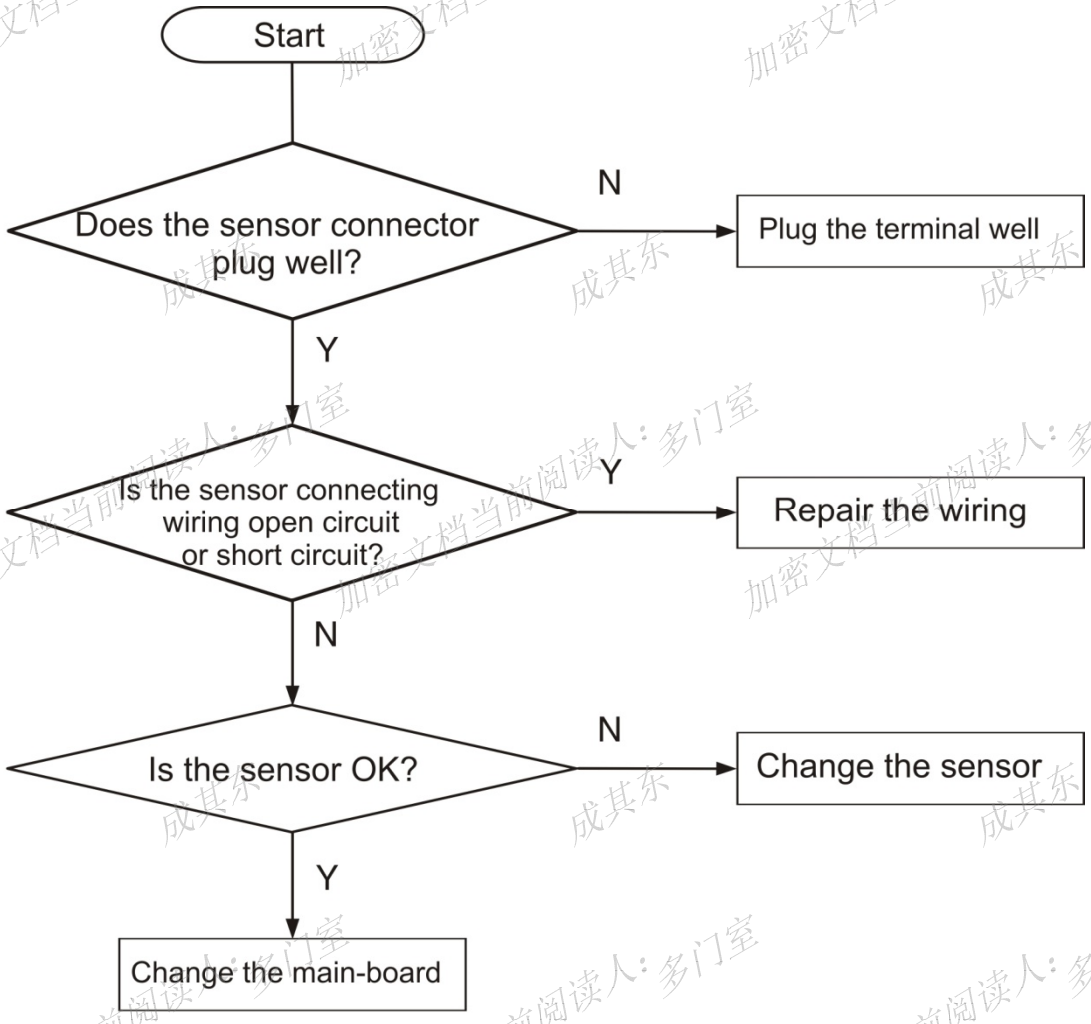
4.4.2.1 Environment sensor or Humidity sensor error



4.4.2.2 Ice maker sensor error

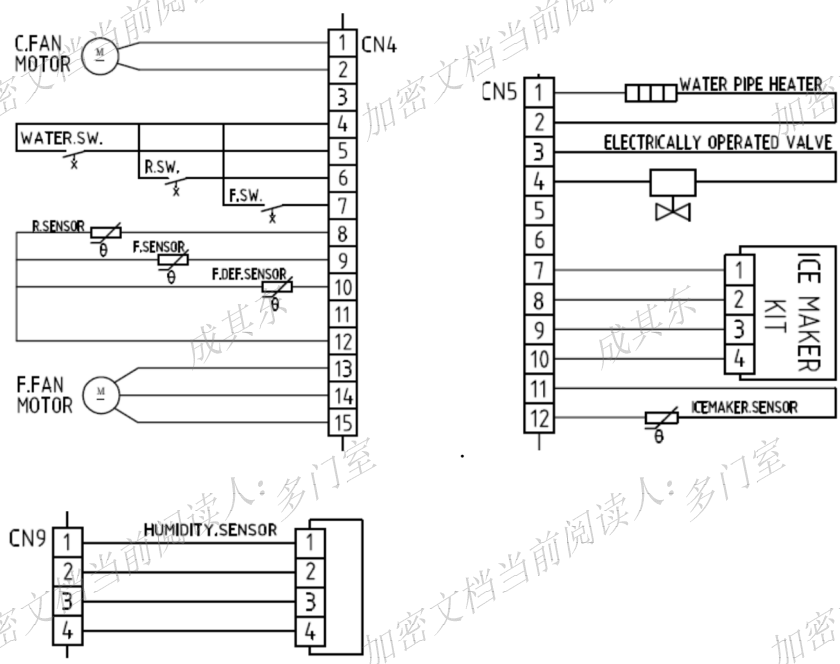


4.4.2.3 Other sensors error



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.

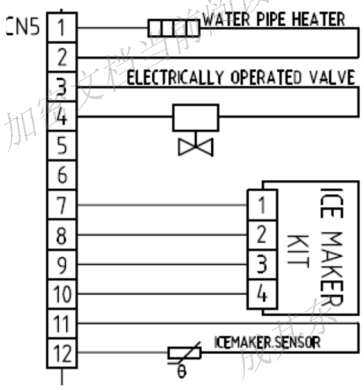


4.4.2.4 Ice maker error

Eb error :

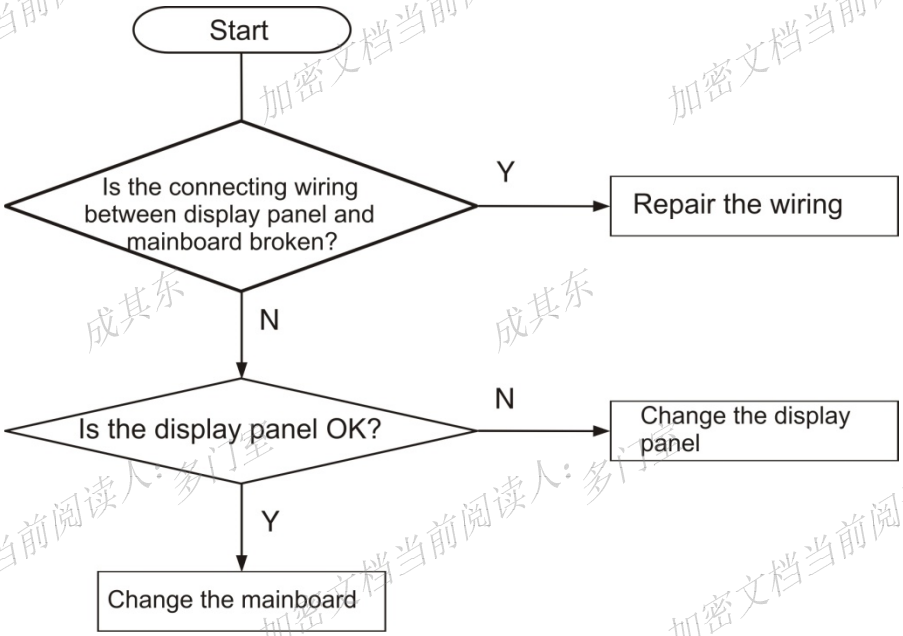
1. Check the connecting wiring between main-board and ice maker (corresponding pin No. 7~10 on CN5 connector of main-board, as the drawing below) and repair if it is broken.

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.



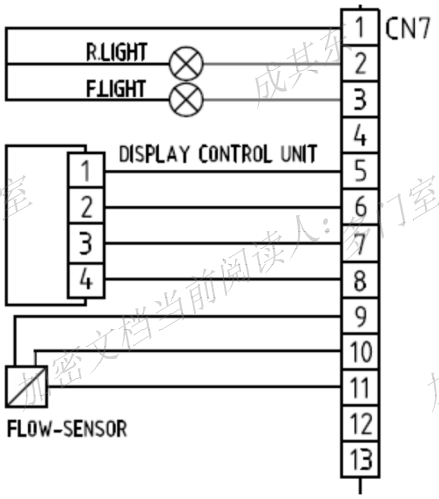
4.4.2.5. Communication error

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

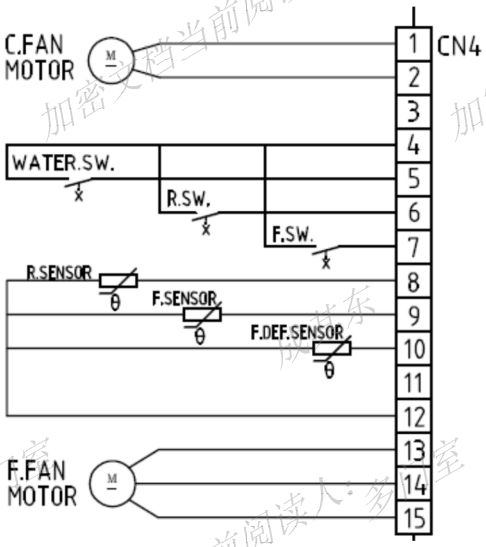
1. Check the connecting wiring of fan motor is well or not, repair if it is broken.

