			重 要 度	

名称 产品	冷藏冷冻箱
产品 型号	BCD-331WYER/HC4(E) BCD-331WYA/HC4(H)
出口 型号	RD-43WC4SAA/CV1-002 RD-43WC4SQE/CG2-001
立项 单编 号	（20）年出口冰开-099 （20）年出口冰开-186

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54张	BSSJ00001836
日 期	批准					

Hisense

Refrigerator

Service Manual

Model:BCD- 331W

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1 Warning and precautions for safety

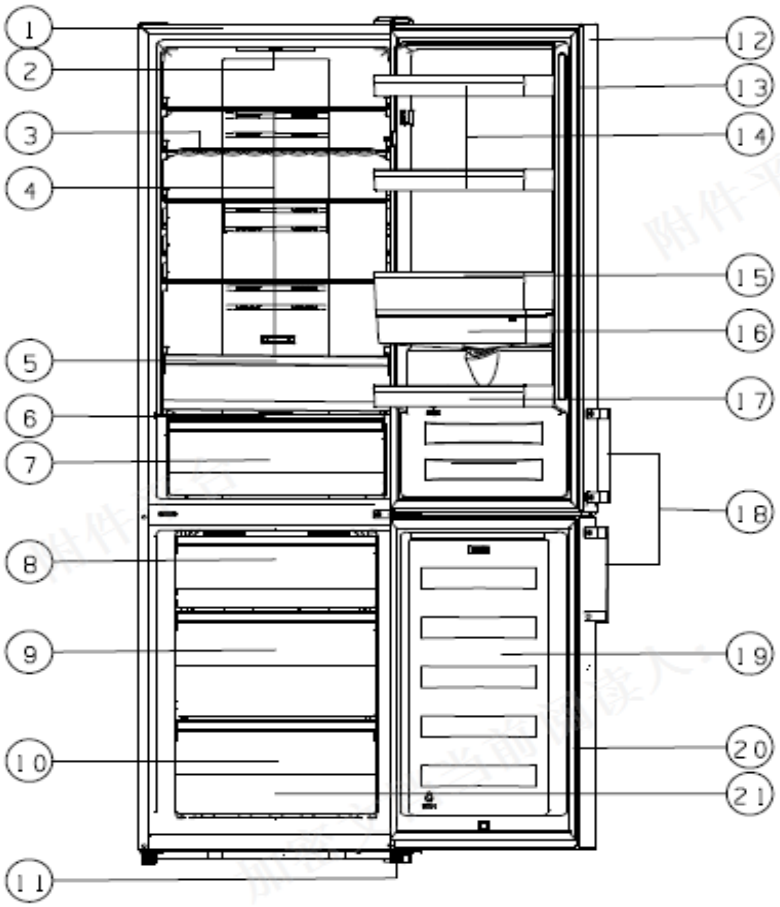
Please observe the following safety precautions in order to use safely and correctly the refrigerator and to prevent accident and danger during repair.

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 let the customers repair, disassemble and reconstruct the refrigerator for themselves.It may cause accident, electric shock, or fire.
11. Do not store flammable materials such as ether, benzene, alcohol, chemicals, gas, or medicine in the refrigerator.
12. Do not put flower vase, cup, cosmetics, chemicals, etc., or container with full of water on the top of the refrigerator.
13. Do not put glass bottles with full of water into the freezer.The contents shall freeze and break the glass bottles.
14. When you scrap the refrigerator, please disconnect the door gasket first and scrap it

2 Appearance and structure

2.1 View of the appliance

The view of an appliance with dispenser



1.Cabinet
2.LED light
3.Wine shelf(alternative)
4.Glass shelves
5.Upper crisper
6.Crisper cover
7.Lower Crisper
8.Upper drawer
9.Middle drawer
10.Lower drawer
11.Adjustable feet
12.Refrigerator door
13.Refrigerator door gasket
14.Upper rack(X2)
15.Middle rack
16.Water rack
17.Lower rack
18.Handle (optional)
19.Freezer door
20.Frezzer door gasket
21.Accessories

Note:

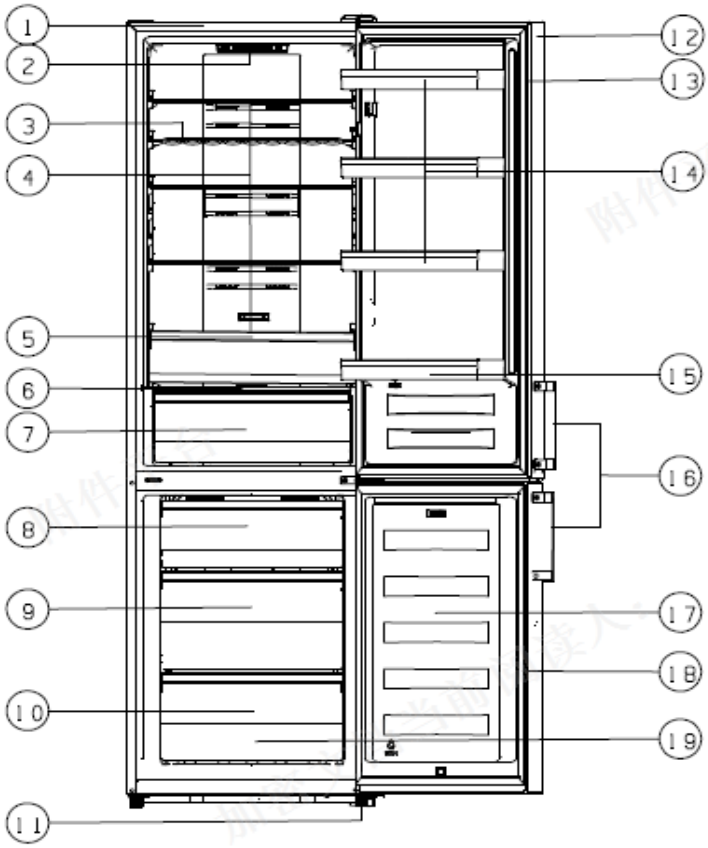
●Due to unceasing modification of our products,some parts of your refrigerator may be slightly different from this instruction manual,but its functions and using methods remain the same.

●To get more space in the freezer, you can remove drawers(except the bottom drawer in freezer!) .To get the best energy of this product, please place all shelves drawers on their original position as the illustration above.

2 Appearance and structure

2.1 View of the appliance

The view of an appliance without dispenser



1.Cabinet
2.LED light
3.Wine shelf(alternative)
4.Glass shelves
5.Upper crisper
6.Crisper cover
7.Lower Crisper
8.Upper drawer
9.Middle drawer
10.Lower drawer
11.Adjustable feet
12.Refrigerator door
13.Refrigerator door gasket
14.Upper rack(X3)
15.Middle rack
16.Handle (optional)
17.Freezer door
18.Freeze door gasket
19.Accessories

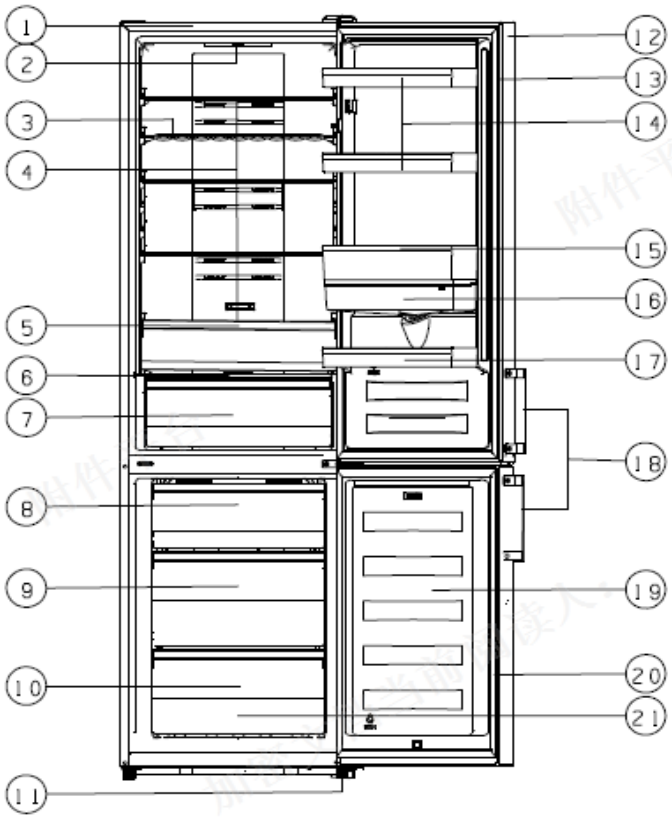
Note:

- Due to unceasing modification of our products,some parts of your refrigerator may be slightly different from this instruction manual,but its functions and using methods remain the same.
- To get more space in the freezer, you can remove drawers(except the bottom drawer in freezer!) .To get the best energy of this product, please place all shelves drawers on their original position as the illustration above.

2 Appearance and structure

2.1 View of the appliance

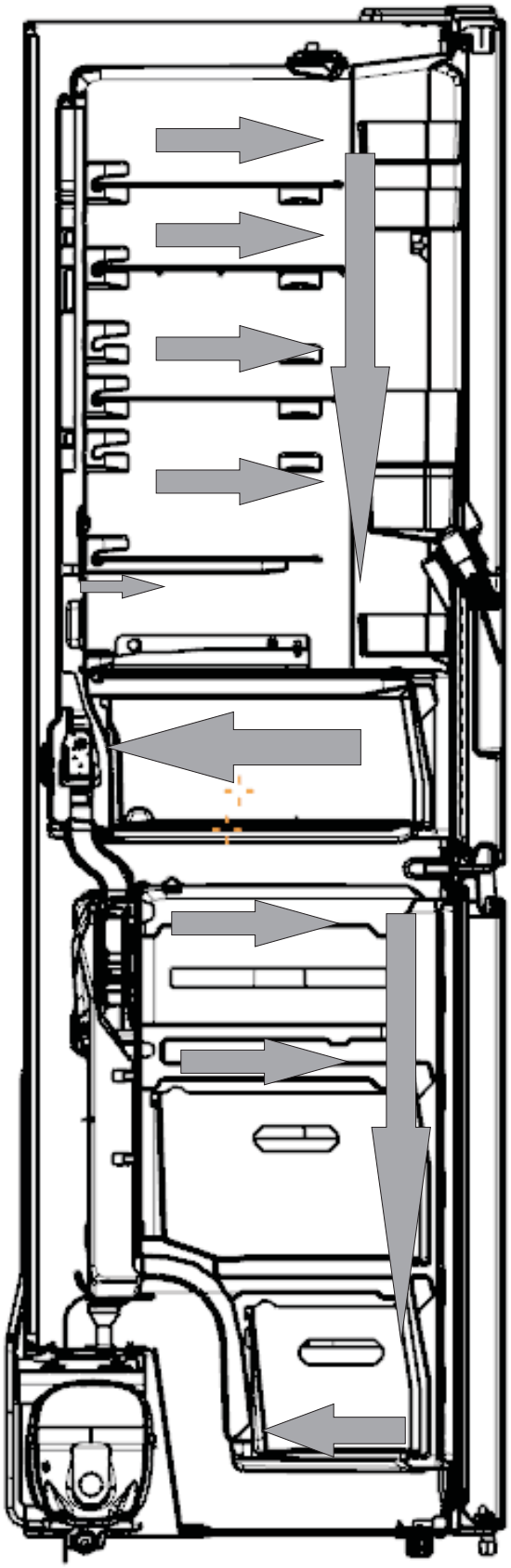
The view of an appliance with display on door



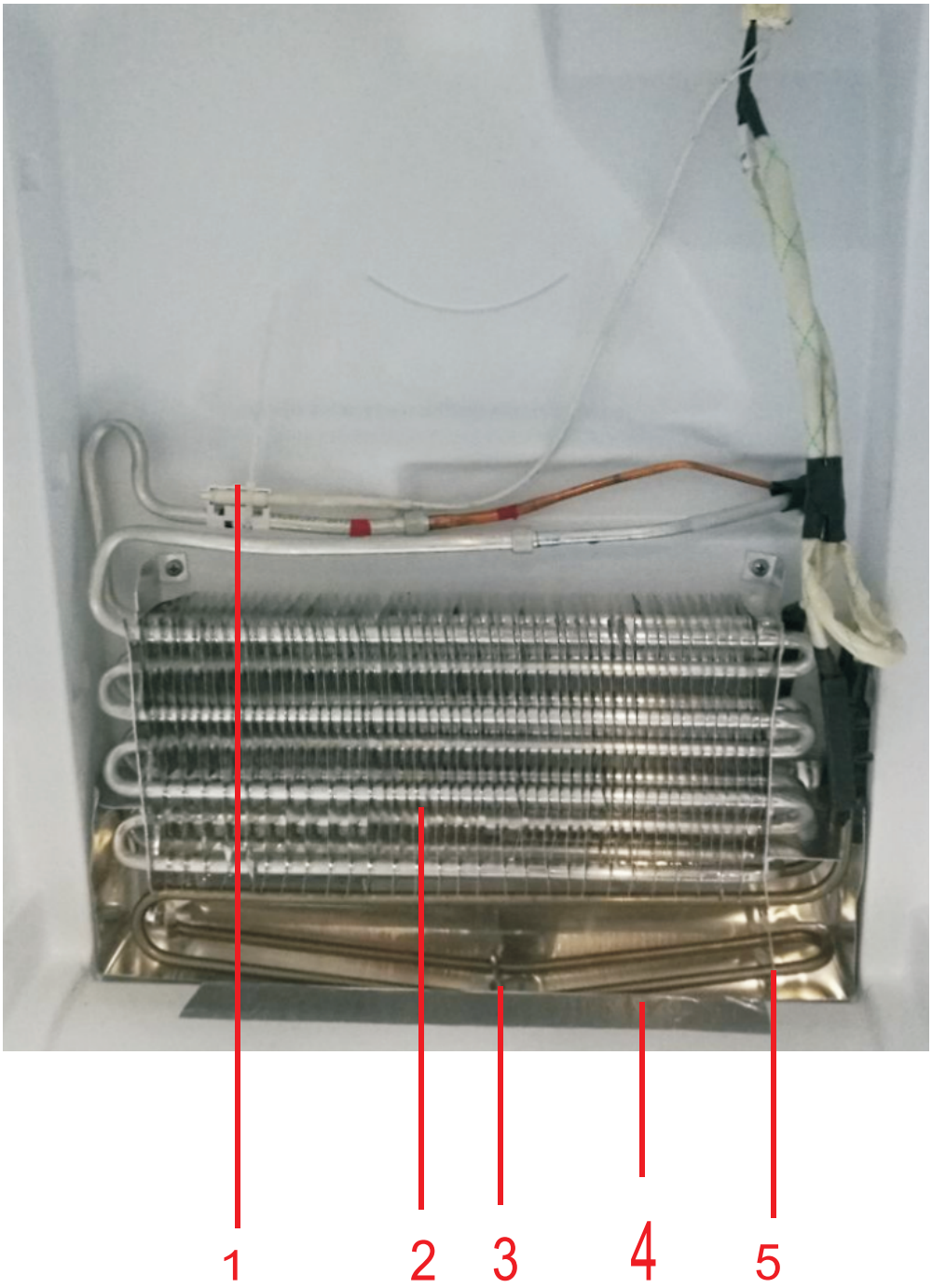
1.Cabinet
2.LED light
3.Wine shelf(alternative)
4.Glass shelves
5.Upper crisper
6.Crisper cover
7.Lower Crisper
8.Upper drawer
9.Middle drawer
10.Lower drawer
11.Adjustable feet
12.Refrigerator door
13.Refrigerator door gasket
14.Upper rack(X2)
15.Middle rack
16.Water rack
17.Lower rack
18.Handle (optional)
19.Freezer door
20.Frezzer door gasket
21.Accessories

Note:
●Due to unceasing modification of our products,some parts of your refrigerator may be slightly different from this instruction manual,but its functions and using methods remain the same.
●To get more space in the freezer, you can remove drawers(except lower freezer drawer), ice tray.

2.2 Wind channel structure

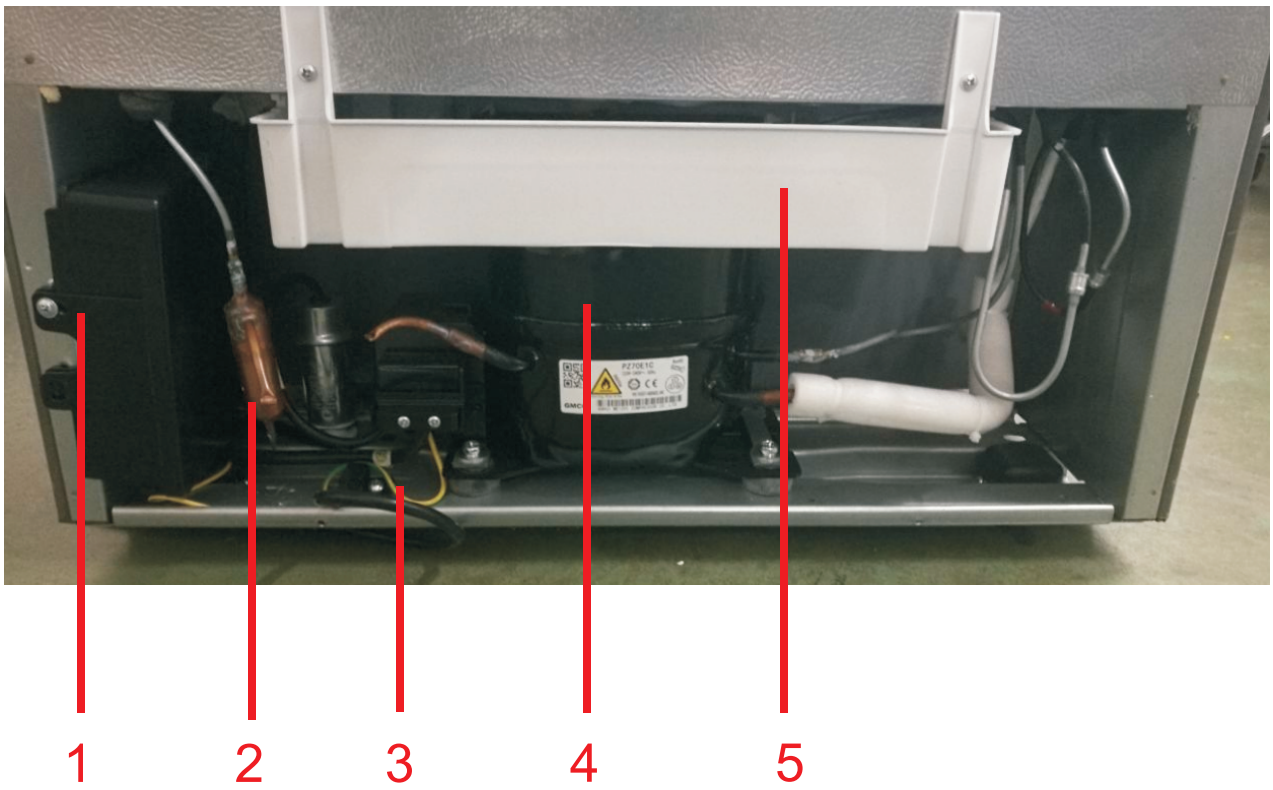


2.3 Evaporator structure



1.Defrosting sensitive heating head
2.Wing slice evaporator part
3.Defrost stick
4.Water drain
5.Tubular heater

2.4 Compressor room structure



1.Junction box
2.Dry filter
3.Power cord
4.Compressor
5.Evaporator dish

3 Basic parameters

BCD-331WYER/HC4(E)

Content	Unit	Value	Remark
Voltage / frequency	V/Hz	220- 240/50	
Rated input current	A	0.6	
Rated input power	W	100	
defrost power	W	150	
LED wattage	W	1.5	
Net capacity	L	336	
Net capacity fridge compartment (Fridge/C	L	238	
Net capacity freezer compartment	L	98	
Energy efficiency class		F	
Climate class(SN=10~32°, N=16~32°, ST=16~38°,T=16~43°)		SN~ST	
Freezer compartment star rating		4 Star	
Energy consumption / year	kWh/year	309	
Freezing capacity / 24 hours	kg/24 h	6	
Max noise level	dB(A)	39	
Max storage time by power failure Freeze	h	10	
Certifications		GS/CE	
Kind of coolant / Charge (R600a) / grammes	R / g	R600a/30g	

3 Basic parameters

BCD-331WYAR/HC4(E)

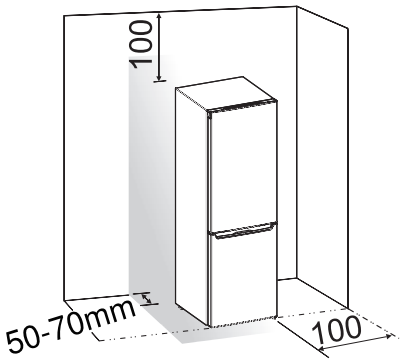
Content	Unit	Value	Remark
Voltage / frequency	V/Hz	220- 240/50	
Rated input current	A	0.6	
Rated input power	W	100	
defrost power	W	150	
LED wattage	W	1	
Net capacity	L	336	
Net capacity fridge compartment (Fridge/C	L	238	
Net capacity freezer compartment	L	98	
Energy efficiency class		E	
Climate class(SN=10~32°, N=16~32°, ST=16~38°,T=16~43°)		SN~ST	
Freezer compartment star rating		4 Star	
Energy consumption / year	kWh/year	248	
Freezing capacity / 24 hours	kg/24 h	6	
Max noise level	dB(A)	39	
Max storage time by power failure Freeze	h	10	
Certifications		GS/CE	
Kind of coolant / Charge (R600a) / grammes	R / g	R600a/30g	

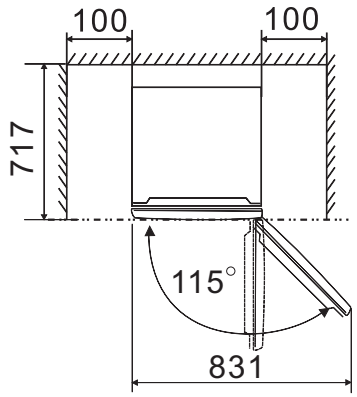
Before using the appliance for the first time, you should be informed of the following tips.

