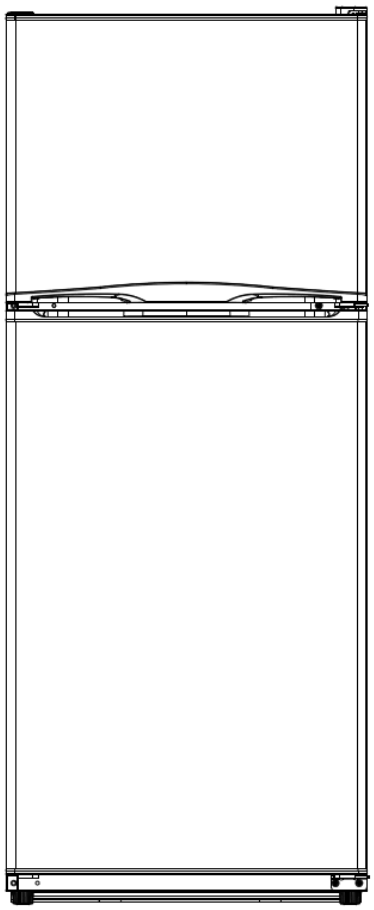
Service Manual

TMF SERIES



Applicable Models	Model Code
UR-BCD280WE-SQ	22031020000146
UR-BCD326WE-SQ	22031020000125
UR-BCD326WE-SQ	92031020Z00030
UR-BCD280WE-SQ	92031020Z00034
UR-BCD280WE-SQ	92031020Z00035
UR-BCD280WE-SQ	92031020Z00044

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Approved by	R&D:Ma Rui SVC:Guang Taoshuai

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

⚠ 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.

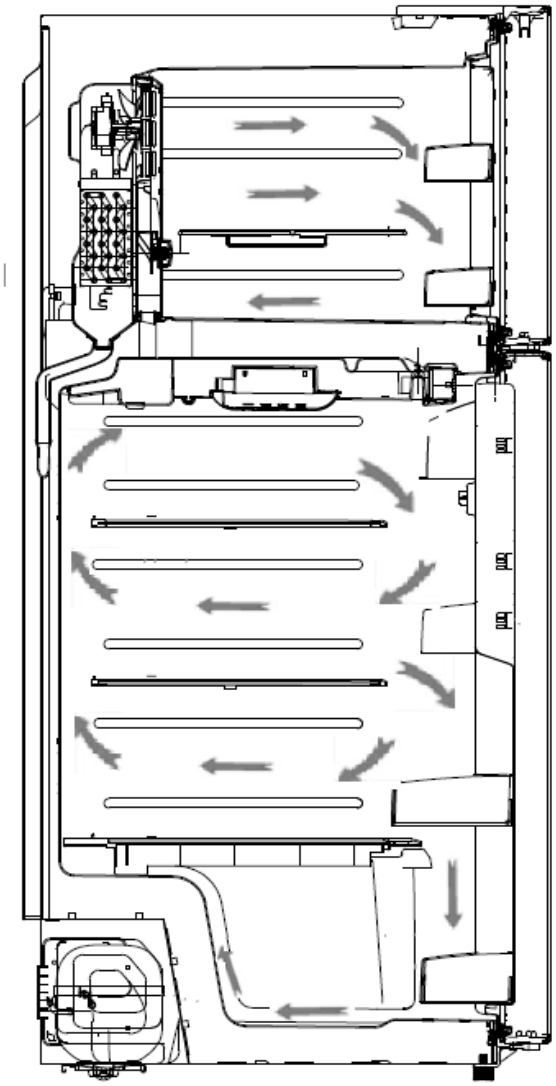
Keep flammable materials and vapors, such as gasoline, away from freezer. Failure to do so can result in fire, explosion, or death.

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) Full air-cooling and frost-free design
2) Electronic temperature control system with more accurate temperature control.
3) The crisper for fruits and vegetables can be adjusted in humidity.
4) Space is reserved for ice maker and customers can purchase the matching ice maker to install

3. Installation and commissioning

3.1 Handling

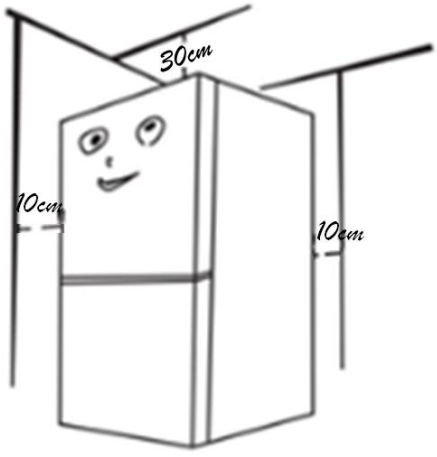
Handling	
1)Protect the refrigerator in moving it,Same as shown as left photo, please move it by handcart with cushion 2)Remove all packing materials and bottom cushion, the n move into house for placement 3)After moving it to appropriate location, wait for 2 hours before power on.	

3.2 Door Disassembly and Assembly

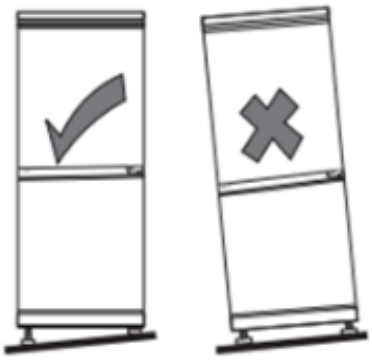
The refrigerator door needs to be dismantled if it cannot enter the room in the whole.

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

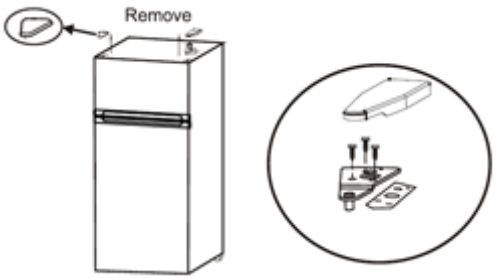
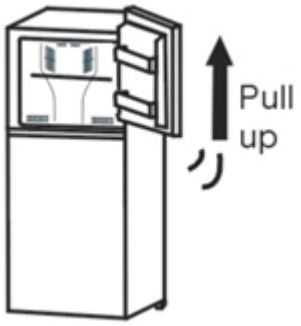
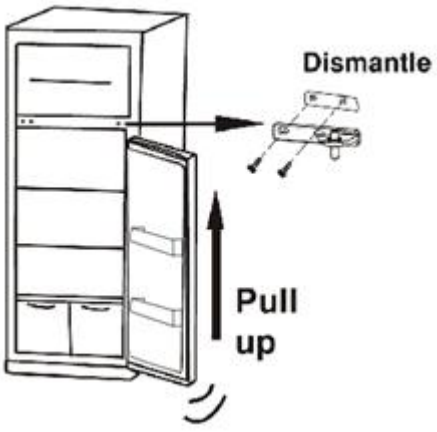
3.3 Installation location

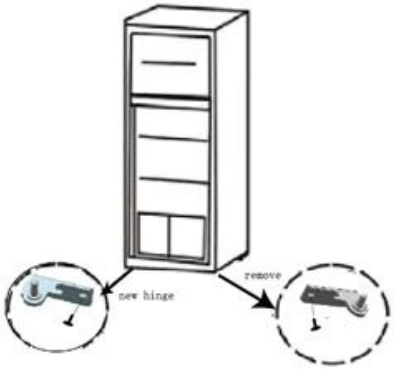
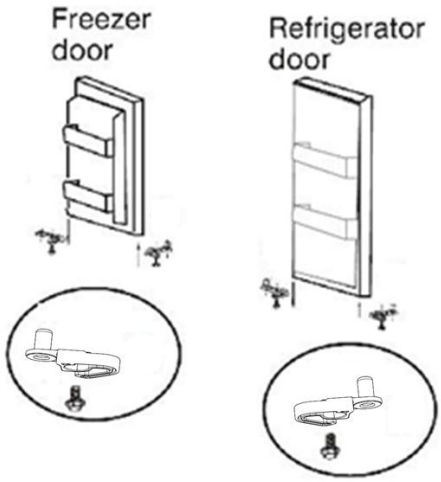
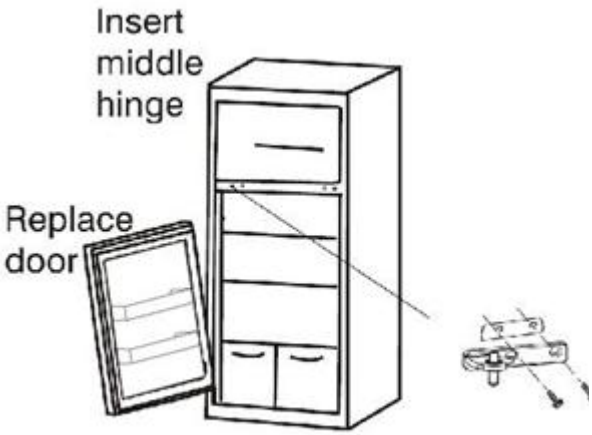
Installation location	
Location that is easy for ventilation shall be chosen to facilitate heat dissipation, enhance its performance and reduce the energy consumption.	

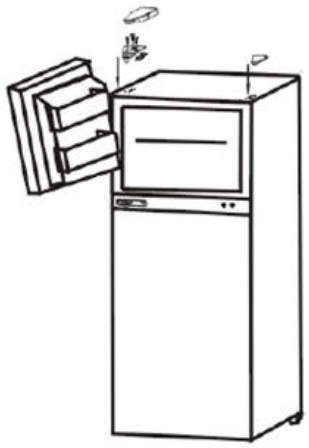
3.4 Leveling of the refrigerator

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

3.5 Door reversal

Door reversal	
1. Remove the hinge cover and the screw holes cover. Unscrew and remove the top hinge.	
2. Lift the freezer door up and away from the appliance.	
3. 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.	

