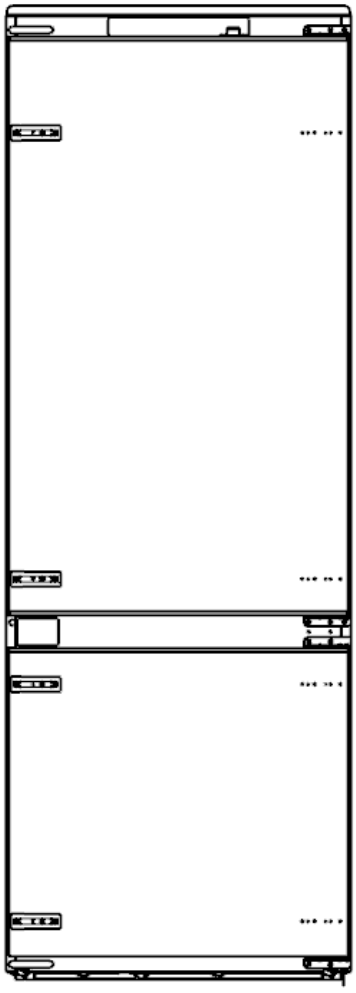
Service Manual

Built-in No Frost Series

Market Model	Product Model	Product Code
HD-533RWEN.BI	CE-BCD410WX-KT	22031020012821
MDRE554FG****		



The picture in this service manual is only for reference, and specific appearance and configuration are subject to the real product.
This manual mainly teaches the method, the specific work skill needs engineer to accumulate through the daily work.

⚠ WARNING

Important Safety Notice

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

⚠ WARNING

Important Safety Notice

The Maintenance Manual is only for the use of maintenance personnel with certain experience and background in electrical, electronic and mechanical field.

Any attempt to repair main devices may lead to personal injury and property loss.

Manufacturers or distributors are not responsible for the content of the Manual and interpretation thereof.

Contents

1. Significant update notes

(SM No.)	Date	Author	Description

2. Safety Warning Code

2.1 Warning for operation safety

Important Safety Instructions

	**CAUTION** **RISK OF ELECTRIC SHOCK** **DO NOT OPEN** 
	This symbol indicates that dangerous voltage constituting a risk of electric shock is present within your freezer.
	This symbol indicates that there are important operating and maintenance instructions in the literature accompanying your freezer.

WARNING

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this appliance near water.

6) Clean only with a damp cloth.

7) Do not block any ventilation openings.

8) Install in accordance with the manufacturer's instructions.

9) Do not install near any heat sources, such as radiators, heat registers, stoves, or other apparatus that produce heat.

10) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

11) Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the appliance.

12) Do not attempt to modify or extend the power cord of this appliance.

13) Unplug this appliance during lightning storms or when it will not be used for long periods of time.

14) Make sure that the available AC power matches the voltage requirements of this appliance.

CONNECTING ELECTRICITY

WARNING Electrical Shock

Hazard.

Plug into a grounded 3-prong outlet.
Do not remove the ground prong.
Do not use an adapter.

Failure to follow these instructions can result in death, fire, or electrical shock.

WARNING

Electric Shock Hazard
Failure to follow these instructions can result in electric shock, fire, or death.

1) WARNING–Keep ventilation openings, in both the freezer and the built-in structure, clear of obstruction.

2) WARNING–Do not touch the interior of the freezer with wet hands. This could result in frost bite.

3) WARNING–Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.

4) WARNING–Do not damage the refrigerant circuit.

5) WARNING–Do not damage the refrigerant tubing when handling, moving, or using the freezer.

6) WARNING–DANGER–Never allow children to play with, operate, or crawl inside the freezer. Risk of child entrapment. Before you throw away your old freezer:

6-1) Take off the doors

6-2) Leave the shelves in place so that children may not easily climb inside

7) Unplug the freezer before carrying out user maintenance on it.

8) This freezer can be used by children age eight years and older and persons with reduced physical or mental capabilities or lack of experience and knowledge if they are given supervision or instruction concerning the use of the freezer in a safe way and understand the hazards involved. Children should not play with the freezer. Cleaning and maintenance should not be performed by children without supervision.

9) If a component part is damaged, it must be replaced by the manufacturer, its service agent, or similar qualified persons in order to avoid a hazard.

10) Please dispose of the freezer according to local regulations as the freezer contains flammable gas and refrigerant.

11) Follow local regulations regarding disposal of the freezer due to flammable refrigerant and gas. All refrigeration products contain refrigerants, which under the guidelines of federal law must be removed before disposal. It is the consumer's

responsibility to comply with federal and local regulations when disposing of this product.

12) This freezer is intended to be used in household and similar environments.

13) Do not store or use gasoline or any flammable liquids inside or in the vicinity of this freezer.

14) Do not use extension cords or ungrounded (two-prong) adapters with this freezer. If the power cord is too short, have a qualified electrician install an outlet near the freezer. Use of an extension cord can negatively affect the freezer's performance.

Grounding requirement

This freezer must be grounded. This freezer is equipped with a cord having a grounding wire with a grounding plug. The plug must be inserted into an outlet that is properly installed and grounded.

Improper use of the grounding plug can result in a risk of electric shock. Consult a qualified electrician or service person if the grounding instructions are not completely understood, or if doubt exists as to whether the freezer is properly grounded.

2.2 Safety instruction for refrigerant

Explosion Hazard.

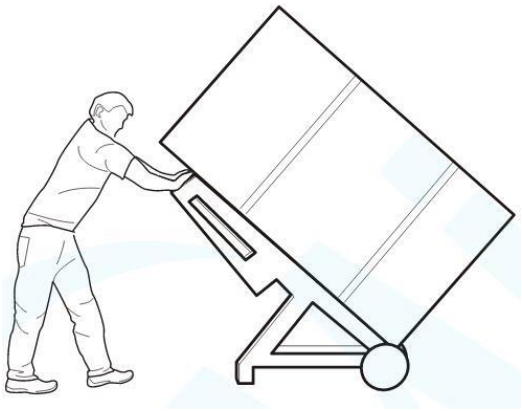
Keep flammable materials and vapors, such as gasoline, away from freezer. Failure to do so can result in fire, explosion, or death.

Safety instruction for refrigerant

DANGER–Risk of Fire or Explosion. Flammable Refrigerant Used. To Be Repaired Only By Trained Service Personnel. Do Not Use Mechanical Devices. Do Not Puncture Refrigerant Tubing. CAUTION–Risk of Fire or Explosion. Flammable Refrigerant Used. Consult Repair Manual/Owner's Guide Before Attempting To Service This Product. All Safety Precautions Must be Followed. CAUTION–Risk of Fire or Explosion. Dispose of Properly In Accordance With Federal Or Local Regulations. Flammable Refrigerant Used. CAUTION–Risk of Fire or Explosion Due To Puncture Of Refrigerant Tubing; Follow Handling Instructions Carefully.
Flammable Refrigerant Used.

3. Installation and commissioning

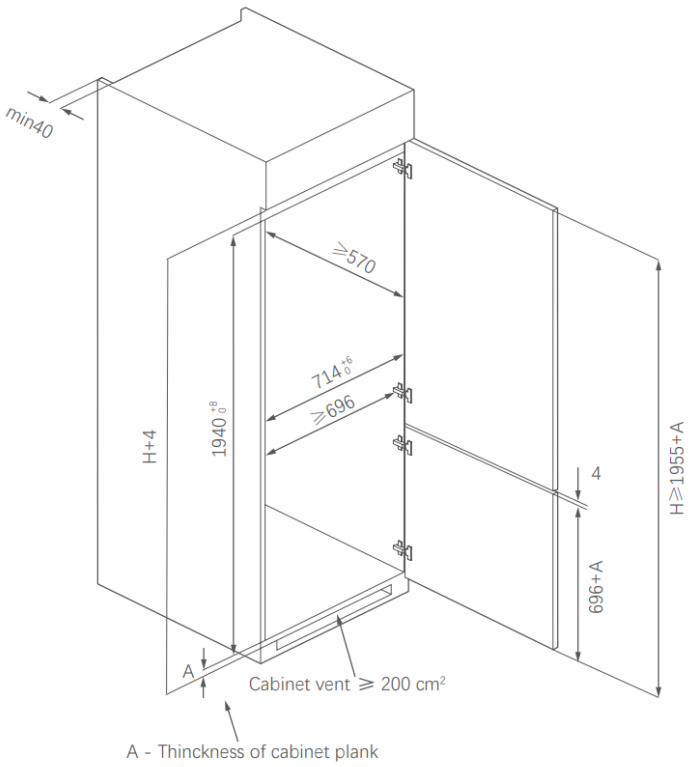
3.1 Handling

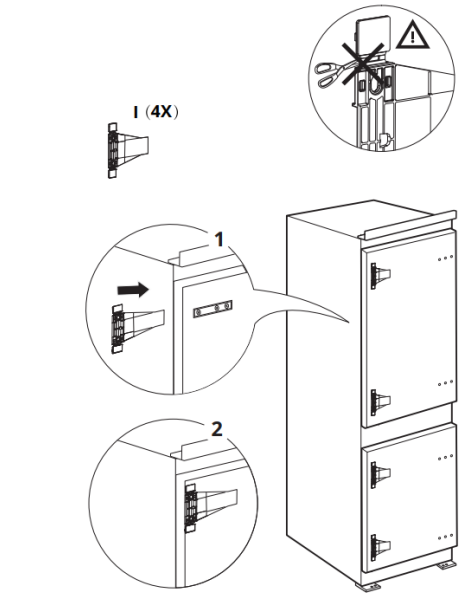
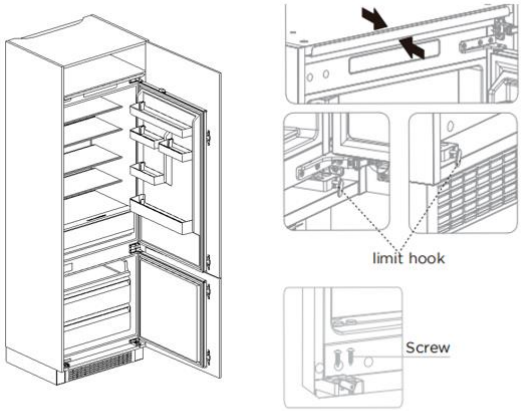
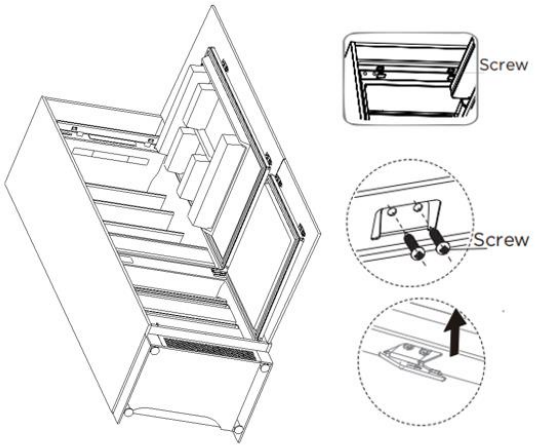
Handling	
1)Protect the refrigerator during moving it, same as shown as right photo, please move it by handcart with cushion 2)Remove all packing materials and bottom cushion, then move into house for placement 3)After moving it to appropriate location, wait for 2 hours bef ore power on.	

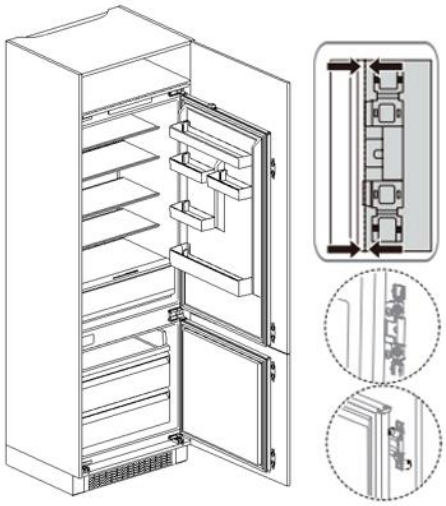
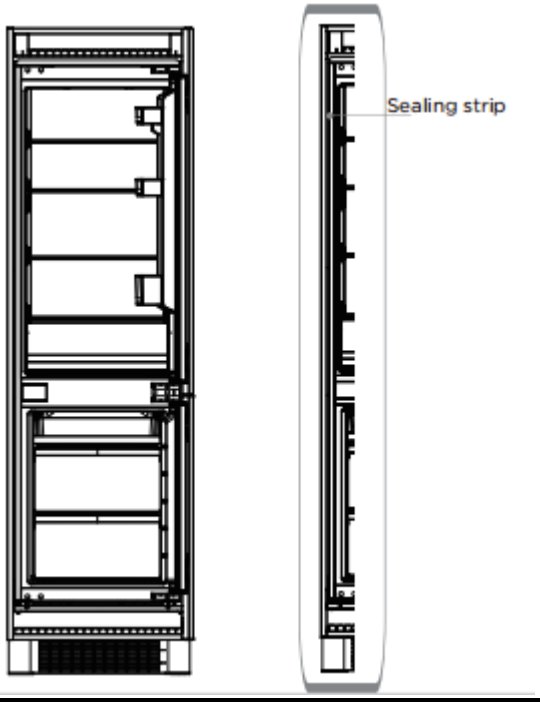
3.2Door Disassembly and Assembly

The refrigerator door needs to be dismantled if it cannot enter the room in the whole.

3.3 Installation location

Installation location	
Refrigerator is installed in the cabinet and the size requirements such as the right figure.	

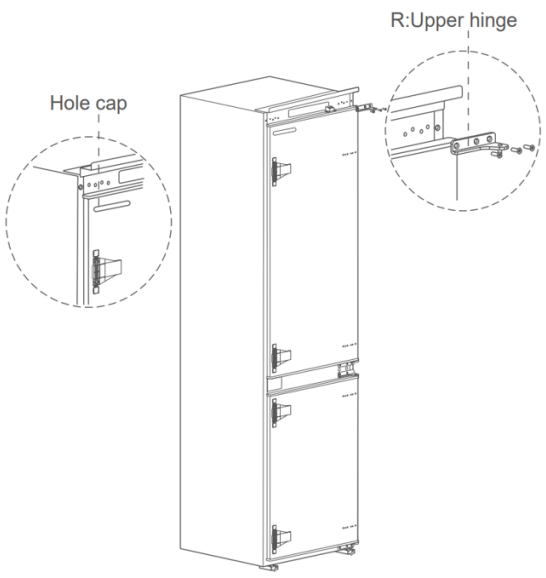
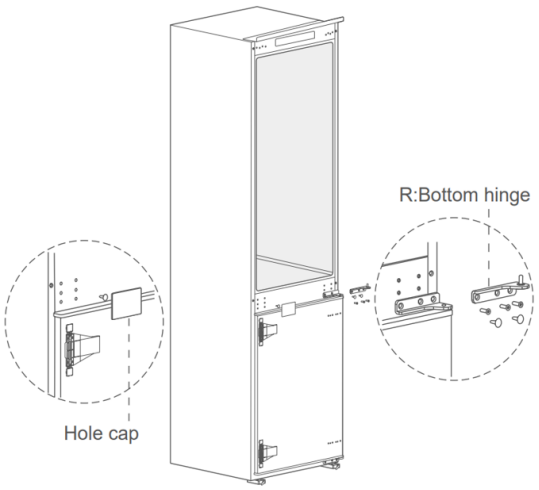
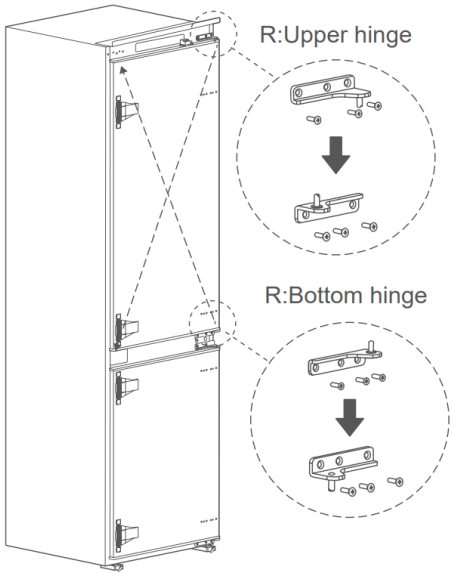
Installation Steps	
1） Open the attachment package, take out the slide rail fixing plate, and install it on the door's slide rail (Attention: Do not damage the fixing plate).	
2） Push the refrigerator into the cabinet and adjust it to make sure the edge fold of top baffle completely touch the top edge of the cabinet, and the limit hook of supporting leg completely touch the bottom edge of the cabinet. 3） Fix the supporting leg with screws, then install the screw caps.	
4） Fix the top baffle to the top of the cabinet inner with screws, then install the screw caps.	

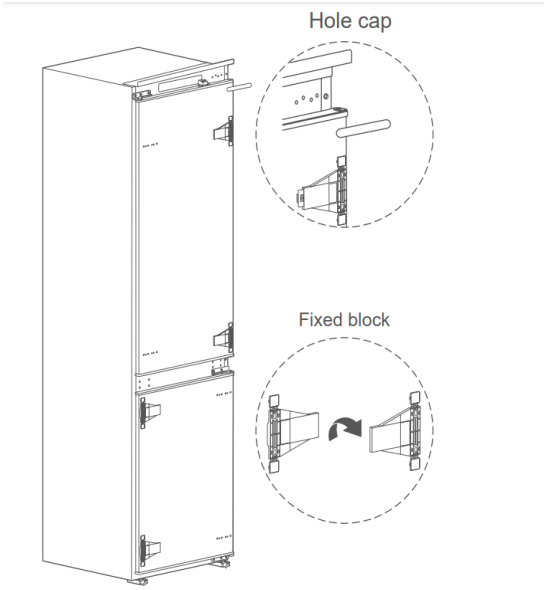
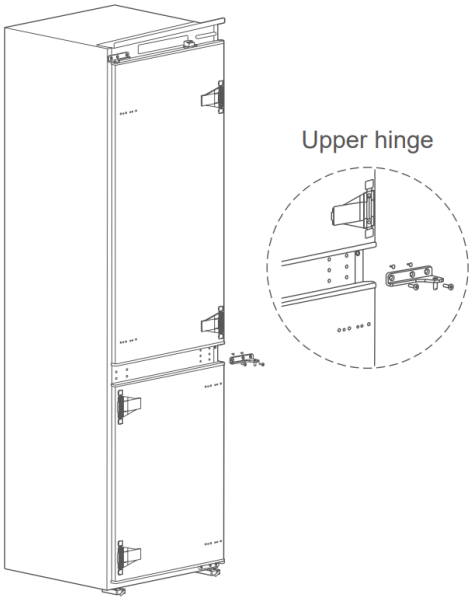
5） Open the lower door of cabinet the maximum angle, and open the lower door of the refrigerator to the corresponding position. Sliding the block to make sure inner edge align with the lower door edge of refrigerator, then fix the block to the door of cabinet with screw and install screw caps. Fix the upper refrigerator door to the cabinet door in the same way. Exchange the fixed position of the adjustable foot and the bottom hinge, then fix them again.	
6） Take out the sealing strip from accessory bag, and press it in the gap between the cabinet and the refrigerator. Installation is completed.	