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.

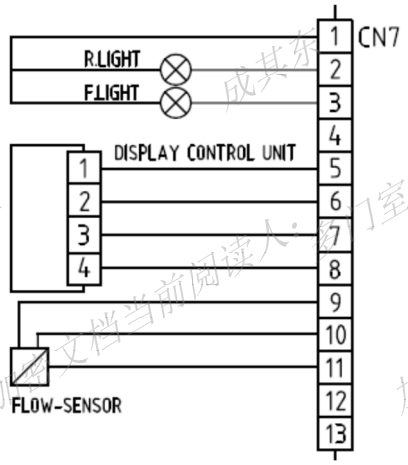
2.Pin No.14 connect 12V power and pin No.13 connect GND, if the freezer fan motor works normally, change the main-board; If not , change the freezer fan motor.

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 supply is 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.



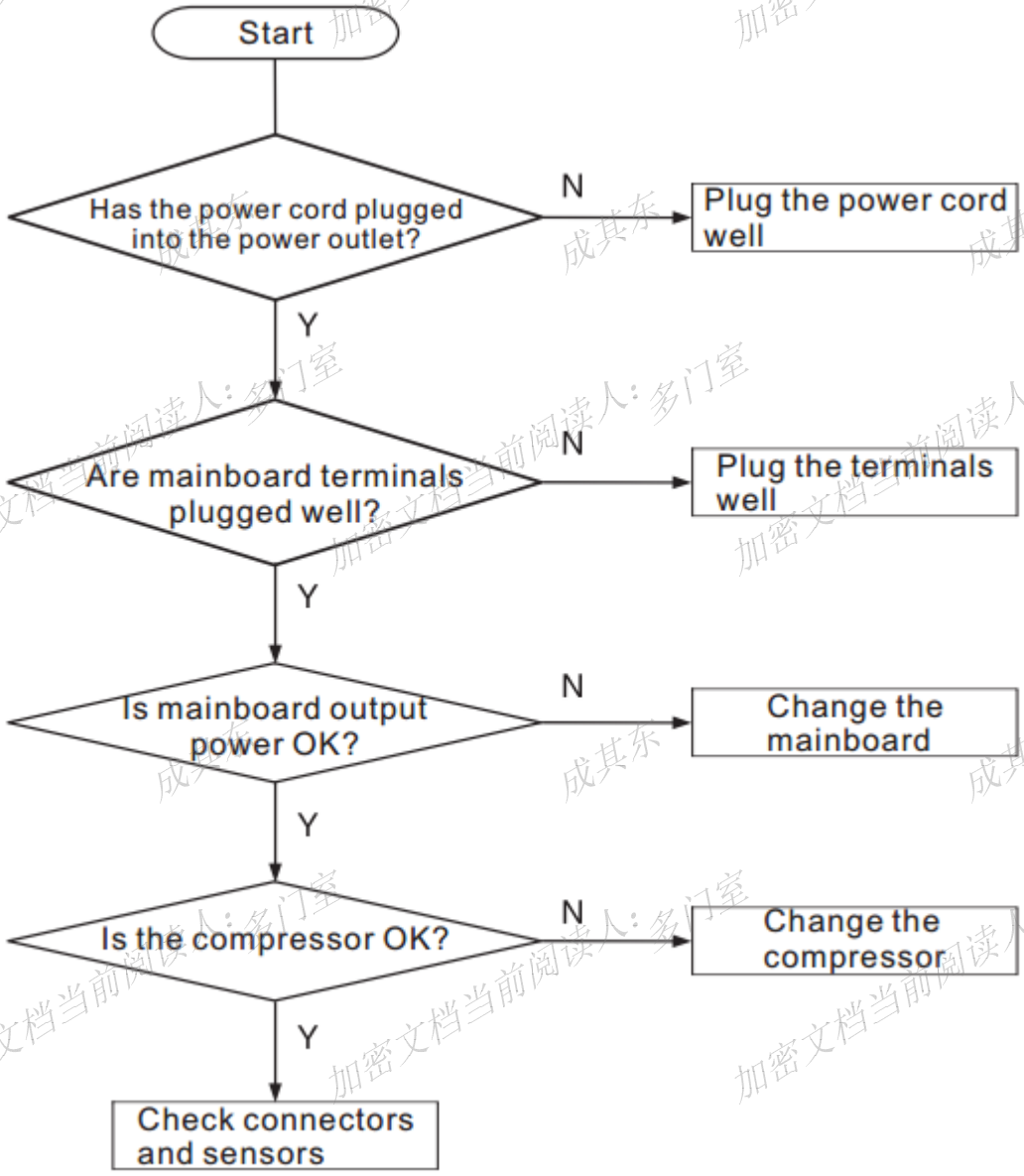
5. Troubleshooting

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	Check that the air outlets are not blocked by food and ensure

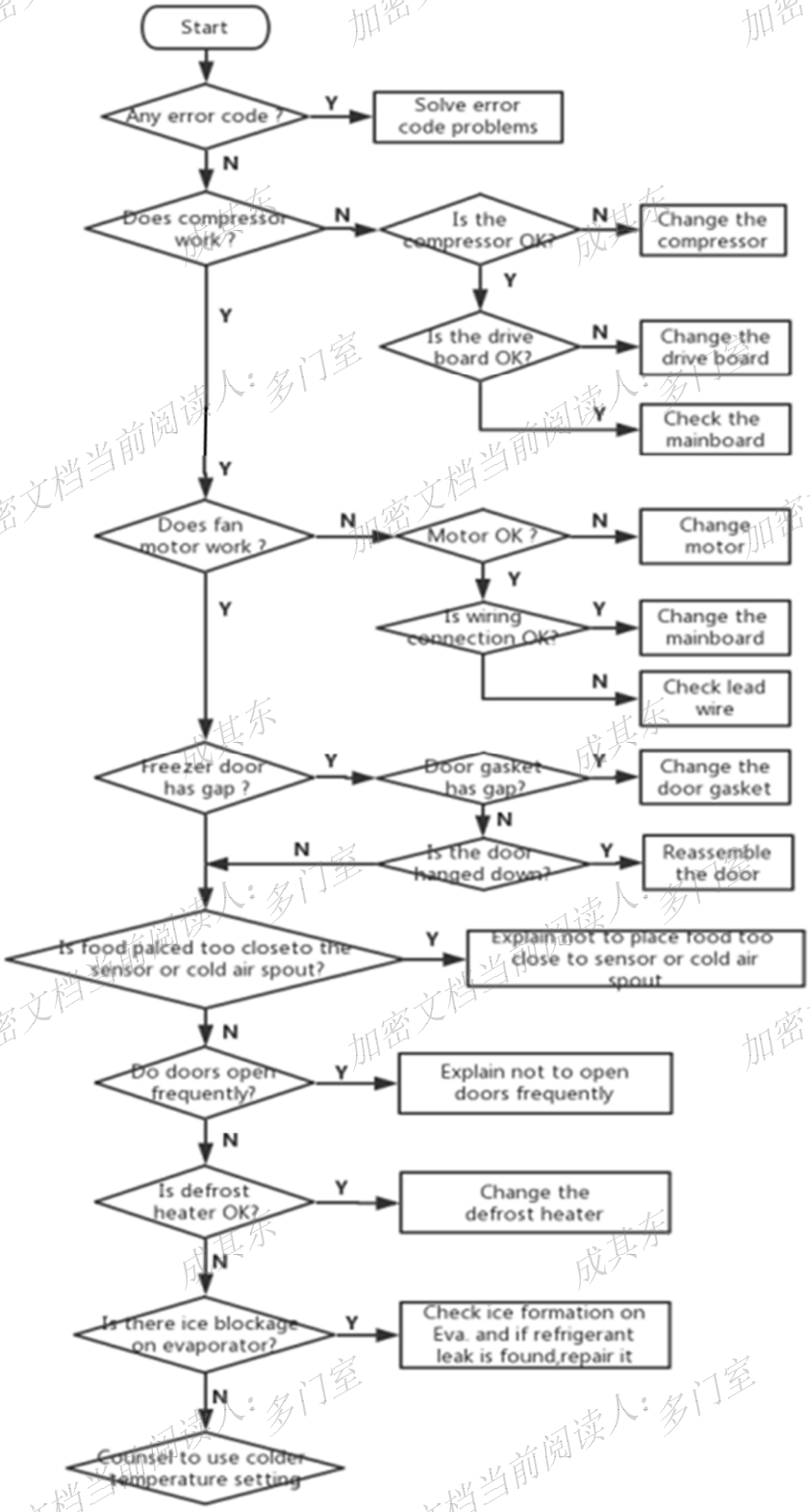
the compartment	food is placed within the appliance to allow sufficient ventilation. Ensure that door is fully closed. To remove the frost, please refer to the “Cleaning and care” chapter.
Temperature inside is too warm	You may have left the doors open too long or too frequently; or the doors are kept 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 replace LED lights in cleaning and care chapter. •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

