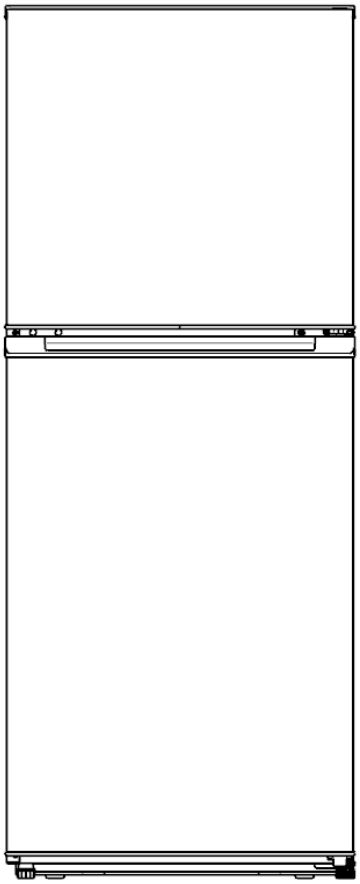
Service Manual

TMF SERIE



Applicable Models	Model Code
CE-BCD256WE-T	22031020003563

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

MIDEA appliances after sales website

For more information about Midea appliances after sales, please visit the ***tsp.midea.com***
For more information about the service manual, please visit the ***tsp.midea.com***
For more information about the EV and SBOM, please visit the ***tsp.midea.com***

CFCs have been used in refrigerant as refrigerator and the insulation materials for many years. But it is now known that these compounds which once seemed so ideal for use as cleaning agents and in refrigeration systems, destroy the earth's ozone layer as a result, an international body decided on a total worldwide ban of harmful CFCs by the end of 1995.

⚠ 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.

Midea Refrigerators

Technical Maintenance Manual

Contents

1. Safety Warning Code

1.1 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.

1.2 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.

2. Description for product features

This product is provided with following features:

1）Refrigerator / freezer with hidden side duct outlet design, the overall style is more simple and beautiful inside the box

2）Electronic temperature control, temperature control more accurate

3）Refrigerated air duct and the cabinet plane height difference is maintained at less than 15mm, thinner duct design more beautiful, conducive to product volume

4）Decorative duct cover design to achieve a greater degree of product differentiation disposition effect, to meet the different needs of different customers with market

3. Installation and commissioning

3.1 Handling

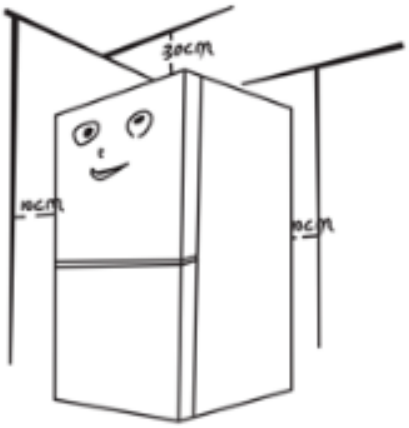
Handling	
1)Protect the refrigerator in moving it,Same as shown as left photo, please move it by handcart with cushion 2)Remove all packing materials and bottom cushion, the n move into house for placement 3)After moving it to appropriate location, wait for 2 hours before power on.	

3.2 Door Disassembly and Assembly

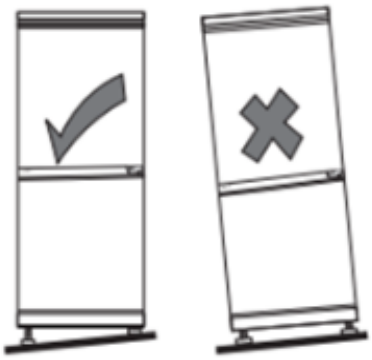
The refrigerator door needs to be dismantled if it cannot enter the room in the whole.

Disassembly of Freezer door	
Disassembly of Freezer door	None
Disassembly of refrigerator door	
Disassembly of refrigerator door	None

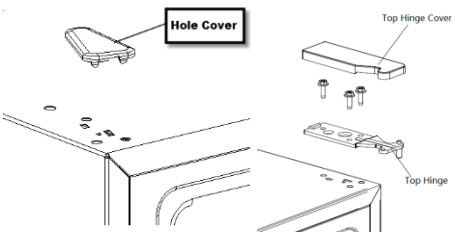
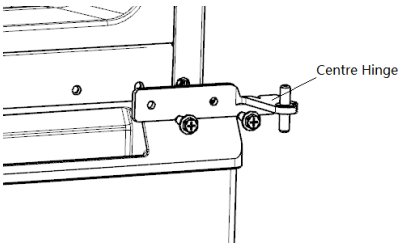
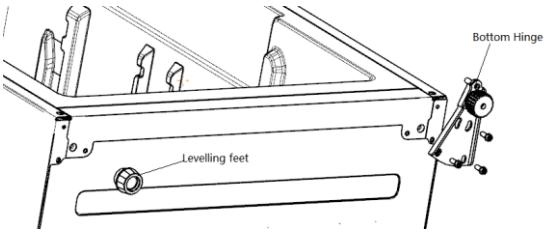
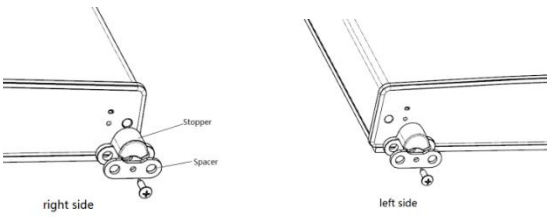
3.3 Installation location

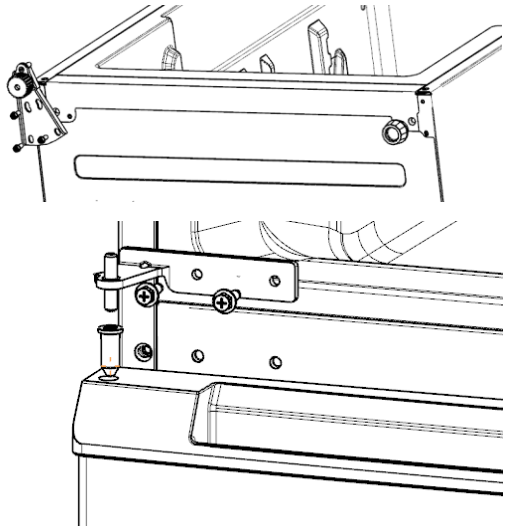
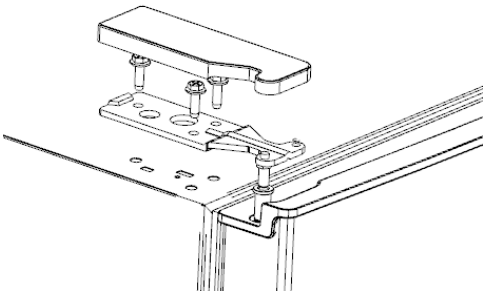
Installation location	
Location that is easy for ventilation shall be chosen to facilitate heat dissipation, enhance its performance and reduce the energy consumption.	

3.4 Leveling of the refrigerator

Leveling of the refrigerator	
If the refrigerator cannot be placed steadily, adjust the footing to level it.	

3.5 Door reversal

Door reversal	
1) Unplug your refrigerator and remove all food from the door shelves. 2) Remove the left cover plate and the right top hinge cover, then unscrew and remove the right top hinge. Keep the screws to reuse	
3) Lift the freezer door up and away from your refrigerator. 4) Unscrew the two screws holding the center hinge, remove the hinge, then lift the refrigerator door up and away from your refrigerator. Save the screws to reuse.	
5)Put on the cushion block, lie down the refrigerator, re move the 3 bolts fixed the lower hinge with the sleeve, re move the lower hinge and adjust the foot.	
6) Remove the door block from the bottom, right side of the door and attach it to the other side.	

7) fix the lower hinge on the left side of the refrigerator with the bolts and adjust the foot to the right side. 8) place the refrigerator door vertically on the lower hinge shaft in the open door state. 9)fix the middle hinge in the middle hinge position on the left side of the refrigerator by using the two bolts, and screw the middle hinge shaft through the middle hinge and into the door shaft hole of the cold compartment door.	
10)Put the freezer door onto the center left hinge, then attach the top left hinge to the top of refrigerator. Cover the hinge with the top left hinge cover and cover the screw holes on the right side of the top with the cover plate you previously removed.	

3.6 Installation of handle

Installation of handle	
Installation of handle	None

3.7 Installation of door lock

Installation of door lock	
Installation of door lock	None

3.8 Adjustment to level the door

Adjustment to level the door	
Adjustment to level the door	None

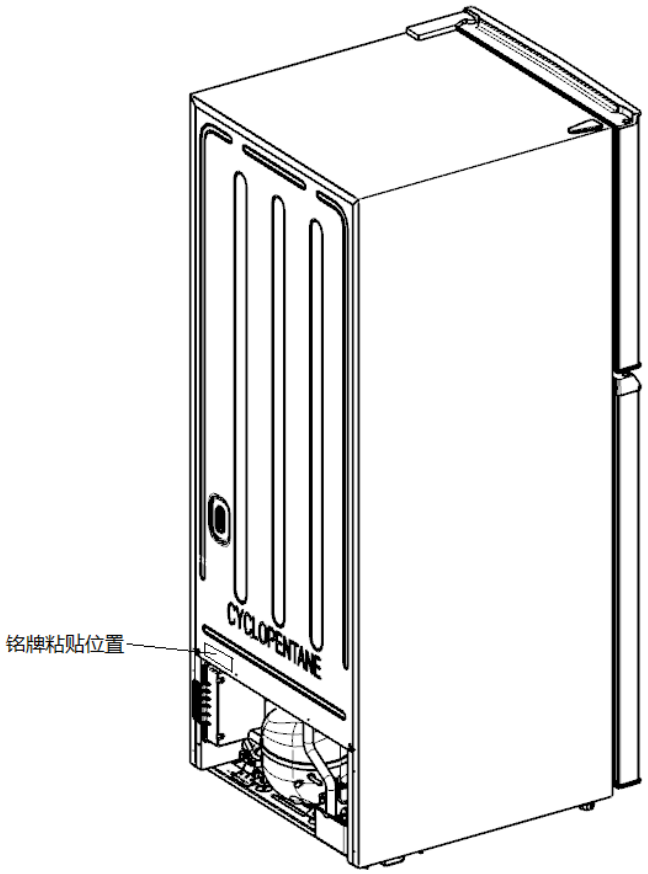
3.9 Adjustment to shelves

Adjustment to shelves	
Adjustment to shelves	None

4. Terms

4.1 Definition of model (None)

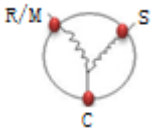
4.2 Location of nameplate



5. Product specification

5.1 Type specification(None)

5.2 Electrical parameters

Product Name		CE-BCD256WE-T
Product Code		22031020003563
Item	**Specification**	**Specification**
Compressor		AZ120CY1A
Starter(PTC)		ZHB40-135P15/QPS2-B15MD3
Overload protector(OLP)		ZHB40-135P15/DRB17S61A2
Winding resistance of compressor wiring terminal		Rmc:30.5±7% Rsc:23.9Ω±7% Rms=Rmc+Rsc
Winding resistance picture		
Variable frequency driver board		None
Fan motor of the freezing chamber		DC12V/2.4W
Ventilation door of the refrigerating chamber		None
Condensation fan		None
separation the ice motor		None
ice output motor		None
Open door motor		None
Lights inside the freezing chamber		None
Lights inside the refrigerating chamber		230V/＜2W
Switch of the refrigerator door		Sector