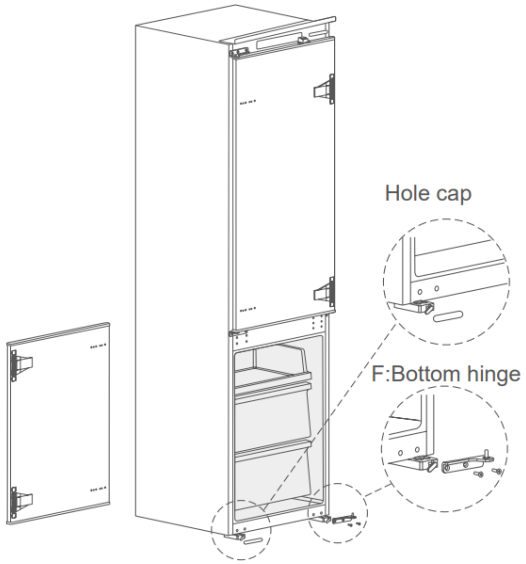
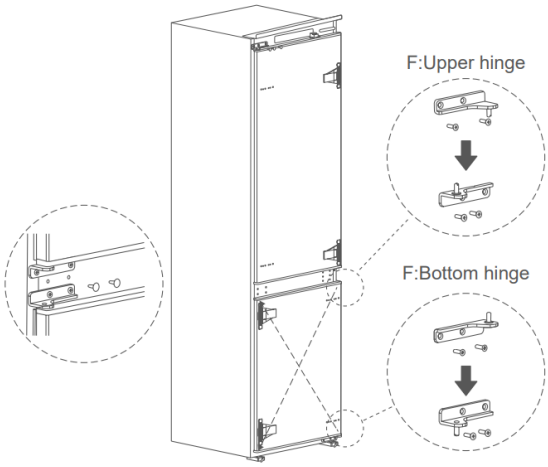
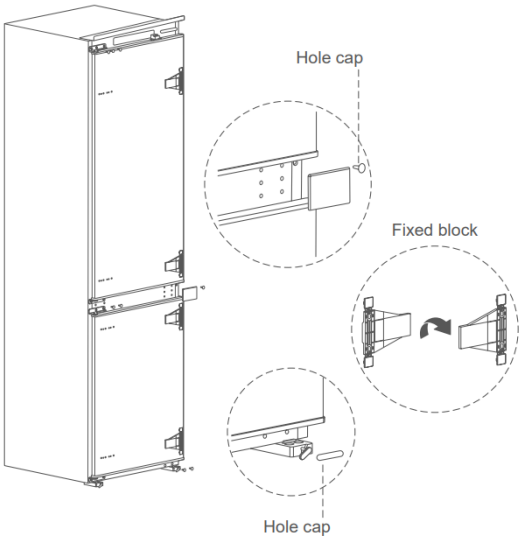
3.4 Leveling of the refrigerator

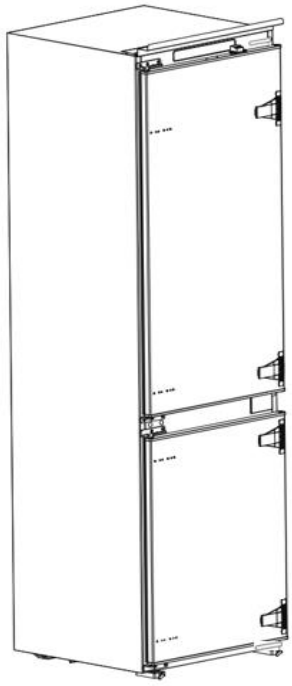
Leveling of the refrigerator	
The refrigerator does not need to be leveled.	\

3.5 Left or right open-door reversal

1. Power off the refrigerator, and remove all objects from the door trays. 2. Remove the upper hinge and hole caps of the refrigerator door.	
3. Remove the refrigerator door, the bottom hinge and the hole cover.	
4. Exchange the bottom hinge and upper hinge, then assemble them with the refrigerator door.	

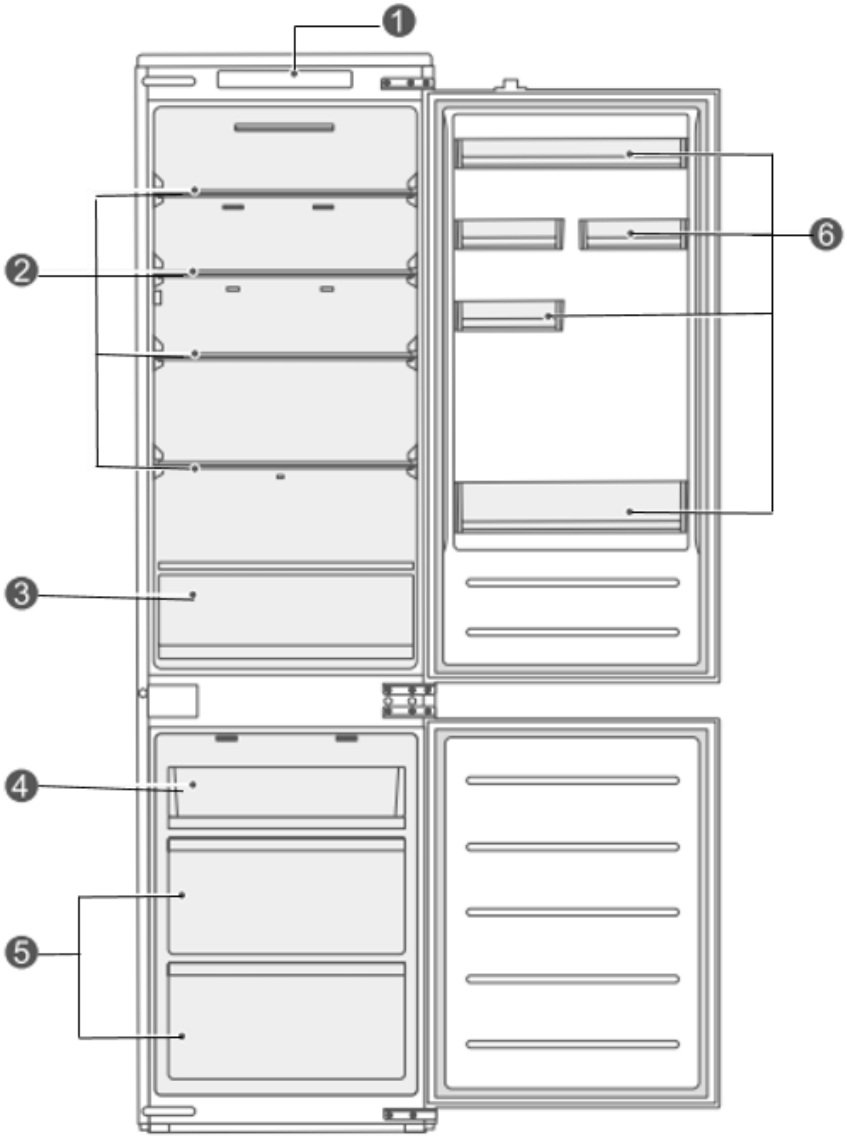
5. Assemble the hole caps， remove the fixed block of fridge door and rotate it for 180°, assemble it on the other side of the refrigerator door.	
6.Remove the upper hinge and hole caps of the freeze door.	

7.Remove the freeze door, the bottom hinge and the hole cap.	
8. Exchange the bottom hinge and upper hinge, then assemble them with the freeze door.	
9. Assemble the hole caps，remove the fixed block of fridge door and rotate it for 180°, assemble it on the other side of the freeze door.	

10.Finished	

4. Main parts and external dimension

4.1 Main parts

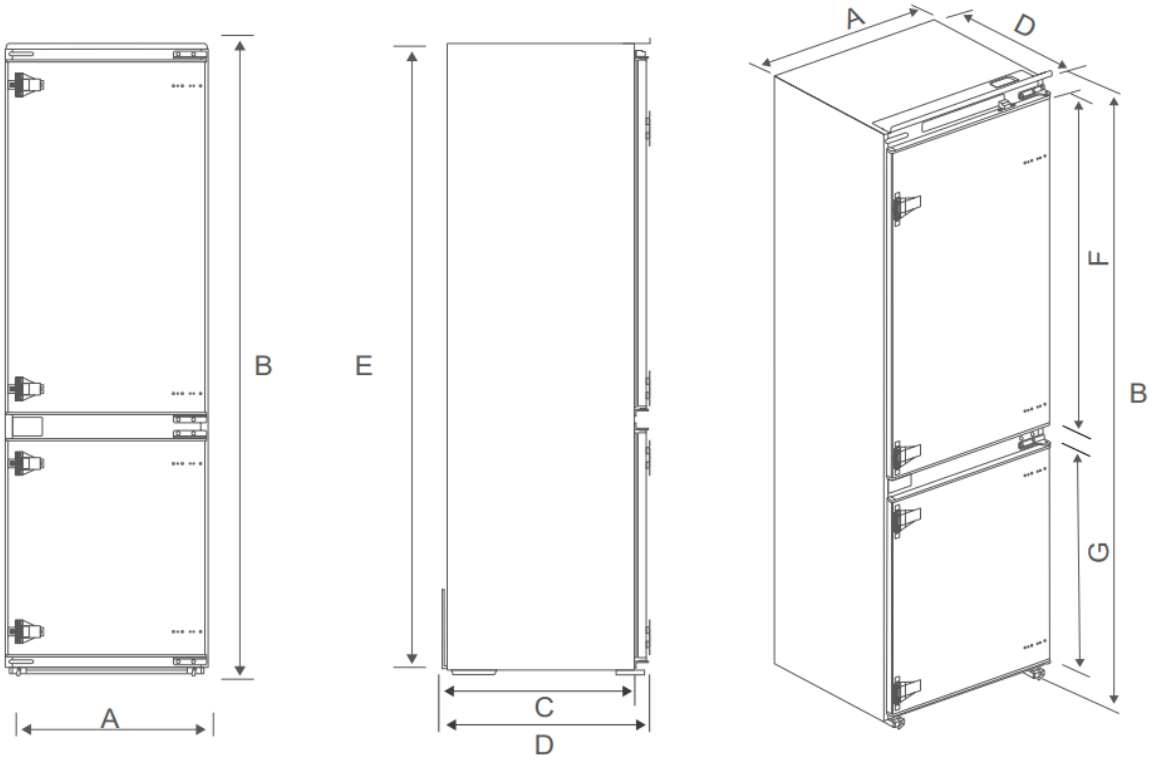


1	Temperatre control	2	Glass shelf
3	Fruits and vegetables box	4	Small Drawer
5	Big Drawer	6	Door tray

(The picture is only for reference, and specific appearance and configuration are subject to the real product)

4.2 External dimension

Description	Code	Size (mm)
Width	A	690
Overall Height	B	1953
Depth to match the cabinet	C	515
Overall Depth	D	550
Height to match the cabinet	E	1937
refrigerator door height	F	1161
freezer door height	G	621.5

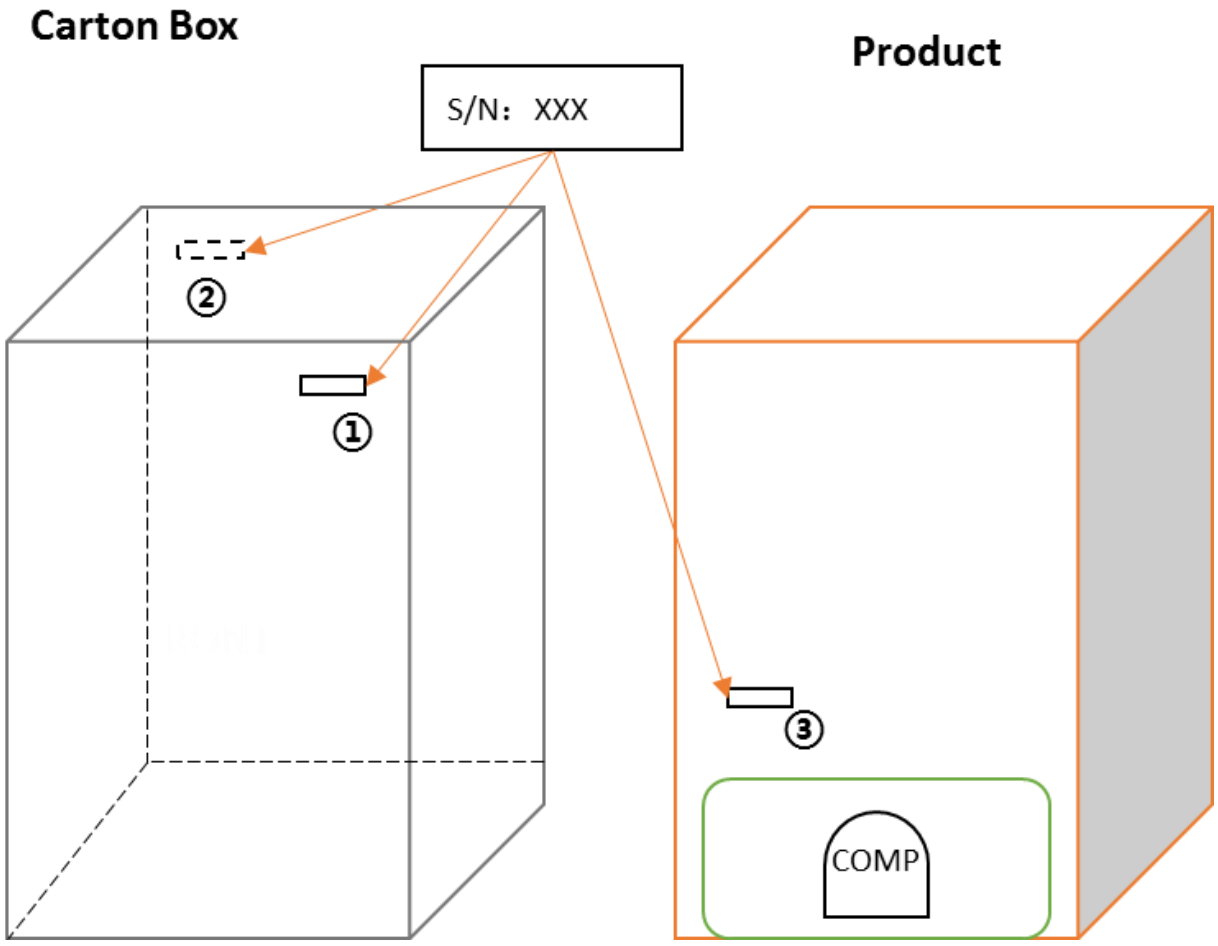


(The picture is only for reference)

4.3 Midea product serial number and location

1） Product Serial Number — Including order number, production date and other information. When the product occur problem, it needs to be recorded or photographed and provided to us.

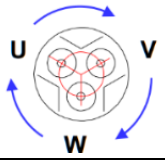
2）Paste location



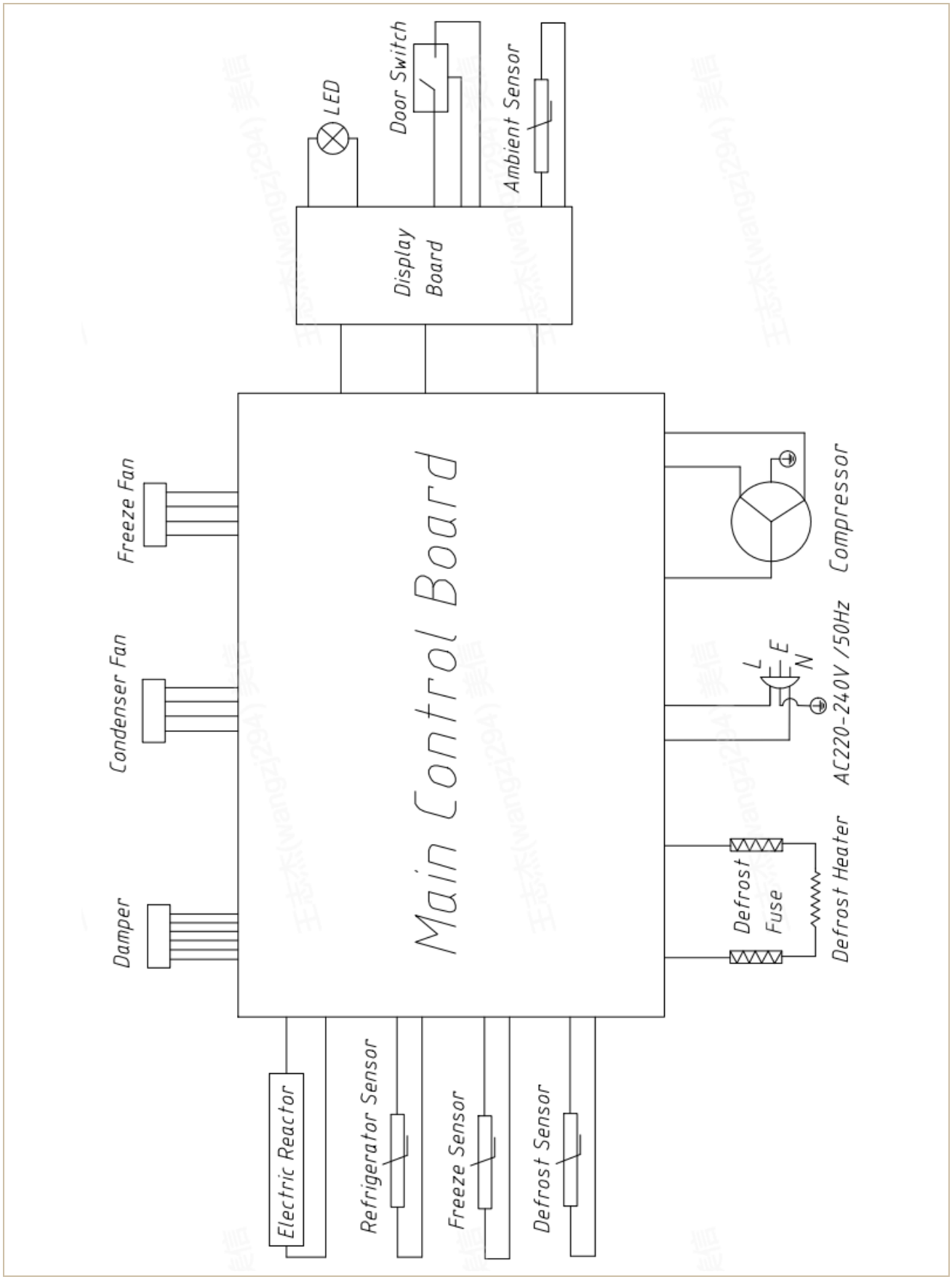
Some products also have S/N on the lower part of the right side of the Cabinet.

5. Electric control system

5.1 Electrical parameters

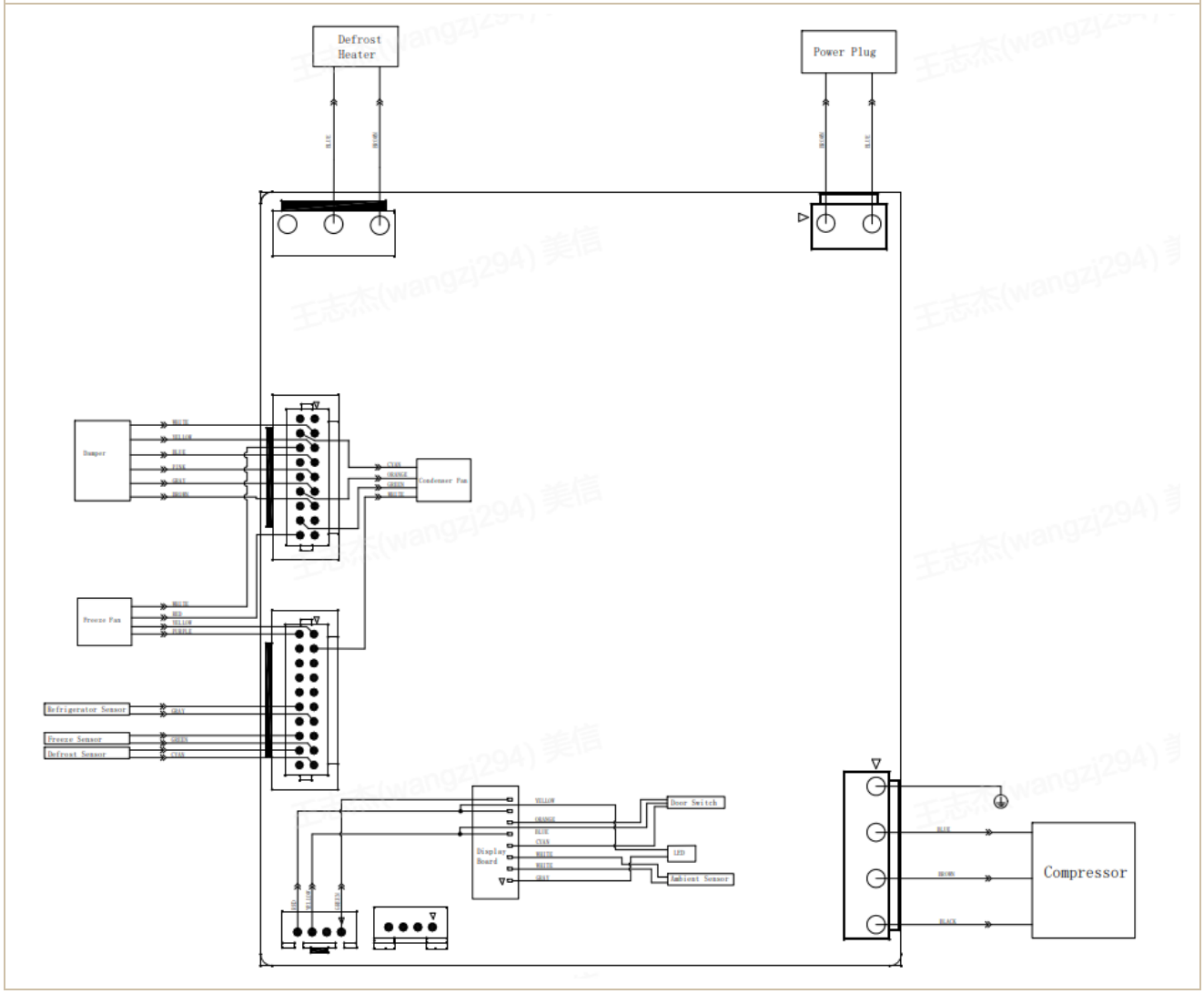
Applicable Model	HD-533RWEN.BI	
Product Model	CE-BCD410WX-KT	
Rated Voltage	220-240V、50Hz	
Item	**Specification**	
Refrigerant	R600a	
Compressor	DZ75A1W	
Starting device type	Inverter	
The COP of compressor	1.63~1.96(W/W)	
The max cooling capacity of compressor	180W	
Winding resistance of compressor wiring terminal (20℃)	U-W: 20.5Ω±7% U-V: 20.5Ω±7% W-V: 20.5Ω±7%	
Winding resistance picture		
Starter (PTC)	None	
Overload protector (OLP)	None	
Integrate PTC+OLP	None	
Inverter driver board	MDBX-ZBYT-C-I	
Capacitor	None	
Power filter (EMI)	None	
Power reactor (EU EMC)	DKQ-0016	
Motor		
Fan motor of the freezing chamber	DC12V、2.8W	
Fan motor of the refrigerating chamber	None	
Electric damper	DC12V、1W	
Lights		
Lights inside the refrigerating chamber	12V、MAX 5W	
Lights inside the freezing chamber	None	
Others Lights	None	
Switch of the light	□Mechanical switch ■Magnetism control switch	
Defrosting parts		
Defrosting sensor	NTC B3839 (B5/25=3839K±2%)	
Fuse in freezing chamber	250V、77（-5-0）℃	
Defrost heater in freezing chamber	230V、185W	