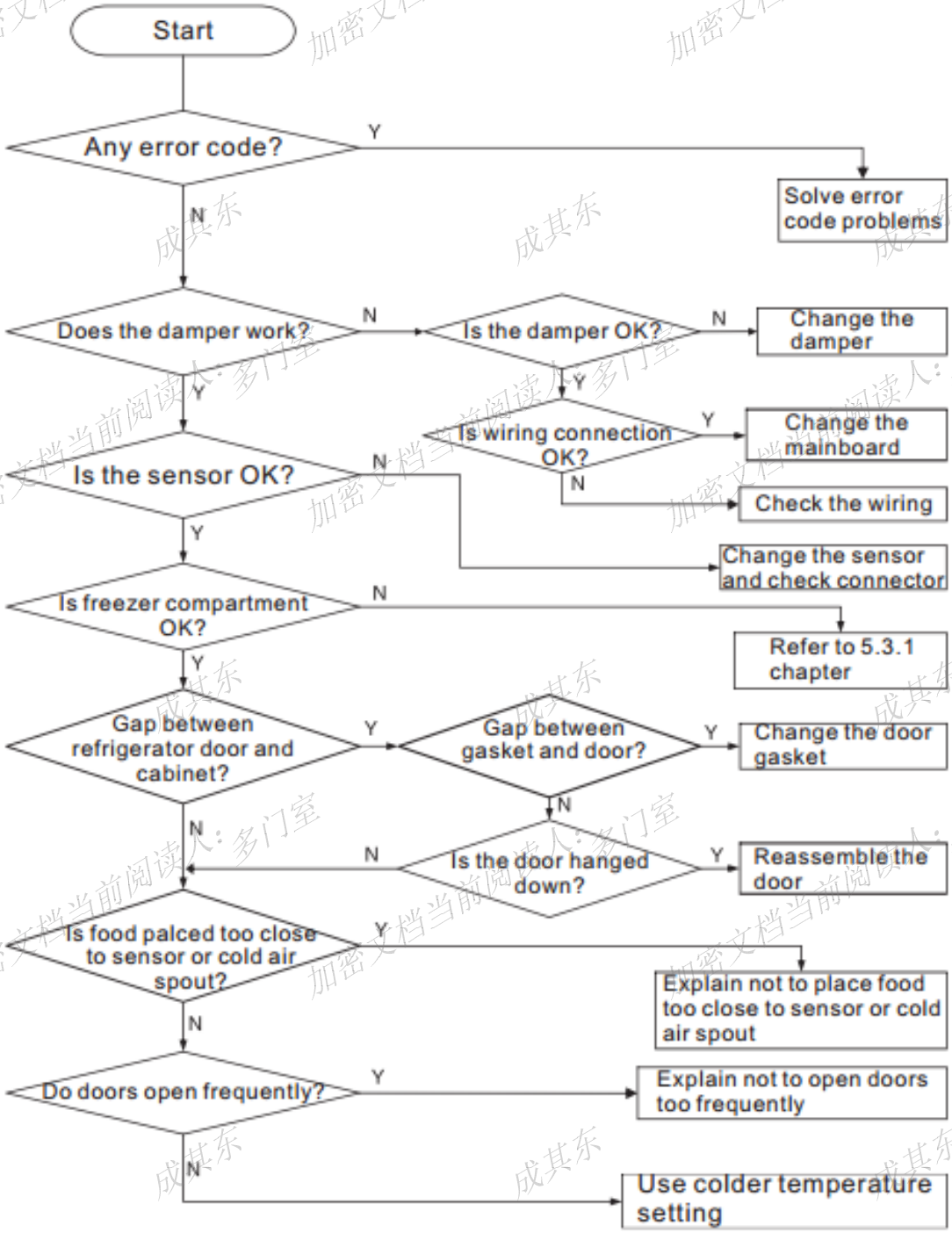


5.3 Refrigeration failure

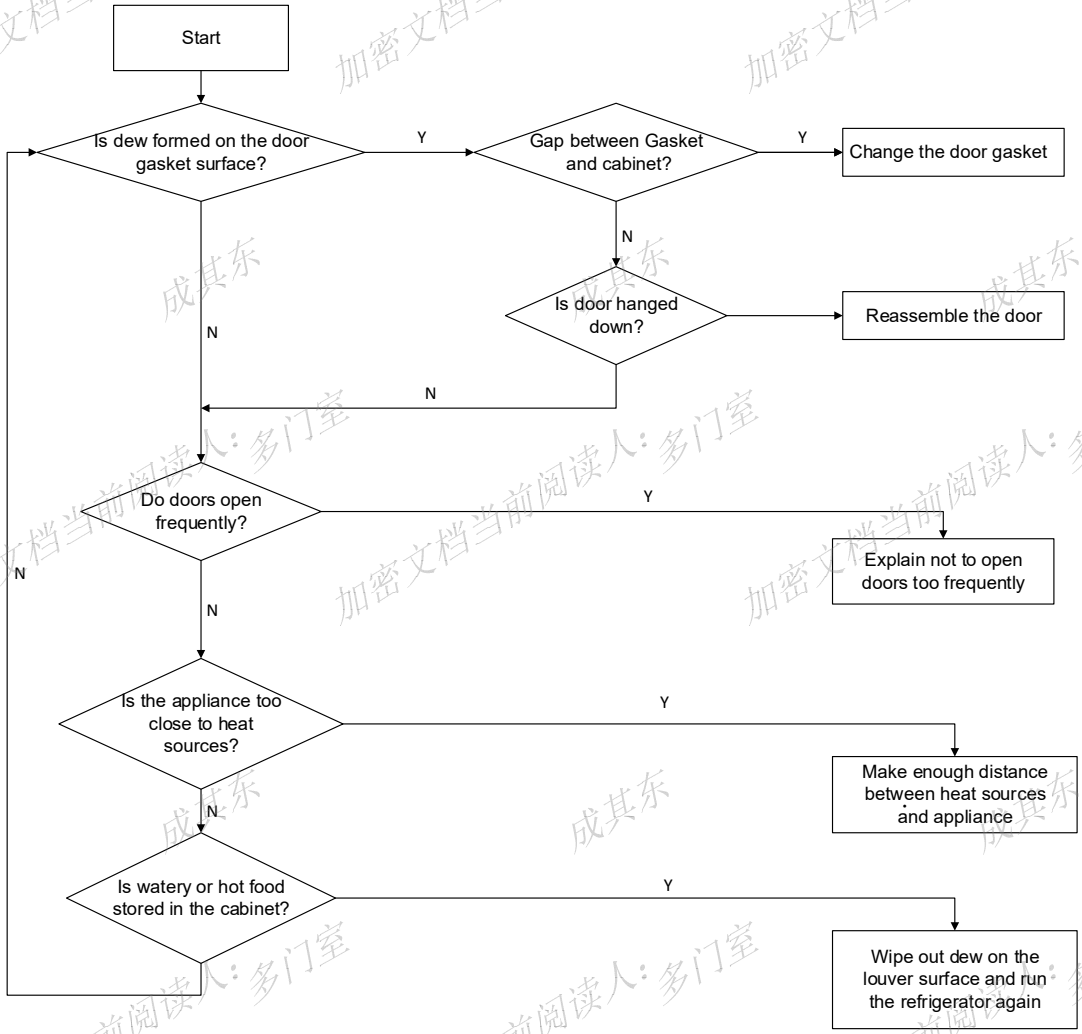
5.3.1 Freezer compartment



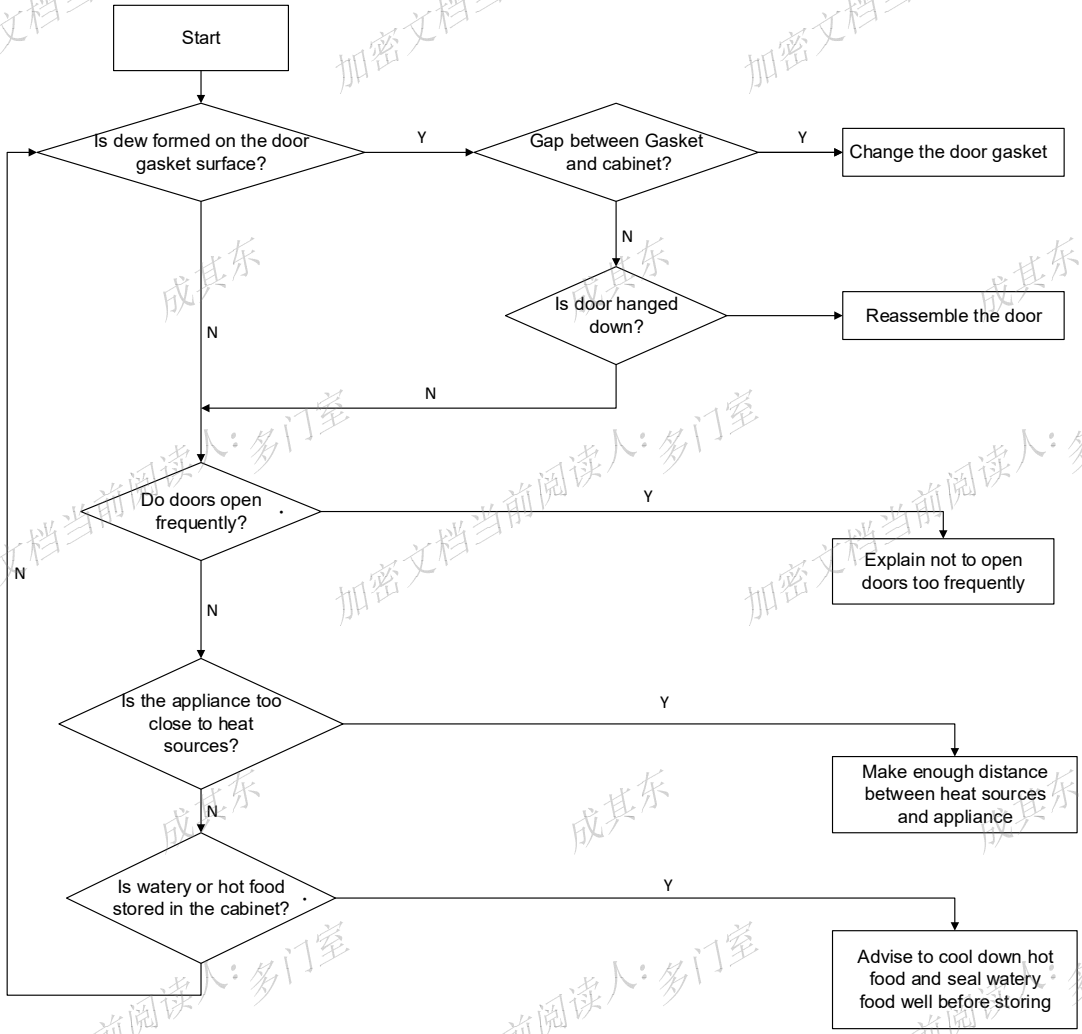
5.3.2 Refrigerator compartment



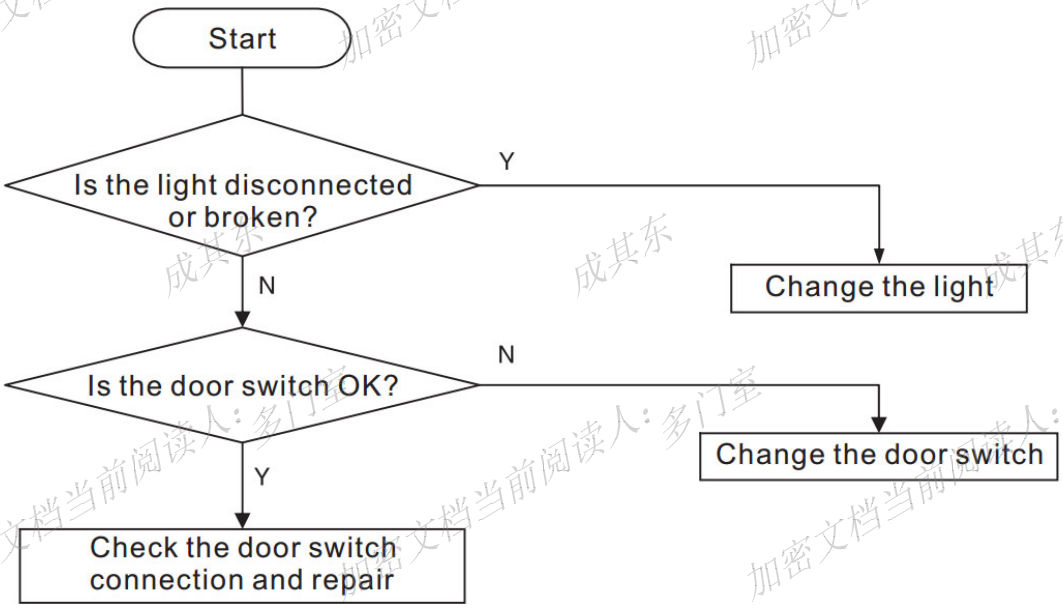
5.4 Thick frost in freezer compartment



5.5 Dew in refrigerator compartment

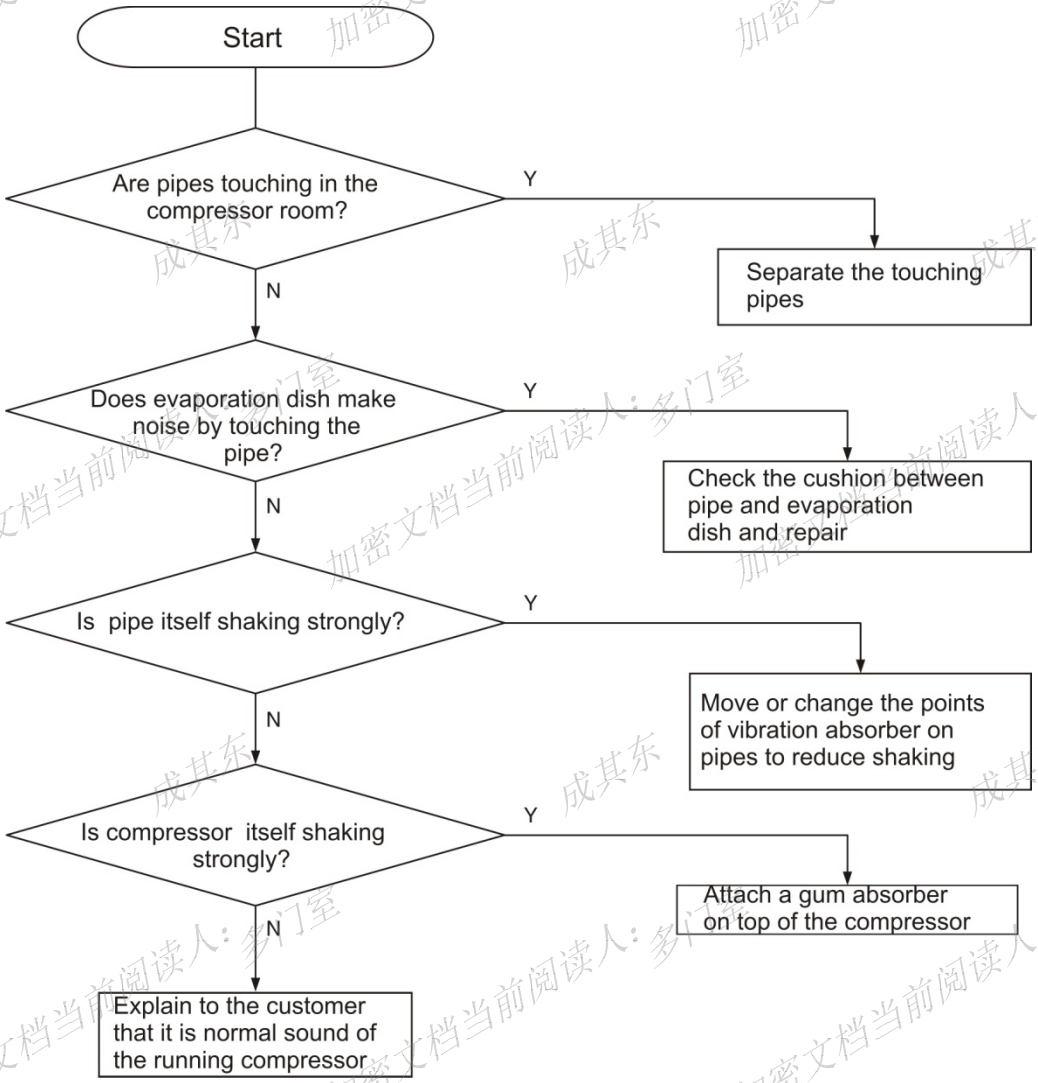


5.6 Breaking of light



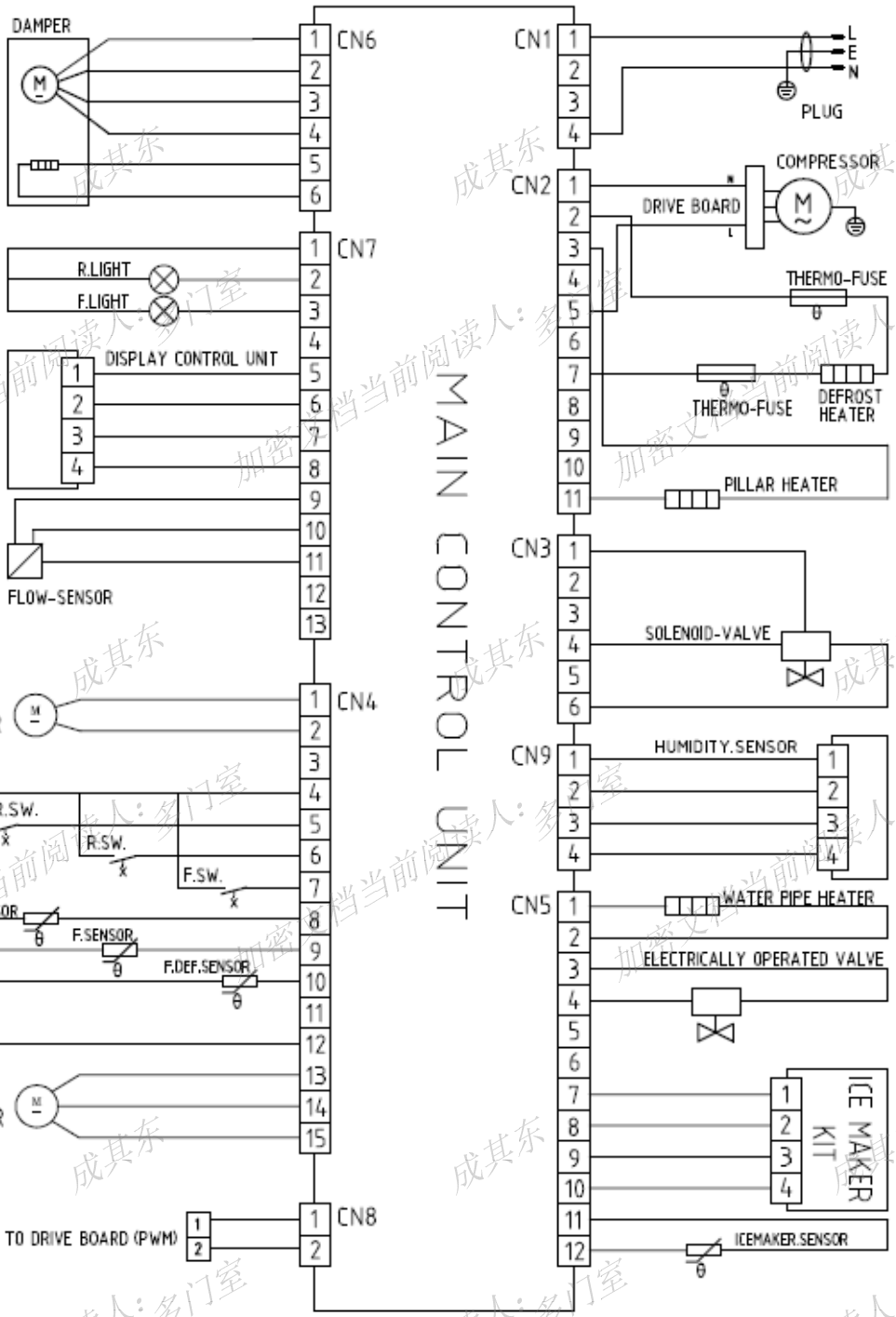
5.7 Noise

5.7.1 Pipe noise



6. Circuit and checking

6.1 Circuit diagram



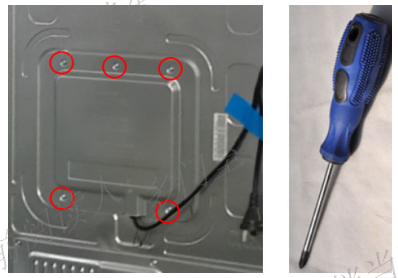
6.2 Mainboard

6.2.1 Checking method

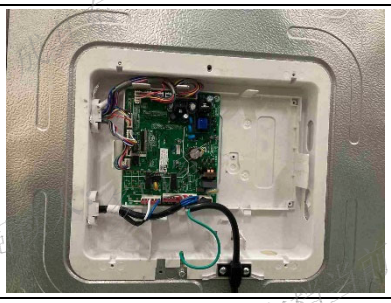
If the problem is probably caused by the mainboard, change it directly to confirm.

