

Service Manual

COMPACT SERIES




Applicable Models	Model Code
UR-JC96G-FR	22033010000221
UR-JC96GE-FR	22033010000121
CE-JC96GE-AR	22033010000011
CE-JC96GE-AR	22033010000781

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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)



 **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

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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

⚠ 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.



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:



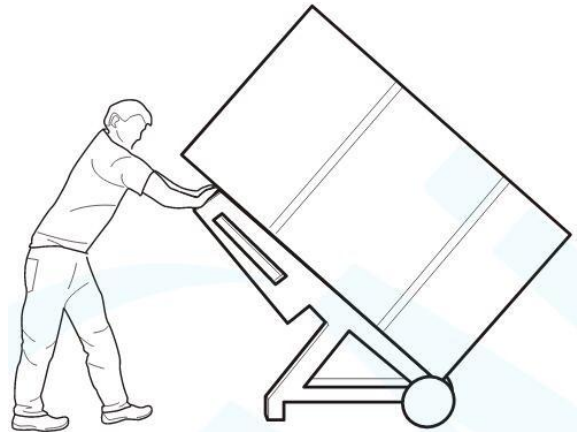
- 1) Electronic temperature control, more accurate
- 2) Advantageous touch control for users
- 3) Slide-out chrome shelf (Wooden shelf optional)

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, then 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.

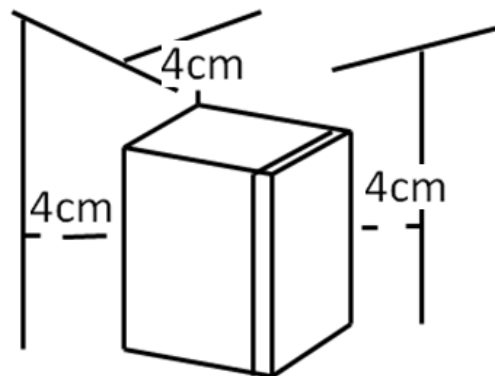
Disassembly of the door

Disassembly of the door	None
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3.3 Installation location

Installation location

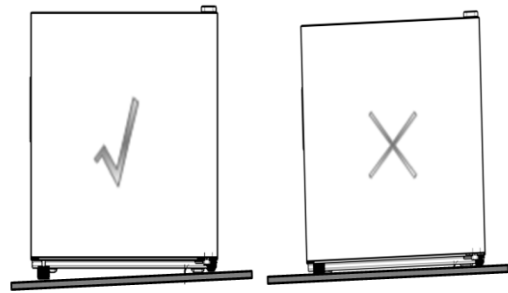
Location that is easy for ventilation shall be chosen to facilitate heat dissipation, enhance its performance and reduce the energy consumption.



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(None)

Door reversal

Door reversal	None
---------------	------

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

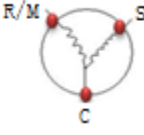
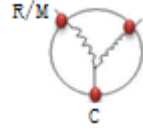
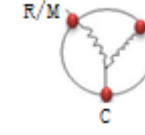
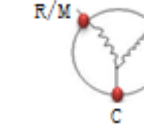
4.1 Definition of model (None)

4.2 Location of nameplate (None)

5. Product specification

5.1 Type specification (None)

5.2 Electrical parameters

Product Name	UR-JC96G-FR	UR-JC96GE-FR	CE-JC96GE-AR	CE-JC96GE-AR
Product Code	22033010000221	22033010000121	22033010000011	22033010000781
Item	Specification	Specification	Specification	Specification
Compressor				
Compressor	FZ40E1J	FZ40E1J	PZ59C1F	C75CY1
Starter(PTC)	QP2-4R7	QP2-4R7	QP2-15	8EA19C1-02
Overload protector(OLP)	DRB17N61A1	DRB17N61A1	DRB10N61A1	DBR17S61A2
Winding resistance of compressor wiring terminal	Rmc:2.5-14.5Ω Rsc:7.4-21.4Ω Rms=Rmc+Rsc	Rmc:2.5-14.5Ω Rsc:7.4-21.4Ω Rms=Rmc+Rsc	Rmc:5.9-17.9Ω Rsc:9-21Ω Rms=Rmc+Rsc	Rmc: 20-34Ω Rsc: 9-21Ω Rms=Rmc+Rsc
Winding resistance picture				
Variable frequency driver board	None	None	None	None
The input power of compressor	60W	60W	85W	70W
Motor				
Fan motor of the freezing chamber	None	None	None	None
Ventilation door of the refrigerating chamber	None	None	None	None
Condensation fan 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/0.6W	12V/0.6W	12V/0.6W	12V/0.6W
Switch of the refrigerator door	None	None	None	None

5.3 Inside temperature

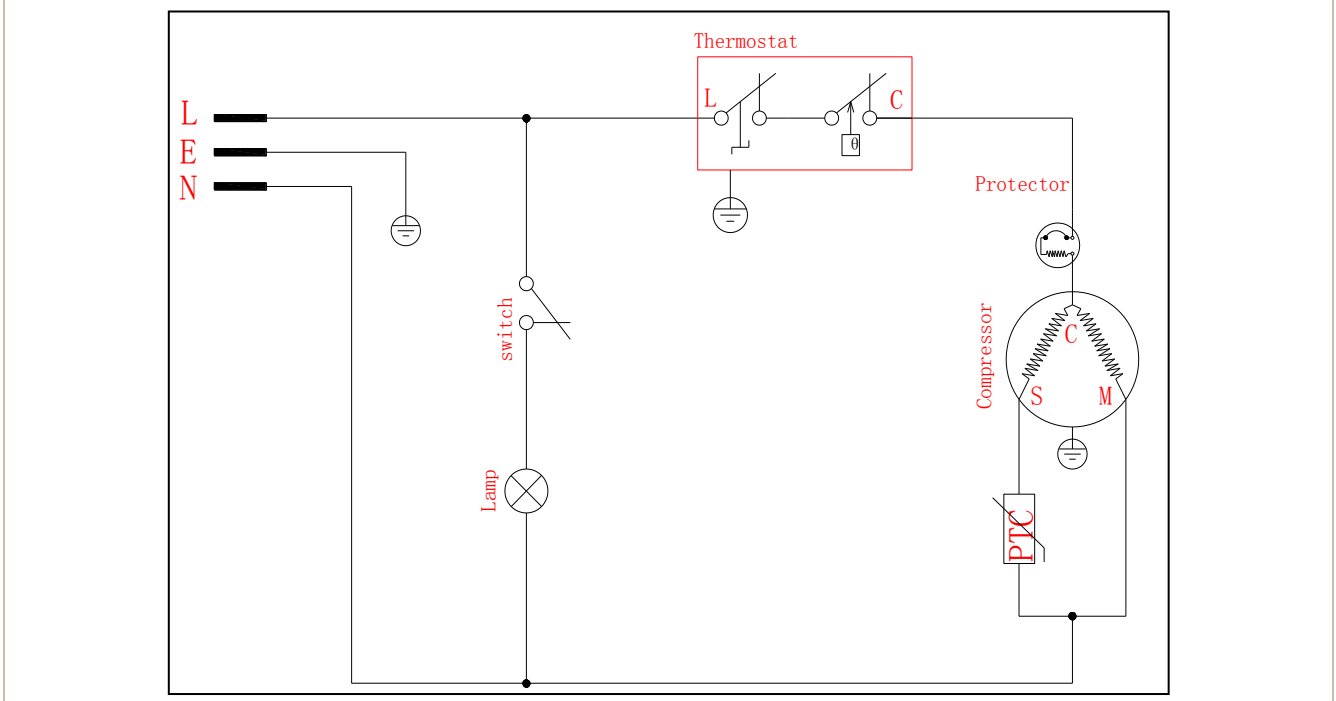
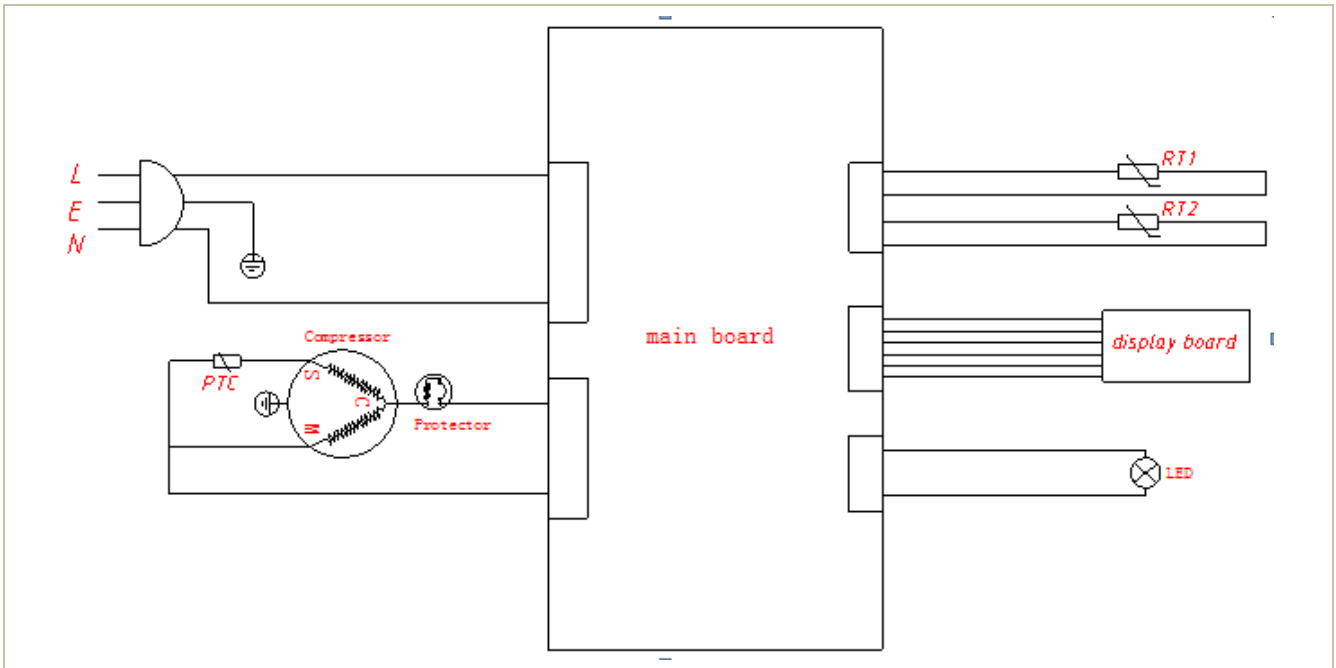
Temperature tolerance $\leq 4\text{ }^{\circ}\text{C}$