5.2 Circuit diagram



5.3 Wiring diagram

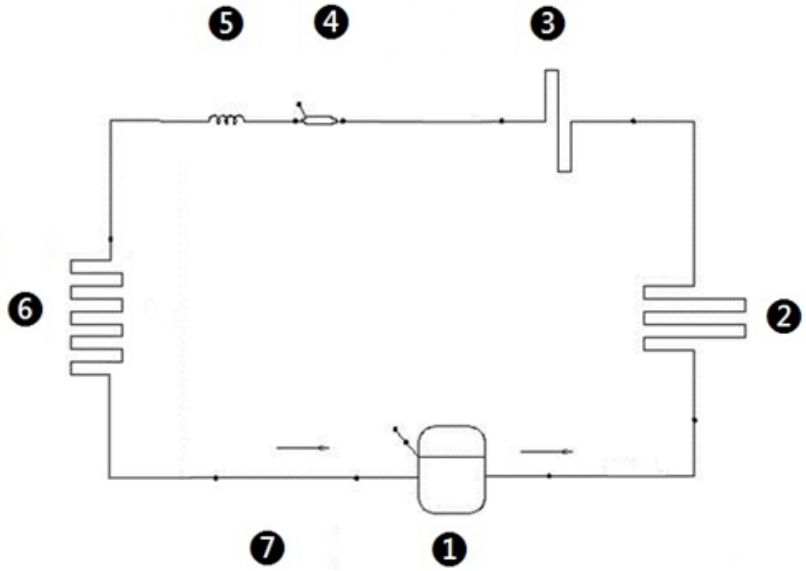
REF_Wiring diagram_CE-BCD4



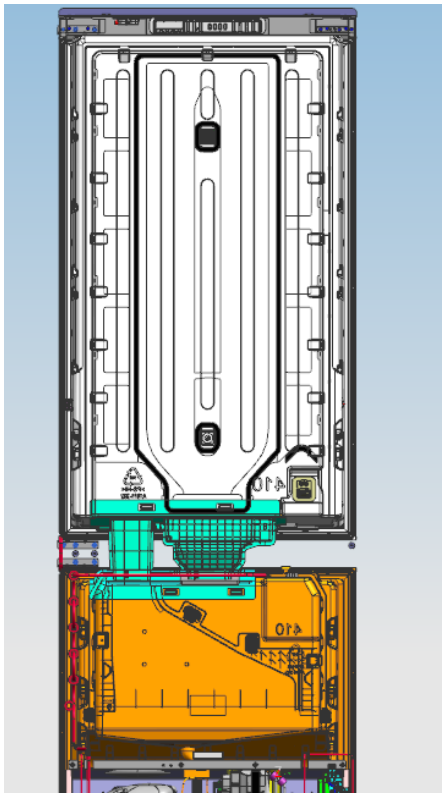
6. Refrigeration system

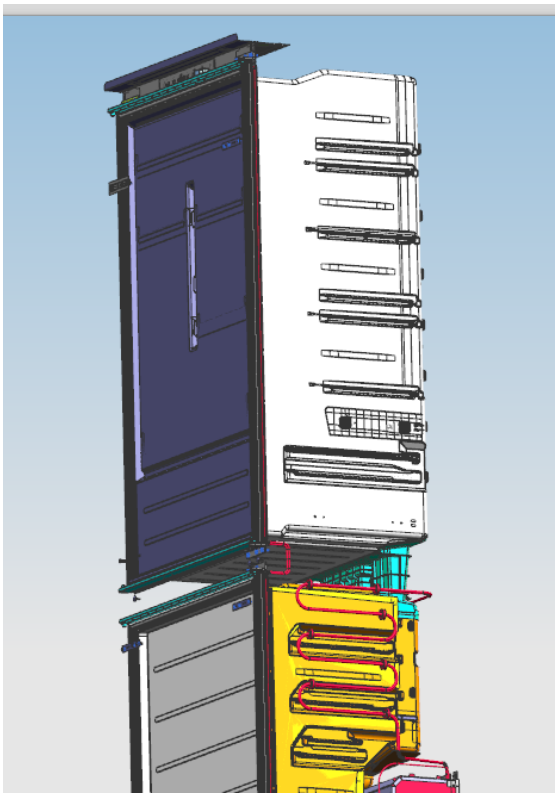
6.1 Refrigerating piping system

❶Compressor→❷ condenser→❸Anti-condensation tube→❹ Dry filter→❺ Capillary tube→❻ Evaporator→❼ Suction tube→❶Compressor

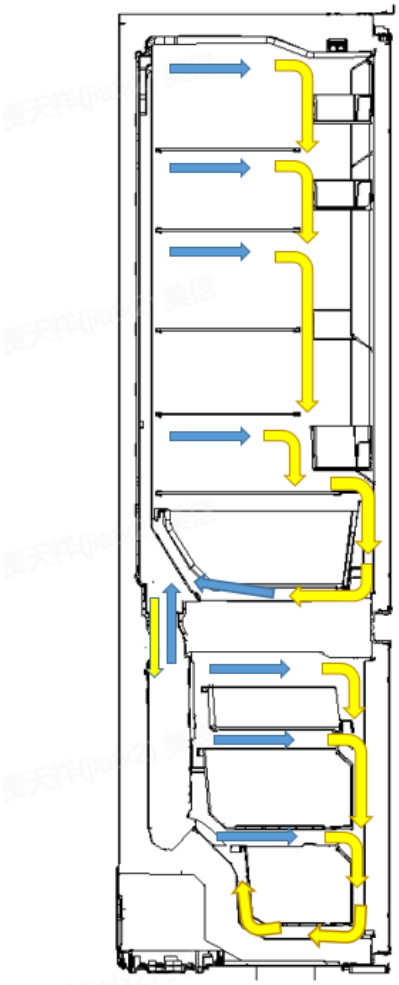


6.2 Cooling pipeline and drain pipe inside the cabinet

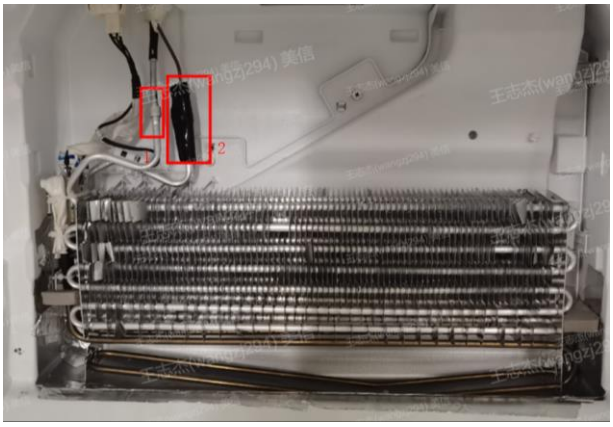




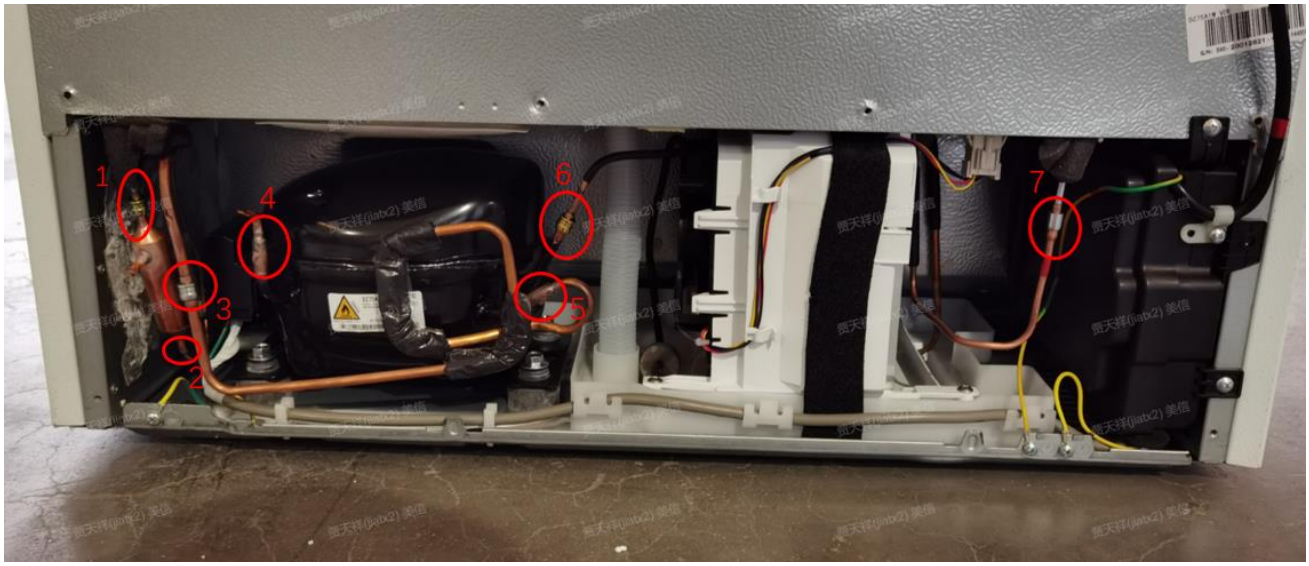
6.3 Circulating route of cooling air



6.4 Welding points in chambers or foam layer

1) Welding points on freezer evaporator		
Welding point	**Pipe outer diameter (mm)**	
1-Freezer capillary and inlet of evaporator	Copper pipe: Φ6	Aluminum pipe: Φ6.35
2-Heat transition tube and outlet of evaporator	Copper pipe: Φ7	Aluminum pipe: Φ6.35

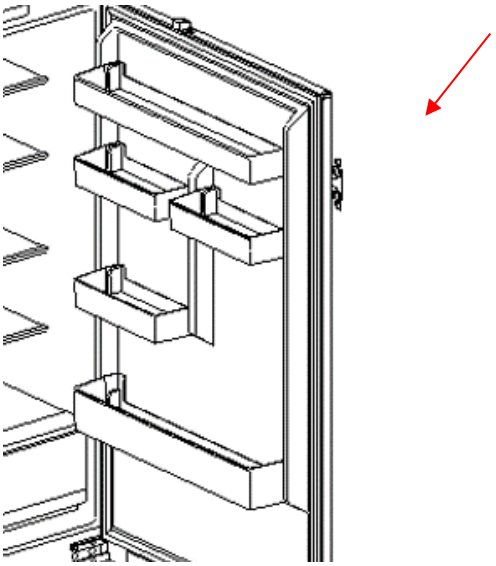
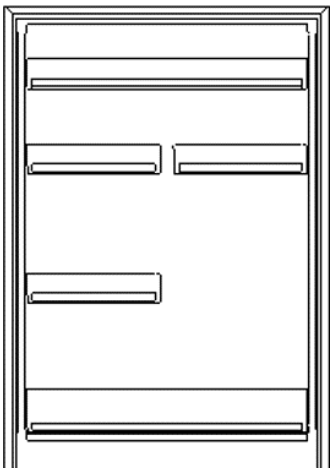
6.5 Pipe welding point in the compressor case



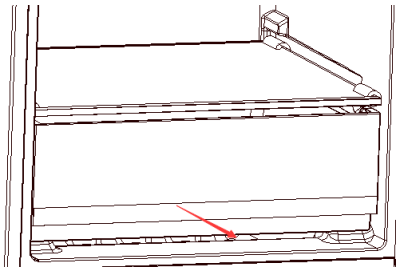
Pipe welding point	Pipe outer diameter (mm)	
1-Outlet of anti-condensation tube and inlet of dry filter	Steel pipe: Φ4.0	Copper pipe: Φ5.0
2-Outlet of dry filter and inlet of freezer capillary	Copper pipe: Φ2.8	Copper pipe: Φ1.8
3-Out of heat transition tube and inlet of suction connection pipe	Copper pipe: Φ6.0	Copper pipe: Φ6.0
4-inlet of suction tube of compressor and outlet of process tube	Copper pipe: Φ6.17	Copper pipe: Φ6.0
5-Outlet of suction connection pipe and compressor intake tube	Copper pipe: Φ6.0	Copper pipe: Φ6.17
6-Outlet of venting tube of compressor and inlet of condenser	Steel pipe: Φ6.17	Steel pipe: Φ4.0
7-Outlet of condenser and inlet of anti-condensation tube	Steel pipe: Φ4.0	Steel pipe: Φ4.0

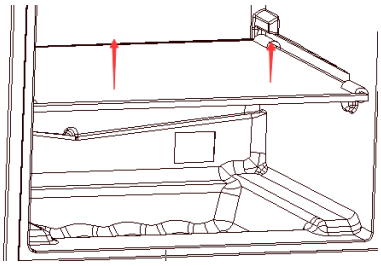
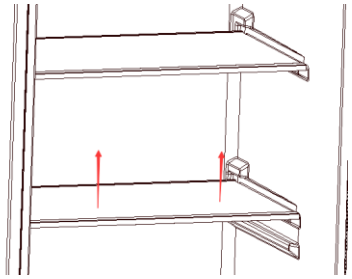
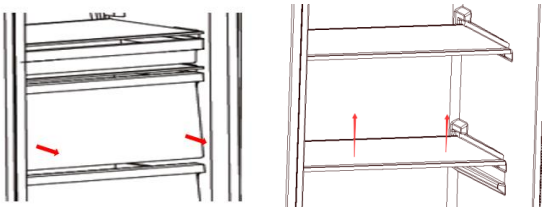
7. Dismantling of parts

7.1 Parts on the door（*）

Door seal	
Door seal is installed into door liner groove. 1)Open the refrigerator door. 2)Take the door seal ① out of door liner.	
Door tray	
While squeezing it inward, lift up the baffle and take it out from refrigerator liner.	

7.2 Parts inside the refrigerator

Refrigerator Fruit box cover	
Remove the crisper cover of ref. compartement accordin g to below steps: 1）Take out the crisper firstly. 2）Pull out the crisper cover completely.	

	
Shelves	
1）Lift up the division plate with a proper force and pull it out towards yourself.	
Drawer	
Remove the drawer cover of ref. compartement according to below steps: 1）Take out the drawer firstly. 2）Pull out the drawer cover completely.	

7.3 Light system

Light	
Light of the refrigerating chamber is located upper chamber 1）Use a flathead screwdriver to gently pry open the lampshade. 2）Remove the LED lamp 3）Pull out the terminal, forcefully remove the cover near the terminal end of the lampshade, and extract the light board. 4）The reverse process can complete installation.	 

Light switch

There is a light switch on the upper beam assembly.

1) Use a screwdriver to pry open the display and control installation box.
2) Remove the terminal，Remove the light switch.
3) The reverse process can complete installation.

7.4 Air duct components refrigerating chamber and motorized damper

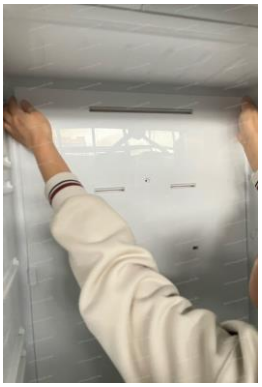
Air duct components in freezing chamber

All accessories in the refrigerating chamber should be dismantled before removing the air duct components.

1） Use a Phillips screwdriver to pry open the screw cover and remove 2 screws from the refrigerator air duct cover.

2） Press both ends of the upper part of the air duct cover with both hands and remove the cover from top to bottom.

3） Pull out the connector terminal of the sensor.



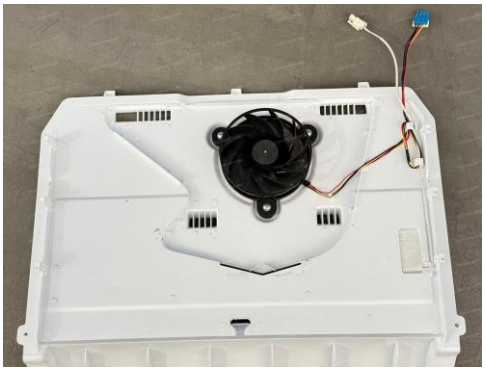
Motorized damper	
1) Before disassembling the electric damper, the refrigeration room air duct should be removed. 2) Unplug the damper terminal. 3) Simply remove the damper assembly from the box by hand.	  

7.5 Air duct components in freezing chamber and fan motor

Air duct components in freezing chamber	
All accessories in the freezing chamber should be dismantled before removing the air duct components. 1）Remove 2 screws on the cover plate of the freezing air duct using a cross screwdriver. 2）Pull out the connector terminal of the fan motor and the sensor.	 

Fan

1) Remove the aluminum foil and sponge from the rear panel of the air duct, and then manually remove the rear panel of the air duct outward to expose the fan.
2) The fan is fastened with three screws, removing screws and removed
3) Change the fan, the reverse operation for assembly.

7.6 Evaporator and Defrost system

Evaporator in freezing chamber	
1） Remove the air duct components in freezing chamber. 2） Disconnect all connectors. 3） Remove the welding on inlet and outlet tubes. 4） Hold both sides of the evaporator with your hands and pull it out with force to remove it.	

Components on the evaporator

Fuse

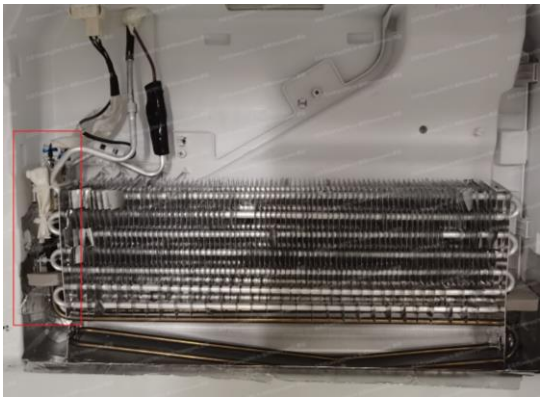
The fuse is located on top of the evaporator

1） connect the fuse connector.

2） Cut off the band which fixes the fuse.

3） Separate the fuse and the evaporator.

*Don’t break the welding of the evaporator in case that only the fuse needs to be replaced.



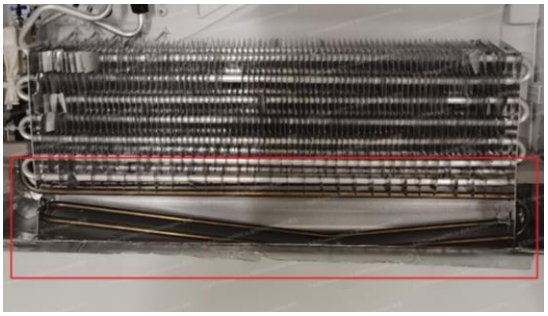
Defrost heater

The defrost heater is located at bottom of the evaporator.

1） Disconnect the connector of defrost heater.

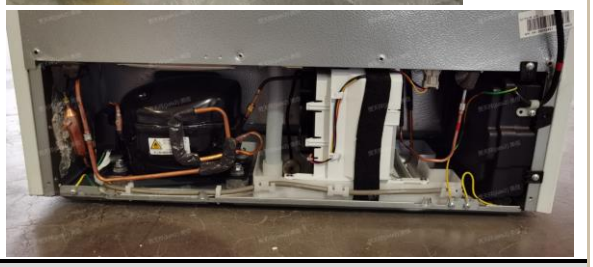
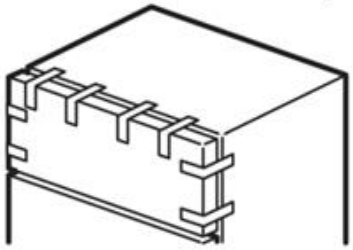
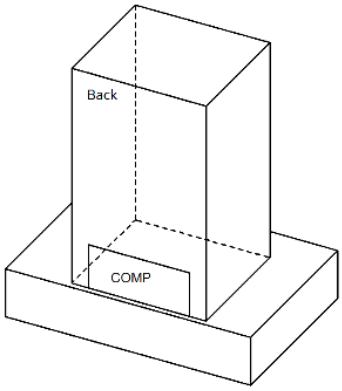
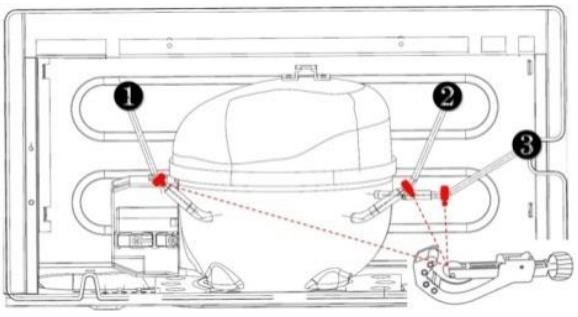
2） Cut off the band which fixes the defrost heater.