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

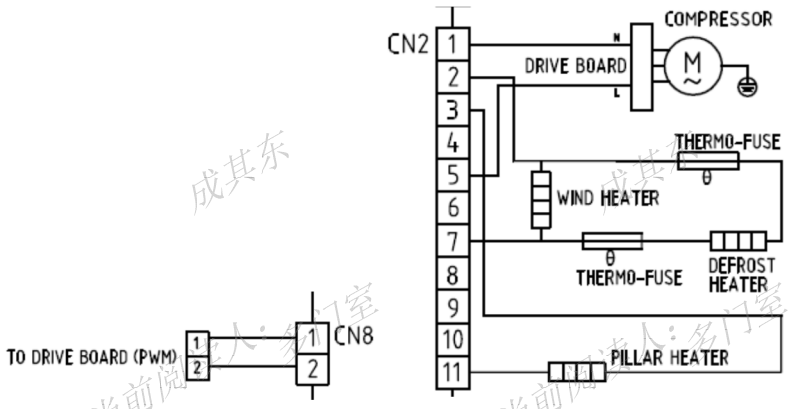
6.3.1 Basic parameters

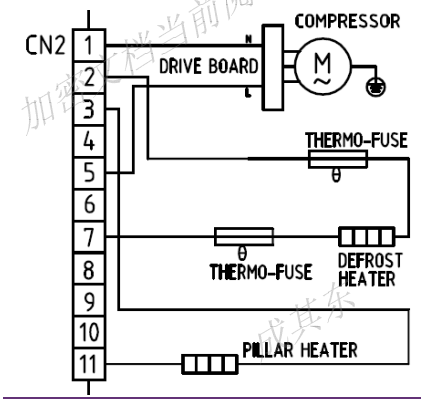
Input voltage/frequency:100-120V/60Hz

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 N label and COMP label on CN2（Pin.1 and Pin No.5） connector of mainboard ,then measure frequency of CN8 connector(pin No.1 and pin No.2).If the voltage equal to electric supply power and there is stabilized frequency, it means the compressor is broken, change it; If not, change the mainboard.



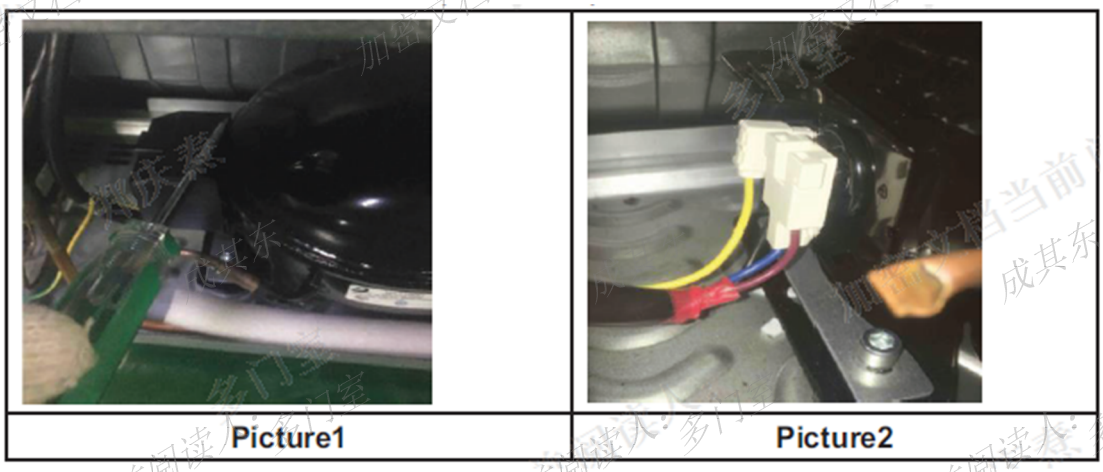


6.3. Removing the connector of compressor

1.Unplug the appliance.