Compartment	The highest ($^{\circ}\text{C}$)	Lowest ($^{\circ}\text{C}$)
Freezing	None	None
Refrigerating	18	5
Variable temperature	None	None

5.4 Defrosting parts

Item	Initial defrosting period	Normal defrosting period
Defrosting period	None	None
Defrosting sensor	None	None
Defrosting temperature controller	None	None
Thermal fuse	None	None
Defrosting heater in freezing chamber	None	None

5.5 Circuit diagram



6. Internal view and dimension

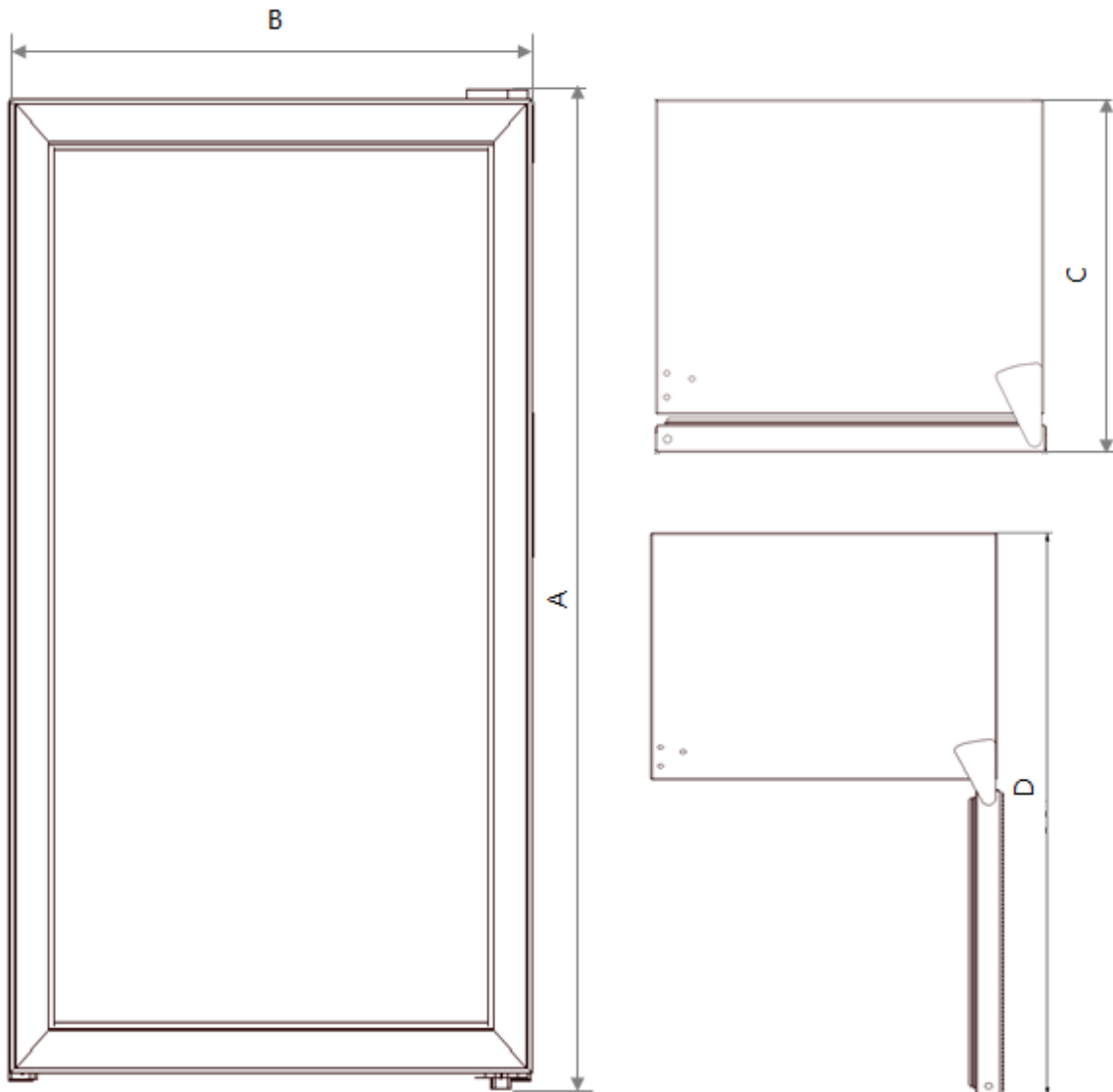
6.1 Main parts and their names

Freezer chamber	Refrigerator chamber
None	1 temperature display control panel 2 wine shelf 3 wine basket



6.2 External dimension

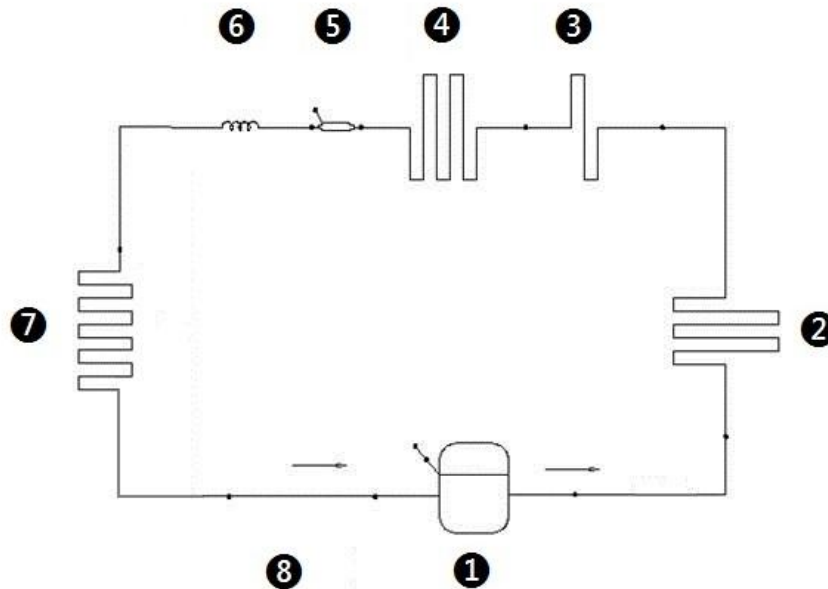
Description	Code	Size (mm)
Height to Top of Case	A	842
Width	B	480
Depth w/Handles	C	437
Depth (Total with Door Open)	D	920
Width (door open 90 deg. w/ handle)	E	None



