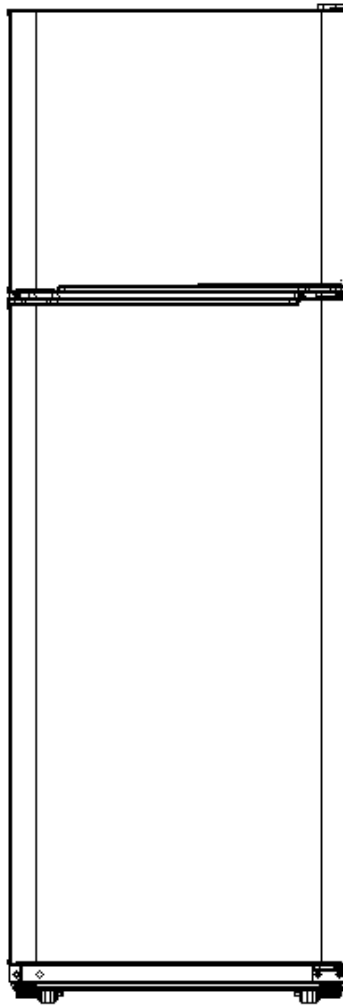


Service Manual

Applicable Models	Model No.
CE-BCD320CMC2-JT	22031020000119
UL-BCD320-MT	22031020001561



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

Prepared by	R&D:Qin Chunyu
Reviewed by	QA:Li Jiangli SVC:Zhang Kun
Approved by	R&D:Geng Xiuhua SVC:Guang Taoshuai



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

Copyright @2016

All rights reserved. Replication of all or part of the Manual in any forms shall not be allowed without written approval by the Overseas Sales Corporation of Midea Refrigerators.

Contents

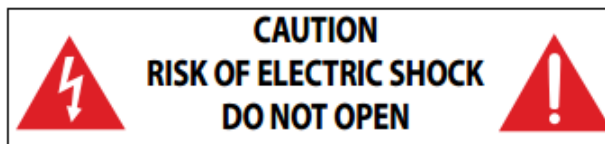
1.Safety Warning Code	5
1.1 Warning for operation safety	5
1.2 Safety instruction for refrigerant.....	8
2.Description for product features	9
3.Installation and commissioning	10
3.1 Handling	10
3.2 Disassembly (None).....	10
3.3 Installation location	10
3.4 Leveling of the refrigerator.....	10
3.5 Change the door opening direction	11
3.6 Installation of handle(None)	12
3.7 Installation of door lock(None).....	12
3.8 Adjustment to level the door(None).....	12
3.9 Adjustment to shelves(None).....	12
4.Terms	13
4.1 Definition of model(None)	13
4.2 Location of nameplate	13
5.Product specification	14
5.1 typespecification(None).....	14
5.2 Electrical parameters	14
5.3 Inside temperature	14
5.4 Defrosting parts	14
5.5 Circuit diagram	15
6.Internal view and dimension.....	16
6.1 Main parts and their names.....	16
6.2 External dimension	16
7.Refrigerating piping system and circulating route of cooling air	
7.1 Refrigerating piping system	19
7.2 Circulating route of cooling air(None)	19
8. Dismantling of parts	20
8.1 Parts on the door	20
8.2 Parts inside the refrigerator.....	20
8.3 Light system	21
8.4 Air duct components refrigeratingchamber(None).....	21
8.5 Air duct components in freezing chamber and fan motor(None)	21
8.6 Evaporator and temperature sensing system.....	21
8.7 Compressor case	22
8.8 Display and main control panel(None).....	23
8.9 Bar counter(None)	23
8.10 Water dispenser(None).....	24
8.11 Ice maker(None)	24
9. Function and operation	25

9.1 Operation panel.....	25
9.2 Temperature control.....	25
9.3 Give an alarm (None)	25
9.4 Failure code and solutions (None).....	25
9.5 Defrost function.....	25
9.6 Compressor fan control (None)	25
9.7 Self-diagnosis (None)	25
10. Circuit description	26
10.1 Power Supply(None)	26
10.2 Test circuit for door switch(None).....	26
10.3 Temperature test circuit(None)	26
10.4 Freezer chamber fan motor circuit (None).....	26
10.5 refrigerating chamber fan motor circuit (None).....	26
10.6 Condensation fan circuit (None).....	26
10.5 Fan motor circuit of the ventilation door(None).....	26
10.6 Resistance value of the sensor (R/T) (None)	26
11. Troubleshooting Method.....	26
11.1 Not cooling	26
11.2 Not working of compressor	27
11.3 -Thermostat malfunction-Undercooling	28
11.4 Light is not on.....	28
11.5 Noise	29
12. Figures and details of repair parts(Documentsareprovidedseparately).....	29
12.1 Figures	29
12.2 List of parts and components	29
13 Appendix:	29
13.1 Electrical Schematic Diagram(None)	29
13.2 Refrigerator maintenance tooling and equipment and material	29

1.Safety Warning Code

1.1Warning for operation safety

Important Safety Instructions



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.

- 15 Do not handle the plug with wet hands. This could result in an electric shock.
- 16 Unplug the power cord by holding the plug, never by pulling the cord.
- 17 Do not turn the appliance on or off by plugging or unplugging the power cord.
- 18 Refer all servicing to qualified service personnel. Servicing is required when the appliance has been damaged in any way, such as the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the appliance, the appliance has been exposed to rain or moisture, does not operate normally, or has been dropped.
- 19 To reduce the risk of fire or electric shock, do not expose this appliance to rain, moisture, dripping, or splashing, and no objects filled with liquids should be placed on top of it.
- 20 Do not use extension cords or ungrounded (two prong) adapters.
- 21 This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- 22 Children should be supervised to ensure that they do not play with the appliance.
- 23 If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified person, in order to avoid a hazard.
- 24 Take off the doors and leave the shelves in place so that children may not easily climb inside.



