

Hisense

Refrigerator
Service Manual

Model: BCD-570WYR/HC4(H)

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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

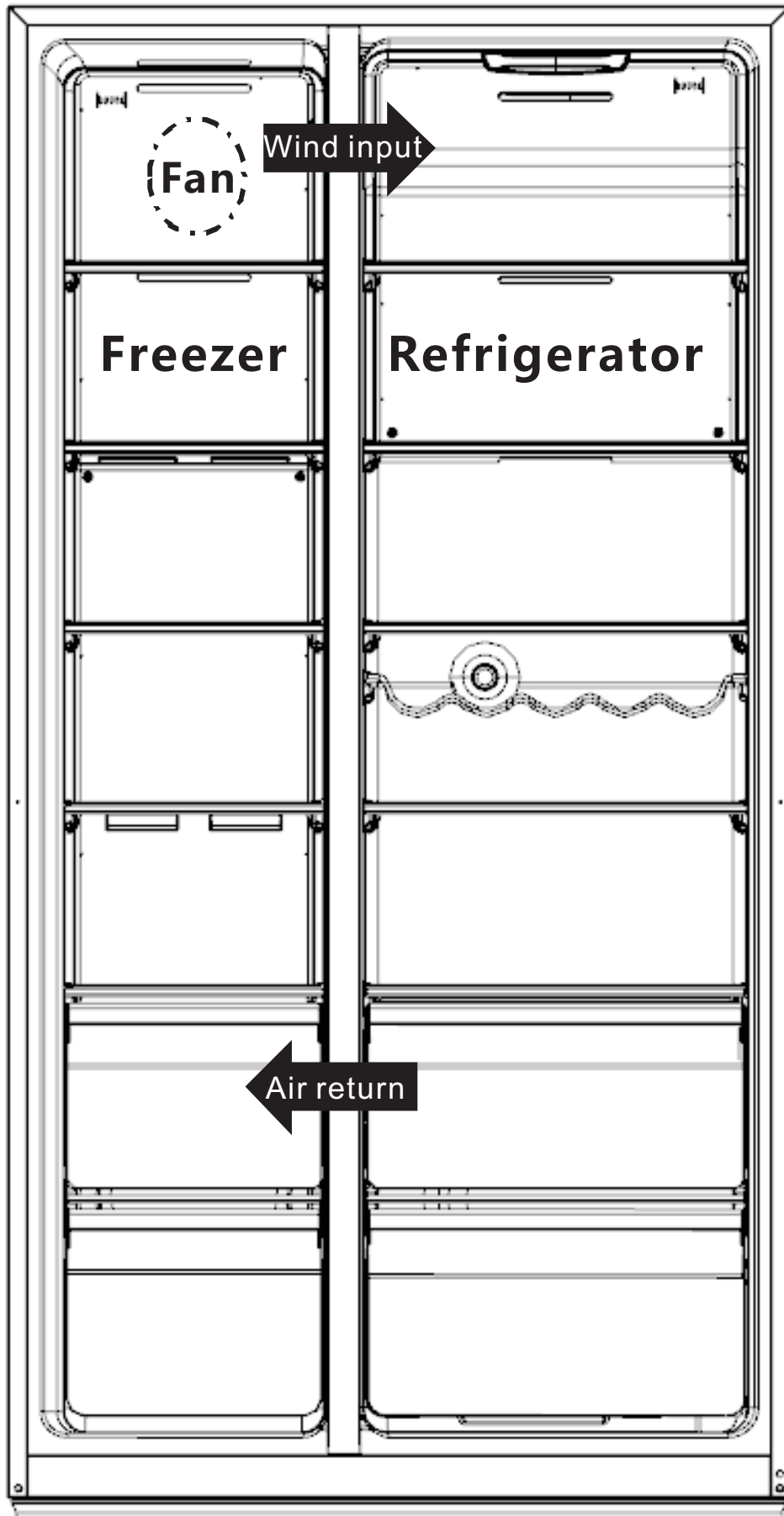
2.1 View of the appliance



- | | |
|--------------------------------------|---------------------------------------|
| 1. Freezer LED Light | 11. Wind channel cover in fridge |
| 2. Wind channel cover in freezer | 12. Multifunctional Drawer (optional) |
| 3. Freezer door rack | 13. Fridge shelf |
| 4. Freezer shelf | 14. Wine Rack (optional) |
| 5. Movable ice-maker | 15. Fridge door Rack |
| 6. Freezer door gasket | 16. Fruit and vegetables crisper |
| 7. Freezer drawer | 17. Fridge door gasket |
| 8. Freezer door rack (two-star zone) | 18. Bottle holder (optional) |
| 9. Adjustable feet | |
| 10. Fridge LED light | |

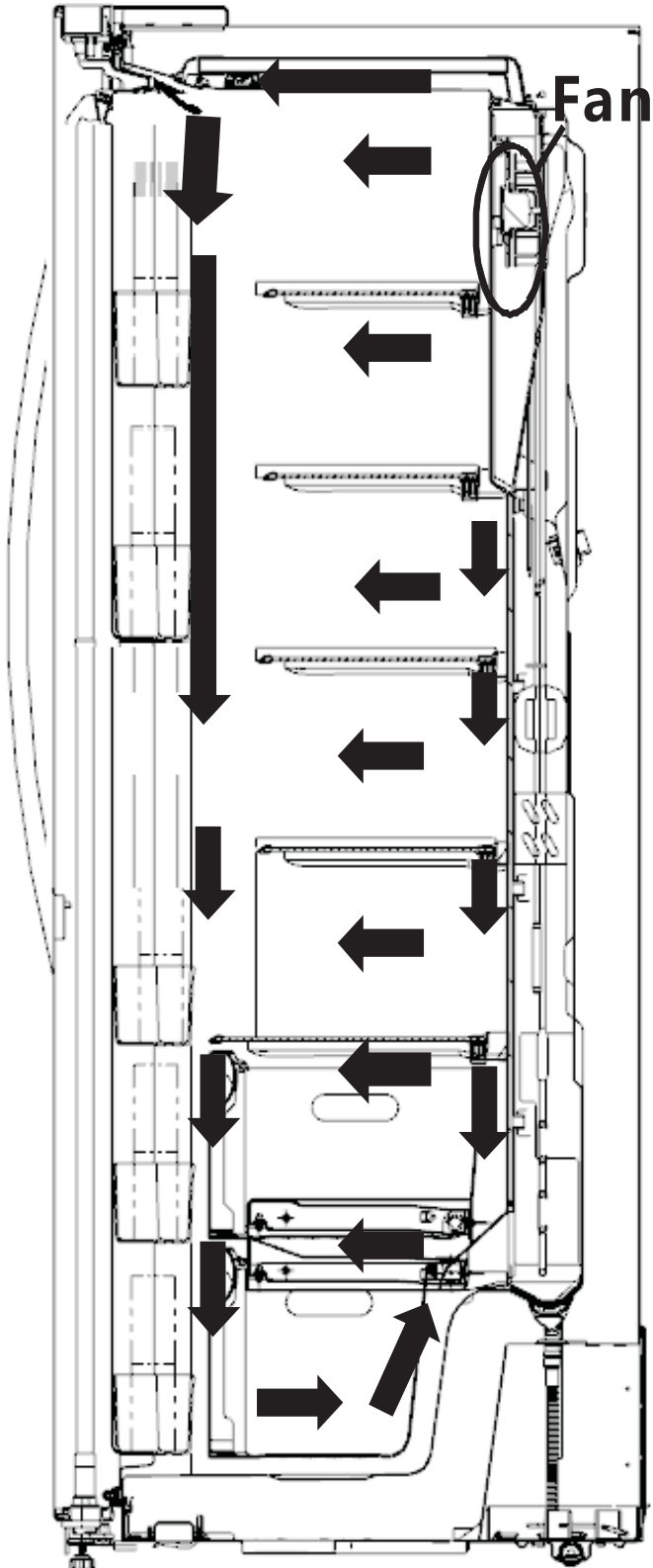
Note: Due to unceasing modification of our products, your refrigerator may be slightly different from this Services Manual, but its functions and using methods remain the same.

2.2 Wind channel structure

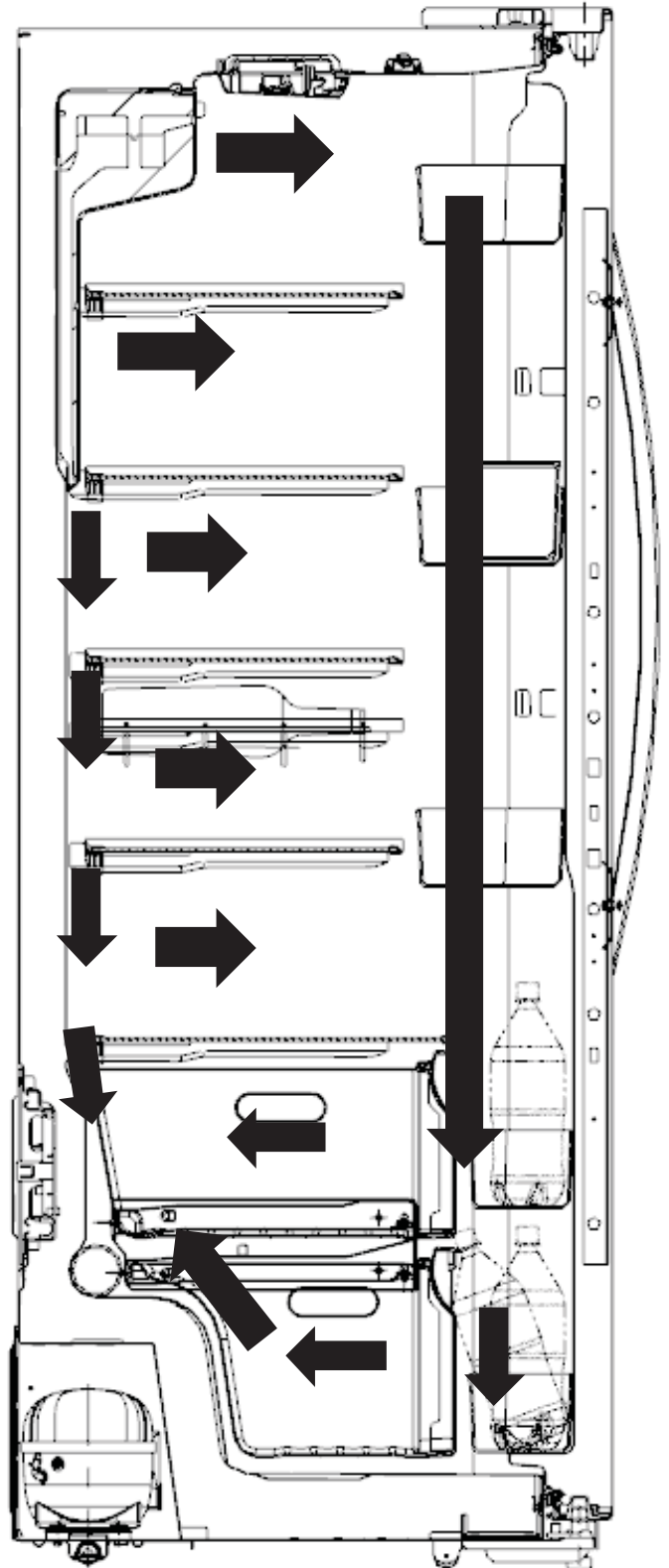


2.2 Wind channel structure

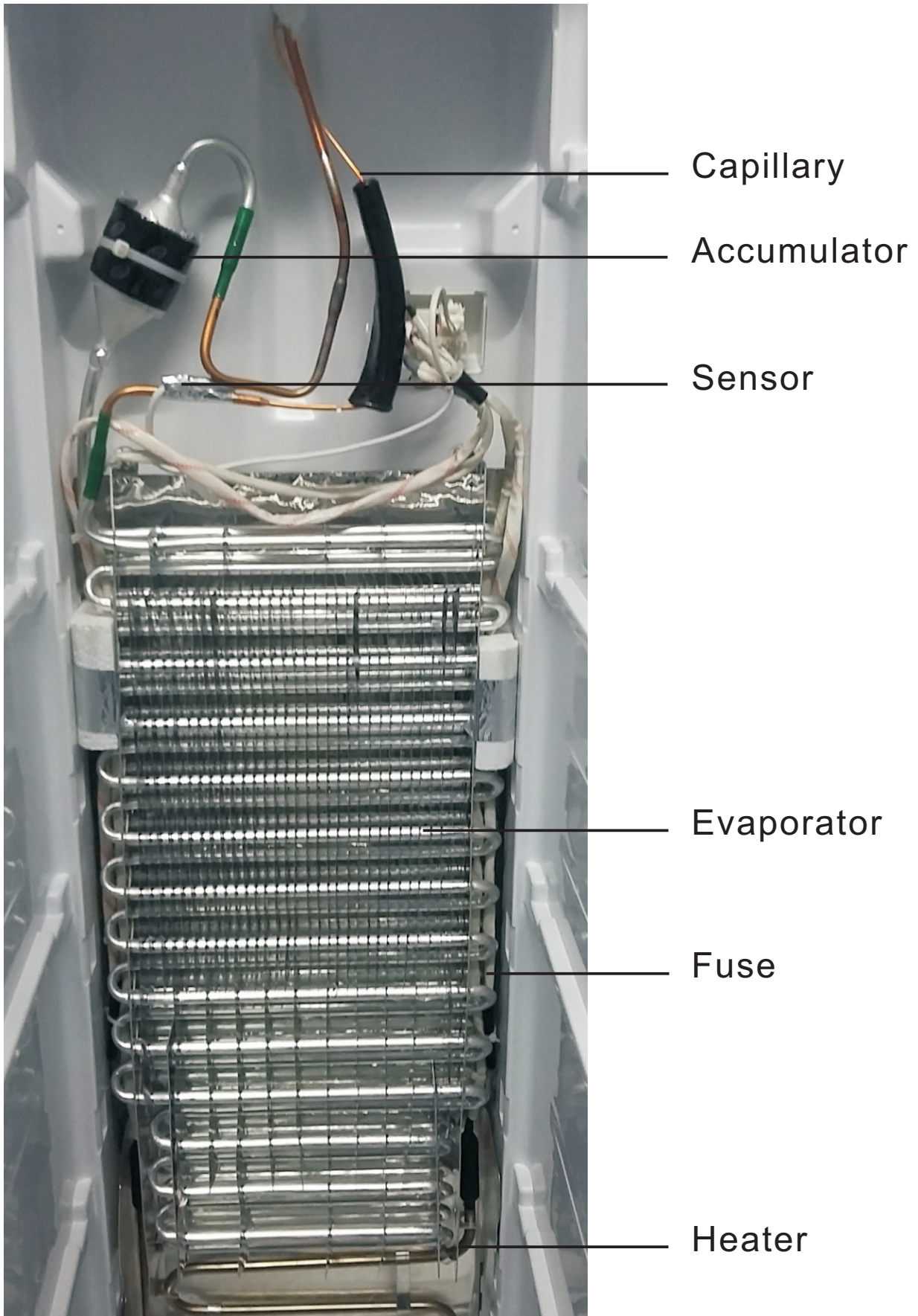
Freezer



Refrigerator



2.2 Evaporator structure



2.2 Compressor room structure



- ① Dry filter
- ② Power cord
- ③ Compressor
- ④ Evaporation dish
- ⑤ Water valve

3 Basic parameters

Content	Unit	Value
Voltage / frequency	V/Hz	220-240/50
Rated current	A	0.9
Rated input power	W	130
Defrost power	W	240
Net capacity	L	562
Net capacity fridge compartment (Fridge/Chill)	L	370
Net capacity freezer compartment	L	192
Energy efficiency class		A+
Climate class (SN=10~32°C, N=16~32°C, ST=16~38°C, T=16~43°C)		SN、N、ST、T
Refrigerator room temperature	°C	2~8
Freezer room temperature	°C	-24~-14
Freezer compartment star rating		184L 4 Star 8L 2 Star
Energy consumption / year	kWh/year	464
Freezing capacity / 24 hours	kg/24 h	12
Max noise level	dB(A)	43
Kind of coolant / Charge (R134a/R600a) / grammes	R / g	R600a/72

4 Operation and functions

4.1 Display controls

Use your appliance according to the following control regulations, your appliance has the corresponding functions and modes as the control panels showed in the pictures below.






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

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

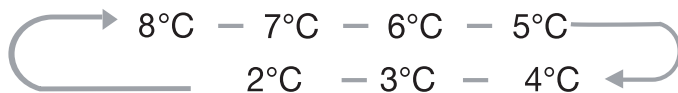
Caution! When you set a temperature, you set an average temperature for the whole refrigerator cabinet. Temperatures inside each compartment may vary from the temperatures displayed on the panel, depending on how much food you store and where you place it. High or low room temperature may also affect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

1. Unlock 3s

All the buttons are locked if the icon  is illuminated, You can press the “unlock  3s” button for 3 seconds to unlock them. you can press the “unlock  3s” button for 3 seconds to lock all the buttons when you finish temperature setting.

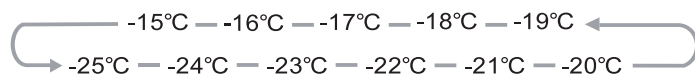
2. Fridge

After fridge temperature setting is activated, press “**Fridge**” button to set fridge temperature between 8°C and 2°C as needed. And the control panel will display corresponding value according to the following sequence.



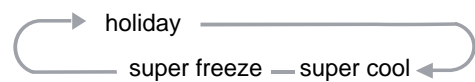
3. Freezer


After freezer temperature setting is activated, press “**Freezer**” button to set freezer temperature between -15°C and -25°C as needed. And the control panel will display corresponding value according to the following sequence.




4. Mode

You can select different modes by pressing the “Mode” button. And the control panel will display corresponding mode according to the following sequence. When a certain mode is selected, wait for the corresponding icon flash for 10 seconds. A buzzer will sound two times afterwards and the icon will be illuminated, which means the setting is completed.



Super Cool can refrigerate your food much faster, keeping food fresh for a longer period. When super cool function is on, the “” icon will be illuminated. You can switch off super cool function by pressing “Fridge” or “Freezer” button and the refrigerator temperature setting will revert back to its previous setting. Super Freeze will quickly lower the temperature within the freezer so food will freeze faster. This can lock in the vitamins and nutrients of fresh food and keep food fresh longer.

- When the super freeze function is on, the “” icon will be illuminated.
- When cooling a full freezer of unfrozen food the superfreezer function will take around 24 hours to fully freeze all food items completely.

- Super freeze automatically switches off after 26 hours and the freezer temperature setting displays -25°C .
- When super freeze function is on you can switch off super freeze function by pressing "Fridge" or "Freezer" button and the freezer temperature setting will revert back to its previous setting.

If you are going to be away for a long period of time, holiday function will be your best choice.

- When the holiday function is on, the "🌴" icon will be illuminated.
 - When the holiday function is activated, the temperature of the refrigerator is automatically switched to 15°C to minimize the energy consumption.
- Important!** Do not store any food in the fridge during this time.
- When the holiday function is on you can switch off holiday function by pressing "Fridge" or "Freezer" button and the freezer temperature setting will revert back to its previous setting.

5. Alarm

In case of alarm, "🔔" icon will be on and there will be a buzzing sound.

Door Alarm

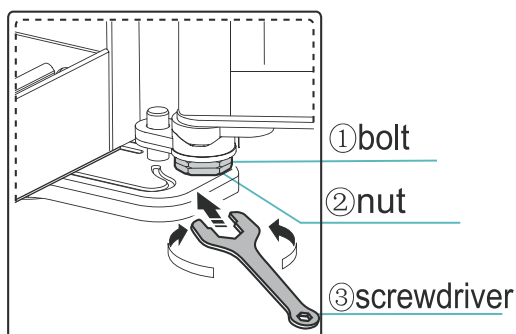
- If the door of the fridge or freezer is open for over 2 minutes, the door alarm will sound. In case of door alarm, the buzzer will sound 3 times every 1 minute and will automatically stop alarming 10 minutes later.
- To save energy, please avoid keeping the door open for a long time when using the appliance. The door alarm can be cleared by closing the door.

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.

1. Adjust the door

When you found the doors are not at the same level, you can use the screwdriver to adjust the fridge door. Only the fridge door can be adjusted. When the freezer door is upper than the fridge door. First, you can use the screwdriver to turn the bolt anticlockwise on the lower hinge that can make the fridge door go up. Then use the screwdriver to locking the nut.