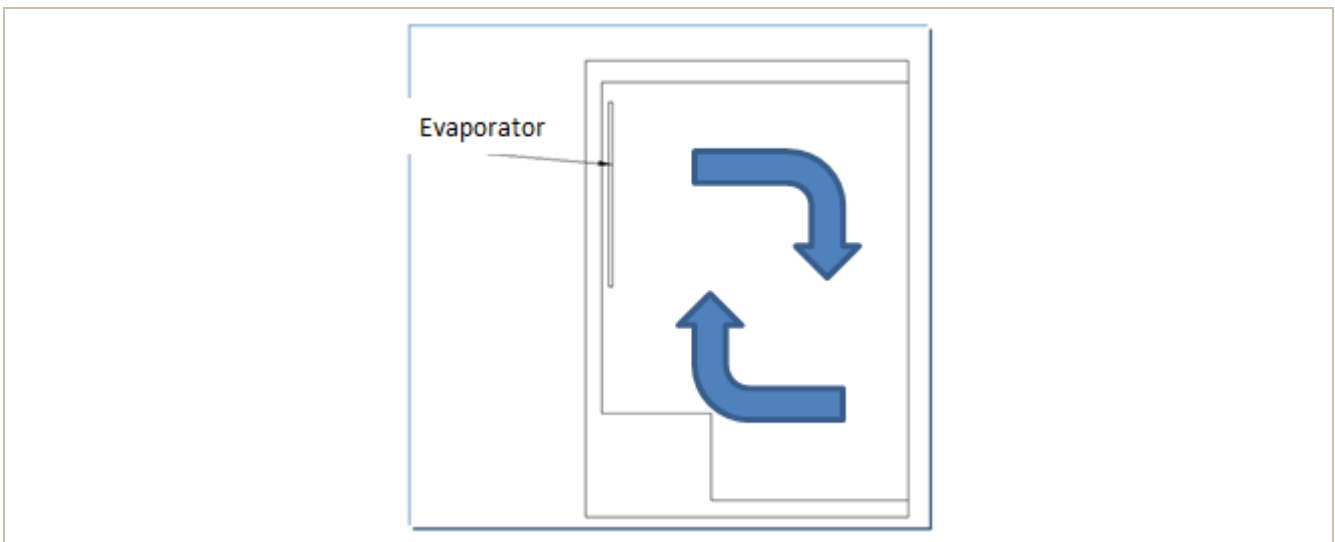
7. Refrigerating piping system and circulating route of cooling air

7.1 Refrigerating piping system

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



7.2 Circulating route of cooling air (None)



8. Dismantling of parts

8.1 Parts on the door

Door seal

Door seal is installed into door liner groove.

- 1) Open the wine cabinet door;
- 2) Take the door seal ① out of door liner.



Guardrail

Guardrail

None

Door stopper

Door stopper

None

rollover beam

rollover beam

None

8.2 Parts inside the refrigerator

wine rack

- 1) Lift up the division plate with a proper force and pull it out towards yourself;



wine basket

1) Lift up the division plate with a proper force and pull it out towards yourself;



Refrigerator Fruit box cover

Refrigerator Fruit box cover	None
------------------------------	------

Drawer

Drawer	None
--------	------

8.3 Light system

Light

The light at the top of refrigerator chamber

- 1) Push the lampshade inner and take it down.
- 2) Take down the screw on LED light panel, then light.
- 3) Remove the connecting harness terminals on LED light panel and take down the LED light panel.



Light switch

Light switch	None
--------------	------

Pilot light

Pilot light	None
-------------	------

Fresh light

Fresh light	None
-------------	------

8.4 Air duct components refrigerating chamber

Air duct components refrigerating chamber

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



8.5 Air duct components in freezing chamber and fan motor

Disassembly and installation of Air duct

Disassembly and installation of Air duct	None
--	------

Fan motor of air duct	
Fan motor of air duct	None
Damper assembly	
Damper assembly	None

8.6 Evaporator and temperature sensing system

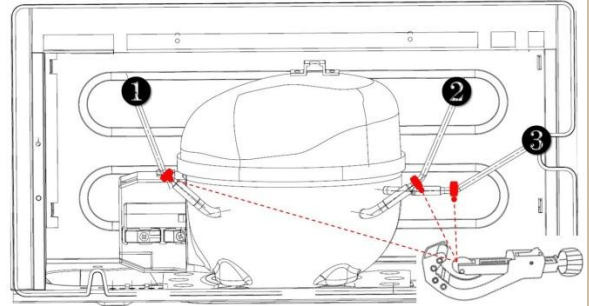
Evaporator in freezing chamber	
Evaporator in freezing chamber	None
Components on the evaporator	
Defrost thermostat	None
Fuse	None
Defrost sensor	None
Defrost heater	None
Evaporator in refrigerating chamber	
<p>Evaporator in refrigerating chamber</p> <p>1) Take down screws and gaskets on the evaporator..</p> <p>2) Remove the welding on inlet and outlet tubes.</p>	
<p>Components on the evaporator</p> <p>Defrost sensor(不可拆 Not replace)</p> <p>1) The defrost sensor is located on back of the evaporator..</p>	
Sensor	
Sensor in freezing chamber	None

<p>Sensor in refrigerating chamberEvaporator in refrigerating chamber</p> <p>1) To remove the sensor cover, you may squeeze it up and down..</p> <p>2) Take the sensor out from card slot..</p>		
Ambient temperature sensor	None	
Sensor in Variable temperature chamber	None	
Thermostat		
Thermostat	None	

8.7 Compressor case

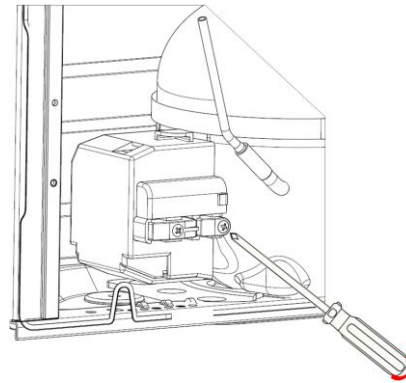
Rear cover and compressor case	
Rear cover	None
Compressor and the cooling system pipe	
<p>1) Cut off the power, remove the goods in the refrigerator, with the tape to make the door fixed firmly and prevent the door dropping when the refrigerator dumping.</p>	
<p>2) Slowly tilt the refrigerator forward, 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.</p>	

3) Cut off the compressor pipeline.-**①**Cut off the process pipeline.-**②**Cut off the low-pressure muffler.-**③**Cut off the high-pressure exhaust pipe.