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:
 - 1) Take off the doors
 - 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

⚠ WARNING  **Explosion Hazard.**

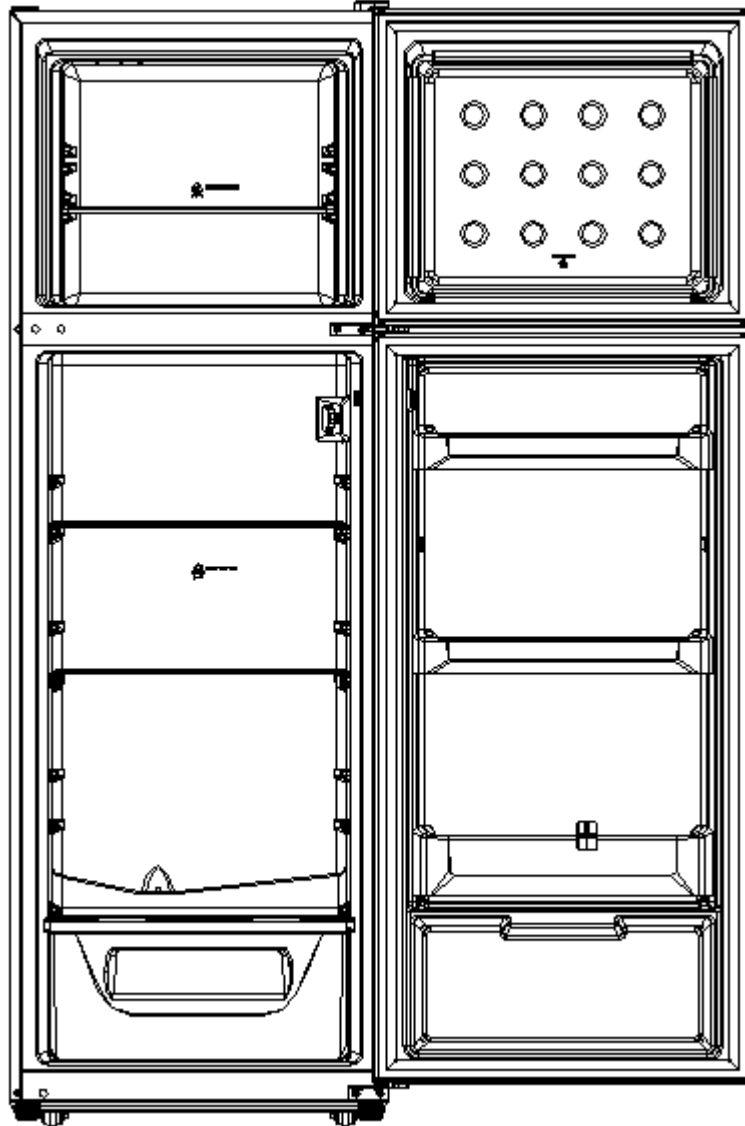
Keep flammable materials and vapors, such as gasoline, away from freezer. Failure to do so can result in fire, explosion, or death.

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:




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

- 1) Mechanical temperature control
- 2) Freezer room around the tube evaporator, cooling evenly and quickly;
- 3) Built-in incandescent lamp, easy to take items;
- 4) Change the door opening direction

3. Installation and commissioning

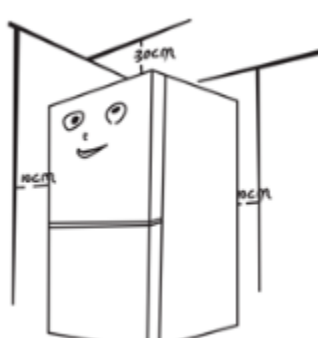
3.1 Handling

<ol style="list-style-type: none"> 1) Protect the refrigerator in moving it. Same as shown as left photo, please move it by hand cart 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 before power on. 	
--	--

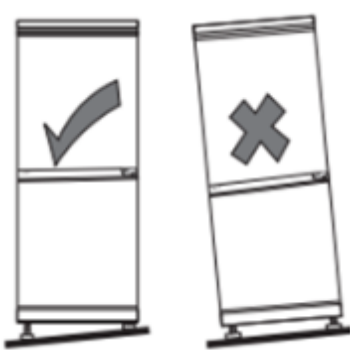
3.2 Disassembly (None)

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

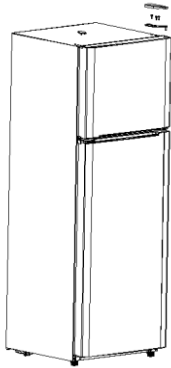
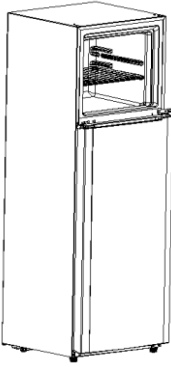
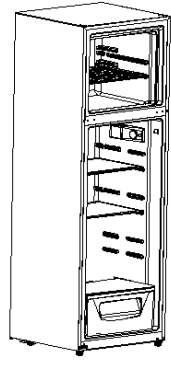
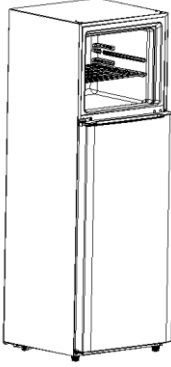
3.3 Installation location

<p>Location that is easy for ventilation shall be chosen to facilitate heat dissipation, enhance its performance and reduce the energy consumption.</p>	
---	--

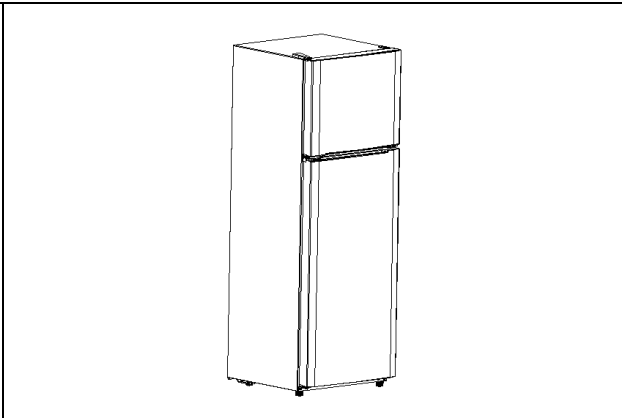
3.4 Leveling of the refrigerator

<p>If the refrigerator cannot be placed steadily, adjust the footing to level it.</p>	
---	--

3.5 Change the door opening direction

<p>1) Remove the hinge cover. Unscrew and remove the top hinge.</p>	
<p>2) Lift the freezer door up and away from your refrigerator. 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.</p>	
<p>4) Unscrew the two screws holding the bottom hinge, then remove the bottom hinge from the bottom right side of the refrigerator. Unscrew the hinge pin from the right side of the bottom hinge and move it to the left side, then secure the bottom hinge to the bottom left side of the refrigerator, using the screws you removed previously.</p>	
<p>5) Remove the door closers and limiters from the accessory, install them on the left side of the under cover on the under door, and install the under door on the lower hinge, adjust the position, and secure the center hinge to the corresponding position on the left</p>	

6)
Remove the other door closers and limiters from the accessory, install them on the left side of the under cover on the under door, and install the upper door on the middle hinge, adjust the position, and secure the upper hinge to the corresponding position on the left, cover the hinge cover and the hole cover