5.3 Inside temperature

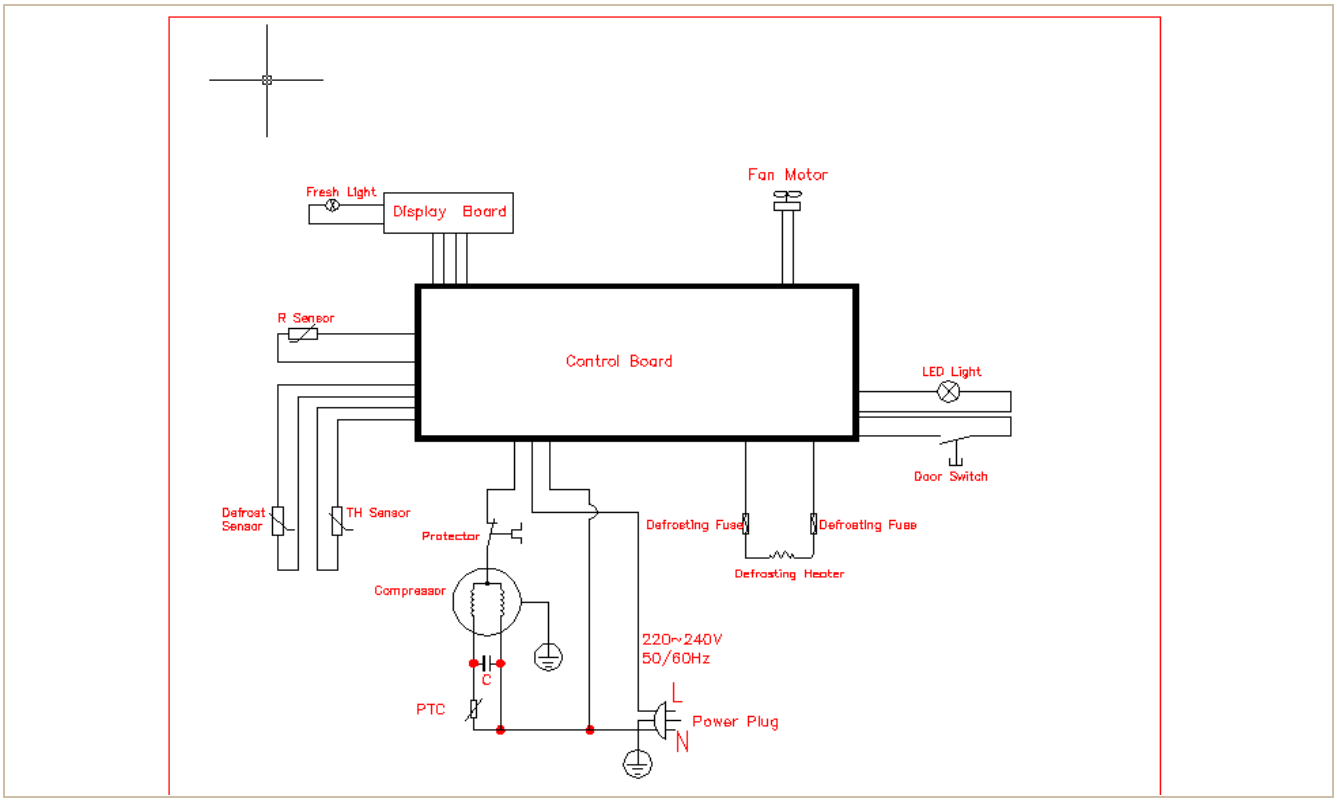
Temperature tolerance ≤ 2 **ºC**

Compartment	The highest (ºC)	Lowest (ºC)
Freezing	-16	-20
Refrigerating	7	3
Variable temperature	/	/

5.4 Defrosting parts

Item	Initial defrosting period	Normal defrosting period
Defrosting period	Temperature is lower than 0 **℃**	6~24 hours
Defrosting sensor	NTC	B3839
Defrosting temperature controller	/	/
Thermal fuse	Can't be restored	77 **℃**
Defrosting heater in freezing chamber	/	115V/175W

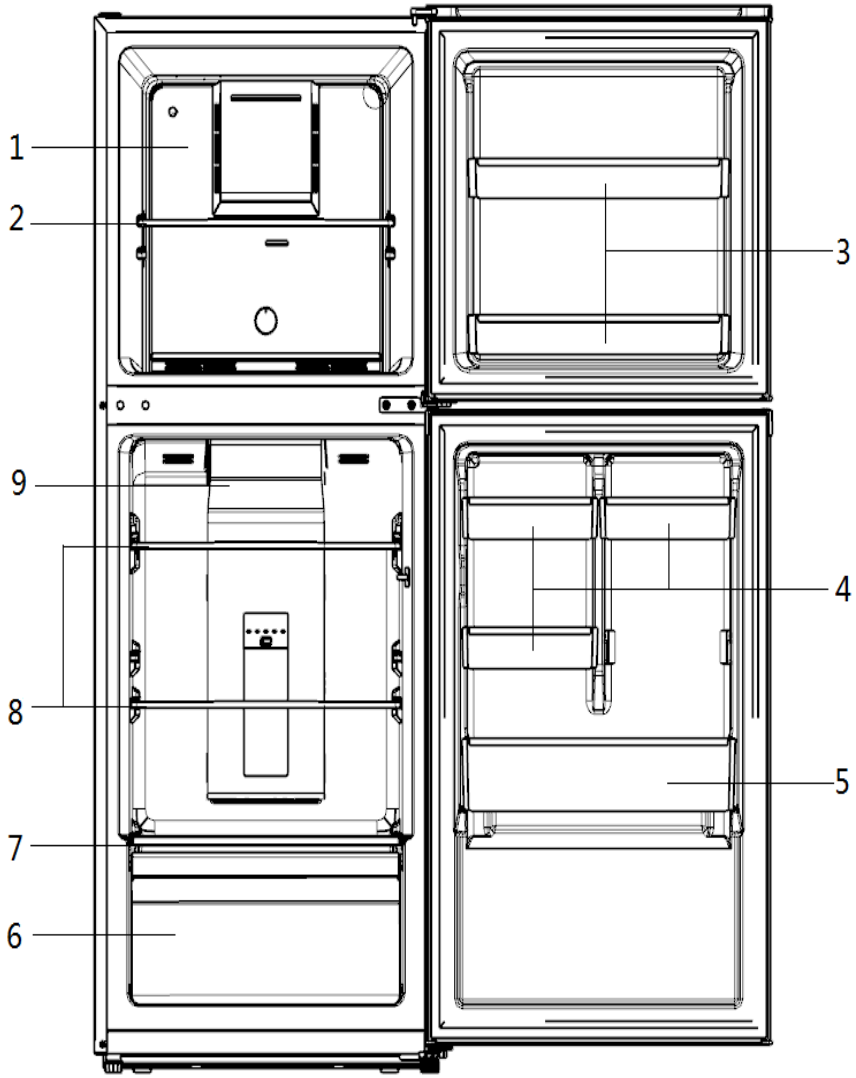
5.5 Circuit diagram



6. Internal view and dimension

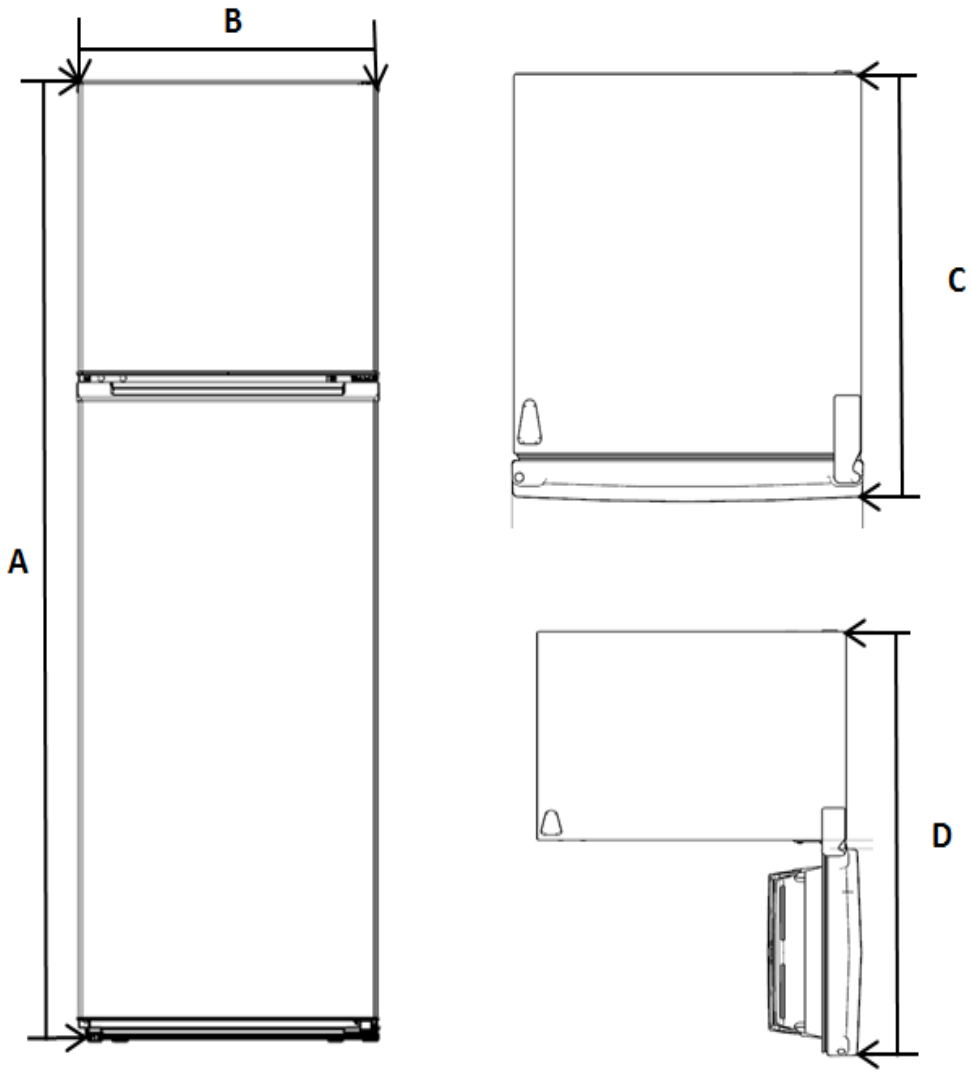
6.1 Main parts and their names

Freezer chamber	Refrigerator chamber
❶ Air duct components in freezing chamber ❷ F Glass shelve ❸ Bottle frame in freezing chamber	❹ Small Bottle frame in refrigerating ❺ Big Bottle frame in refrigerating ❻ Crisper for fruit and vegetable ❼ Glass zone Crisper for fruit and vegetable ❽ R Glass shelve ❾ Air duct components in refrigerating