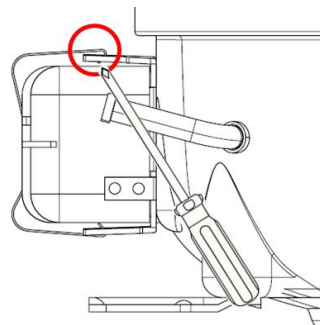
4-1) **Remove the screws(for some models)**

- Two screws outside
- One screw inside



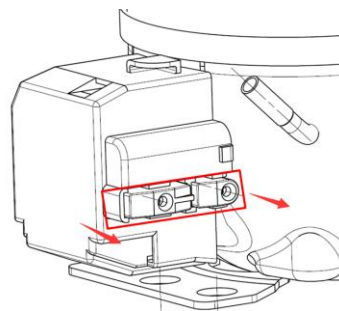
4-2) **Remove the metal clamp(for some models)**

- Disassembly the metal clamp that is fix the electric appliance shield



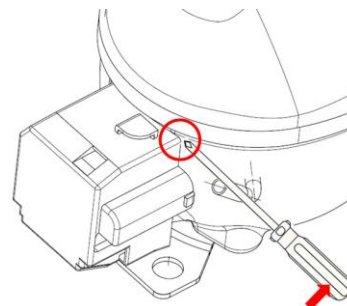
5) **Remove the clipping strip**

Slowly pull it out



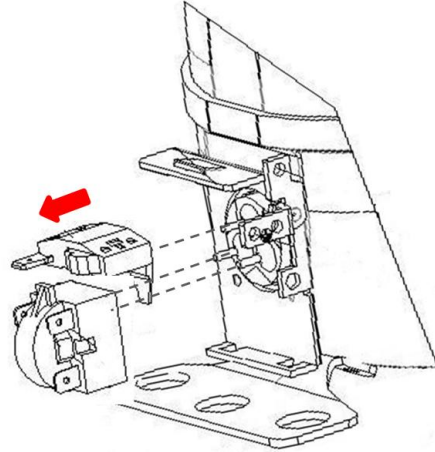
6) **Remove the protective cover**

- Pry the protective cover slowly from the upper part,
- Pull it out and remove it.

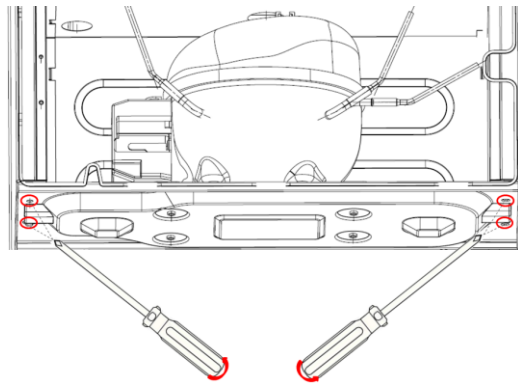


7) **Remove the starter and protector**

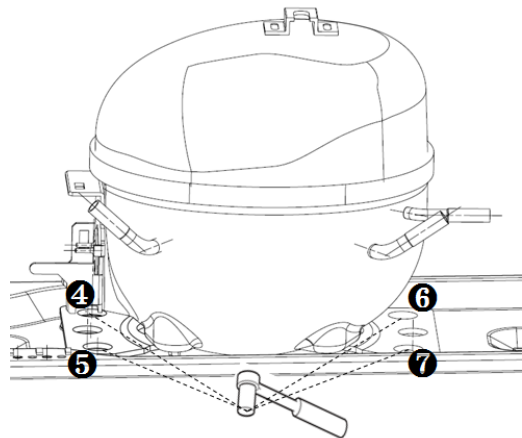
Unplug the starter and protector (you can use a screwdriver to pry it slowly)



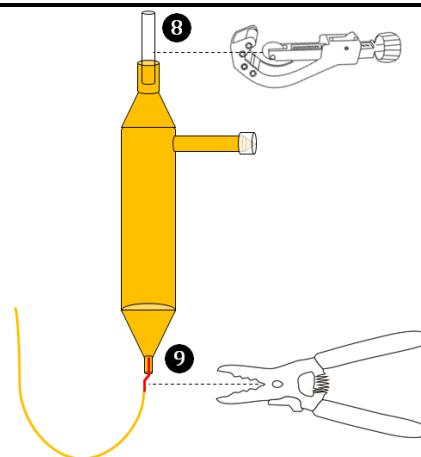
8) Loosen the screw of the compressor bottom plate, remove the floor together with the compressor from the box.



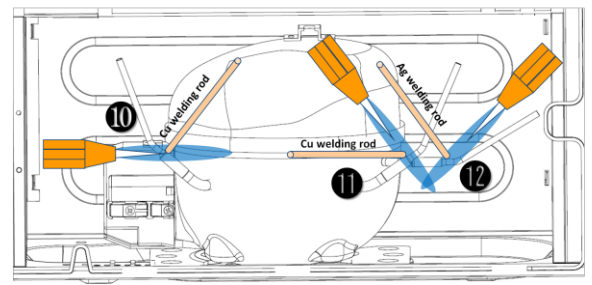
9) Use the wrench to remove the bolts by steps ④ ⑤ ⑥ ⑦, replace the compressor and reverse process can complete installation.



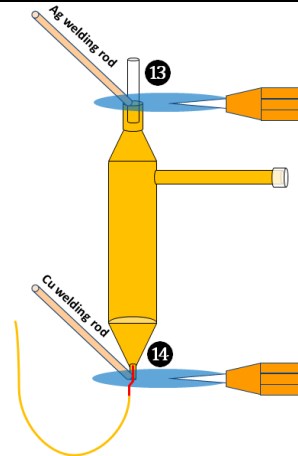
10) Use Pipe cutter cut off the condenser tube ⑧, then Shear off capillary ⑨ by the capillary tube scissors.



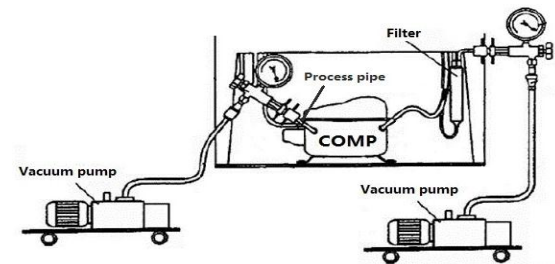
11) Replace the compressor and welding the compressor pipeline.-**10**Welding the process pipeline.-**11**Welding the low-pressure muffler.-**12**Welding the high-pressure exhaust pipe.



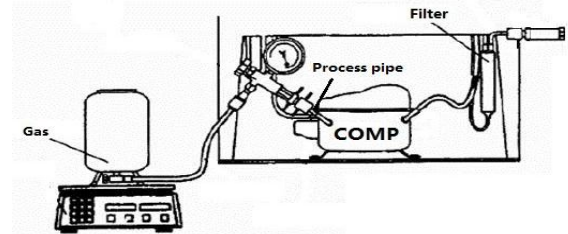
12) Replace the filter, Cu-Fe tubes welding **13** used Ag welding rod, Cu-Cu tubes welding**14** used Cu welding rod.



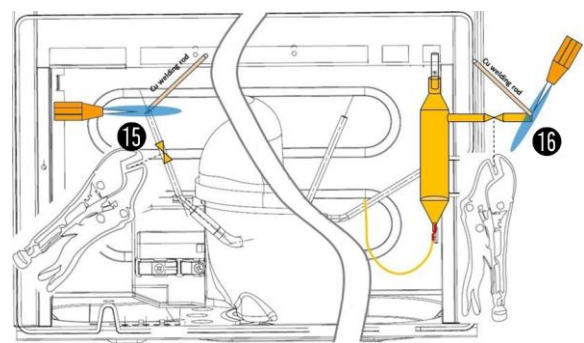
13) Vacuum system,The degree of vacuum below 6Pa.



14) Perfusion refrigerant.



15) Use the vise grip pliers clamp the middle of the process pipe, then seal welding process tube**15****16**.