3.6 Installation of handle(None)

3.7 Installation of door lock(None)

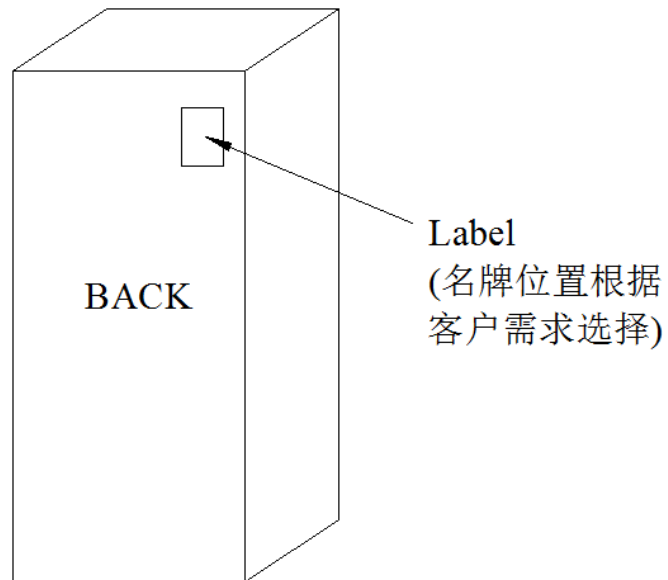
3.8 Adjustment to level the door(None)

3.9 Adjustment to shelves(None)

4. Terms

4.1 Definition of model(None)

4.2 Location of nameplate

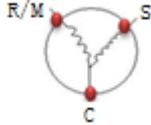


(The picture is only for reference, and specific appearance and configuration are subject to the real product)

5. Product specification

5.1 typespecification(None)

5.2 Electrical parameters

Product Name			CE-BCD320CMC2-JT	UL-BCD320-MT
Product Code			22031020000119	22031020001561
Name	Item	Type	Specification	Specification
Compressor	Compressor	/	EE50H1C	EE50H1C
	Starter	PTC	QPE2-A4R7MD3	QPE2-A4R7MD3
	Overload protector	OLP	DRB31T61A1	DRB31T61A1
	Winding resistance of compressor wiring terminal		Rmc:10-20Ω Rsc:30-50Ω Rms=Rmc+Rsc	Rmc:10-20Ω Rsc:30-50Ω Rms=Rmc+Rsc
	Variable frequency driver board	/	/	
Motor	Fan motor of the freezing chamber	/	/	
	Ventilation door of the refrigerating chamber	/		
	Condensation fan	/	/	
Lights inside the refrigerator	Lights inside the freezing chamber	/	/	
	Lights inside the refrigerating chamber	filament lamp	240V/10W	240V/10W
	Switch of the refrigerator door	mechanicalswitch	sector	sector

5.3 Inside temperature

Temperature tolerance $\leq 2^{\circ}\text{C}$

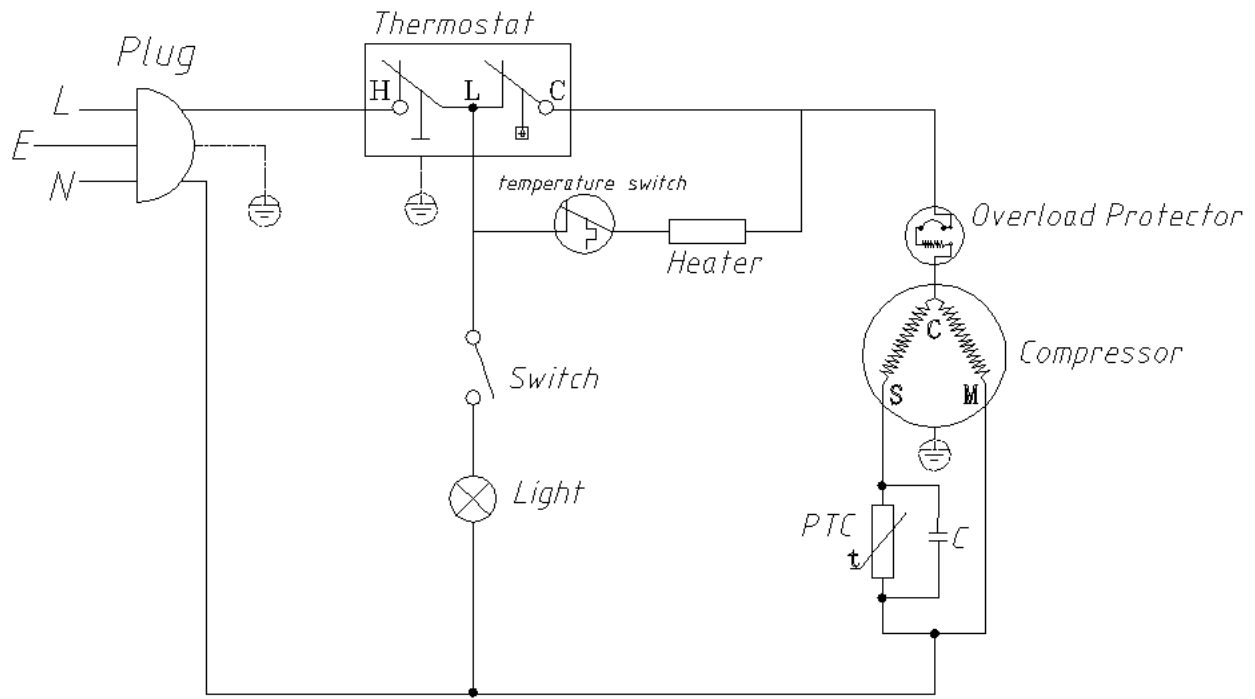
Compartment	The highest (°C)	Lowest (°C)
Freezing	-14	-24
Refrigerating	9	1
Variable temperature	/	/

5.4 Defrosting parts

Defrosting period	Initial defrosting period	Normal defrosting period
		/
Defrosting sensor	/	/