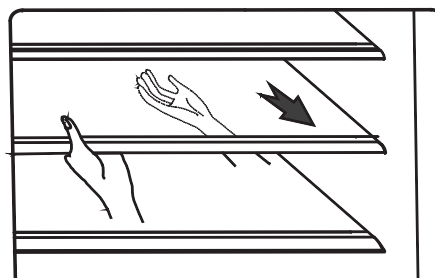
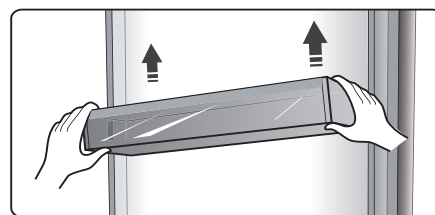
2. Using your refrigerator compartment

The refrigerator compartment is suitable for storage of vegetables and fruit. Food inside shall 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.

Glass shelves and Door racks

The refrigerator compartment is provided with several glass shelves and several different door racks, which are suitable for the storage of eggs, canned liquid, bottled drinks and packed food. They can be placed a different heights according to your need. But do not place too many heavy things in racks. Before you lift up the door shelf vertically, please take the food out.



Note: All the door racks and shelves can be taken out to be cleaned.

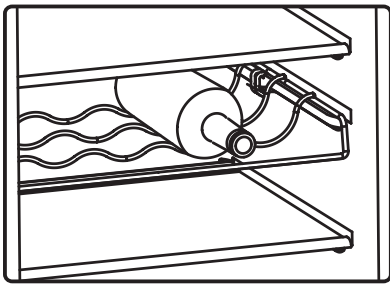
When you remove the shelves, gently pull them forward until the shelf comes clear of the shelf guides.

When you return the shelves, make sure there is no obstacle behind and gently push the shelf back into the position.

Bottle rack

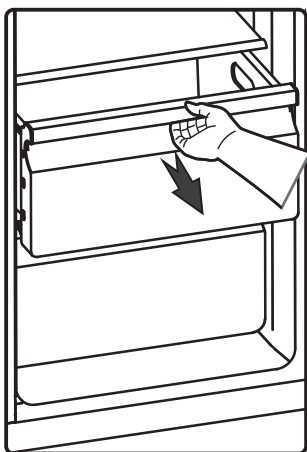
It is for storing bottled wine or drinks.

Note: Please use gently when you removed the bottled wine or drinks. It can be taken out to be cleared or you adjust to save the shelf space.



Drawers

It is suitable for storage of fruits and vegetable. And it can be taken out to be cleared.



3. Using your freezer compartment

The freezer compartment is suitable for storage of foods required to be frozen, such as meat, fish, ice cream and other perishable food.

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Caution! Ensure that bottles are not left in the freezer for longer than needed as freezing may cause the bottle break.

Bottled or canned liquid which could explode caused by volume expanding are not allowed to be stored there.

4. Water Dispenser

The water dispenser located in the fridge door, is for storing drinking water. With this appliance you can obtain chilled water easily without opening the refrigerator. You should be informed of following tips.

•Before using

you should use it as follows.

1. Hold one bottom side of the water tank by a hand, lift up the opposite side by the other hand, when the slot of the water tank is off from the guide, change hands to repeat these steps.
2. Hold the two sides of the water tank tightly, lift up and put out of the water tank.
3. Unscrew the head, then clean head, lids and the water tank.

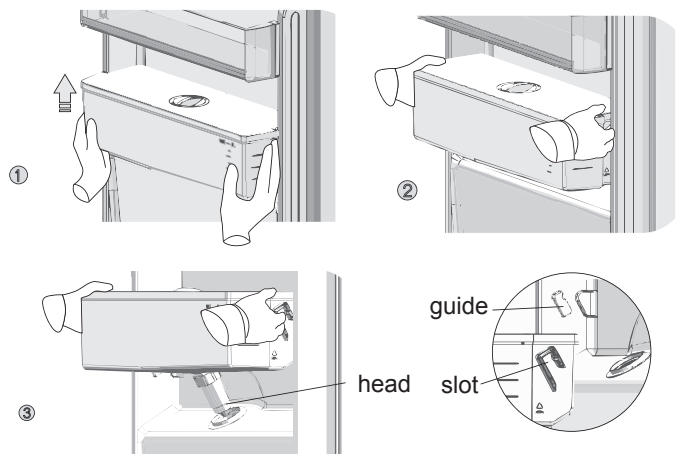
Caution!

Drain the water tank before you take it down!

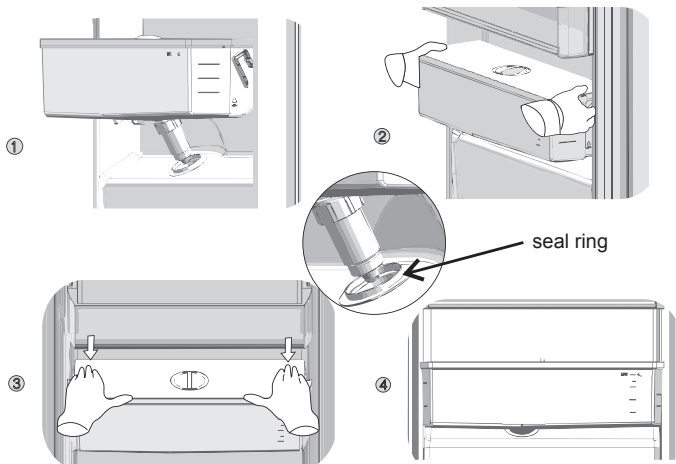
• Assembling

After cleaning, please assemble the parts including the head, water tank and lids as follows:

1. Put the seal ring in order first (the seal ring can not turn up), then insert the head into the hole.

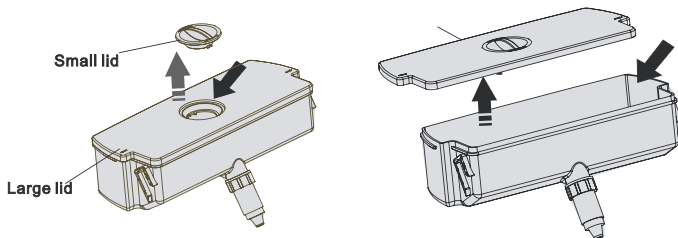


2. Hold the two sides of the water tank tightly, fit the water tank along the guides on the door.
3. Push the two sides of the water tank downward as the picture shows.
4. When you hear clicks by both sides and at the same time the both sides of the water tank is closed to the door liner, It means the installation is completed.



•Filling water

Before you fill the drinking water into the water tank, ensure that the water tank is steady and in a correct position.



Caution!

Fill with water up to 4L (which is suggested) and not above the level. Otherwise, it may overflow when the lids is closed.

We recommend that you fill the water by the following ways.

- 1.Remove the small lid and fill water from the inlet of the larger lid.
- 2.Remove the cover of the rank, and then fill water inside directly.

Warning!

Don't touch the other parts of the appliance when filling water, it may cause the water leakage.

• Dispensing water

- 1.Make sure the cover of the water tank is fitted on.
- 2.Close the fridge door and check the dispenser.

Water Dispenser

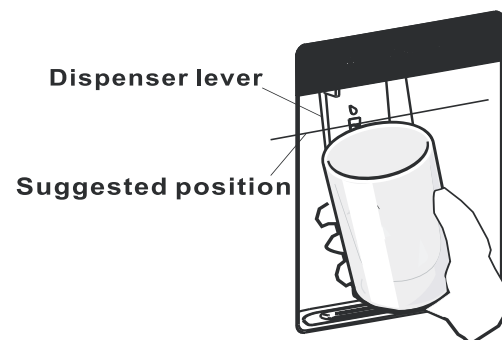
• Receiving Water

You should use the correct cups to receive water underneath the water dispenser.

Warning!

without cup, it may cause the water leakage from the dispenser.

Don't push the dispenser lever forward

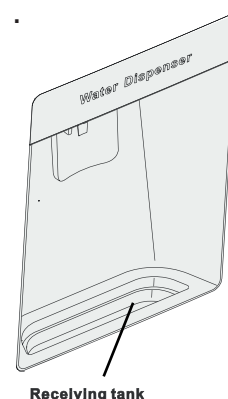


Cleaning

1.Put the water tank out of the door carefully and then wash the tank, lid, and head lightly in water.

2.After you have successfully cleaned the appliance, you should dry it fully.

Also regularly clear the receiving tank to avoid slillage .



5.Using your ice box

- It is used for making ice and storing ice cubes.

- It is a removable accessory which can be taken out to save space. There is an ice maker cover to keep the ice maker clean.

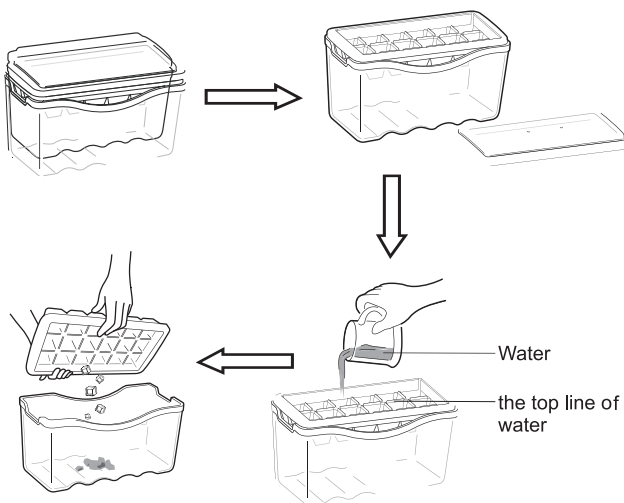
Note: If the ice maker is used for the first time or has not been used for a long time, please clean it before using.

- Ice-making process.

1. Place the integrative ice maker on level and take down the cover.

2. Pour water into the ice tray and Pour water into the ice trays and the water level shall not exceed the top line as the follow picture shows.

3. Place the ice maker in its original position. When ice cubes form, you can take out the ice cubes for direct use or drop off the ice cubes into the ice storing box for future use.



Drawers

The drawers, mounted on telescopic extension slides, can be used to store large quantities of frozen food.

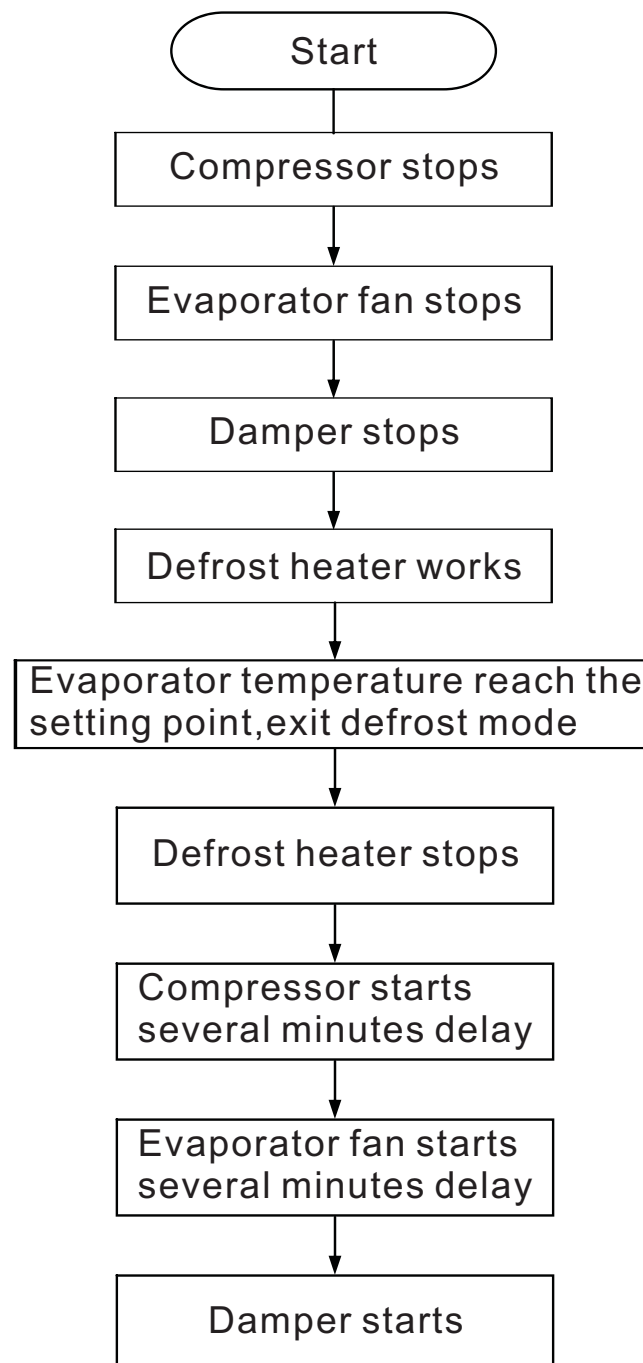
- The method of removal of the drawers is the same as the crisper in the refrigerator chamber.

4.3 Defrost mode

4.3.1 Start condition

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

4.3.2 Defrost flow

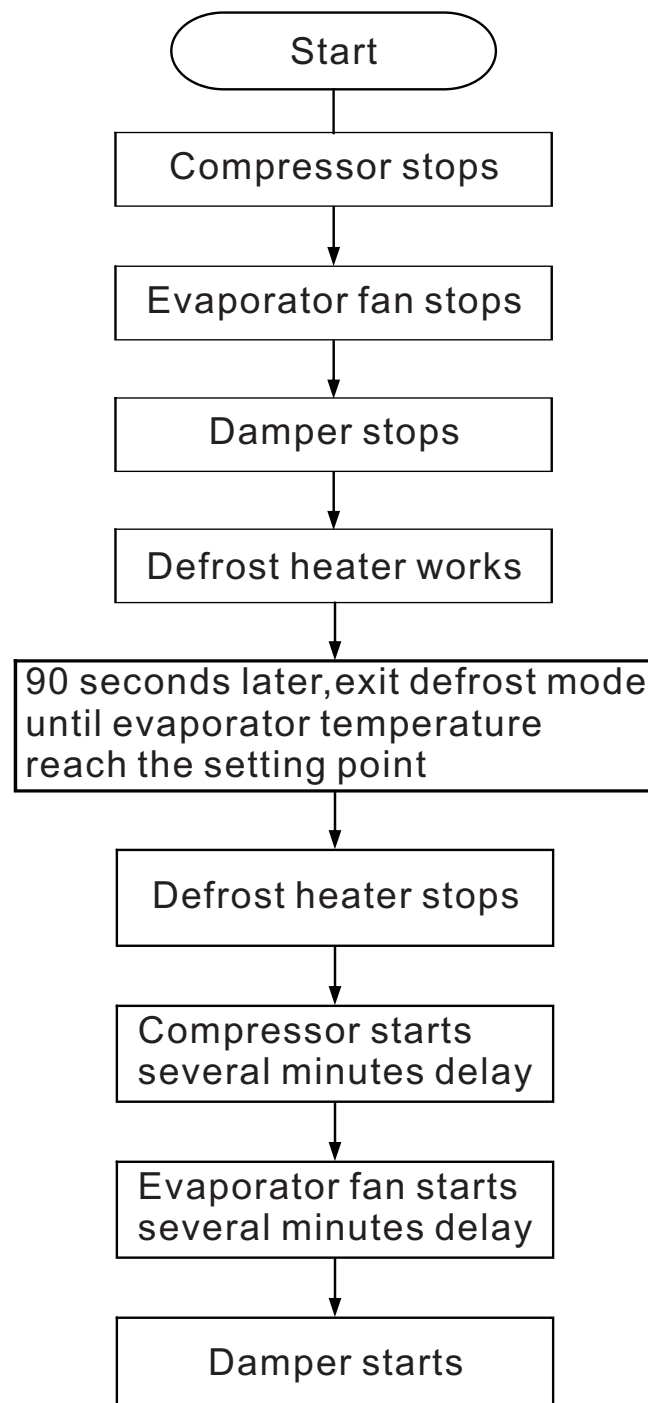


4.4 Compulsory Defrost mode

4.4.1 Start condition

Keep refrigerator door and freezer door closed for 5 minutes after power-on, touch and hold “ Mode ” button and “Freezer” button at the same time for 10 seconds , it will enter compulsory defrost mode after the buzzer sound 3 times.

4.4.2 Compulsory defrost flow



4.5 Error display

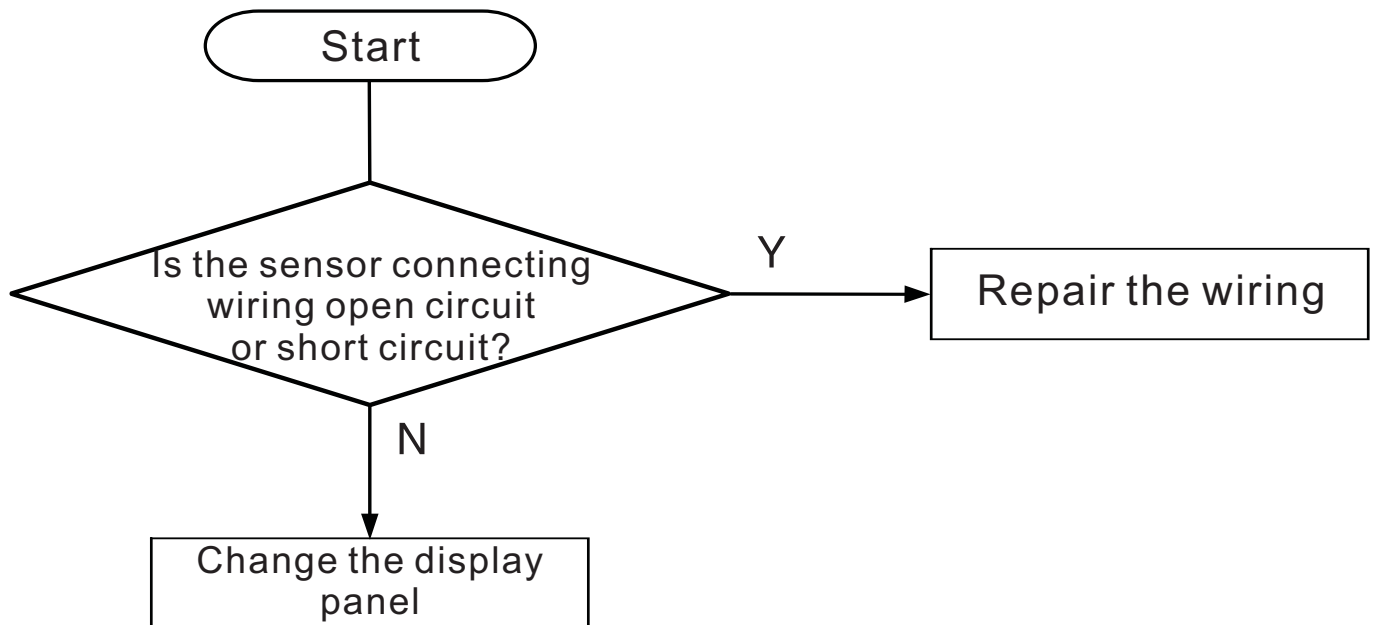
4.5.1 Error code

Code	Display area	problem
E1	Refrigerator temperature display area	Refrigerator sensor malfunctions
E3	Freezer temperature display area	Freezer sensor malfunctions
E4	Freezer temperature display area	Defrost sensor malfunctions
E0	Refrigerator temperature display area	Environment sensor malfunctions
Er	Refrigerator temperature display area	Communication receiving malfunctions
F1	Freezer temperature display area	Freezer Fan malfunctions