4. Remove right bottom hinge and reserve the screws. Remove screw covers at left corner and put them into the screw holes at right corner. Install left hinge by using those reserved screws.	
5. Remove right pin assemblies from the bottom of the freezer and refrigerator doors. On the opposite side, attach the replacement pin assemblies (located in the plastic bag with the Use and Care Manual) with a screwdriver. Note: You must re-use the screws from the pin assemblies that are removed in this step when attaching the new assemblies.	
6.Place the refrigerator door on the bottom hinge. Ensure the door is aligned horizontally and vertically. Attach middle hinge to refrigerator door and attach bolt washer to the back of the hinge, then fix them to middle beam and get them fastened with a screwdriver.	

7. Place the freezer door on the middle hinge. Ensure that the door is aligned horizontally and vertically, and that the gasket seals on all sides before attaching the top hinge. Attach the top hinge and replace the hinge cover.	

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

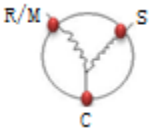
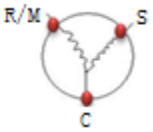
4.1 Definition of model(None)

4.2 Location of nameplate(None)

5. Product specification

5.1 Type specification(None)

5.2 Electrical parameters

Product Name	UR-BCD280WE-SQ	UR-BCD326WE-SQ	None	None
Product Code	22031020000146 92031020Z00044 92031020Z00035 92031020Z00034	22031020000125 92031020Z00030	None	None
Item	**Specification**	**Specification**	**Specification**	**Specification**
Compressor				
Compressor	EZ80H1Z	EZ80H1Z	None	None
Starter(PTC)	QPE2-A4R7MD3	QPE2-A4R7MD3	None	None
Overload protector(OLP)	DRB31T61A1	DRB31T61A1	None	None
Winding resistance of compressor wiring terminal	Rmc:4.32±7%Ω Rsc:3.78±7%Ω Rms=Rmc+Rsc	Rmc:4.32±7%Ω Rsc:3.78±7%Ω Rms=Rmc+Rsc	None	None
Winding resistance picture			None	None
Variable frequency driver board	None	None	None	None
Motor				
Fan motor of the freezing chamber	DC12V/4W	DC12V/4W	None	None
Ventilation door of the refrigerating chamber	None	None	None	None
Condensation fan	None	None	None	None
separation the ice motor	None	None	None	None
ice output motor	None	None	None	None
Open door motor	None	None	None	None
Lights inside the refrigerator				
Lights inside the freezing chamber	None	None	None	None
Lights inside the refrigerating chamber	115V/15W	115V/15W	None	None
Switch of the	Sector	Sector	Sector	None

refrigerator door	

5.3 Inside temperature

Temperature tolerance ≤ 2 °C

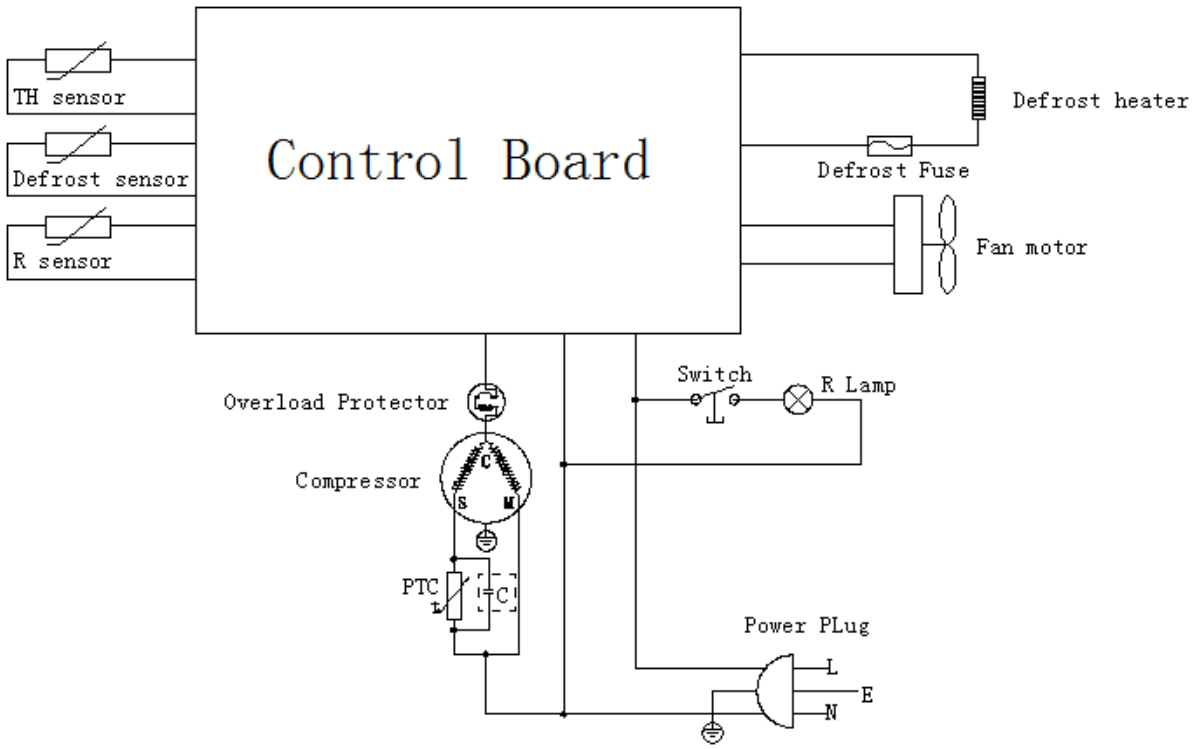
Compartment	The highest (°C)	Lowest (°C)
Freezing	-14	-24
Refrigerating	9	1
Variable temperature	/	/

5.4 Defrosting parts

Item	Initial defrosting period	Normal defrosting period
Defrosting period	Temperature is lower than 0 °C	6~24 hours
Defrosting sensor	NTC B3839	NTC B3839
Defrosting temperature controller	None	None
Thermal fuse	Can't be restored 73℃	Can't be restored 73℃
Defrosting heater in freezing chamber	115V/160W	115V/160W

5.5 Circuit diagram

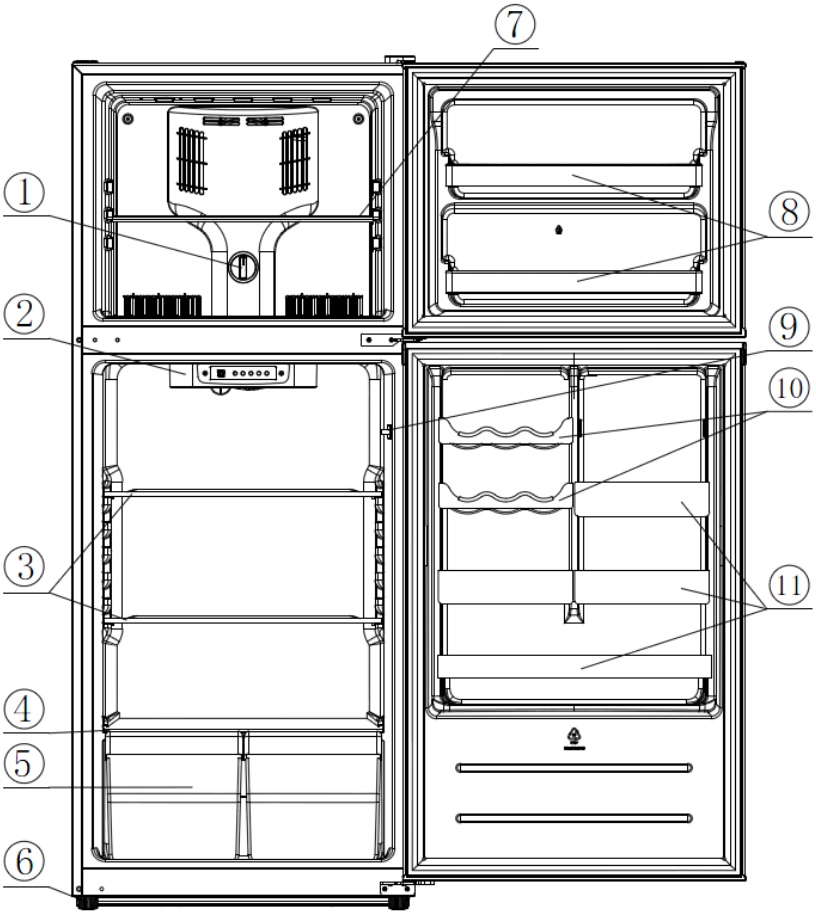
BCD280_22031020000146\92031020Z00044\92031020Z00035\92031020Z00034 (BCD326WE_22031020000125_ 92031020Z00030**)**