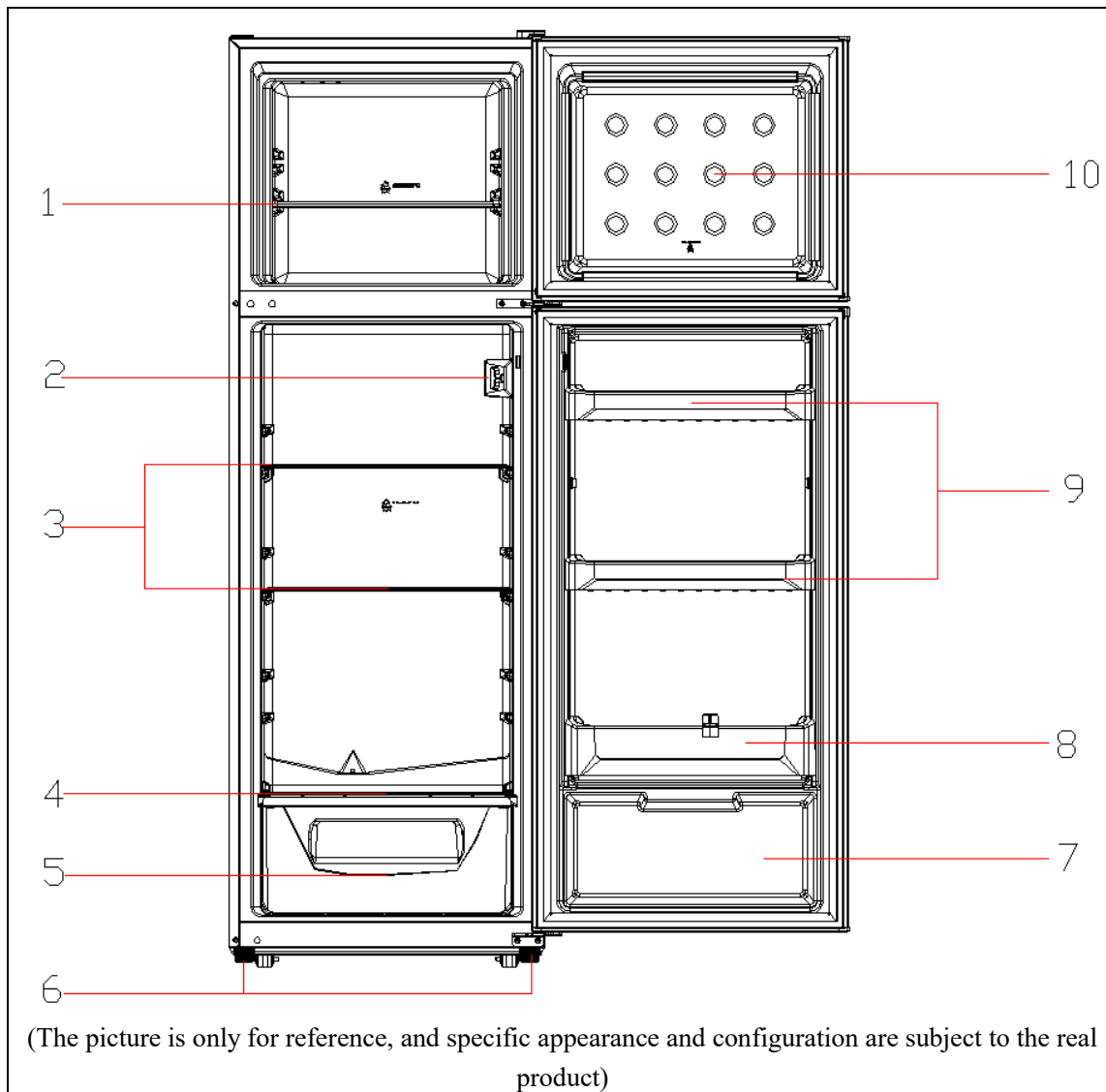
Thermal fuse	/	/
Defrosting heater in freezing chamber	/	/