Ventilation of appliance

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

Suggest: It is advisable for there to be 50-70mm of space from the back to the wall, at least 100mm from its top, at least 100mm from its side to the wall and a clear space upfront to allow the doors to open 115°. As shown in follow diagrams.





Note:

●This appliance performs well within the climate class from SN to ST showed in the table below. It may not work properly if being left at a temperature above or below the indicated range for a long period.

Climate class	Ambient temperature
SN	+10°C to +32°C
N	+16°C to +32°C
ST	+16°C to +38°C

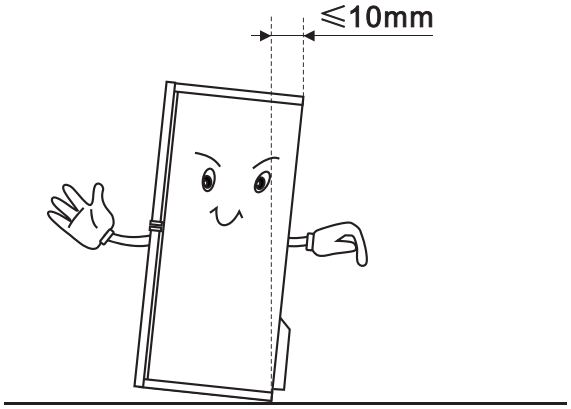
●Stand your appliance in a dry place to avoid high moisture.

●Keep the appliance out of direct sunlight, rain or frost. Stand the appliance away from heat sources such as stoves, fires or heaters.

Leveling of appliance

●For sufficient leveling and air circulating in the lower rear section of the appliance, the bottom feet may need to be adjusted. You can adjust them manually by hand or by using a suitable spanner.

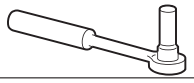
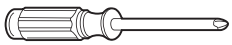
●To allow the doors to self-close, tilt the top backwards by about 10mm.



The side at which the door opens can be changed, from the right side (as supplied) to the left side, if the installation site requires.

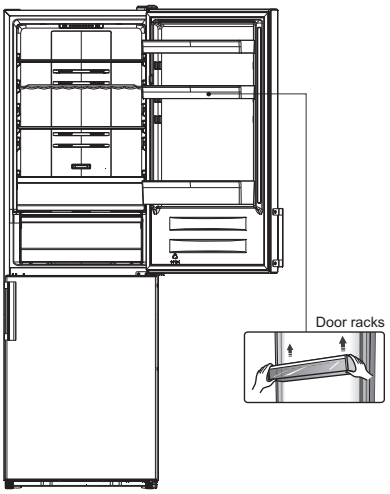
Warning! When reversing the door, the appliance must not be connected to the mains. Ensure that the plug is removed from the mains socket.

Tools you will need

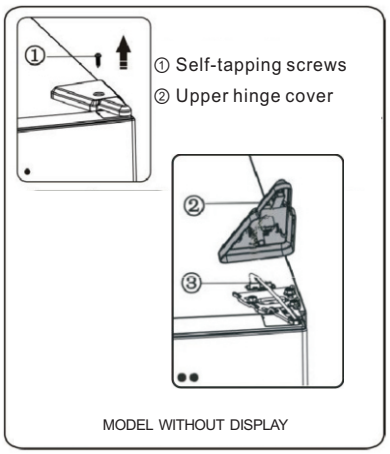
Not provided	
	
8mm socket wrench	Thin-blade screwdriver
	
Cross-shaped screwdriver	8mm wrench

●When required, tilt the refrigerator back in order to gain access to the base, you should rest the appliance on soft foam packaging or similar material to avoid damaging the backboard of the refrigerator. To reverse the door, the following steps are generally recommended. Different models may correspond to different pictures. Models will be written in the picture. If some parts are not shown in the picture, please ignore the relevant description.

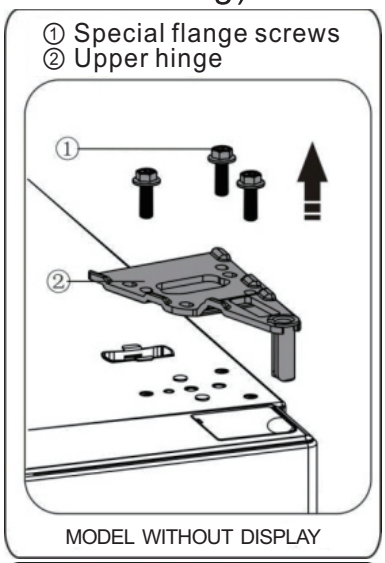
1. Stand the refrigerator upright. Open the upper door to take out all door racks (to avoid racks damaged) and then close the door.

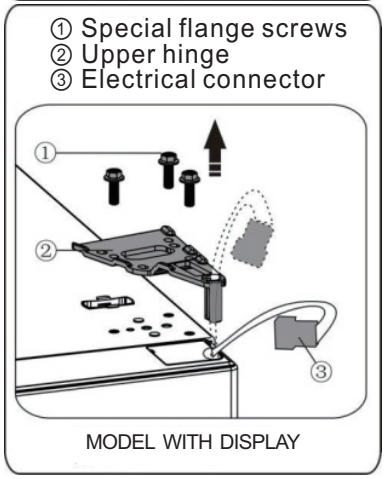


2.Remove part ①,loose part ② from the top right side of refrigerator.

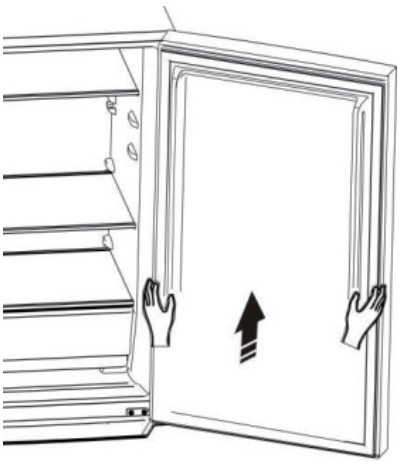


3.Remove screws ① and hinge ②.When the refrigerator with display on door, you need to pass connector ③ through the hole of hinge②.(Please hold upper door by hand when installing).





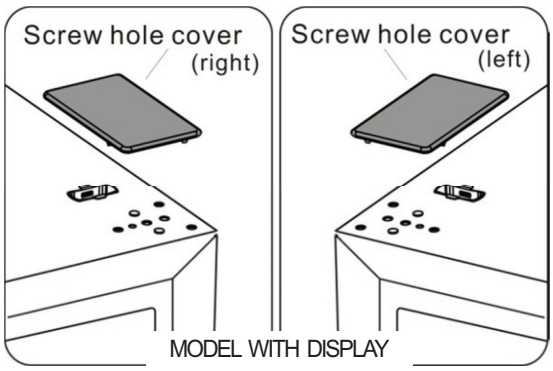
4. Remove the upper door from the middle hinge by carefully lifting the door straight up. Then place the upper door on a smooth surface with

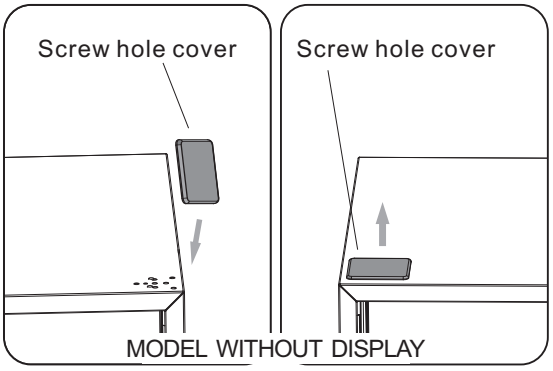


its upper cover upwards.

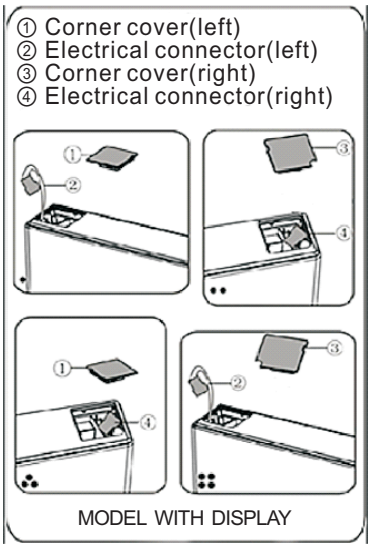
5.When the refrigerator with a display on door, take screw hole cover(right) from plastic bag and install it onto the top right side of refrigerator body.Then remove screw hole cover(left) from the top left side of appliance and put it into plastic bag.

When the refrigerator without a display on door, pull out screw hole cover from the left side up rightly,

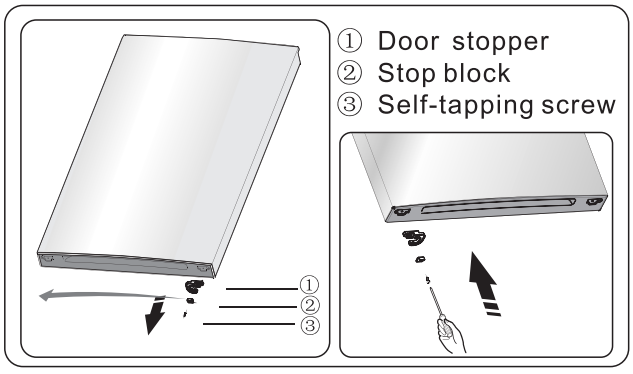




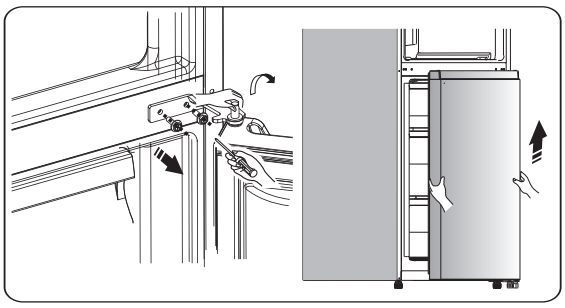
6.When the refrigerator with a display on door, remove part ① from the top left side of upper cover and take out part ② . Then remove part ③ and put part ④ into the top right side of upper cover. Refer to above operation, install part ③ and part ④ on to the top left side of upper cover.Install part ① of the top right side of upper cover. When the refrigerator without a display on door, skip this step.



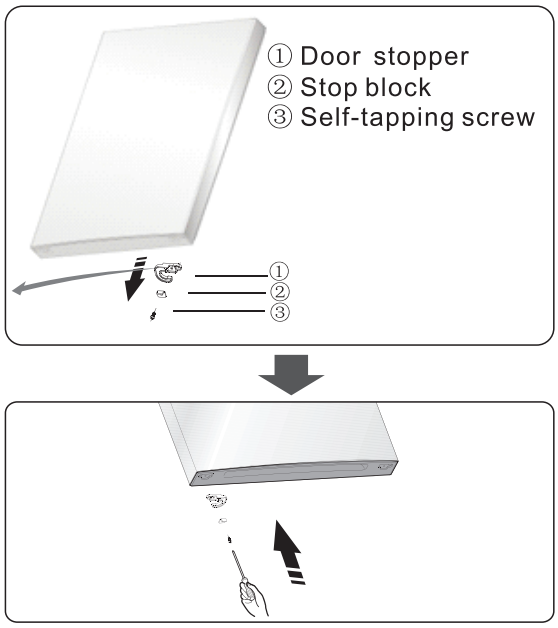
7. Loose screw ③ and take down part ② and part ①, Install replacement door stopper-left ④ provided (in the plastic bag) and part ② (stop block) to the left side with screw ③. Keep part ① with the appliance for future reference.



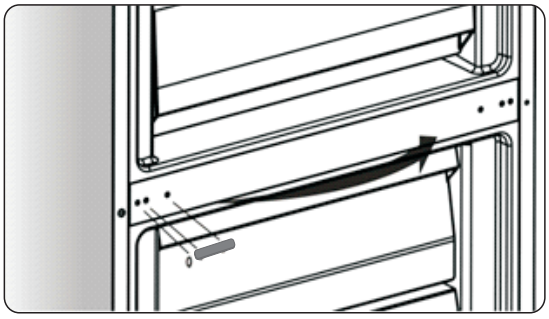
8. Loose screws used to fix the middle hinge and remove middle hinge. Then remove the lower door.



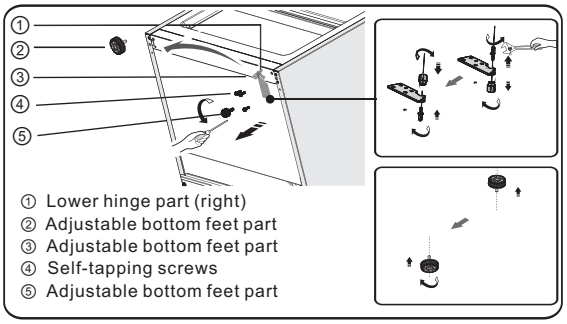
9. Place the lower door on a smooth surface with its panel upwards. Loose screw ③ and take down part ② and part ①, Install replacement door stopper-left ④ provided (in the plastic bag) and part ②(stop block) to the left side with screw ③. Keep part ① with the appliance for future reference.



10. Change screw hole covers on middle cover plate from left to right (as shown in figure below).

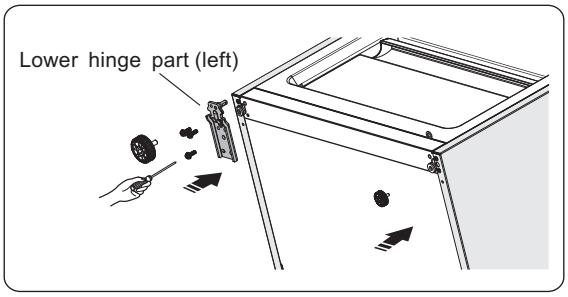


11. Tip the refrigerator backwards, remove part②.

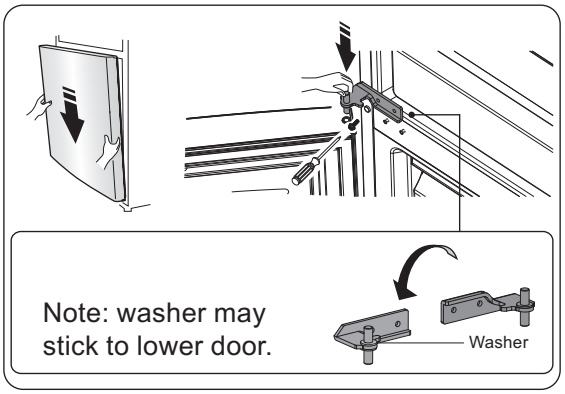


12. Remove part ③ from the lower hinge pin, loose out the lower hinge pin, change it to the reverse hole site, and then tighten into position, then install part ③ on the lower hinge pin.

13. Replace the items remount in step 11, change part ① to left ,and then fix them with screws ④. Install part ② at last.

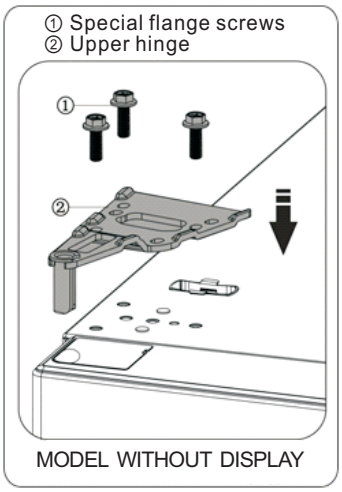


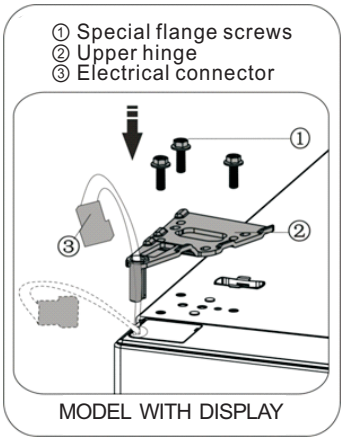
14. Slot the lower door onto the bottom hinge pin and hold in position. Turn the middle hinge by 180°, change the washer on the axis to the lower side, adjust the middle hinge to the appropriate position and then install it ensuring the lower door in secured place.