6.2 External dimension

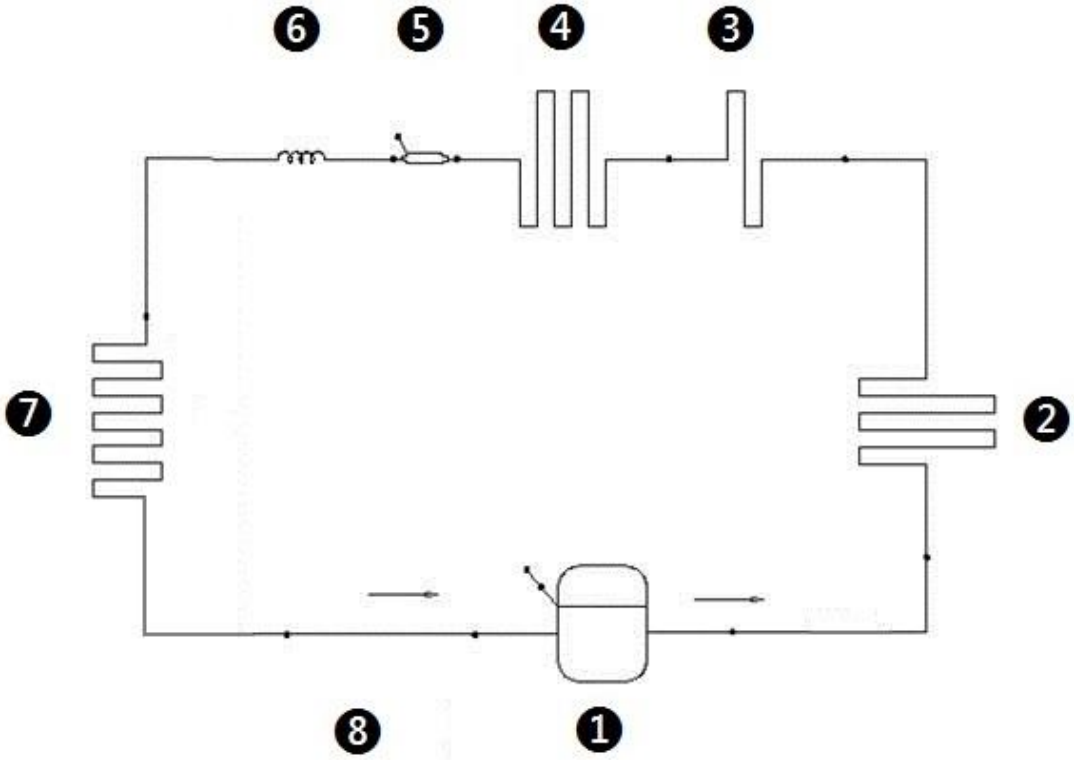
Description	Code	Size (mm)		
		BCD196	BCD226	BCD256
Height to Top of Case	A	1374	1525	1650
Width	B	550.5	550.5	550.5
Depth w/Handles	C	625	625	625
Depth (Total with Door Open)	D	1129	1129	1129
Width (door open 90 eg. w/ handle)	E	None	None	None



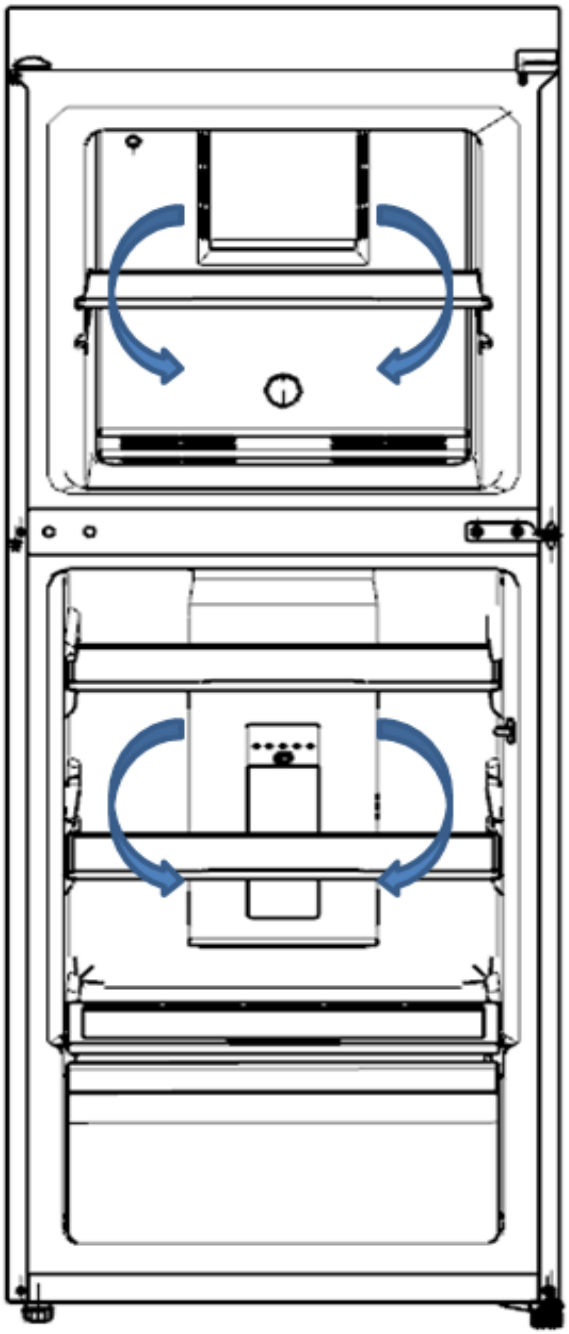
7.Refrigerating piping system and circulating route of cooling air

7.1 Refrigerating piping system

BCD280WE(22031020000145_22031020001522_22031020000146)
❶Compressor→❷Right condenser→❸Anti-condensation tube→❹Left Condenser→❺Dry filter→❻Capillary tube→❼Evaporator→❽Suction tube→❶Compressor



7.2 Circulating route of cooling air



8. Dismantling of parts

8.1 Parts on the door

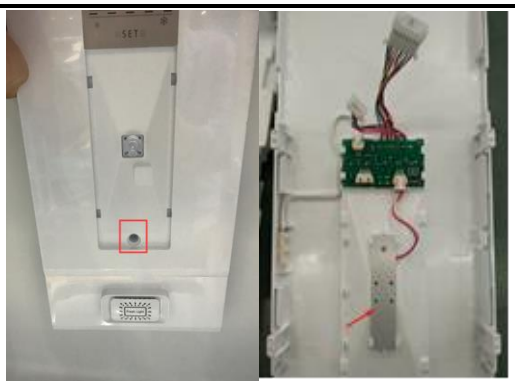
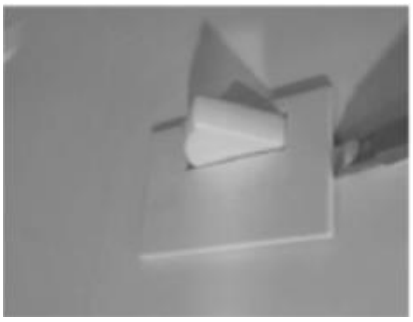
Door seal	
Door seal is installed into door liner groove. 1)Open the refrigerator door; 2)Take the door seal ① out of door liner;	
Door tray	
While squeezing it inward, lift up the baffle and take it out from refrigerator liner.	
Door stopper	
Door stopper	None
rollover beam	
rollover beam	None

8.2 Parts inside the refrigerator

Shelves	
1）Lift up the division plate with a proper force and pull it out towards yourself;	
Drawer	
Drawer	None

8.3 Light system

Light

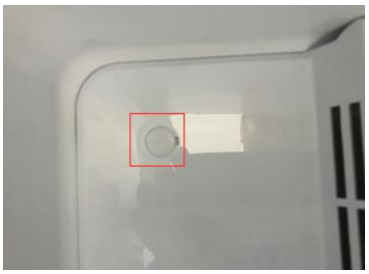
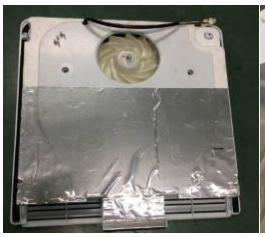
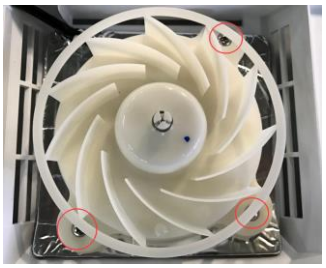
The cold room lamp is in the cold room air duct compon ent1) Pry open the lampshade with a blade 2) Remove 1 fixed screw with a cross screwdriver	
Light switch	
There is a light switch on the side wall of the refrigerating chamber. 1）Loosen the hook with small normal screwdriver and pull out the switch until the wire connector reveals.	
Pilot light	
Pilot light	None
Fresh light	
Fresh light	None

8.4 Air duct components refrigerating chamber

Air duct components refrigeratingchamber
Use the blade to pry open the lamp cover,remove one setscrew with a Phillips screwdriver, remove the air components duct from the bottom 

8.5 Air duct components in freezing chamber and fan motor

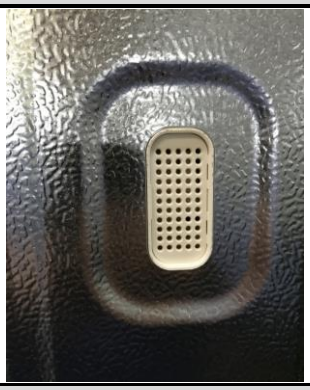
Disassembly and installation of Air duct