5.5 Circuit diagram



6. Internal view and dimension

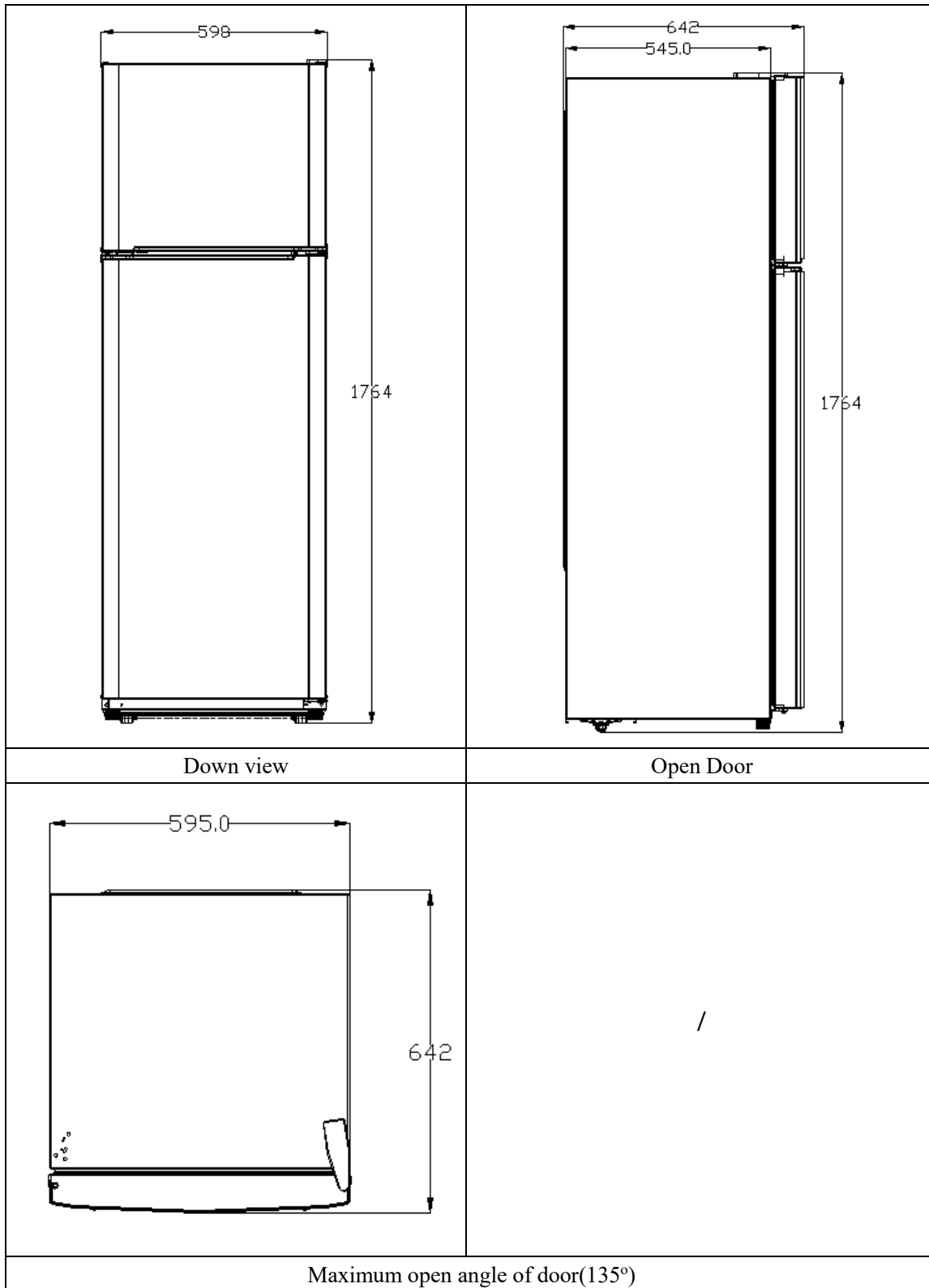
6.1 Main parts and their names

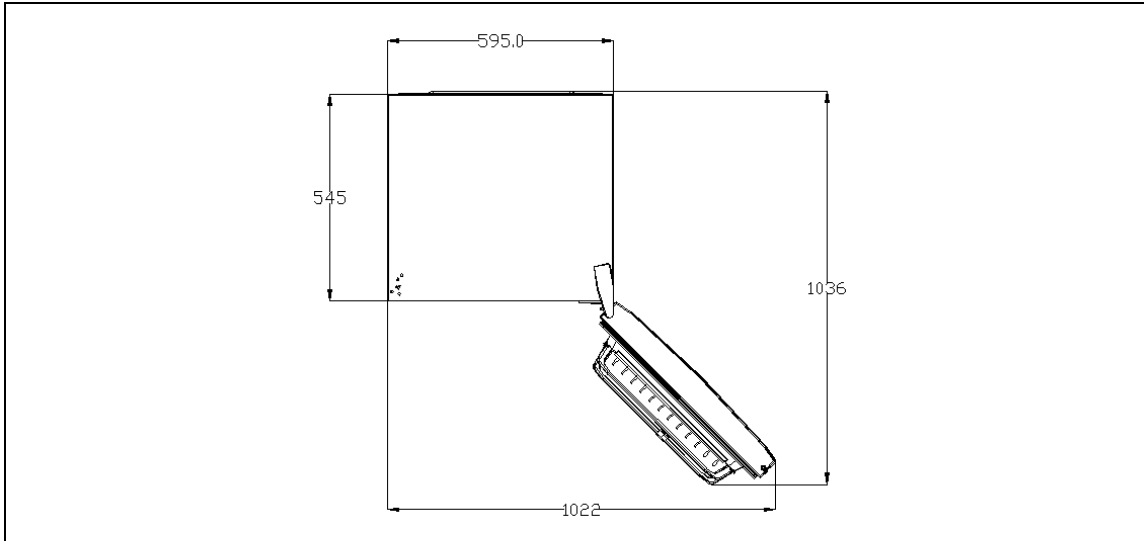


<p>1.shelve 2.TEMP. control box assembly 3.Glass shelve 4.Glass shelve 5.Crisper for fruit and vegetable 6.Regulating foot 7.REF.door</p>	<p>8. REF. Bottle frame 9. REF. Bottle frame 10.RFZ.door</p>
---	--

6.2 External dimension

Front view	Side view
------------	-----------



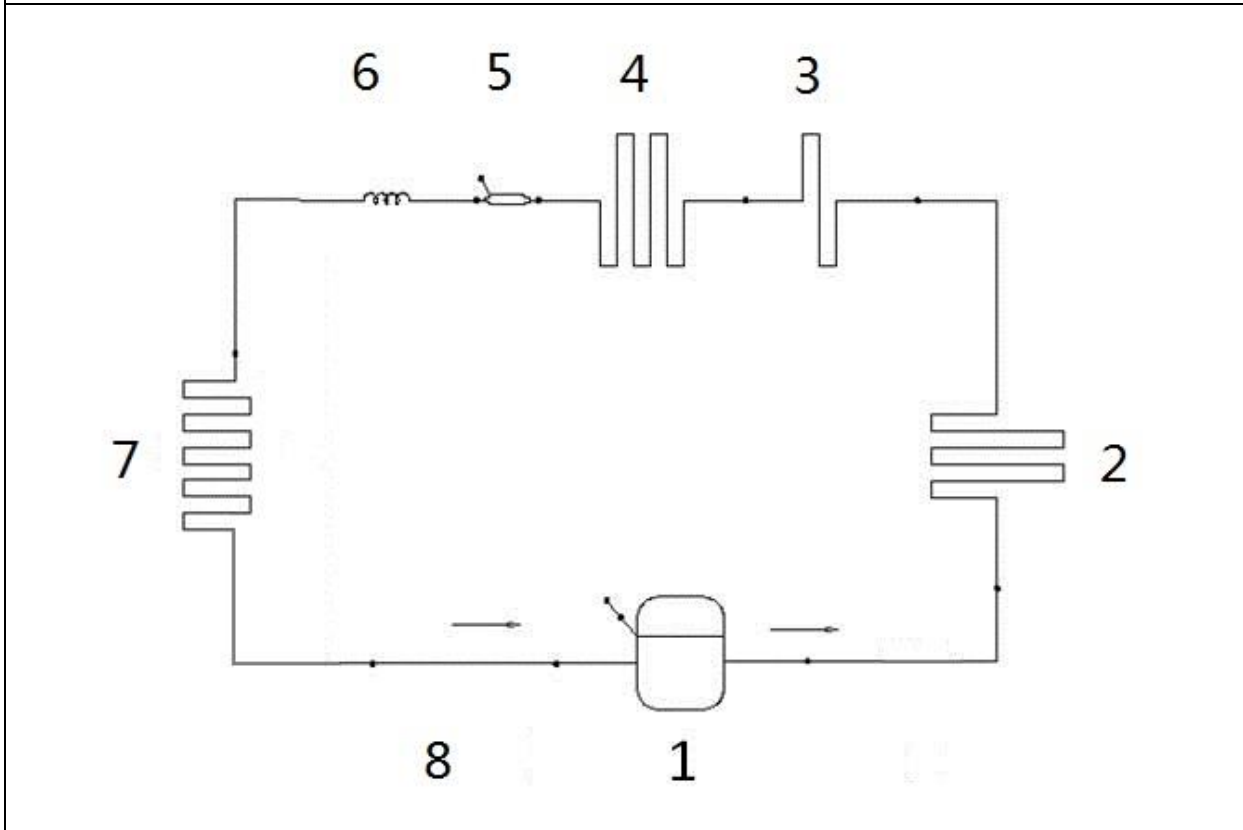


(The picture is only for reference, and specific appearance and configuration are subject to the real product)

7.Refrigerating piping system and circulating route of cooling air

7.1 Refrigerating piping system

1Compressor→2Right condenser→3Anti-condensation tube→4Left condenser→5Dry filter→6Capillary tube→7Evaporator→8Suction tube→1Compressor





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

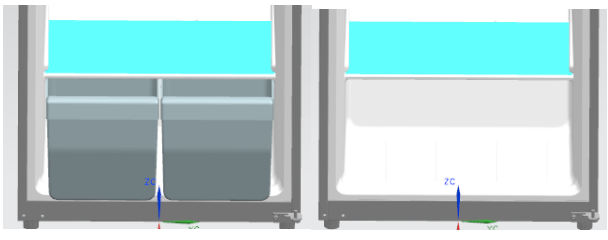
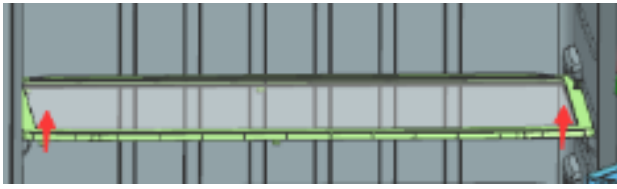
7.2Circulating route of cooling air(None)