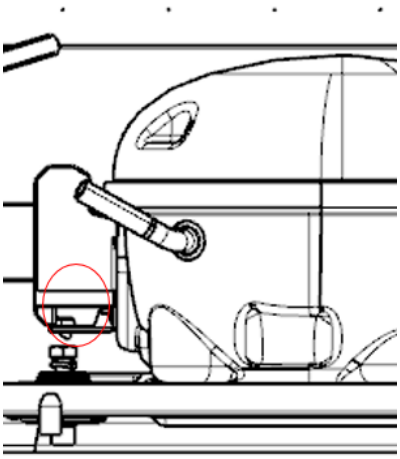
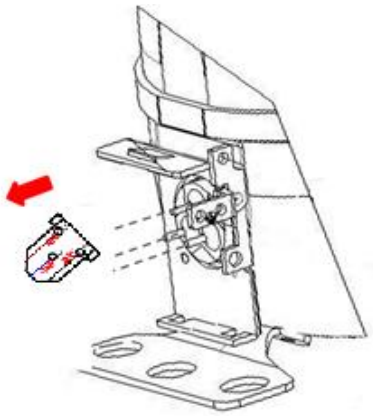
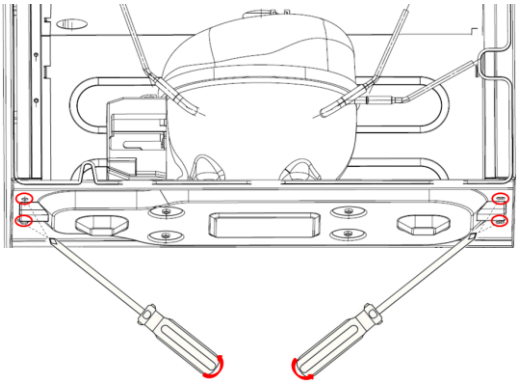
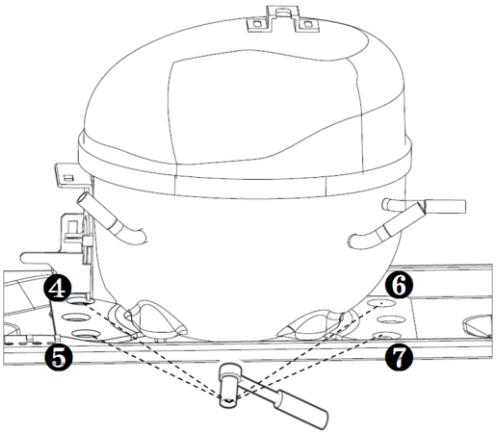
3） Take off the defrost heater from the evaporator.

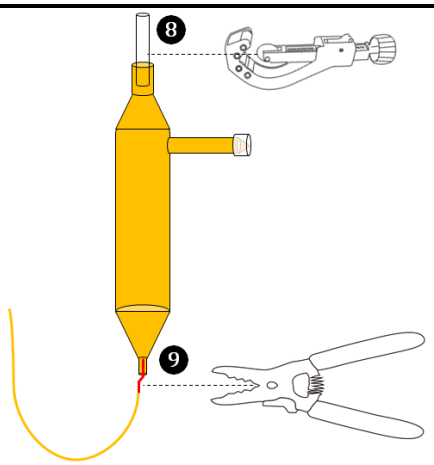
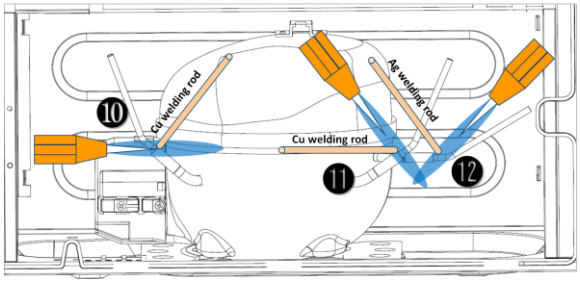
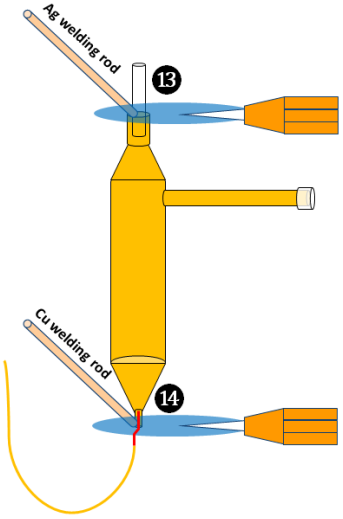
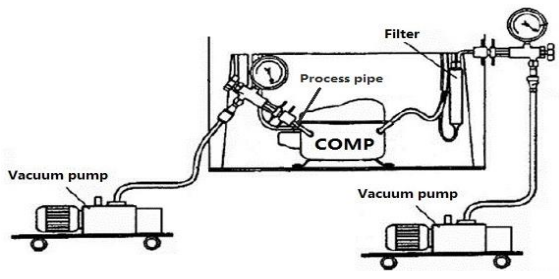
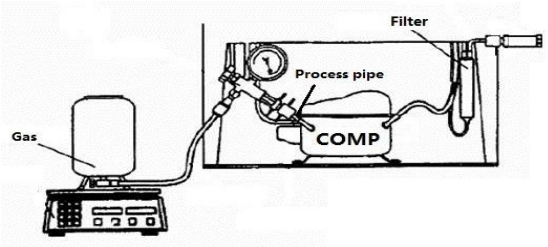


7.7 Compressor case

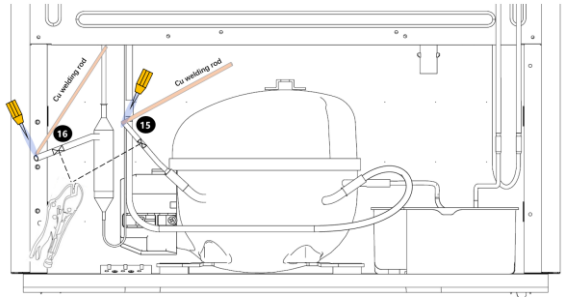
Rear cover and compressor case

1） Use a screwdriver to remove the screws from the compressor rear cover plate 2） Remove the compressor cover to fully view the compressor compartment	 
Compressor and the cooling system pipe	
1）Cut off the power, remove the goods in the refrigerator, with the tape to make the door fixed firmly and prevent the door dropping when the refrigerator dumping.	
2）Place the refrigerator in an area that is open, ventilated, and away from fire sources. Then placing on an operating table and securing it firmly.	
3）Cut off the compressor pipeline. -❶Cut off the process pipeline. -❷Cut off the low-pressure muffler. -❸Cut off the high-pressure exhaust pipe.	

4) **Remove the protective cover** -Pry the protective cover slowly from the upper part, -Pull it out and remove it.	
7）**Remove the connecting terminals** Unplug the connection terminals of a compressor. (you can use a screwdriver to pry it slowly)	
6）Loosen the screw of the compressor bottom plate, remove the floor together with the compressor from the box.	
7）Use the wrench to remove the bolts by steps❹❺❻❼, replace the compressor and reverse process can complete installation.	

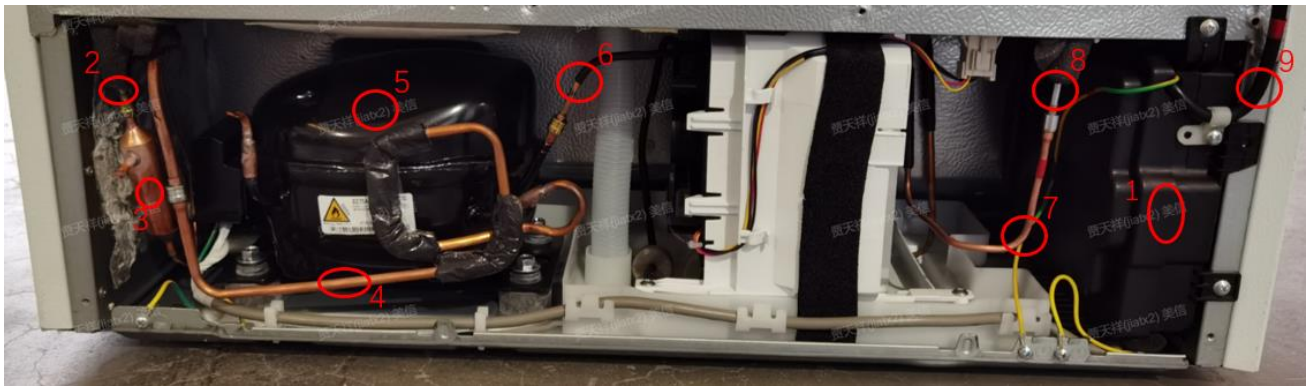
8）Use Pipe cutter cut off the condenser tube❽, then Shear off capillary ❾ by the capillary tube scissors.	
9）Replace the compressor and welding the compressor pipeline. -❿Welding the process pipeline. -⓫Welding the low-pressure muffler. -⓬Welding the high-pressure exhaust pipe.	
10）Replace the filter, Cu-Fe tubes welding ⓭ used Ag welding rod, Cu-Cu tubes welding⓮ used Cu welding rod.	
11）Vacuum system,The degree of vacuum below 3Pa.	
12）Perfusion refrigerant.	

13）Use the vise grip pliers clamp the middle of the process pipe, then seal welding process tube❶❺❶❻.



Piping system in the compressor case

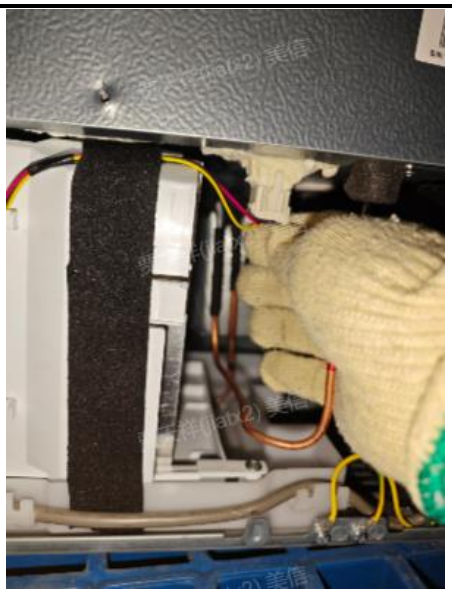
❶ main control board box assembly
❷anti-dew tupe assembly(exit)
❸ dry filter
❹ suction transition tube
❺ compressor
❻condenser(enter)
❼.condenser(exit)
❽.anti-dew tupe assembly(enter)
❾.Power wire



Parallel flow condenser assembly

1）Remove the fixing screws at the bottom of the mounting plate, unplug the fan terminals and drainage pipes, cut off the pipes, and manually remove the entire parallel flow component for replacement

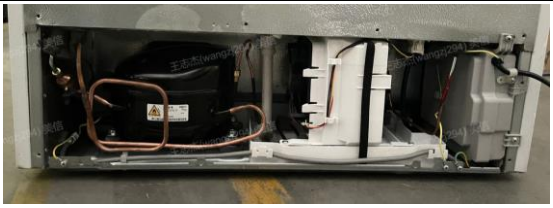
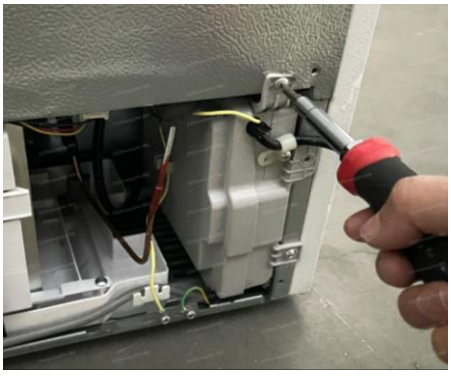
2） Replace the parallel flow condenser assembly, the reverse process can complete installation.

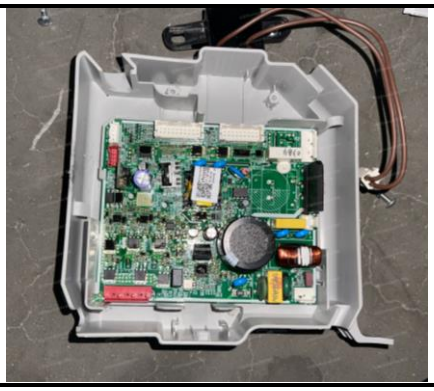


7.8 Display control board

Display control board	
1） Use a screwdriver to pry open the display control installation box 2） Release the terminal and remove the display and control board 3） Replace the master control board in reverse steps;	

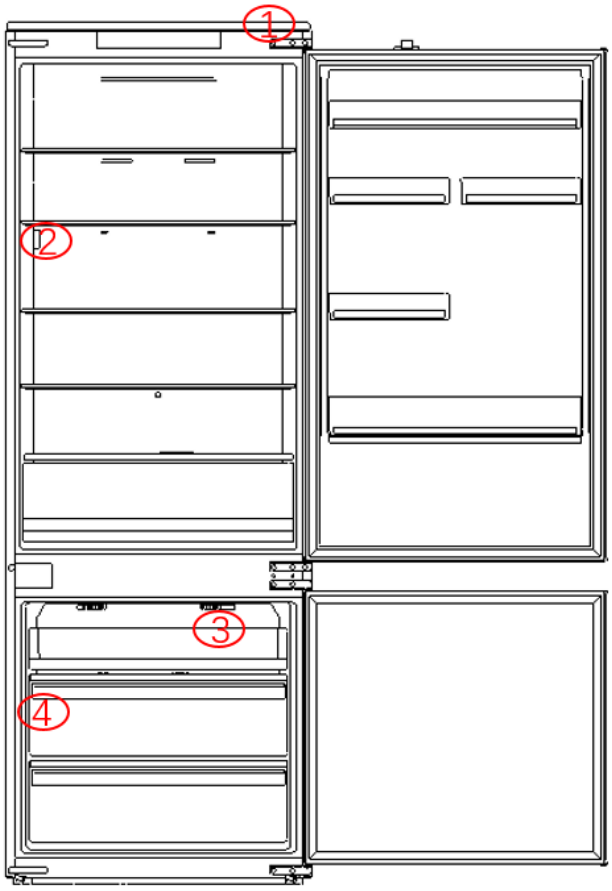
7.9 Main control board

Main control board	
Before removing the main control board, the compressor rear cover needs to be removed first 1） The main control board box is located compressor case. 2） Using a cross screwdriver to remove 3 screws which secure the main control board installation box, then use hand to remove it. 3） Pry open the buckle of the main control board installation box with a straight screwdriver or by hand. 4） using a cross screwdriver to remove 2 screws which secure the reactance， removing it. 5） Pull all connector terminals out and then remove the main control board. 6） Replace the master control board in reverse steps.	 

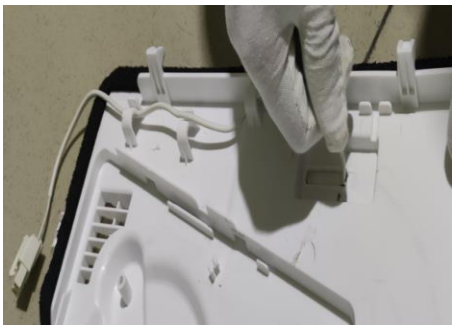
	

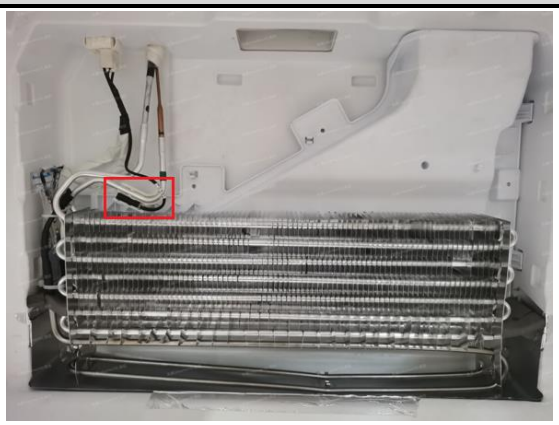
8. Temperature sensing system

8.1 Position of sensors

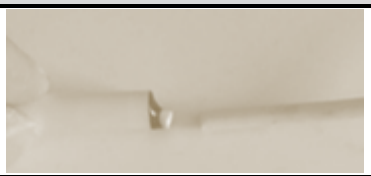
Position of sensors	
Have 4 sensors ① Ambient temperature sensor ② Sensor in refrigerating chamber ③ Sensor in freezing chamber ④ Defrost sensor of freezing chamber	

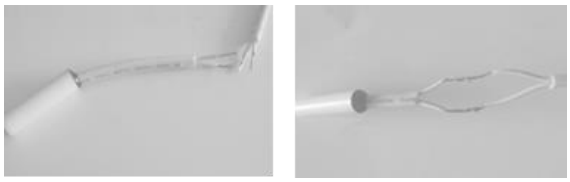
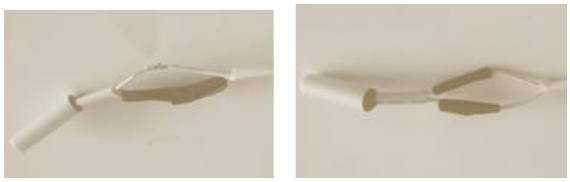
8.2 Replacement of sensors

Sensor in refrigerator/freezing chamber	
1） Before remove the sensor, the refrigerator/freezing duct assembly should be removed first. Remove the air duct assembly from the refrigerator/freezing. 2） Remove the sensor.	

	
Ambient temperature sensor	
The ambient temperature sensor is located on the top beam	
Defrost sensor	
The defrost sensor is located on top of the evaporator. 1） Disconnect the connector of defrost sensor 2） Cut off the band which fixes the sensor. 3） Separate the sensor and the evaporator. **Don't break the welding of the evaporator in case that only the sensor needs to be replaced.	

8.3 Sensor without terminal replacement

Sensor replacement guidelines	
Cut off the damaged head of sensor.	
Strip off the sensor wiring.	
Take out a new sensor to cut the head of sensor. (Spare parts code：11201007000795) Its technical specifications apply to all MIDEA refrigerators.	

Strip off the head of the sensor and connect it.	
Wrap the two wires together with insulation tape.	
Wrap the two wires together.	

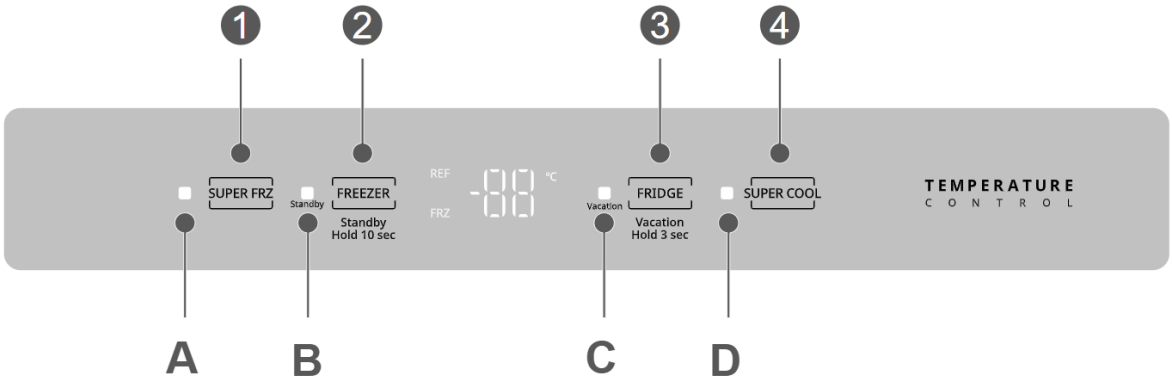
8.4 Sensor resistance (R/T)

Tx(℃)	R (KΩ)	Tx(℃)	R (KΩ)	Tx(℃)	R (KΩ)	Tx(℃)	R (KΩ)	Tx(℃)	R (KΩ)
-30	33.81	**-15**	14.31	**0**	6.495	**15**	3.141	**30**	1.617
-29	31.85	**-14**	13.55	**1**	6.175	**16**	2.999	**31**	1.55
-28	30.01	**-13**	12.83	**2**	5.873	**17**	2.865	**32**	1.486
-27	28.29	**-12**	12.16	**3**	5.587	**18**	2.737	**33**	1.426
-26	26.68	**-11**	11.52	**4**	5.315	**19**	2.616	**34**	1.368
-25	25.17	**-10**	10.92	**5**	5.06	**20**	2.501	**35**	1.312
-24	23.76	**-9**	10.35	**6**	4.818	**21**	2.391	**36**	1.259
-23	22.43	**-8**	9.82	**7**	4.589	**22**	2.287	**37**	1.209
-22	21.18	**-7**	9.316	**8**	4.372	**23**	2.188	**38**	1.161
-21	20.01	**-6**	8.841	**9**	4.167	**24**	2.094	**39**	1.115
-20	18.9	**-5**	8.392	**10**	3.972	**25**	2.005	**40**	1.071
-19	17.87	**-4**	7.968	**11**	3.788	**26**	1.919	**41**	1.029
-18	16.9	**-3**	7.568	**12**	3.613	**27**	1.838	**42**	0.9885
-17	15.98	**-2**	7.19	**13**	3.447	**28**	1.761	**43**	0.9506
-16	15.12	**-1**	6.833	**14**	3.29	**29**	1.687	**44**	0.914

9. Function and operation

9.1 Display operation panel

Icons	Button
LED A：Super FRZ mode LED B：Standby mode LED C：Vacation mode LED D：Super COOL mode	❶：Super freezing mode ❷：Freeze temperature adjustment ❸：Refrigeration temperature adjustment ❹：Super cooling mode



9.2 Display

1) When the first power is on, the LED and digital display area will be fully displayed for 3 seconds, and the boot bell will ring at the same time, and then enter the normal operation display; The default temperature for refrigeration is 5°C, and the default temperature for freezing is -20°C.
2) The display board is on when the refrigerating door is closed to open, and it will be extinguished in 30 seconds after the door closed. display board off state, press any key, display board light, and then can be adjusted operation.
3) When the refrigerator door is opened from a closed state, the display panel lights up and turns off within 30 seconds after the door is closed. If the door remains open for 120 seconds, the buzzer will sound an alarm, beeping three times, then four times after a one-minute interval, then five times after another one-minute interval, and so on, until it beeps thirty times per minute continuously. The alarm can be stopped by either closing the door or pressing any button.
4) Adjust the temperature or set the mode, it will take effect after 15 seconds of no operation, and the display panel will turn off after another 15 seconds of no operation. In the state of the display panel being off, press any key to turn on the display panel, and then you can perform temperature adjustment operations.