Condenser fan motor

Condenser fan motor

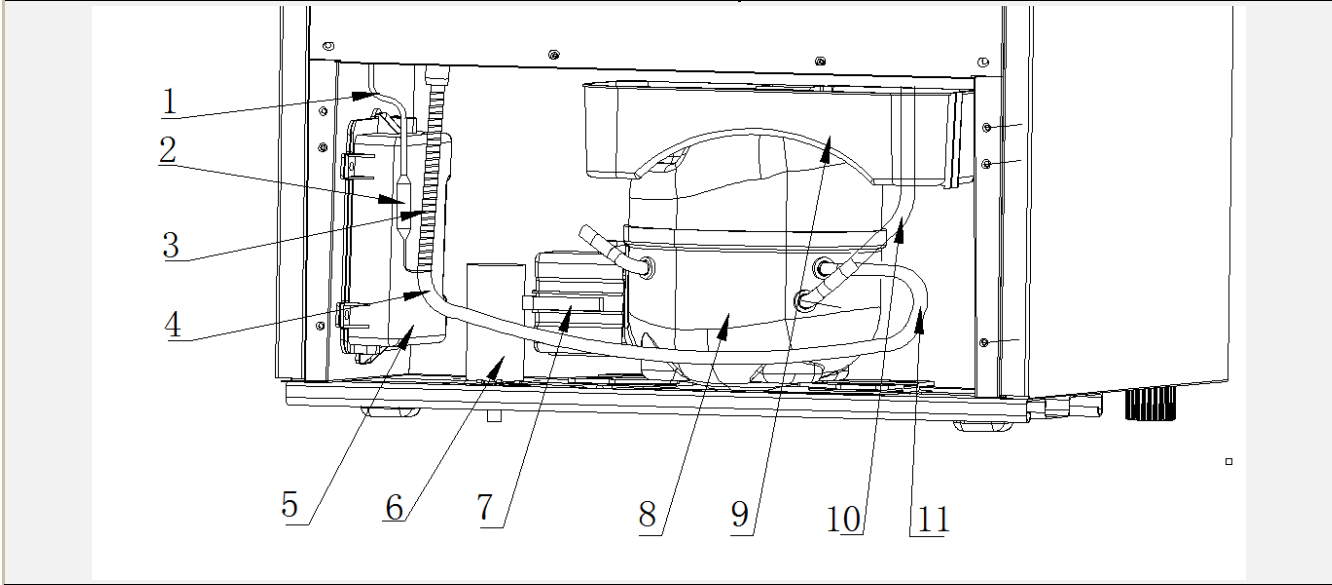
None

Standby condenser

Standby condenser	None
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Piping system in the compressor case

<ul style="list-style-type: none"> ① Condenser-1(in) ② Drier ③ Capillary Tube ④ Transition pipe ⑤ Main control board box 	<ul style="list-style-type: none"> ⑥ Capacitor ⑦ Compressor cover ⑧ Compressor ⑨ drain tray ⑩ Condenser-2(out) ⑪ Suction conection Pipe
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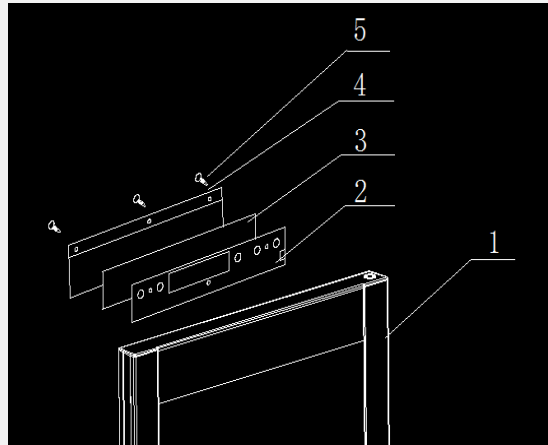
Disassembly and assembly of the drain tray

<p>1) Pull out the drain tray</p>	
<p>2) Replace the drain tray, the reverse process can complete installation.</p>	<p>/</p>

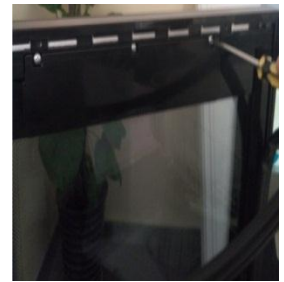
8.8 Display control board

Display control board

<ul style="list-style-type: none"> ① Glass door ② Display control board ③ Sponge of display control board 	<ul style="list-style-type: none"> ④ Assembly cover of display control board ⑤ Screw
--	--



- 1) Take down door seal
- 2) Take down screws, then the cover
- 3) Take down screws on operation panel

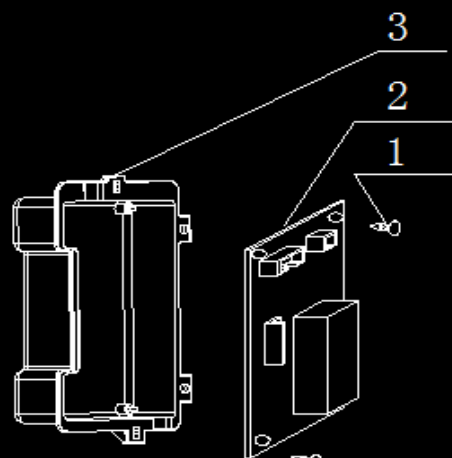


8.9 Main control board

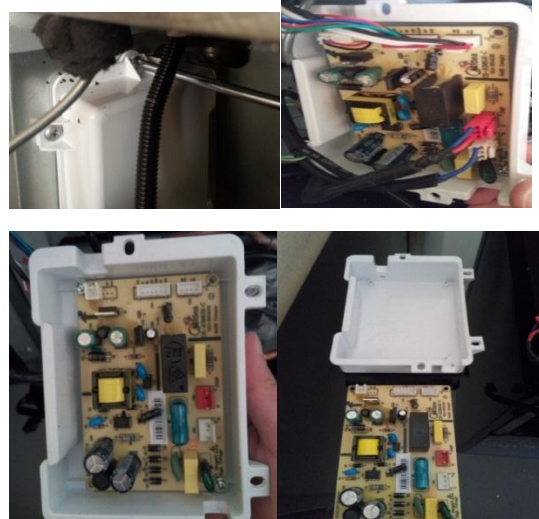
Main control board

- ① Screw
- ② Main control board

- ③ box cover of main control board



- 1) Take down screws
- 2) Take out main control panel cover
- 3) Disconnect the fast connector
- 4) Take screws on main control panel



8.10 Bar counter

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

8.11 Water dispenser

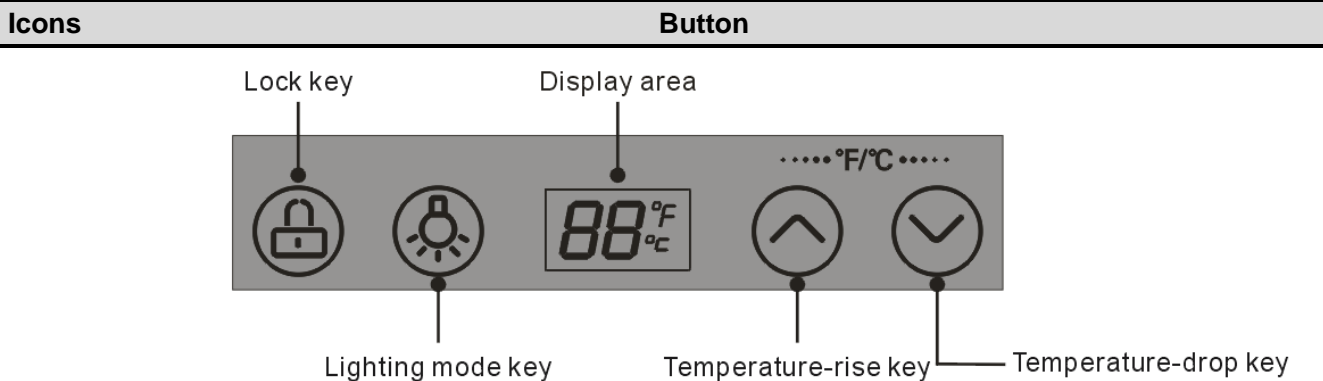
Water dispenser	
Disassembly and installation of water valve	None
Disassembly and installation of water tank	None

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






9.2 Temperature control

UI Control


●Powering on each time, the display screen gives a full display for 3s and meanwhile the start-up sound rings; then the machine enters into operation in the locked state .●The corresponding fault code will be displayed when a fault occurs; the setting temperature of the corresponding chamber will be displayed when no fault occurs.●If no key operation for 30 seconds , the display screen will be turnoff and the cooler will operate in locked state.The display screen will turn on again , if you touch any key.