8. Dismantling of parts

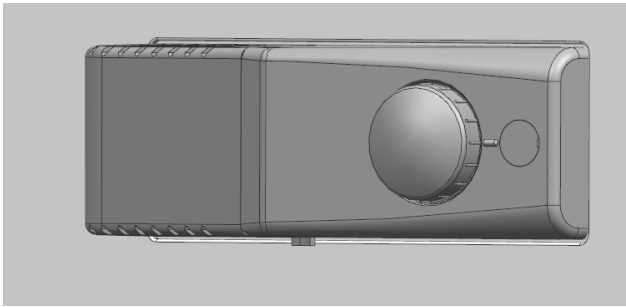
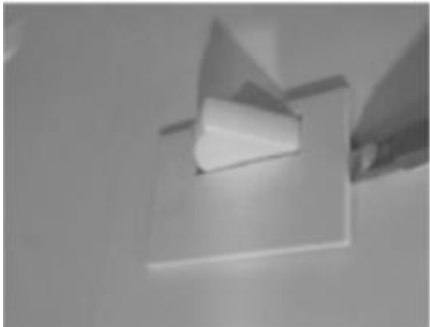
8.1 Parts on the door

Door seal	
<p>Door seal is installed into door liner groove.</p> <ol style="list-style-type: none"> 1) Open the refrigerator door; 2) Take the door seal out of door liner; 	
Door tray	
<p>Lift up the bottle frame and take it out from the door liner of the refrigerator.</p>	
rollover beam	None

8.2 Parts inside the refrigerator

Refrigerator Fruit box cover	
<p>Remove the crisper cover of the refrigerator compartment according to the following steps:</p> <ol style="list-style-type: none"> 1) take out the crisper firstly; 2) Pull out the crisper cover completely 	
Shelves	
<ol style="list-style-type: none"> 1) Pull out the partition plate completely. 1) Lift it up and take it out from the refrigerator. 	
Ice tray	None
Refrigerator tray	None
Drawer	None

8.3 Light system

Light	
Light of the refrigerating chamber is located right 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.	

8.4 Air duct components refrigerating chamber (None)

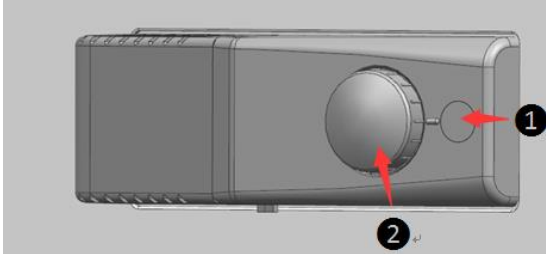

Air duct components refrigerating chamber	None
---	------

8.5 Air duct components in freezing chamber and fan motor (None)

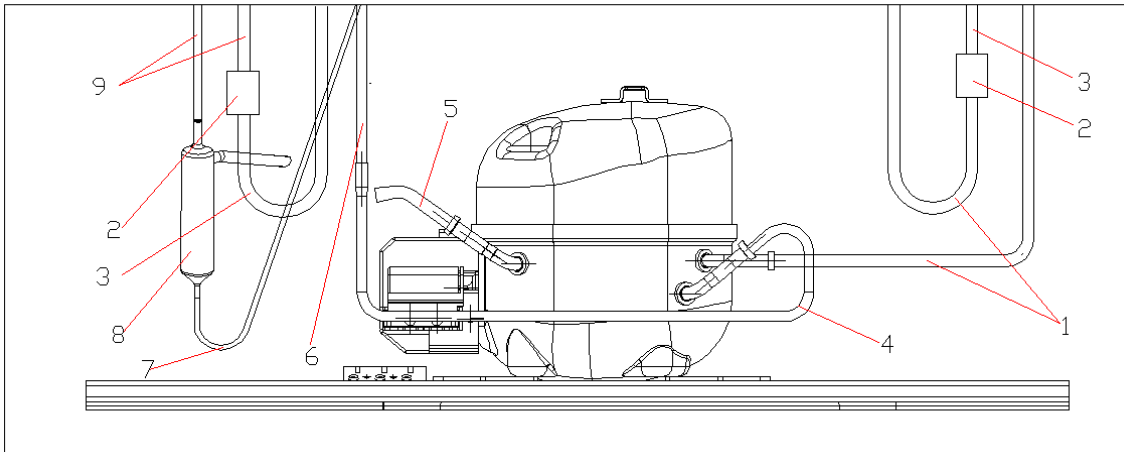
Disassembly and installation of Air duct	None
Fan motor of air duct	None


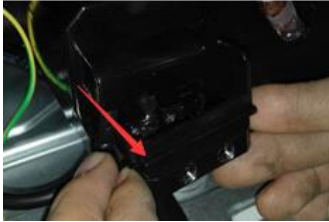

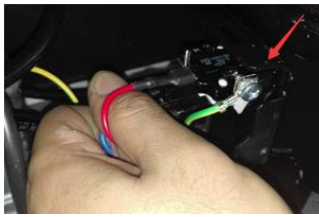
8.6 Evaporator and temperature sensing system

Evaporator in freezing chamber	not replace
Components on the evaporator	
Defrost thermostat	None
Fuse	None
Defrost sensor	None
Defrost heater	None
Evaporator in refrigerating chamber	not replace
Components on the evaporator	None
Sensor	
Sensor in freezing chamber	None

Sensor in refrigerating chamber	None
Sensor in Variable temperature chamber	None
ambient temperature senser	None
Thermostat	
<p>1.Remove the cap ❶ and screw on the thermostat assembly</p> <p>2.Loosen the thermostat knob ❷ and fastening screw, and remove the thermostat box assembly</p> <p>3.Remove the connector and replace the thermostat.</p>	 

8.7Compressor case

Rear cover and compressor case	None
Condenser fan motor	None
Standby condenser	None
Piping system in the compressor case	
	
1-left condenser2-welding ring3-anti-dew tupe assembly4-suction transition tube5-process pipe	6-suction tube7-capillary8-dry filter9-right condenser
Starter and protector of the compressor	

<p>1. Remove the screws</p> <p>1) Two screws outside</p> <p>2) One screw inside</p>	
<p>2. Remove the clipping strip</p> <p>Slowly pull it out</p>	
<p>3. Remove the protective cover</p> <p>1) Pry the protective cover slowly from the upper part,</p> <p>2) Pull it out and remove it.</p>	
<p>4. Remove the starter and protector</p> <p>Unplug the starter and protector (you can use a screwdriver to pry it slowly)</p>	
<p>5. The reverse process can complete installation.</p>	

8.8 Display and main control panel(None)

Display control board	None
Main control board	None

8.9 Bar counter(None)

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

8.10 Water dispenser(None)

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

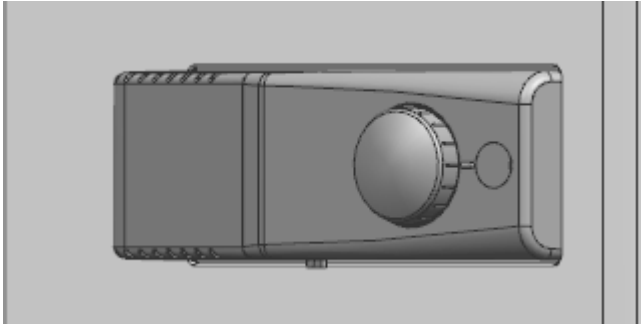
8.11Ice maker(None)

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

Direct cooling mechanical refrigerator, through the thermostat knob to adjust the stalls.