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;	
Fan motor of air duct	
1）Breaking the hook on the side of the air duct, remove the foam	 
2）Use a flat screwdriver to open the screw at the top of the snaps, remove the volute；	
3） Remove the 3 screws securing the fan with a Phillips screwdriver	
Damper assembly	
Damper assembly	None

8.6 Evaporator and temperature sensing system

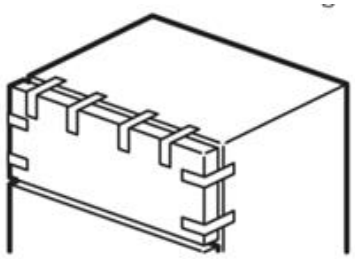
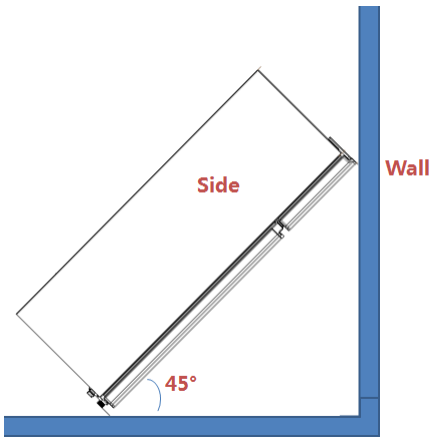
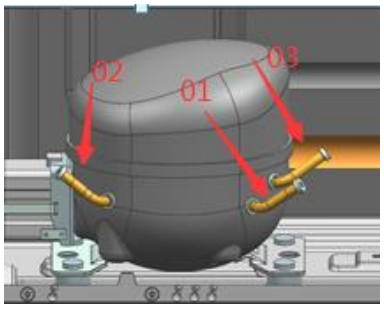
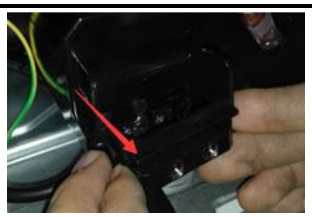
Evaporator in freezing chamber

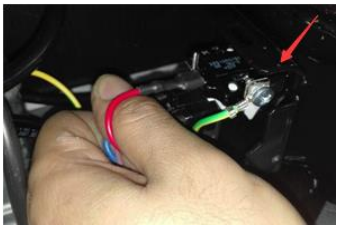
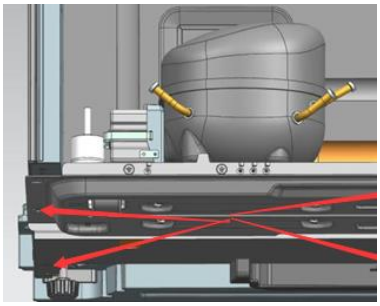
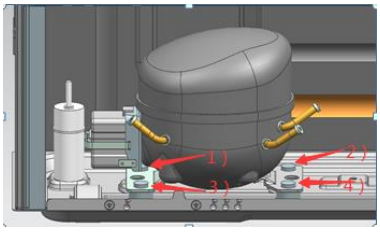
Evaporator in freezing chamber 1）Remove the air duct components in freezing chamber. 2）Disconnect all connectors. 3）Remove the welding on inlet and outlet tubes. 4）Remove two screws which are used to fix the evaporator and remove the evaporator.	
Components on the evaporator	
Defrost thermostat	None
Fuse 1）Disconnect 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 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.	

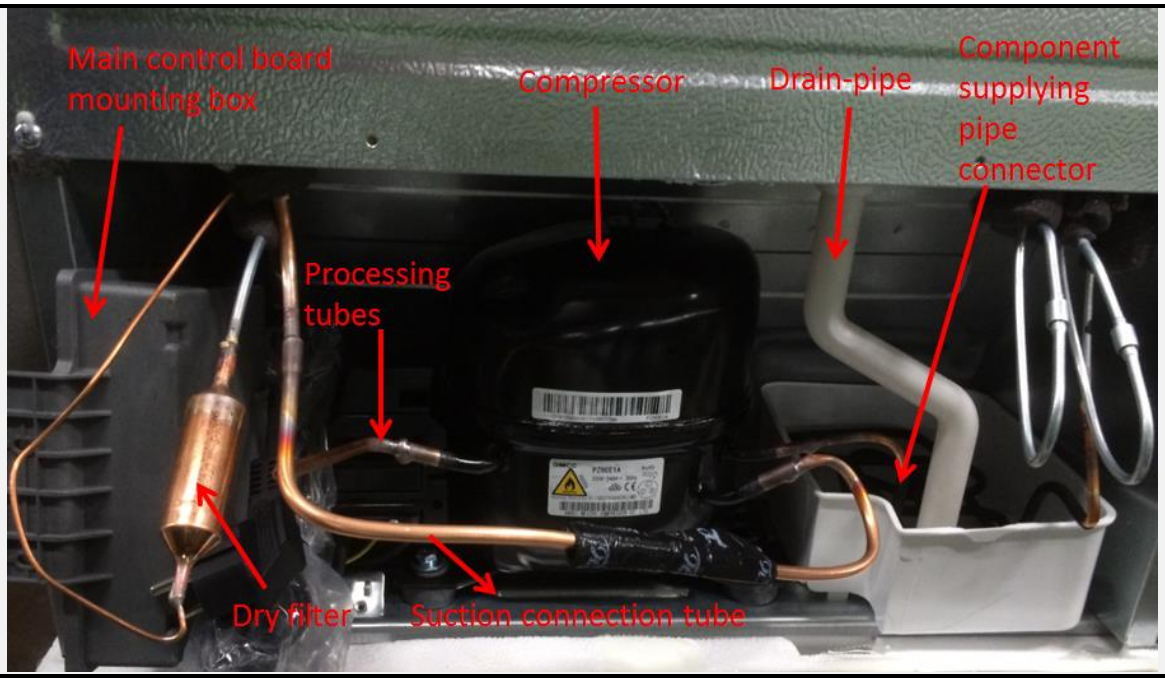
Defrost heater The defrost heater is located at bottom of the evaporator. 1）Disconnect the connector of defrost heater. 2）Cut off the band which fixes the defrost heater. 3）Take off the defrost heater from the evaporator. *Don't break the welding of the evaporator in case that only the defrost heater needs to be replaced.	
Evaporator in refrigerating chamber	
Evaporator in refrigerating chamber	None
Components on the evaporator	None
Sensor	
Sensor in freezing chamber	
Sensor in freezing chamber	None
Sensor in refrigerating chamber	
Before remove the sensor, the freezer duct assembly should be removed 1）Remove the air duct assembly from the freezer. 2）Remove the sensor.	
Ambient temperature sensor	
Sensor position in the back of the box, with a word grant open the lid；	
Sensor in Variable temperature chamber	
Sensor in Variable temperature chamber	None
Thermostat	
Thermostat	None

8.6 Compressor case

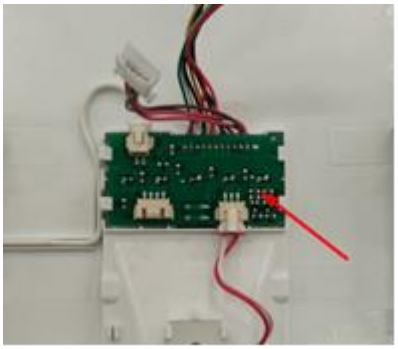
8.7 Compressor case

Rear cover and compressor case	
Rear cover	None
Starter and protector of the compressor	
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）Slowly tilt the refrigerator forward, relying on the wall or a solid enough object, leaving space to facilitate the operation. For safety, it should be carried by someone to prevent its falling.	
3）Cut off the compressor pipeline.-Cut off the process pipeline.-Cut off the low-pressure muffler.-Cut off the high-pressure exhaust pipe.	
4）**Remove the screws** -Two screws outside -One screw inside	
5）**Remove the clipping strip** Slowly pull it out	

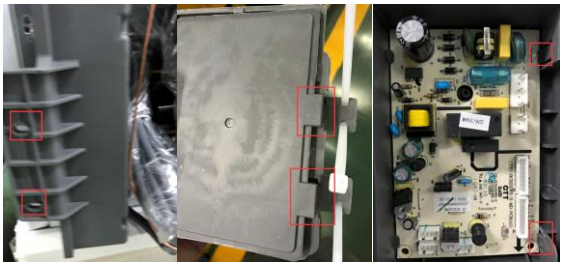
6）**Remove the protective cover** -Pry the protective cover slowly from the upper part, -Pull it out and remove it.	
7）**Remove the starter and protector** Unplug the starter and protector (you can use a screwdriver to pry it slowly)	
8）Loosen the screw of the compressor bottom plate, remove the floor together with the compressor from the box.	
9）Use the wrench to remove the bolts by steps 1) 2) 3) 4).	
10）The reverse process can complete installation.	/
Condenser fan motor	
Condenser fan motor	None
Standby condenser	
Standby condenser	None
Piping system in the compressor case	
❶ Main control board mounting box ❷ Right condenser ❸ Compressor ❹ Left condenser ❺ Exhaust evaporation pipe	❻ Anti-condensation pipe ❼ Capillary Tube ❽ ❾ Suction connection Pipe



8.8 Display control board

Display control board	
Refer to the method of disassembling. Light	

8.9 Main control board

Main control board	
1)Loosen the 2 screws on the mounting box with a Phillips screwdriver; 2)Open the cover with a flat screwdriver; 3)Press the latch outward to remove Main control boardl	

8.10 Bar counter

Bar counter

Disassembly and installation of bar counter	None
Disassembly and installation bar doorseal	None

8.11 Water dispenser

Water dispenser	
Disassembly and installation of water valve	None
Disassembly and installation of water tank	None

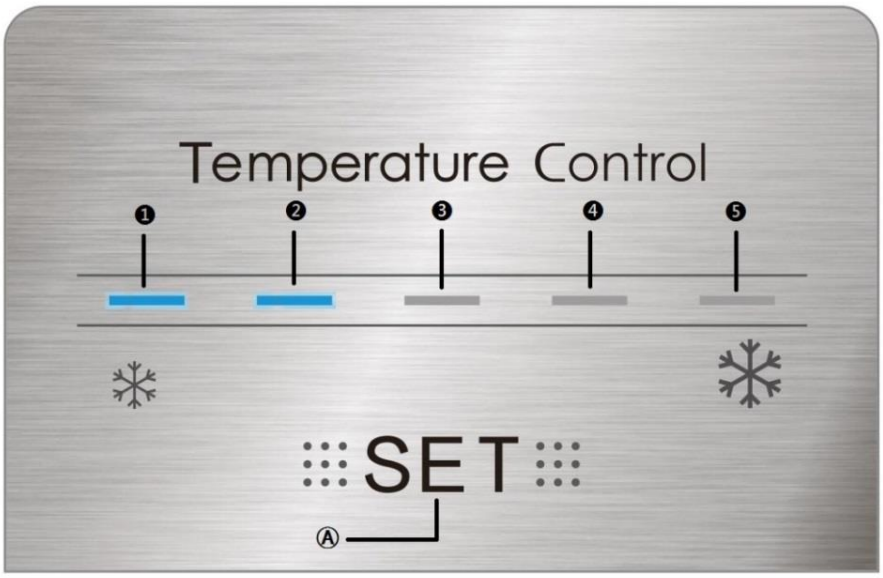
8.12Ice maker

disassembly of ice maker	
Disassembly and installation of ice maker	None
Disassembly and installation of water system	None
Disassembly and installation ice machine sensor	None