▶ Locked and unlocked mode



●By pressing the button  for 3s in the non-locking mode, the buzzer rings and the locked mode is activated; the temperature display areas (digit display areas) of upper chamber and lower chamber stop flashing.●By pressing the button  for 3s in the locked mode, the buzzer rings and the unlocked mode is activated; After unlocking, the temperature display area of selected chamber flashes..

●In the locked mode, touch any key besides light key  , the display screen will keep flashing for 2.5s and the buzzer alerting to unlock the UI.

▶Lighting mode



●After power on for 3s, the lighting turns on by default for 30s. If the lighting key is not operated within 30s, the lighting shall automatically turn off. ●Press the Lighting mode key  to turn on or turn off the light.

Switching of the Fahrenheit temperature and Celsius temperature

●Press the Temperature-rise key  and the Temperature-drop key  at the same time for 3s to finish the switch of the Celsius temperature and Fahrenheit temperature; the screen will display the Fahrenheit temperature or Celsius temperature under the current

mode.

▶ **Temperature setting**

- Press the Temperature-rise key  , the temperature will increase 1°C (or 1°F). After locking, the cooler will operate according to the setting temperature;
- Press the Temperature-drop key  , the temperature will decrease 1°C (or °F). After locking, the cooler will operate according to the setting temperature
- The wine cooler's temperature can be set between 7~18°C (44~65°F)

▶ **Memory function**

- The cooler has the power off memory function. When power on again, the wine cooler will operate according to the setting mode before power off.

▶ **Fault indication**

- If the indication of the following table is displayed on the display area, it means the cooler is with faults.

9.3 Give an alarm (None)

9.4 Failure code and solutions (None)

Fault code	Display	Failure Type	Solution
E1	E1	Fault of temperature sensor	Step 1: Check whether the terminal CN3 and CN5 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. Step 3: Inspect the temperature sensor whether contact is bad, and resend contact the fast connector Step 4: Replace main control board
E4	E4	Fault of F frost sensor	Step 1: Check whether the terminal CN3 and CN5 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. Step 3: Inspect the defrost sensor whether contact is bad, and resend contact the fast connector Step 4: Replace main control board

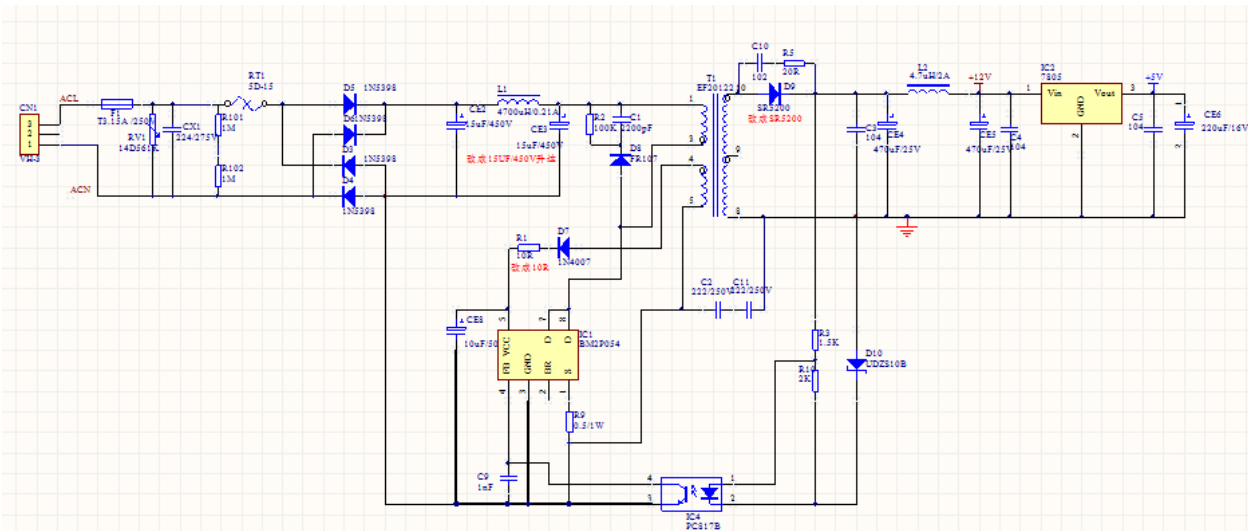
9.5 Defrost function

The defrosting of evaporator is activated when the temperature monitored by defrosting sensor is below setted point., compressor switching off, following the temperature rise, the frost on evaporator becomes water, and the water flow into the evaporating pan via the draining system, the water in evaporating pan evaporate away finally.

9.6 Compressor fan control (None)

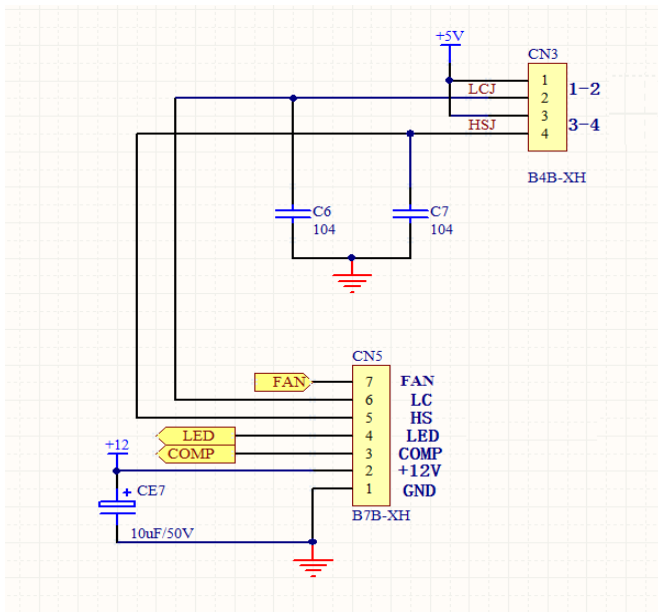
10. Circuit description

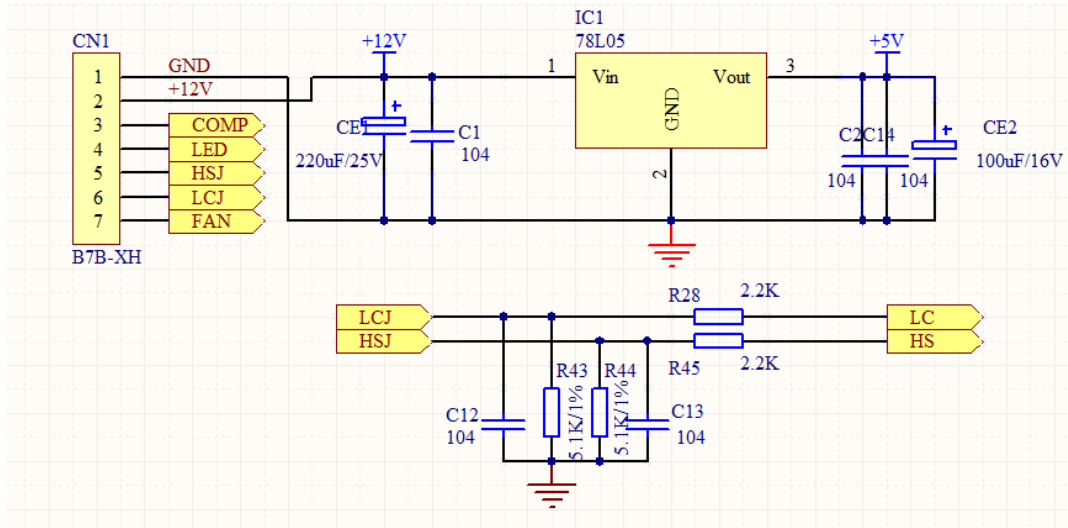
10.1 Power Supply(None)



AC power is reduced and output stable DC12V by SMPS control chip and LC ,DC12V provide power to relay,the relay is for controlling the compressor and defrosting heater. DC12V is changed into stable DC5 V by adjustor 7805,DC5V provide power to control chip,control chip monitor the temperature change of refrigerator

10.2 Test circuit for door switch(None)





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 = $R1 / (R_{NTC} + R1)$

AD value / reference AD value = $R1 / (R_{NTC} + R1)$

The reference voltage is 5V, RNTC is the resistance value of the sensor, R1 is R31\R32\R33 in schematic diagram that is 5.1K