9.2 Temperature control

Turn the temperature control knob to MAX, the internal temperature of the refrigerator becomes lower.

Turn the temperature control knob to MIN, the internal temperature of the refrigerator becomes higher.

NOTE: Please adjusting and using between "MAX" and "MIN"

9.3 Give an alarm (None)

9.4 Failure code and solutions (None)

9.5 Defrost function

Manual defrost

9.6 Compressor fan control (None)

9.7 Self-diagnosis (None)

10. Circuit description

10.1 Power Supply(None)

10.2 Test circuit for door switch(None)

10.3 Temperature test circuit(None)

10.4 Freezer chamber fan motor circuit (None)

10.5 refrigerating chamber fan motor circuit (None)

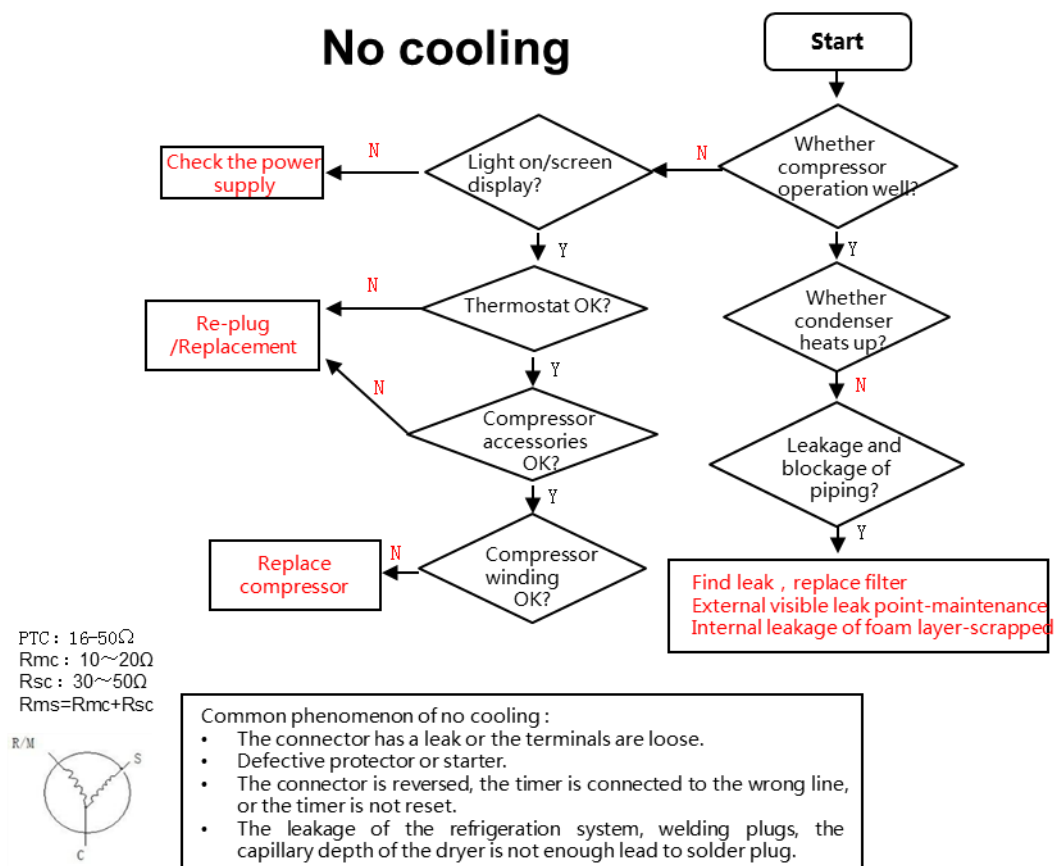
10.6 Condensation fan circuit (None)