9. Function and operation

9.1 Operation panel

Icons	Button
❶ One gear ❷ Two gear ❸ Three gear ❹ Four gear ❺ Five gear	Ⓐ Gear set button



9.2 Display

At the first time of power-on, the display screen (including button light) will be bright for 3 seconds and then press the middle gear to show operation

Normal operation display:

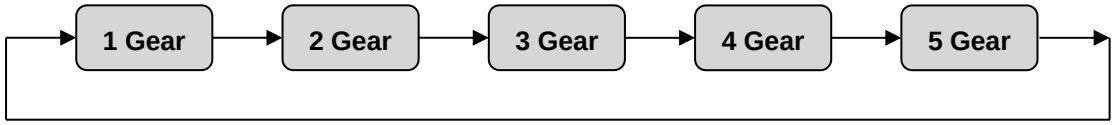
1）When failure occurs, the corresponding LED light group will display fault code (circular display);

2）If no failure occurs, the current operation gear will be displayed.

9.3 Setting of the gear

Press the **gear setting button 'SET'** once, the gear will be changed once; 5 seconds after setting the gear, the refrigerator will be running in accordance with the set value.

The gear can be set to: (The set temperature will be reduced by 1°C and it can be set circularly)



9.4 Control of standby function

1）When the refrigerator is working, keep pressing the **gear setting button "SET"** for 3 seconds (takes effect when releasing the button), the refrigerator will be in standby mode, the standby indicator will light up and all loads will stop working;

2）When the refrigerator is in standby mode, press the **gear setting button "SET"**, the refrigerator will enter normal operation mode, the standby indicator will light off and the refrigerator will operate normally;

9.5 Control of ice maker (None)

9.6 Fault code and solutions

Fault code	Display	Failure Type	Solution
E1	"On" of LED1 and LED2 simultaneously	Temperature sensor fault in refrigerating chamber	Step 1: Check whether the terminal CN3 is well stuck, pull out the terminal and re-stick it in place Step 2: Check to see if therere foreign matters on the terminal. Pull out the refrigerating sensor according to the method in described in Article 8.4 and then inspect the sensor against the resistance value table in 10.8. Step 3: Replace main control board Step 4: Replace electrical wiring main harness
E5	"On" of LED1 and LED3 simultaneously	Fault of F frost sensor	Step 1: Check whether the terminal CN3 is well stuck, pull out the terminal and re-stick it in place Step 2: Check to see if therere foreign matters on the terminal. Pull out the defrost sensor in freezing chamber according to the method in described in Article 8.4 and then inspect the sensor against the resistance value table in 10.8. Step 3: Replace main control board Step 4: Replace electrical wiring main harness
E7	"On" of LED1 and LED4 simultaneously	Ambient temperature sensor fault	Step 1: Check whether the terminal CN3 of main control board is well stuck, pull out the terminal and re-stick it in place Step 2: Check to see if there're foreign matters on the terminal. Pull out the defrost sensor in freezing chamber according to the method in described in Article 8.4 and then inspect the sensor against the resistance value table in 10.8. Step 3: Replace main control board Step 4: Replace electrical wiring main harness

9.7 Defrosting function

1) To meet one of the following conditions, enter the frost cycle:

- priority judgment after electricity frost temperature sensor, if the sensor temperature > 8 ℃, the first frost accumulation 6 hours; If the frost sensor temperature less than 8 ℃, the memory power before the accumulation of running time, until the accumulated operation 6 first frost as a child

-0 hours <compressor starting time <21 hours

- if open or close a number of 2 or more times the environment temperature is lower than 12 ℃, frost cycles for 6 hours. If the opening number is greater than 5 times, the temperature is 12 degrees.
- the machine has been running for 3 hours continuously, and the temperature is 8 degrees. It then

goes into a specific frost mode. The next frost cycle is based on the last frost time. If the last time th e frost time is less than 30min, then the next frost cycle will run 20h. Otherwise, two consecutive 3h post-defrost will continue. Entering the frosting state begins with the complete withdrawal of the frost state, which is called a frost cycle

2) The process of entering the frost cycle:

- compressor shut down - > freezer fan motor work to Tfd acuity - 20 ℃ or 3 min delay - fan electric organs, defrosting heater open the freezer.
- until the withdrawal frost condition is met. The non-coercive frost exit temperature is 8 degrees. Th e temperature of the mandatory frost exit is 12 degrees.

3) To meet one of the following conditions, exit the frost cycle:

-tfd > the temperature of the withdrawal temperature;

The frost time is greater than 59 minutes (except the frost heating tube heating);

- if the defrost sensor fault occurs 20 minutes after the heater is opened, exit the defrost

4) The process of exiting the frost cycle:

- turn off the defrost heater;
- delay 7min,7min to rear fan for 30 seconds;
- if Tr > Trt starts the compressor, Tr is less than or equal to Trt and the compressor runs at least 10 min.
- if Tr is less than or equal to Trt, then wait until the Tr > Trt compressor starts, Tr is not equal to Trt a nd the compressor will stop at least 10min compressor.
- compressor boot, and then delay to Tfd - 20 ℃ or 8 min or less starting freezer fan motor.

At this point, a frost cycle ends

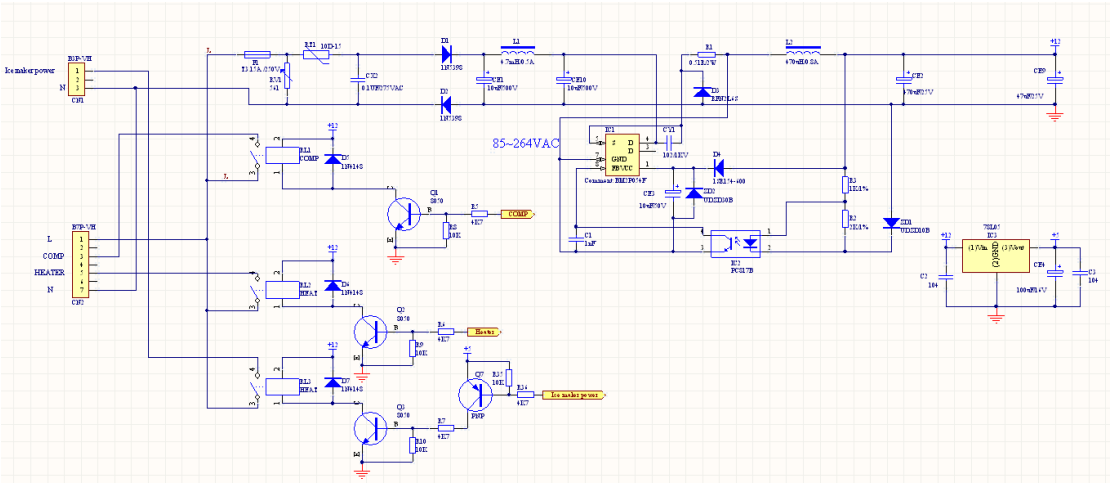
9.8 Test mode

Test items	Testing Method	Expected result
Enter Test Mode	Keep pressing the SET button for 15 seconds and release	LED indicators on Gear 1, 2, 3, 4 and 5 light up and flicker in the frequency of 0.5s, then the refrigerator enters into test mode
	After entering into test mode, if no button is pressed within 25 seconds	then the refrigerator will exit the test mode and return to normal operation mode
Select to enter into forced cooling mode	Enter into test mode and press button for the first time	LED indicators on Gear 1, 2 and 3 light up and other LED indicators light off, then the compressor and the fan will start working
	In forced cooling mode, if no button is pressed within 36 hours,	then the refrigerator will exit the test mode and return to normal operation mode
Select to enter into forced defrosting mode	Enter into test mode and press button for the second time	LED indicators on Gear 3, 4 and 5 light up and other LED indicators light on, then the compressor and the fan will stop working, The heater open, refrigerator into forced frost
	In forced defrosting mode, when the defrosting sensor reach a temperature of 8°C and the defrosting heater has been working for 3 minutes,	then the refrigerator will exit the test mode and return to normal operation mode
	In forced defrosting mode, if the temperature of defrosting sensor	then the refrigerator will exit the test mode and return to normal operation mode

	is always lower than 8°C and the defrosting heater has been working for 1 hour,	
Select to exit the test mode	Enter into test mode and press button for the third time	then the refrigerator will exit the test mode and return to normal operation mode

10. Circuit description

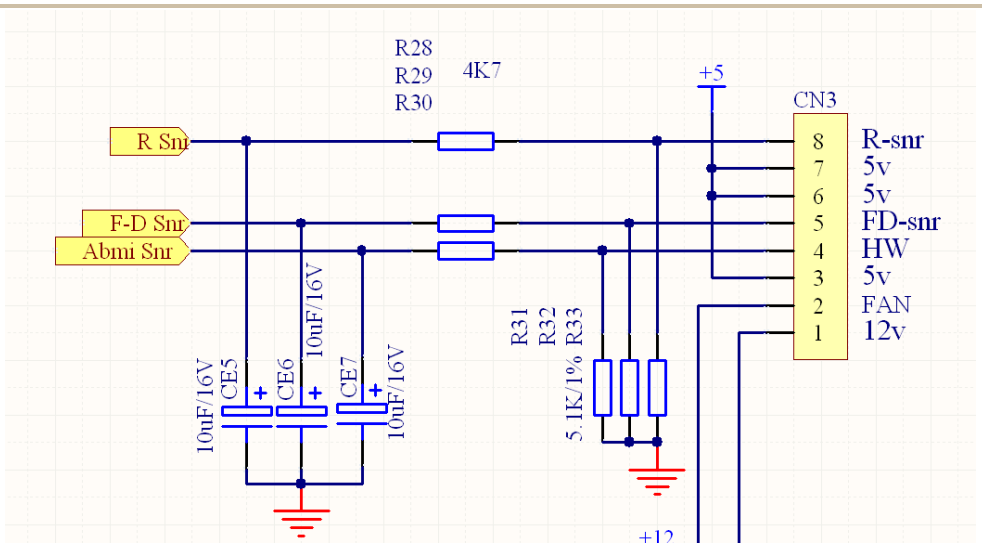
10.1 Power Supply



The AC input power is reduced in voltage by SMPS control chip and filtered off wave by the inductance-capacitance filter, then output the DC 12V power which will mainly power the relay that controls strong current. Relay is used to control the strong current loaded switches of compressor, ice maker and defrost heater. The DC 12V power will output stable 5V electricity after passing through the adjustor 7805, to power for the main control chip and thus monitor the temperature changes in refrigerator.