9.3 Temperature control

9.3.1 Temperature setting of refrigerating chamber

Click the **FRIDGE** button to change the set temperature of refrigerating chamber, each click of

temperature adjusting button of the refrigerating chamber, the set temperature will be reduced 1 °C. The temperature setting range of refrigerating chamber is 2~8 °C. When the set temperature is 2 °C, click the button again, the set temperature of refrigerating chamber will switch to 8 °C.

9.3.2 Temperature setting of freezing chamber

Click the **FREEZER** button to change the set temperature of freezing chamber, each click of temperature adjusting button of the freezing chamber, the set temperature will be reduced 1 °C. The temperature setting range for freezing chamber is -24~ -16°C. When the temperature is -24 °C, click the button again, the set temperature of freezing chamber will switch to -16 °C

9.4 Mode setting

9.4.1 Super cooling mode

Set: Press the **"SUPER COOL"** button once, the indicator light will light on. The setting takes effect automatically after 15 seconds. The temperature of the refrigerator compartment is automatically set to 2°C and will automatically exit after 6 hours of operation.

Exit: Press the **"SUPER COOL"** button again to exit the super cooling mode.

9.4.2 Super freeze mode

Set: Press the **"SUPER FRZ"** button once, the indicator light will light on. The setting takes effect automatically after 15 seconds. The temperature of the freezer compartment is automatically set to -24°C and will automatically exit after 40 hours of operation.

Exit: Press the **"SUPER FRZ"** button again to exit the super freezer mode.

9.4.3 Vacation mode

Press and hold the **Fridge** button 3 seconds to set the Vacation mode.

When the Vacation mode is set, the refrigeration is closed, the refrigeration temperature display area is off, and the freezing room is automatically set to - 18 ℃.

Adjust the **Fridge** /**Freezer /Super Cool/ Super Freezer** button to exit the Vacation mode.

When exiting the Vacation mode, the set temperature of the refrigeration room and freezing room will automatically return to the set temperature. Enter normal operation mode.

9.4.4 Control of standby function

Entry method: Long press the temperature adjustment button for 10 seconds to enter standby mode, LED2 lights up, others turn off, and all refrigerator loads are turned off.

Exit method：

In standby mode, press and hold the freezing temperature adjustment button for 10 seconds to exit standby mode, and the display panel will return to the display state before the standby mode was set;

Power-off does not retain memory

9.5 lock and unlock Settings

Lock and unlock

No lock or unlock function.

The setting takes effect 15 seconds after no operation.

9.6 Open door alarm

When the fridge door is opened and the door is open for 120 seconds, the buzzer will alarm until the fridge door is closed. Or press any key to cancel the buzzer alarm.

9.7 Defrosting function

Defrosting principle:

The defrosting of the evaporator is heated by the defrosting heater. The temperature rises to melt the ice and frost accumulated on the evaporator into water and discharge it to the water receiving tray of the press bin for evaporation.

Defrosting steps:

The compressor is closed, the damper is closed, and the fan is opened for 10min when the door is not opened The compressor closes, the damper closes, the defrosting heating wire opens, the fan closes - the defrosting heating closes and exits when the conditions are met - after a delay of 7 min - the compressor closes, the defrosting heating wire closes, the damper opens for 15 s, and the refrigeration fan opens for 15 s - if the starting conditions are met, the compressor starts - the electric damper resets once - after a delay of 3 min, or the temperature of the refrigeration defrosting sensor is lower than - 20 ℃, The fan motor starts.

Exit defrosting heating when one of the following conditions is met:

1) The freezing and defrosting sensor has no fault, and the measured temperature TFD of the defrosting temperature sensing head is ≥ the defrosting exit set temperature;

2) The refrigeration and defrosting sensor has no fault, and the defrosting time is ≥ 60 minutes;

3) The freezing and defrosting sensor is faulty, and the heater exits after 30 minutes.

9.8 Fault code and solutions

Note: Midea full common fault code, combined with the actual product display reference.

Error code	Fault Type	Troubleshooting and Solutions
E1	Temperature sensor fault in refrigerating chamber	**Step 1**: Check whether the connection terminals are plugged in place and whether there are foreign matters in them; after cleaning the terminals, plug them in again. **Step 2**: If the fault still occurs, pull out the corresponding connection terminal on the main control PCB, use a multimeter to check the resistance value of the sensor, and confirm whether it is normal. **Step 3**: If the resistance value is wrong, replace the sensor. **Step 4**: If the fault still occurs, replace the main control PCB.
E2	Temperature sensor fault in freezing chamber	
E5	Defrost sensor fault in freezing chamber	
E6	Main control PCB and Display control PCB	**Step 1**: Check whether the connection terminal on the display control panel, hinge cover and main control PCB are plugged in

	communication fails	place and whether there are foreign matters in them; after cleaning the terminals, plug them in again. **Step 2**: If the fault still occurs, pull out all connection terminals, use a multimeter to check the resistance value of the wire between the display control board and the main control PCB to see if it is broken. If test value is ∞Ω, the wire is broken.(If the wire in the door is broken, replace the door. Other conditions cannot be repaired.) **Step 3**: If the wire is OK, replace the display control board. **Step 4**: If the fault still occurs, replace the main control PCB.
E7	Ambient temperature sensor fault	**Step 1**: Check whether the connection terminals are plugged in place and whether there are foreign matters in them; after cleaning the terminals, plug them in again. **Step 2**: If the fault still occurs, pull out the corresponding connection terminal on the main control PCB, use a multimeter to check the resistance value of the sensor, and confirm whether it is normal. **Step 3**: If the resistance value is wrong, replace the sensor. **Step 4**: If the fault still occurs, replace the main control PCB.
EE	Sensor fault at the bottom of freeze ice maker	**Step 1**: Check whether the connection terminal s on the ice maker and the main control PCB are plugged in place and whether there are foreign matters in them; after cleaning the terminals, plug them in again. **Step 2**: If the fault still occurs, pull out the connection terminal on ice maker, use a multi meter to check the resistance value of the sensor, and confirm whether it is normal. **Step 3**: If the resistance value is wrong, replace the sensor. **Step 4**: If the fault still occurs, replace the main control PCB.
EF	Water tank installation failure	**Step 1**: Check whether the water tank is installed in place, pull out the water tank and install it again; **Step 2**: Check whether the connection terminals behind the water tank seat is plugged in place and whether there are foreign matters in it; after cleaning the terminal, plug it in again. **Step 3**: Check whether the switch in the water tank seat is damaged, replace a new switch.
CA	Main control PCB and Ice making PCB Communication fail	**Step 1**: Check whether the connection terminal on the Ice-making PCB (Power board) and main control PCB are plugged in place and whether there are foreign matters in them, after cleaning the terminals, plug them in again. **Step 2**: If the fault still occurs, pull out the connection terminal, use a multi meter to check the resistance value of the wire between the Ice-making PCB (Power board) and the main control PCB to see if it is broken. (If test value is ∞Ω, the wire is broken. Replace it with a new one.)

		Step 3: If the wire is OK, replace the Ice-making PCB. **Step 4**: If the fault still occurs, replace the main control PCB.
L3	Freezer fan fail	**Step 1:** Check whether the connection terminal on the freezer fan plugged on the right place, or whether there are foreign matters in them, after cleaning the terminals, plug them in again. **Step2**：If the fault still occurs, replace the freezer fan.
L4	Abnormal speed fault of the freezer fan	
L5	Condenser fan fail	**Step 1:** Check whether the connection terminal on the condense fan plugged on the right place, or whether there are foreign matters in them, after cleaning the terminals, plug them in again. **Step2**：If the fault still occurs, replace the condense fan.
L6	Abnormal speed fault of the condenser fan	

9.9 Test mode

Test items	Testing Method	Expected result
Select to enter into forced cooling mode	Press the **super cool** button and the **super FRZ** button continuously for 7 seconds to enter the test mode. Press the **FREEZER** button to adjust the mode and select "1 ". The lock takes effect.	1, the compressor is the most high-grade operation; 2. Fan runs in 4 gear; 3. Normal control of other loads;
	Press the **FREEZER** button to adjust until the screen displays "0", and then exit the forced operation mode after locking. Exit mode after 72 hours 。	The refrigerator will exit the test mode and return to normal operation mode
Select to enter into forced defrosting mode	Press the **super cool** button and the **super FRZ** button continuously for 7 seconds to enter the test mode. Press the **FREEZER** button to adjust the mode and select "3". The lock takes effect.	Forced freezing defrosting, freezing defrosting exit temperature is 8℃, without considering the impact of load on defrosting temperature, defrosting heater is turned on strongly for 3 minutes;
	In forced defrosting mode, when the freezing defrosting sensor reach a temperature of 8°C and the defrosting heater has been working for at least 3 minutes.	The refrigerator will exit the test mode and return to normal operation mode

10. Compressor

10.1 Compressor on and off Control specifications

1.1 When one of the following conditions is met, the compressor stops:

1) Tr ≤ Trt；
2) The compressor runs continuously for more than 6 hours (Stop 10 minutes);

1.2 When all the following conditions are met, the compressor starts up:

1) Tr ≥Trk;
2) Compressor downtime is more than 7 min.

★When 1.1 and 1.2 are not satisfied, the compressor maintains the original state

10.2 Inverter board fault analysis

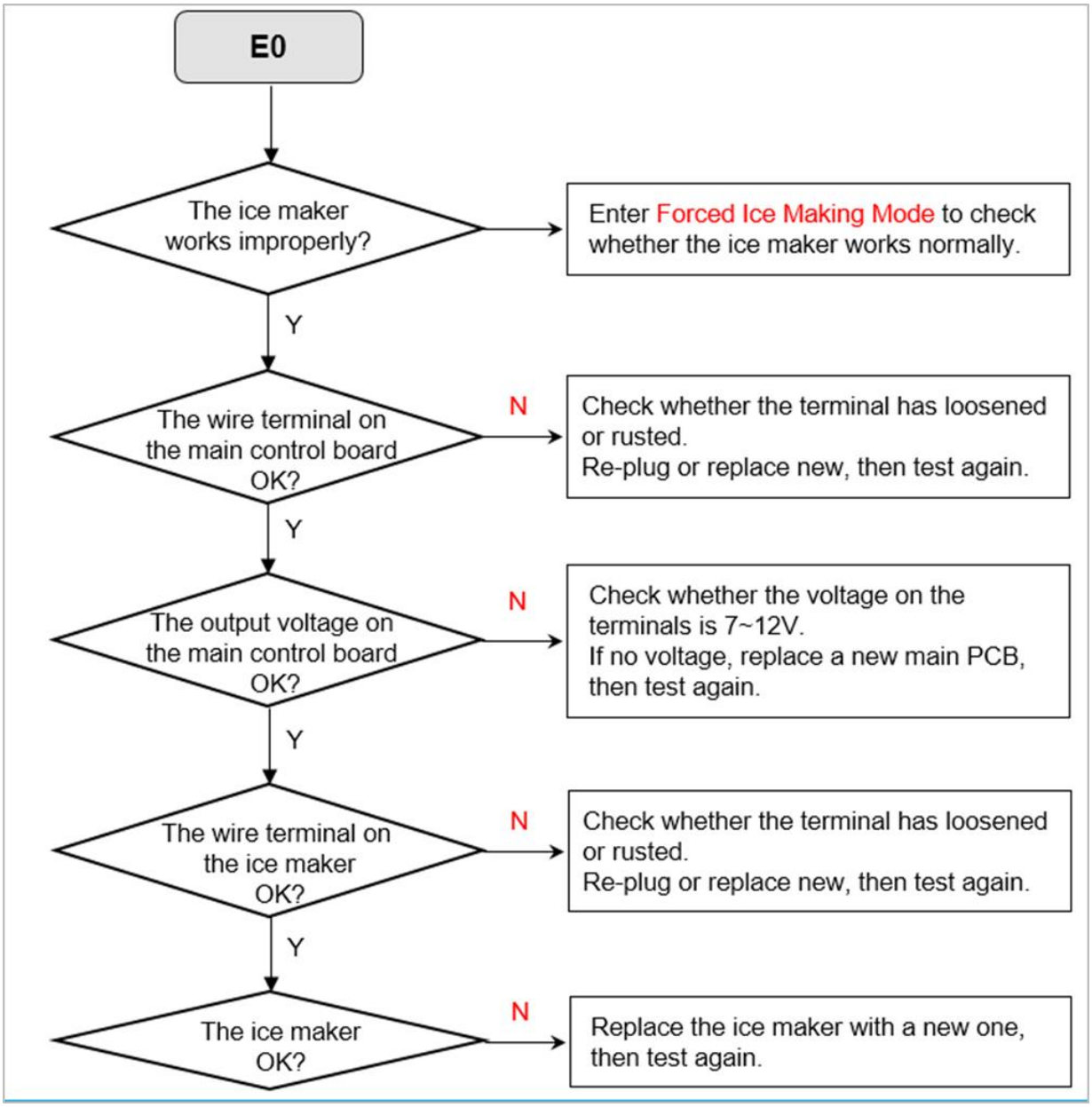
Running status of LED	Fault Type	Troubleshooting and Solutions
Not light	Standby	No repair needed
The light is always on when the power is turned on for the first time, and it is always off after the compressor is turned on and off	Normal working	No repair needed
Blink once: light 0.5 second, extinguish 0.5 second, interval time(extinguish) is 2 second	Software over current protection	Step 1: Disconnect the U-V-W wiring harness, measure the resistance between any two phase of U-V-W terminals (between 5 and 30 Ω and equal in value between any two phase), and measure the resistance between any phase and the fridge metal casing (above 1 MΩ).
		Step 2: If ok, replace a new inverter board
		Step 3: If the fault still occurs, replace a new compressor
Blink twice: light 0.5 second, extinguish 0.5 second, interval time(extinguish) is 2 second	Overvoltage protection	Measure the voltage between L and N
		1）If it is less than 280V, replace a new inverter board
		2）If more than 280V, please check the power supply and power cable
Blink three times: light 0.5 second, extinguish 0.5 second, interval time(extinguish) is 2 second	Under voltage protection	Measure the voltage between L and N
		1）If it is less than 160V, replace a new inverter board
		2）If more than 160V, please check the power supply and power cable
Blink four times: light 0.5 second, extinguish 0.5 second, interval time(extinguish) is 2 second	Hardware over current protection	Step 1: Disconnect the U-V-W wiring harness, measure the resistance between any two phase of U-V-W terminals

		(between 5 and 30 Ω and equal in value between any two phase), and measure the resistance between any phase and the fridge metal casing (above 1 MΩ).
		Step 2: If ok, replace a new inverter board
		Step 3: If the fault still occurs, replace a new compressor
Blink five times: light 0.5 second, extinguish 0.5 second, interval time(extinguish) is 2 second	IPM Hardware temperature throttling	In this case, the inverter is usually normal. If the refrigerator cooling function is working, it may be due to insufficient lubrication inside the compressor. If it is not cooling, then there may be a blockage in the refrigeration circuit.
Blink six times: light 0.5 second, extinguish 0.5 second, interval time(extinguish) is 2 second	Lack of phase protection	Step 1: Check if the UVW wiring harness is securely connected to the inverter board and compressor.
		Step 2: Disconnect the UVW wiring harness, measure the resistance between any two phases of UVW terminals. If the resistance between any one or two phases is infinite, replace the compressor.
		Step 3: Re-power and if the compressor runs for a period of time before tripping, it may indicate a blockage in the piping system.
		Step 4: If the fault still occurs, replace a new inverter board.
Blink seven times: light 0.5 second, extinguish 0.5 second, interval time(extinguish) is 2 second	Voltage bias fault	Step 1: Power off and restart.
		Step 2: If the fault still occurs, replace a new inverter board.
Blink eight times: light 0.5 second, extinguish 0.5 second, interval time(extinguish) is 2 second	Misstep protection	Step 1: After powering on, touch the compressor and wait for the indicator light on the inverter board to light up.
		Step 2: If the compressor does not respond and the indicator light is flashing, it means the compressor is damaged, replace a new compressor.
		Step 3: If the compressor shakes when starting and then protects, replace a new inverter board.
Blink night times: light 0.5 second, extinguish 0.5 second, interval time(extinguish) is 2	Running block protection	Step 1: After powering on, touch the compressor and wait for the indicator light on the inverter board to light up.

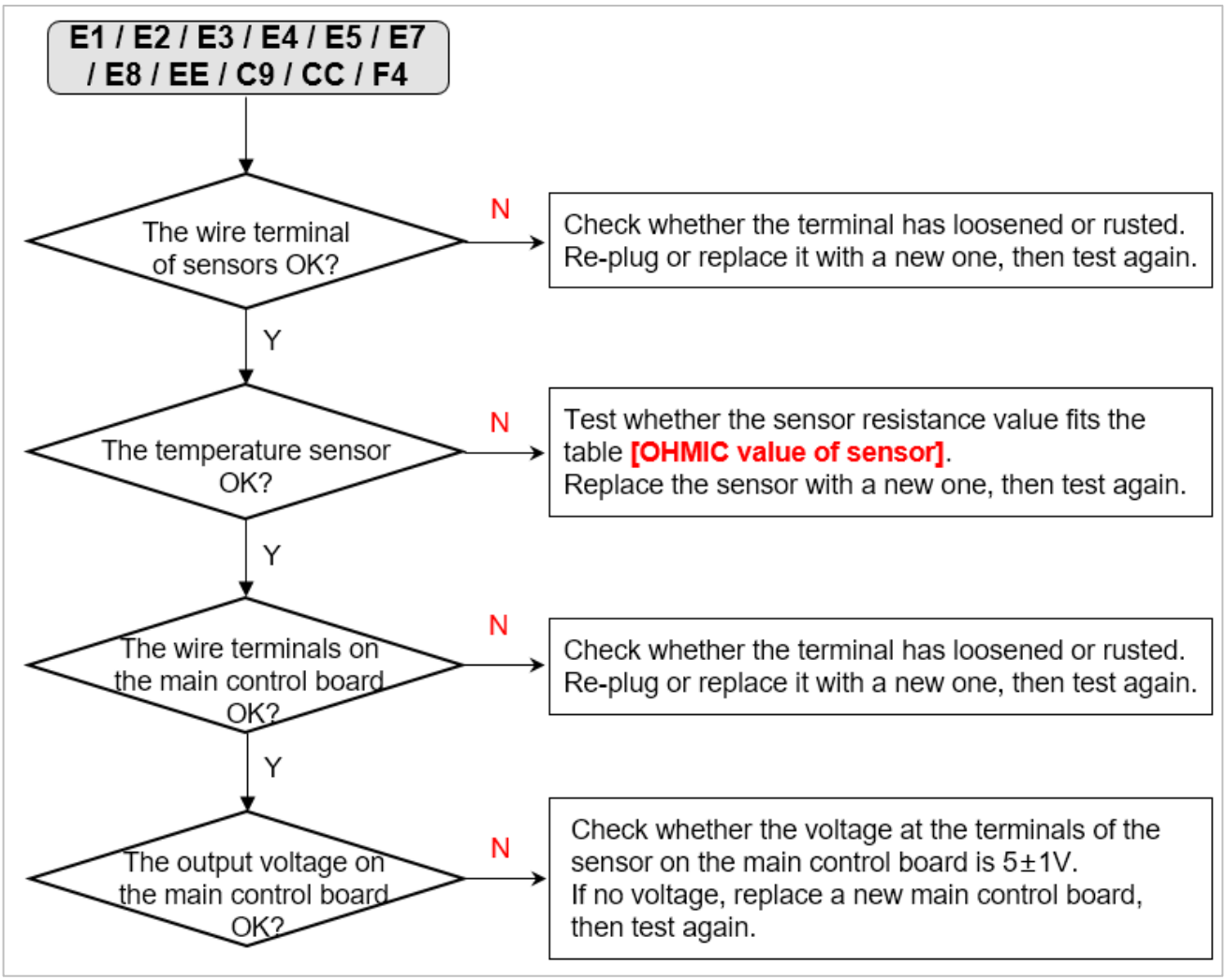
second		Step 2: If the compressor does not respond and the indicator light is flashing, it means the compressor is damaged, replace a new compressor.
		Step 3: If the compressor shakes when starting and then protects, replace a new inverter board.
Blink ten times: light 0.5 second, extinguish 0.5 second, interval time(extinguish) is 2 second	Over-temperature and over-power shutdown protection for variable frequency board	In this case, the inverter is usually normal. If the refrigerator cooling function is working, it may be due to insufficient lubrication inside the compressor. If it is not cooling, then there may be a blockage in the refrigeration circuit.
Blink eleven times: light 0.5 second, extinguish 0.5 second, interval time(extinguish) is 2 second	Starting failure	Step 1: After powering on, touch the compressor and wait for the indicator light on the inverter board to light up.
		Step 2: If the compressor does not respond and the indicator light is flashing, it means the compressor is damaged, replace a new compressor.
		Step 3: If the compressor shakes when starting and then protects, replace a new inverter board.
Blink twelve times: light 0.5 second, extinguish 0.5 second, interval time(extinguish) is 2 second	Power and frequency reduction	In this case, the inverter is usually normal. If the refrigerator cooling function is working, it may be due to insufficient lubrication inside the compressor. If it is not cooling, then there may be a blockage in the refrigeration circuit.
Blink thirteen times: light 0.5 second, extinguish 0.5 second, interval time(extinguish) is 2 second	UART communication failure	Check the communication wiring harness between the main control board and the inverter board. If the connection is good, replace either the main control board or the inverter board.