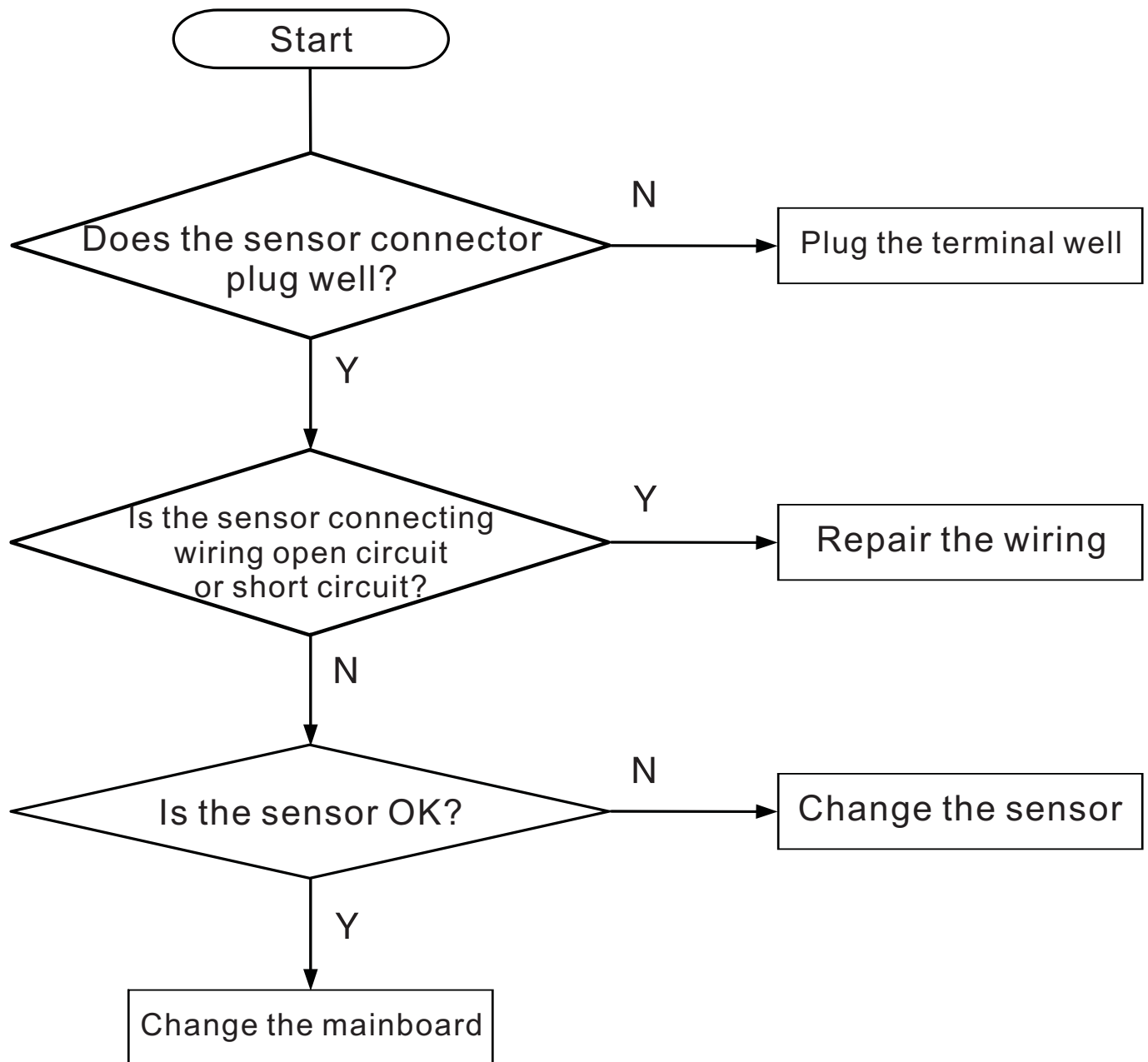
4.5 Error display

4.5.2 Checking method

4.5.2.1 Environment sensor error



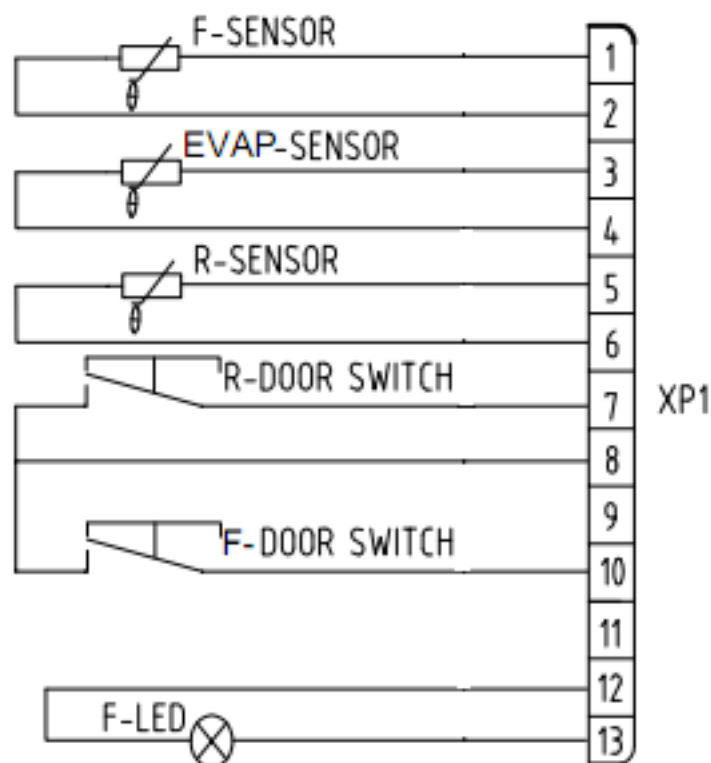
4.5.2.2 Other sensors error



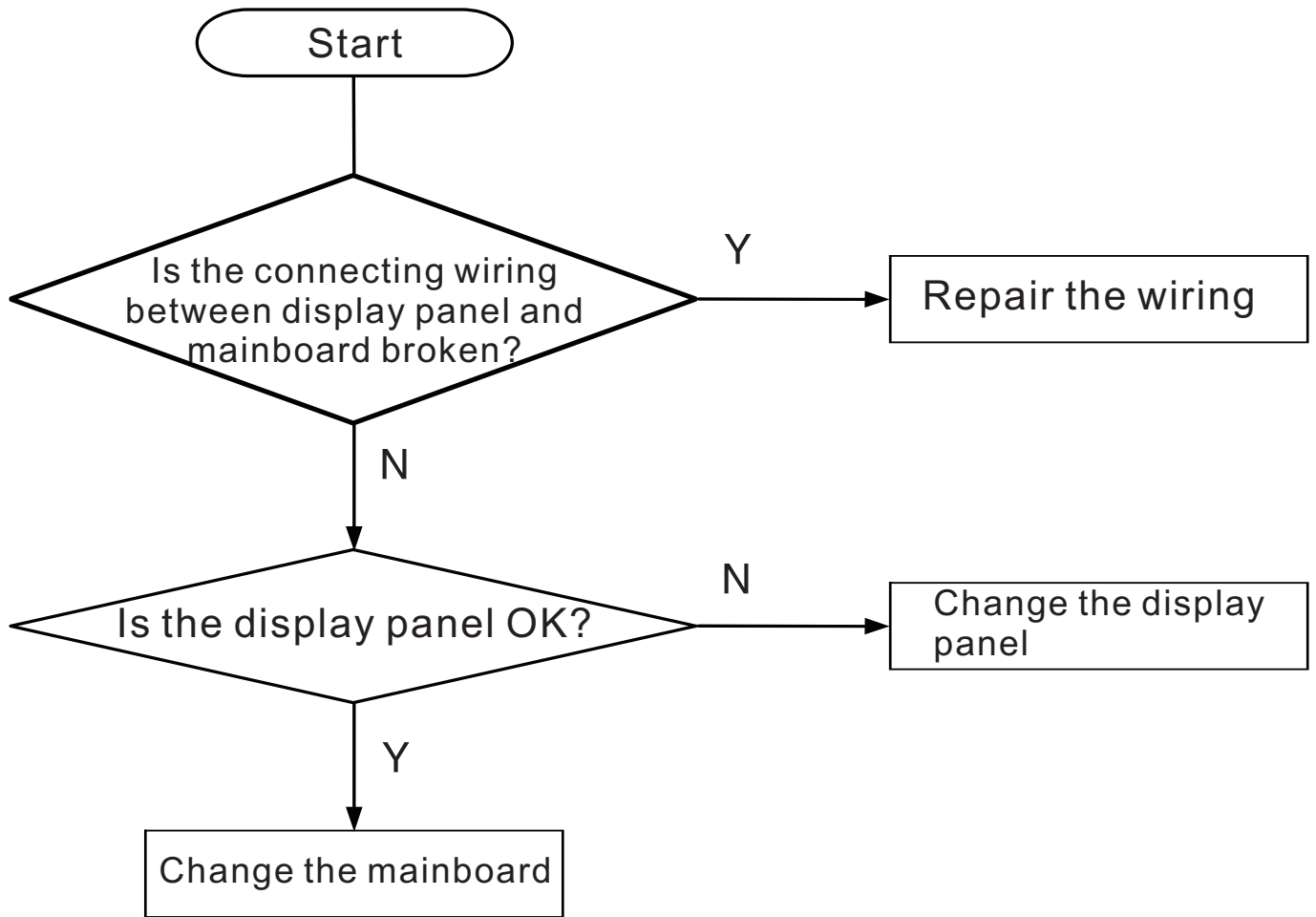
4.5.2.2 Other sensors error

Note:

- 1.Refrigerator sensor corresponding pin No.5 and No.6 on XP1 connector of mainboard.
- 2.Freezer sensor corresponding pin No.1 and No.2 on XP1 connector of mainboard.
- 3.Evaporator sensor corresponding pin No.3 and No.4 on CN4 connector of mainboard

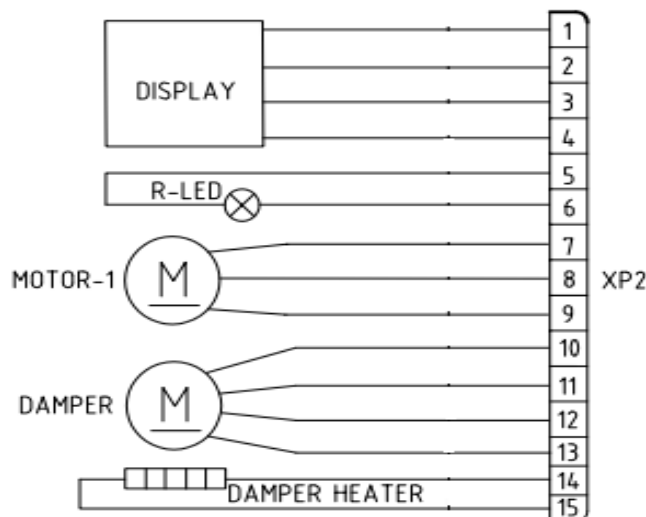


4.5.2.4 Communication error



Note:

The display panel corresponding pin No.1~4 on XP2 connector of the mainboard,as the drawing below.

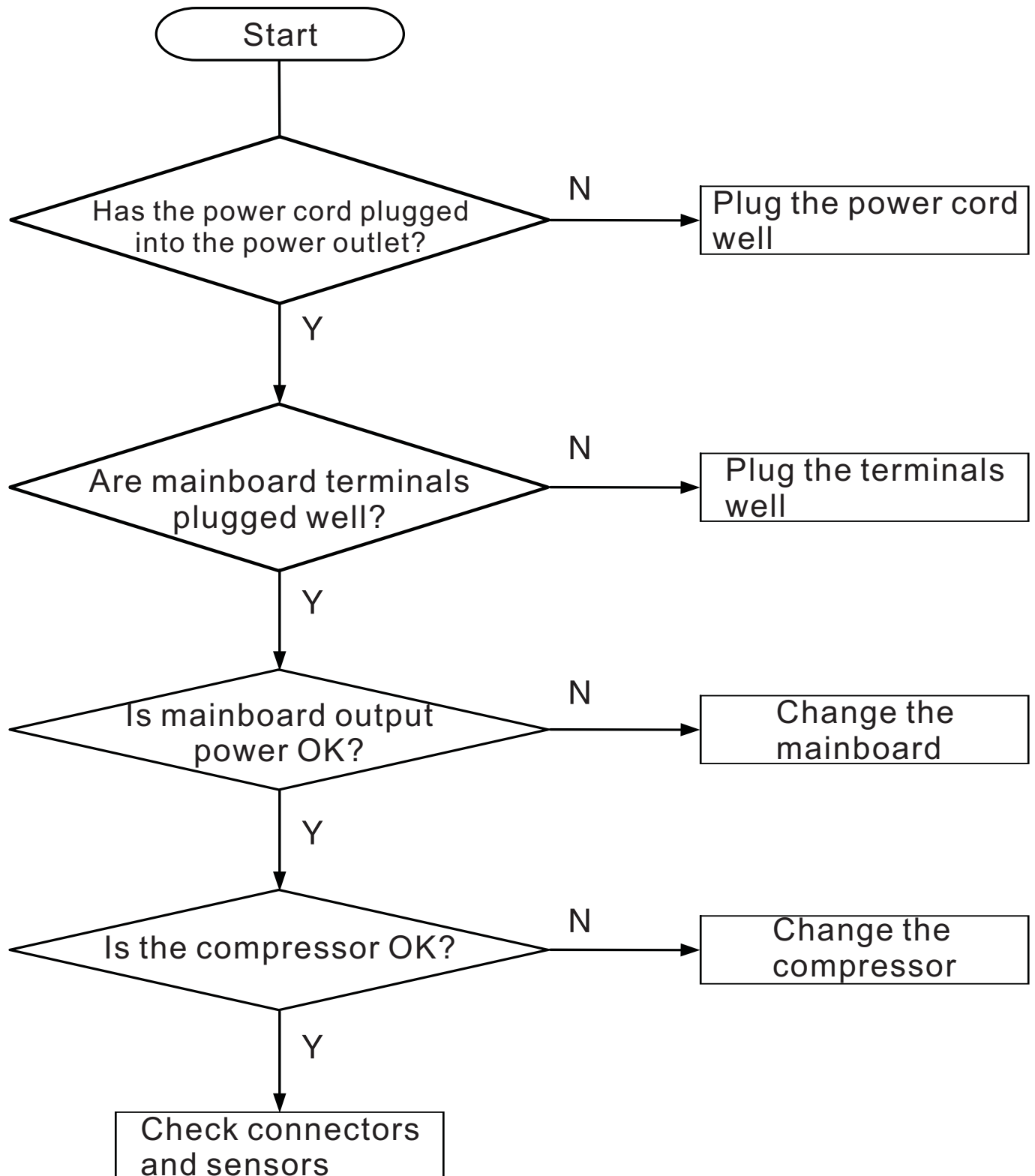


5.1 Common problem and checking

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
	It is normal that the freezer is not operating during the automatic defrost cycle, or for a short time after the appliance
Odours from the compartments	The interior may need to be cleaned
	Some food, containers or wrapping cause odours
Noise from the appliance	<p>The sounds below are quite normal:</p> <ul style="list-style-type: none"> ● 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
	<p>Other unusual noises are due to the reasons below and may need you to check and take action:</p> <ul style="list-style-type: none"> ● The cabinet is not level. ● The back of appliance touches the wall
The motor runs continuously	<ul style="list-style-type: none"> ● 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

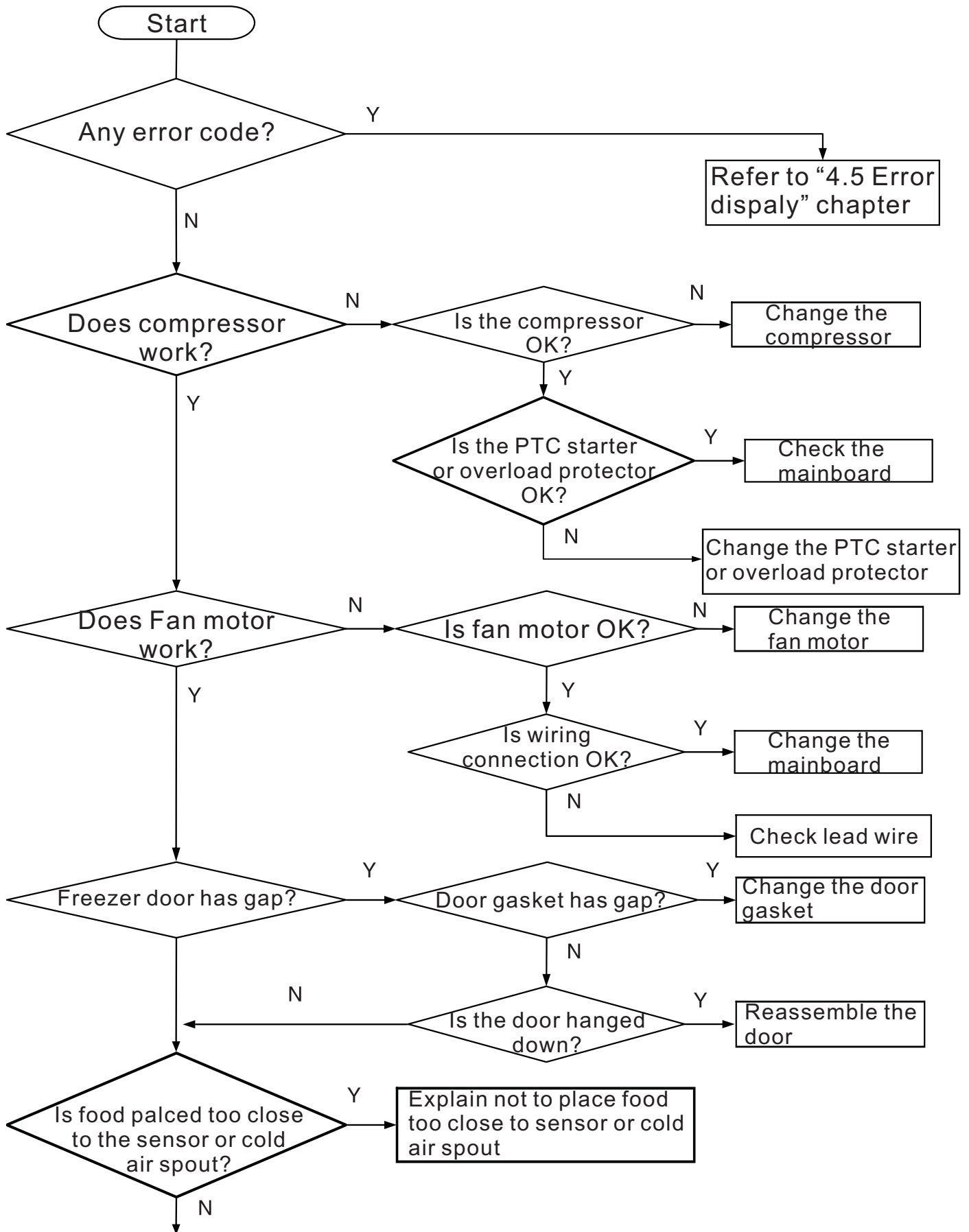
Problem	Possible cause & Solution
A layer of frost occurs in the compartment	Check that the air outlets are not blocked by food and ensure food is placed within the appliance to allow sufficient ventilation. Ensure that door is fully closed. To remove the frost, please refer to cleaning and care chapter.
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.
Water drips on the floor	The water pan (located at the rear bottom of the cabinet) may not be properly leveled, or the draining spout underneath the top of the compressor depot may not be properly positioned to direct water into this pan, or the water spout is blocked, or the water is not fully inserted into the connector. You may need to pull the refrigerator away from the wall to check the pan and spout and connector.
The light is not working	<ul style="list-style-type: none"> ● The LED light may be damaged. Refer to replace LED lights in cleaning and care chapter. ● The control system has disabled the lights due to the door being kept open too long, close and reopens the door to reactivate the lights.