10.2 Door trip test circuit(None)

10.3 Temperature test circuit



It's conducted by the sensor, making use of the characteristics that resistance value reduces as the temperature increases, and the thermistor that has temperature coefficient of resistance in medium

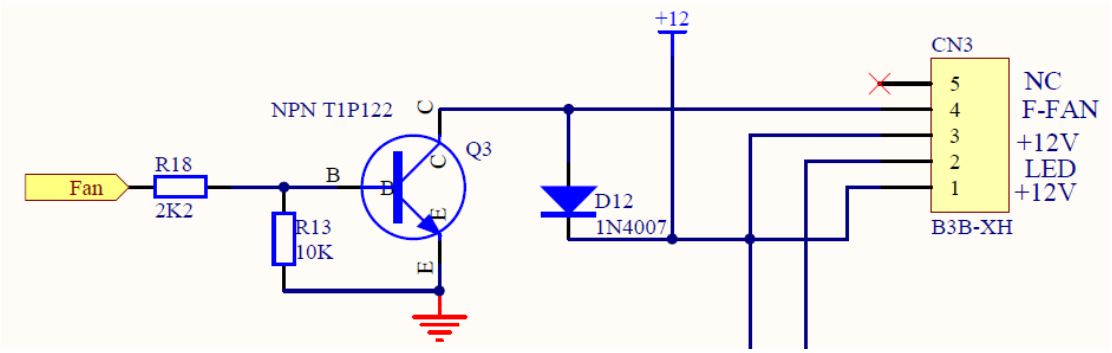
temperature.

The characteristic that resistance value reduces as the temperature increases is deemed to have negative slope or negative temperature coefficient (NTC), and such thermistor is called as NTC thermistor. The resistance value changes sensitively with temperature and typically changes 7% ~ 3% per degree centigrade. Sensor used in the refrigerator is NTC thermistor.

There is following computing formula for the sensor:Sampling voltage / reference voltage = R1 / (RNTC + R1)

AD value / reference AD value = R1 / (RNTC + R1)

10.4 Fan motor circuit of the freezing chamber



The fan in the freezing chamber is running when the compressor is operating. Check 12V and FAN to see if there is a voltage of 12V. When in normal operation, the fan is in low level and the voltage between 12V and FAN is more than 11V. If there's no voltage when the compressor is in operation, fan motor or electric control panel can be replaced.

10.5 Refrigerator fan motor circuit (None)

10.6 Condenser fan motor circuit(None)

10.7 Damper motor circuit(None)

10.8 Sensor resistance(R/T)

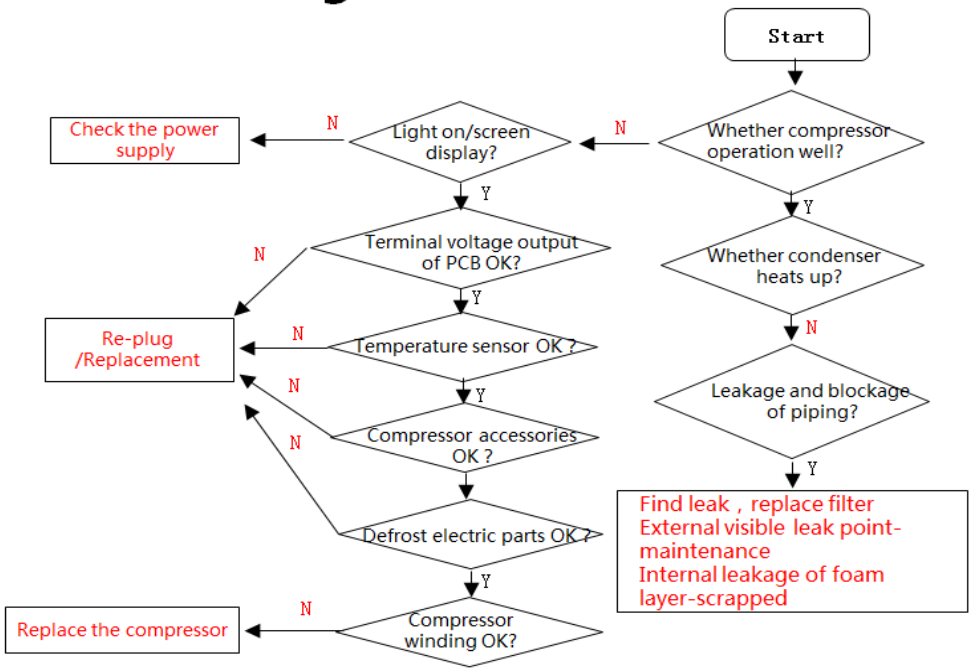
Tx(℃)	R（KΩ）	Tx(℃)	R（KΩ）	Tx(℃)	R（KΩ）	Tx(℃)	R（KΩ）	Tx(℃)	R（KΩ）
-30	33.81	**-15**	14.31	**0**	6.495	**15**	3.141	**30**	1.617
-29	31.85	**-14**	13.55	**1**	6.175	**16**	2.999	**31**	1.55
-28	30.01	**-13**	12.83	**2**	5.873	**17**	2.865	**32**	1.486
-27	28.29	**-12**	12.16	**3**	5.587	**18**	2.737	**33**	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