6. Internal view and dimension

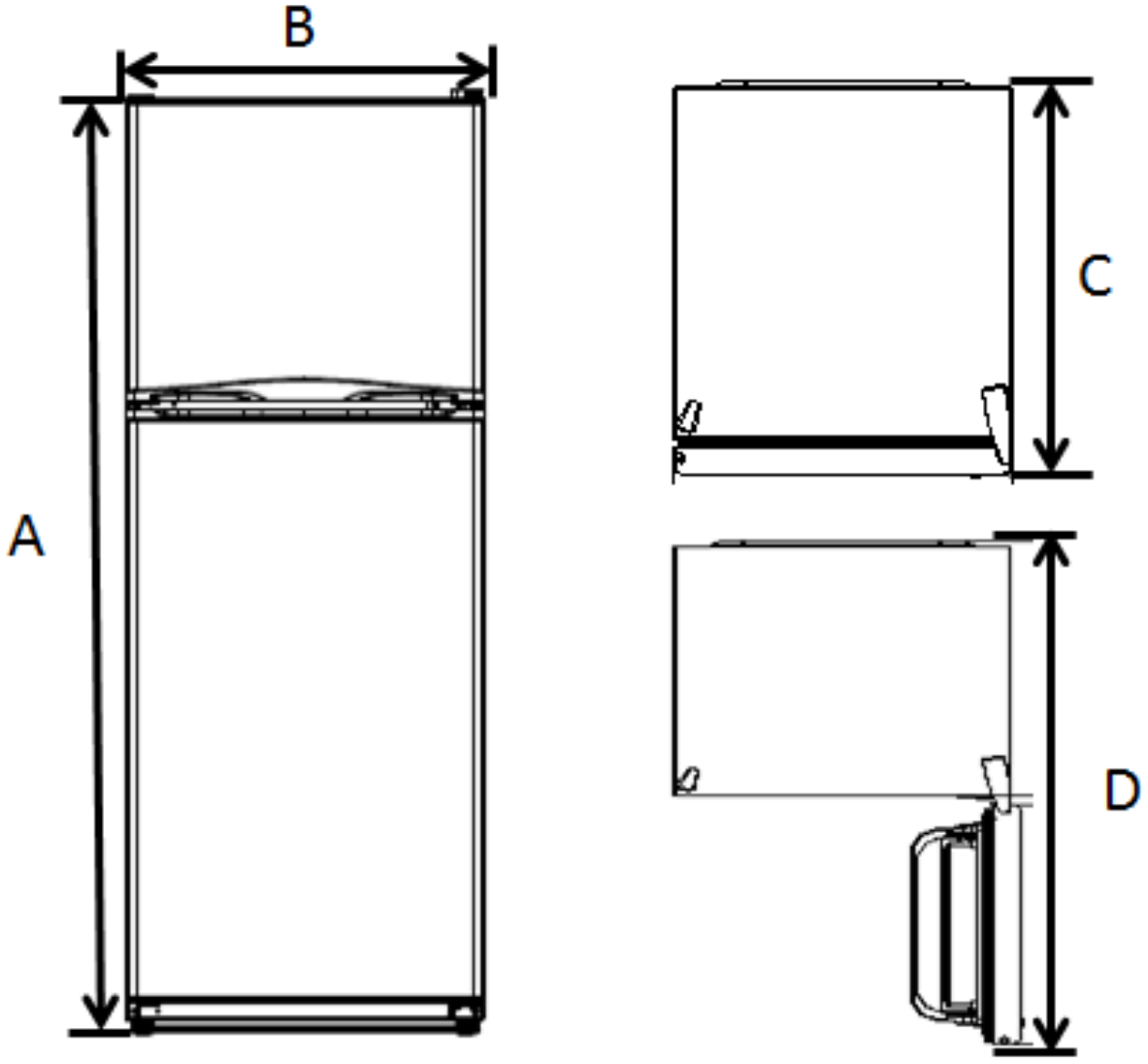
6.1 Main parts and their names

Freezer chamber	Refrigerator chamber
❶Air duct components in freezing chamber ❼Steel wire shelf in freezing chamber ❽Bottle frame in freezing chamber	❷Air duct components in refrigerating chamber ❸Glass shelve ❹Cover plate of crisper ❺Crisper for fruit and vegetable ❻Regulating foot ❾lamp switch ❿Zip-top can frame ⓫Bottle frame in refrigerating chamber



6.2 External dimension

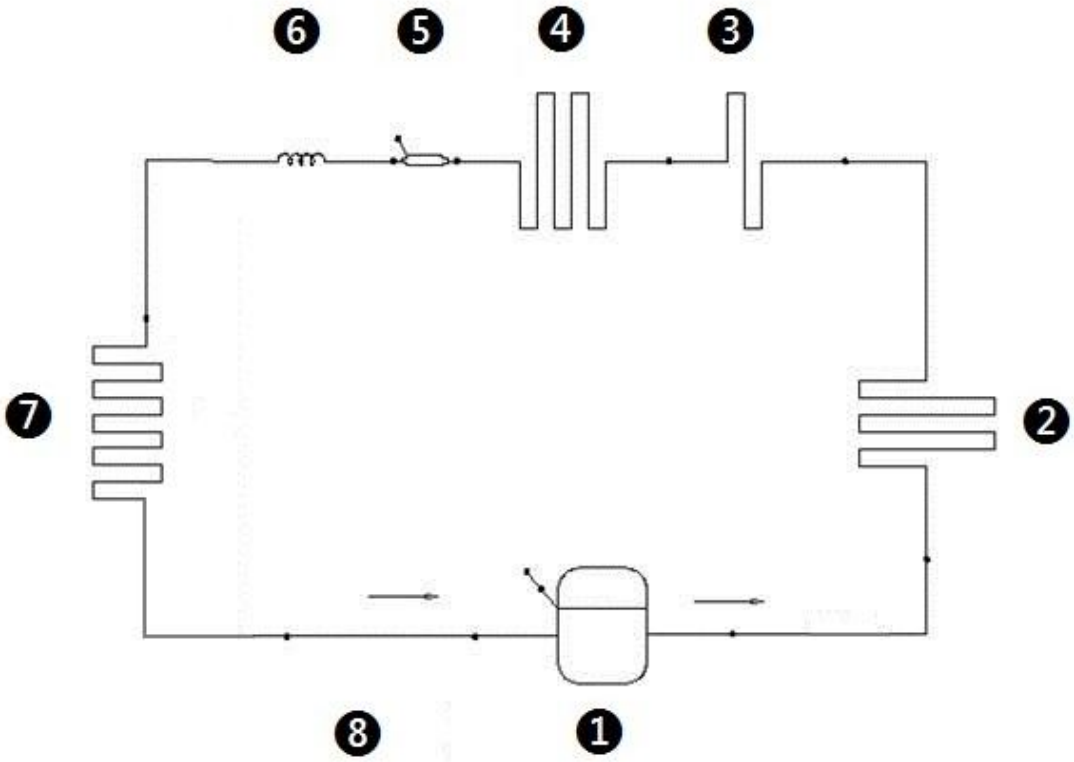
Description	Code	Size (mm)		
		BCD280	BCD326	None
Height to Top of Case	A	1519	1519	None
Width	B	610	610	None
Depth w/Handles	C	655	725	None
Depth (90 eg with Door Open)	D	1214	1284	None
Width (door open 90 eg. w/ handle)	E	None	None	None



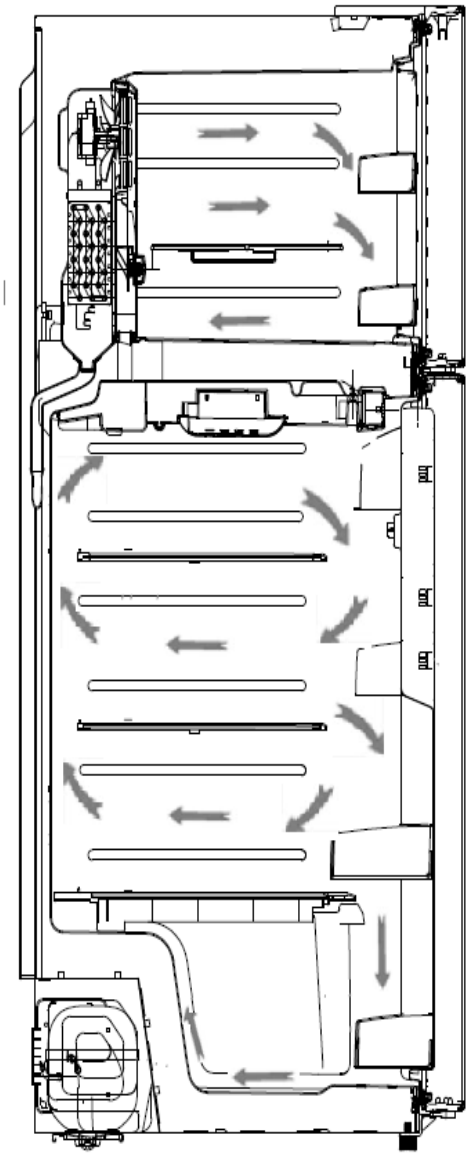
7. Refrigerating piping system and circulating route of cooling air

7.1 Refrigerating piping system

BCD280_22031020000146(BCD326WE_22031020000125)
❶Compressor→❷Right condenser→❸Anti-condensation tube→❹Left Condenser→❺Dry filter→❻Capillary tube→❼Evaporator→❽Suction tube→❶Compressor



7.2 Circulating route of cooling air

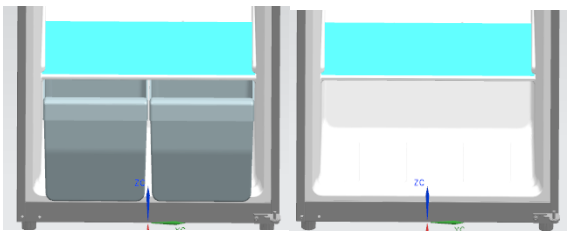
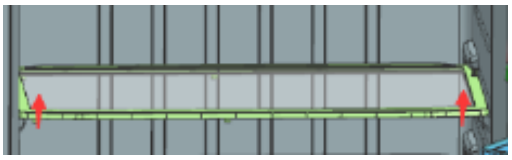


8. Dismantling of parts

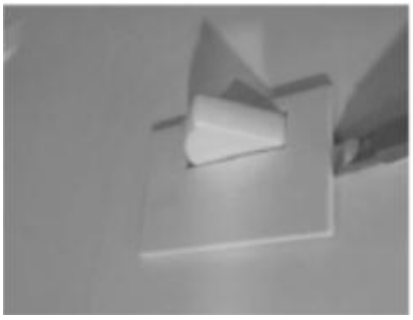
8.1 Parts on the door

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

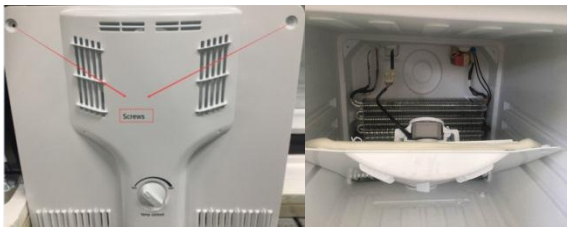
8.2 Parts inside the refrigerator

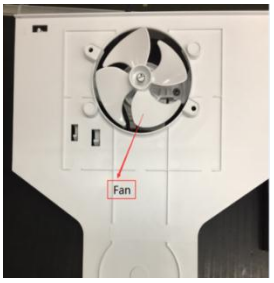
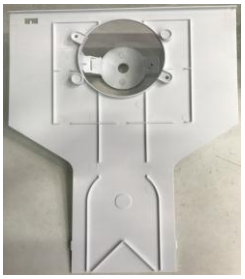
Refrigerator Fruit box cover	
Remove the crisper cover of ref. compartement accordin g to below steps: 1）Take out the crisper firstly. 2）Pull out the crisper cover completely.	
Shelves	
1）Lift up the division plate with a proper force and pull it out towards yourself.	
Drawer	
Drawer	None