5.2 Faulty start



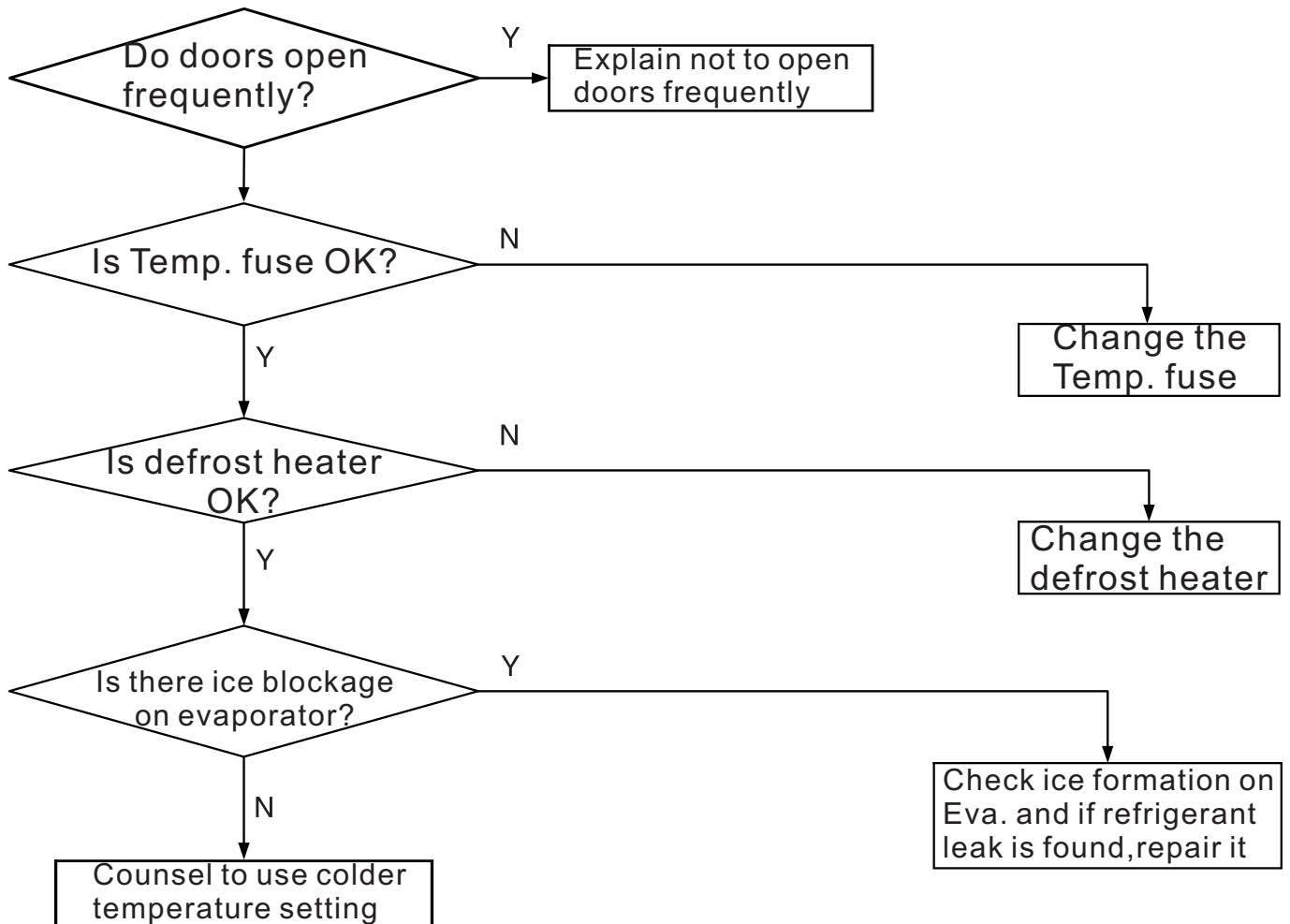
5.3 Refrigeration failure

5.3.1 Freezer compartment



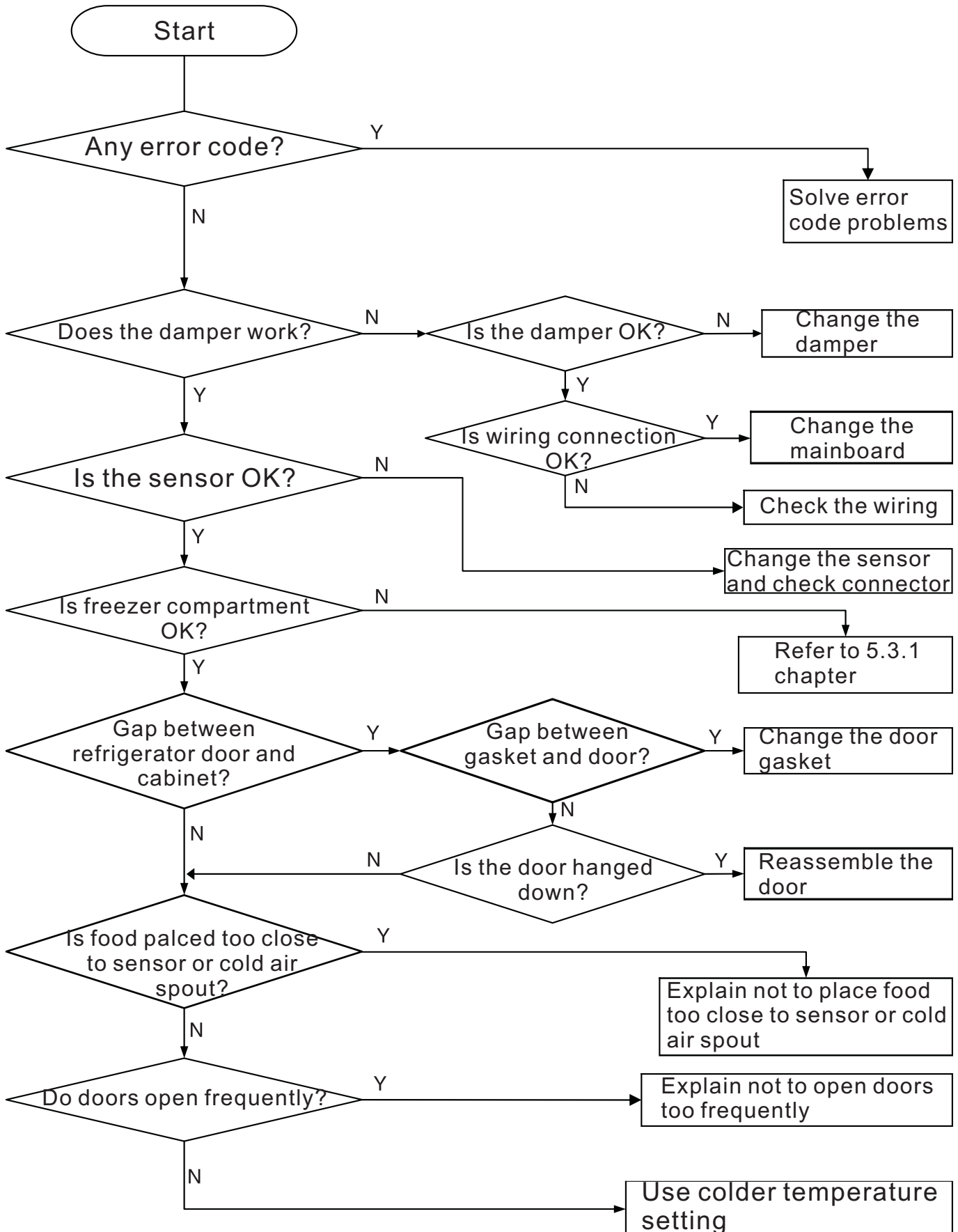
5.3 Refrigeration failure

5.3.1 Freezer compartment

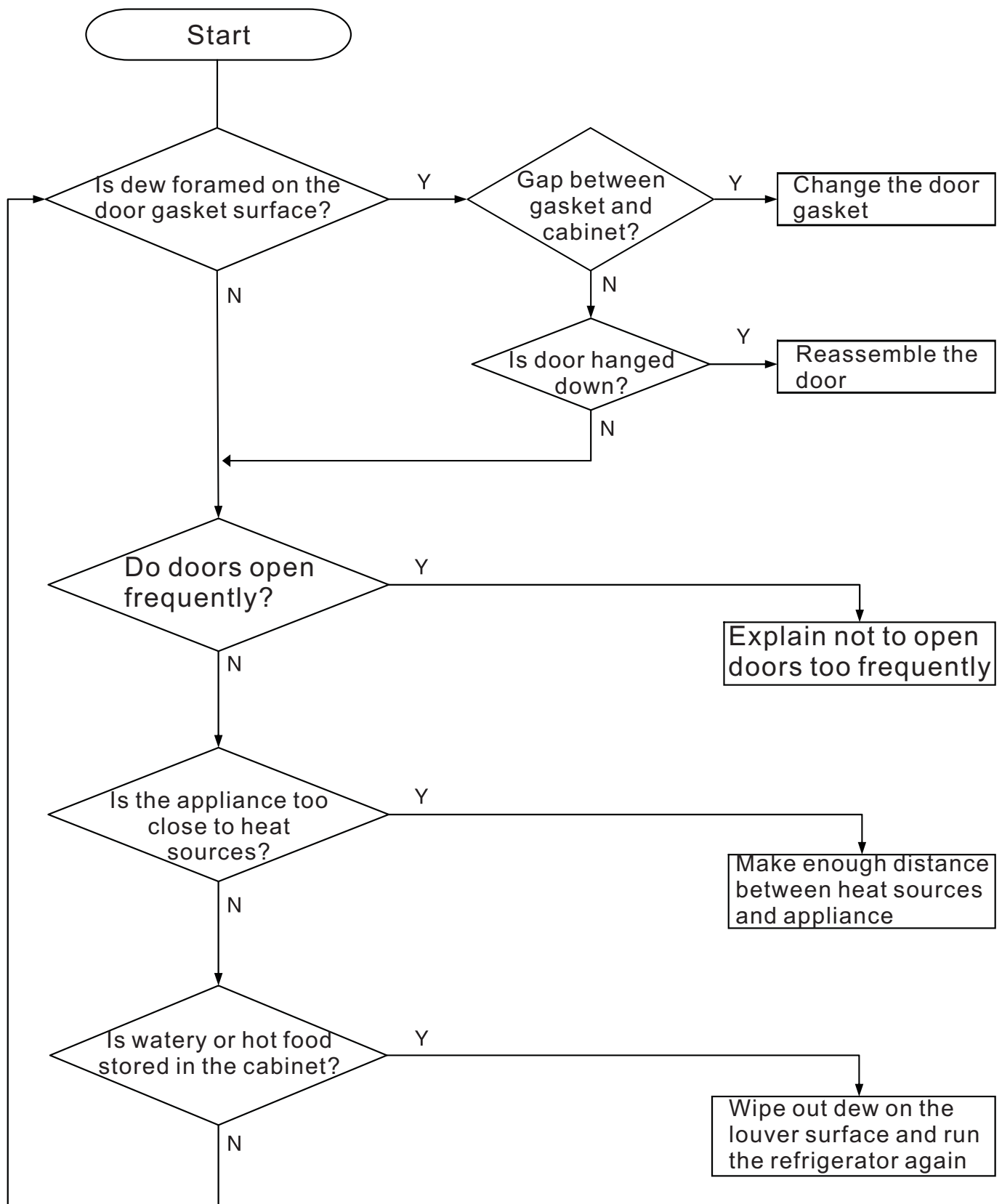


5.3 Refrigeration failure

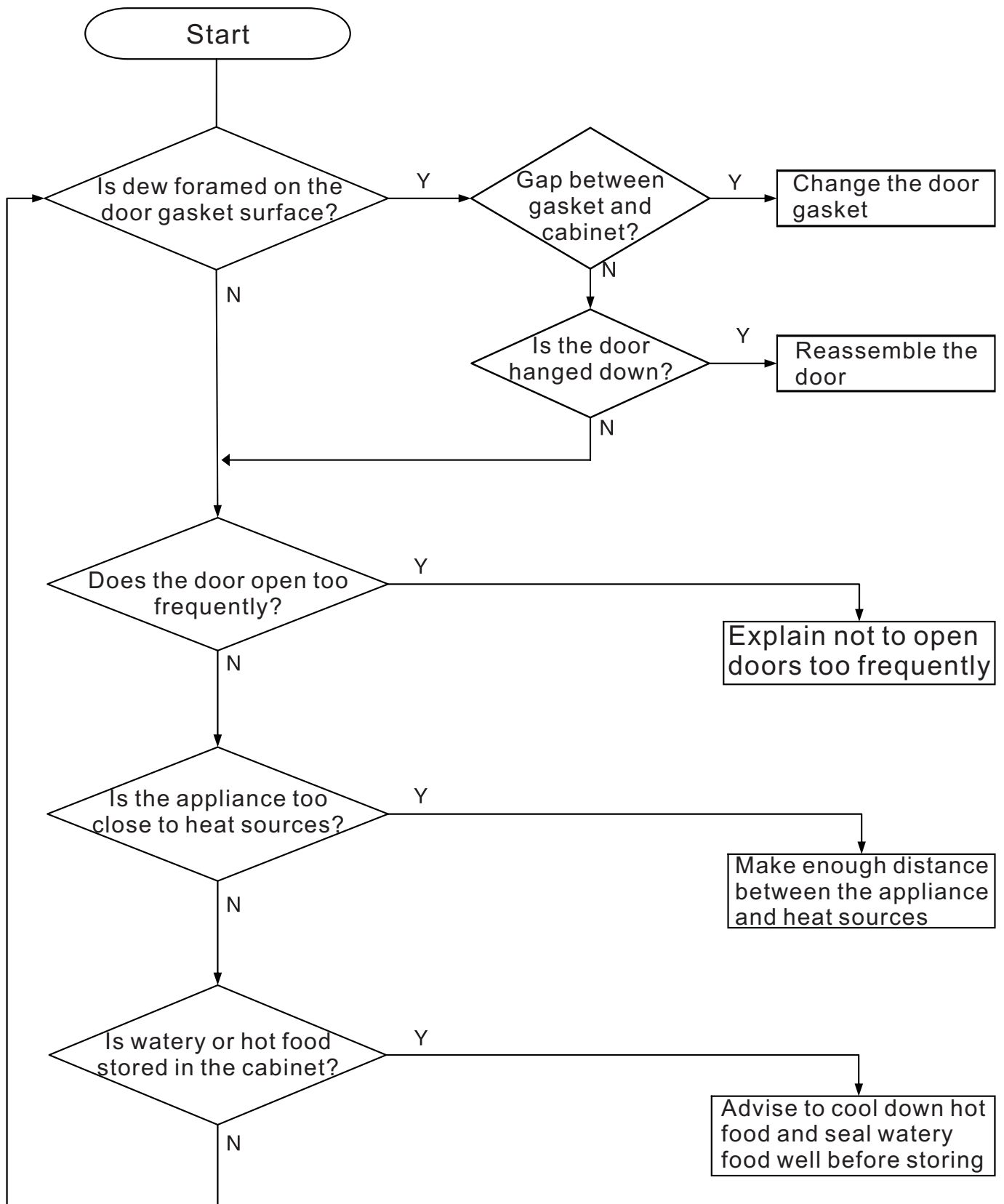
5.3.2 Refrigerator compartment



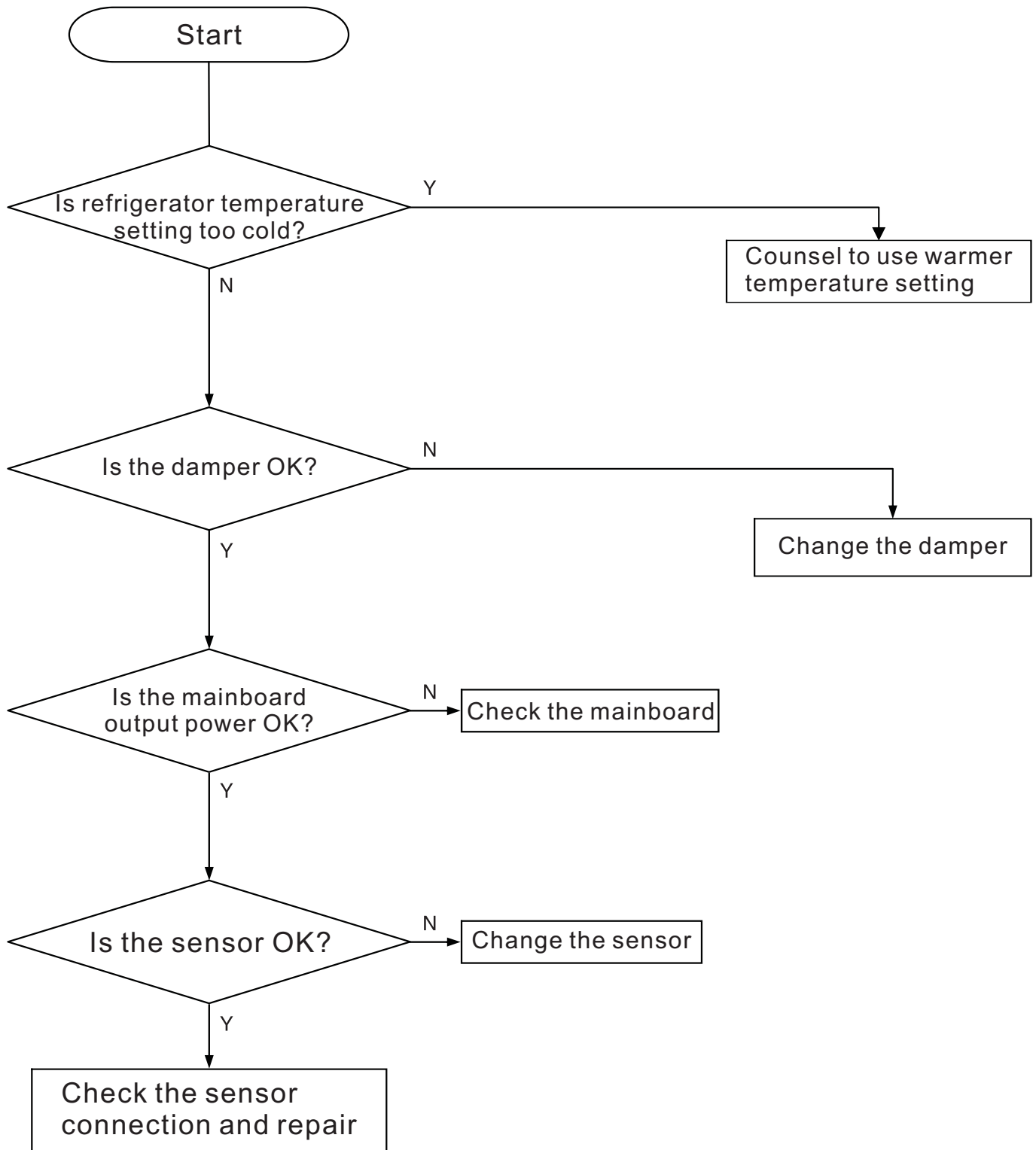
5.4 Thick frost in freezer compartment



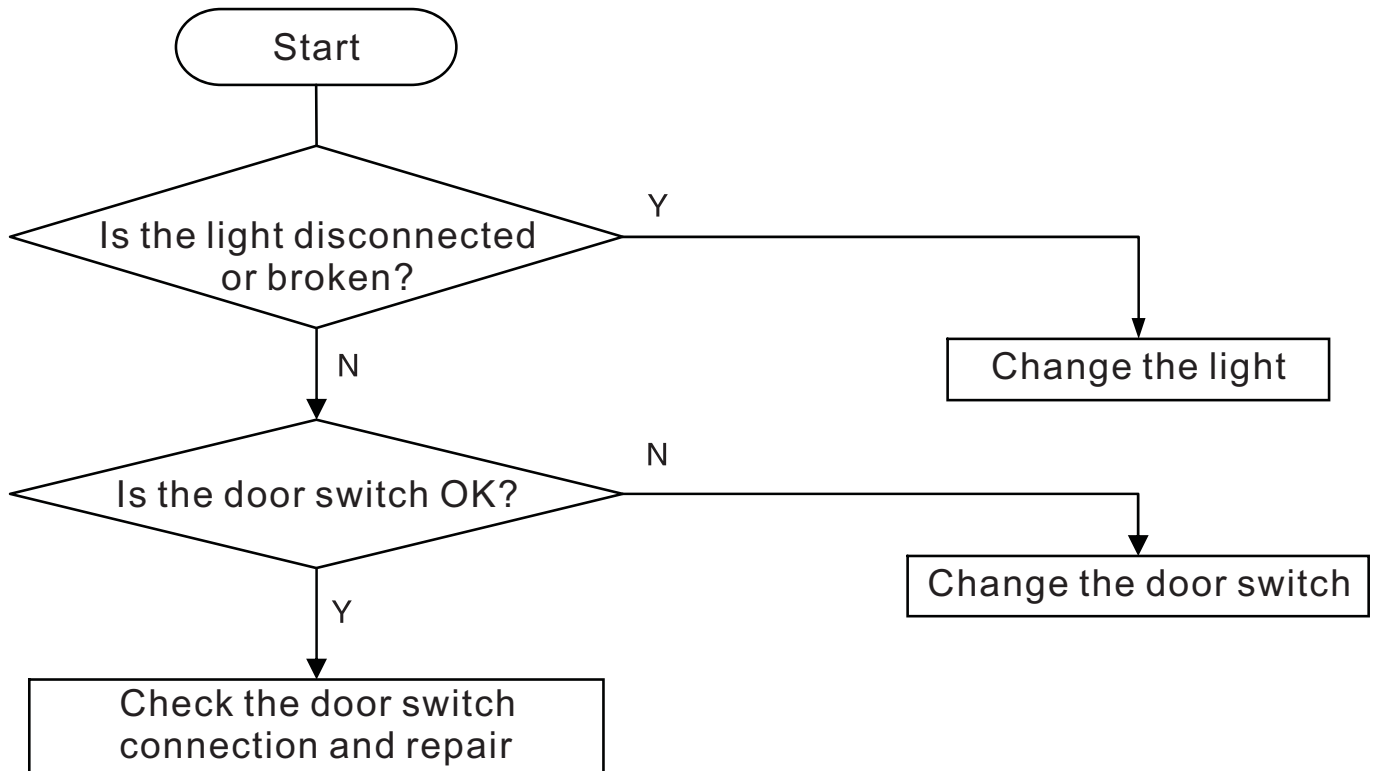
5.5 Dew in refrigerator compartment