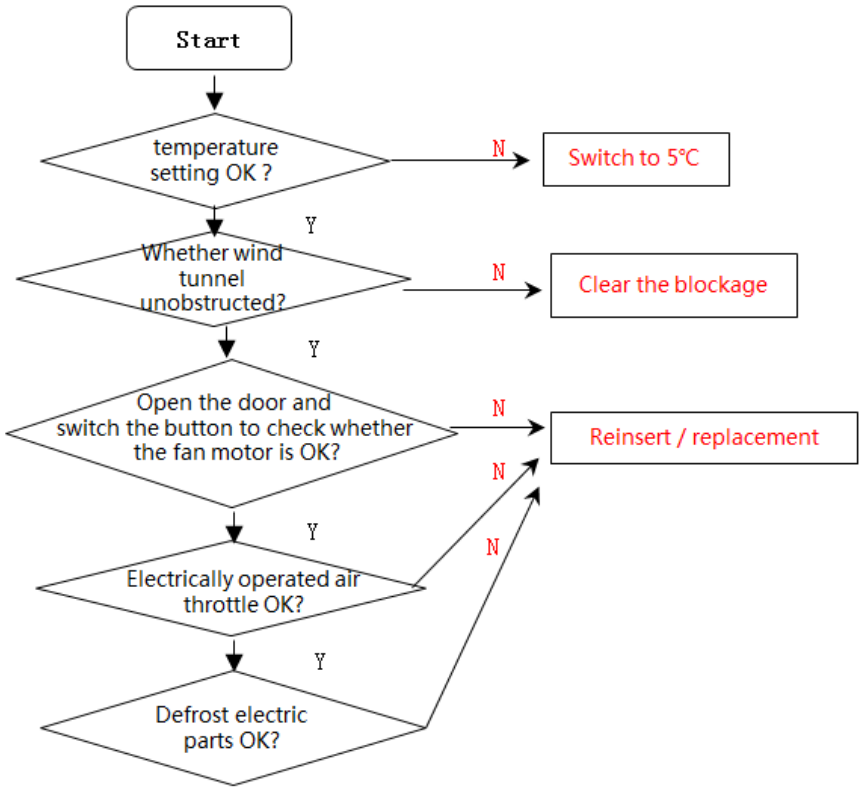
11. Troubleshooting Method

11.1 No cooling(Air cooling-Electronic)

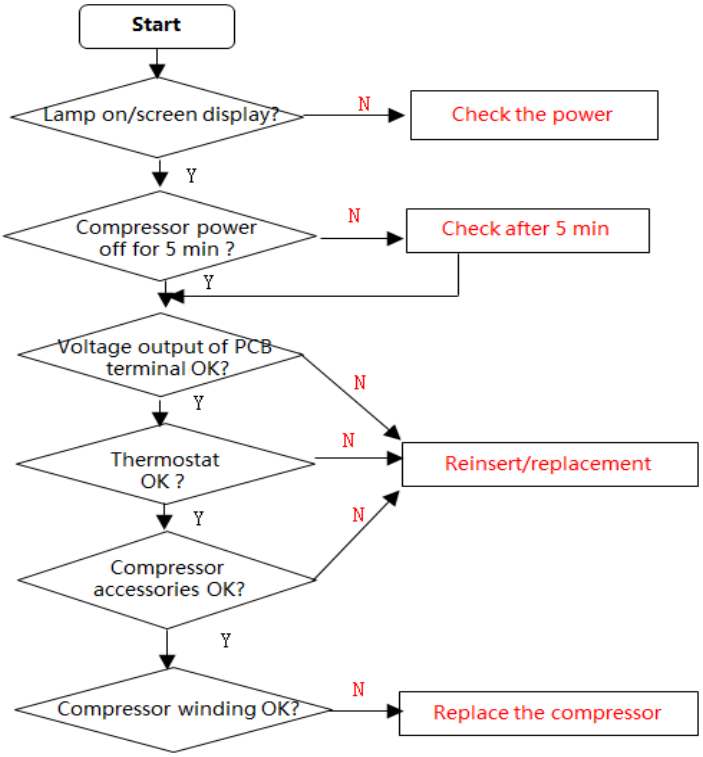
No cooling of F room and R room



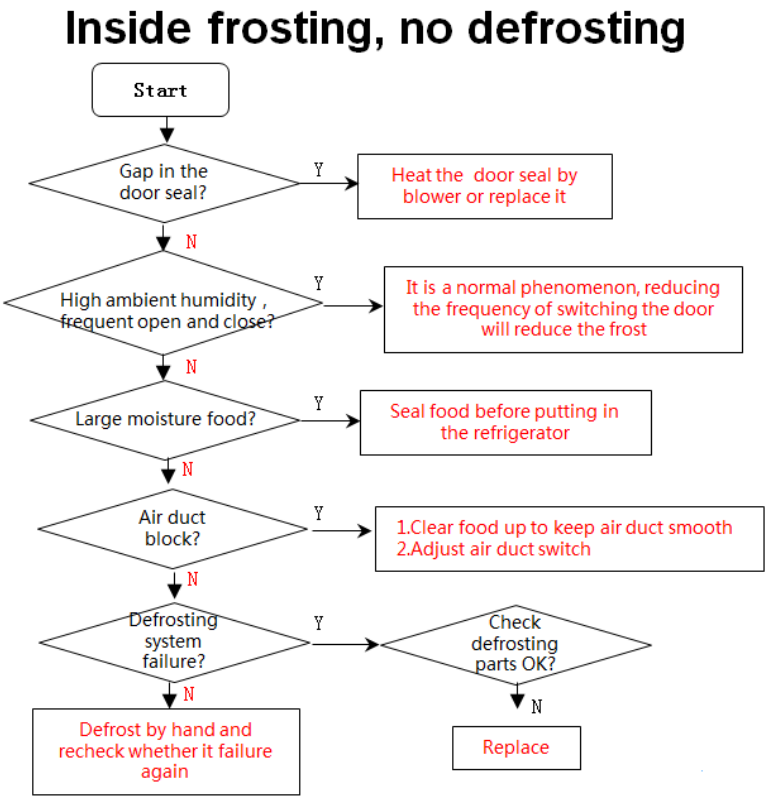
F room cooling、R room no cooling



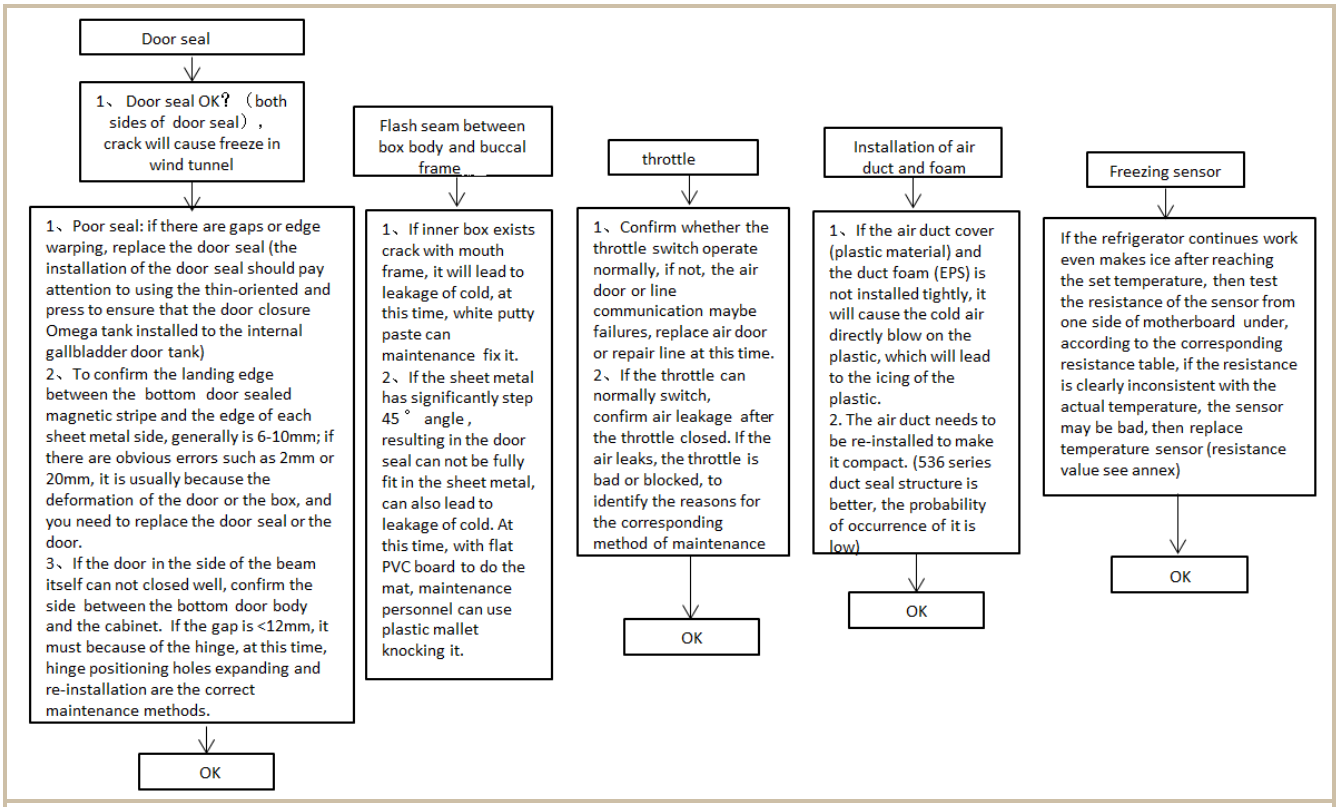
11.2 No working of compressor

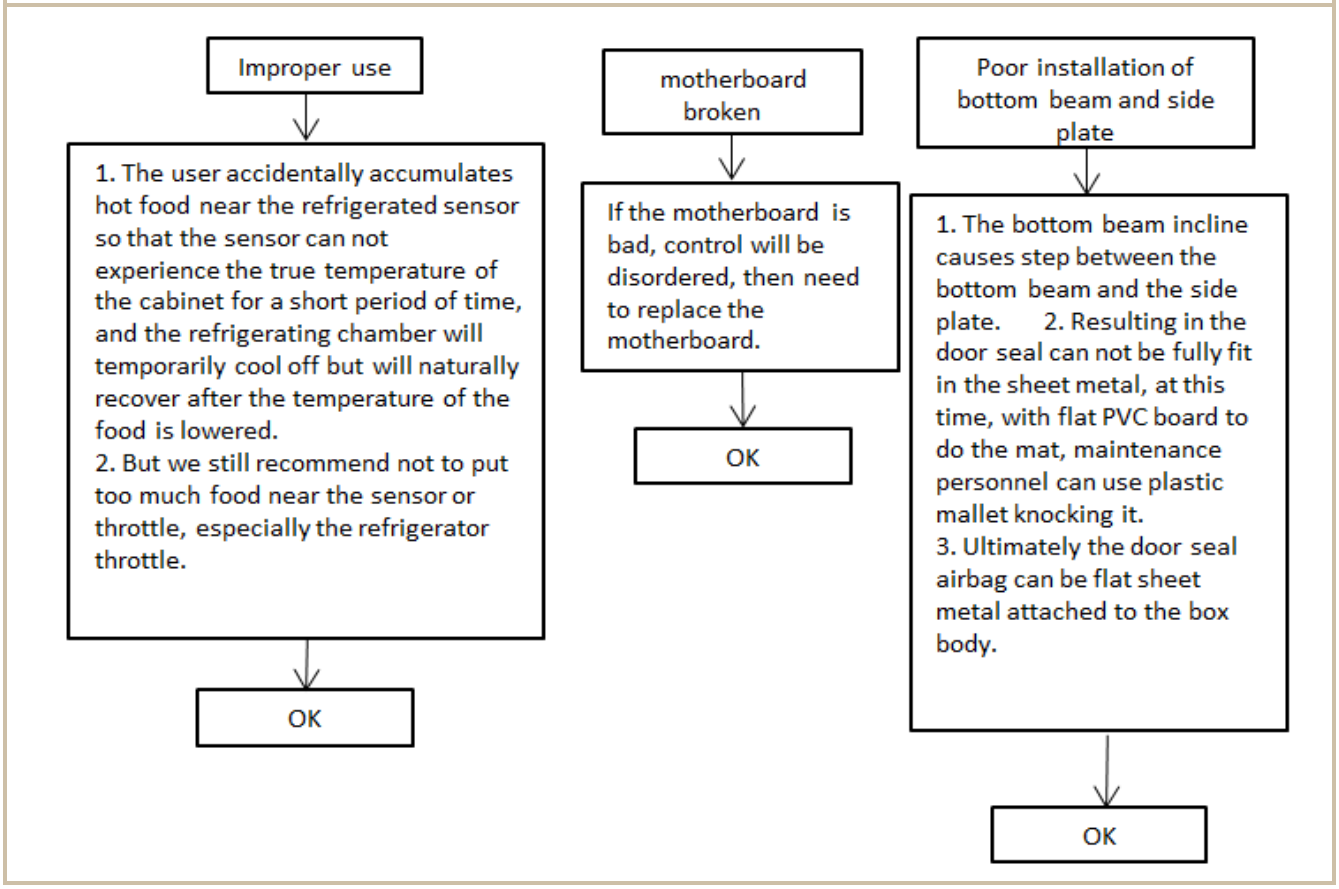


11.3 Inside frosting, no defrosting

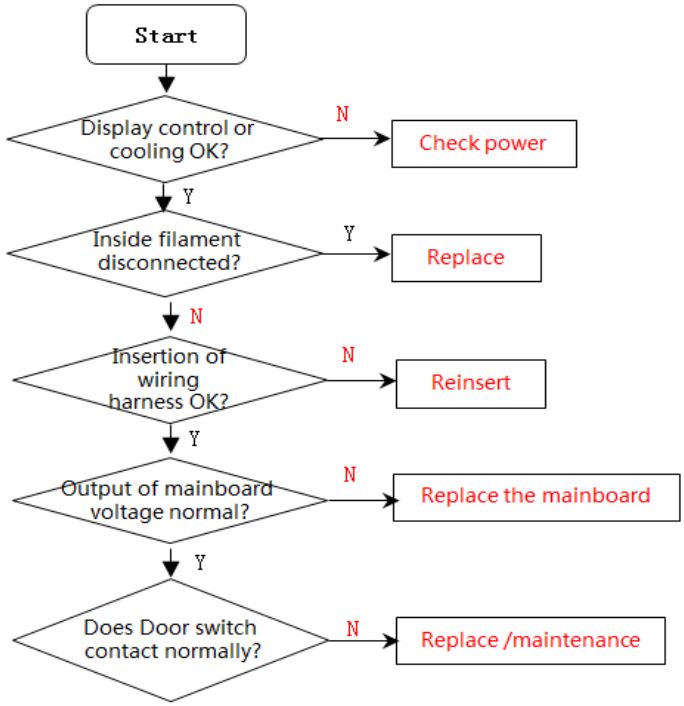


11.4 Inside frosting, no defrosting-Maintenance guidelines

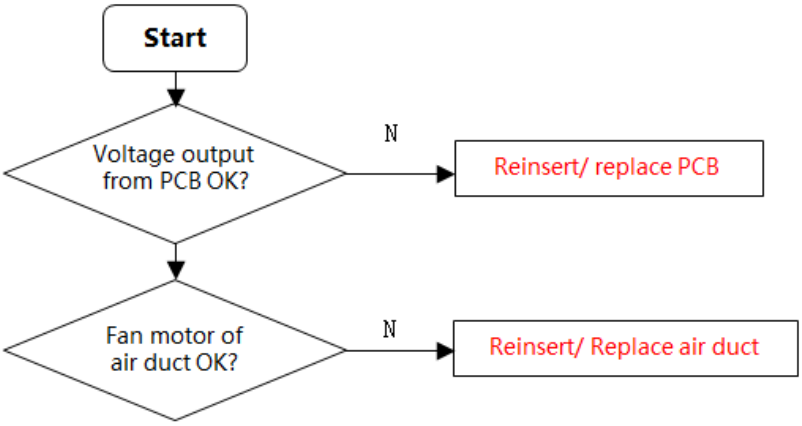




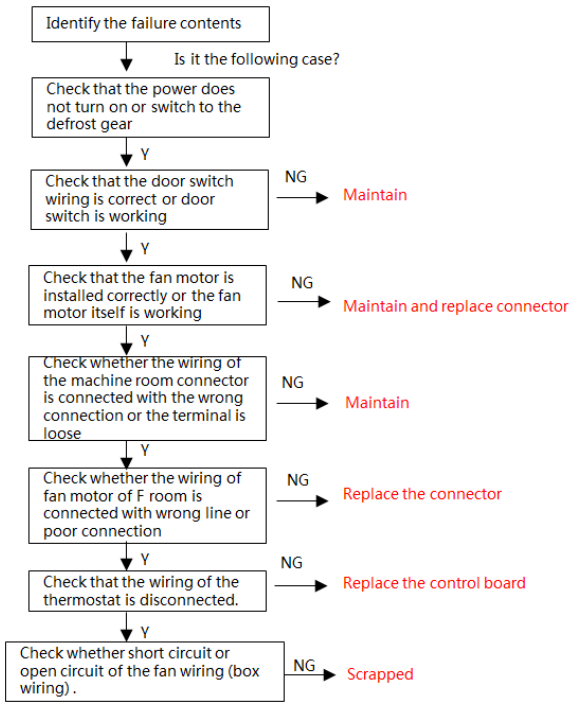
11.5 Light is not on



11.6 Air duct not operated(electronically)

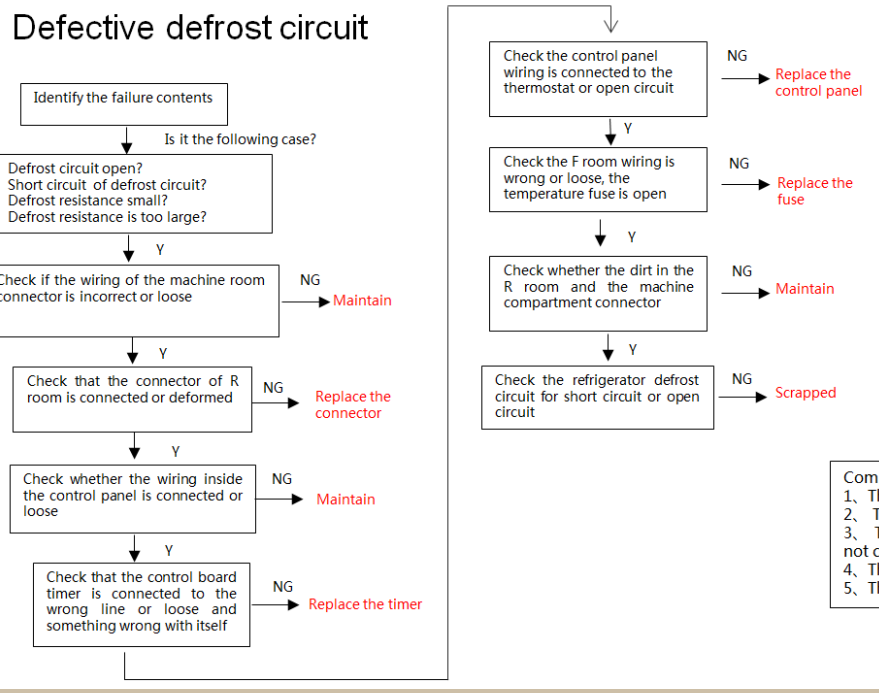


11.7 Fan failure



Normal phenomenon for no working of the fan:
1、Poor fan connection or poor installation, loose or reverse of the door switch connector
2、Poor fan installation, leaf contact with the inner board of the foam or touch the line.
3、Insurance circuit of the fan wiring.
4、The timer is not reset in the defrost position .
5、The wire terminals inside the machine compartment connector or control board connector are loose.
6 . The door switch itself is defective or the circuit board is defective (electronic refrigerator).

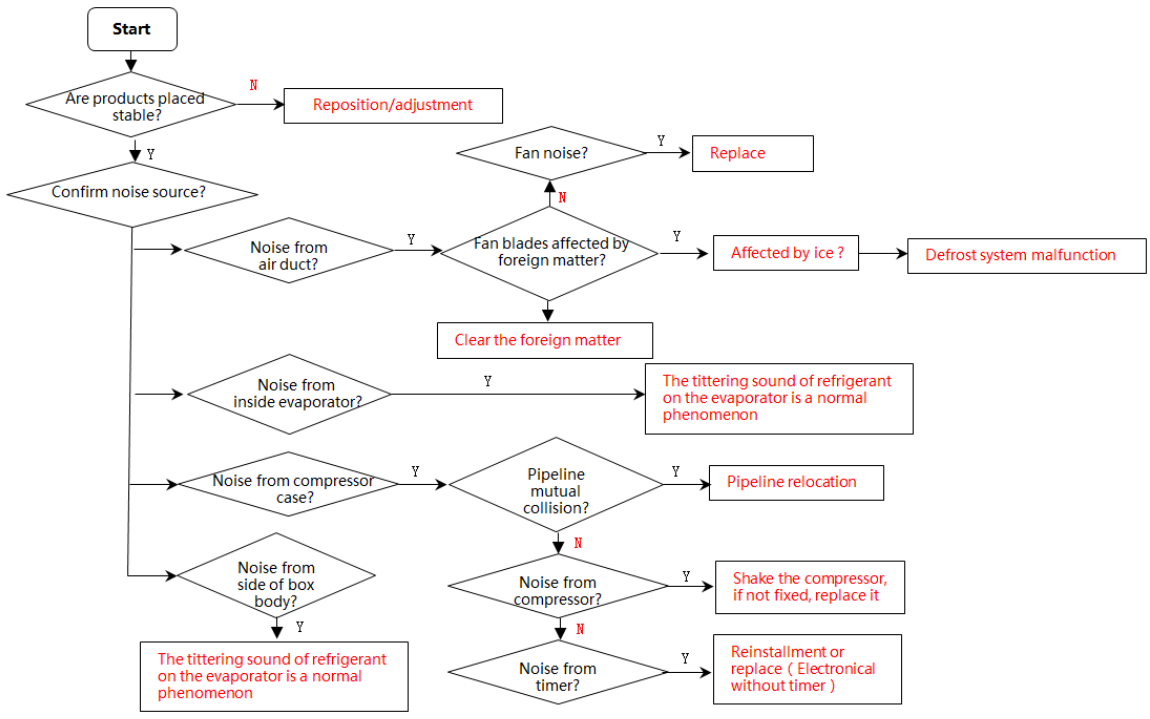
11.8 Defective defrost circuit



△With a multimeter to measure the refrigerator power plug poles, the timer transferred to defrost position measured resistance should be in the range of 6 ~ 8K for qualified
△Check whether the mating of the terminal and the hole is strong and the wiring of the female and male connector is matched (in general, the color line corresponds to the color line)
△Check that the timers are wired for compliance
△Inspect leaks or deformation of the connector

Common phenomenon of poor defrost circuit :
1、The defrost fuse is open.
2、 The timer is connected to the wrong line.
3、 The connector has a leaky bubble liquid that is not clean.
4、The connector is not tight enough to be loose.
5、The internal wiring of the box is open.

11.9 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
Y
N
Noise from timer?
Y
Reinstallment or replace (Electronical without timer)