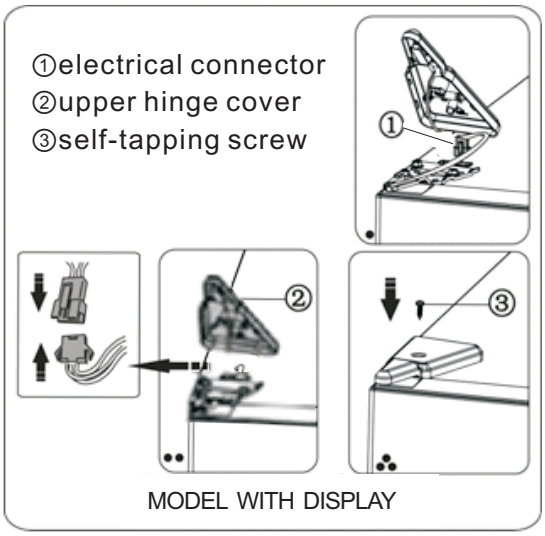
15. Move the upper door to an appropriate position, and then fix

part② by screws①.Before fix part②, pass connector ③ through hinge ② refer to step 3. (Please hold upper door by hand when installing)





16. Connect electrical connector① as shown in the picture, then fix part ② by screw ③ refer to step 2.

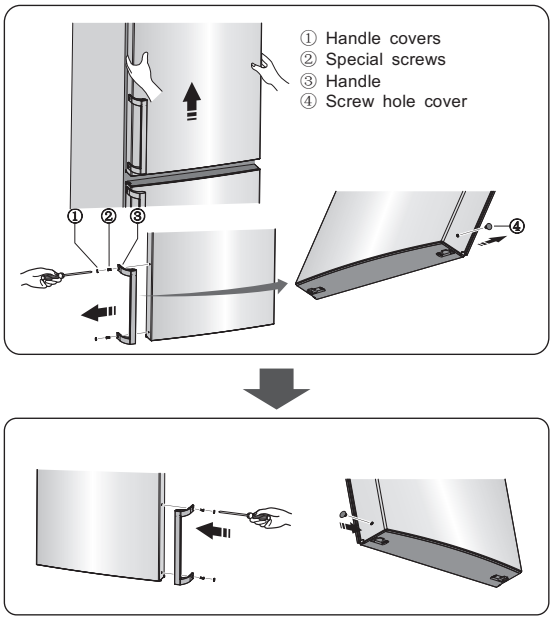


17. Open the upper door, mount door racks and then close it.

Note:

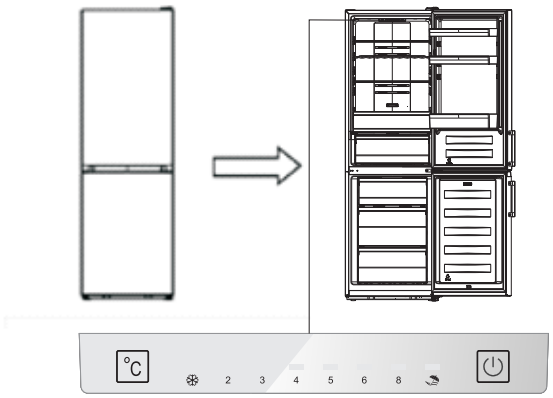
If your appliance has handle,you have to reverse handle by follow instructions below.

Remove the upper door and place it on a smooth surface with its panel upwards. Lever part ① and part ④, then loose screws ②, as shown in the picture. Change handle ③ to the right side, then install screws ②, part ① and part ④ in turn.



Display panel inside door

User your appliance according to the following control regulations, your appliance has the corresponding functions and modes as the display panels showed in the pictures below. When the appliance is powered on for the first time, the backlighting of the icons on display panel starts working. If no buttons have been pressed and the doors are closed, the backlighting will turn off.



Display panel inside door

Controlling the temperature

We recommend that when you start your refrigerator for the first time, the temperature for the refrigerator is set to 4°C. If you want to change the temperature, follow the instructions below.

Caution!

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

Fridge

●Press "℃" to set fridge temperature between 2°C and 8°C as needed, and display panel will display corresponding values according to the following sequence.

Note: When the"☂" is lighted, the holiday mode is activated. Check the Holiday mode instruction.

8°C — 6°C — 5°C
2°C — 3°C — 4°C

Super Freeze(❄)

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.

●You can press "℃"for 3 sec to get into super freeze mode.

●When Super freeze Mode is selected, the light will be illuminated and the freezer temperature will be set at -24°C.

●In case of the maximum amount of food to be frozen, please wait about 24 h.

●Super freeze automatically switches off after 52 hours and then the freezer temperature setting will revert back to the previous setting.

Holiday (☂)

If you are going to be away for a long period of time, press "℃",you can activate this function.

●When Holiday Mode is activated, the light will be illuminated. The freezer temperature will be set at -18°C and the fridge temperature will be set at 15°C.

Important!Do not store any food in the fridge during this time.

3.Switch(⏻)(display panel inside door)

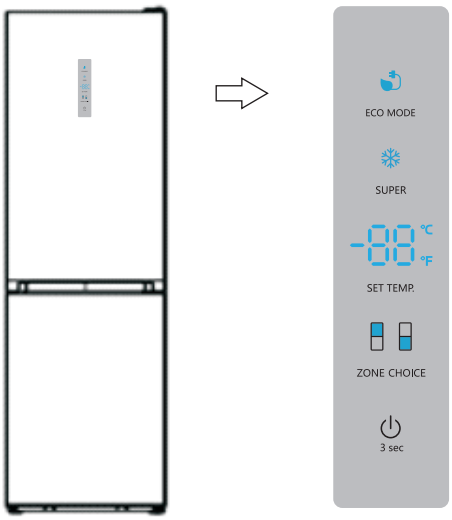
You can switch on or switch off your

appliance by press this button.

●Press “Switch” for 3 seconds, after a buzzer sound, the appliance will be turned off.

●Press “Switch” for 1 second, after a buzzer sound, the appliance will be turned on.

Display panel on door



Display panel on door

The temperature can be changed between °C and °F by pressing "SET TEMP." for 3 seconds.

Controlling the temperature

We recommend that when you start your refrigerator for the first time, the temperature for the refrigerator is set to 4°C. If you want to change the temperature, follow the instructions below.

Caution!

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

Fridge

●Press "ZONE CHOICE", the " " light will turn on. Then press "SET TEMP.", you can set fridge temperature between 2°C and 8°C as needed, and display panel will display corresponding values according

8°C — 7°C — 6°C — 5°C
2°C — 3°C — 4°C

to the following sequence.

Freezer

Press "ZONE CHOICE", when the " " light turns on. Then press "SET TEMP.", you can set freezer temperature between -14°C and -24°C as needed, and the display panel will display corresponding value according to the following

-18°C — -19°C — -20°C — -21°C — -22°C — -23°C
-17°C — -16°C — -15°C — -14°C — -24°C

sequence.

Super Freeze(❄)

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.

●You can press "SUPER" to get into super freezer mode.

●Whensuper freeze Mode is selected, the light will be illuminated and the freezer temperature will be set at -24°C.

●In case of the maximum amount of food to be frozen, please wait about 24 h.

●Super freeze automatically switches off after 52 hours and then the freezer temperature setting will revert back to the previous setting.

Eco energy

This function makes the freezer work in a power saving mode which is useful for reducing energy consumption when you are away.

●You can press "ECO MODE" to get into economic energy mode.

●When economic energy Mode is C and

activated, the light will be illuminated. The freezer temperature will be set at -17°C and the fridge temperature will be set at 6°C.

Switch

You can switch on or switch off your appliance by press this button.

●Press "⏻ "for 3 seconds, after a buzzer sound, meanwhile the digital light will show "OF", the appliance will be turned off.

●Press "Switch" for 3 seconds, after a buzzer sound,the appliance will be turned on.

Alarm

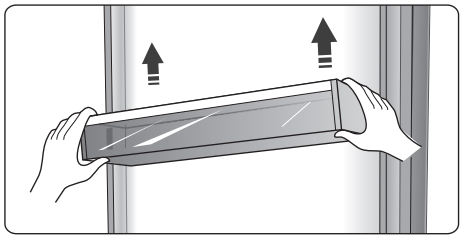
●When the door of fridge has been opened for over 2 minutes, the door alarm will sound. In case of door alarm, buzzer will sound 3 times every 1 minute and will stop alarming automatically after 8 minutes.

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

Your appliance is supplied with a number of accessories and this section describes how best to use them.

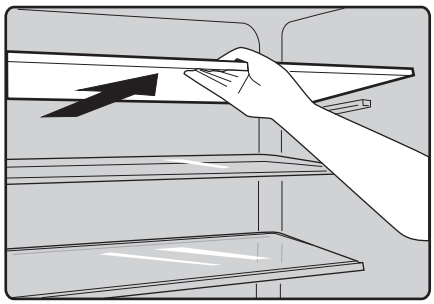
Door rack

●It is suitable for the storage of eggs, canned liquid, bottled drinks and packed food, etc. Do not place too many heavy things in the racks.



Shelf in Refrigerator chamber

●There are three shelves in refrigerator chamber, and they can be taken out to be cleaned.

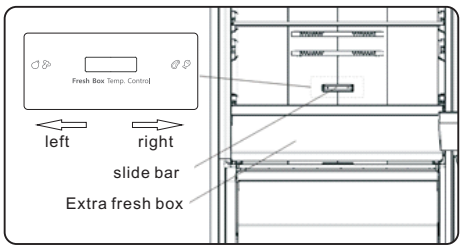


Extra fresh box(optional)

●In certain model, there will be an extra fresh box(drawer). In this drawer you can get a lower temperature to store fish, meat and other erodible food temporarily. Normally it will be about 2°C lower than the other part of the fresh compartment. You can move the slide bar to set the temperature. There are some recommendations in the below table which you can consult.

fridge temp. set	slide bar	food	storage period
2°C	right most	fish&meat	<3 days
5°C	right most	fruit	<2 weeks
8°C	right most	vegetables	<5 days

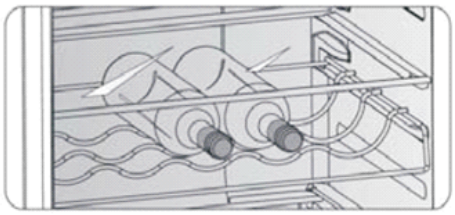
Note: Due to the environment temperature and setting temperature both influence the temperature of extra fresh box(drawer), the actual temperature may change in a certain range. The temperature of this drawer may lower than zero, so it is normal that



liquid in this drawer was frozen.

Flexible wine rack

●It is for storing bottled wine or drinks,



and it can be taken out to clean.

Crisper cover

●It is for controlling the temperature of the crisper and avoiding the vegetable losing moisture.

●You can adjust the slide bar on the crisper cover to keep different humidity in the crisper.Push the slide bar to the left, you will keep a higher humidity which can storage vegetable and fruit long and

fresh,to the right will be lower humidity.

Fruit and vegetable crisper

●It is suitable for the storage of fruits and vegetable.

Freezer Drawer

●It is used to store food which needs to be frozen, including meat, fish, ice cream, etc.

Ice cube tray

●It is used to make ice cubes. To make ice cubes, please fill water into the ice cube trays and the water level shall not exceed the top line(ideally eighty percent of the ice tray volume). Place the tray into the freezer drawer and wait at least two hours for the ice cubes to be formed. After the cubes are formed, gently twist the tray to

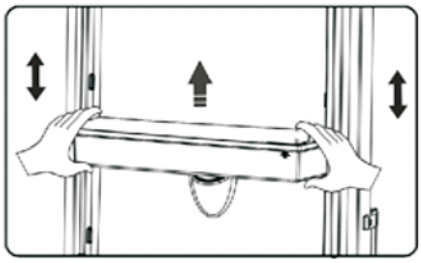
separate the cubes and trays.

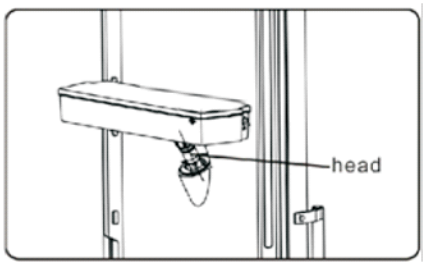
Water Dispenser

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

Before using this appliance for the first time, you should use it as



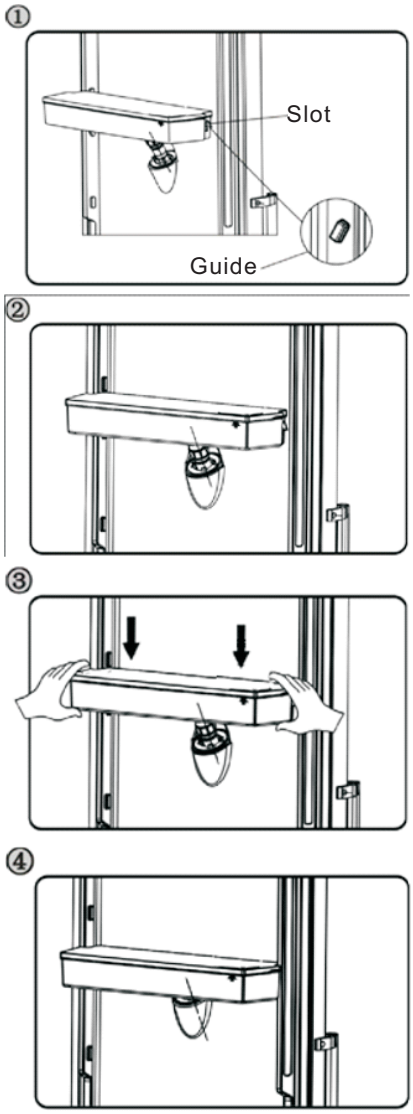


1. Take out the middle rack.
2. Hold the two sides of the water tank tightly, then pull up the water tank by shaking up and down.
3. Unscrew the head, then clean it and the inside of water tank.

●Assembling

Before assembling, please drain the water inside the tank , and check whether the washer reversed or not.

1.Insert the head into the hole.
2.Fit the tank along the guides on the door.
3.Press down two side of the tank.
4.When you hear a click sound, that



means the installation is completed.

Warning!

1.Be careful not to press on the head;
2.When fitting the water tank, ensure the head inserted into the

hole first.

●Filling water

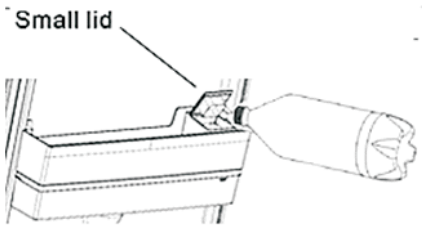
Before you fill the drinking water into the water tank, ensure that the water tank is steady and in a correct position.

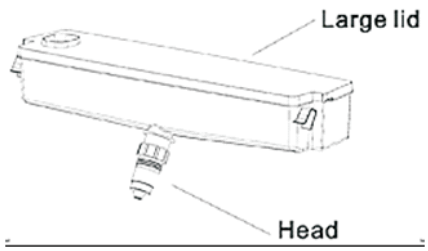
Caution!

Fill with water up to 3L(which is suggested), and not above the level. Otherwise, it may overflow when the lid is close.

1.We recommend that you fill the water by the following way.

2.Open the small lid by rotating it, and fill water from the inlet of the large lid. Please remember rotate the small lid back to it's original position when finish filling water.





Warning!

Don't touch 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.

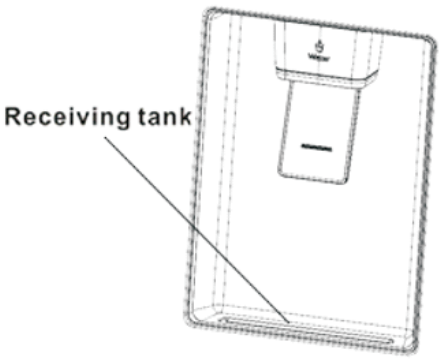
2.Close the fridge door and check the dispenser.

Receiving Water

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

Warning!

Don't push the dispenser lever forward without cup, it may cause



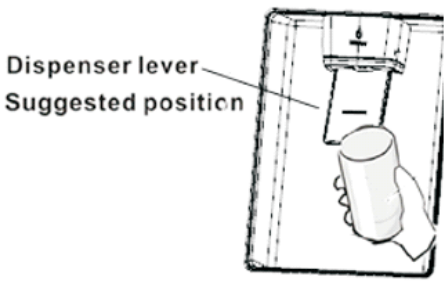
the water leak from the dispenser.

●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 by natural drying or using the dryer.

3.If you have used the water dispenser for many times, the water in the receiving tank may drop on the floor, which may make your floor wet, and you should clean the tank with dry towel regularly before



4.3 Defrost mode

4.3.1 Automatic Defrosting Mode

The condition of coming into the automatic defrosting mode:
Except the “Supper Freezer” mode, the unit can come into the Automatic Defrosting Mode on each of the following conditions:

- The evaporator temperature is between -2℃ to 3℃ when on power.
- After refrigerators powered on for the first time, the evaporator temperature is lower than -2℃, and cumulative compressor run time is longer than or equal to 200 minutes
- When refrigerators powered on for the first time, the evaporator temperature is higher than 3℃, and cumulative compressor run time is zero clearing.
- The cumulative compressor run time is longer than or equal to 18 hours In the “Supper Freezer” mode, and no defrosting during this process.
- The cumulative compressor run time is greater than or equal to 300 minutes with defrosting failure.
- After refrigerators powered on, and cumulative compressor run time is greater than or equal to 240 minutes
- From the previous defrost time ⩾ 96 hour

4.3.2 The condition of exiting the automatic defrosting mode:

- The unit will exit defrosting process, if the heater power is on more than 90 seconds, meanwhile the temperature of evaporator is above 7℃.
- The unit will exit defrosting process, when the heater is power on more than 60 minutes.

Note: Freezer defrost heater working, other load does not work(LED light can work as usual)

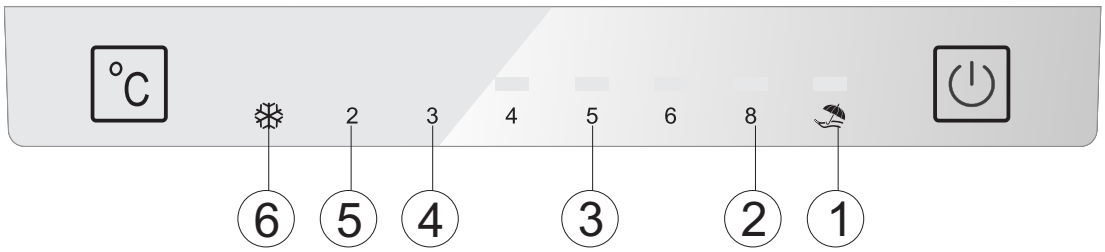
4.3.3 Force Defrosting Mode

Within 10 minutes since the power on , press the “ ⏻ ” button for 5 seconds with the fridge door open, the unit will come into the force defrosting process with a long buzzing.

- When into the force defrosting process, the specific operating will follow the way of Automatic Defrosting Mode control.
- Meanwhile, the LED lights of display area will light up constantly from the bottom to top(2℃~3 ℃~4 ℃~5 ℃~6 ℃~8 ℃~2℃).

4.4 Error indication (display inside door)

If some malfunction happens , continuously press the"Temp."button for 3 seconds ,the corresponding LED light on the control panel will be flashing for 3 seconds. For example, if the fan motor failure happens, the 8℃ LED light will be flashing for 3 seconds.