10.5 Fan motor circuit of the ventilation door(None)

10.6 Resistance value of the sensor (R/T) (None)

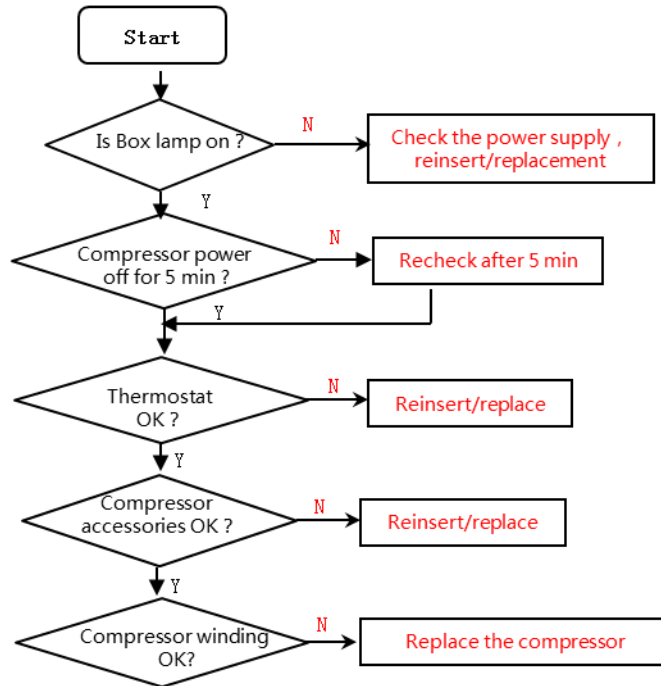
11. Troubleshooting Method

11.1 Not cooling



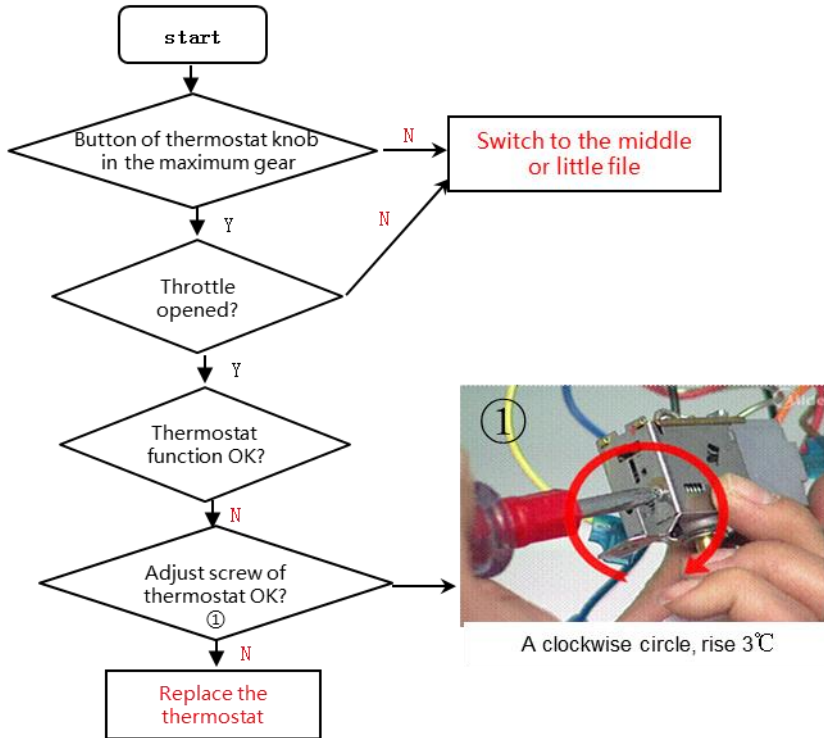
11.2 Not working of compressor

No working of compressor



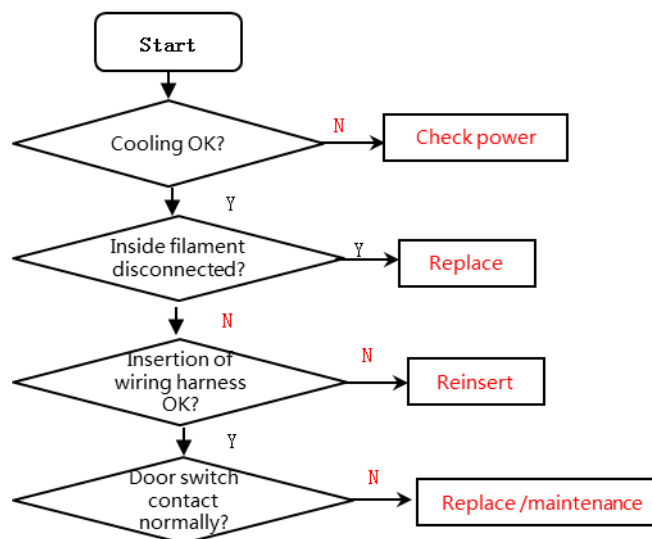
11.3 -Thermostat malfunction-Undercooling

Thermostat malfunction-Undercooling

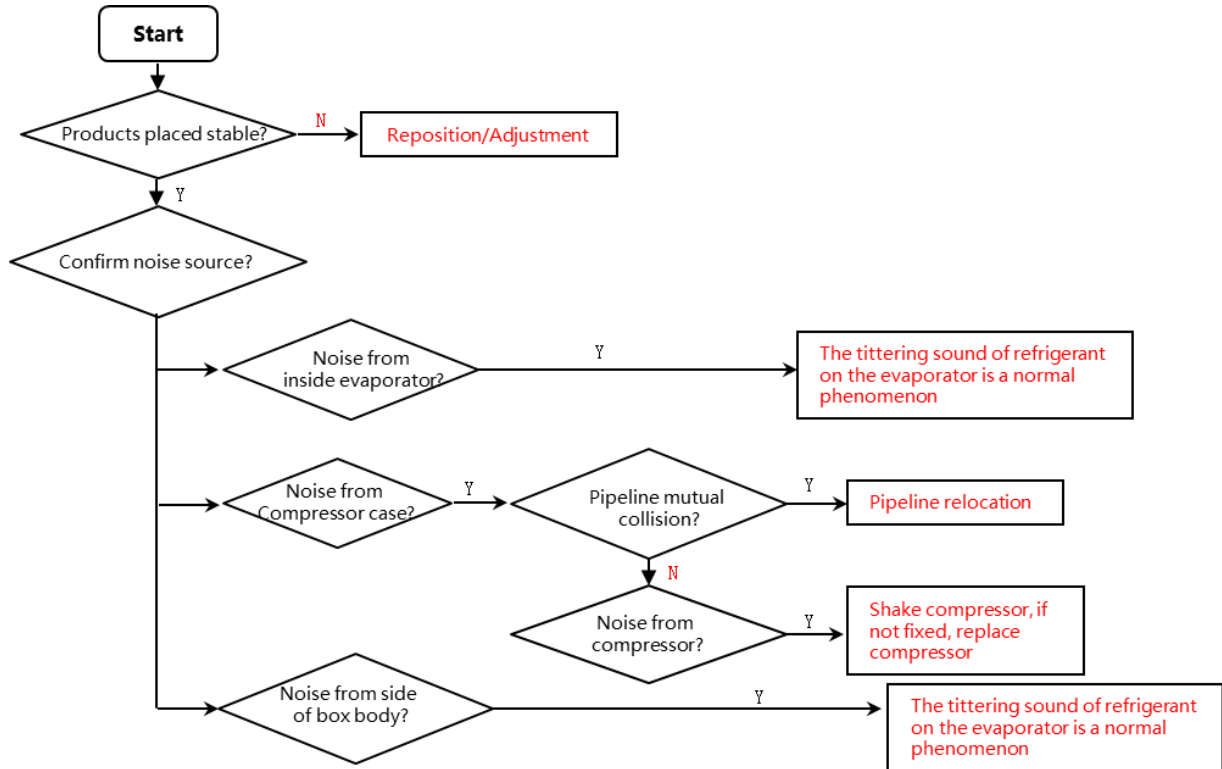


11.4 Light is not on

Light is not on



11.5 Noise



12. Figures and details of repair parts(Documentsareprovidedseparately)

12.1 Figures

12.2 List of parts and components

13 Appendix:

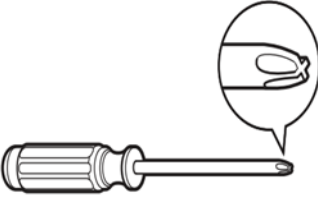
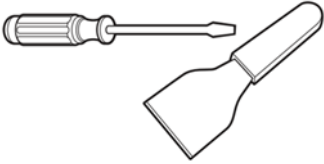
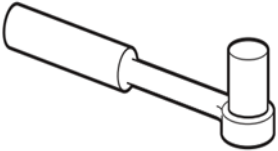




13.1 Electrical Schematic Diagram(None)



(Model: ***)

13.2 Refrigerator maintenance tooling and equipment and material




Tooling




No.	Name	Photo	Main Usage
-----	------	-------	------------

1	Phillips screwdriver		screw assemble and disassemble
2	slotted screwdriver/scrapper		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		Charge the refrigerant
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
---	--------------	---	--

Midea Refrigerators

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

xxx@midea.com

Refrigeration Division

Overseas Sales Company

Address: No. 176, Jinxiu Avenue, Economic-Technological Development Area, Hefei, Anhui, China