5.6 Low temperature of vegetable vase

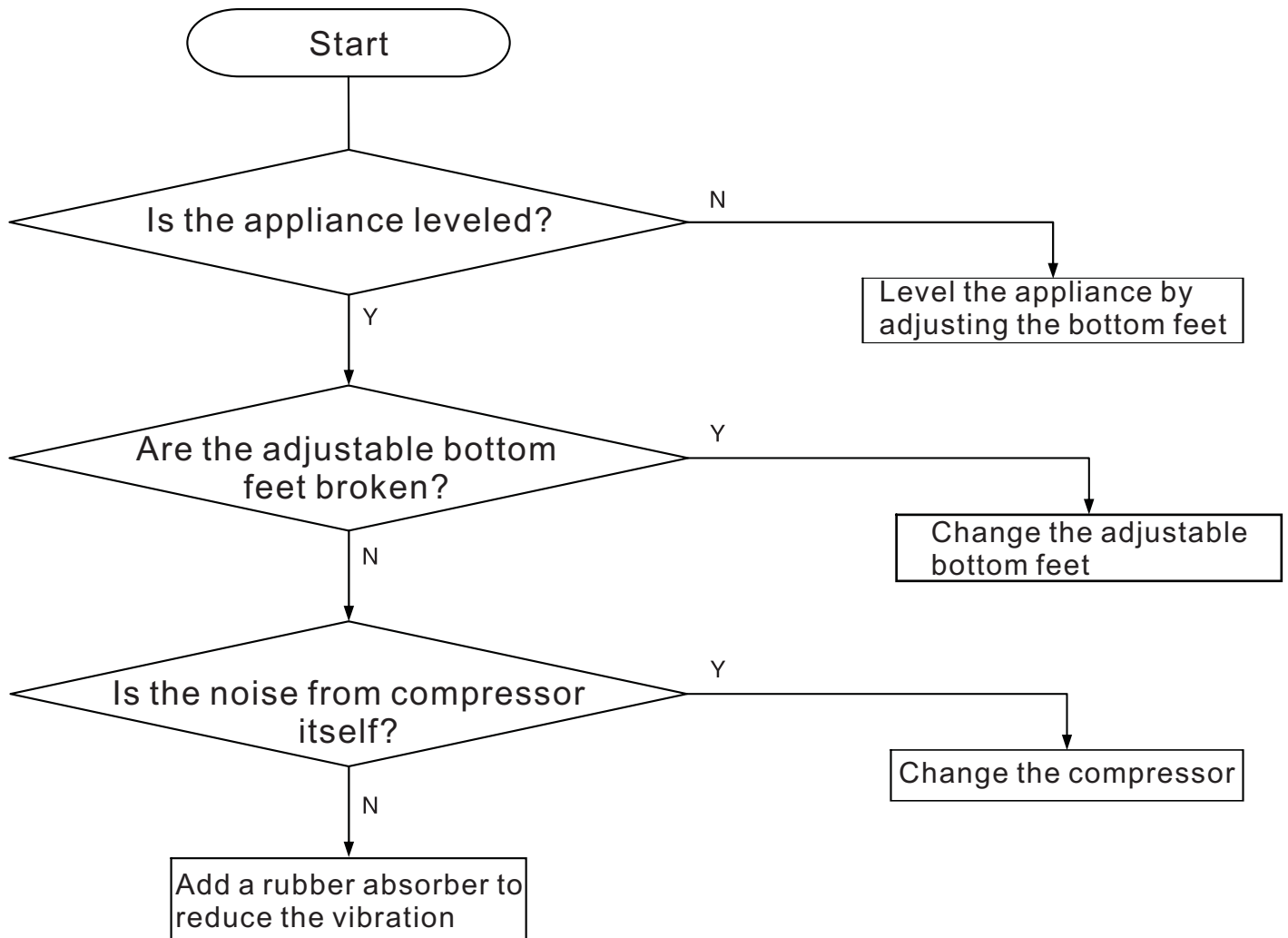


5.7 Breaking of light



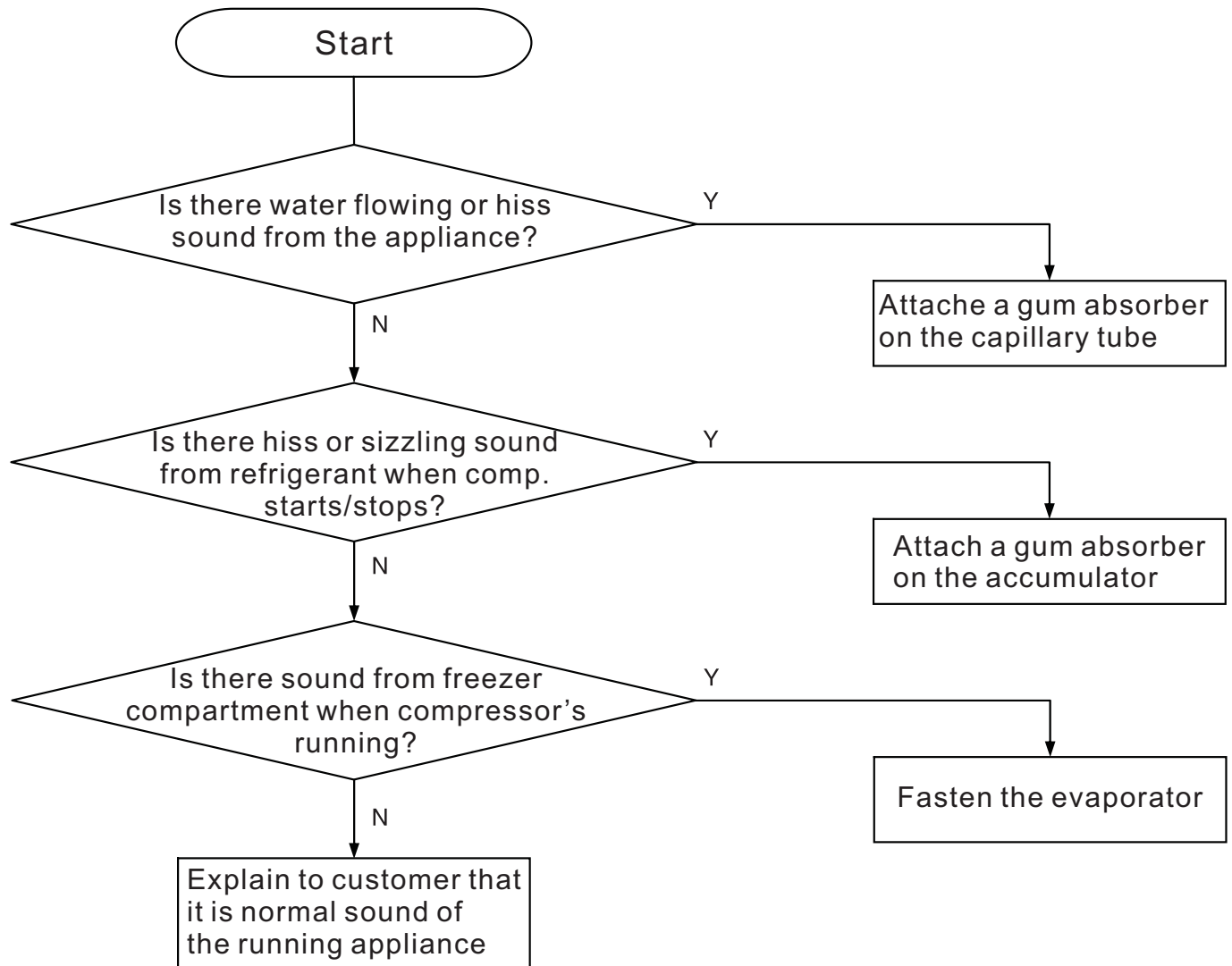
5.8 Noise

5.8.1 Compressor noise



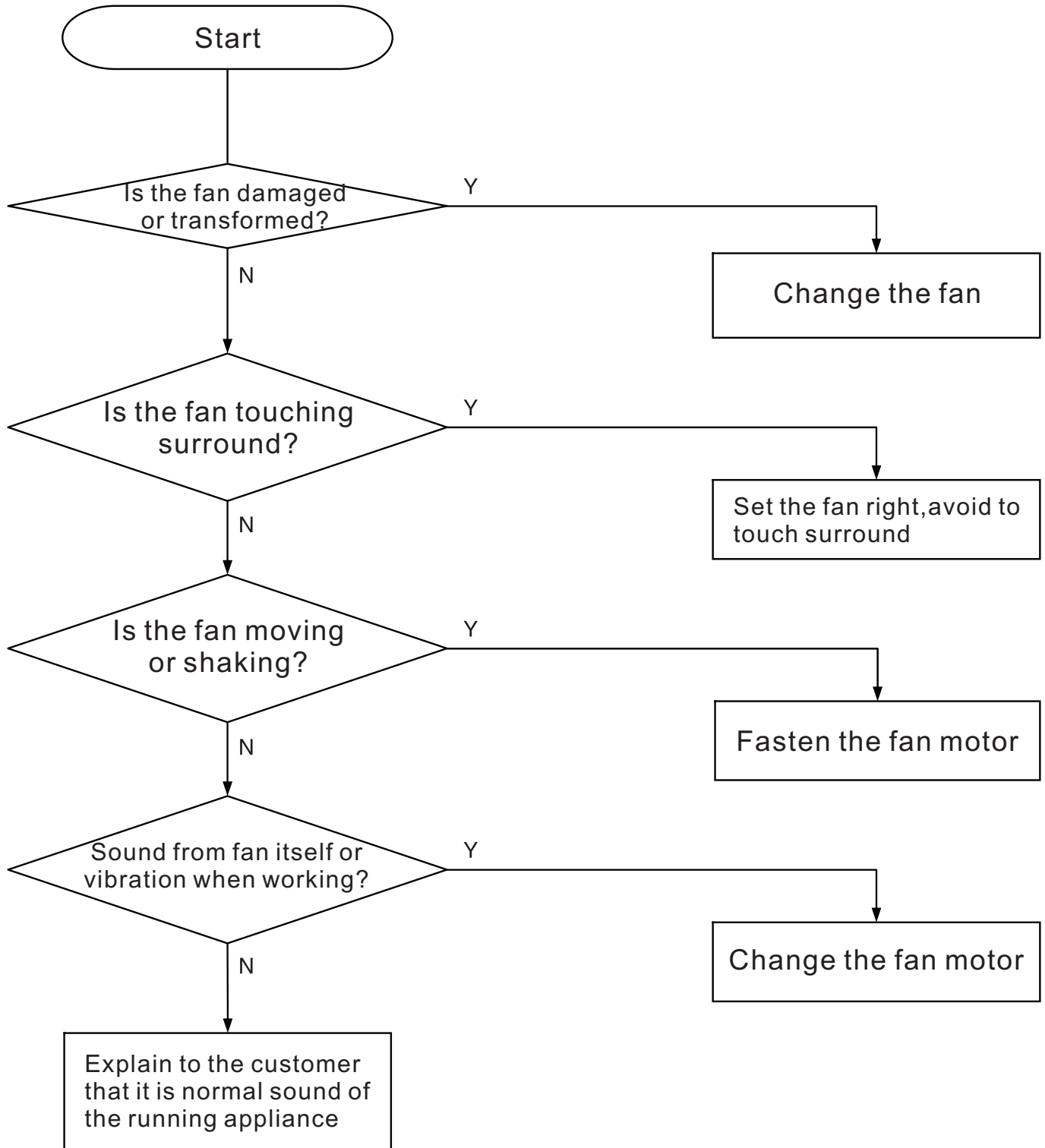
5.8 Noise

5.8.2 Refrigerator flowing noise



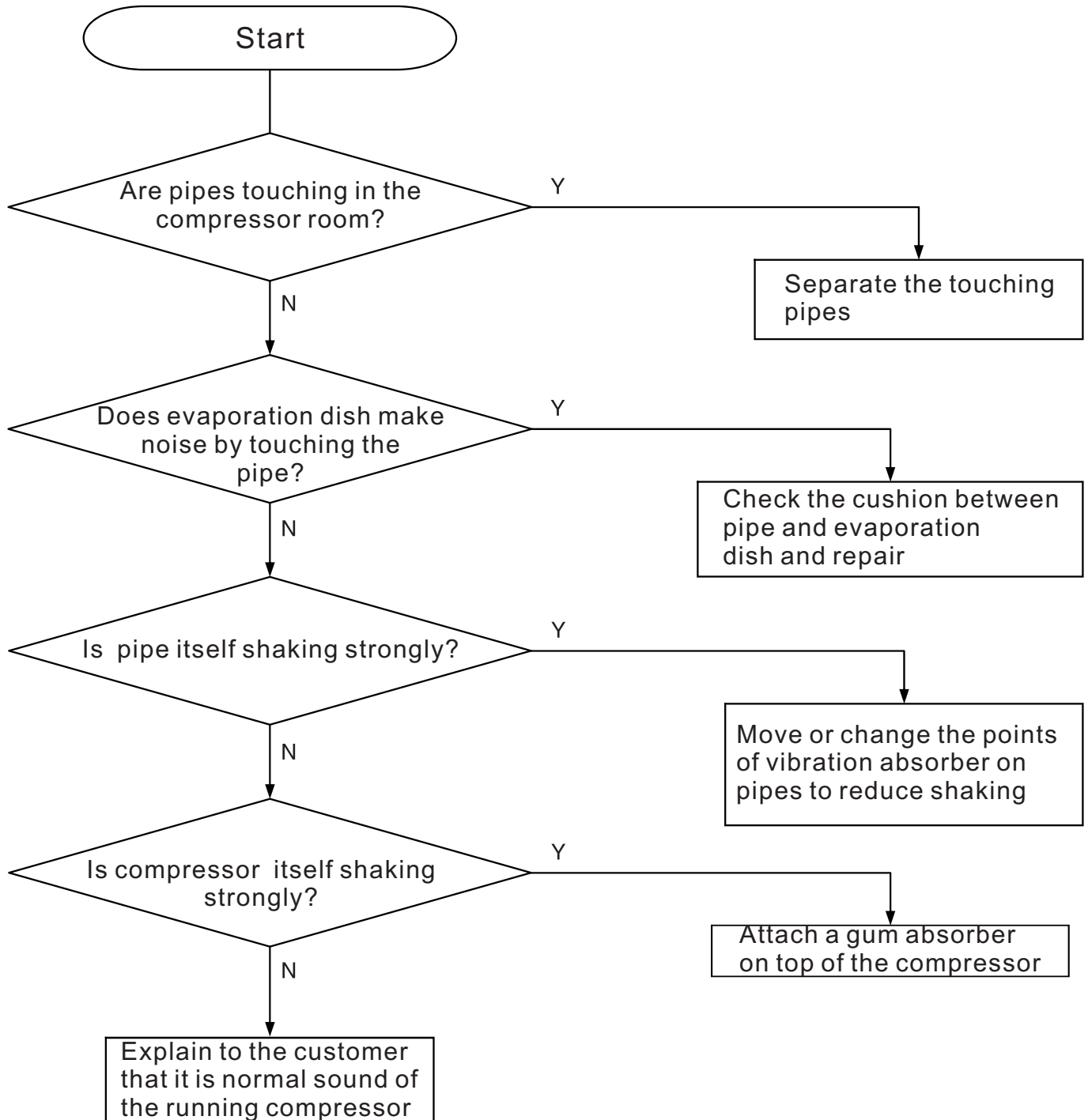
5.8 Noise

5.8.3 Fan motor noise

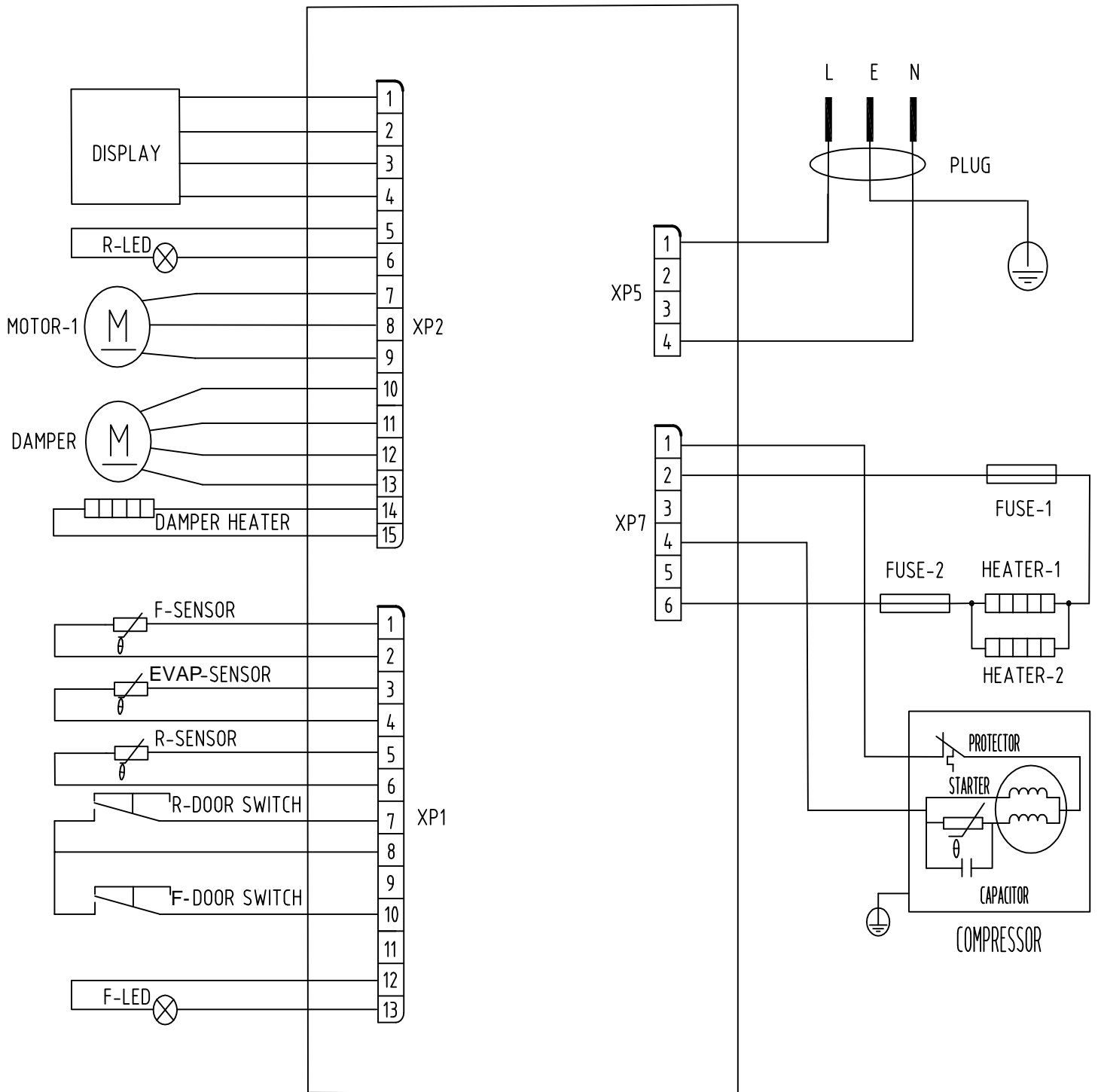


5.8 Noise

5.8.4 Pipe noise



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 of electric box cover by screwdriver, as picture 1.