No.	Fault indicating lamp	Problems	Analysis	Solutions
①		Communication transmission failure	1.The connecting wiring between display panel and mainboard is broken. 2.The display panel is broken. 3.The mainboard is broken.	1.Repair the wiring. 2.Change the display panel. 3. Change the mainboard.
②	8	F.Fan Motor failure	1.The Fan motor is open or short circuit. 2.The Fan motor is bad. 3.The control PCB is bad.	1.Using a Multimeter with the ohm switch to measure the resistor of Fan motor or checking the connecting is well or not. 2.Replace the Fan motor. 3.Replace the control PCB.
③	5	F.DEF.Sensor failure	1.The Evaporator Defrost Sensor is open or short circuit. 2.The Evaporator Defrost Sensor is bad. 3.The control PCB is bad.	1.Using a Multimeter with the ohm switch to measure the resistor of sensor or checking the connecting is well or not. 2.Replace the sensor. 3.Replace the control PCB.
④	3	F.Sensor failure	1.The freezer chamber Tem.Sensor is open or short circuit. 2.The freezer chamber Tem .Sensor is bad. 3.The control PCB is bad.	1.Using a Multimeter with the ohm switch to measure the resistor of sensor or checking the connecting is well or not. 2.Replace the sensor. 3.Replace the control PCB.
⑤	2	R.Sensor failure	1.The refrigerator chamber Tem.Sensor is open or short circuit. 2.The refrigerator chamber Tem .Sensor is bad. 3.The control PCB is bad.	1.Using a Multimeter with the ohm switch to measure the resistor of sensor or checking the connecting is well or not. 2.Replace the sensor. 3.Replace the control PCB.
⑥		Communication reception failure	1.The connecting wiring between display panel and mainboard is broken. 2.The display panel is broken. 3.The mainboard is broken.	1.Repair the wiring. 2.Change the display panel. 3. Change the mainboard.

4.4 Error indication (display on door)

If some malfunction happens , fault code will be showed on display panel when you lighten the display panel from the black screen condition.

No.	Fault indicating lamp	Problems	Analysis	Solutions
①	F1	F.Fan Motor failure	1.The Fan motor is open or short circuit. 2.The Fan motor is bad. 3.The control PCB is bad.	1.Using a Multimeter with the ohm switch to measure the resistor of Fan motor or checking the connecting is well or not. 2.Replace the Fan motor. 3.Replace the control PCB.
②	E4	F.DEF.Sensor failure	1.The Evaporator Defrost Sensor is open or short circuit. 2.The Evaporator Defrost Sensor is bad. 3.The control PCB is bad.	1.Using a Multimeter with the ohm switch to measure the resistor of sensor or checking the connecting is well or not. 2.Replace the sensor. 3.Replace the control PCB.
③	E3	F.Sensor failure	1.The Evaporator Defrost Sensor is open or short circuit. 2.The Evaporator Defrost Sensor is bad. 3.The control PCB is bad.	1.Using a Multimeter with the ohm switch to measure the resistor of sensor or checking the connecting is well or not. 2.Replace the sensor. 3.Replace the control PCB.
④	E1	R.Sensor failure	1.The Evaporator Defrost Sensor is open or short circuit. 2.The Evaporator Defrost Sensor is bad. 3.The control PCB is bad.	1.Using a Multimeter with the ohm switch to measure the resistor of sensor or checking the connecting is well or not. 2.Replace the sensor. 3.Replace the control PCB.
⑤	Er	Display Panel failure	1.The Display Panel is open or short circuit. 2.Display Panel is bad. 3.The control PCB is bad.	1.checking the connecting is well or not. 2.Replace the Display Panel.

If you experience a problem with your appliance or are concerned that the appliance is not functioning correctly, you can carry out some easy checks before calling for service,please see below.

Warning! Don't try to repair the appliance yourself. If the problem persists after you have made the checks mentioned below, contact a qualified electrician, authorized service engineer or the shop where you purchased the product.

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.
	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.
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.
	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.

5.1 Common problem and checking

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 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.
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 under neath the top of the compressor depot may not be properly positioned to direct water into this pan, or the water spout is blocked. You may need to pull the refrigerator away from the wall to check the pan and spout. Check if the refrigerator is power-off for a long time, this may cause the ice in the bucket to melt into water,and flow to the floor .
The light is not working	●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.

It is prohibited to dispose of this appliance as household waste.

Packaging materials

Packaging materials with the recycle symbol are recyclable. Dispose of the packaging into a suitable waste collection container to recycle it.

Before disposal of the appliance

1. Pull out the mains plug from the mains socket.
2. Cut off the power cord and discard with the mains plug.

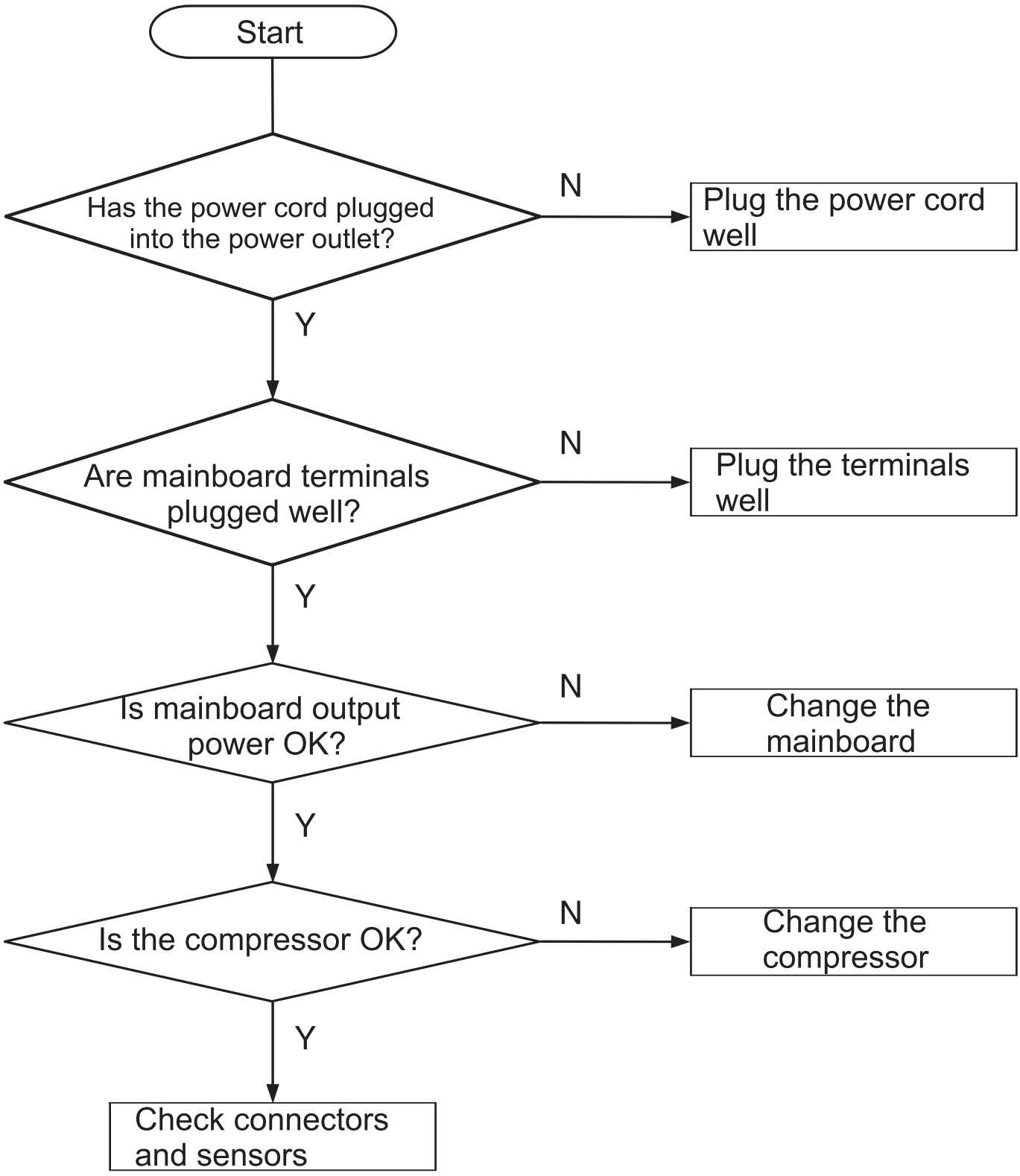
Warning! Refrigerators contain refrigerant and gases in the insulation. Refrigerant and gases must be disposed of professionally as they may cause eye injuries or ignition. Ensure that tubing of the refrigerant circuit is not damage prior to proper disposal.

	Correct Disposal of this product
	This symbol on the product or in its packing indicates that this product may not be treated as household waste. Instead, it should be taken to the appropriate waste collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by the inappropriate waste handling of this product. For more detailed information about the recycling of this product, please contact your local council your household waste disposal service, or the shop where you purchased the product.

To avoid contamination of food, please respect the following instructions:

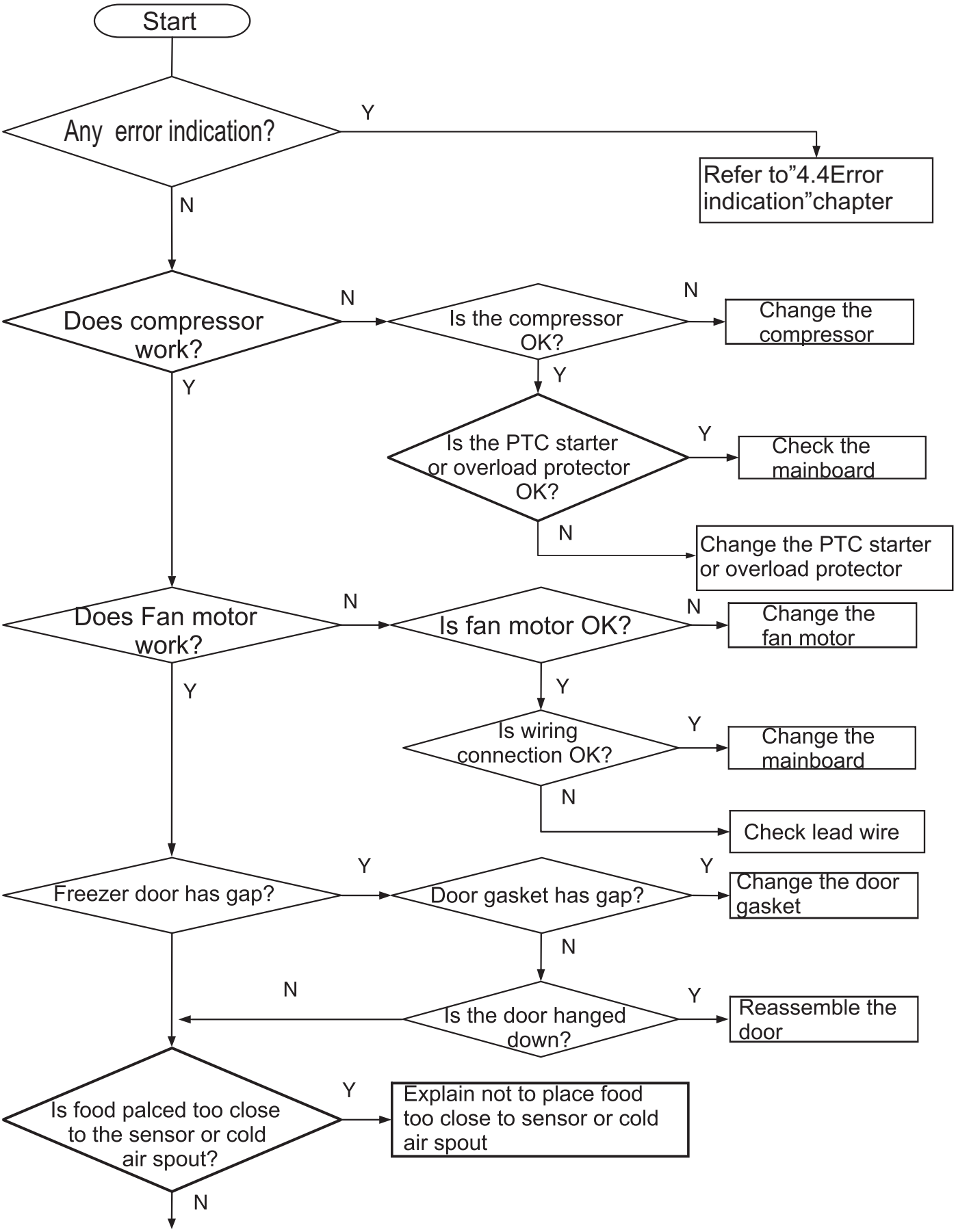
- Opening the door for long periods can cause a significant increase of the temperature in the compartments of the appliance.
- Clean regularly surfaces that can come in contact with food and accessible drainage systems.
- Store raw meat and fish in suitable containers in the refrigerator, so that it is not in contact with or drip onto other food.
- Two-star frozen-food compartments are suitable for storing pre-frozen food, storing or making icecream and making ice cubes.
- One-, two- and three-star compartments are not suitable for the freezing of fresh food.