2.Use a screwdriver to remove the protector box as picture 1.

3.The terminals connected the compressor as picture 2.



Picture1 | Picture2

6.4 Fan motor

6.4.1 Basic parameters

Rated voltage:

F.FAN: DC12V

C.FAN: DC12V

6.4.2 Checking method

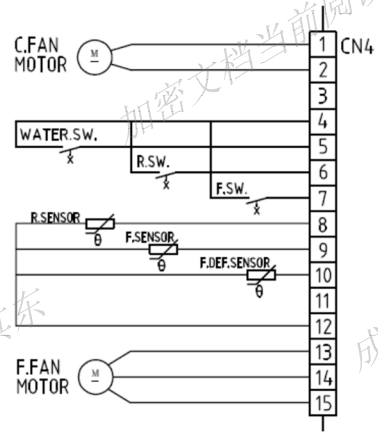
1. Check the connecting wiring of fan motor is well or not, repair if it is broken.

The freezer fan motor corresponding pin No. 13~14 on CN4 connector of main-board, as the drawing below.

The condenser 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.



6.4.3 Removing the fan motor

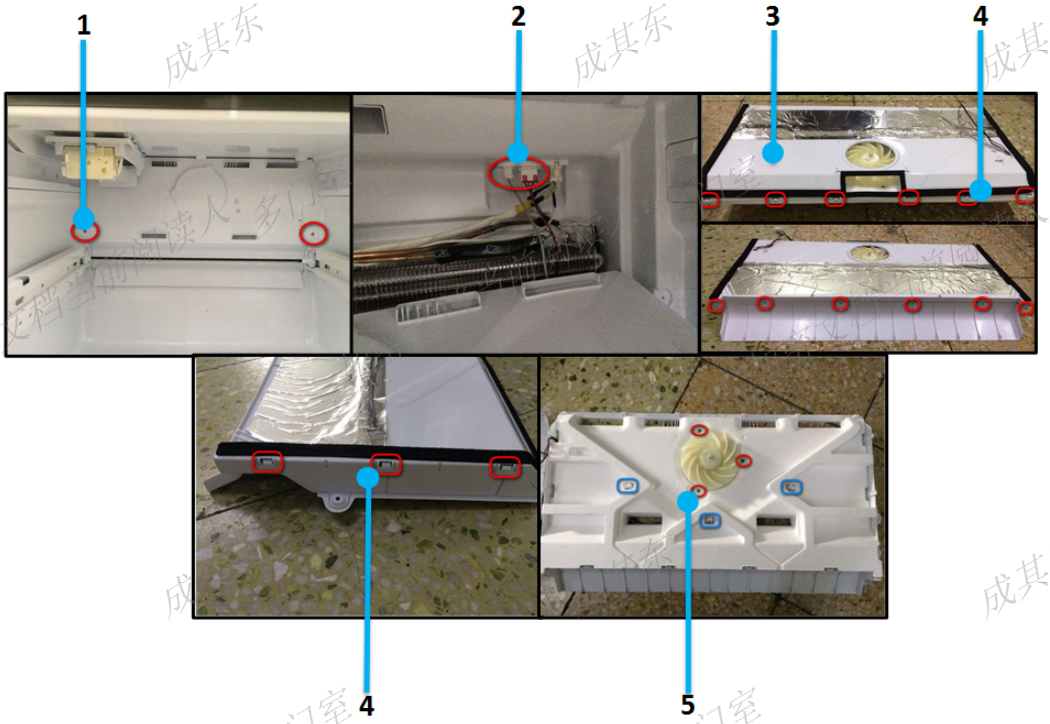
6.4.3.1 Removing the freezer fan motor

Step 1: Remove the freezer door (refer to page 13).