8.3 Light system

Light	
Light of the refrigerating chamber is located upper chamber 1） Remove the lamp cover 2） Remove the bulb	
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

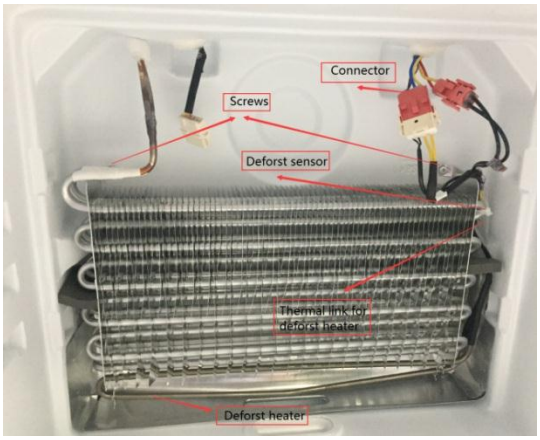
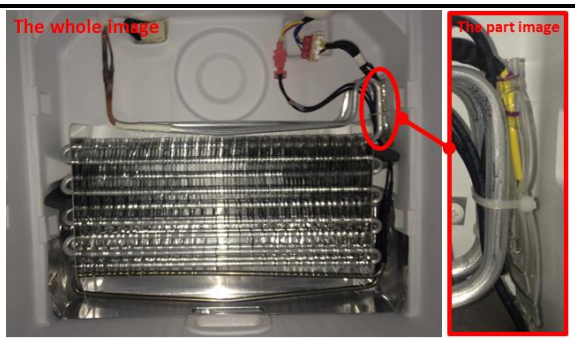
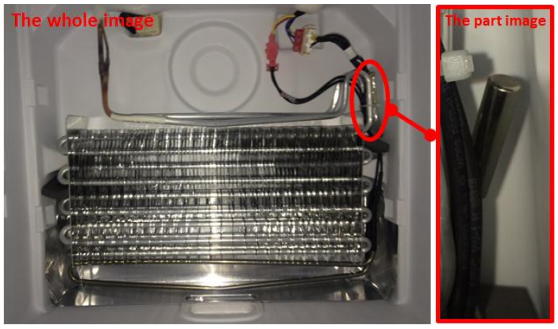
8.4Air duct and fan motor

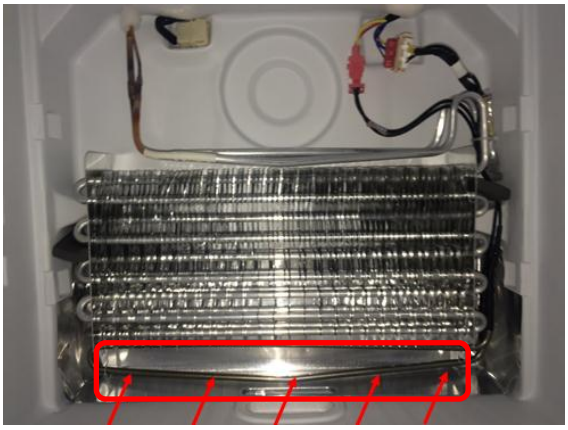
Air duct components in freezing chamber	
All accessories in the freezing chamber should be dismantled before removing the air duct components. 1） Remove 2 screws on the cover plate of the freezing air duct using a cross screwdriver. 2） Pull out the connector terminal of the fan motor.	
Fan motor of air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

Use screwdriver to remove the 2screws on the back of Freezer air duct, then remove the front cover, fan motor assembly can be taken out	
Separate the fan blade from fan motor(pull forcibly)	
Use screwdriver to remove the screw, then separate the bracket from fan motor	
Change the fan motor, the reverse operation for assembly	
Damper assembly	
Damper assembly	None

8.5 Evaporator and temperature sensing system

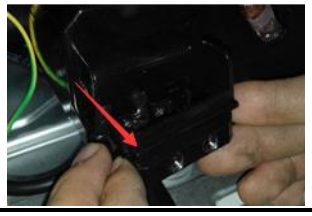
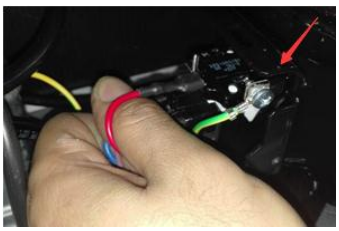
Evaporator in freezing chamber

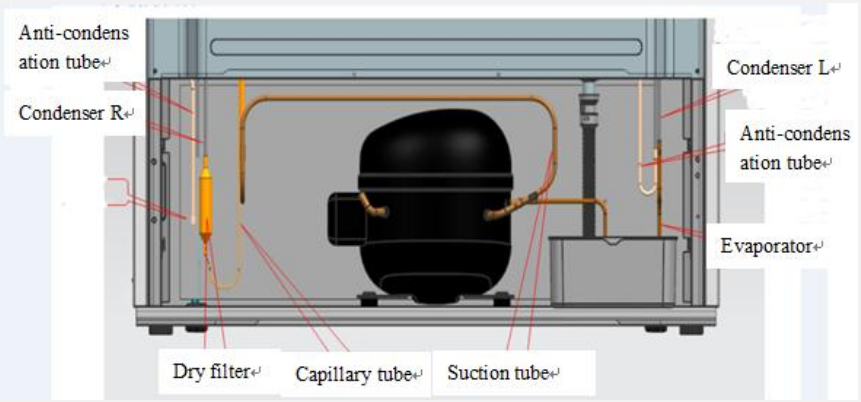
1） Remove the air duct components in freezing chamber. 2） Disconnect all connectors. 3） Remove the welding on inlet and outlet tubes. 4） Remove two screws which are used to fix the evaporator and remove the evaporator.	
Components on the evaporator	
Defrost thermostat	None
Fuse The fuse is located on 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 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	
1） Before remove the sensor, the refrigerating duct assembly should be removed Remove the air duct assembly from the refrigerating. 2） Remove the sensor.	
Ambient temperature sensor	
Sensor position in the bottom of the box	/
Sensor in Variable temperature chamber	
Sensor in Variable temperature chamber	None
Thermostat	
Thermostat	None

8.6 Compressor case

Rear cover and compressor case	
Rear cover and compressor case	None
Terminal box of the compressor	None

Starter and protector of the compressor	
1）**Remove the screws** -Two screws outside -One screw inside	
2）**Remove the clipping strip** Slowly pull it out	
3）**Remove the protective cover** -Pry the protective cover slowly from the upper part, -Pull it out and remove it.	
4）**Remove the starter and protector**Unplug the starter and protector (you can use a screwdriver to pry it slowly)	
5）The reverse process can complete installation.	/
Condenser fan motor	
Condenser fan motor	None
Standby condenser	
Standby condenser	None
Piping system in the compressor case	



8.7 Display control board

Display control board	
1） Remove two screws from the refrigerating air duct with a cross screwdriver; 2） Pull all connector terminals out of the refrigerating air duct to remove its components; 3） Uncover the temperature control indication sticker on the cover plate of the air duct; 4） Gently pry out the PCB installation box with a straight screwdriver to get the master control board and installation box components; 5） Pry open the buckle of the PCB installation box with a straight screwdriver to see the PCB board; 6） Remove 2 screws using a cross screwdriver to remove the master control board; 7） Pull out the connector terminal and replace the master control board in reverse steps; *The temperature control indication sticker is likely to be damaged when replacing PCB, thus it is advised to prepare one for standby before replacement:	    

8.8 Main control board

Main control board	
Display control board together	

8.9 Bar counter

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

8.10 Water dispenser

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

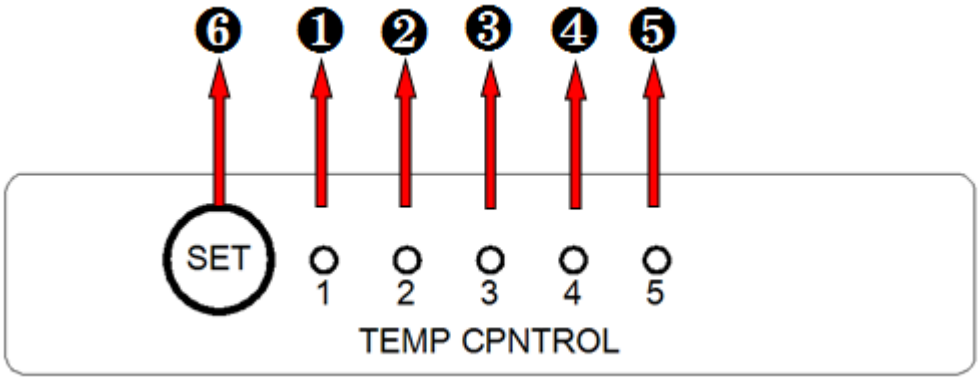
8.11Ice maker

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	❻ 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 according to the middle gear to show operation

Normal operation display:

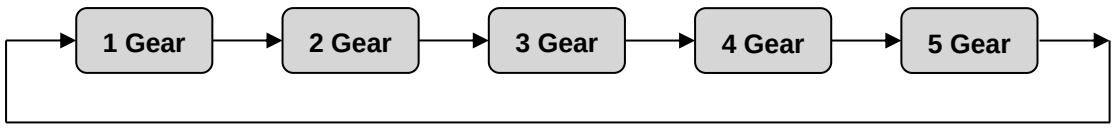
1）When failure occurs, the corresponding LED light group will display fault code (circular display);

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: (Setting the gear from one to five the set temperature will be lower to higher and it can be set circularly)



9.4 Control of standby function

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 there are foreign matters on the terminal. Pull out the refrigerating sensor according to the method in described in Article 8.5 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 defrost 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 there are foreign matters on the terminal. Pull out the defrost sensor in freezing chamber according to the method in described in Article 8.5 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 8.5 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.Defrost the freezing chamber as per the accumulative operation time of the Compressor2.If power failure occurs abruptly to the Compressor and the defrosting sensor in freezing chamber is less than 0 **°C** after powering on, then first conduct defrosting once. If more than 0 **°C**, then defrosting is not needed. After that, conduct defrosting according to using condition and ambient temperature in a period between 6 and 24 hours as per the accumulative operation time of the Compressor.