5.2 Faulty start



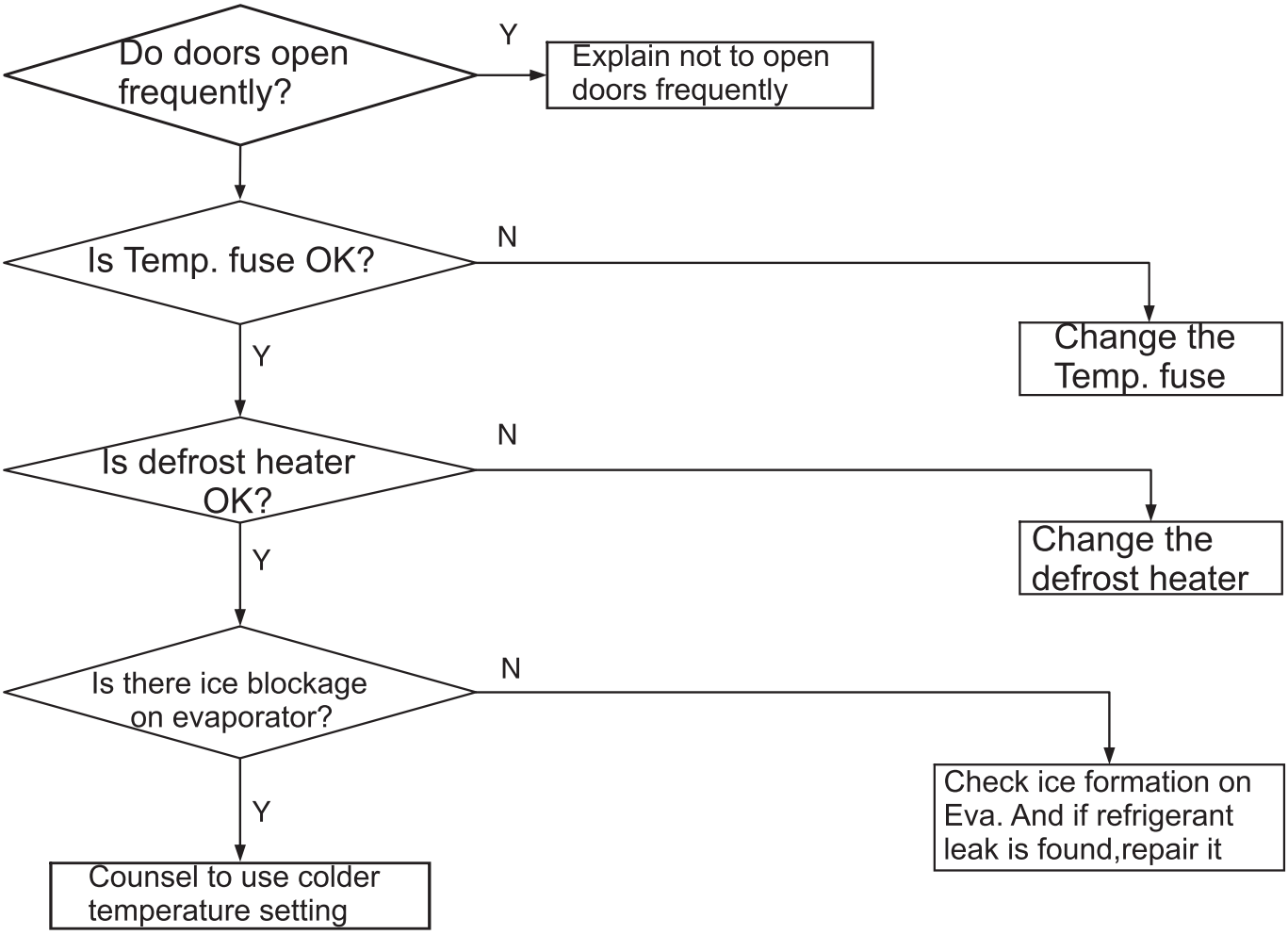
5.3 Refrigeration failure

5.3.1 Freezer compartment



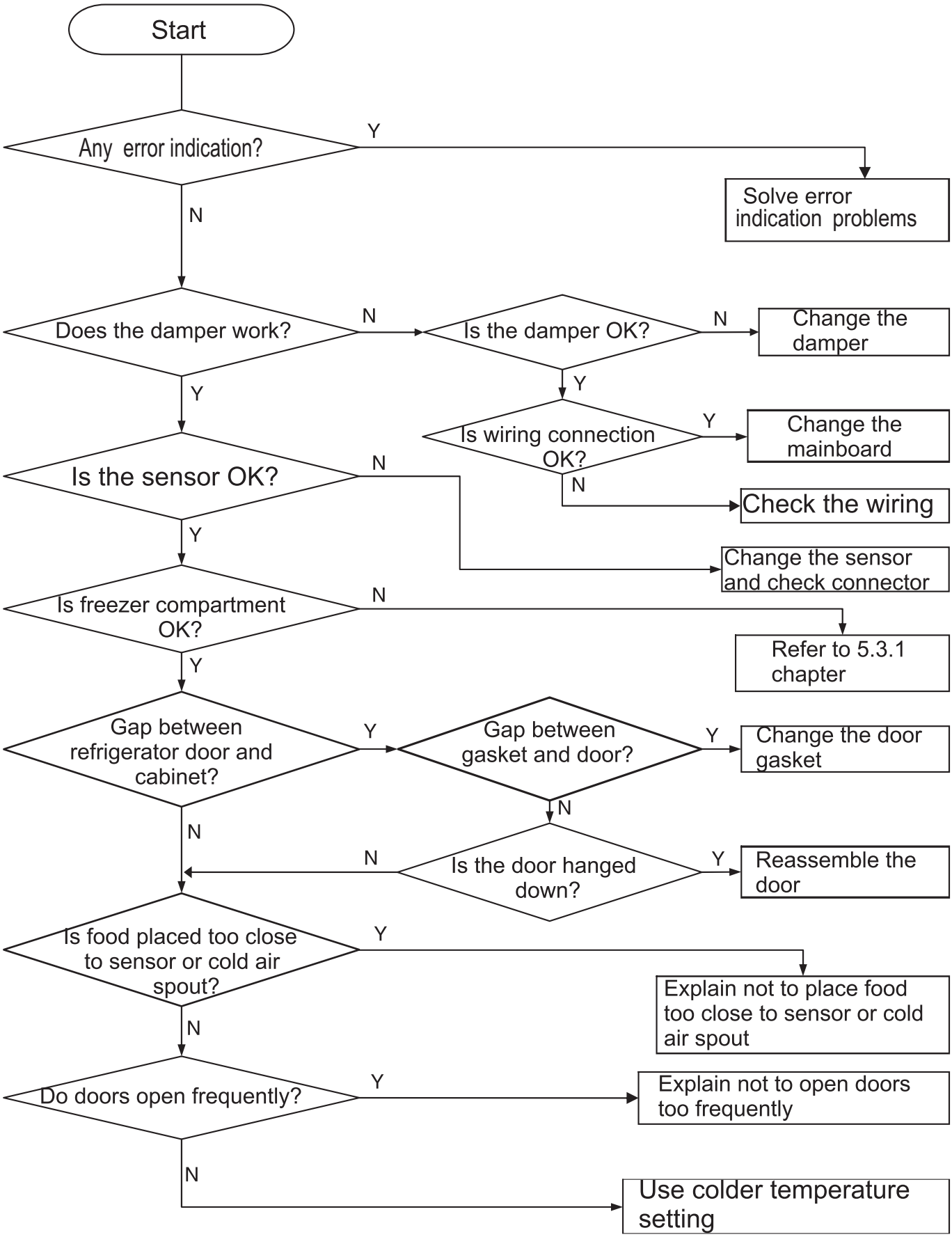
5.3 Refrigeration failure

5.3.1 Freezer compartment

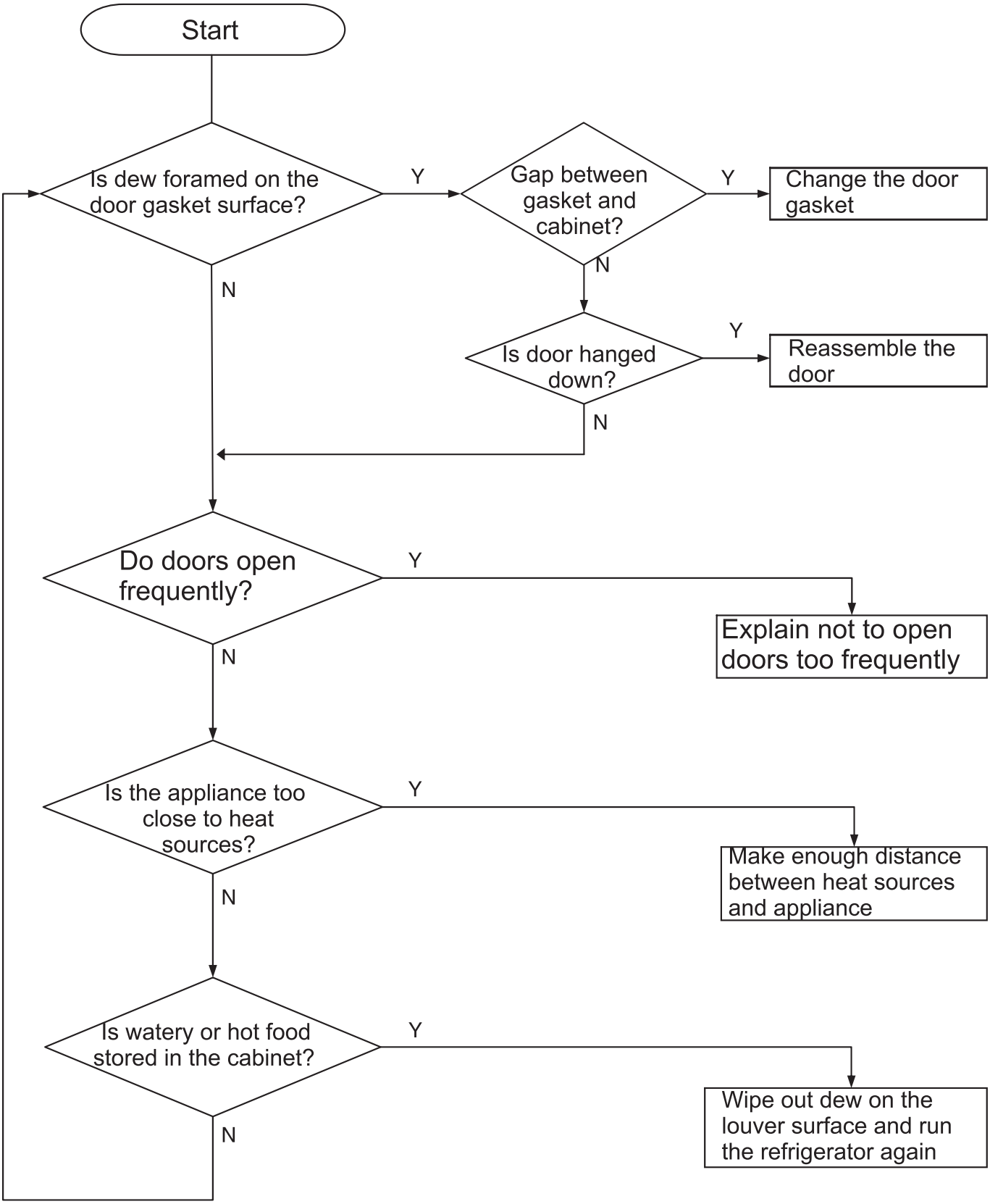


5.3 Refrigeration failure

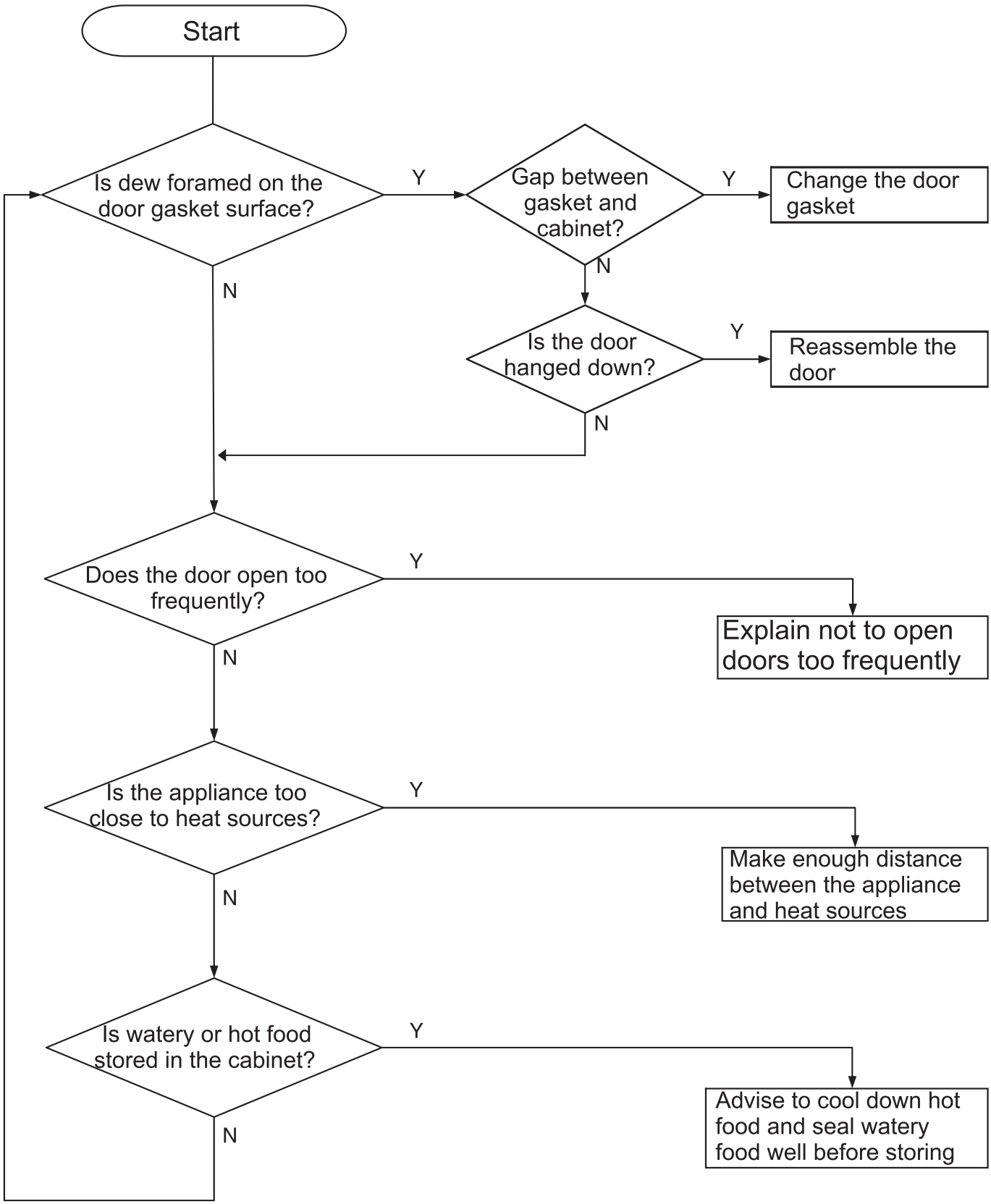
5.3.2 Refrigerator compartment



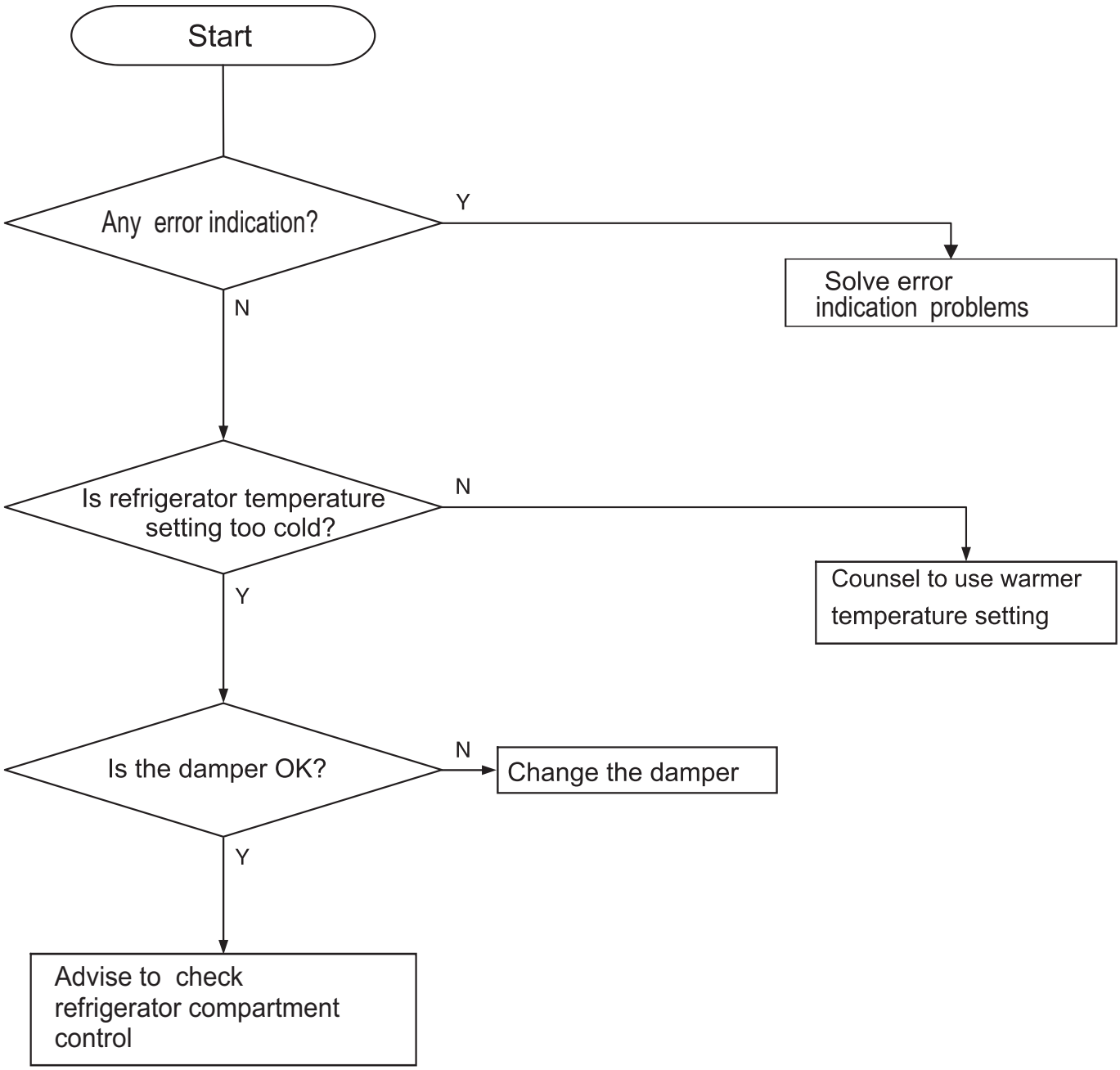
5.4 Thick frost in freezer compartment



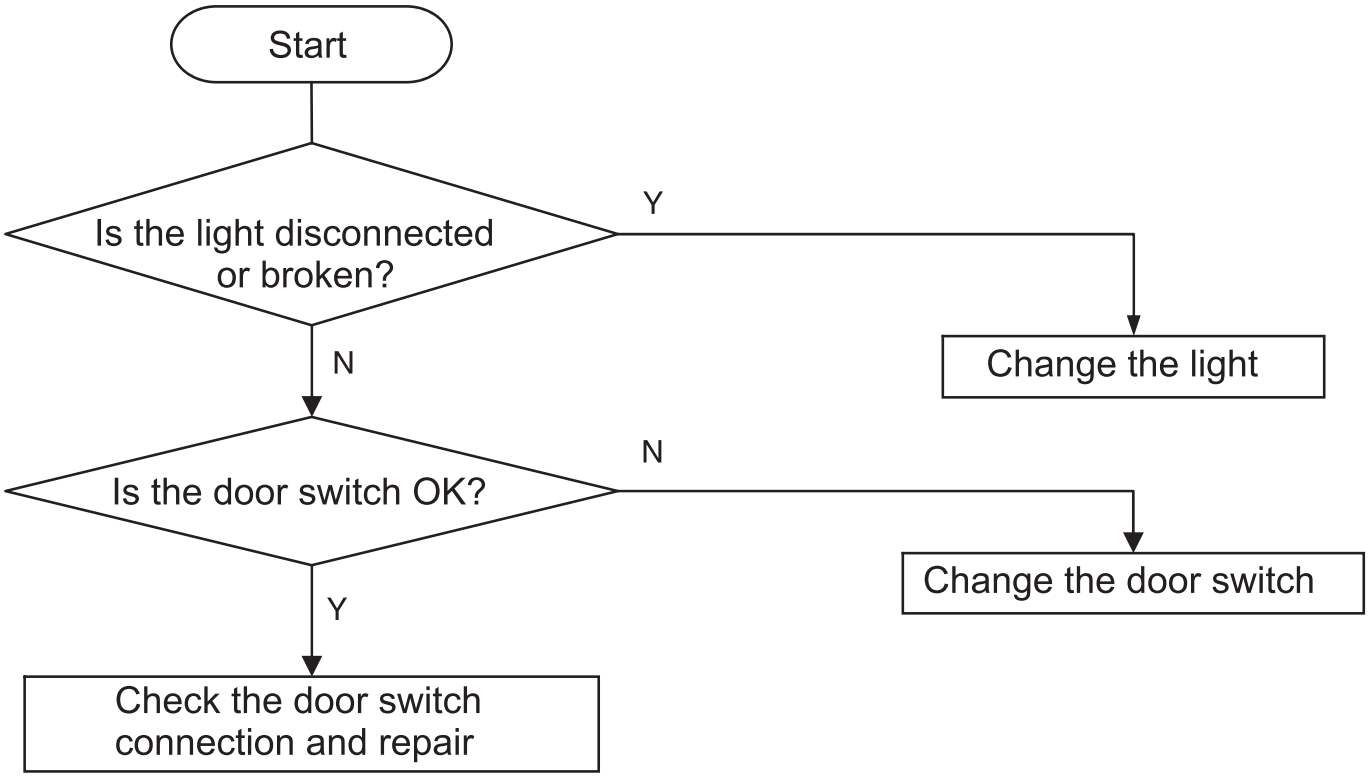
5.5 Dew in refrigerator compartment



5.6 Low temperature of vegetable vase

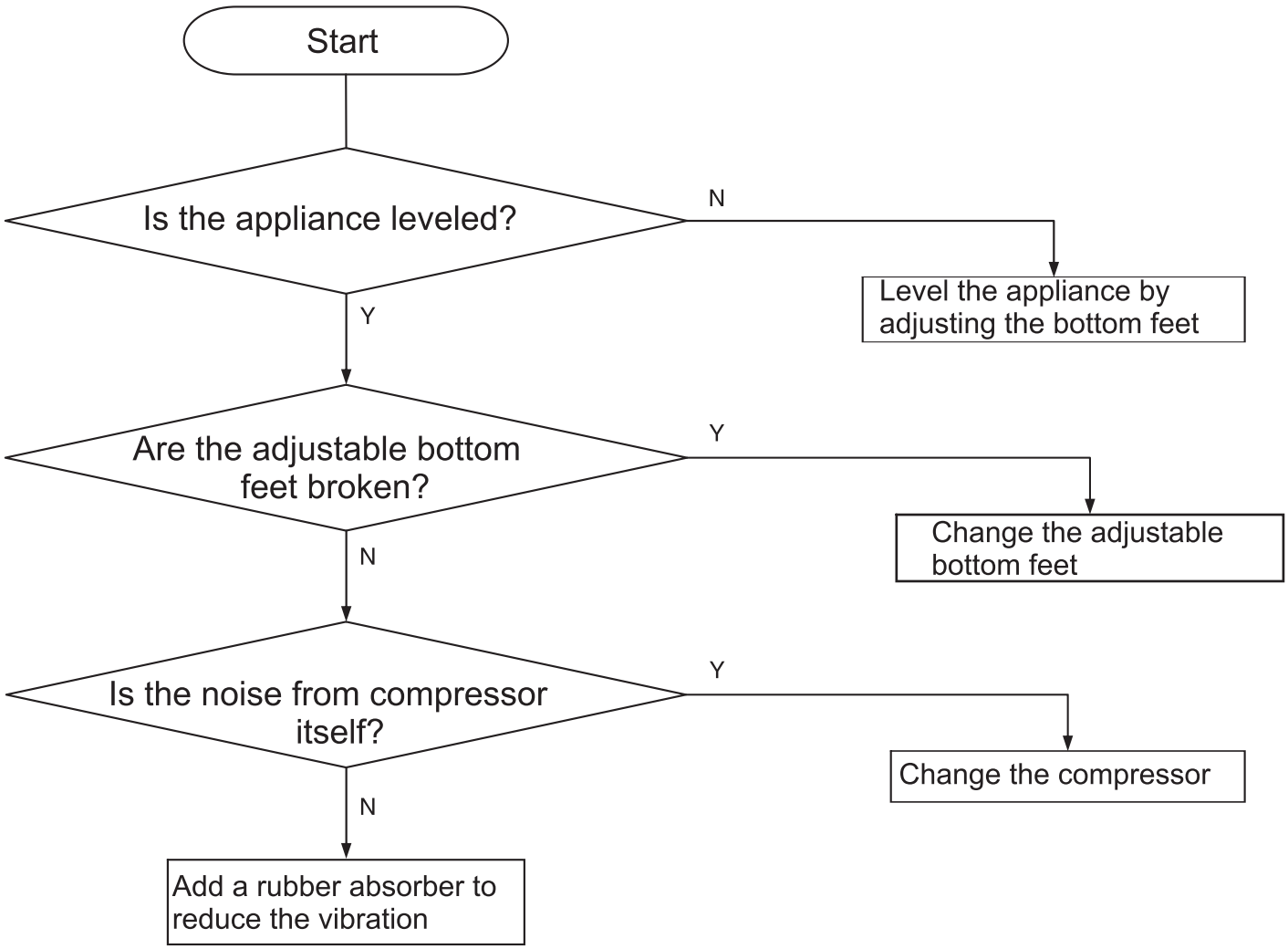


5.7 Breaking of light



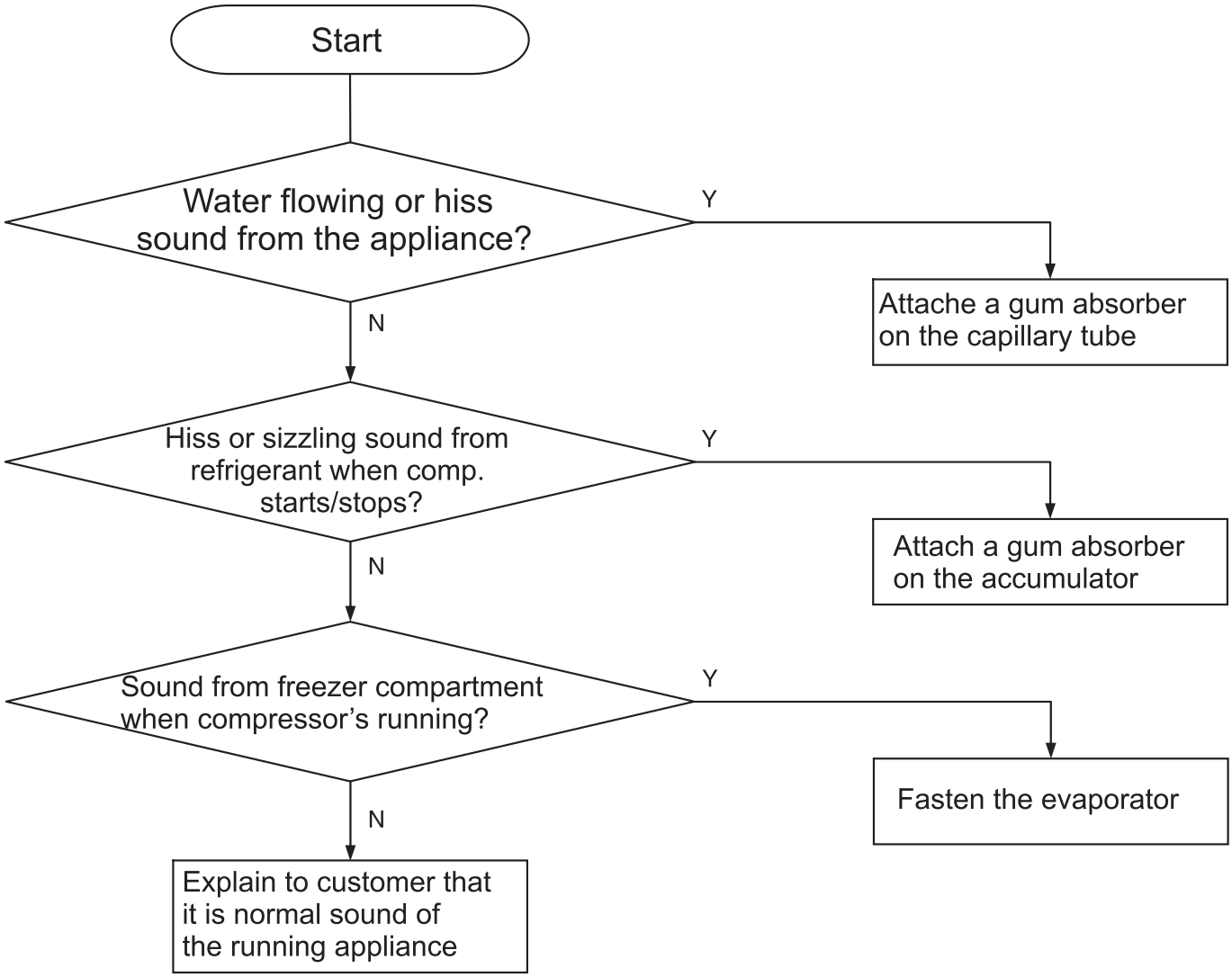
5.8 Noise

5.8.1 Compressor noise



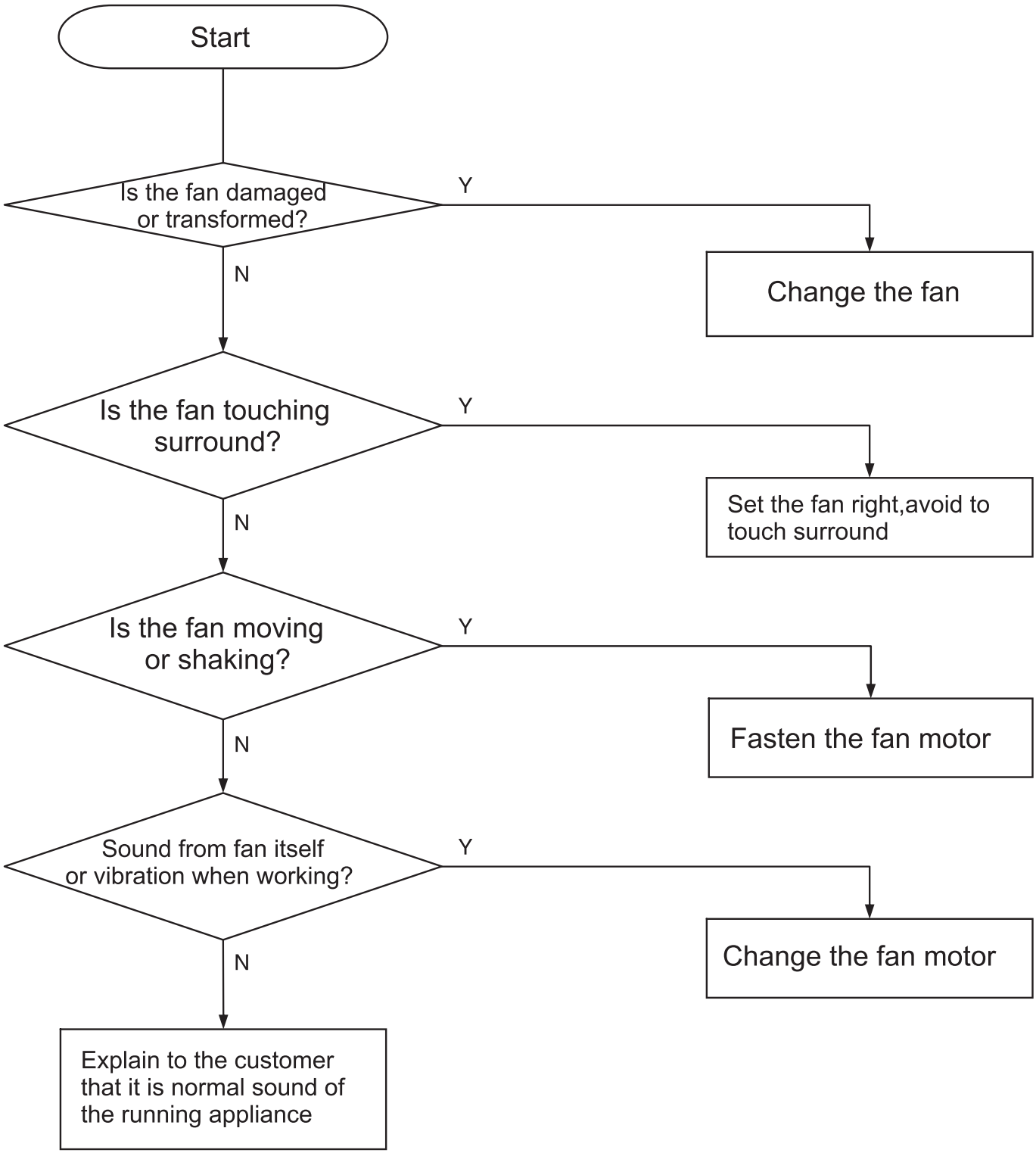
5.8 Noise

5.8.2 Refrigerator flowing noise



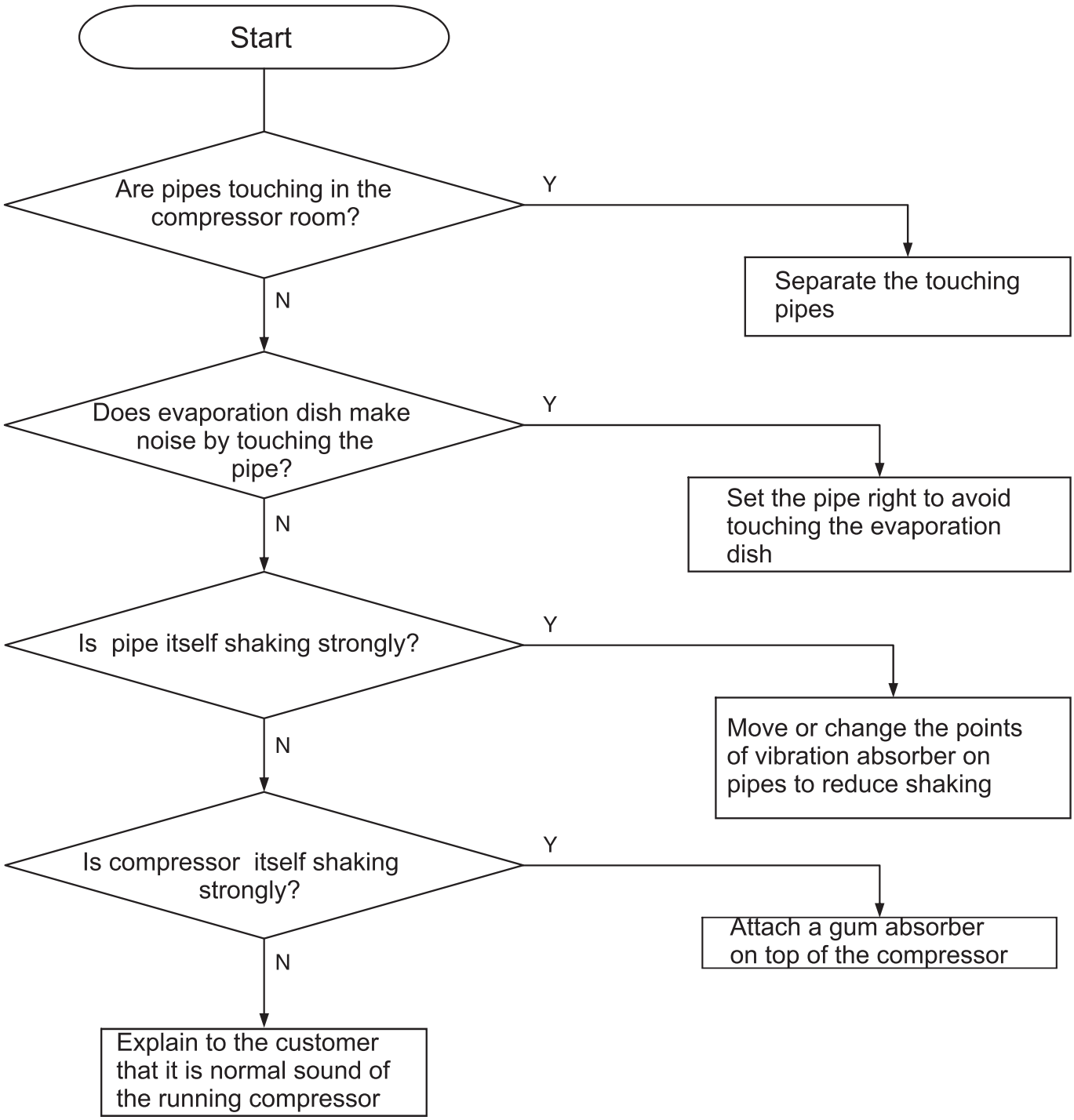
5.8 Noise

5.8.3 Fan motor noise



5.8 Noise

