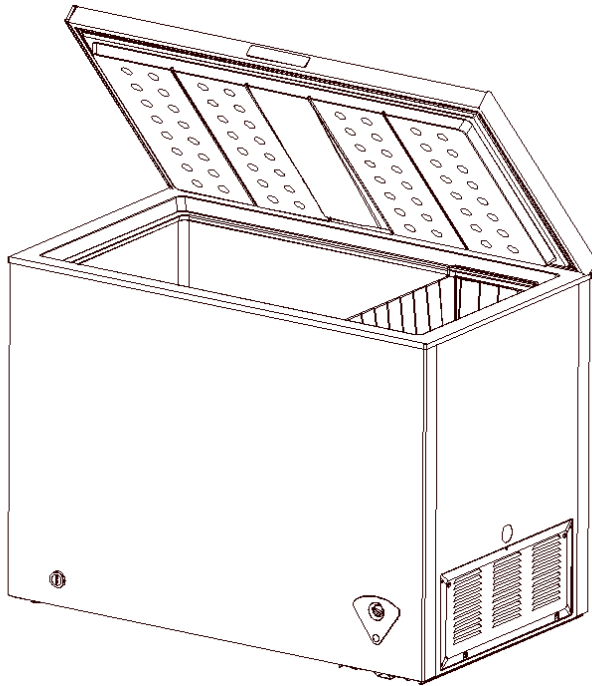


Service Manual

CHEST FREEZER SERIES



Applicable Models	Model Code
UR-BD143-DQ	22032010003262


Prepared by	R&D: Huang Yanmin
Reviewed by	QA:WuXinbin SVC:Zhang Kun
Approved by	R&D:ZhangHuawei SVC:GuangTaoshuai

(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.

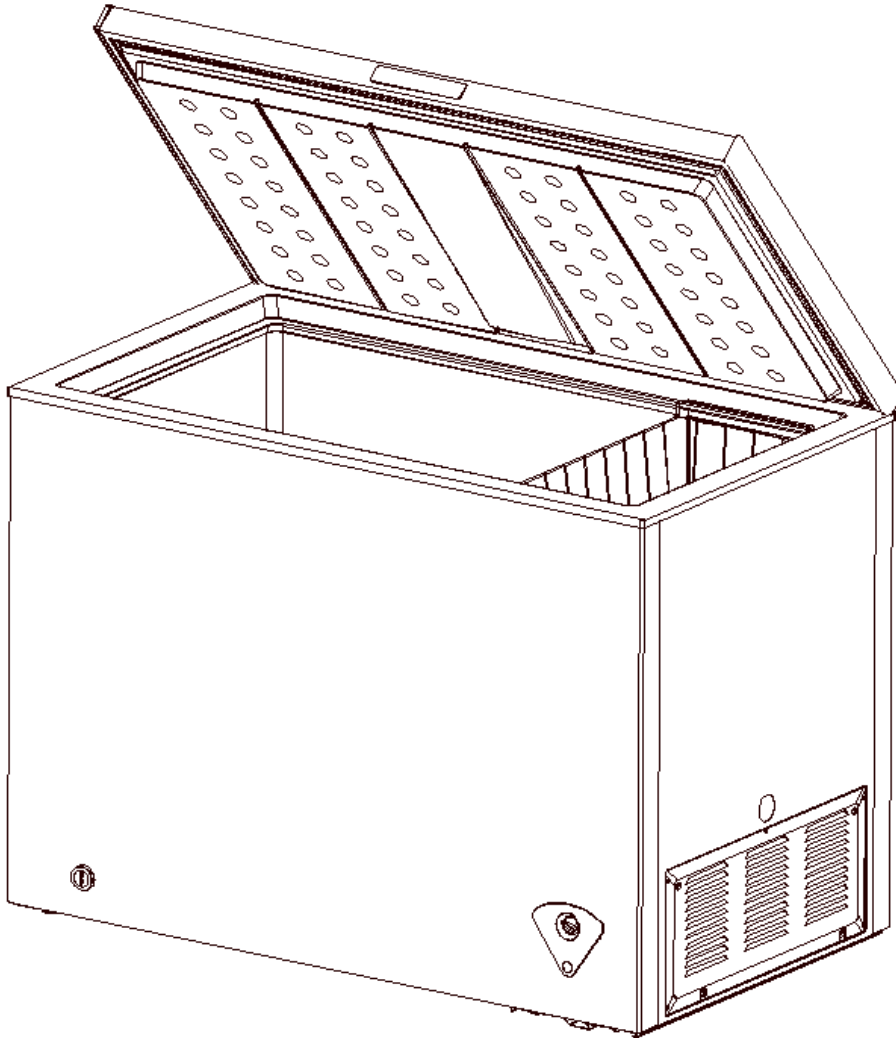


Safety instruction for refrigerant

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:



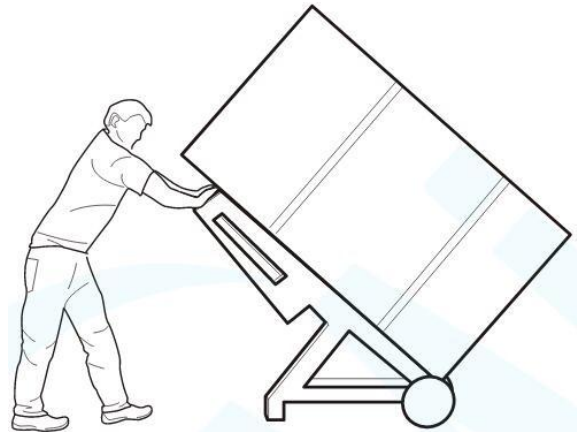
- 1) Fan-shaped temperature control panel with kitchen cabinet of complete freezing type
- 2) top single opening design

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 Freezer door

Disassembly of Freezer door	None
-----------------------------	------

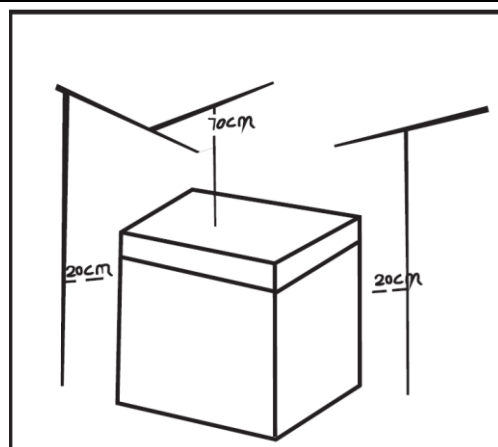
Disassembly of refrigerator door

Disassembly of refrigerator door	None
----------------------------------	------

3.3 Installation location

Installation location

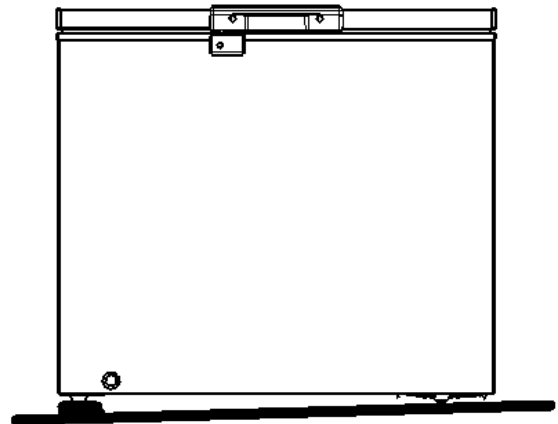
Location that is easy for ventilation shall be chosen to facilitate heat dissipation, enhance its performance and reduce the energy consumption.