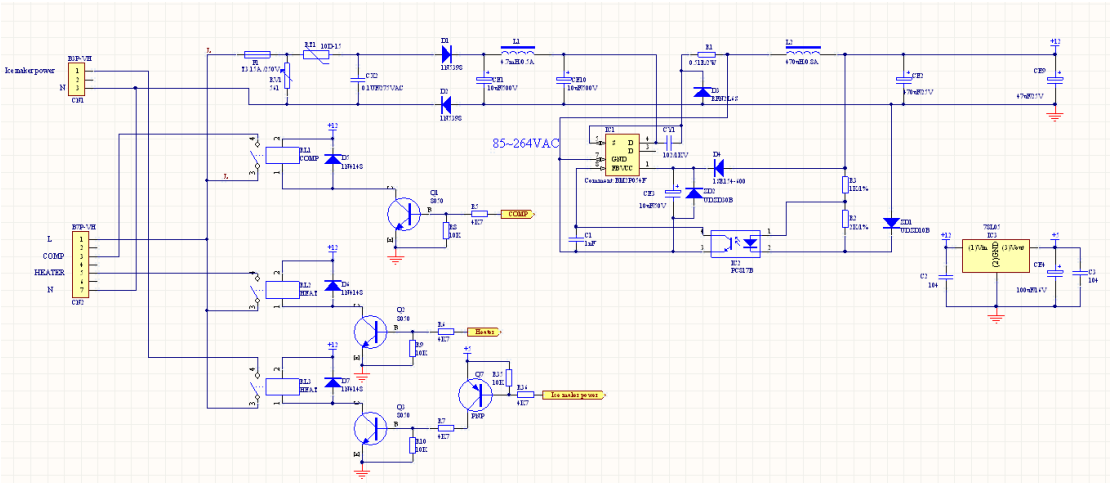
9.8 Test mode

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	then the refrigerator will exit the test mode and

	no button is pressed within 25 seconds	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 is always lower than 8°C and the defrosting heater has been working for 1 hour	then the refrigerator will exit the test mode and return to normal operation mode
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

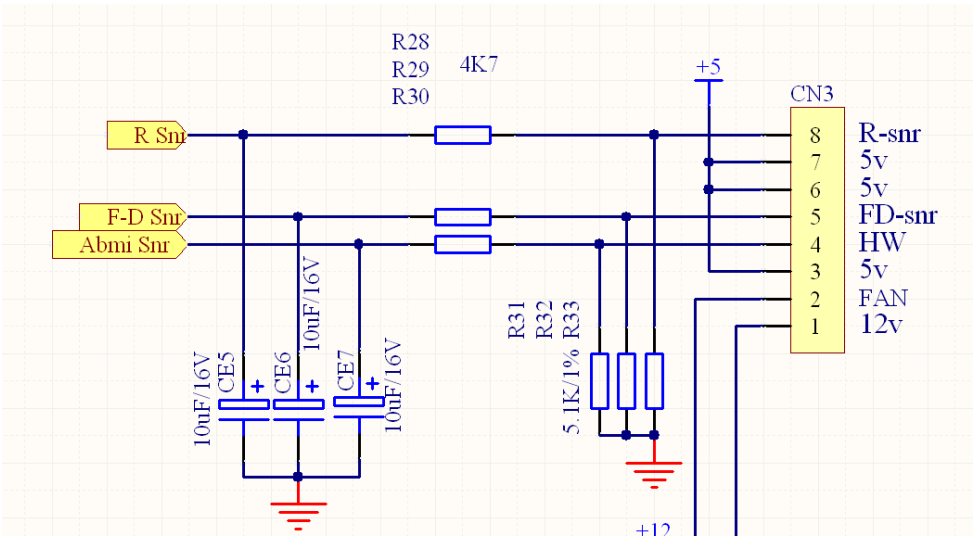
10.1 Power Supply



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



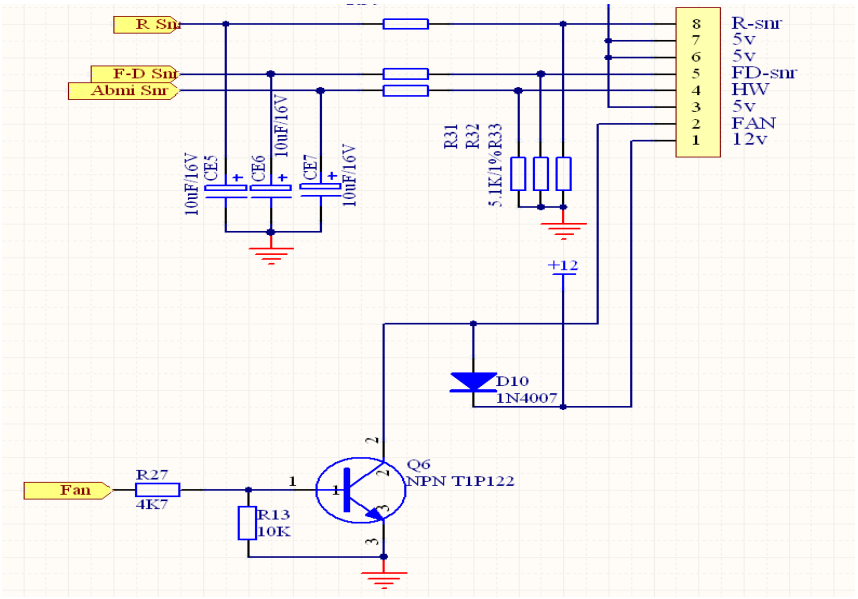
It's conducted by the sensor, making use of the characteristics that resistance value reduces as the temperature increases, and the thermistor that has temperature coefficient of resistance in medium temperature.

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)

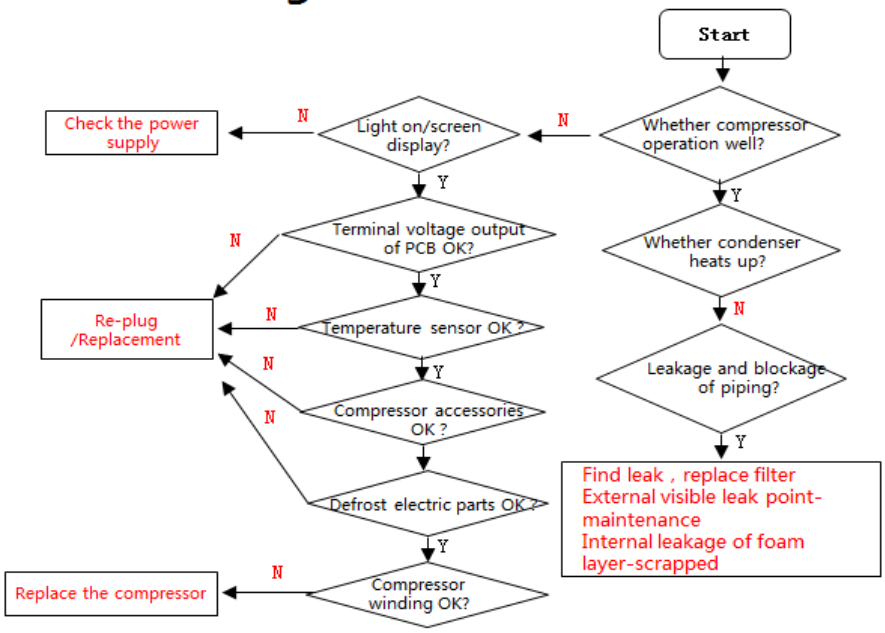
Tx(℃)	R（KΩ）	Tx(℃)	R（KΩ）	Tx(℃)	R（KΩ）	Tx(℃)	R（KΩ）	Tx(℃)	R（KΩ）
-30	33.81	**-15**	14.31	**0**	6.495	**15**	3.141	**30**	1.617
-29	31.85	**-14**	13.55	**1**	6.175	**16**	2.999	**31**	1.55
-28	30.01	**-13**	12.83	**2**	5.873	**17**	2.865	**32**	1.486
-27	28.29	**-12**	12.16	**3**	5.587	**18**	2.737	**33**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