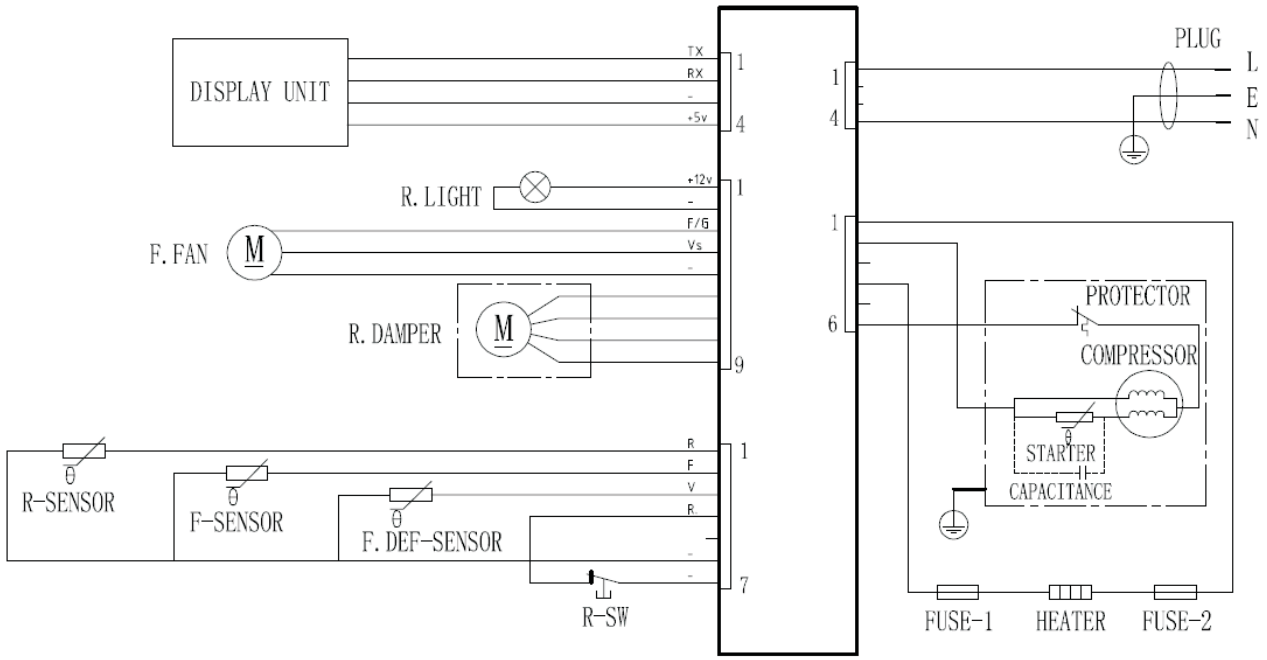
5.8.4 Pipe noise



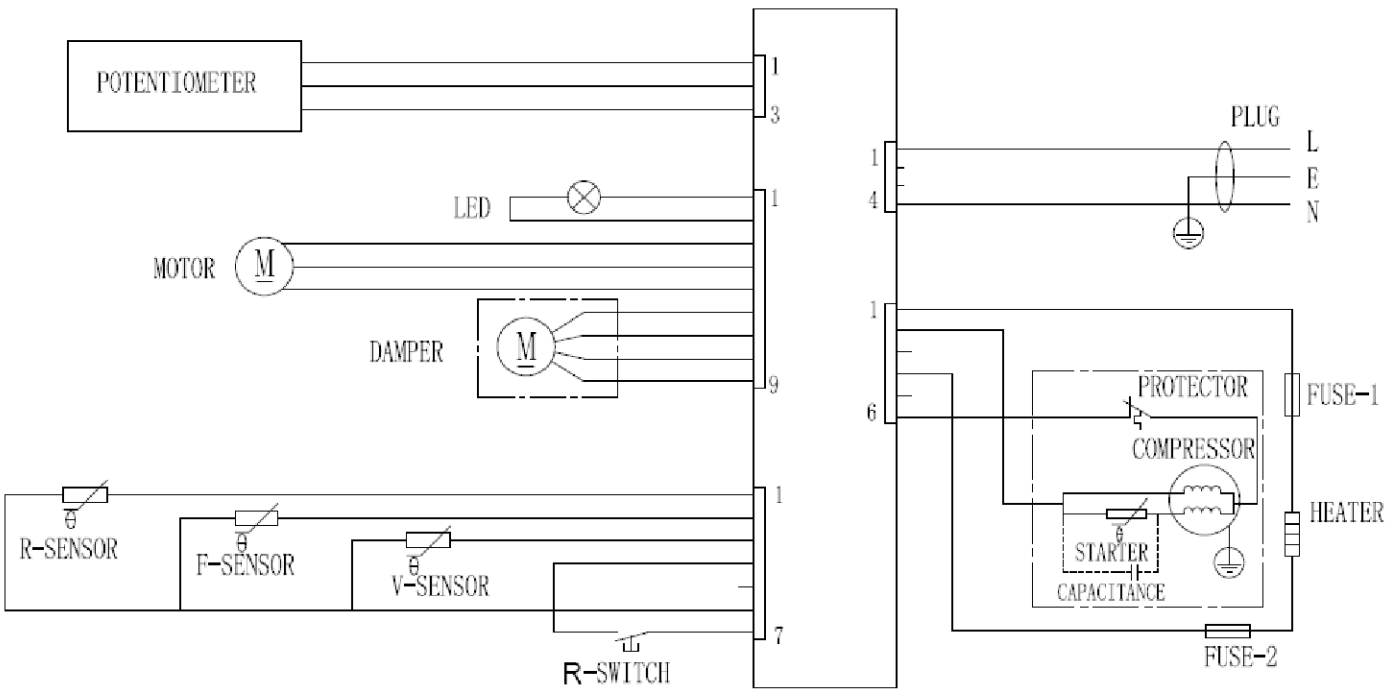
6 Circuit and checking

6.1 Circuit diagram

BCD-300WYR/HC4(H)Display inside door



BCD-300WY/HC4(H)Display on door



6.2 Mainboard

6.2.1 Checking method

If the problem is probably caused by 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.Remove the mainboard and take it out, as picture 4.

Picture1

Picture2

Picture3

Picture4

6.3 Compressor

6.3.1 Basic parameters

Input voltage:220-240V

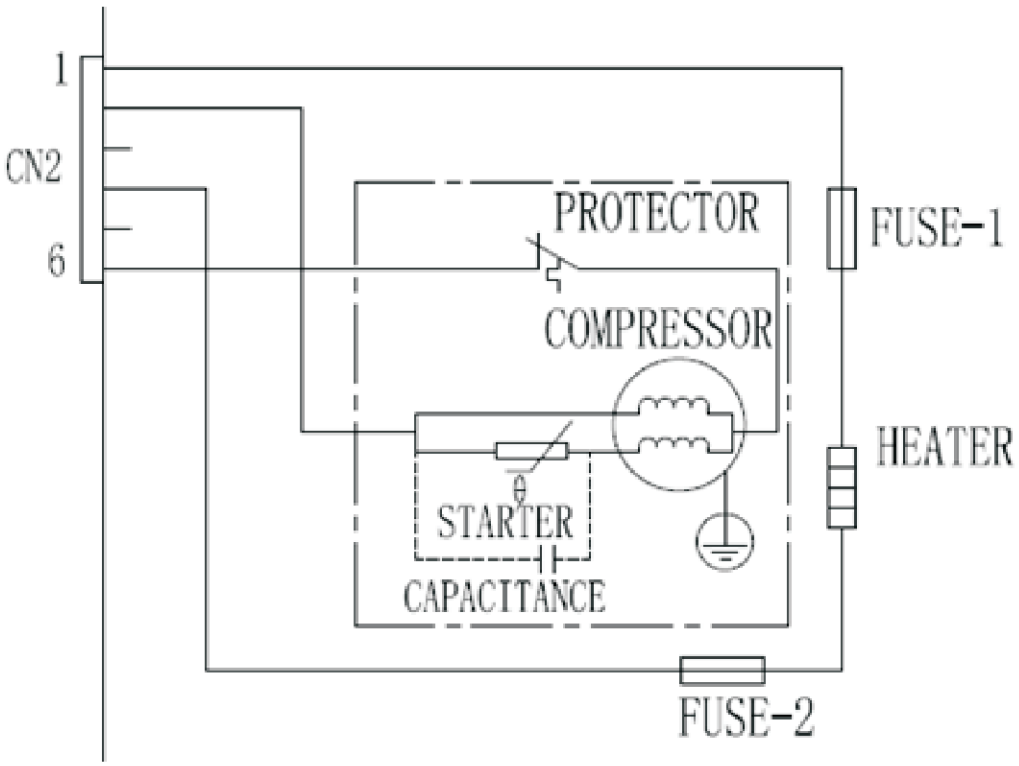
Input frequency:50Hz

6.3.2 Checking method

1.Compressor will start 10 seconds after power-on,if it starts unsuccessfully,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 pin No.2 and No.6 on CN2 connector of mainboard,if the voltage equal to electric supply power,it means the compressor is broken,change it;If not,change the mainboard.