11. Troubleshooting Method

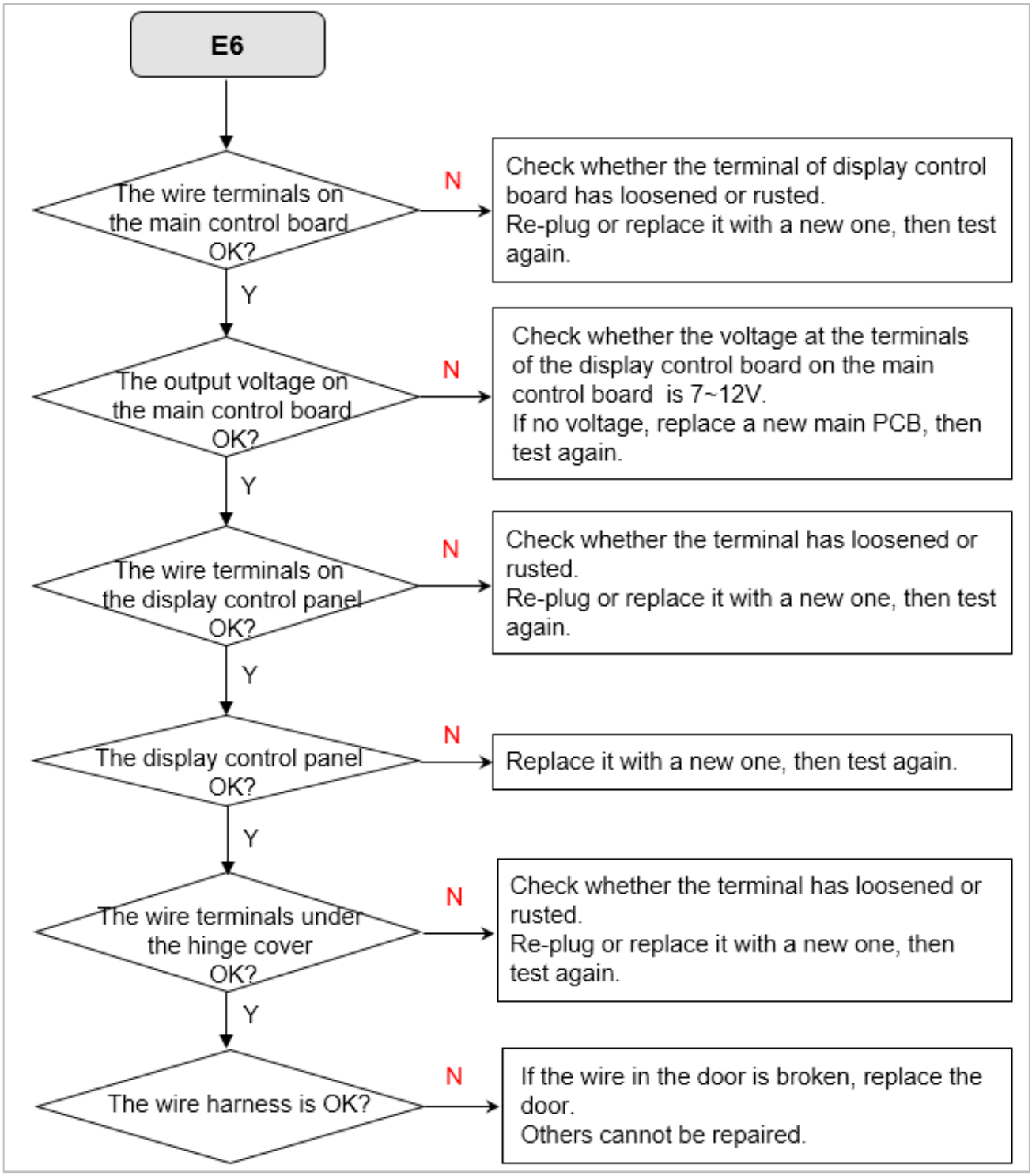
11.1 Error code E0



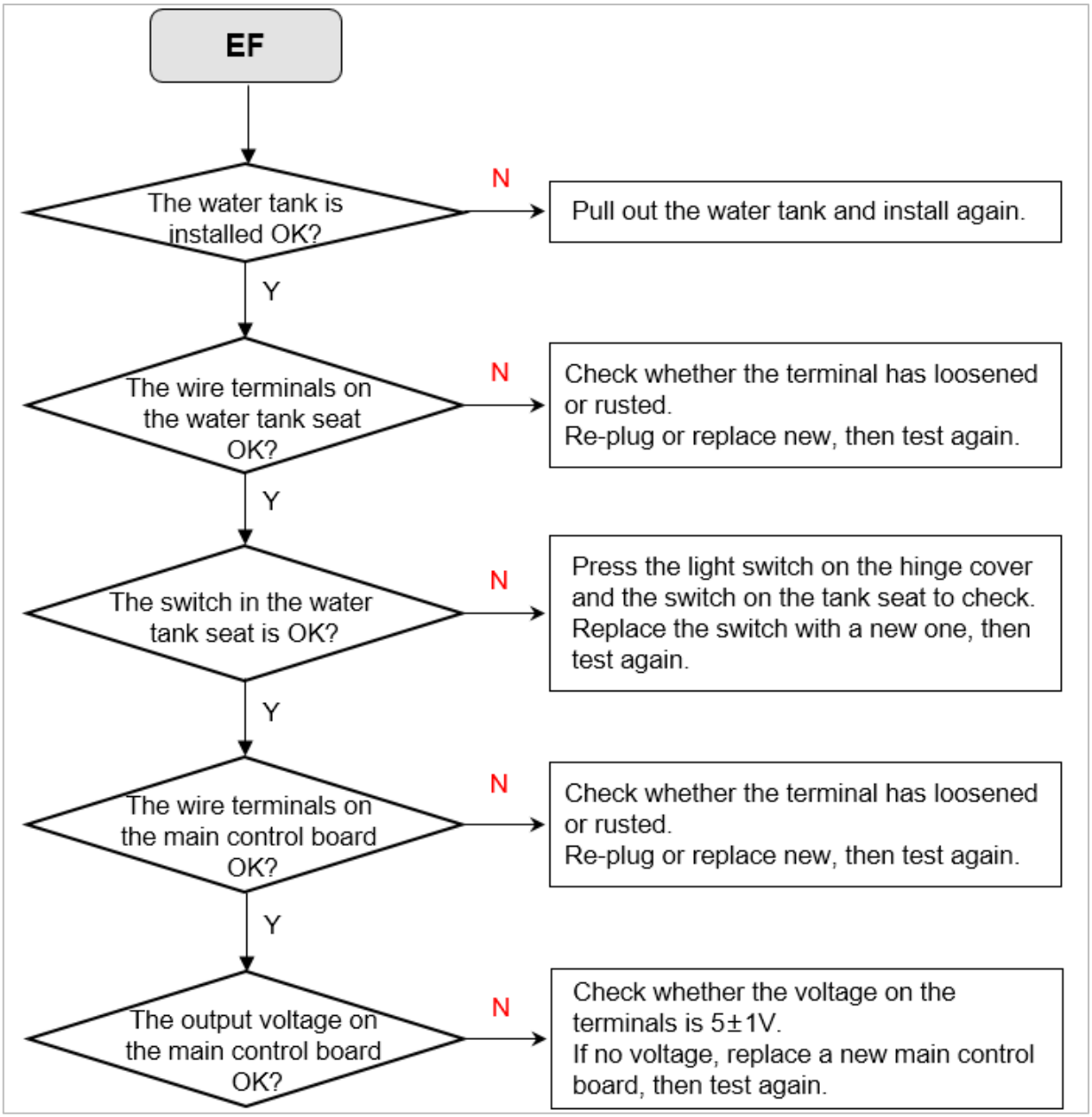
11.2 Error code E1 / E2 / E3 / E4 / E5 / E7 / E8 / EE / C9 / CC / F4



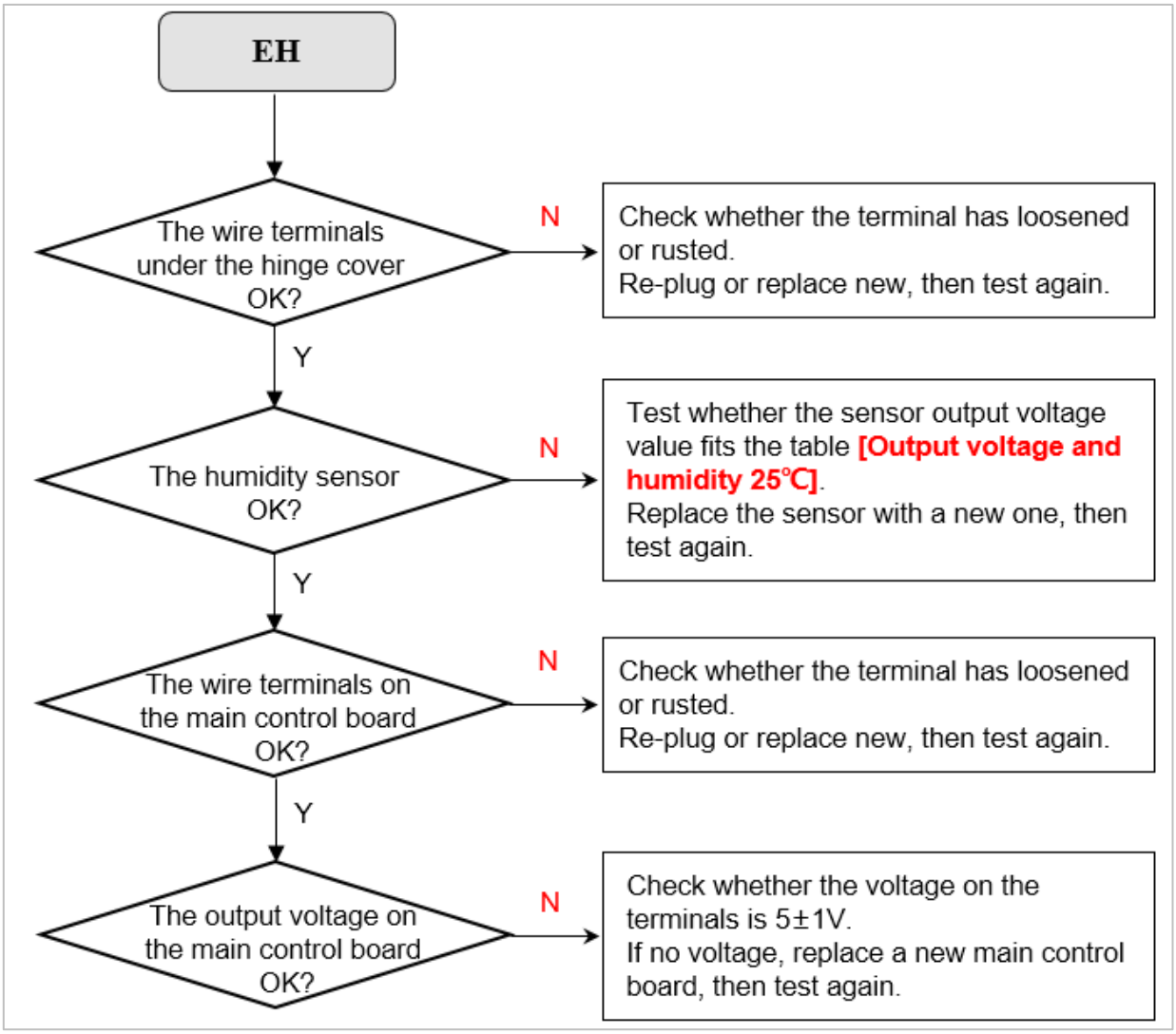
11.3 Error code E6



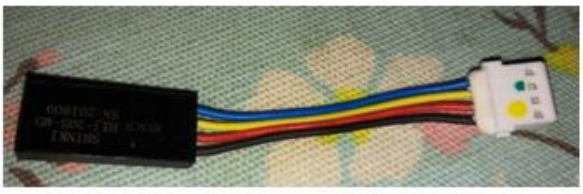
11.4 Error code EF



11.5 Error code EH



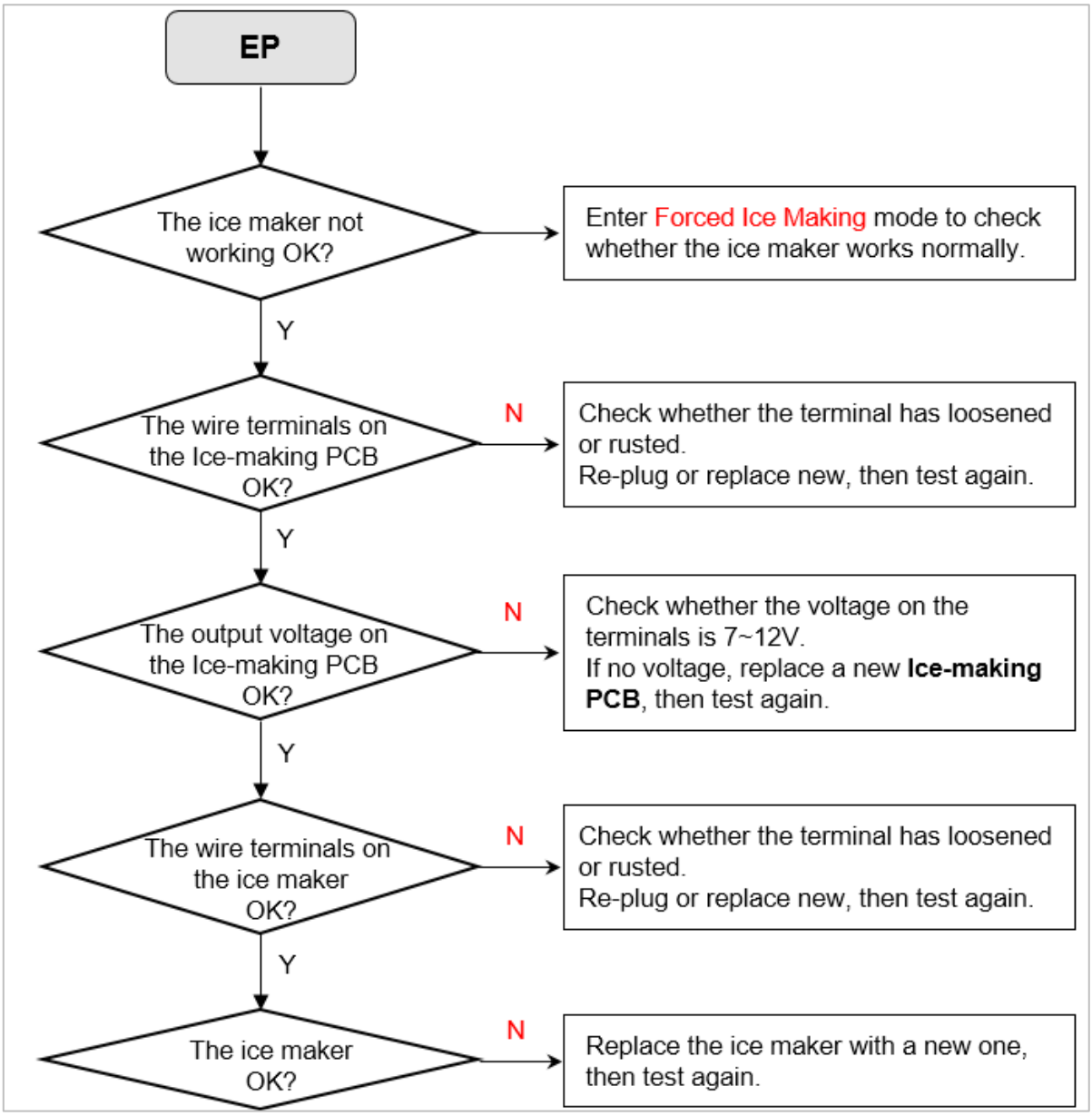
The meaning of different color wires:
Blue: Ambient temperature
Yellow: Humidity
Red: +5V
Black: GND



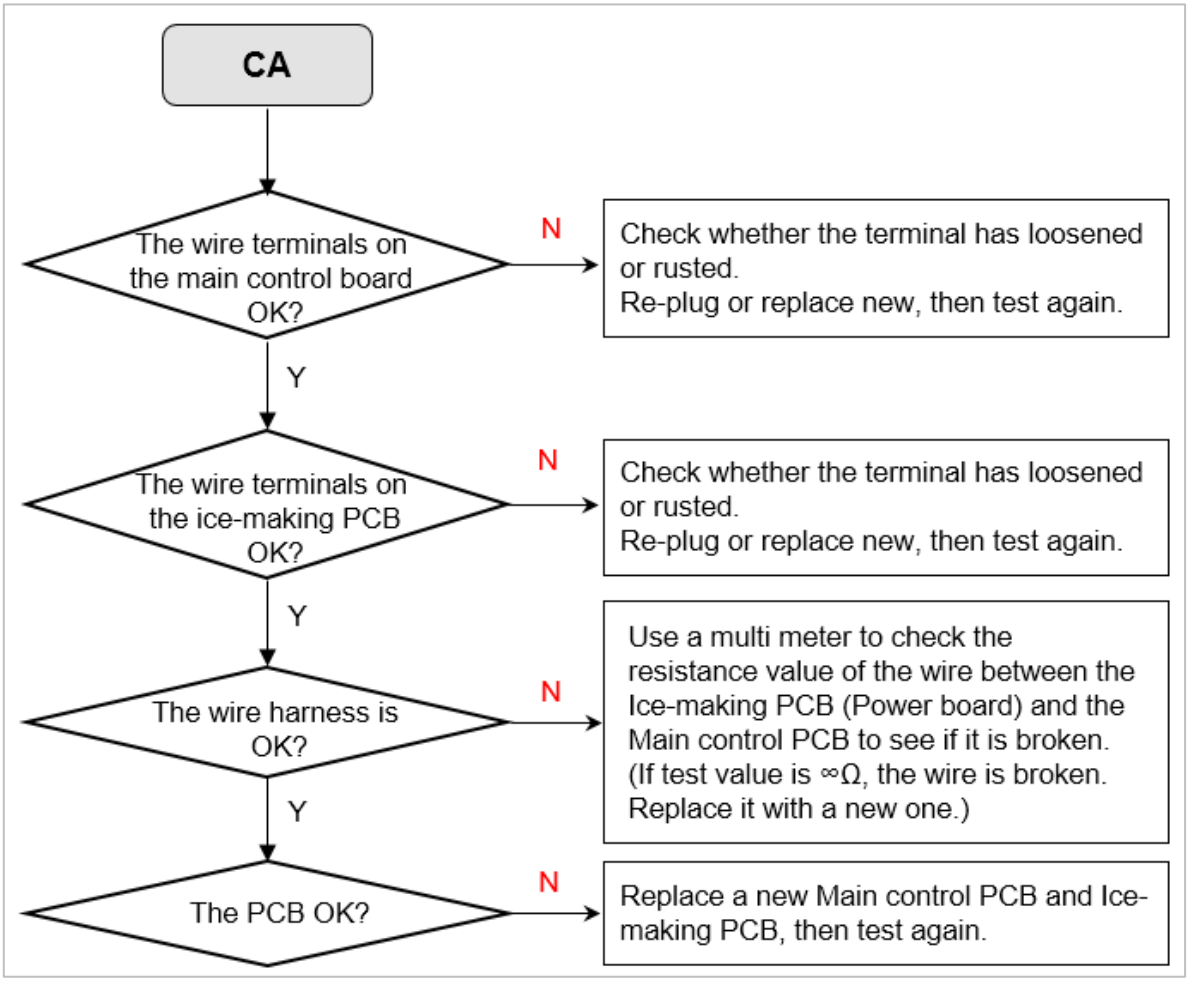
Comparison table of output voltage and humidity at 25℃	
Humidity（%）	Output (V)
20	1.528
40	2.067
60	2.779
80	3.400

1. Check if the sensor has an correct output voltage between **Yellow and Black** wires with a multi meter.
2. If the value is wrong, please replace it with a new one.