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

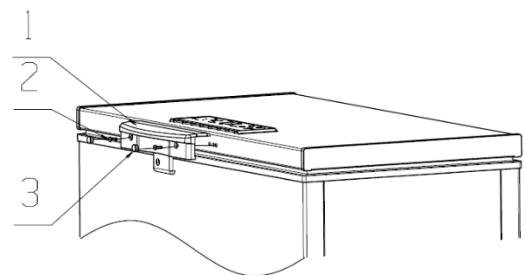
Door reversal

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

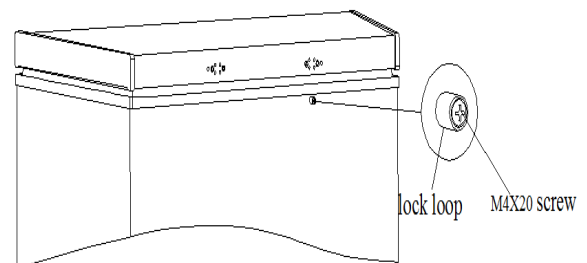
3.6 Installation of handle

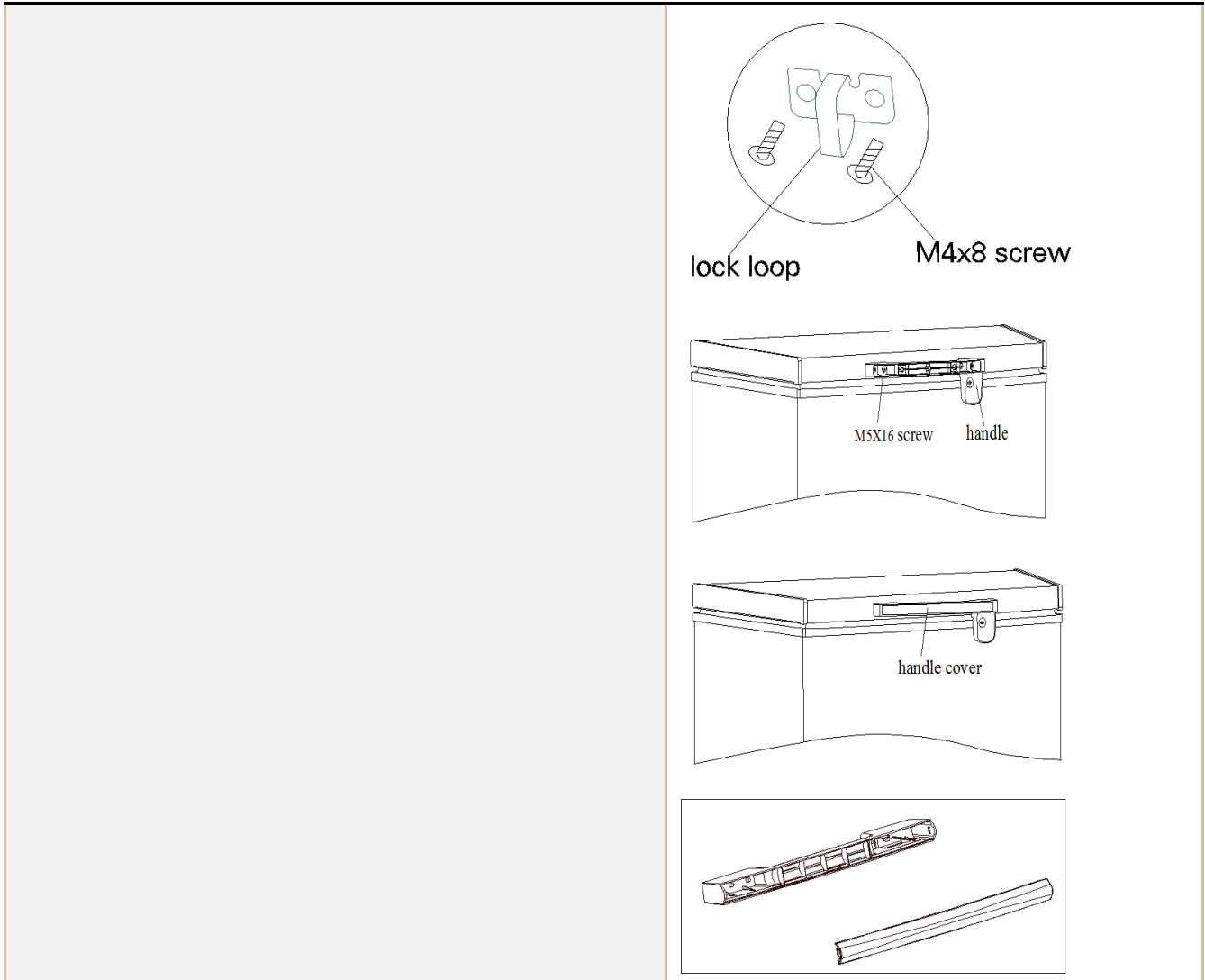
Installation of handle

- 1- Handle
 - 2- M5*14 screw(two)
 - 3- Screw hole cover (two)
- 1) The handle is inserted below the display control board of door, aligning with the screw hole.
 - 2) Fixing the handle by using the screw.
 - 3) Assemble the screw hole cover onto the screw hole.