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)

10.7 Fan motor circuit of the ventilation door(None)

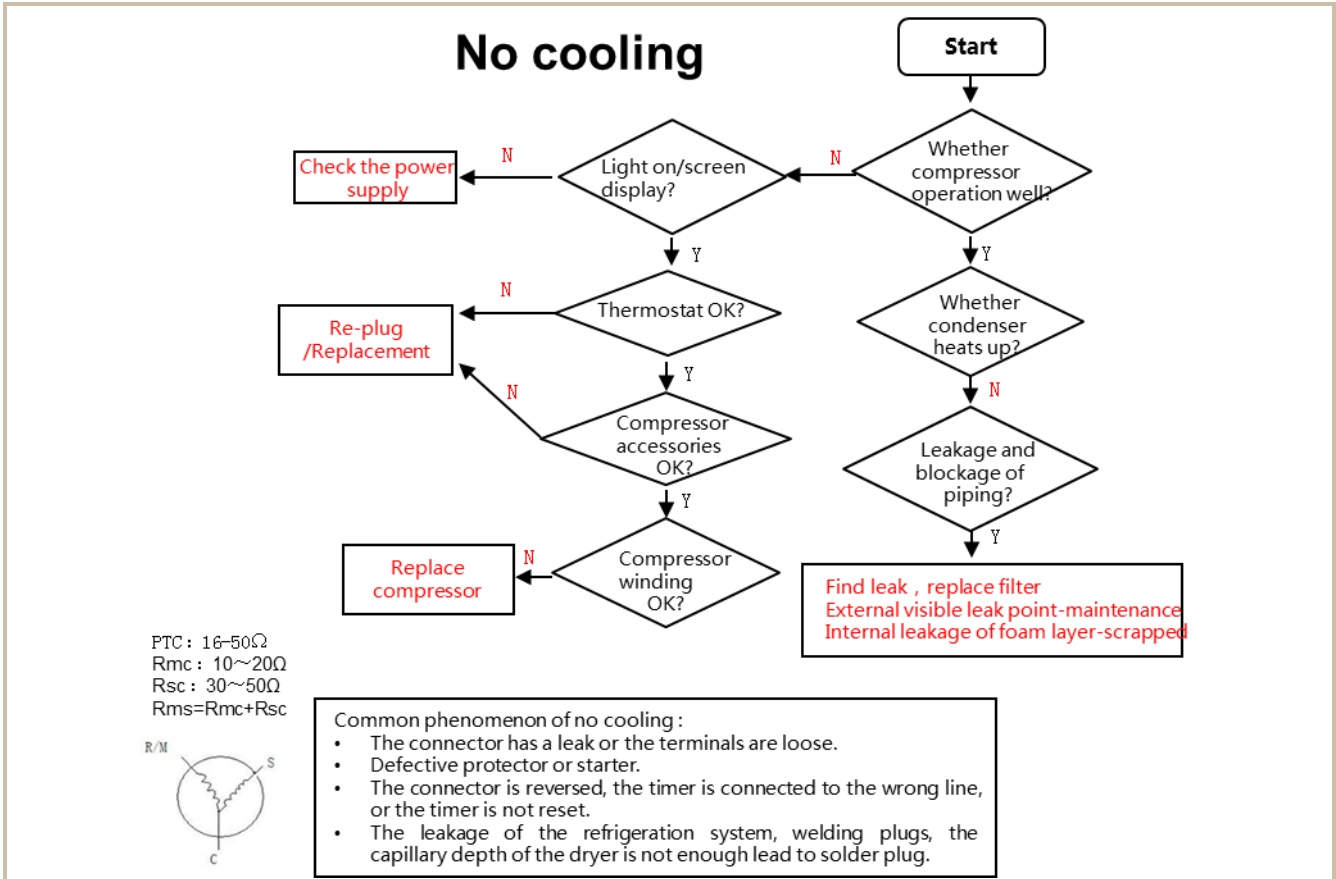
10.8 Resistance value of the sensor (R/T) (None)

Tx(°C)	R (KΩ)	Tx(°C)	R (KΩ)	Tx(°C)	R (KΩ)	Tx(°C)	R (KΩ)	Tx(°C)	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

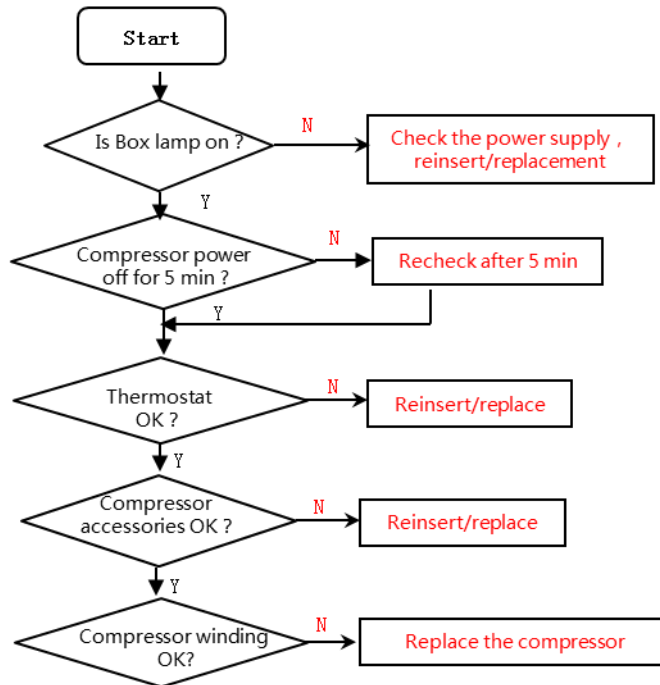
11. Troubleshooting Method

11.1 Not cooling



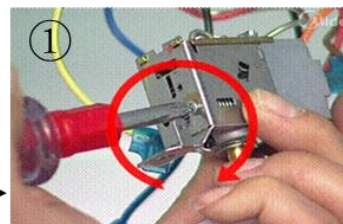
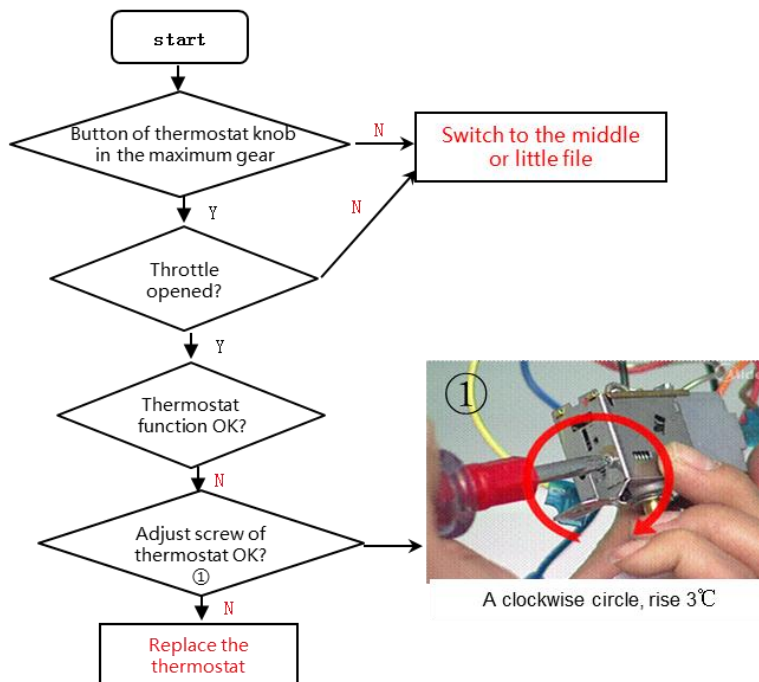
11.2 Not working of compressor