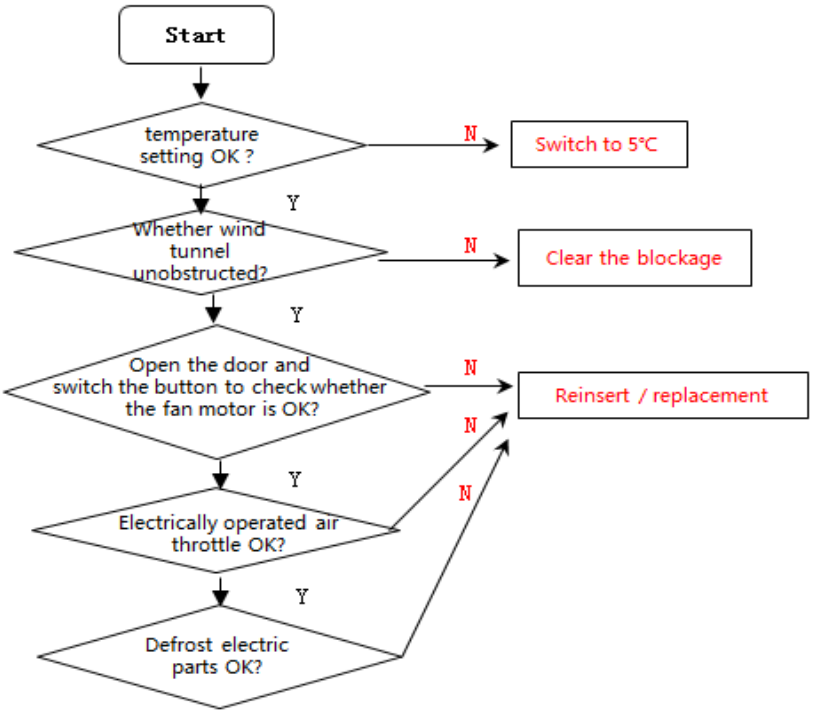
11. Troubleshooting Method

11.1 No cooling(Air cooling-Electronic)

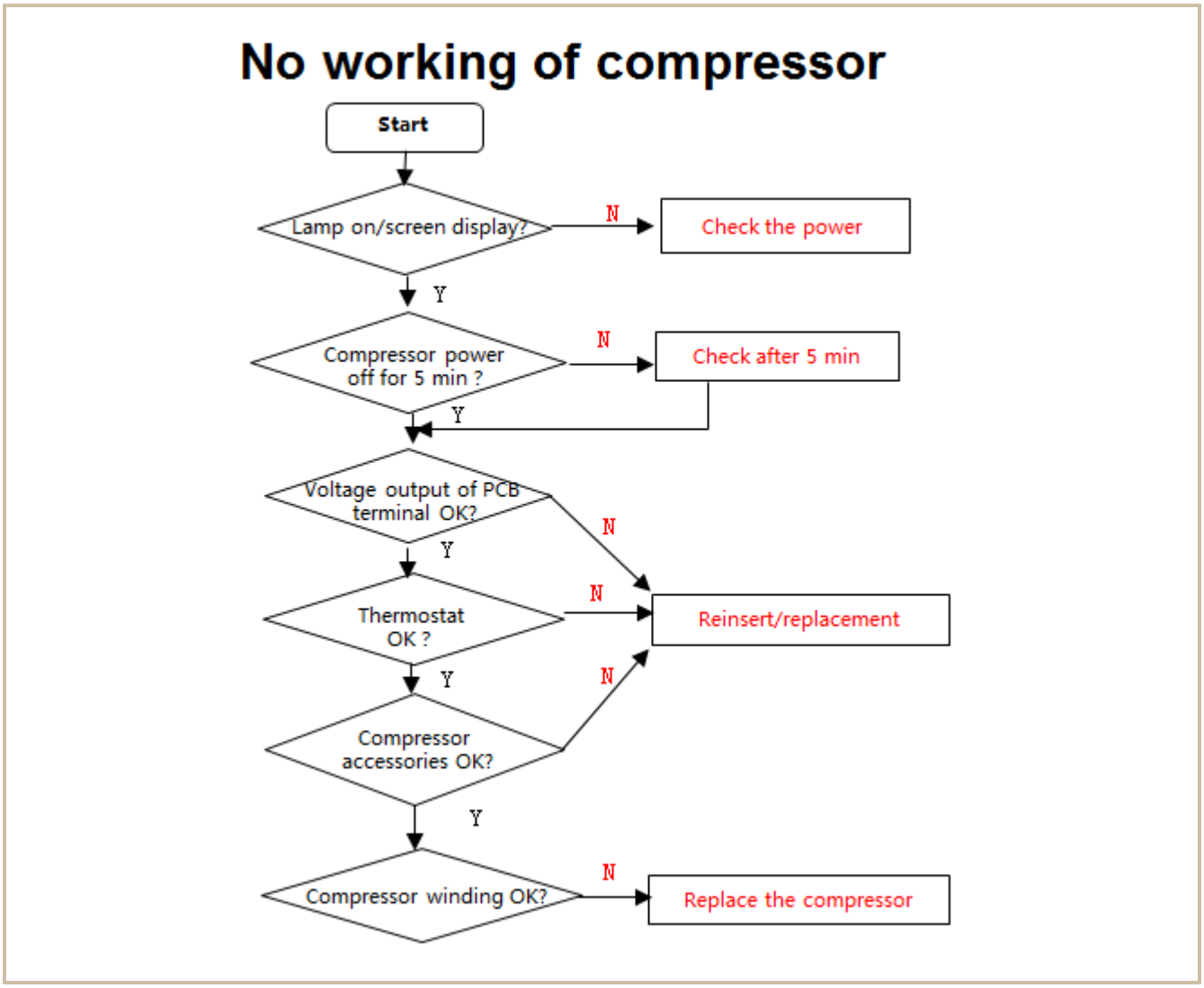
No cooling of F room and R room



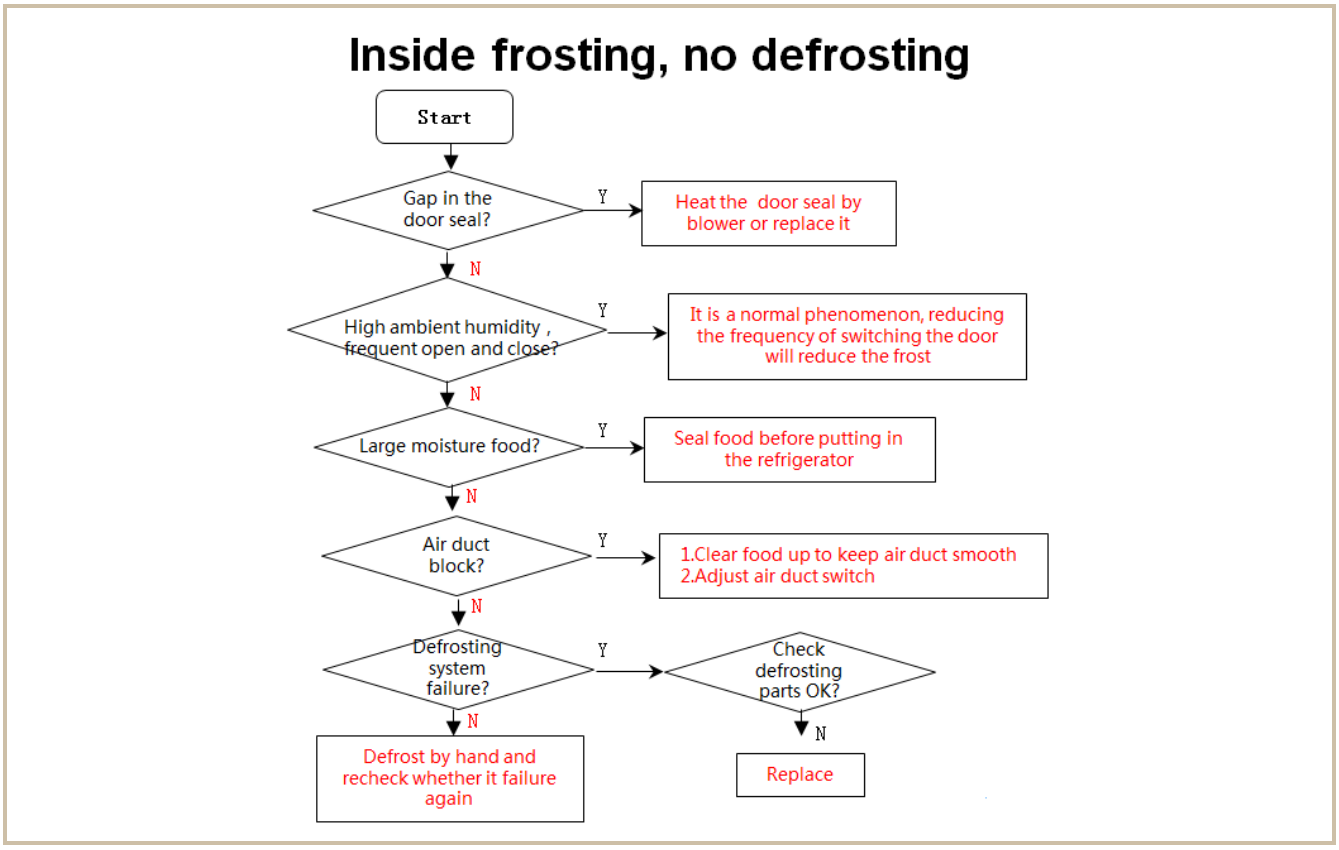
F room cooling、 R room no cooling



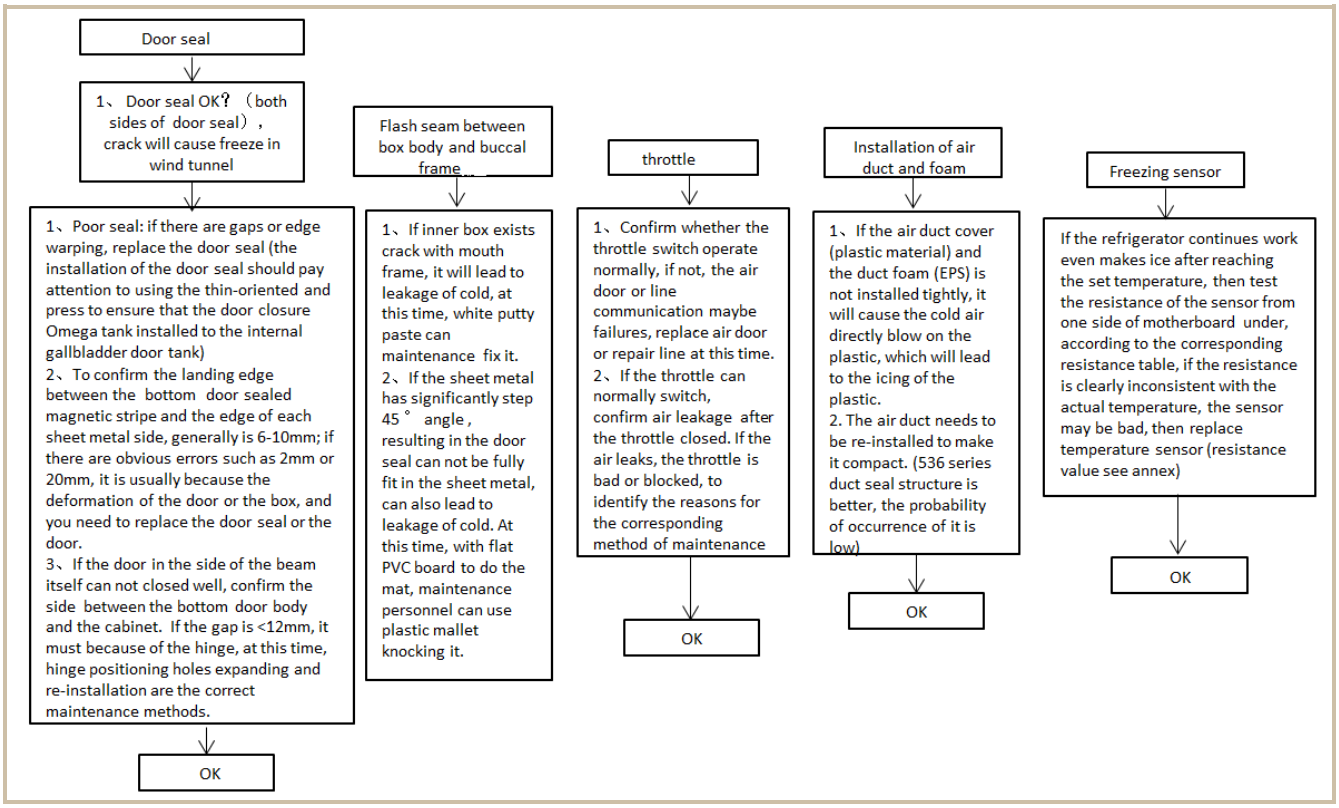
11.2 No working of compressor

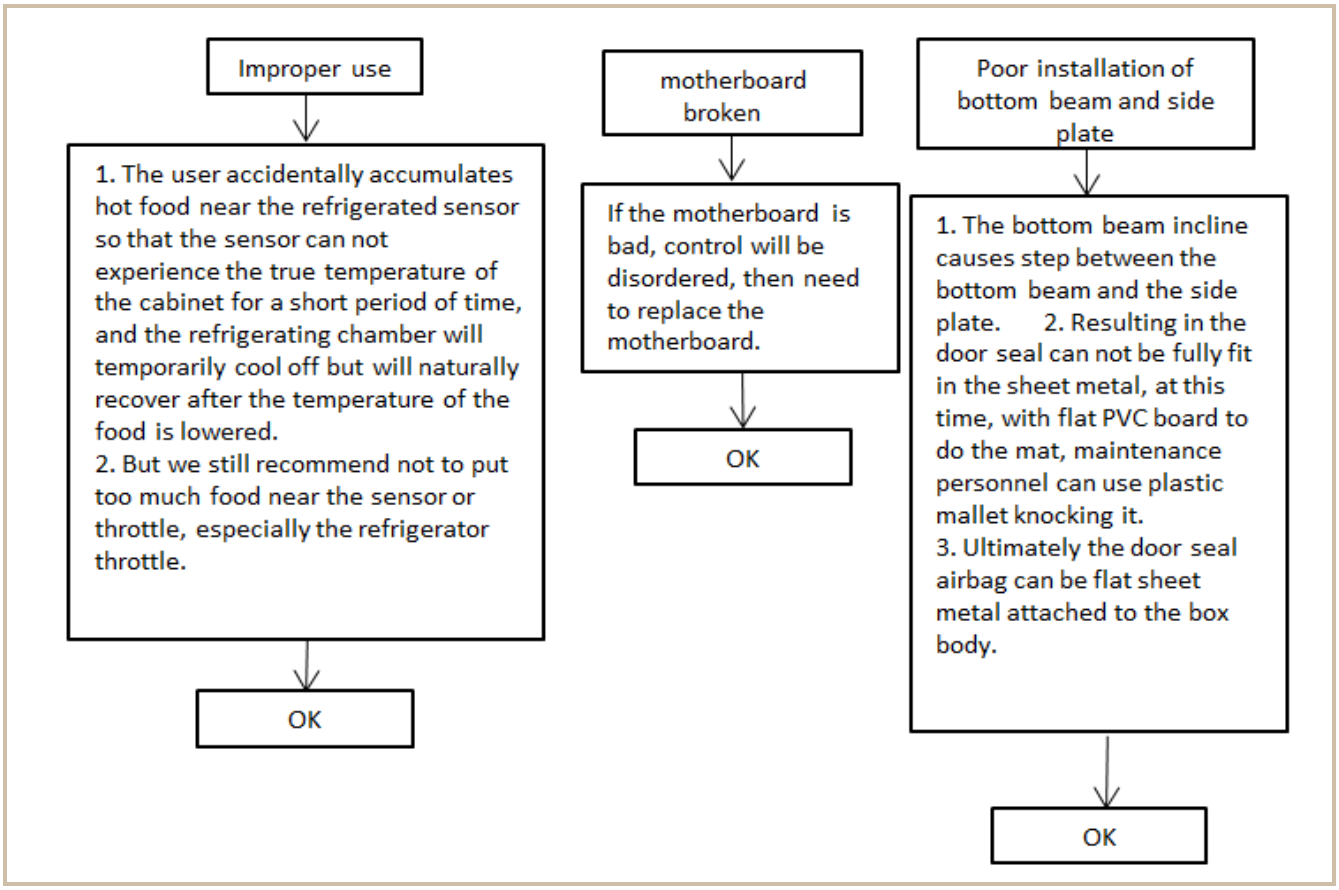


11.3 Inside frosting, no defrosting

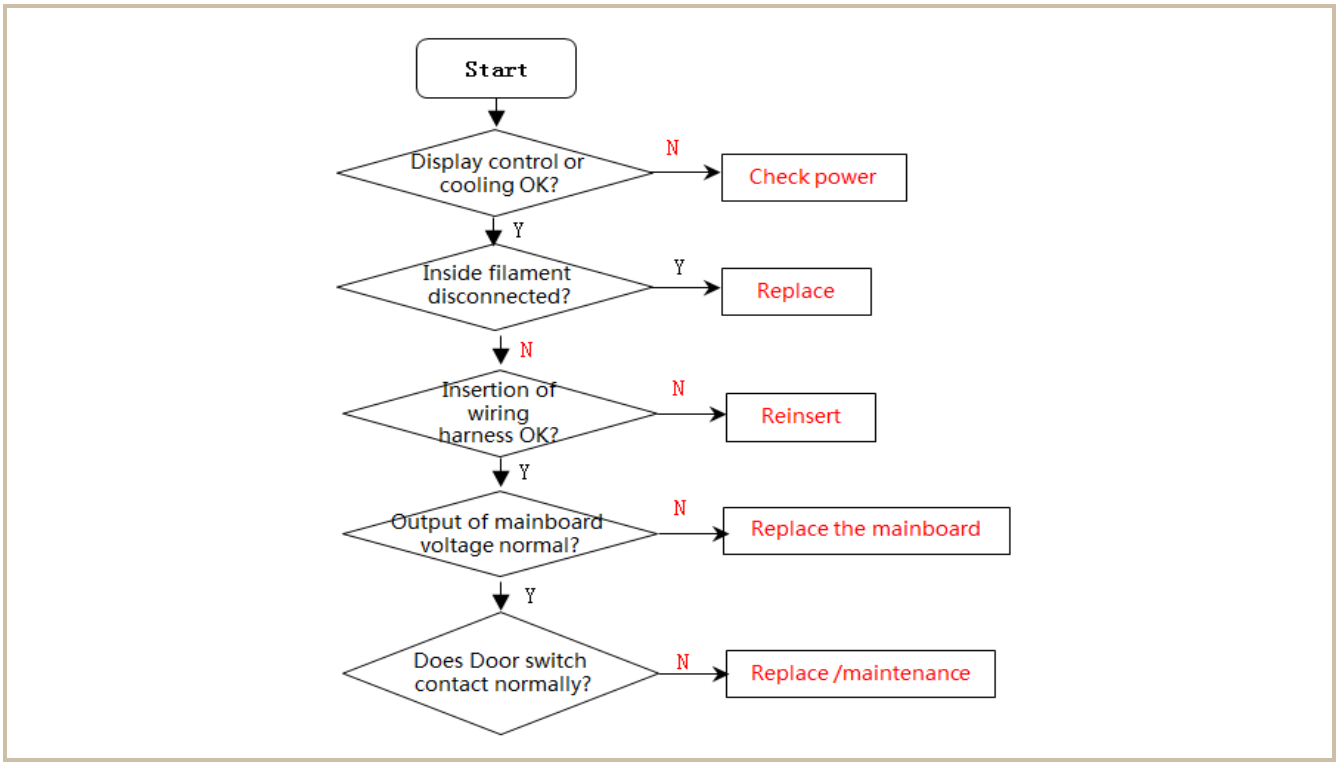


11.4 Inside frosting, no defrosting-Maintenance guidelines



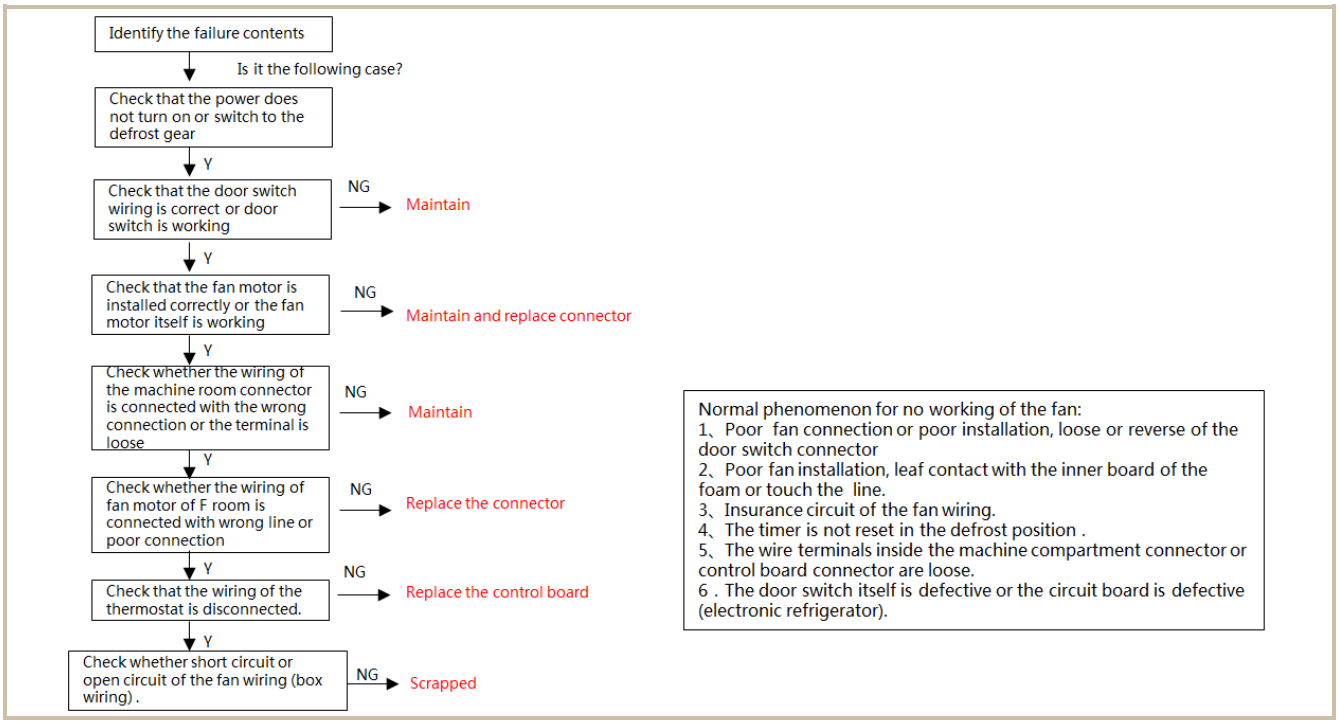


11.5 Light is not on

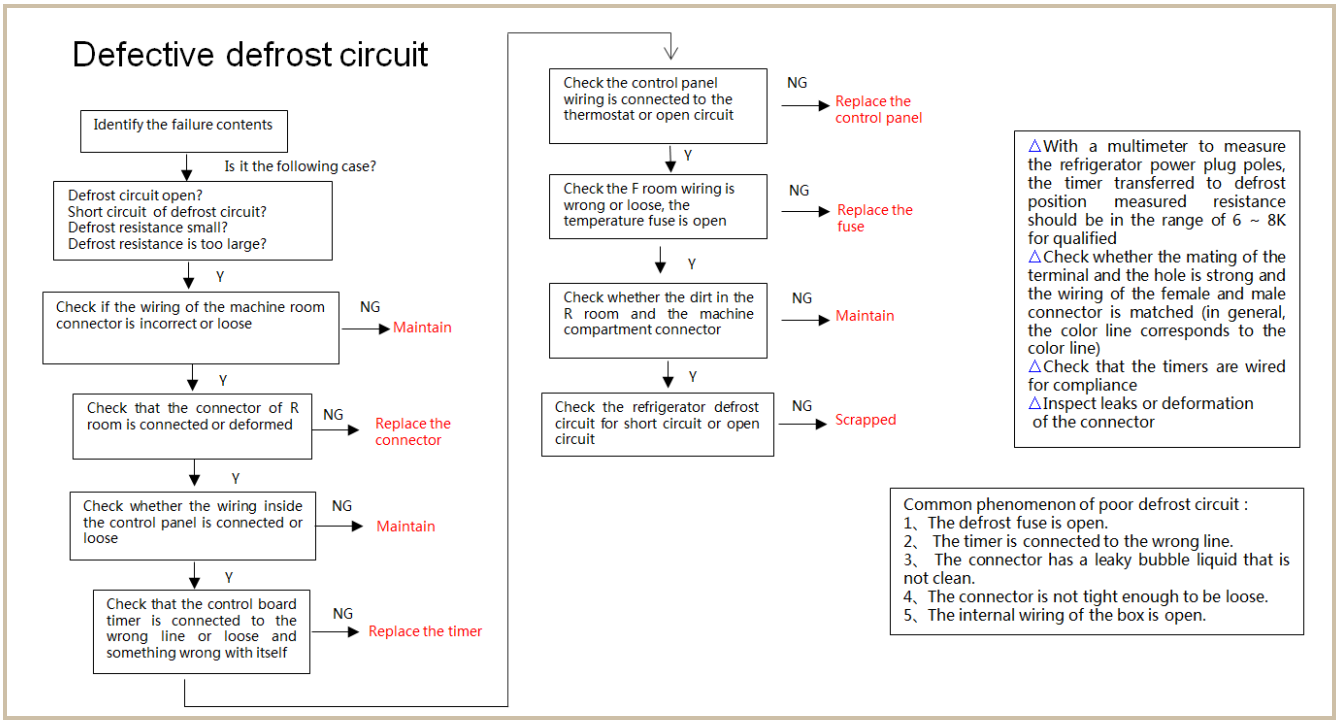