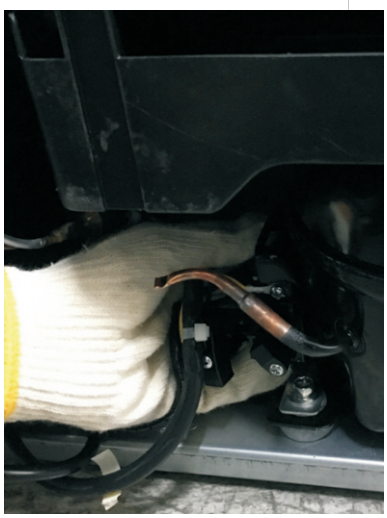


6.3.3 Removing the PTC starter and overload protector

1.Unplug the appliance
2.Remove the screw of the protector cover by screwdriver, as picture1.
3.Remove the protector cover,as picture 2.
4.Hold the overload protector and the PTC starter ,pull it out as picture 3 and 4.

Picture1

Picture2



Picture3

Picture4

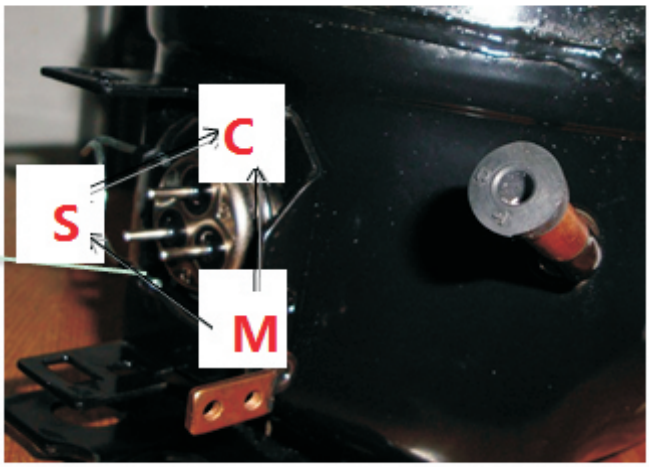
6.3.4 Basic parameters

Input voltage/frequency:220-240V/50Hz

Input power :≤ 110W

6.5.2 Checking method

1.Use a multimeter to measure the resistance between C & M, C&S an S&M of compressor,as the picture below:



Normal range of C&M : About 10-32 Ω
Normal range of C&S : About 10-30 Ω
Normal range of S&M : About 20-60 Ω
If the measure result is not in the range,it means the compressor has problem,change the compressor.

2.Use a multimeter to measure the resistance between the two ends of PTC starter,as the picture below:

If the result is between about 12- 20 Ω at room temperature, it is OK. Otherwise,the PTC starter is broken, change it.

6.4 Fan motor

6.4.1 Basic parameters

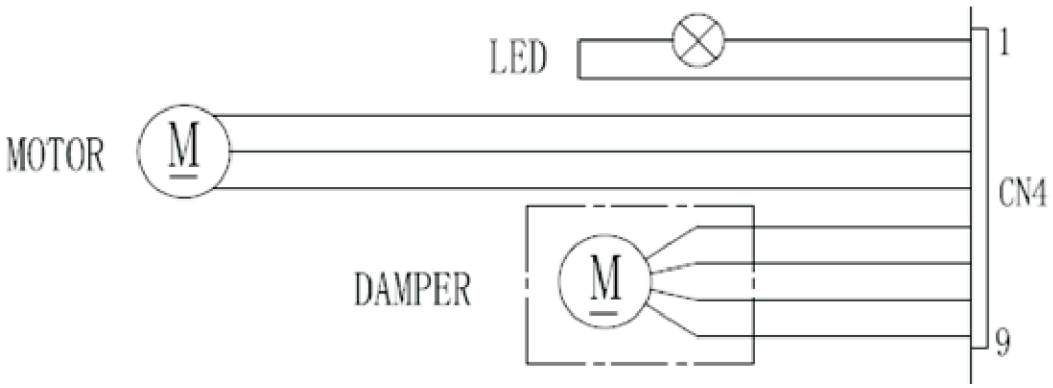
Rated voltage:DC12V

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.3~5 on CN4 connector of mainboard,as the drawing below.

2.Pin No.4 connect 12V power and pin No.5 connect GND, if the fan motor works normally,change the mainboard;If not,change the fan motor.



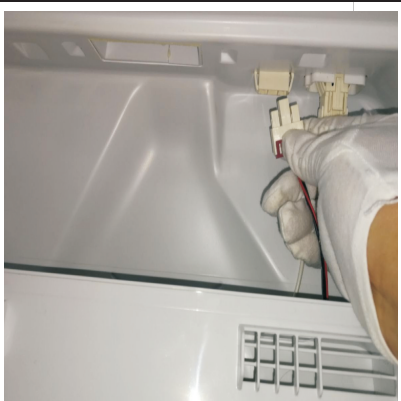
6.4.3 Removing the fan motor

1. Unplug the appliance.
2.Open the freezer door and remove the drawers as picture 1
3. Remove the three screws by screwdriver as picture 2.
4.Catch the below of the wind channel component and pull down it as picture 3
5. Unplug the terminal as picture 4 and remove the wind channel component as picture 5.
6. Loosen the cable a as picture 6.
7. Remove the foam as picture 7.
8.Open buckles then separate two part of the wind channel component as picture 8 and 9
8. Remove the fan motor as picture 10.

Picture1

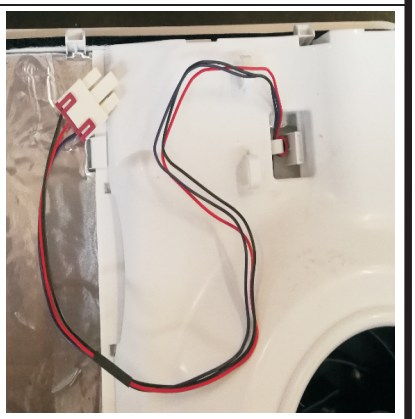
Picture2

Picture3

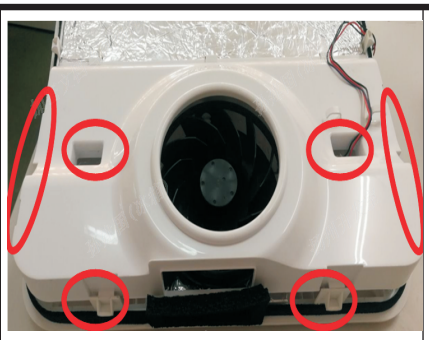
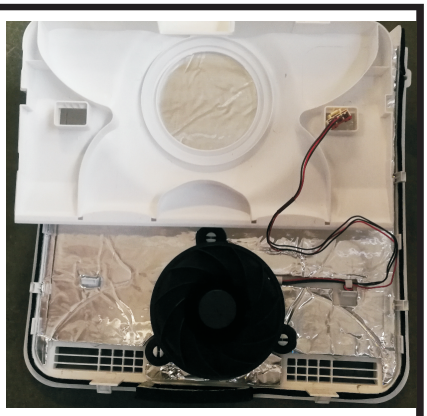


Picture4

Picture5



Picture6

		
Picture7	Picture8	Picture9
		
Picture10		

6.5 Damper

6.5.1 Basic parameters

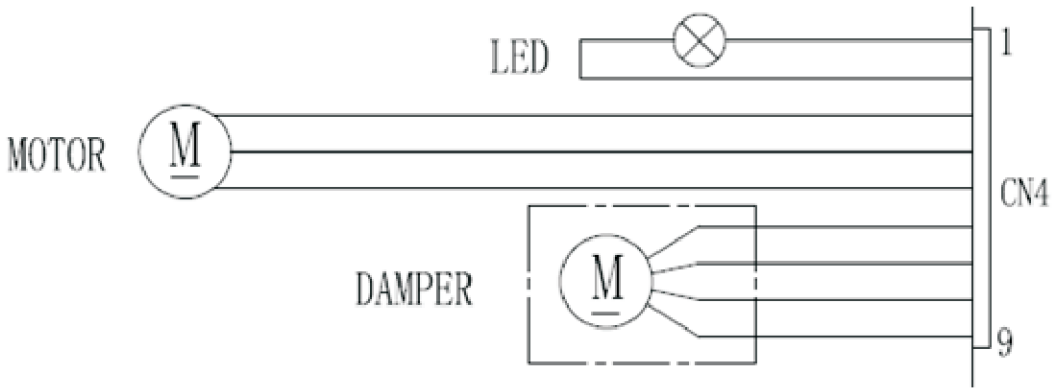
Rated voltage:DC12V

Rated current:60mA

6.5.2 Checking method

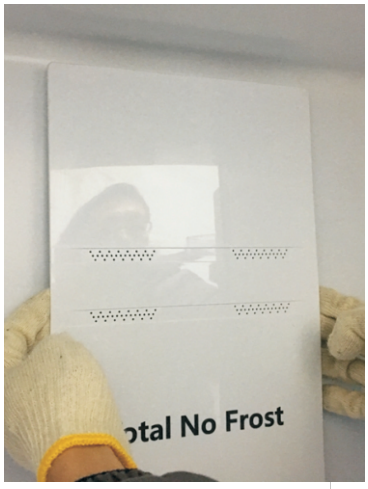
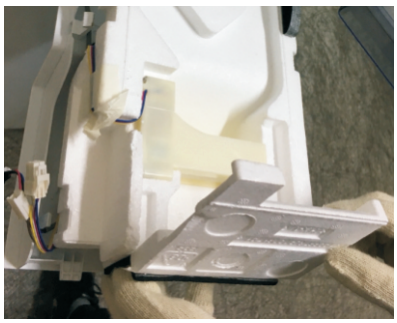
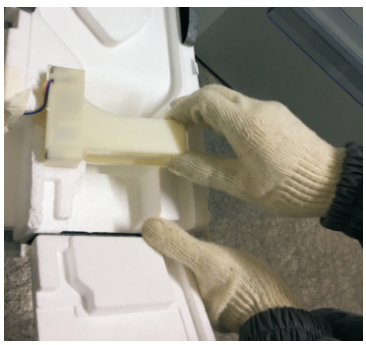
1.Check the connecting wiring of damper is well or not,repair if it is broken. The damper corresponding pin No6~9 on CN4 connector of mainboard,as the drawing below.

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 refrigerator wind channel component by pressing internal snap joint of two sides, 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 picture5.
7.Remove the damper,as picture 6.

<table>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Picture1</td><td>Picture2</td><td>Picture3</td></tr>
<tr><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Picture4</td><td>Picture5</td><td>Picture6</td></tr>
</table>

6.6 Light

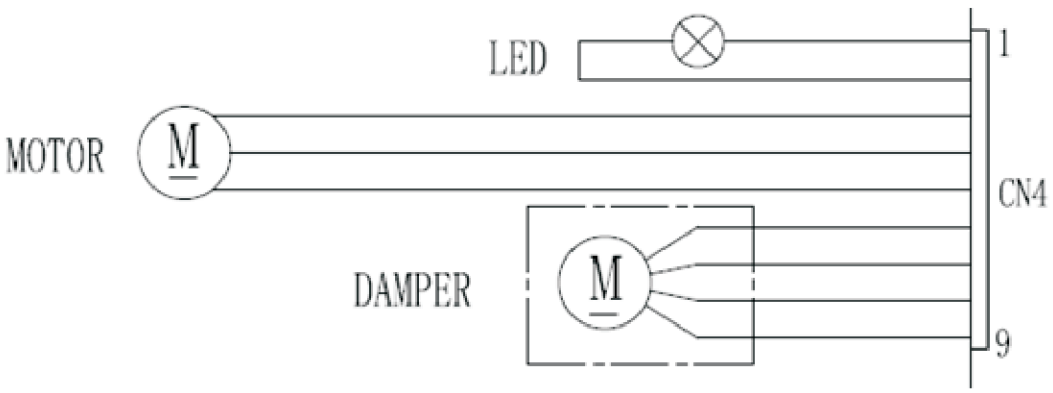
6.6.1 Basic parameters

Rated voltage:DC12V
Rated power:0.6W

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.1 and No.2 on CN4 connector of mainboard ,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 broken,change it.



6.6.3 Removing the light

1.Unplug the appliance
2.Remove the light cover,as picture 1.
3.Unplug the terminal of the display panel,as picture 2.
4.Take the LED light out,as picture 3.
5.Unplug the terminal of the light,as picture 4.

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>Picture1</td><td>Picture2</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Picture3</td><td>Picture4</td></tr>
</table>

6.7 Control panel

6.7.1 Basic parameters

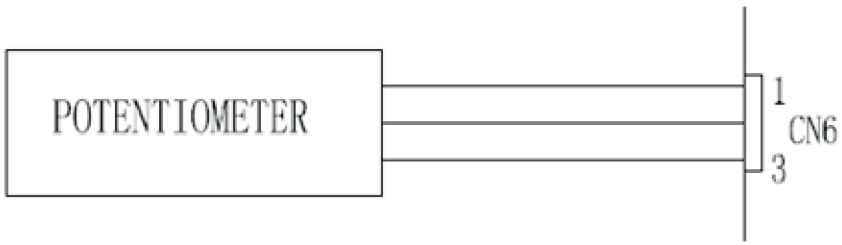
Rated voltage:DC5V

Rated power:0.5w

6.7.2 Checking method

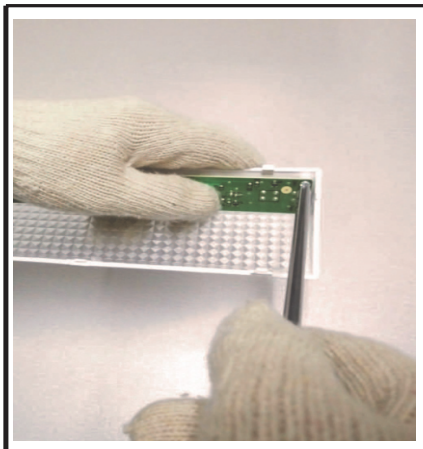
1. Check the connecting wiring between control panel and mainboard. Pin No.1 to No.3 of CN6 connector on the mainboard, is connected to control panel , as the drawing below.

2.Check the output voltage between pin No.2 and No.3 on CN6 connector of the mainboard . If the voltage is between 4V dc and 5V dc, the mainboard is OK, change the control panel. If not , change the mainboard.

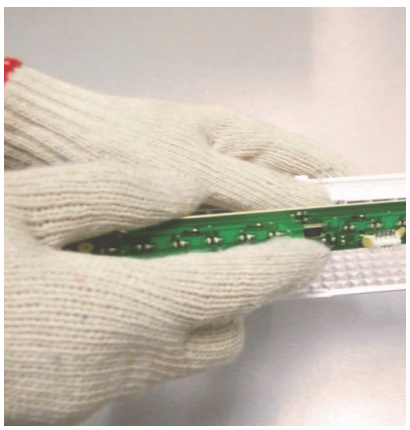


6.7.3 Removing the control panel(display inside door)

1.Unplug the appliance.
2.After unplugging the terminal of the display
panel, remove the screws of the display panel by screwdriver as picture 1.
3.Take the display panel out as picture 2.



Picture1



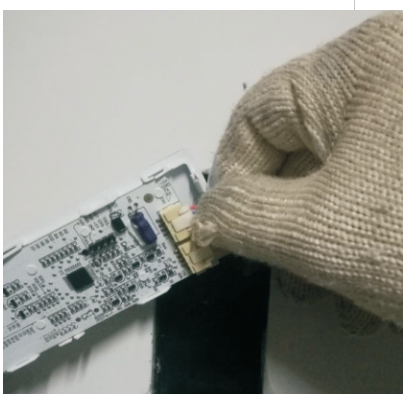
Picture2

6.7.3 Removing the control panel(display on door)

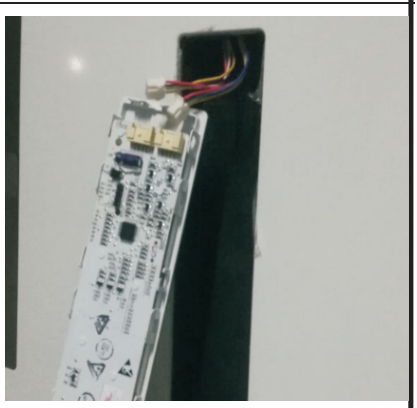
1.Unplug the appliance.
2.Screw a screw in the lower right corner of display panel as picture 1.
3.Remove the display panel as picture 2.
4. Unplug the two terminals as picture 3 and picture 4.
Note: replace the display panel with a new one after remove it.

Picture1

Picture2



Picture3



Picture4

6.8 Door switch

6.8.1 Basic parameters

Input voltage:250V

Rated current:2.5A

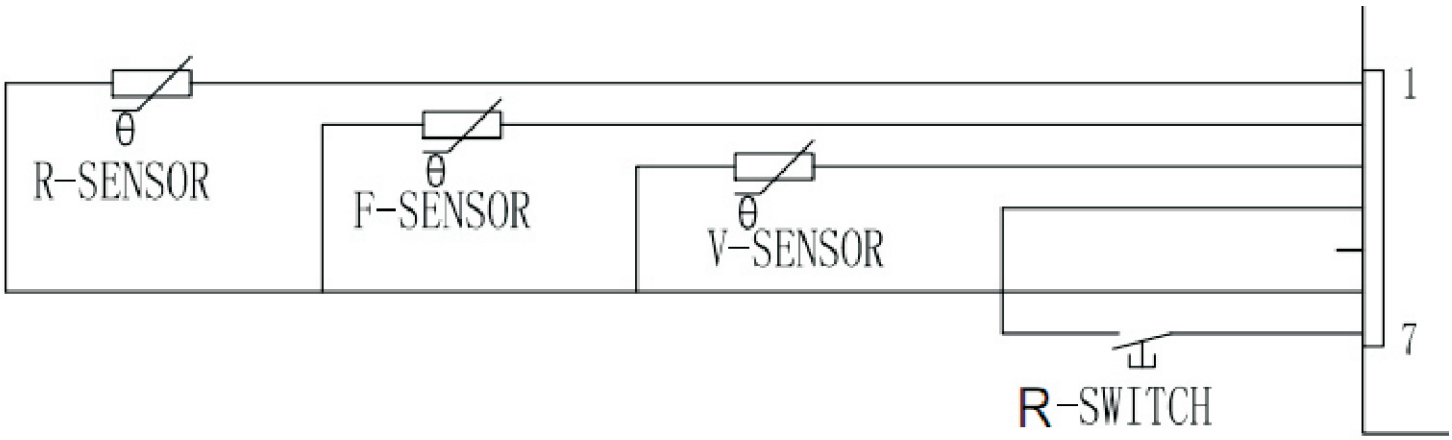
6.8.2 Checking method

1.Check the connecting wiring of door switch is well or not,repair if it is broken. Refrigerator door switch corresponding No.4 and No.7 on CN5 connector of the mainboard, 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 abnormal,change the door switch.