3. Remove the electric box cover, as picture 2.

4. Unplug the terminals on the mainboard, as picture 3.

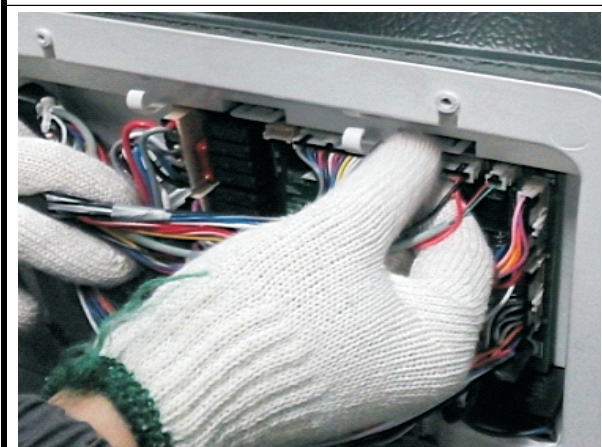
5. Pry up the mainboard by fingers and take it out, as picture 4.



Picture 1



Picture 2



Picture 3



Picture 4

6.3.3 Removing the PTC starter and overload protector

- 1.Unplug the appliance
- 2.Remove the screws of protector box by screwdriver,as picture 1.
- 3.Pry up the protector box from top by screwdriver,as picture 2.
- 4.Unplug the overload protector,as picture 3.
- 5.Unplug the PTC starter,as picture 4.



Picture1



Picture2



Picture3



Picture4

6.4 Fan motor

6.4.1 Basic parameters

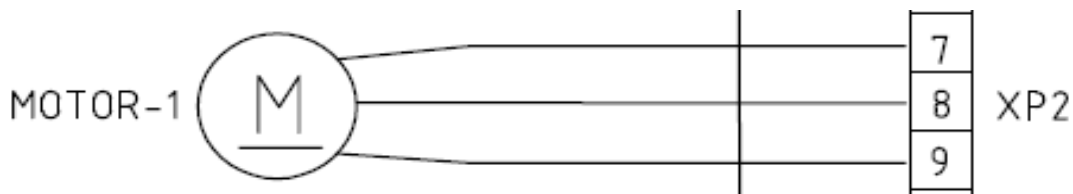
Rated voltage:DC12V

Rated input power:2.5W

6.4.2 Checking method

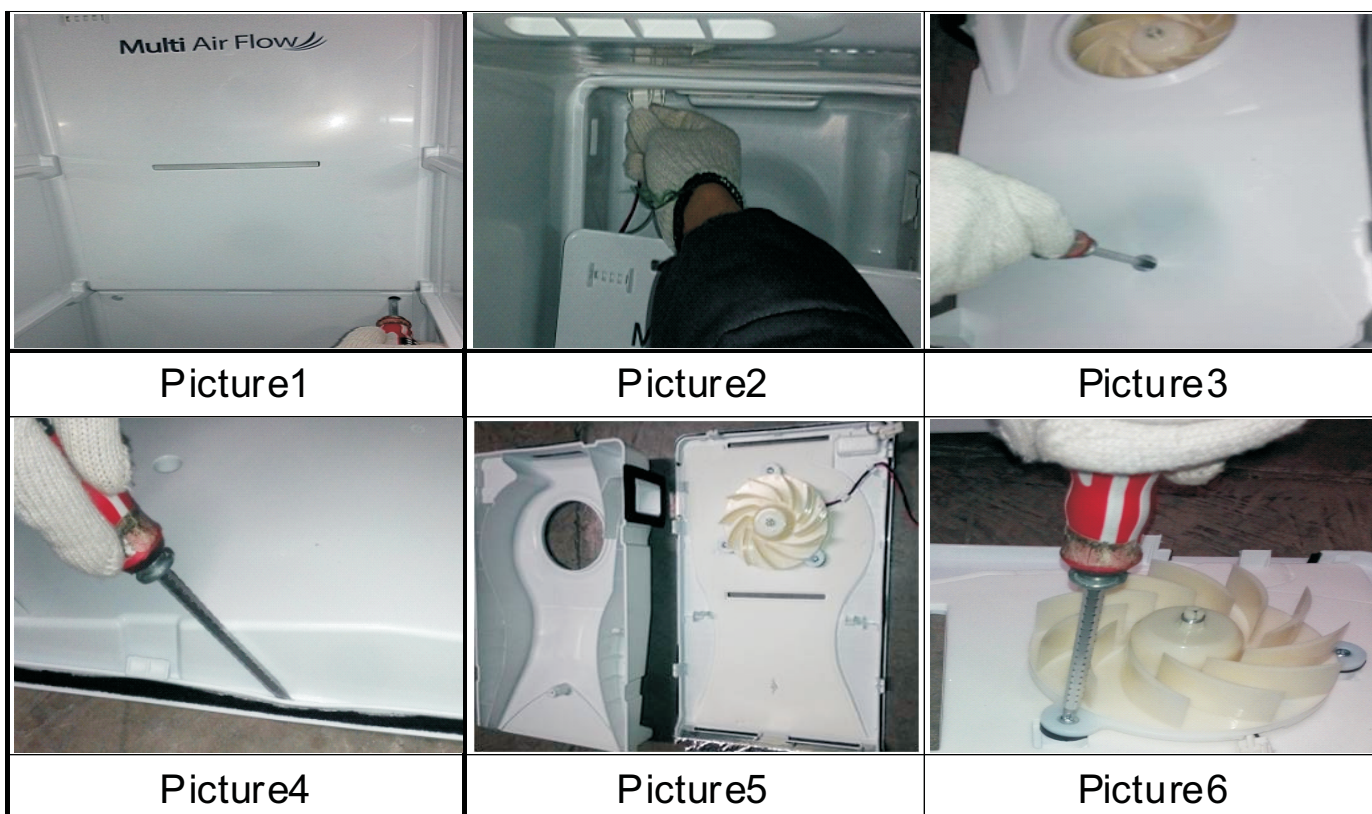
1.Check the connecting wiring of fan motor is well or not,repair if it is broken.The fan motor corresponding pin No.7 ~ 9 on XP2 connector of mainboard,as the drawing below.

2.Pin No. 9 connect 12V power and pin No. 8 connect GND if the fan motor works normally,change the mainboard;If not,change the fan motor.



6.4.3 Removing the fan motor

- 1.Unplug the appliance
- 2.Remove the screws of freezer wind channel component by screwdriver,as picture 1.
- 3.Remove the wind channel component and unplug the terminals,as picture 2.
- 4.Remove the screw of the wind channel component by screwdriver, as picture 3.
- 5.Pry up the wind channel cover from the buckles by screwdriver,as picture 4.
- 6.Separate the front cover and back cover,as picture 5.
- 7.Remove the screws of fan motor and then remove the fan motor, as picture 6.



6.5 Damper

6.5.1 Basic parameters

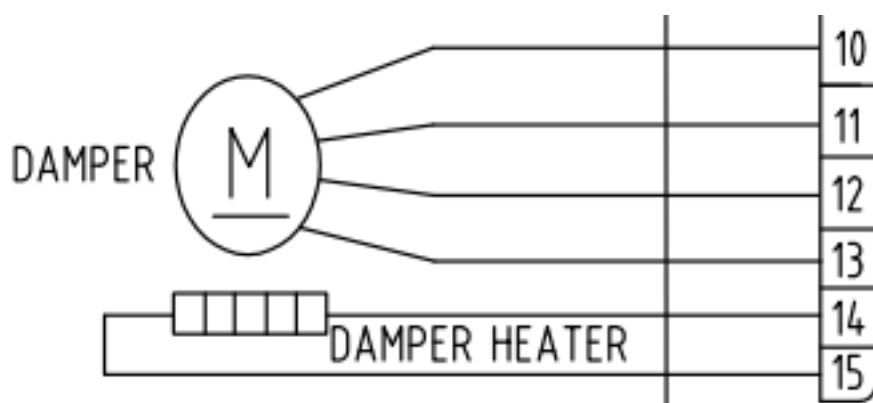
Rated voltage:DC12V

Rated current:60mA

6.5.2 Checking method

1.Check the connecting wiring of the damper is well or not,repair if it is broken.The damper corresponding pin No.10~ 15 on XP2 connector of mainboard,as the drawing below.

2.The damper will turn on and off for one time after power-on,if not, change the mainboard first and change the damper if problem remains.

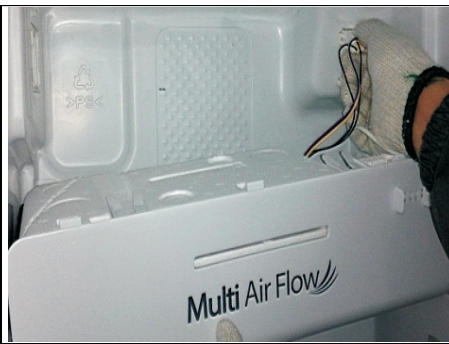


6.5.3 Removing the damper

- 1.Unplug the appliance
- 2.Remove the screws of refrigerator wind channel component by screwdriver,as picture 1.
- 3.Remove the wind channel component and unplug the terminals,as picture 2.
- 4.Separate the wind channel cover and foam,as picture 3.
- 5.Remove the sponge and adhesive paper on the foam,as picture 4.
- 6.Separate the upper foam and lower foam,as picture 5.
- 7.Remove the damper,as picture 6.



Picture1



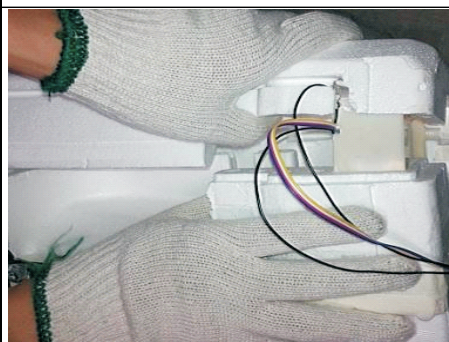
Picture2



Picture3



Picture4



Picture5



Picture6

6.6 Light

6.6.1 Basic parameters

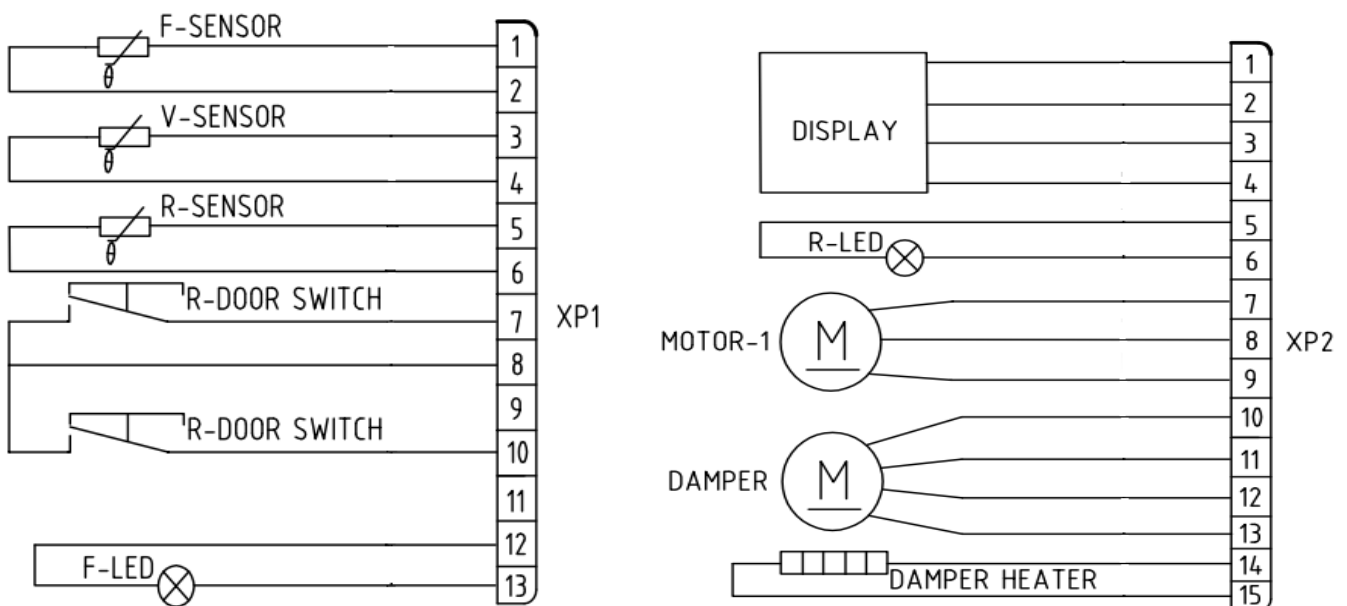
Rated voltage:DC12V

Rated power:2W

6.6.2 Checking method

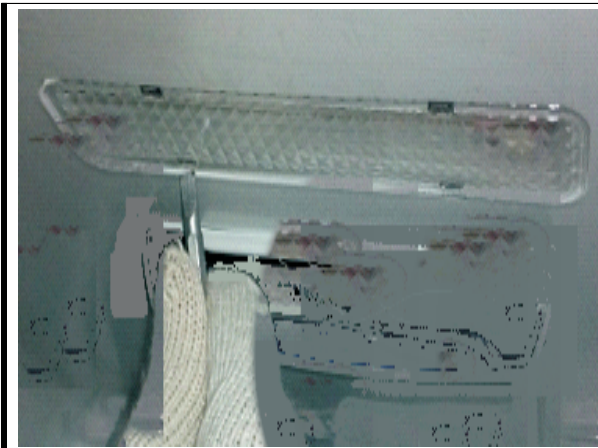
1.Check the connecting wiring between light and mainboard is well or not,repair if it is broken.Refrigerator light corresponding pin No.5 and No.6 on XP2 connector of mainboard,freezer light corresponding pin No.12 and No.13 on XP1, as the drawing below.

2.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 Removing the light

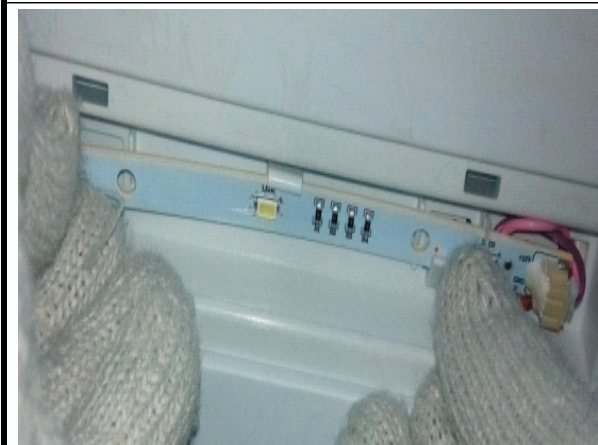
- 1.Unplug the appliance
- 2.Pry up the light cover from the buckles by screwdriver,as picture 1.
- 3.Remove the light cover,as picture 2.
- 4.Pry up the light from the buckles by screwdriver,as picture 3.
- 5.Unplug the terminal of the light,as picture 4.



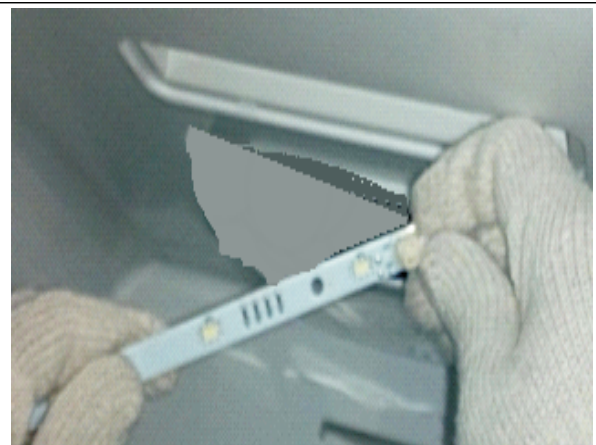
Picture 1



Picture 2



Picture 3



Picture 4

6.7 Door switch

6.7.1 Basic parameters

Load voltage:DC24V

Load current:0.05A

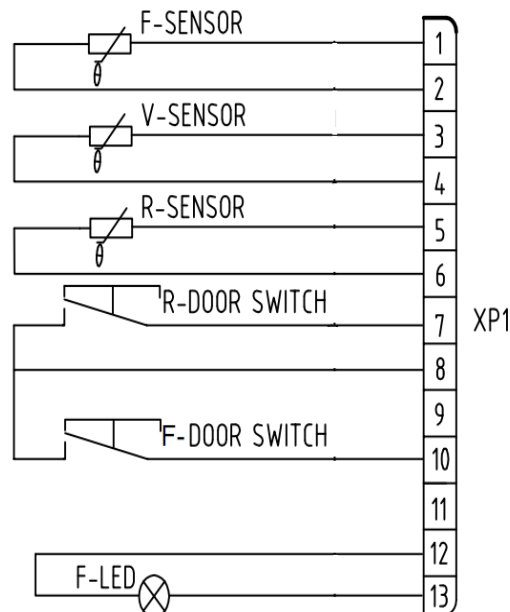
6.7.2 Checking method

1.Check the connecting wiring of door switch is well or not,repair if it is broken.Refrigerator door switch corresponding pin No.7 and No.8 on XP1 connector of mainboard,freezer door switch corresponding pin No.8 and No.10 ,as the drawing below.

2.Check the magnet on the 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.

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



6.8 Temperature fuse

6.8.1 Basic parameters

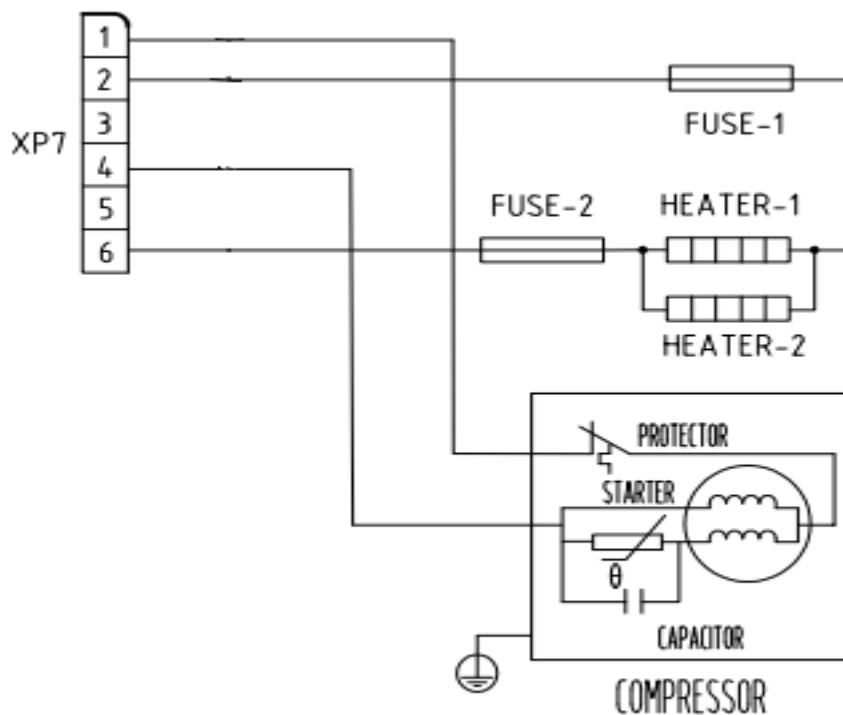
Max fusing-off temperature:72°C

Load voltage:250V

Load current:10A

6.8.2 Checking method

Use a multimeter to measure resistance between the two terminals of the fuse,if it is open circuit,change the fuse.