The tittering sound of refrigerant on the evaporator is a normal phenomenon

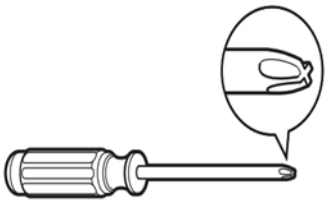
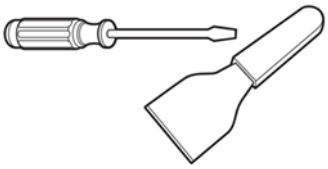
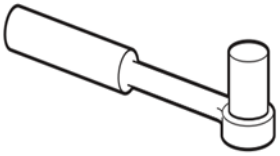
12. Figures and details of repair parts(Documents are provided separately)

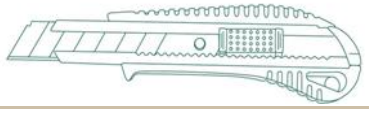
12.1 Figures(none)

12.2 List of parts and components(none)

13. Appendix

13.1 Refrigerator maintenance tooling and equipment and material

Tooling			
No.	**Name**	**Main Usage**	**Photo**
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	Nipper pliers/diagonal pliers	Assistive tooling	

8	Capillary tube scissors	Shear capillary	
9	Knife	assistive tool	
10	Pipe cutter, Flaring device	Pipe cutting，flaring	
11	Electronic digital thermometer	Test temperature	
12	Multi meter	Measurement with resistance, voltage , current and so on.	

Equipment			
No.	**Name**	**Main Usage**	**Photo**
1	Vacuum pump with gauge	vacuum pumping	
2	Electronic scale	weighing refrigerant/gas	
3	High pressure nitrogen with piezometer	pipe and cooling system(condenser, evaporator, etc) impurities clean	

4	Quick coupling	Connection process pipeline, acuum or charge refrigerant will be used.	
5	Soldering gun	heating and welding	
6	hand leak detector	welding point leakage detect, if no, use soap-suds	
Material			
No.	**Name**	**Main Usage**	**Photo**
1	Process pipeline	Chargetherefrigerant	
2	Dry filter	Involving a system failure to be replaced	
3	Copper welding rod	Copper-Copper tubes welding	
4	Silver solder	Not Copper-Copper tubes welding	
5	Refrigerant/gas	Add refrigerant to the system	
6	Adhesive tape	Door fixing for reversing door	

7	Transition copper pipe	Aluminium-Aluminium tubes welding, maintain lengthen tubes	

The symbol on the product or its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste for recycling, please contact your local authority, or where you purchased your product.

Midea Refrigerators

If you need to get detailed technical information from the manufacturer, please contact:

xxx@midea.com

Refrigeration Division

Overseas Sales Company

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