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



6.8 Door switch

6.8.3 Removing the door switch

1.Unplug the appliance
2.Insert the screwdriver into the gap between door switch and cabinet from upside,as picture 1.
3.Pry up the door switch by the screwdriver,as picture 2.
4.Hold the door switch and pull it out,as picture 3.
5.Unplug the terminals,as picture 4.

Picture1

Picture2

Picture3

Picture4

6.9 Tubular heater

6.9.1 Basic parameters

Rated voltage:AC220V

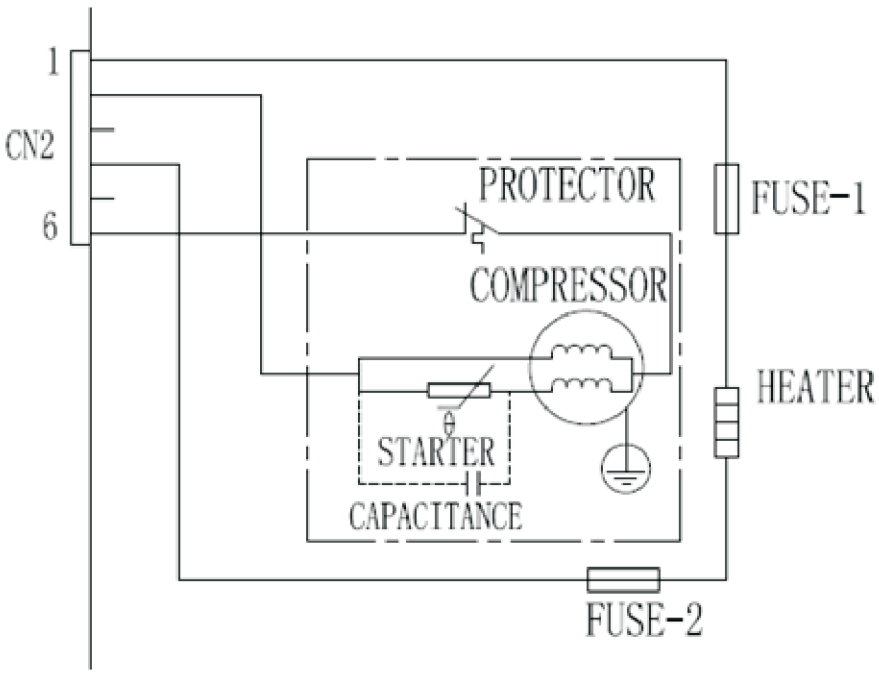
Rated power:170W

6.9.2 Checking method

1.Enter compulsory defrost mode,use a multimeter to measure the voltage between pin No.1 and No.4 on CN2 connector of the mainboard, if the voltage doesn't equal to electric supply power,it means the heater is broken, change it.

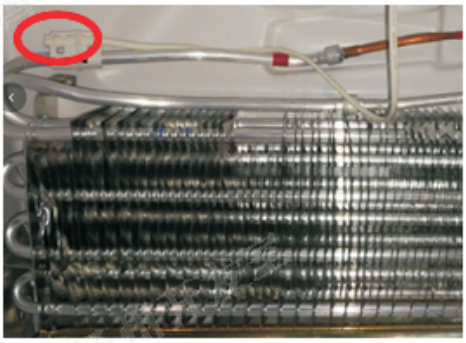
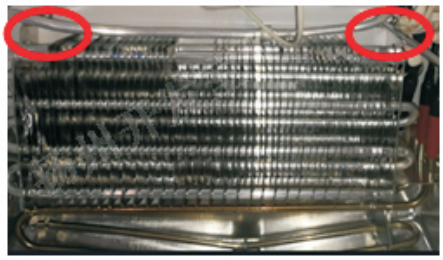
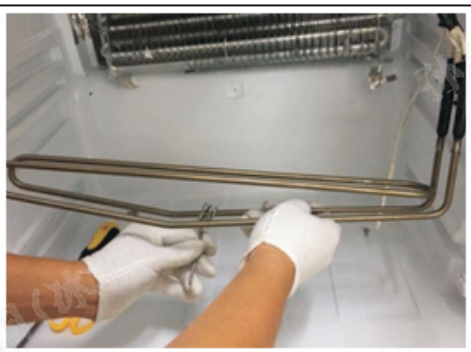
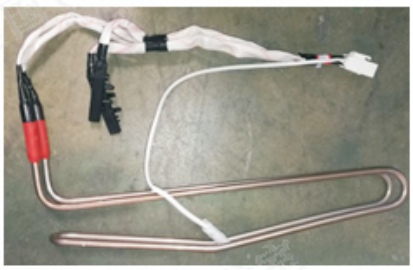
2.Check the fuse is well or not,refer to "6.8 Temperature fuse"chapter.

3.Use a multimeter to measure resistance of the heater,if the value isn't 316Ω ±5%, it is broken ,change the heater.



6.9.3 Removing the tubular heater

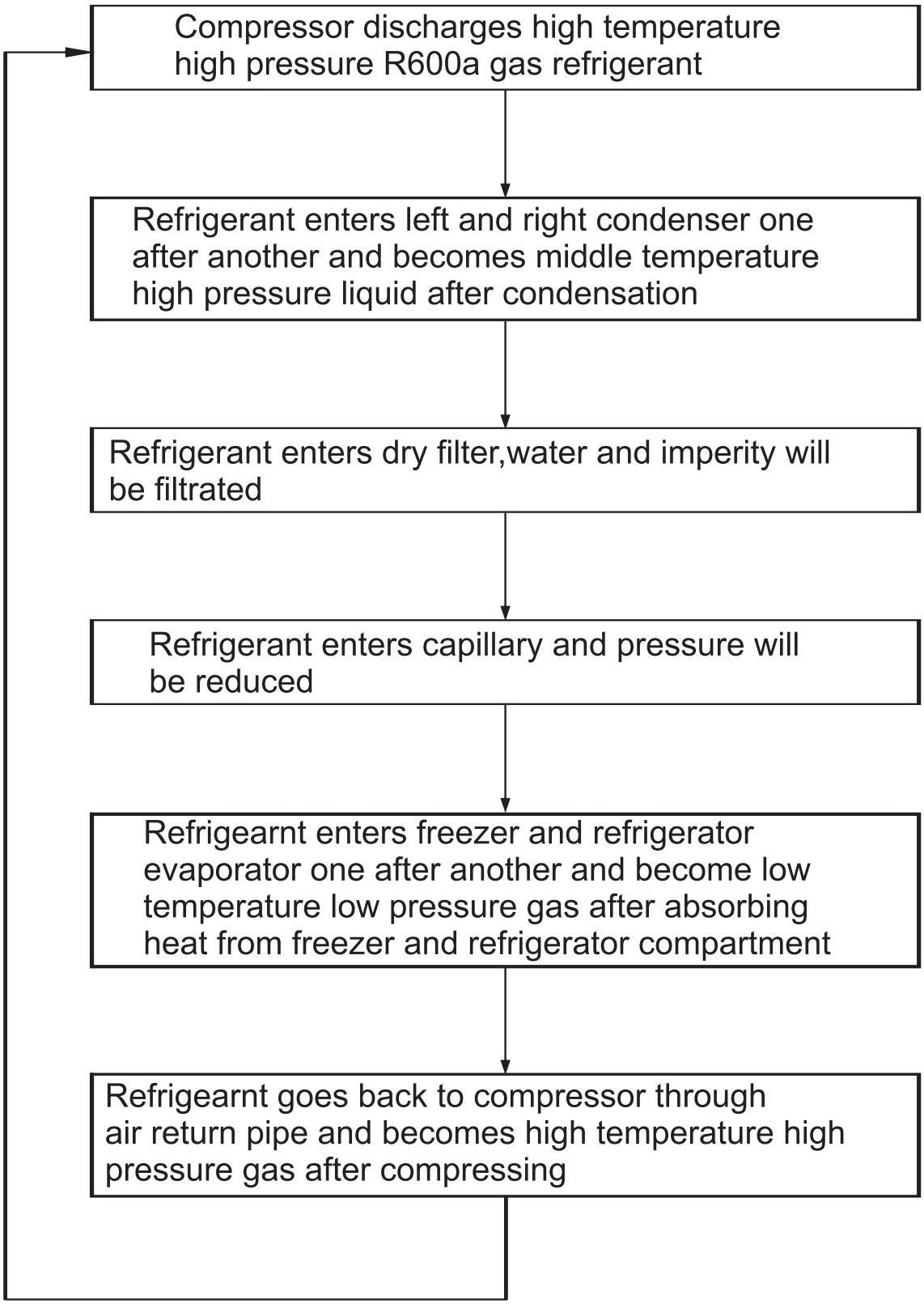
a1. Unplug the appliance.
2. After removing the freezer wind channel component, unplug the terminals as picture 1.
3. Cut the cable tie as picture 2.
4. Pull out the temperature part to the right direction as picture 3.
5. Remove the two screws of evaporator by screwdriver as picture 4.
5. Move the defrost stick as picture 5.
6. Take out the evaporator as picture 6 and be careful of the connected wires.
7. Pry up the buckles located on the evaporator and remove the heater as picture 7.
8. Remove the defrost steak from the defrost heater ,leaving the defrost heater as picture 8 and 9.

		
Picture1	Picture2	Picture3
		
Picture4	Picture5	Picture6
		
Picture7	Picture8	Picture9

7 Refrigeration system repair

7.1 Refrigeration system

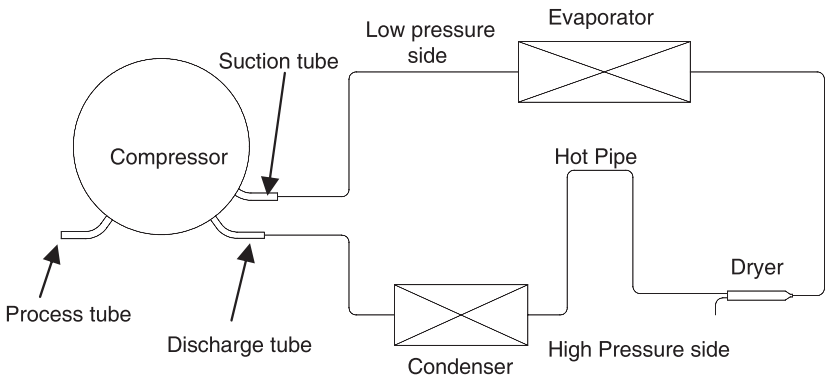
The refrigeration system is single cycle direct cooling system:



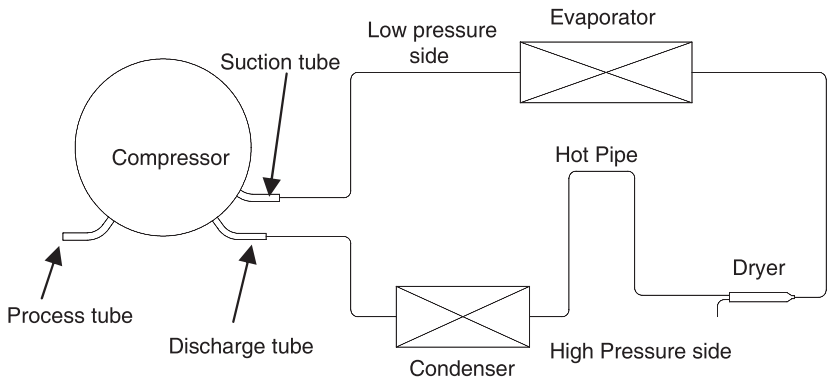
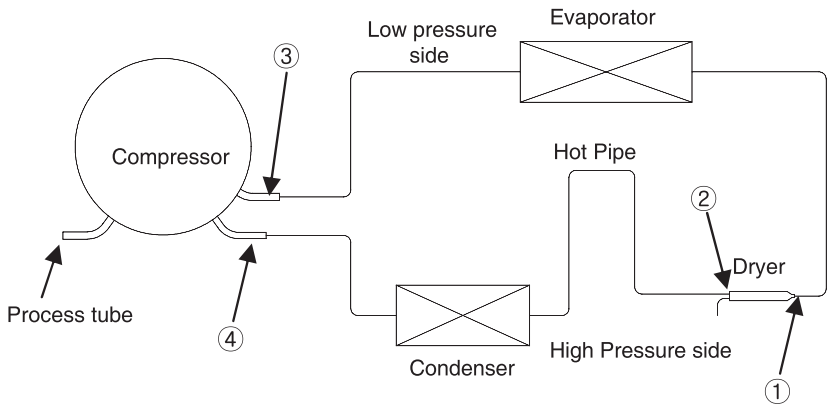
7.2 Summary of repair

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.)	

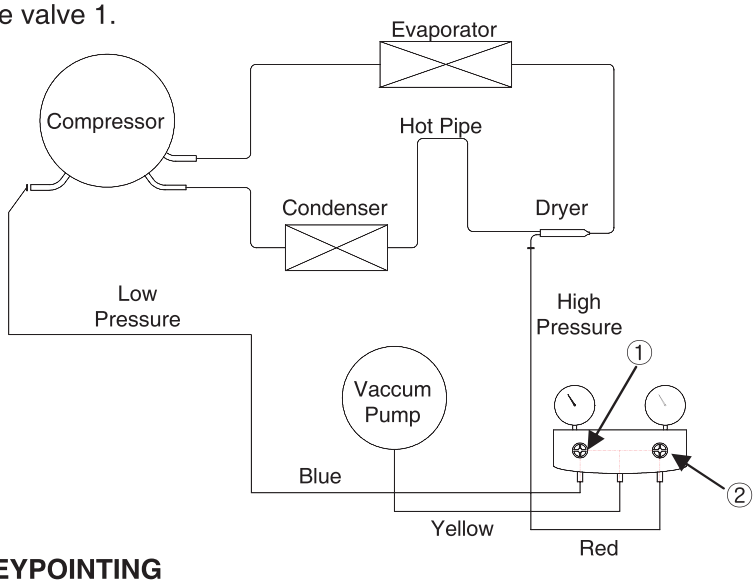
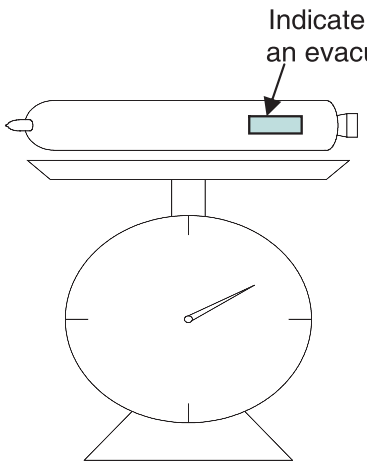
7.3 Regualation for repair

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.

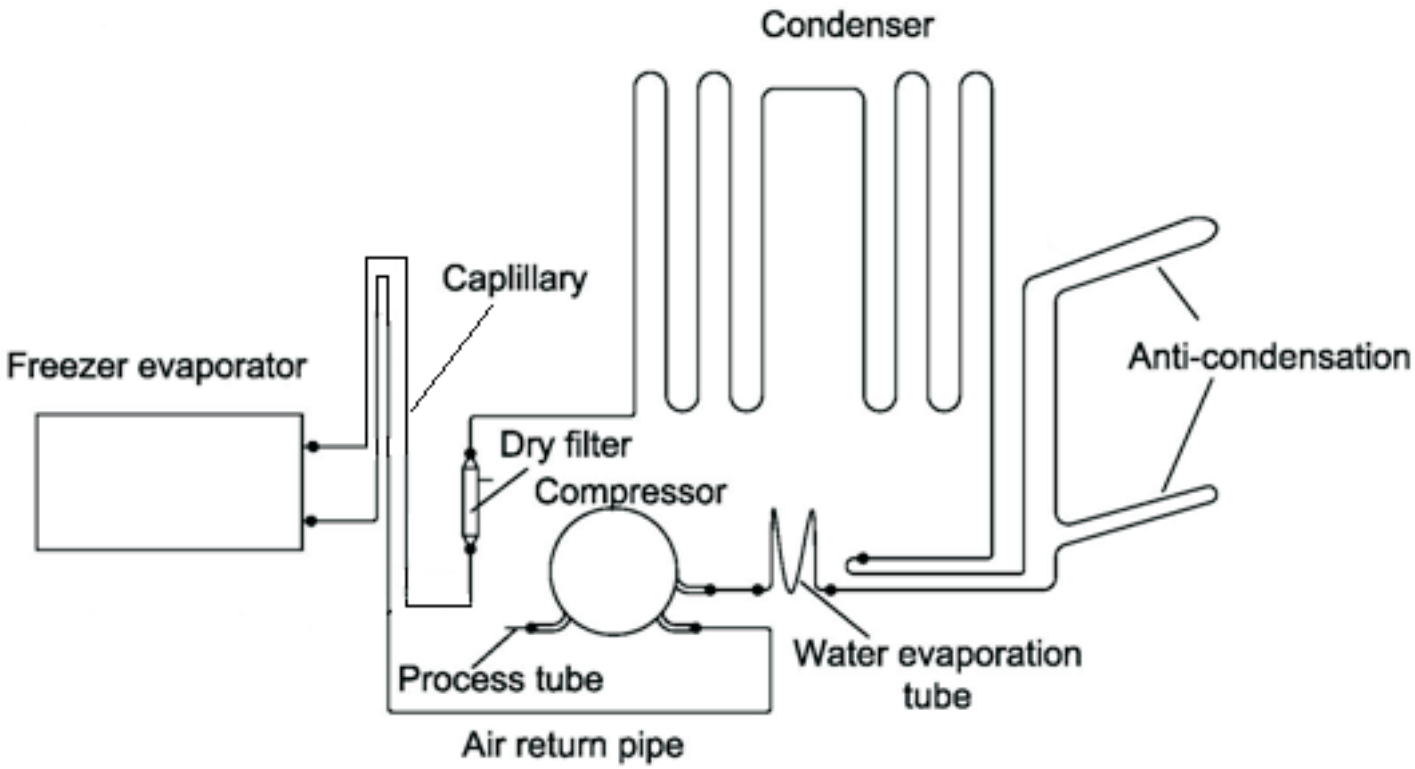
7.4 Practical work for repair

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.

7.4 Practical work for repair

Items	Precautions
3.Vacuum degassing.	*** Pipe Connection** Connect a red hose to the high pressure side and a blue hose to the low pressure side. *** Vacuum Sequence** Open 1,2 valves and evacuate for 40 minutes. Close valve 1.  **※ KEYPOINTING** 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.	*** Charging sequence** 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. - 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.  **- KEYPOINTING** 1) Be sure to charge the refrigerant at around 25C. 2) Be sure to keep -5g in the winter and +5g in summer. Calculation of amount of refrigerant charged the amount of refrigerant charged = a weight after charging - a weight before charging (a weight of an evacuated cylinder)

7.5 Brazing reference drawing



→ Refrigerant flowing direction

● Welding points