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 Light

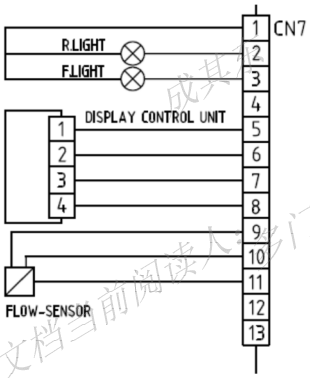
6.5.1 Basic parameters

Rated voltage: DC12V

6.5.2 Checking method

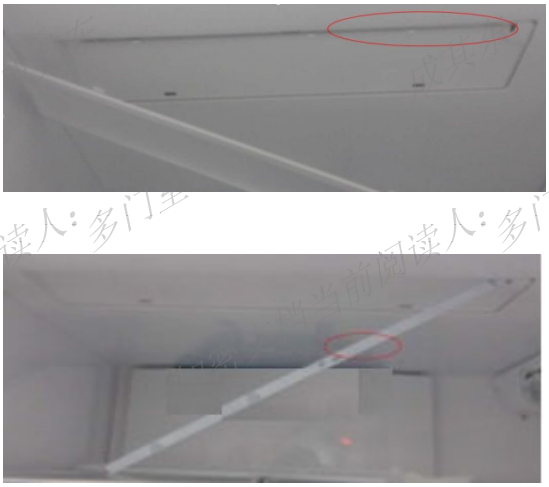
Check the connecting wiring between light and mainboard is well or not. Repair if it is broken.

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.



6.5.3 Removing the light

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

	
Picture1	Picture2

6.6 Door switch

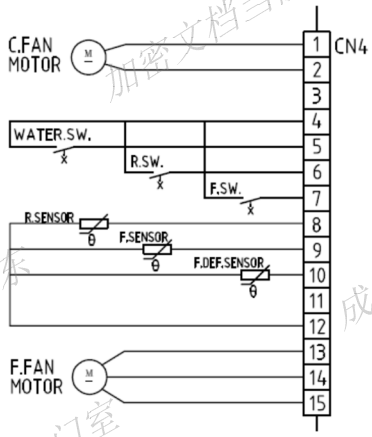
6.6.1 Basic parameters

Load voltage: DC 5V
Load current: 0.05A

6.6.2 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.Check the magnet on the refrigerator door 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.

The same as water sw.



6.7 Defrost heater

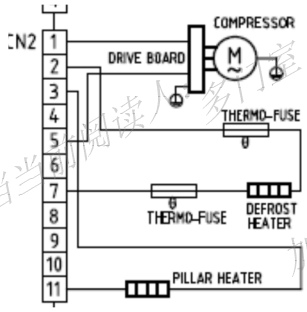
6.7.1 Basic parameters

Rated voltage: AC115V

Rated power: 240W

1. Enter Forced defrost mode, use a multimeter to measure the voltage between pin No.2 and No.7 on CN2 connector of the mainboard, if the voltage doesn't equal to electric supply power, it means the heater is broken, change it.

2.Use a multimeter to measure resistance of the heater, if the value isn't 55.1Ω ±10%,it is broken, change the heater.

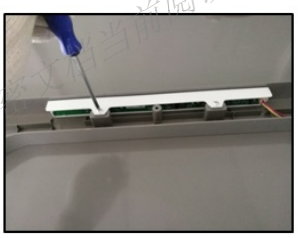


6.8 Removing the Display Component

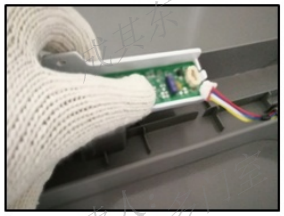
1. Use Philips screwdriver to remove three fixed screws, as picture 1.
2. Unplug the connecting terminal, as picture 2.
3. Disassemble the fixed screws, as picture 3.
4. Remove the terminal, as picture 4.
5. Remove the two fixed screws, as picture 5.
6. Take out the display component, as picture 6.