11.6 Air duct not operated(electronically) (None)

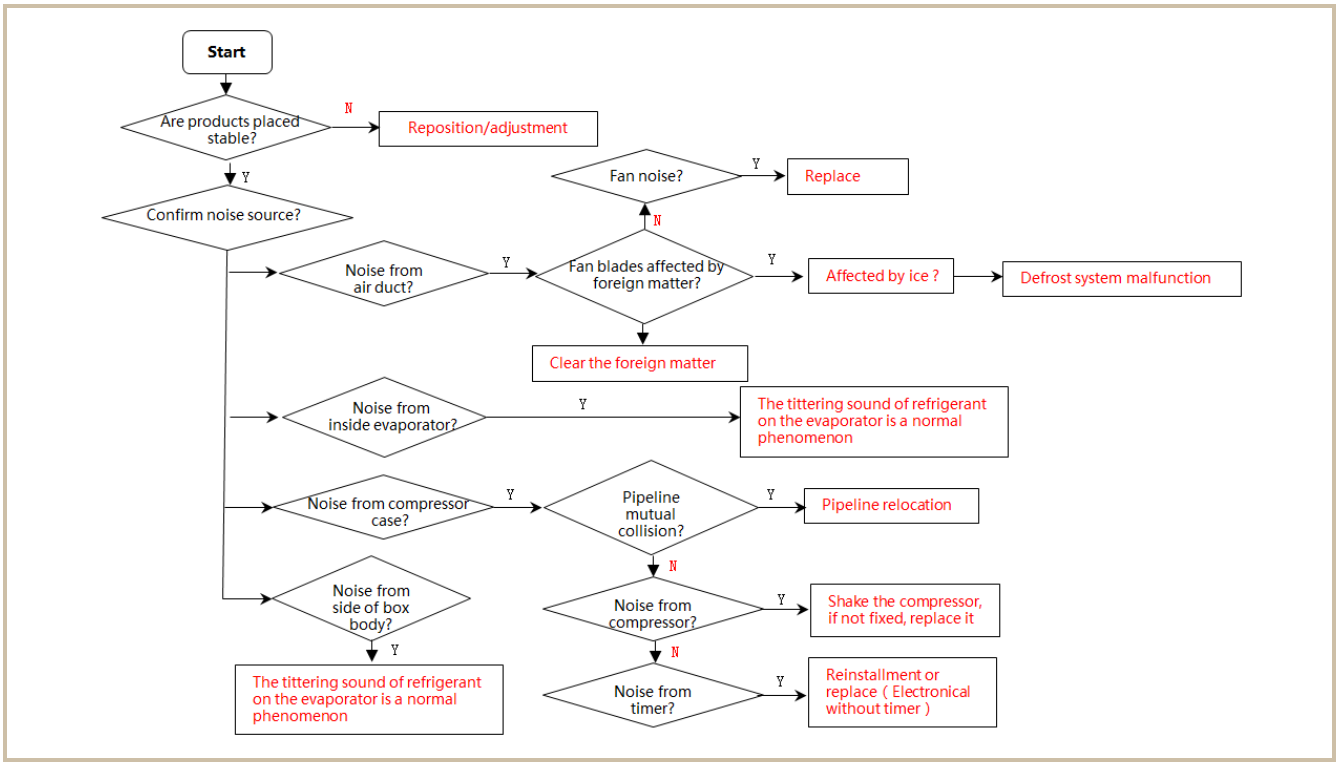
11.7 Fan failure



11.8 Defective defrost circuit



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

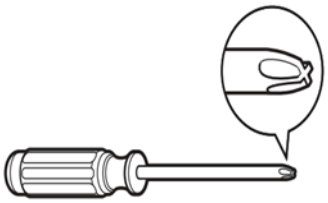
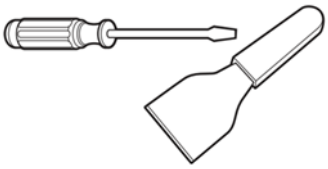
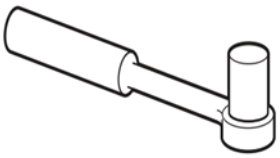
12. Figures and details of repair parts(Documents are provided separately)

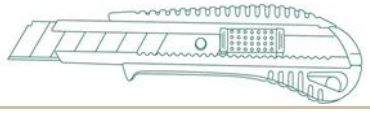
12.1 Figures(none)

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, vacuum 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	Charge the refrigerant	
2	Dry filter	Involving a system failure to be replaced	
3	Copper welding rod	Copper-Copper tubes welding	
4	Silver solder(＞25%Ag)	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 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***

How to login TSP system

Use Google browser visit the ***https://tsp.midea.com/***

Internal User:

Use MIP account and Password.

Customer:

Access: Generated by TSP (provided by administrator).

Password: abcd1234 (please revise after login in).

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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