1. Fix the lock loop to its mounting hole near the frame in the front side plate of the box with a M4x20 or M4x8 screw. Pay attention to the direction of the lock loop with its countersunk side facing outwards.
2. Hold the handle with the left hand, and aim its mounting hole at the mounting hole of the door. Insert the key into the keyhole with the right hand, and then turn the key clockwise to drive the rotation of the lock hook. Meanwhile, adjust the position of the handle from side to side in a proper manner to ensure the lock hook can hook the lock loop in locked state. Afterwards, fix the handle to the door with four M5X16 screws.
3. Install the handle cover





3.7 Installation of door lock

Installation of door lock	
Installation of door lock	With the door handle together

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

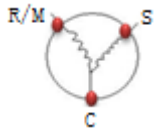
4. Terms

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-BD143-DQ	None
Product Code	22032010003262	None
Item	Specification	Specification
Compressor		
Compressor	FZ59E1G	None
Starter(PTC)	QP2-4R7	None
Overload protector(OLP)	DRB29T61A1	None
Winding resistance of compressor wiring terminal	Rmc:7.02-8.08Ω Rsc:8.88-10.22Ω Rms=Rmc+Rsc	None
Winding resistance picture		None
Variable frequency driver board	None	None
Motor		
Fan motor of the freezing chamber	None	None
Ventilation door of the refrigerating chamber	None	None
Condensation fan	None	None
separation the ice motor	None	None
ice output motor	None	None
Open door motor	None	None
Lights		
Lights inside the freezing chamber	None	None
Lights inside the refrigerating chamber	None	None
Switch of the refrigerator door	None	None
Indicator lamp	None	None

5.3 Inside temperature

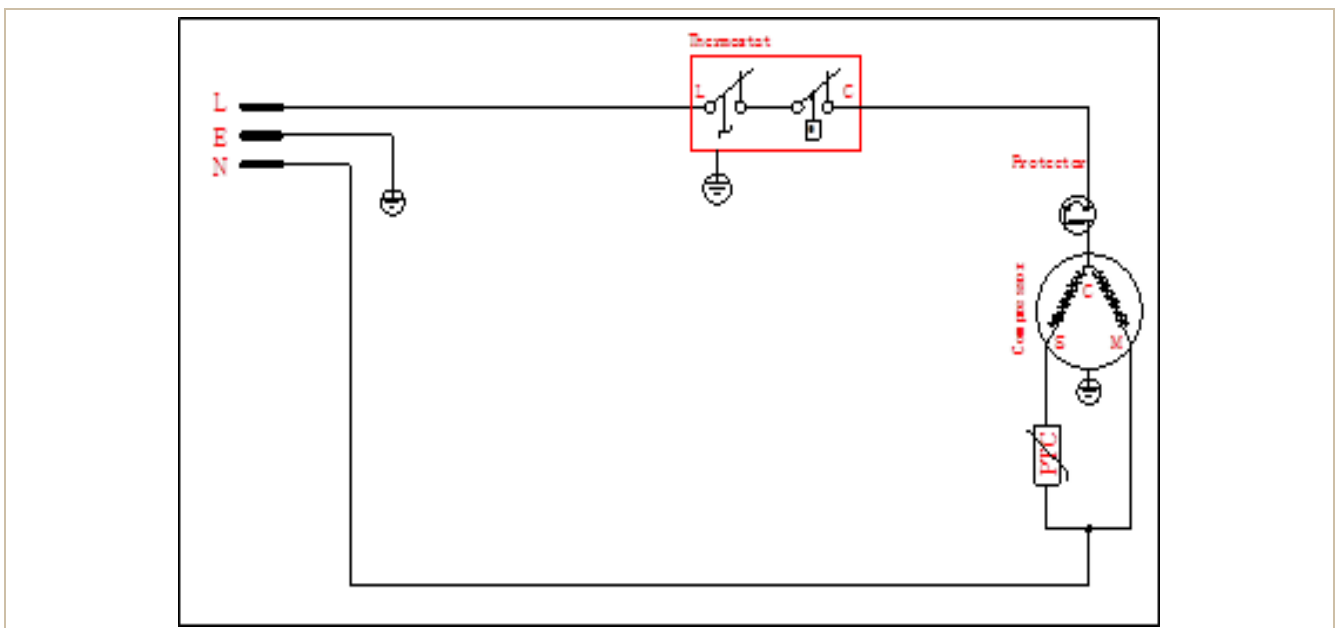
Temperature tolerance $\leq 2^{\circ}\text{C}$