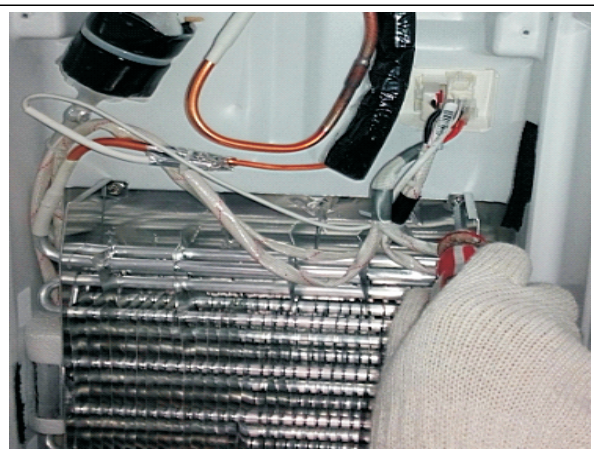


6.8.3 Removing the temperature fuse

- 1.After removing the freezer wind channel component,unplug the terminals,as picture 1.
- 2.Remove the screws of evaporator by screwdriver,as picture 2.
- 3.Separate the evaporator component from the cabinet and remove the foams at left side and right side,as picture 3.
- 4.Cut the self locking ties that fastening the temperature fuses by knife and then remove the fuses,as picture 4.



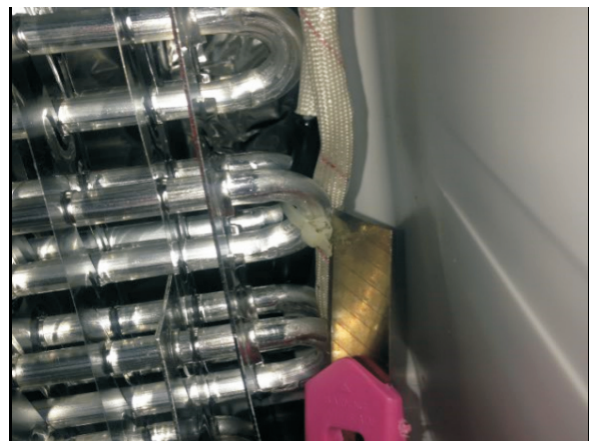
Picture 1



Picture 2



Picture 3



Picture 4

6.9 Defrost heater

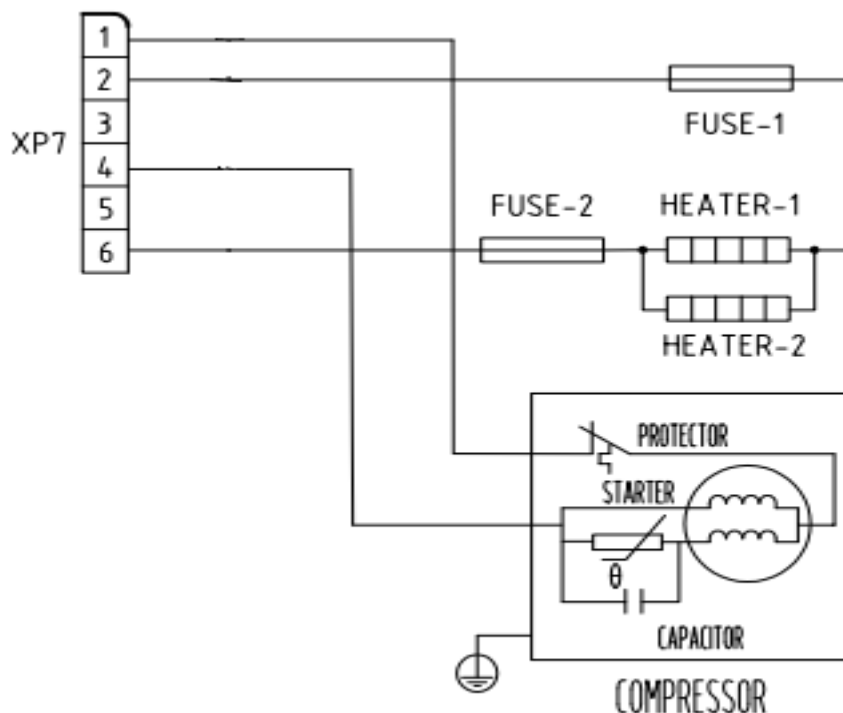
6.9.1 Basic parameters

Rated voltage:AC220V

Rated power:220W

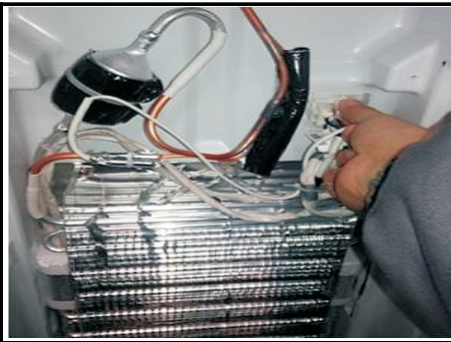
6.9.2 Checking method

- 1.Enter compulsory defrost mode,use a multimeter to measure the voltage between pin No.2 and No.6 on XP7 connector of the mainboard,if the voltage doesn't equal to electric supply power,it means the heater is broken,change it.
- 2.Check the fuse is well or not,refer to "6.8 Temperature fuse"chapter.
- 3.Use a multimeter to measure resistance of the heater,if the value isn't $220\ \Omega \pm 5\%$, it is broken,change the heater.

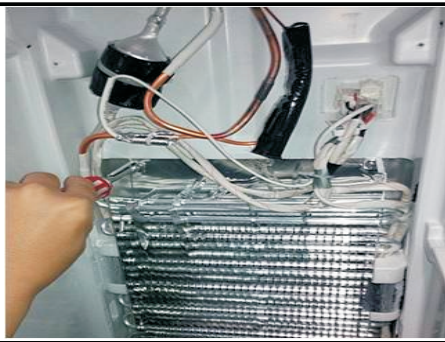


6.9.3 Removing the defrost heater

- 1.After removing the freezer wind channel component,unplug the terminals,as picture 1.
- 2.Remove the screws of evaporator by screwdriver,as picture 2.
- 3.Separate the evaporator component from the cabinet and remove the foams at left side and right side,as picture 3.
- 4.Cut the self locking ties that fastening the heater by knife,as picture 4.
- 5.Pry up the buckles that fastening the heater by screwdriver and then remove the heater,as picture 5.



Picture1



Picture2



Picture3



Picture4



Picture5

6.11.Door

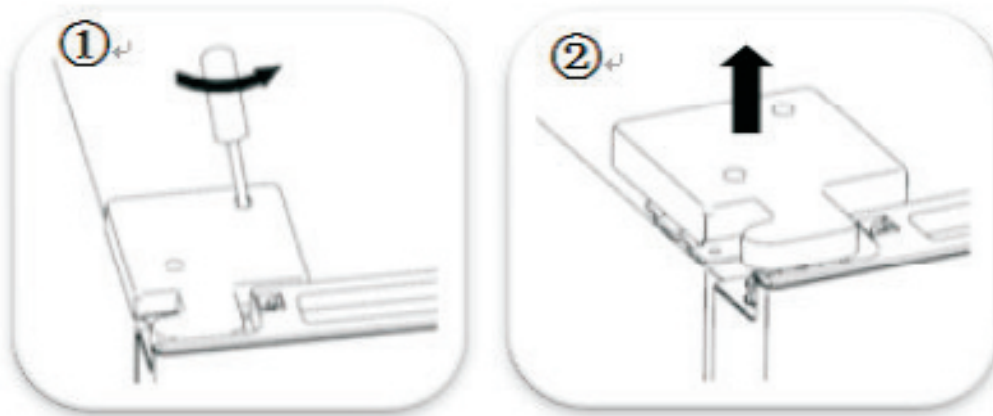
6.11.1 Sometimes if the refrigerator is too large to get through the entrance , you need to remove the doors following the steps below. To reassemble the doors back to the refrigerator, you could follow the steps in a reverse order.

First of all ,you need to remove the packaging.



1 2. Remove the upper hinge parts

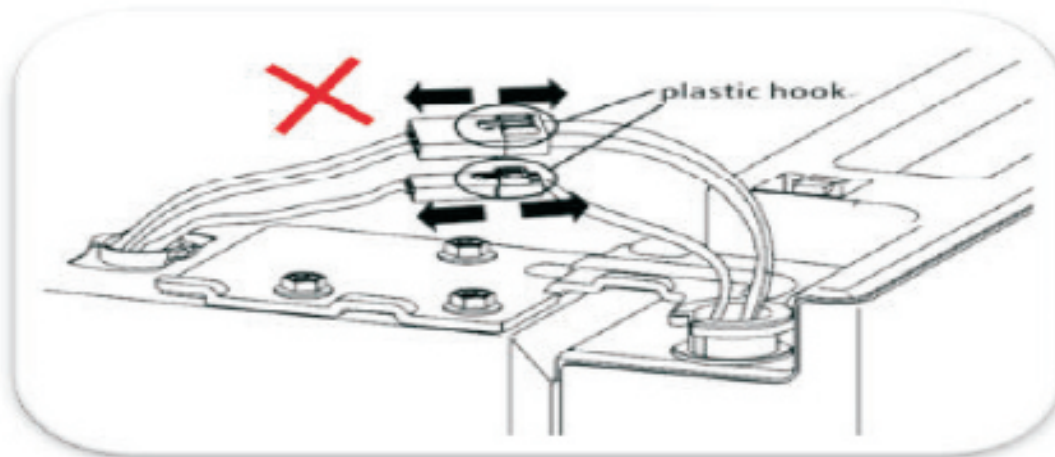
(1).Remove the cover screws using a Philips screwdriver, disconnect the electrical wire terminal on the cover (as below) ,then remove the hinge cover.



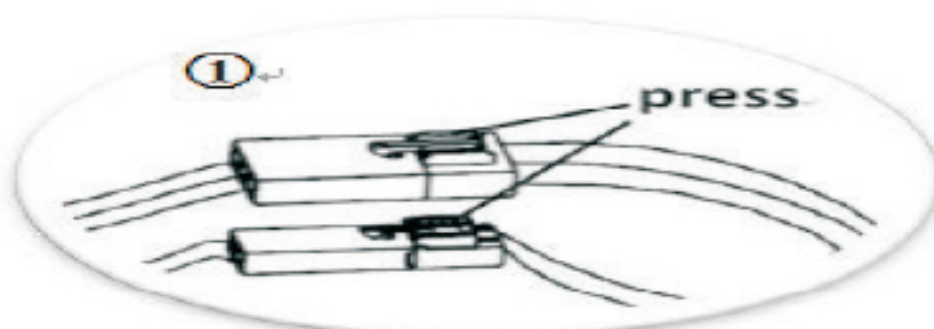
(2).Disconnect other electrical wire terminals

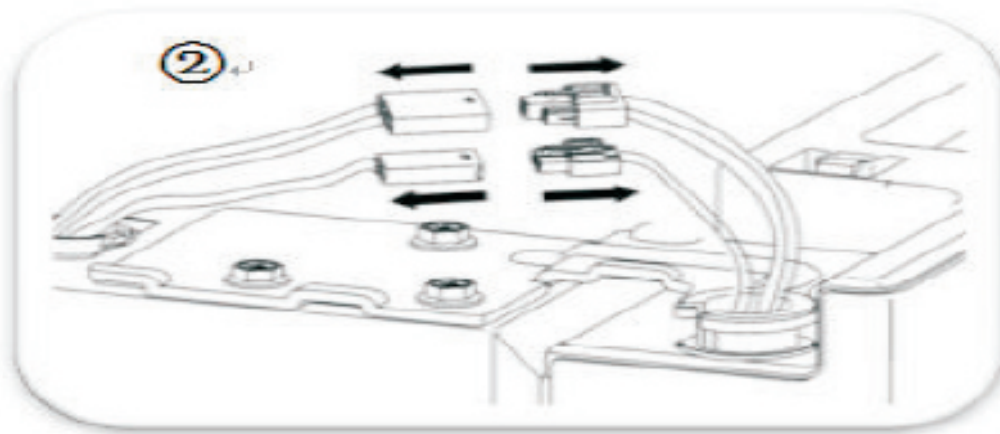
Caution:

Pulling the terminals out straightway without pressing the plastic hook is not allowed, it will damage the terminals.

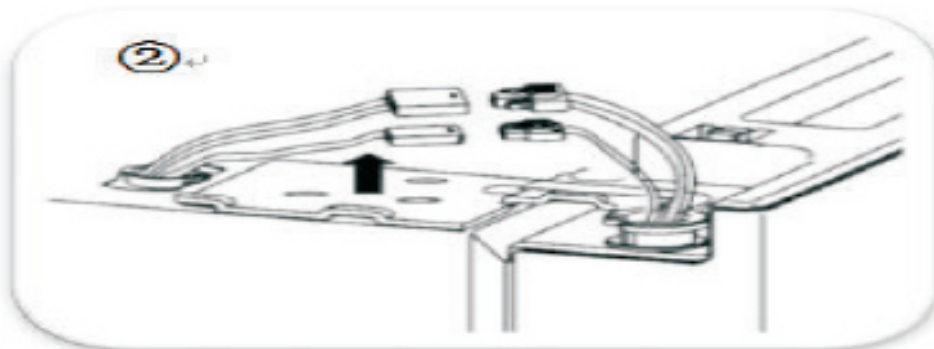


First, press the plastic hooks of the terminals holding one side of the terminal with one hand, at the same time , pull out the other side out.

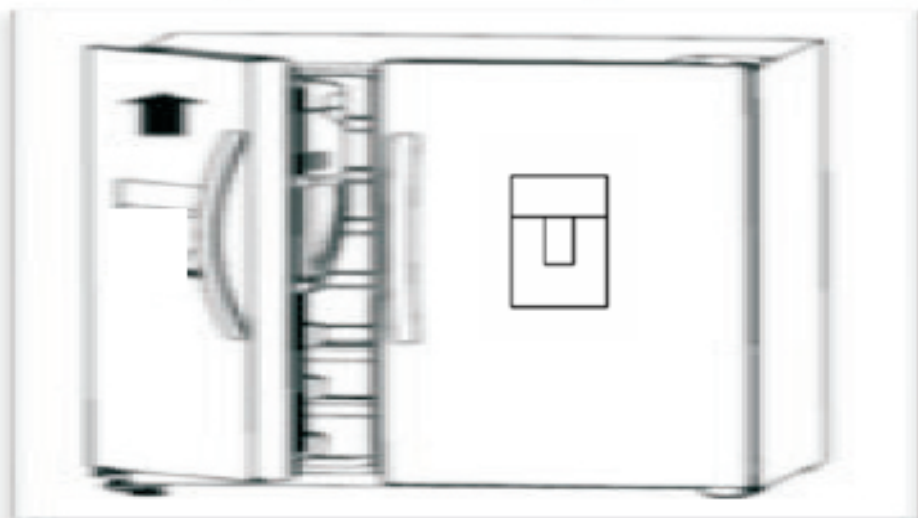




(3). Remove the hinge screws using a socket wrench, then remove the hinge

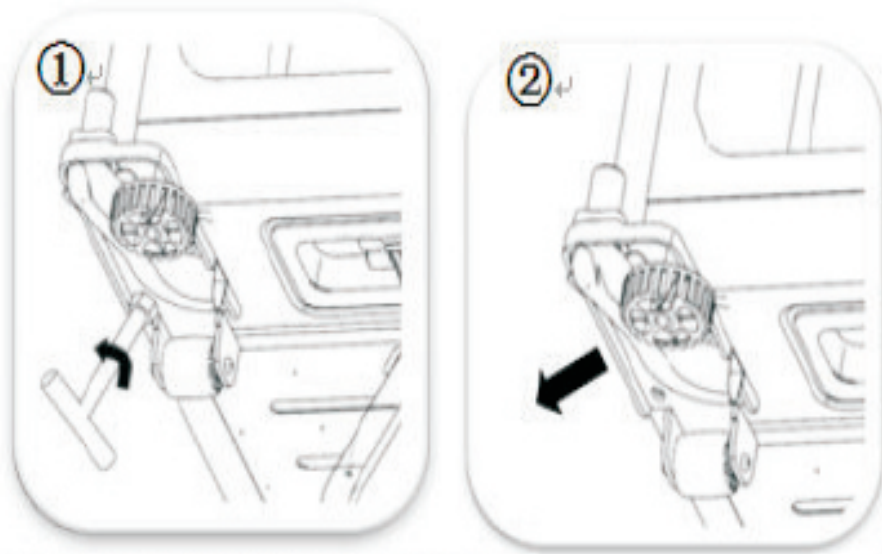


3. Uplift the freezer door from the refrigerator
Open the freezer door for a small angle, then uplift the door with your hands.
Be careful not to damage the tubes through the lower hinge.



4. Remove the lower hinge parts

Incline the refrigerator, remove the hinge screws using a socket wrench, then remove the hinge.



REMOVE THE REFRIGERATOR DOOR

The steps to remove the refrigerator door are similar to the freezer door without the step 1, since the refrigerator door has no tubes, and also much easier to be removed with less wire connectors. So you could just follow the steps above to remove the refrigerator door.

Caution:

It is not easy to remove/reassemble the doors without professional training and tools. Any wrong operation in the steps or causing damages for any part may lead to quality issues. Such as: no ice made, no water from water dispenser, water leakage, display error, other doors assembly issues, etc.

6.11.5 Removing the handles of the refrigerator

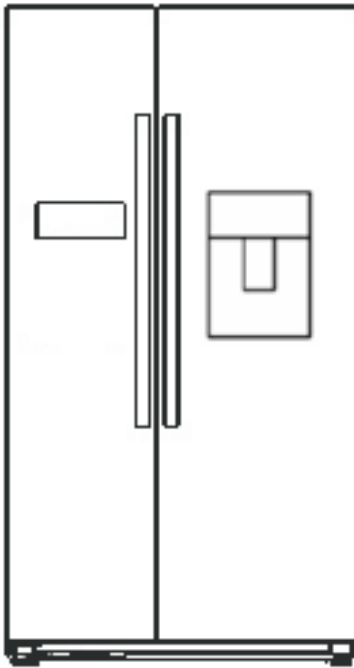
Follow the steps below, you can remove the handles easily.

Sometimes if the refrigerator is too large to pass through the entrance, this may do some help.

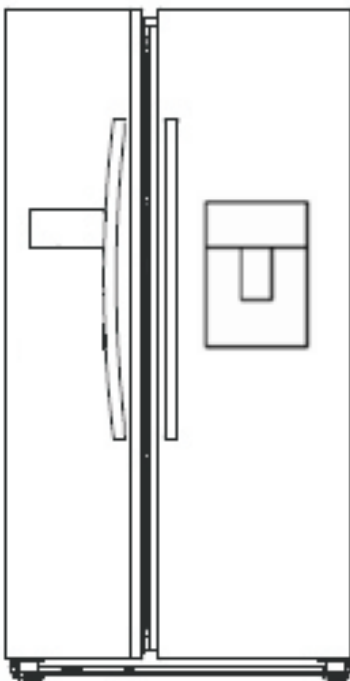
The steps just tell you how to remove the handle of the freezer door, the steps for another door is similar to it.

You can install the handles in the reverse order.

1. Remove the packaging

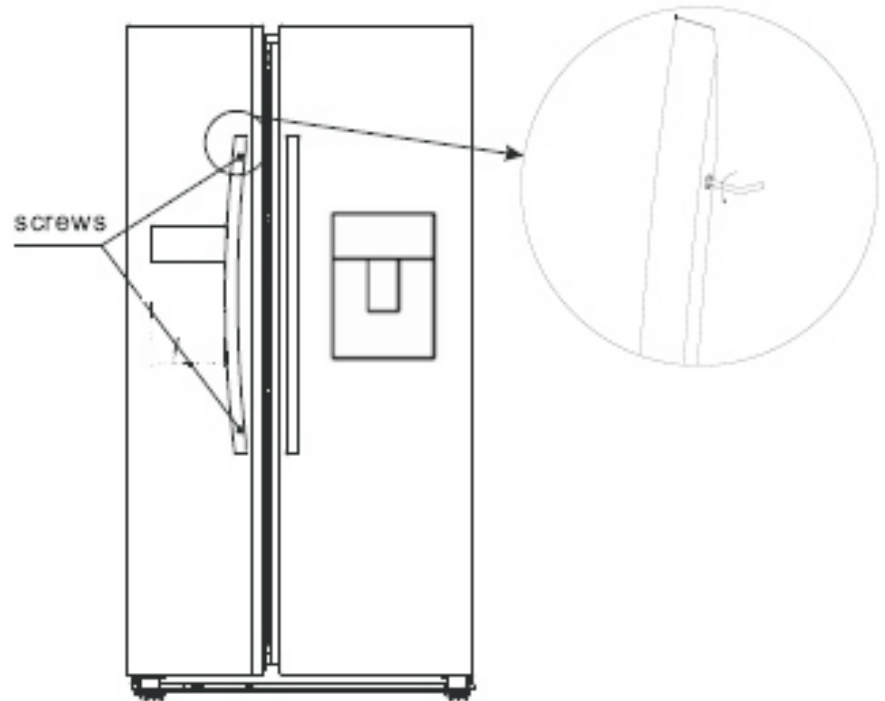


2. Open the freezer door

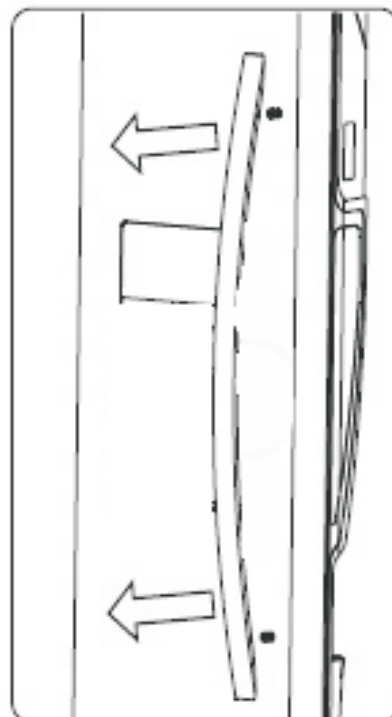


3. Remove the screws

Two hex socket screws are used to fix the handle, you need to remove the two screws one by one. You can loosen the screw like the picture below with a hexagon screwdriver in the anticlockwise direction.