Picture 1

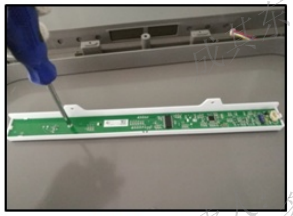
Picture 2



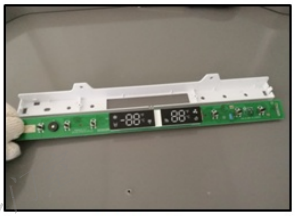
Picture 3



Picture 4



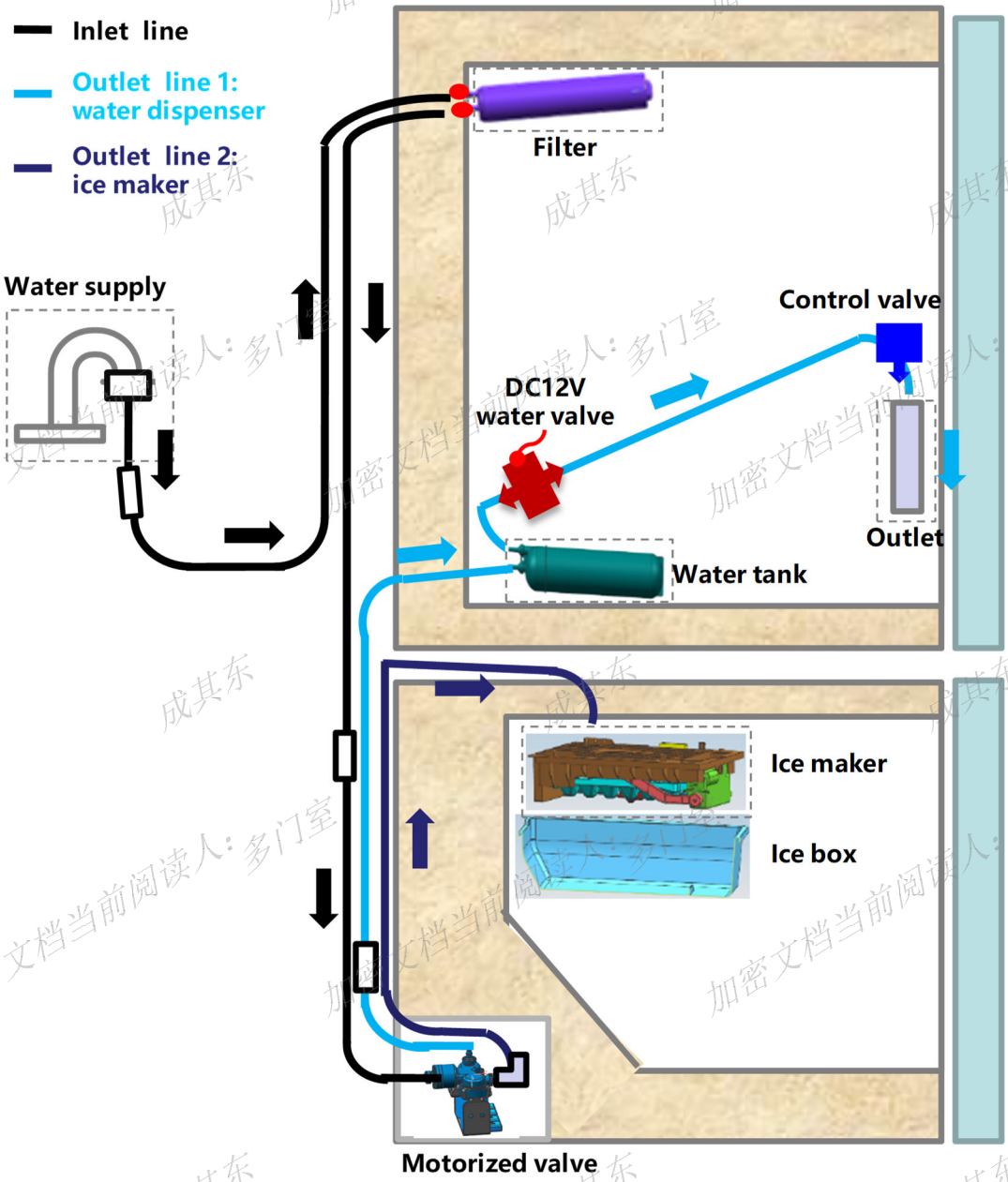
Picture 5



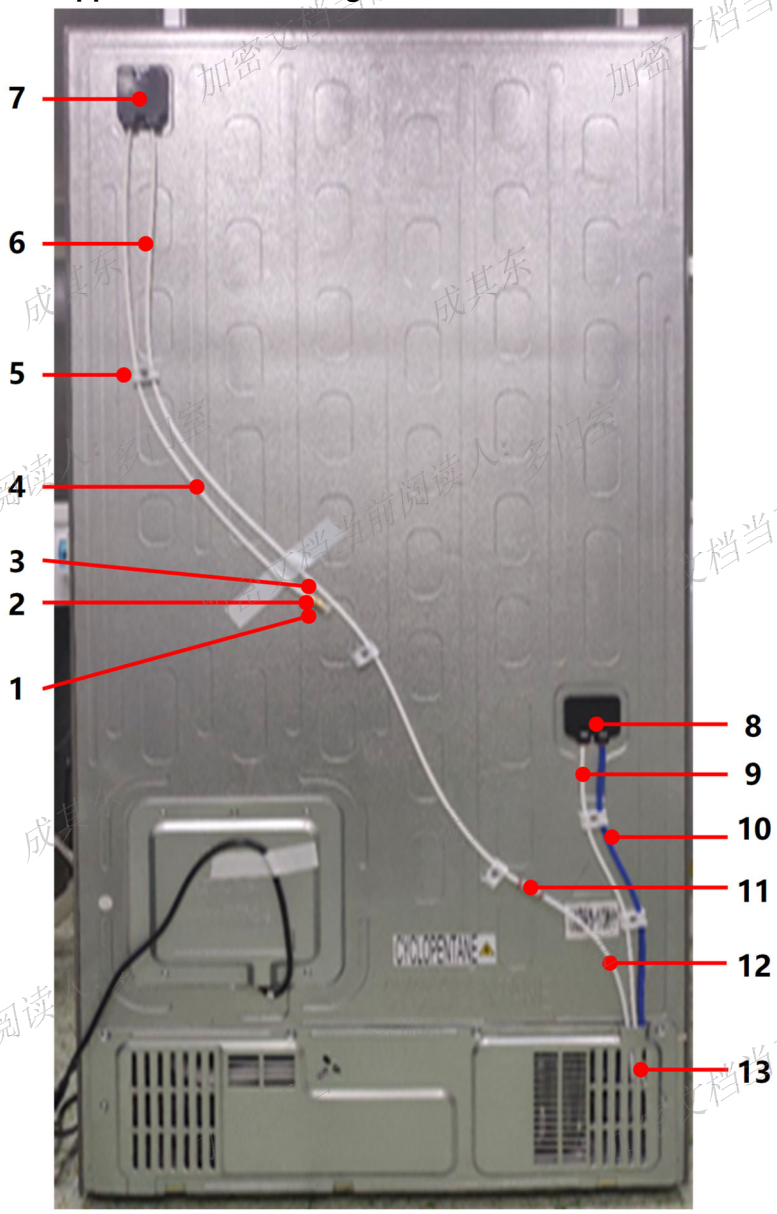
Picture 6

6.9 The system of water supplies

6.9.1 The whole system

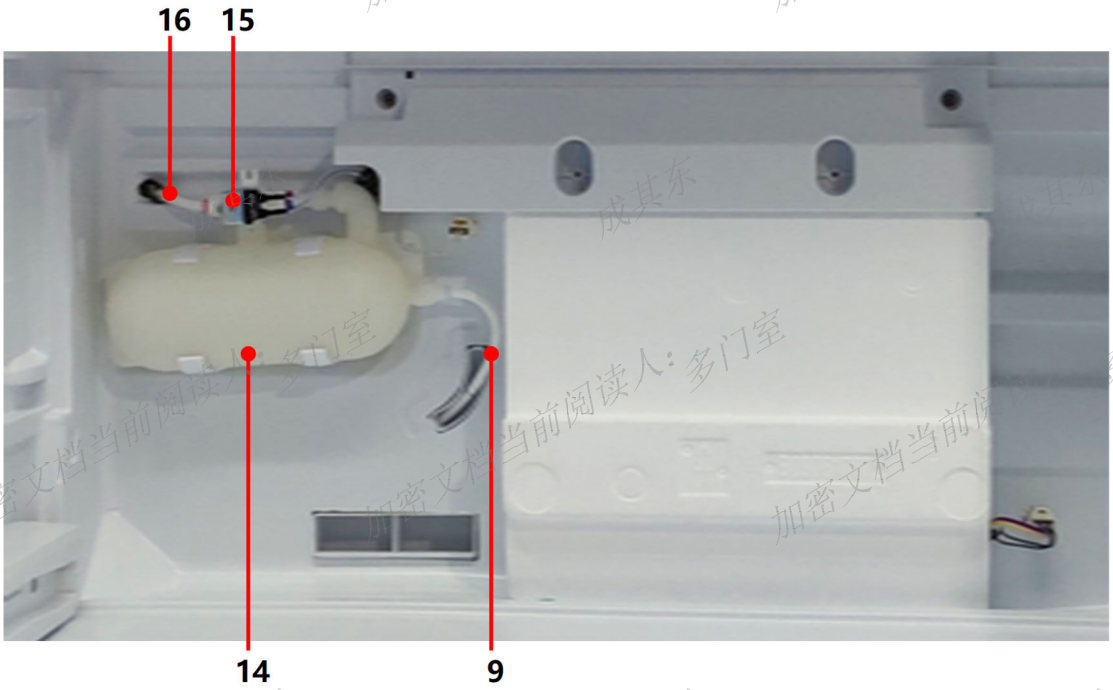


6.9.2 The water supplies out of the fridge room



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—Water valve

6.9.3 Water system in the fridge room



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

6.10 Ice maker& Water valve

6.10.1 Checking method

Step 1. Check the connecting wiring between water **valve** and mainboard is well or not. Repair if it is broken.

Step 2. Check water line connection well.

Step 3. 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.

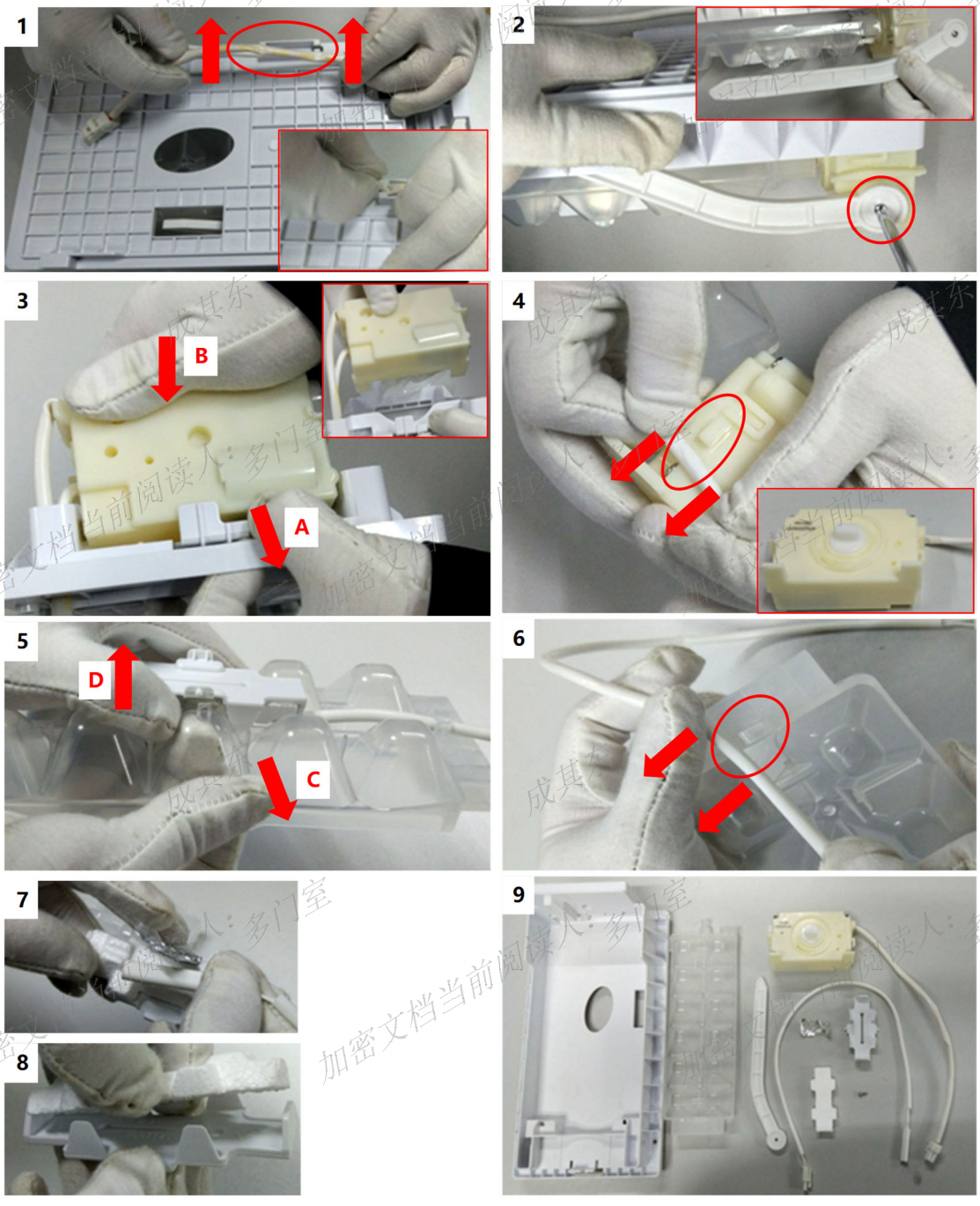
Step 4. Touch and hold “Super Freeze” button and “Super Cool” button at the same time for 3 seconds in 15 minutes after power-on, the water and ice valve will be opened for 180S, if not, please replace the water valve.

Meanwhile, the “ ” icon starts flashing on display board, observe the icon flicker frequency. If it flashes once 0.5 second, it indicates that the flow-sensor is ok; if not flicker, it indicates that the flow-sensor is abnormal. It is necessary to check the wiring or replace the water valve.

In the icon flicker process, hold and press “Super Freeze” button+ “Super Cool ” button for 3 seconds or power off can end testing.