Compartment	The highest ($^{\circ}\text{C}$)	Lowest ($^{\circ}\text{C}$)
Freezing	-12	-28
Refrigerating	None	None
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

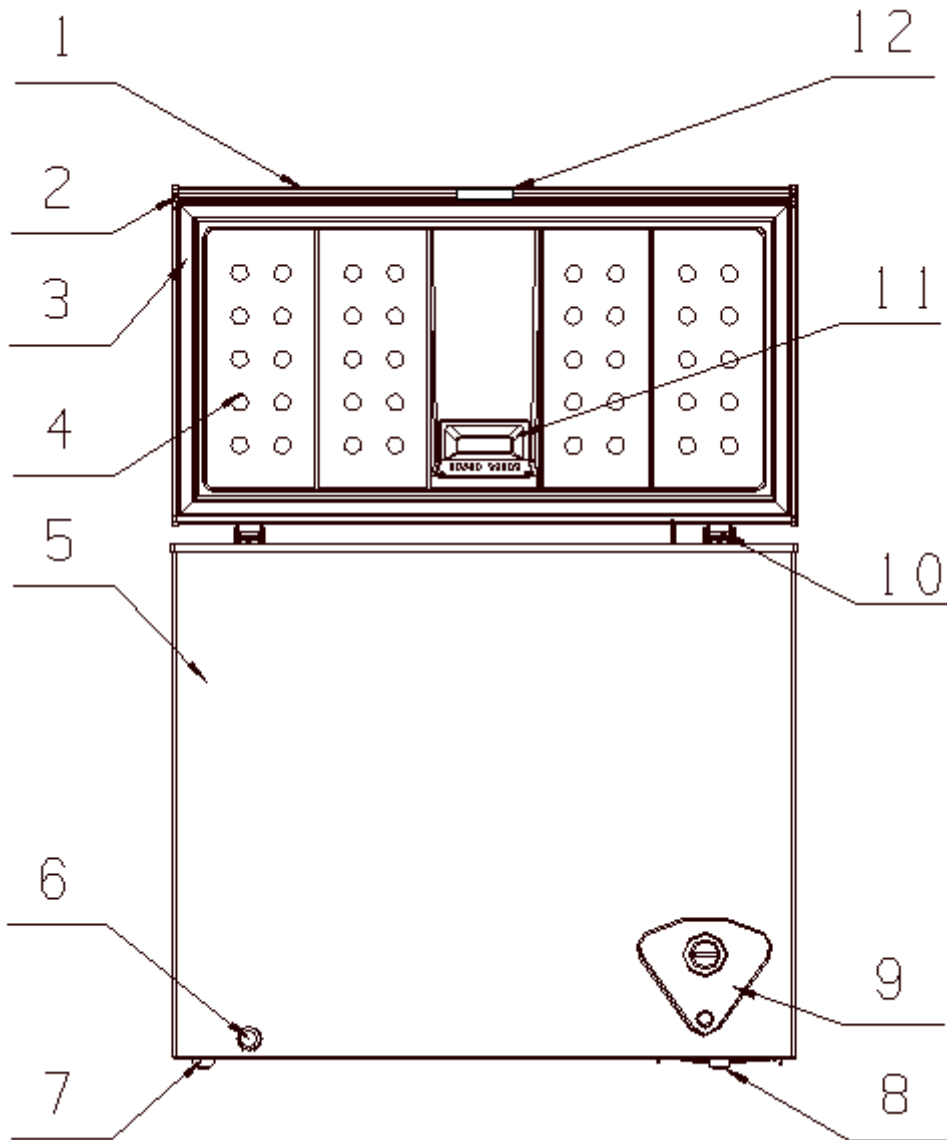
5.5 Circuit diagram



6. Internal view and dimension

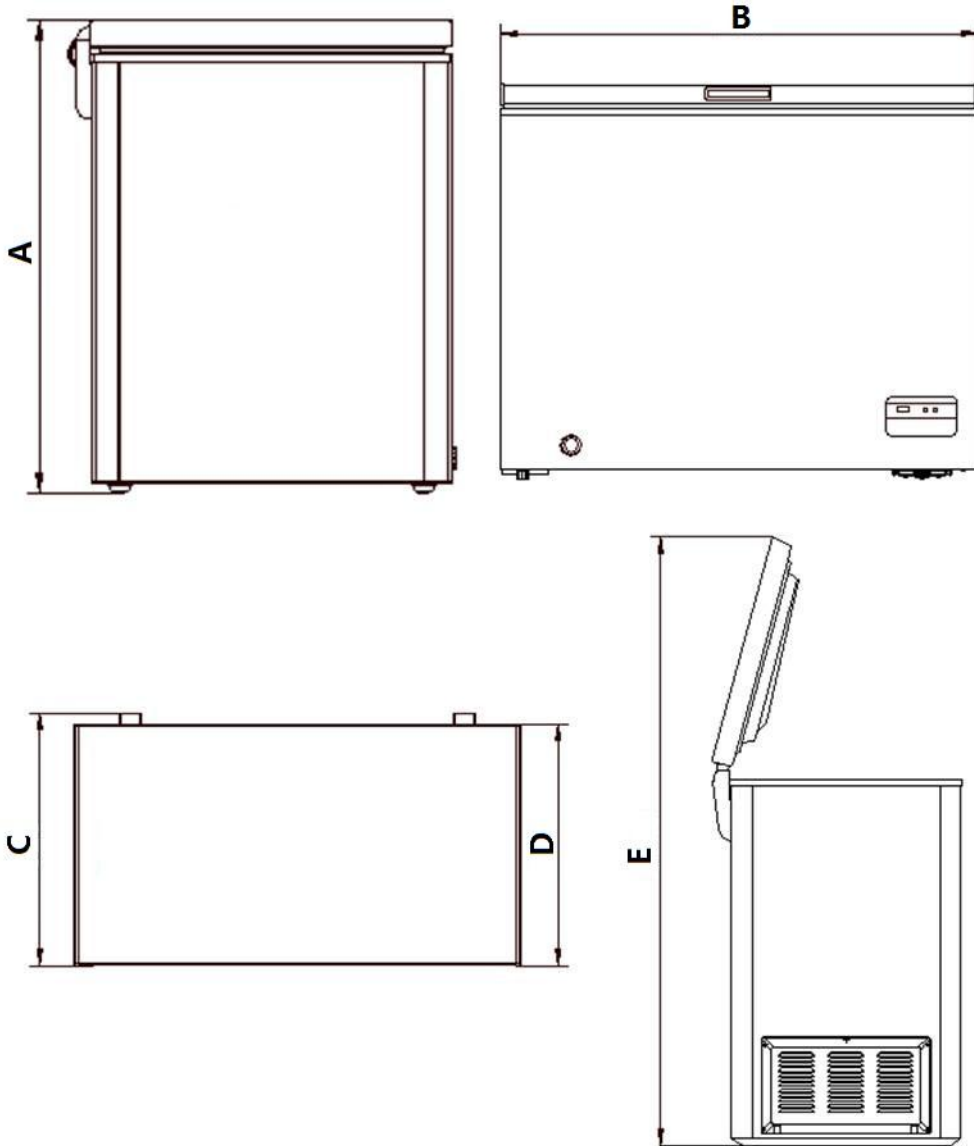
6.1 Main parts and their names

Freezer chamber	Freezer chamber
① Door shell	⑦ Levelling feet
② The door end cover	⑧ Compressor mounting panel
③ Door gasket	⑨ Temperature-control panel
④ Door liner	⑩ Hinge
⑤ Cabinet assembly	⑪ Lamp cover
⑥ Drain-pipe cover	⑫ Door handle



6.2 External dimension

Description	Code	Size (mm)	Size (mm)
Height to Top of Case	A	845	None
Width	B	635	None
Depth/Hinge	C	555	None
Depth	D	540	None
Height (Door open)	E	1330	None