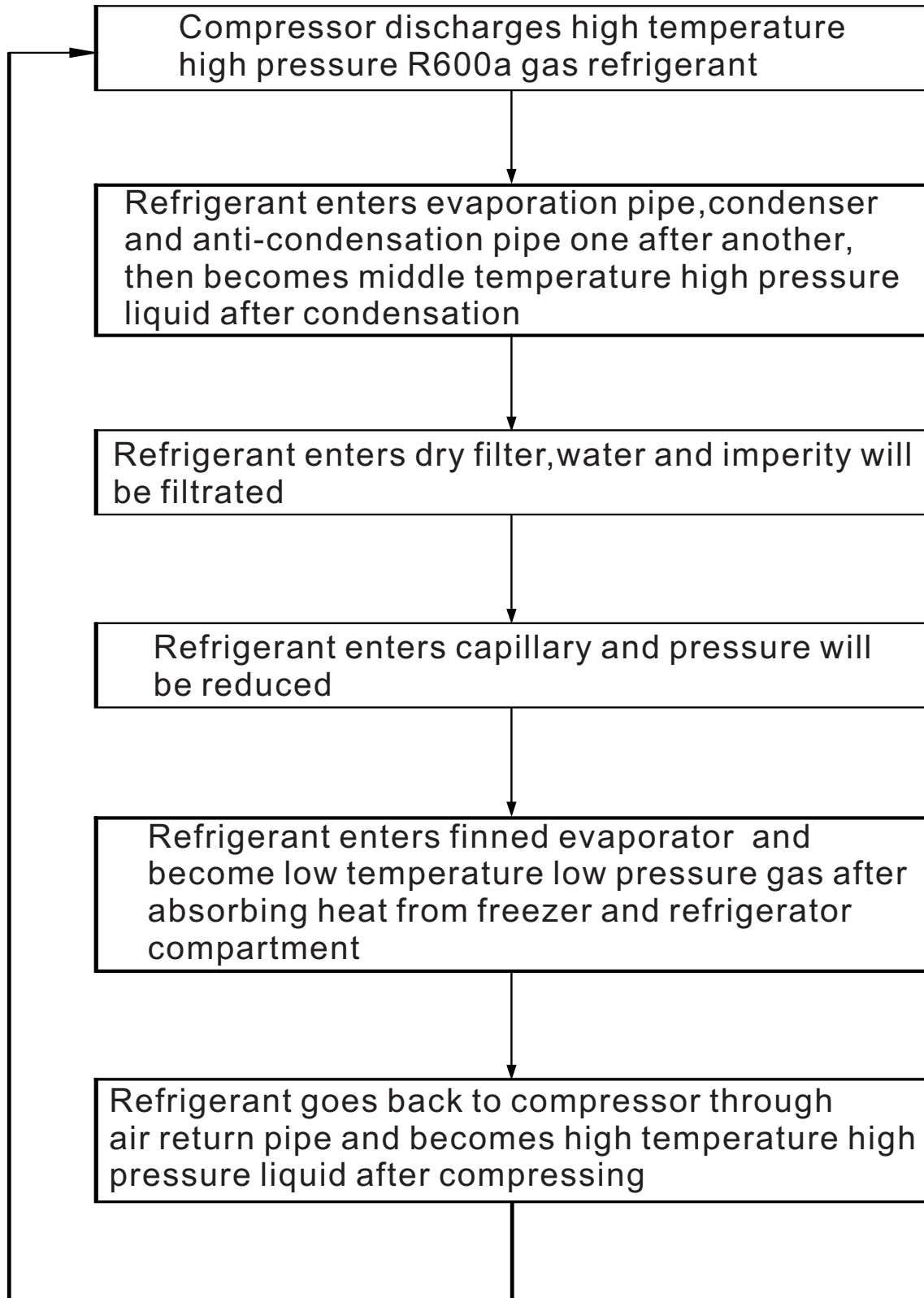


4. Remove the handle

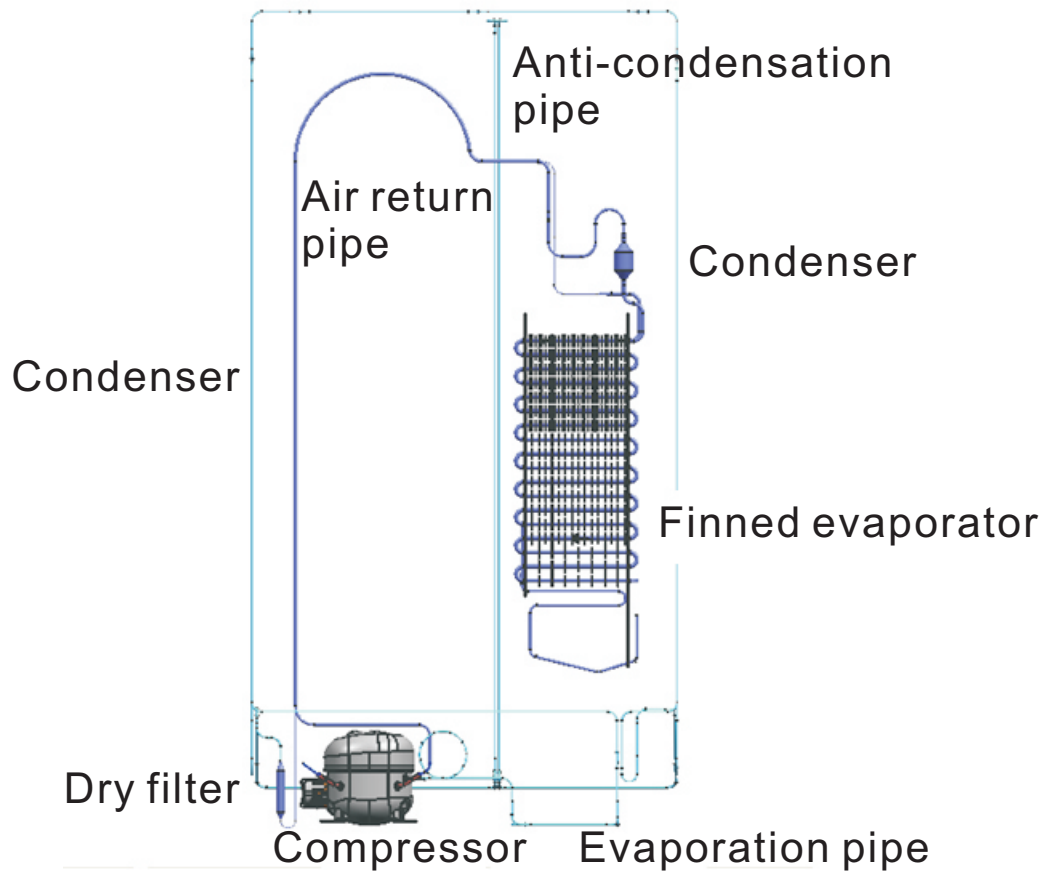


7.1 Refrigeration system

The refrigerator system is single cycle wind cooling system:



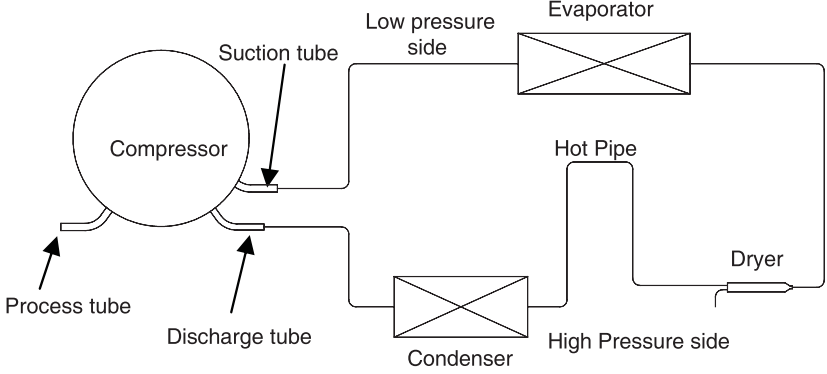
7.1 Refrigeration system



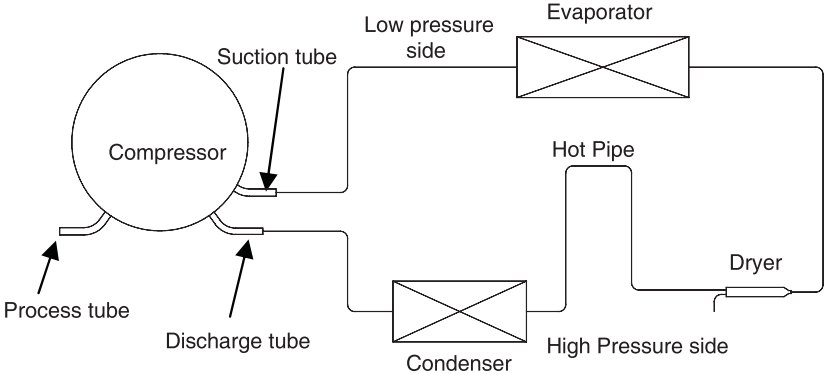
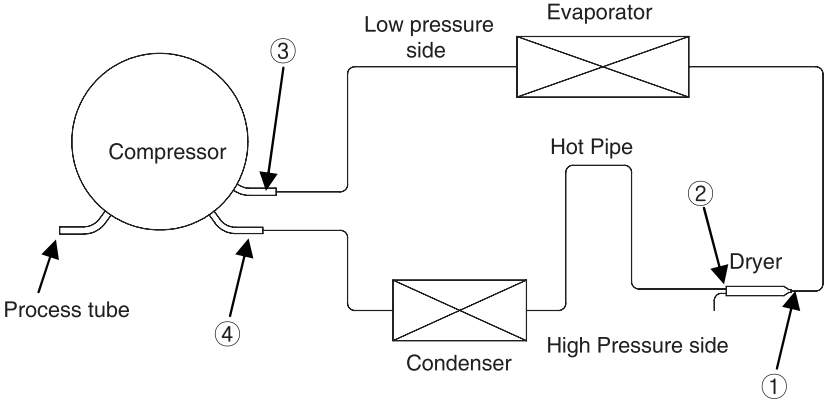
7.2 Summary of repair

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.)	

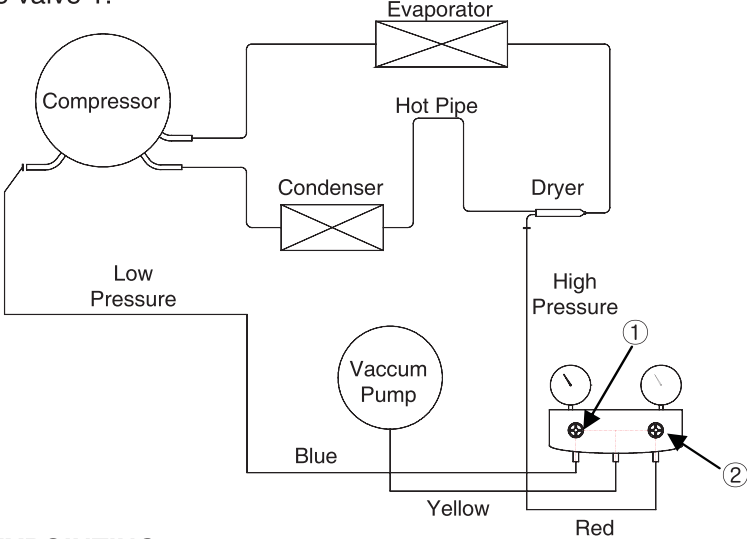
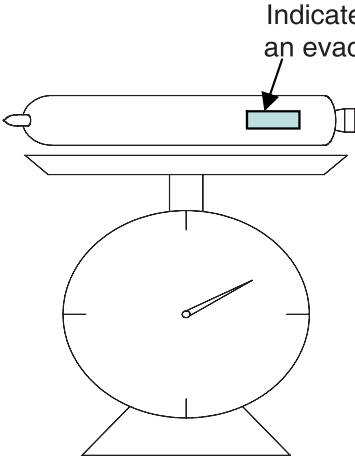
7.3 Regulation for repair

Items	Precautions
Use of tools.	1) Use special parts and tools for R-134a or R-600a
Removal of retained refrigerant.	<p>1) Remove retained refrigerant more than 5 minutes after turning off a refrigerator. (If not, oil will leak inside.)</p> <p>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.)</p>  <p>The diagram illustrates a refrigeration cycle. On the left is a circular compressor with three tubes: a 'Process tube' on the left, a 'Suction tube' on top, and a 'Discharge tube' on the bottom. The 'Suction tube' leads to the 'Low pressure side' of the cycle, which includes an 'Evaporator' (represented by a rectangle with an 'X' inside). From the evaporator, the pipe goes up and then right to a 'Hot Pipe' (a U-shaped section). From the hot pipe, it goes down to a 'Condenser' (another rectangle with an 'X' inside). From the condenser, the pipe goes left and then up to a 'Drier' (a small rectangle with a diagonal line). The drier is located on the 'High Pressure side' of the cycle, which then connects back to the compressor's discharge tube.</p>
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.	<p>1) Nitrogen only should be used when cleaning inside of cycle pipes inside and sealing.</p> <p>2) Check leakage with an electronic leakage tester.</p> <p>3) Be sure to use a pipe cutter when cutting pipes.</p> <p>4) Be careful not the water let intrude into the inside of the cycle.</p>

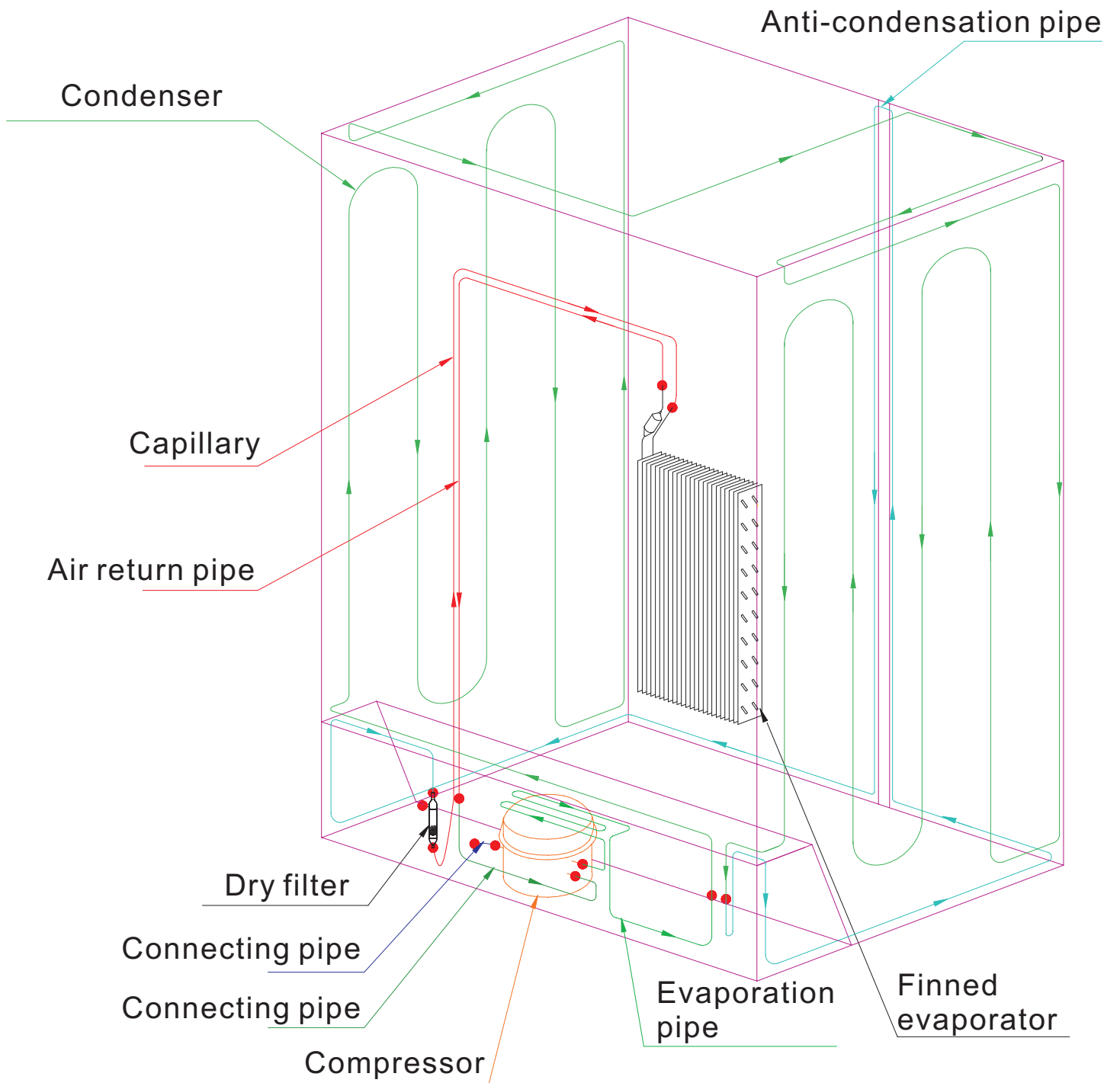
7.4 Practical work for repair

Items	Precautions
<p>1. Removal of residual refrigerant.</p>	<p>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.</p> 
<p>2. Nitrogen blowing welding.</p>	 <p>* 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.</p> <p>* 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.</p> <p>- KEYPOINTING Welding without nitrogen blowing produces oxidized scales inside a pipe, Which affect on performance and reliability of a product.</p>

7.4 Practical work for repair

Items	Precautions
3.Vacuum degassing.	<p>* Pipe Connection Connect a red hose to the high pressure side and a blue hose to the low pressure side.</p> <p>* Vacuum Sequence Open 1,2 valves and evacuate for 40 minutes. Close valve 1.</p>  <p>※ KEYPOINTING</p> <ol style="list-style-type: none"> 1) If power is applied during vacuum degassing, vacuum degassing shall be more effective. 2) Operate compressor while charging refrigerant. (It is easier and more certain to do like this.)
4.Refrigerant charging.	<p>* Charging sequence</p> <ol style="list-style-type: none"> 1) Check the amount of refrigerant supplied to each model after completing vacuum degassing. 2) Evacuate bombe with a vacuum pump. 3) Measure the amount of refrigerant charged. <ul style="list-style-type: none"> - Measure the weight of an evacuated bombe with an electronic scale. - Charge refrigerant into a bombe and measure the weight. Calculate the weight of refrigerant charged into the bombe by subtracting the weight of an evacuated bombe.  <p>- KEYPOINTING</p> <ol style="list-style-type: none"> 1) Be sure to charge the refrigerant at around 25C. 2) Be sure to keep -5g in the winter and +5g in summer. <p>Calculation of amount of refrigerant charged</p> <p>the amount of refrigerant charged = a weight after charging - a weight before charging (a weight of an evacuated cylinder)</p>

7.5 Brazing reference drawing



- Refrigerant flowing direction
- Welding points