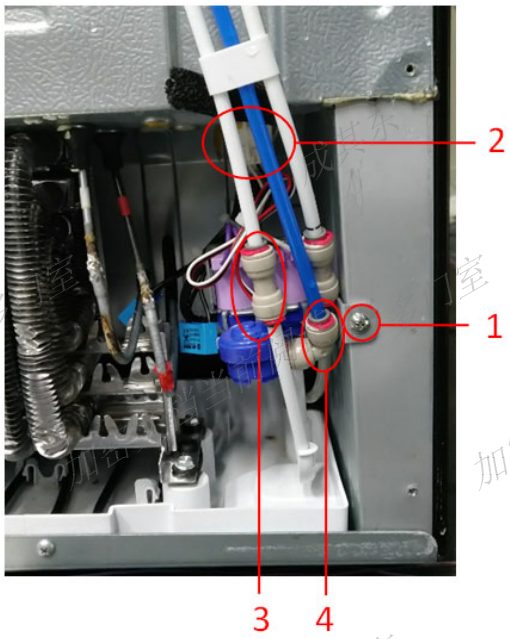
6.10.2 Disassemble the ice maker part

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



6.10.3 Removing the water valve

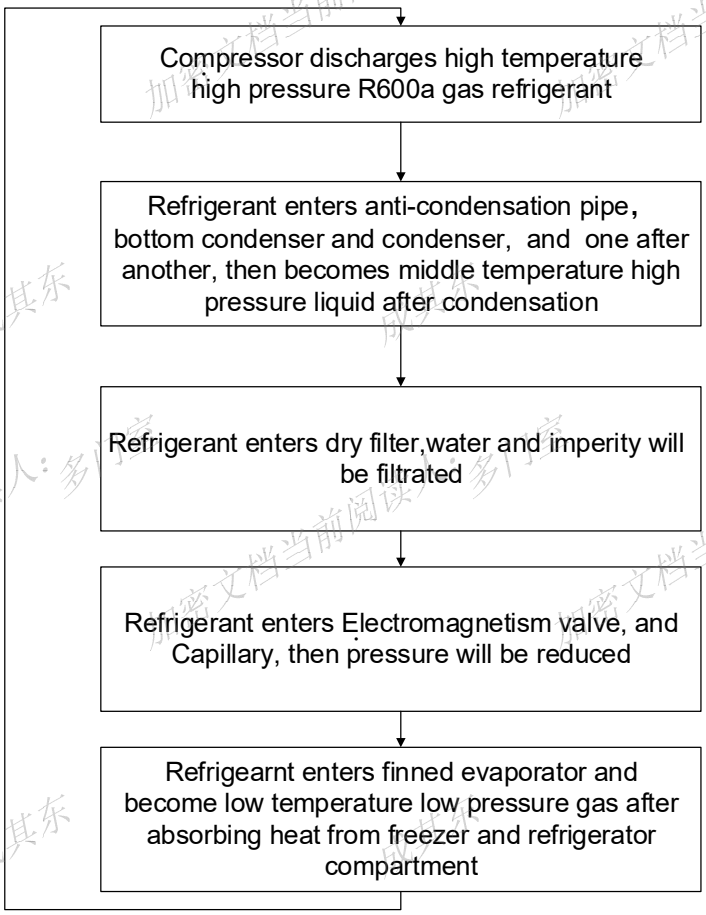
1. Remove the screw (1) with a Philips screwdriver.
2. Remove the wire connector (2) by pressing the top of them.
3. Disconnect the water line at the check valves (3) and quick connector (4).

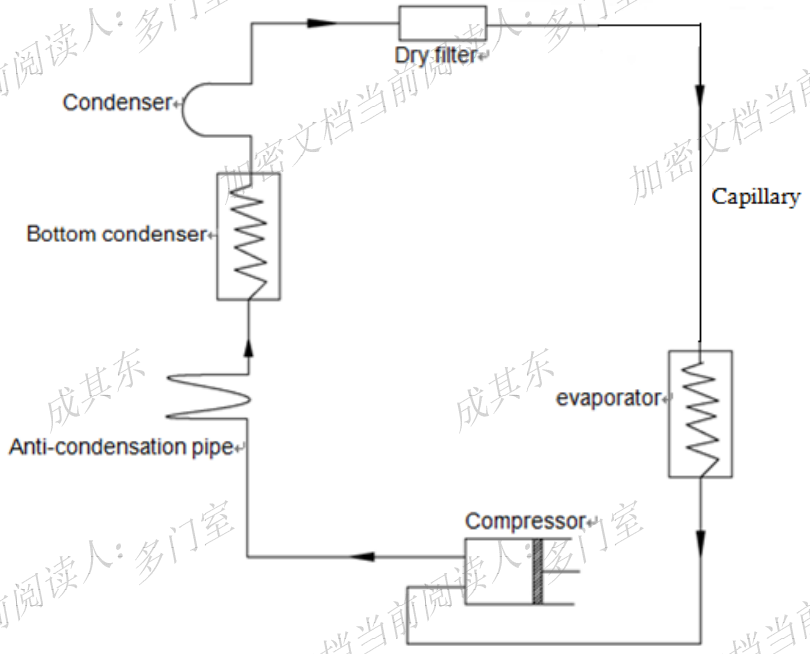


7. Cooling system repairing

7.1 Refrigeration system

The refrigerator system is Single cooling system:

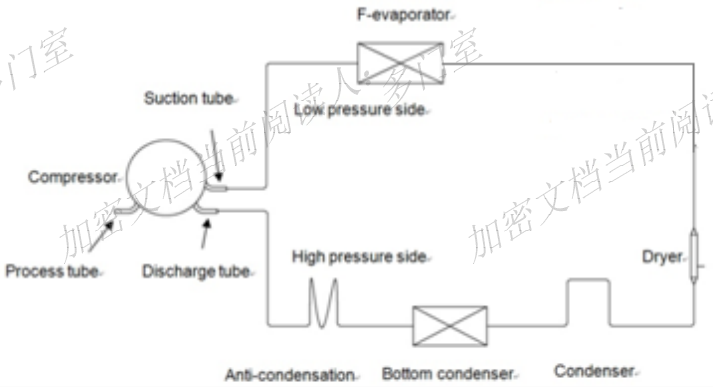




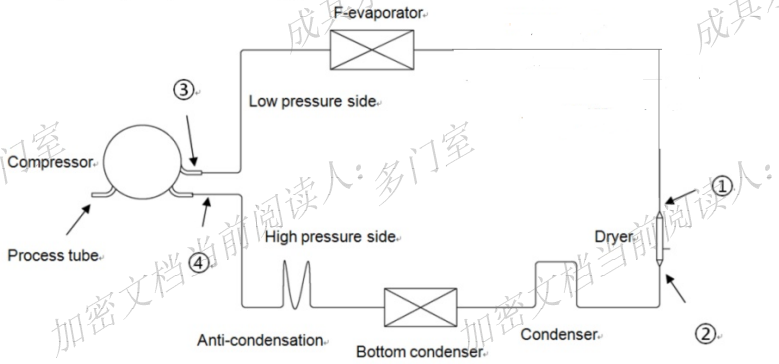
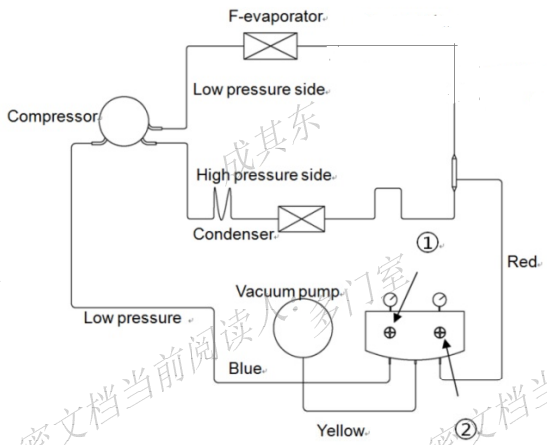
7.2 Summary of repair

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.)	

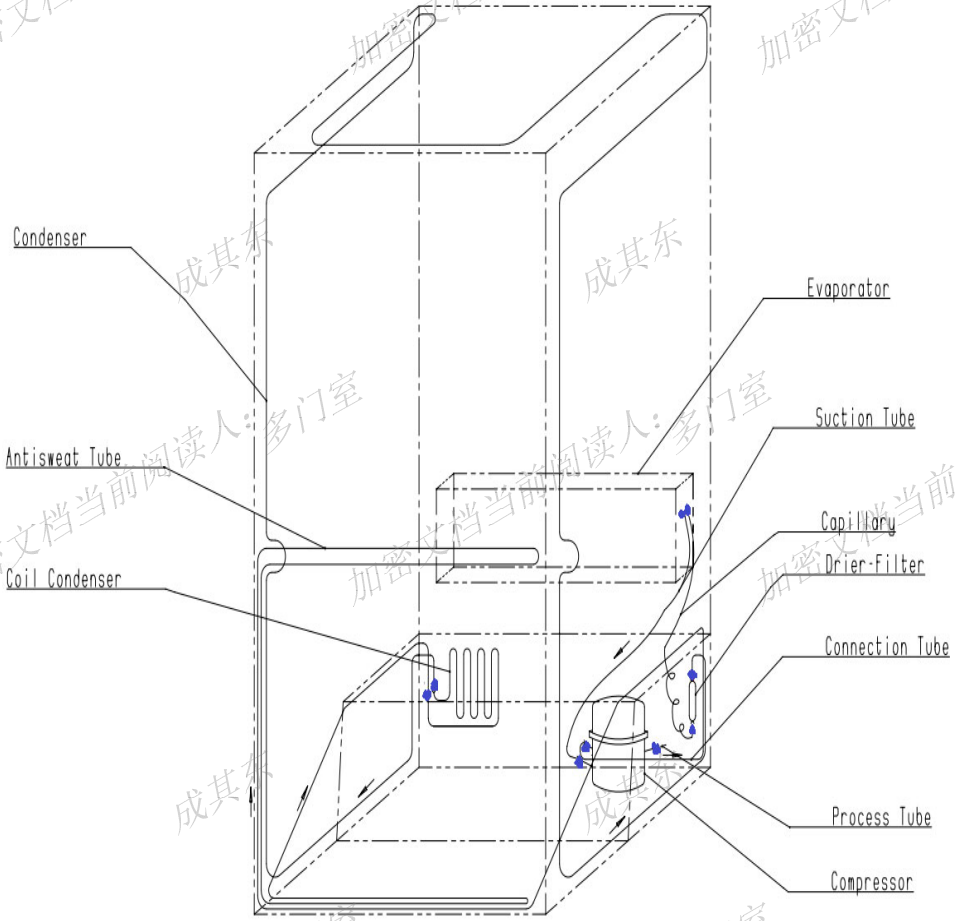
7.3 Regulation of repair

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 points**