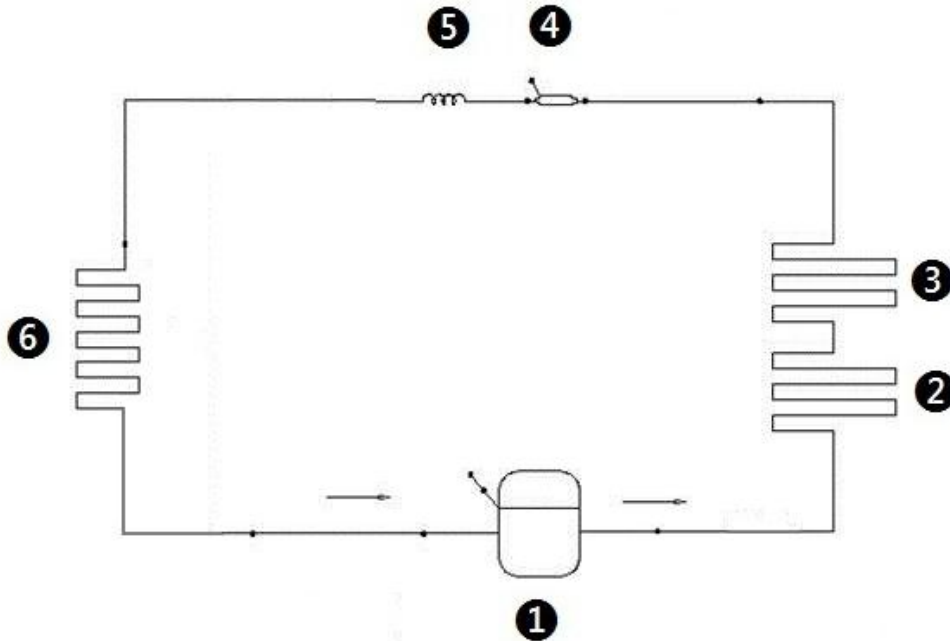


7. Refrigerating piping system and circulating route of cooling air

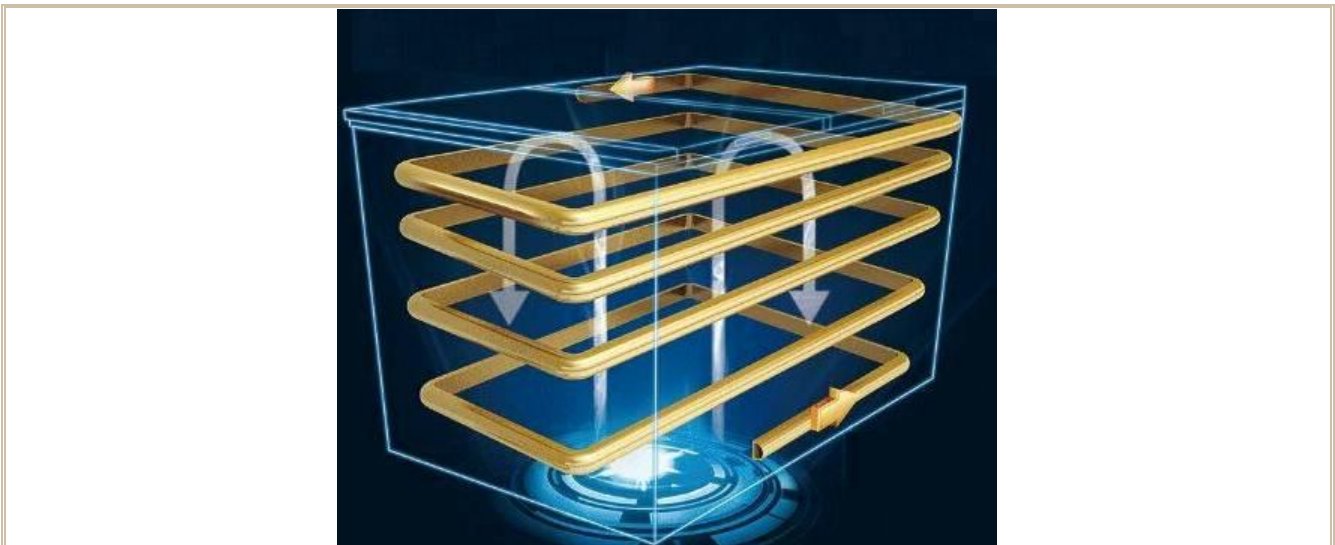
7.1 Refrigerating piping system

UR-BD100-DQ

① Compressor → ② Right condenser → ③ Left Condenser → ④ Dry filter → ⑤ Capillary tube → ⑥ Evaporator