No working of compressor



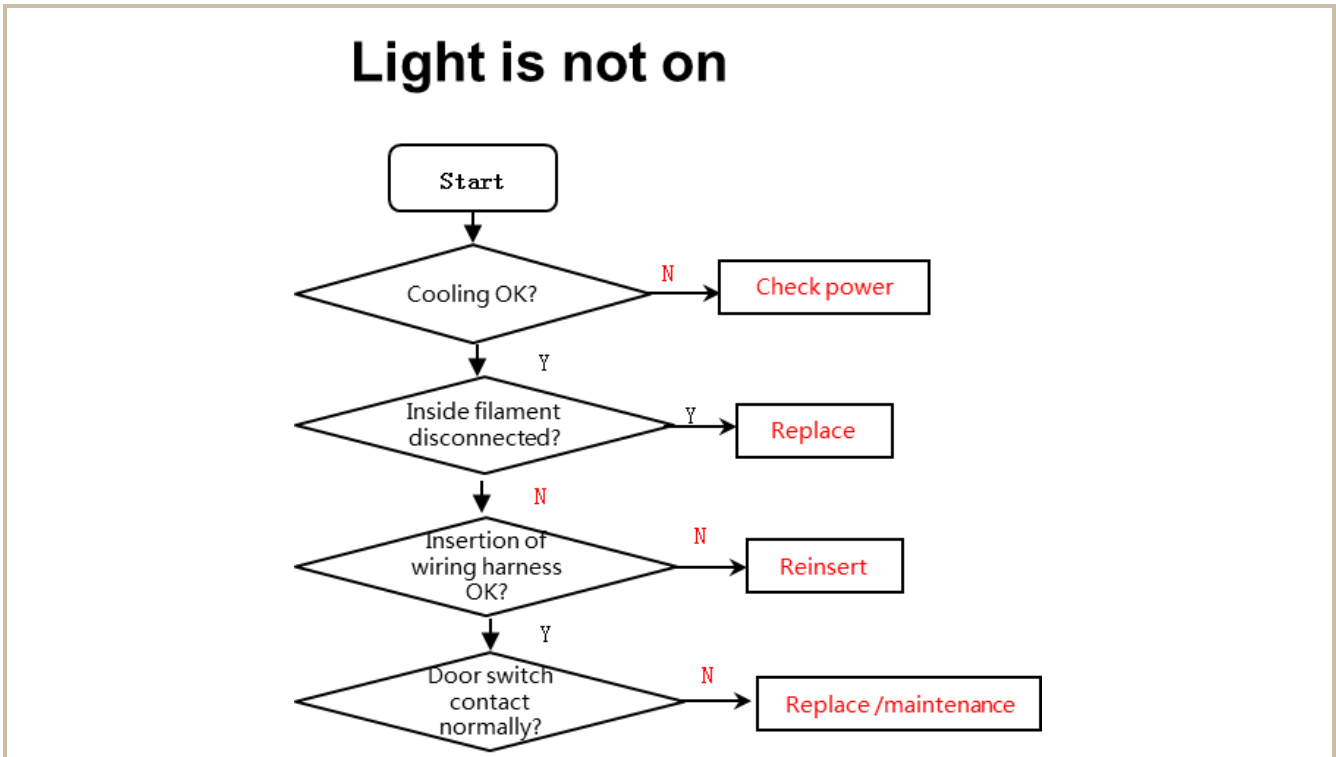
11.3 Thermostat malfunction-Undercooling

Thermostat malfunction-Undercooling

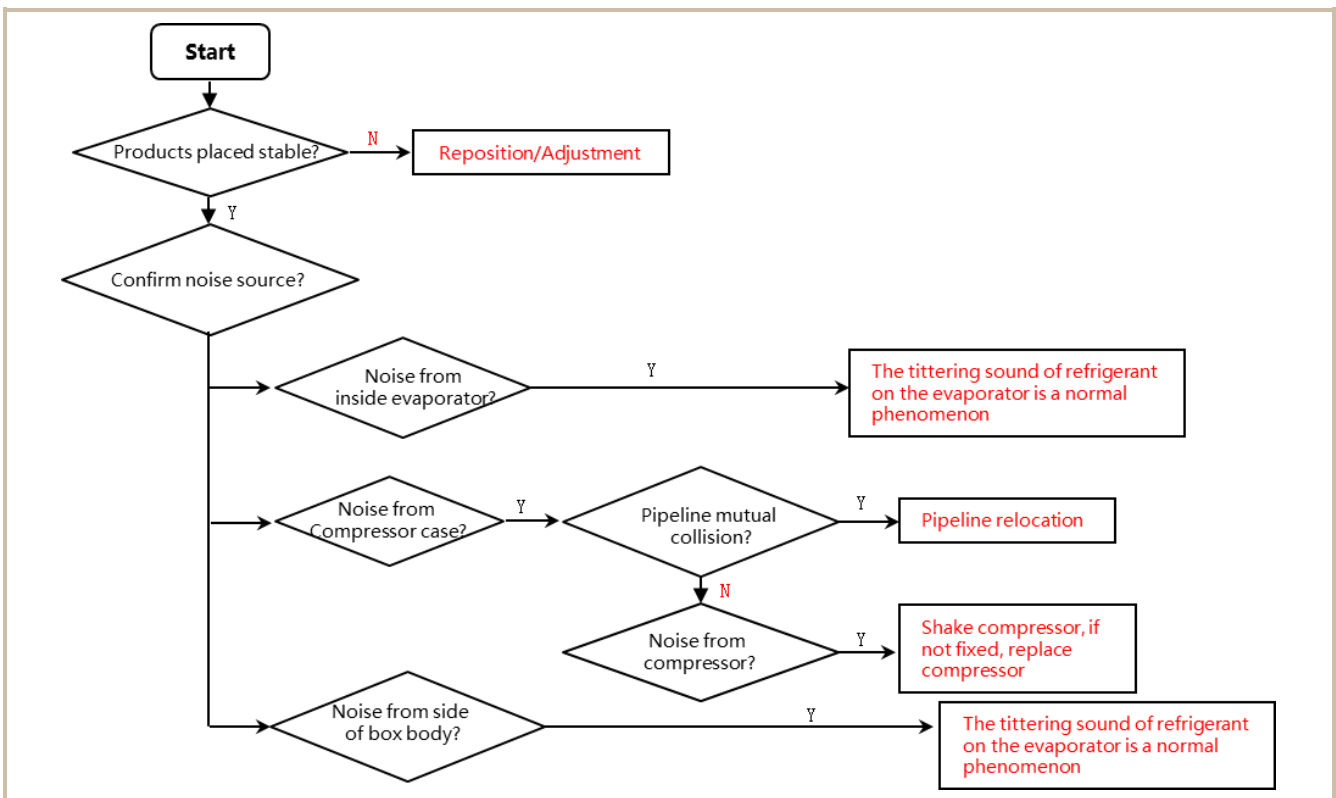


A clockwise circle, rise 3°C

11.4 Light is not on



11.5 Noise



12. Figures and details of repair

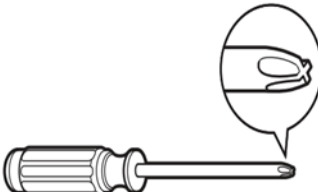
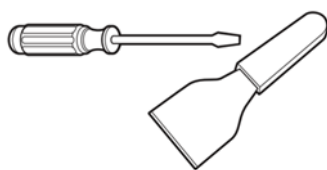
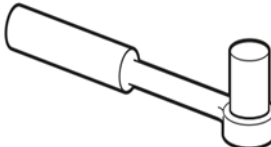




parts(Documents are provided separately)

12.1 Figures

12.2 List of parts and components

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/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	Nipper pliers/diagonal pliers	Assistive tooling	


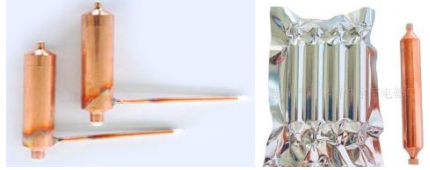




8	Capillary tube scissors	Shear capillary	
9	Knife	assistive tool	
10	Pipe cutter, Flaring device	Pipe cutting, flaring	
11	Electronic digital thermometer	Test temperature	
12	Multi meter	Measurement with resistance, voltage, current and so on.	


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	
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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.



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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).

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

xxx@midea.com

Refrigeration Division

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