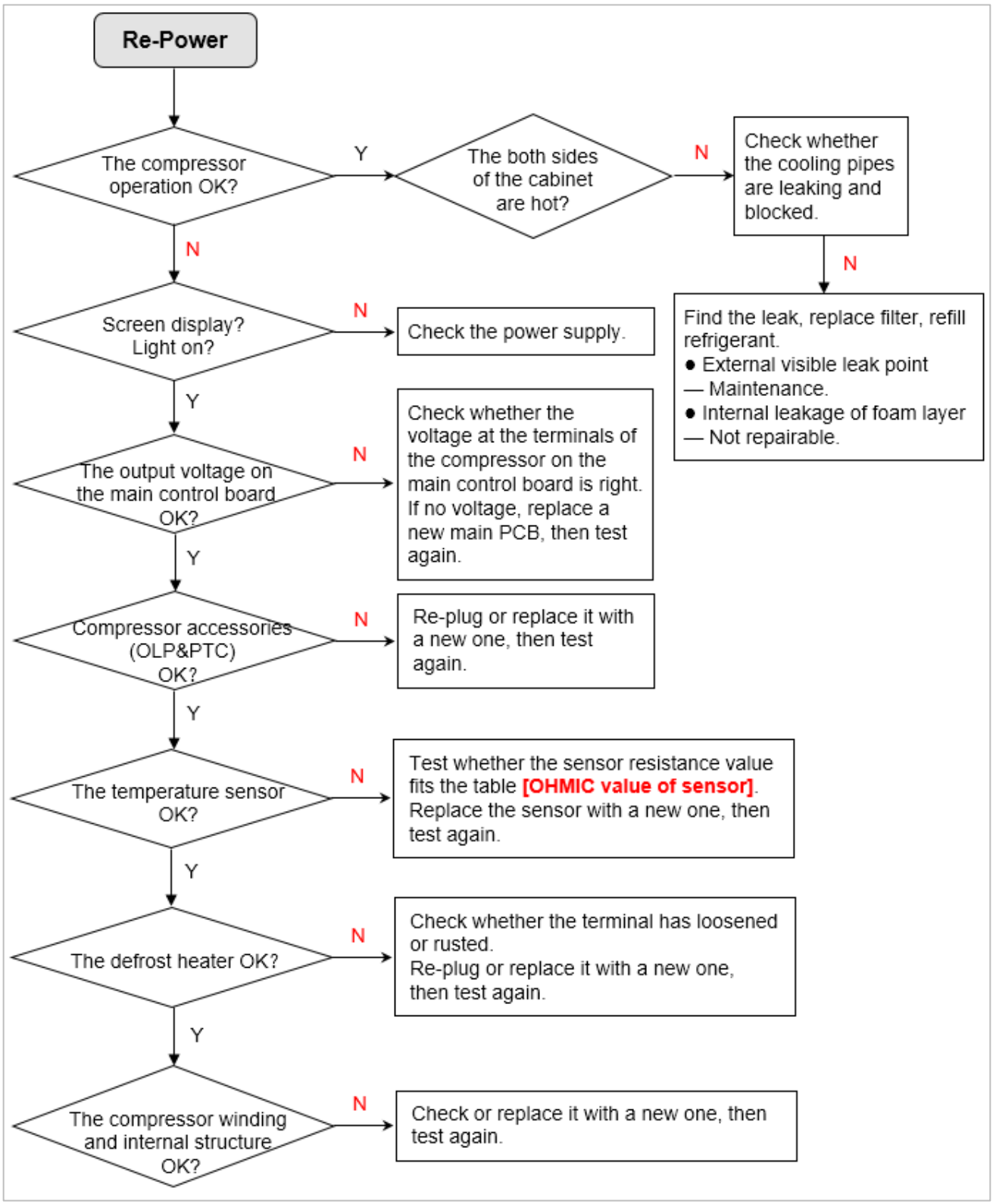
11.6 Error code EP



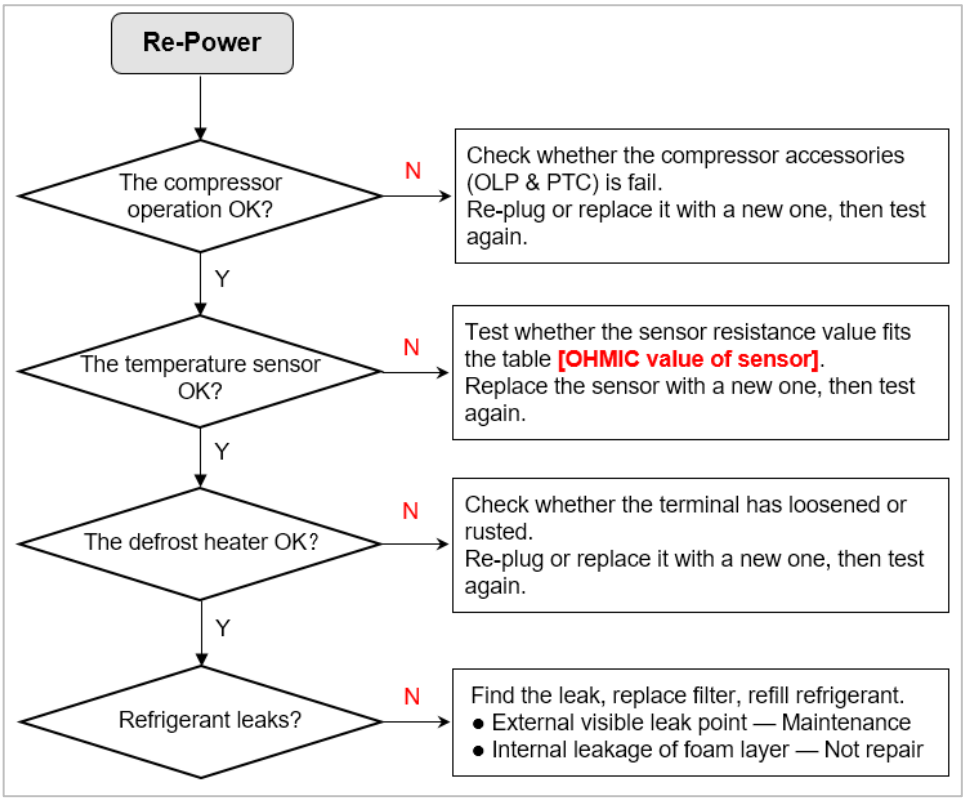
11.7 Error code CA



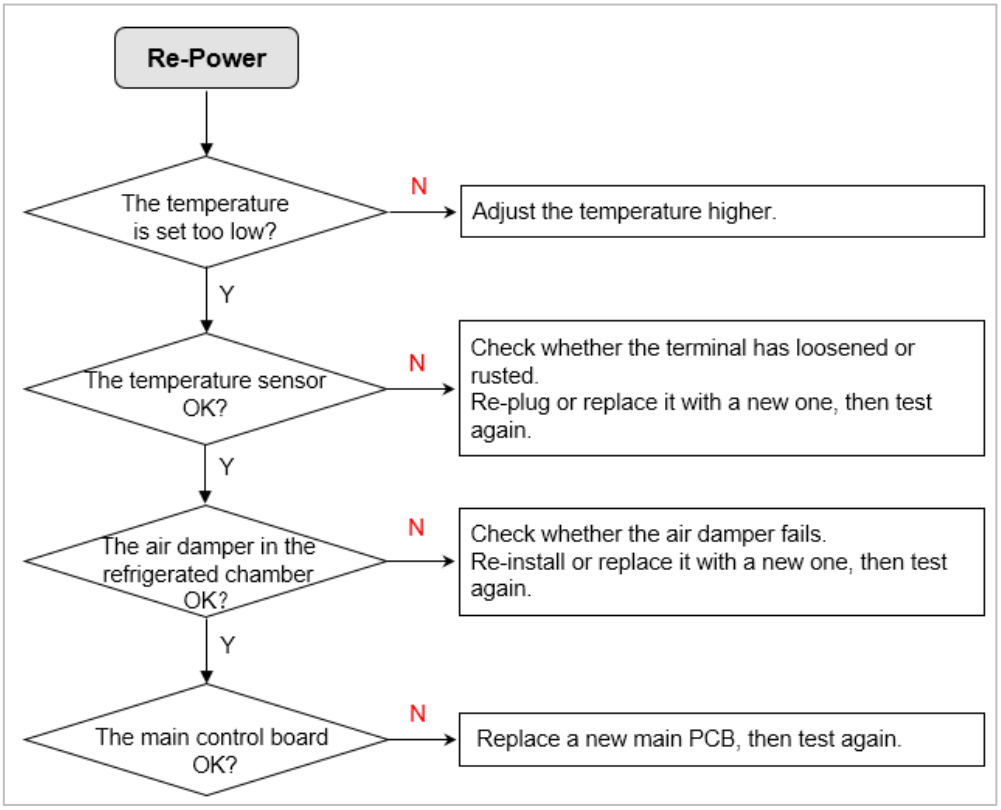
11.8 Not cooling in all the chambers



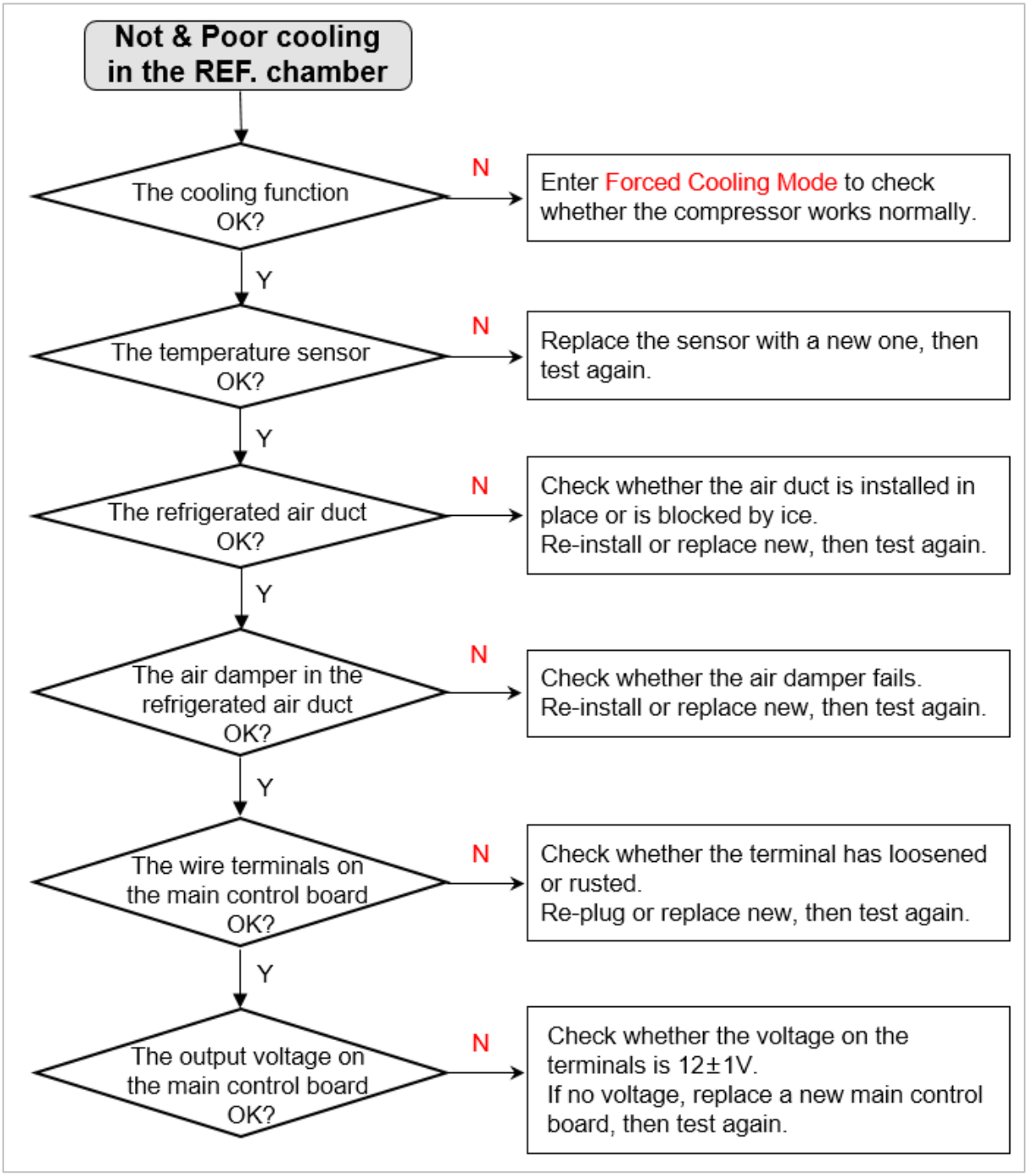
11.9 Poor Cooling in all the chambers



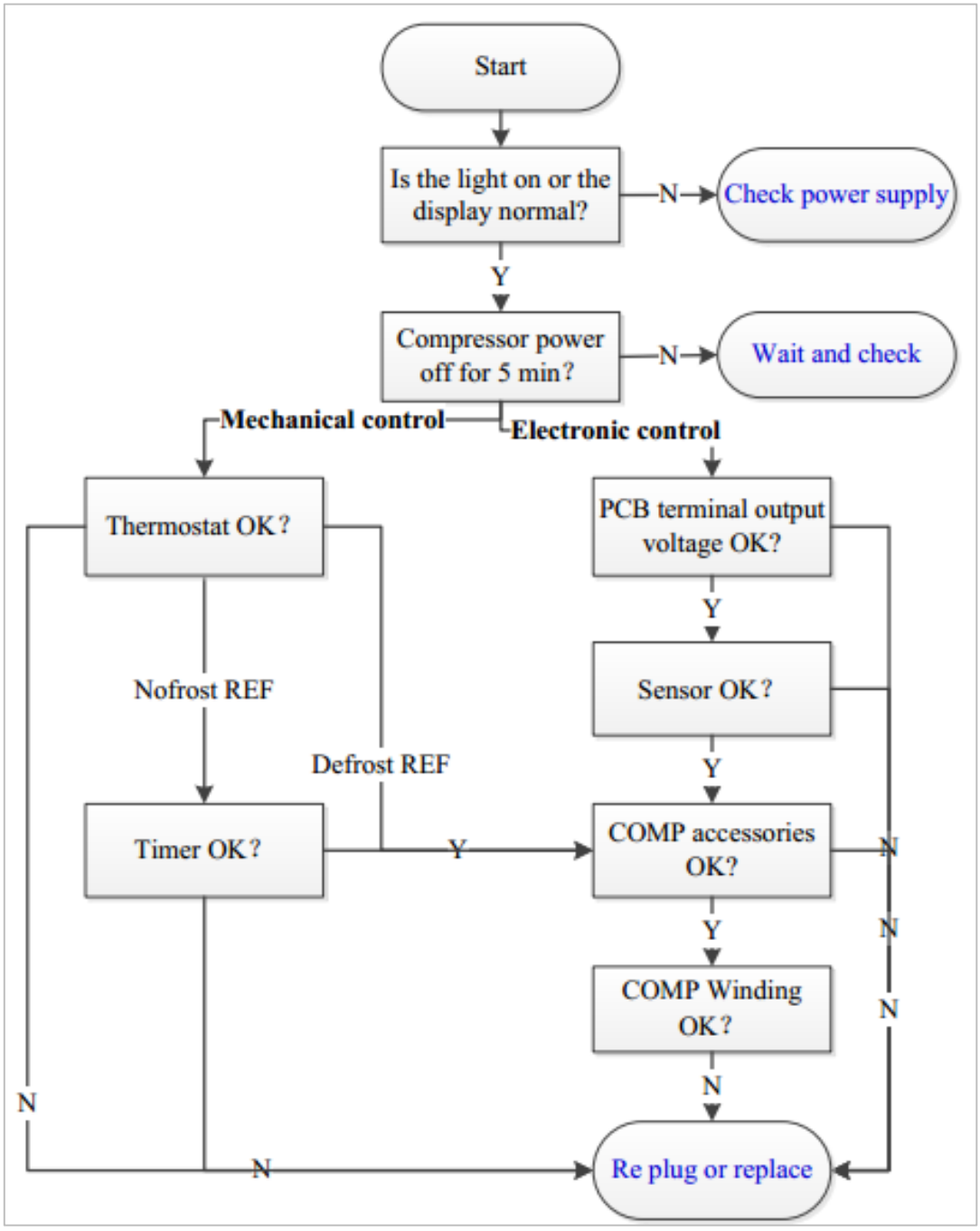
11.10 Overcooling in the refrigerated chamber



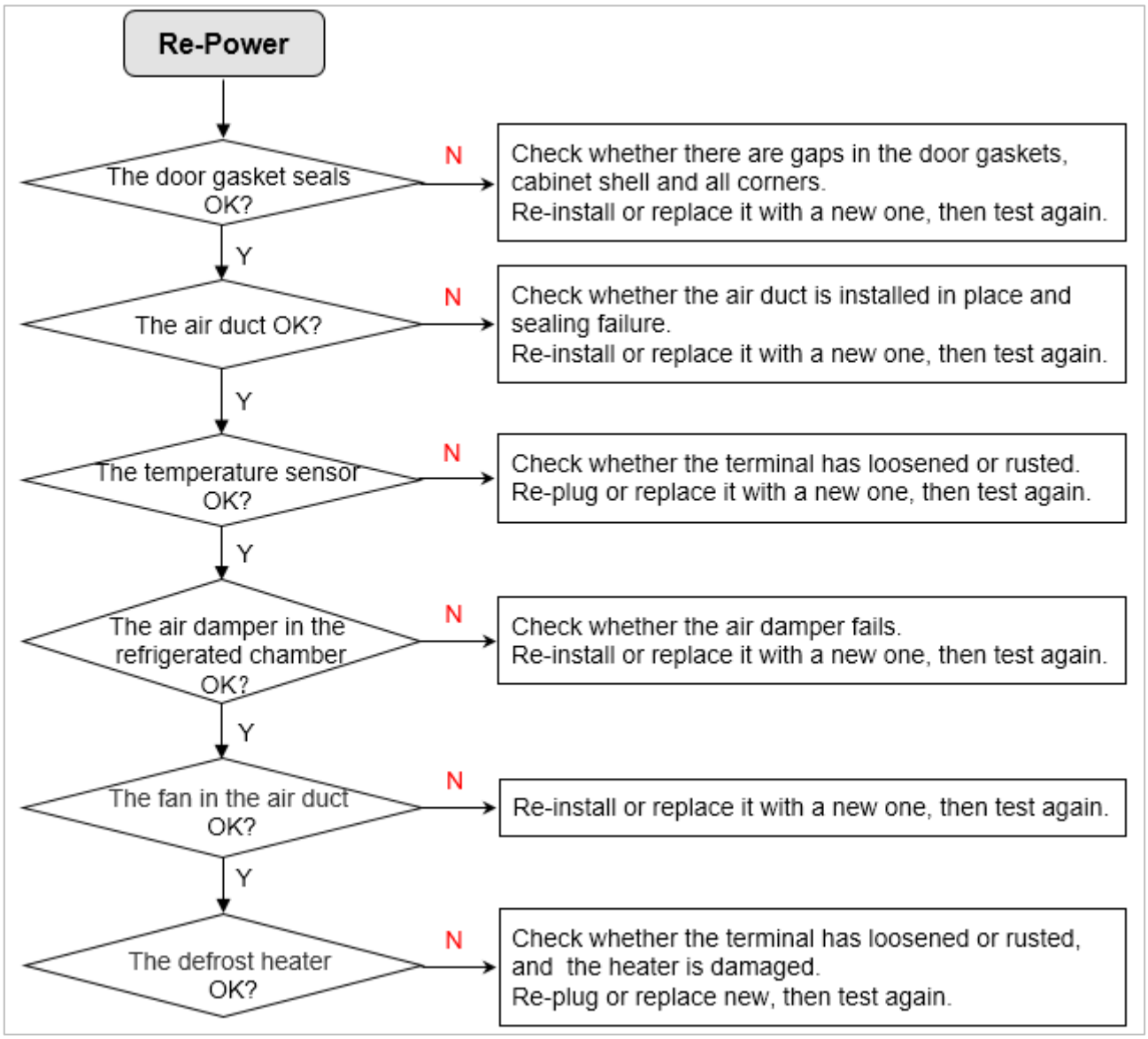
11.11 Not & Poor cooling in the refrigerated chamber



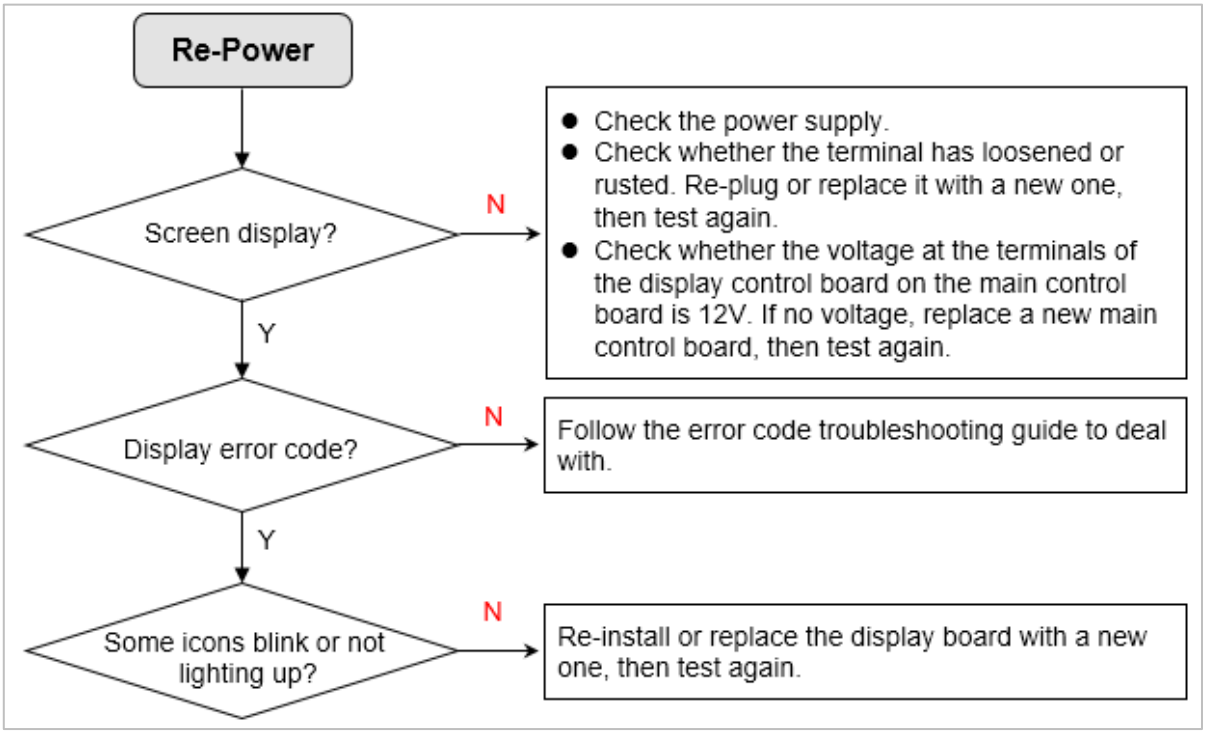
11.12 No working of compressor



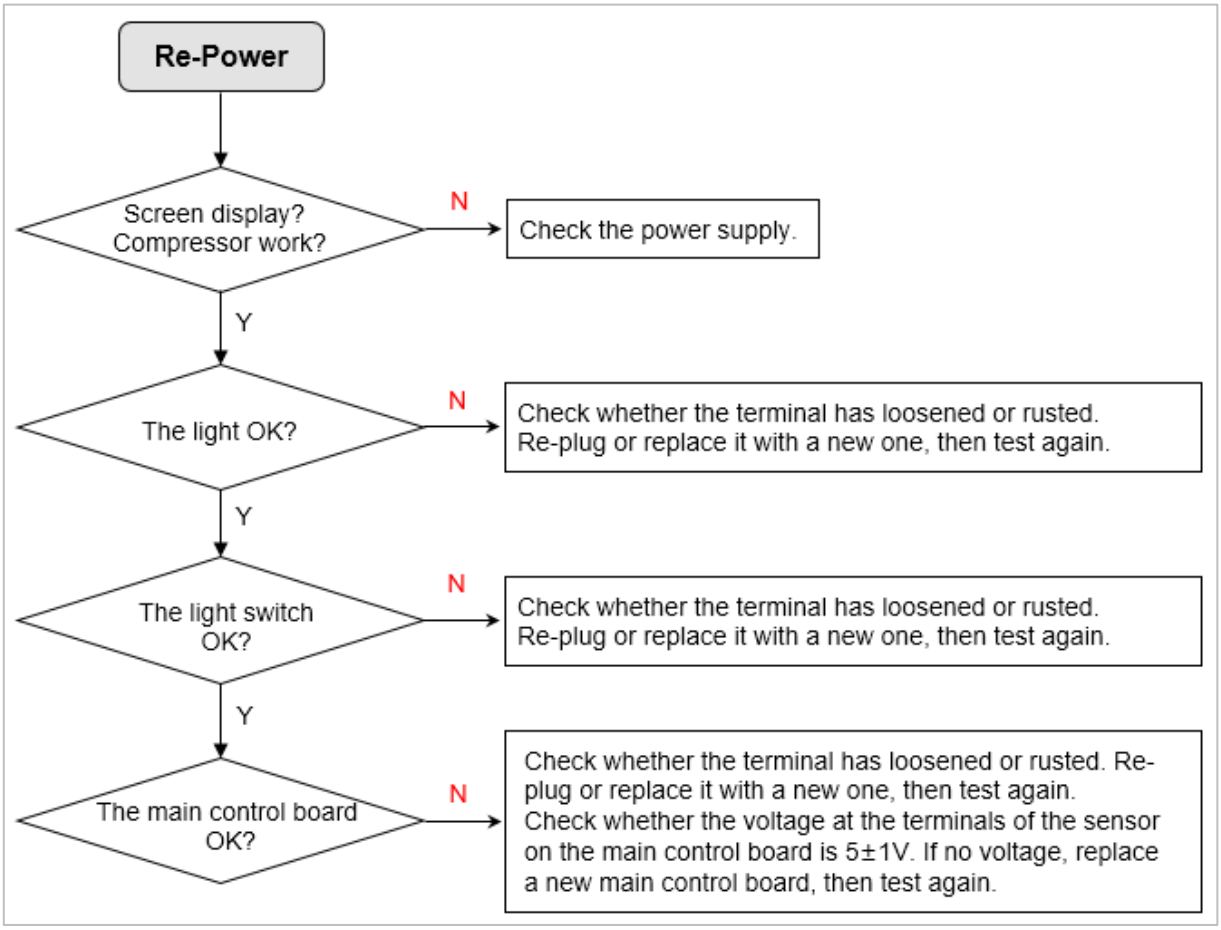
11.13 Condensation & Frost



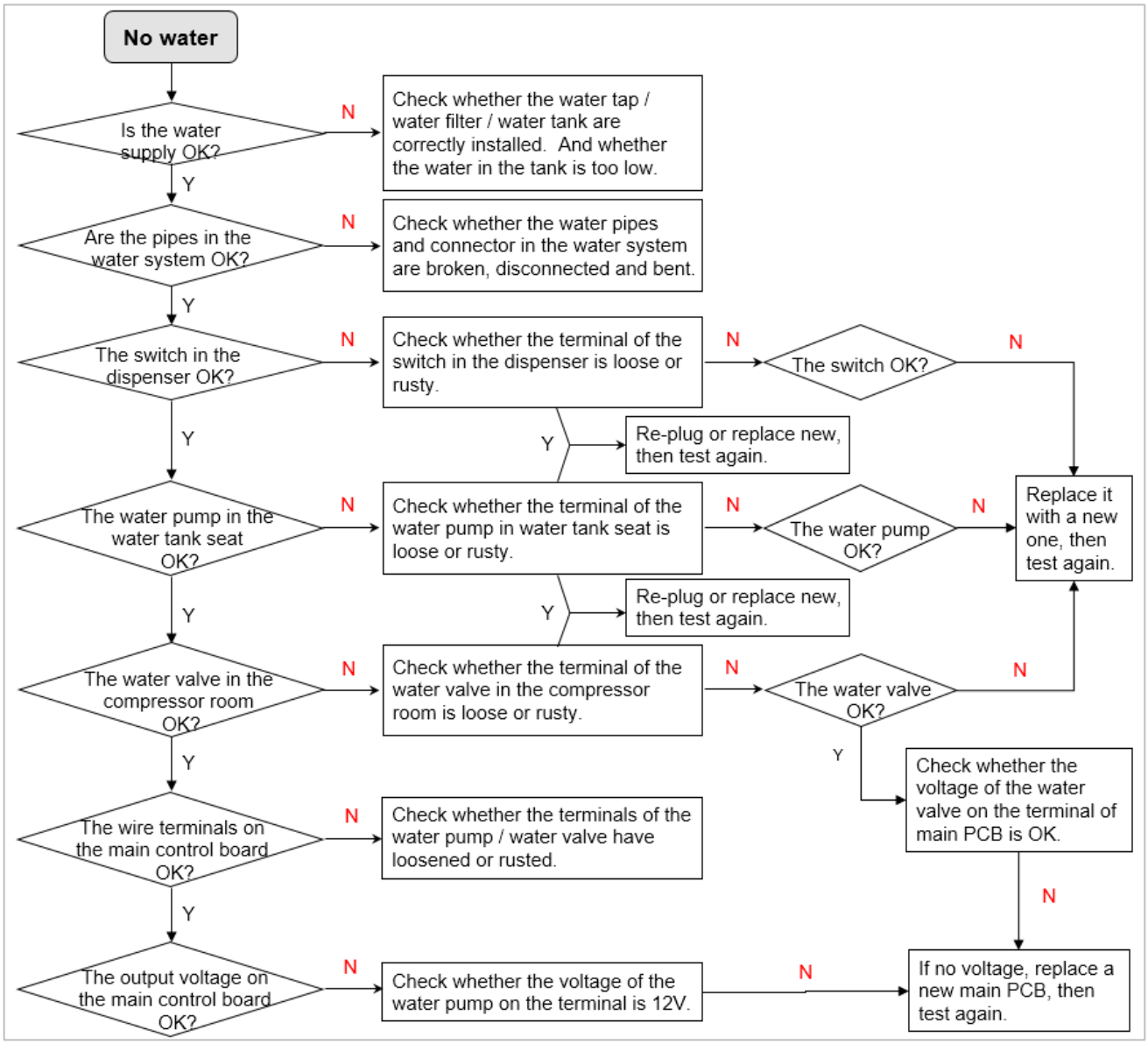
11.14 Display panel failure



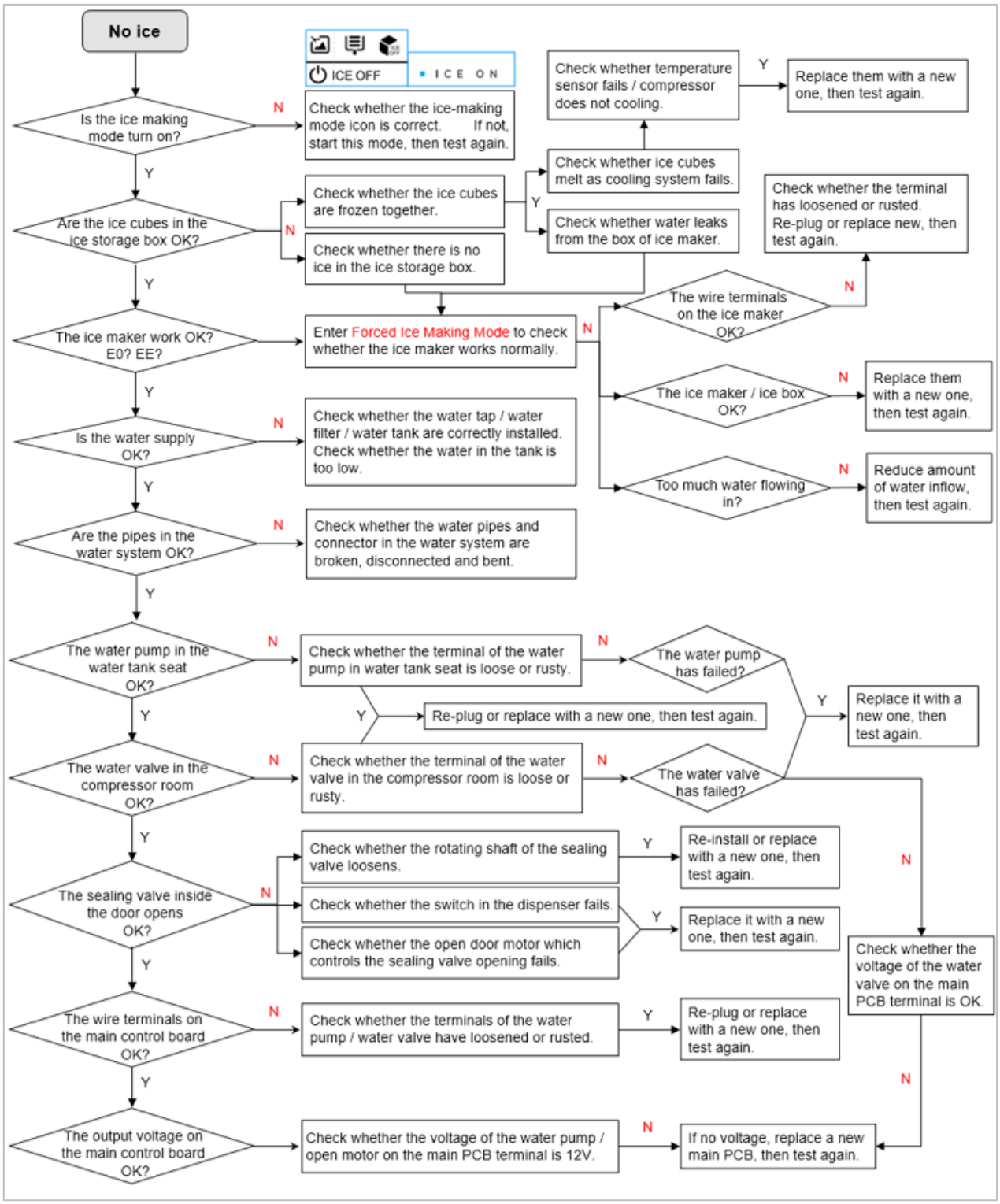
11.15 Light failure



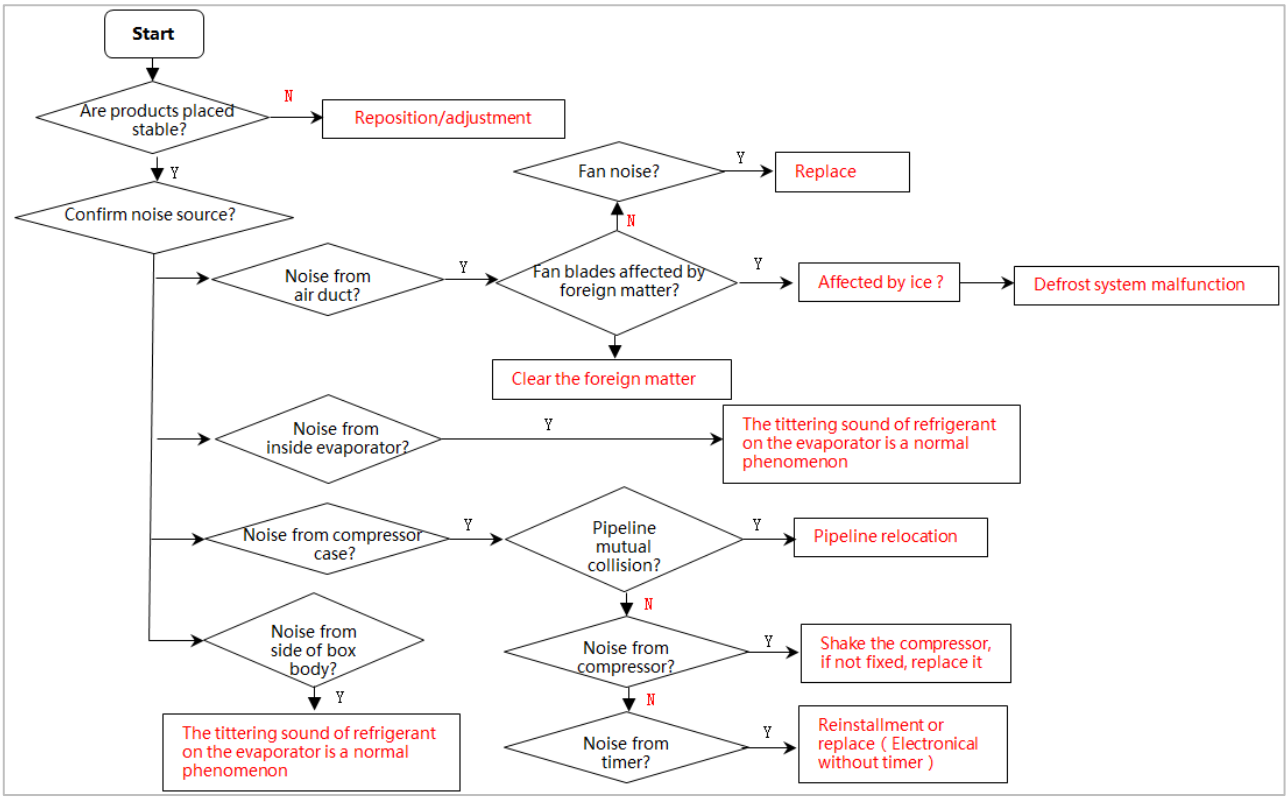
11.16 No water from the ice & water dispenser



11.17 No ice from the ice & water dispenser

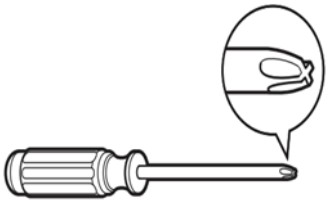
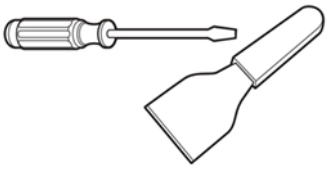
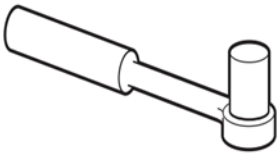


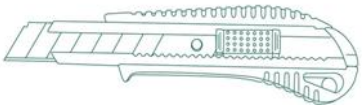
11.18 Noise


Start
Are products placed stable?
N
Reposition/adjustment
Y
Confirm noise source?
Fan noise?
Y
Replace
N
Noise from air duct?
Y
Fan blades affected by foreign matter?
Y
Affected by ice ?
Defrost system malfunction
Clear the foreign matter
Noise from inside evaporator?
Y
The tittering sound of refrigerant on the evaporator is a normal phenomenon
Noise from compressor case?
Y
Pipeline mutual collision?
Y
Pipeline relocation
N
Noise from side of box body?
Noise from compressor?
Y
Shake the compressor, if not fixed, replace it
N
Y
The tittering sound of refrigerant on the evaporator is a normal phenomenon
Noise from timer?
Y
Reinstallment or replace (Electronical without timer)

12. Maintenance tooling, equipment and material

Tooling

No.	Name	Photo	Main Usage
1	Phillips screwdriver		screw assemble and disassemble
2	slotted screwdriver/scraper		screw and rivet assemble and disassemble
3	Socket spanner 5/16″		hinge and compressor screw assemble and disassemble
4	Sucker		display panel and air duct cover disassemble
5	Allen wrench （2.8~4mm）		handle assemble and disassemble
6	Vise grip pliers		sealing process tube

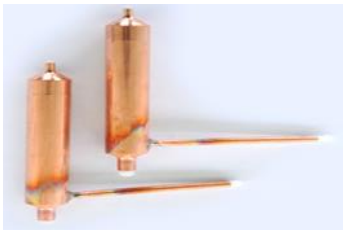
7	Pipe cutter		pipe cutting
8	Knife		assistive tool
9	Nipper pliers		assistive tool
10	Capillary tube scissors		Shear capillary

Equipment

No.	Name	Photo	Main Usage
1	Vacuum pump		vacuum pumping
2	Electronic scale		weighing refrigerant/gas

3	High pressure nitrogen with piezometer		pipe and cooling system(condenser, evaporator, etc) impurities clean
4	Soldering gun		heating and welding
5	Quick coupling		connection process pipeline, vacuum or charge refrigerant will be used.
6	hand leak detector		welding point leakage detect, if no, use soap-suds

Material

No.	Name	Photo	Main Usage
1	Process pipeline		Chargetherefrigerant
2	Dry filter		Involving a system failure to be replaced

3	Copper welding rod		tube welding
4	Refrigerant/gas		Add refrigerant to the system
5	Sealing tape		door fixing for reversible door option

13. Product exploded view and spare parts list

Please log in to I-Service system to view and download these contents.
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Americas： https://ics-amer.midea.com