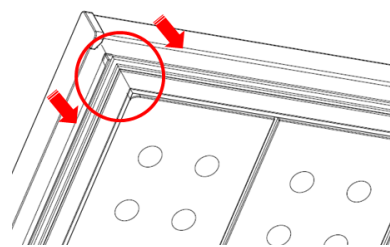
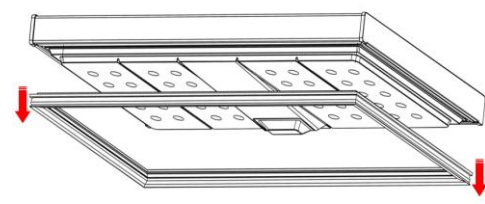
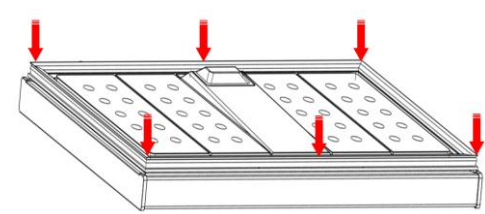




7.2 Circulating route of cooling air



8. Dismantling of parts

8.1 Parts on the door

Door seal	
1) Pull the door seal from the corner	
2) Take efforts until door seal totally detaches from door inner liner groove, remove the door seal	
3) Fixing the four corners and pressing smoothly.	
The hinge cover	
1) Open the upper hinge of the lower hinge cover by hand to a certain angle until the hinge cover is separated from the certain distance.	
2) Pull down the lower hinge cover.	

3) Open the slanted upward of hinge cover to a certain angle by a screwdriver and remove the hinge cover. Wear safety gloves for fear of cutting the hand.



4) When the door is closed, open the lower hinge cover along the side wall to a suitable angle and push forwards into the side wall of the hinge until the hinge cover boss completely falls into the hinge hole.



5) Hold the side of upper hinge cover with both hands, align the opening with the side wall of the hinge, and push down until the hinge cover protrusion completely falls into the hinge hole. Then the upper and lower hinge covers are all in place.



Door light disassembly and assembly

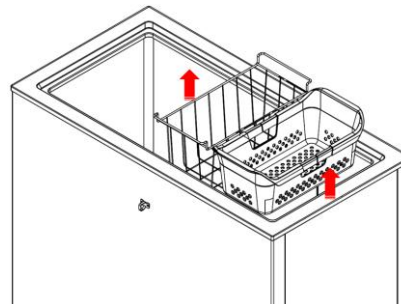
Door light disassembly and assembly

None

8.2 Parts inside the refrigerator

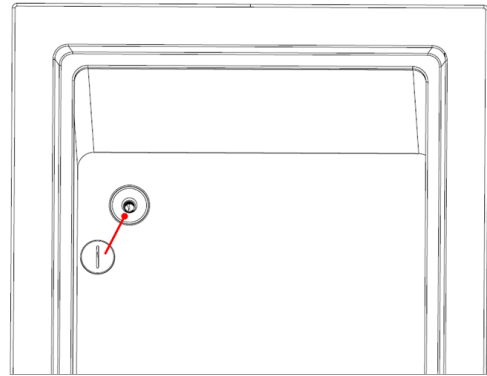
Basket

Open the door and removed the basket



Inside water pipe cover

Counterclockwise to remove the pipe cover



Ice tray

Ice tray	None
----------	------

8.3 Light system

Light

Light	None
-------	------

Light switch

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

Indicator lamp

Indicator lamp	None
----------------	------

8.4 Evaporator and temperature sensing system

Freezer sensor

Freezer sensor	None
----------------	------

Ambient temperature sensor

Ambient temperature sensor	None
----------------------------	------

Thermostat

Electronic control/Machine	machine
----------------------------	---------

8.5 Condenser system

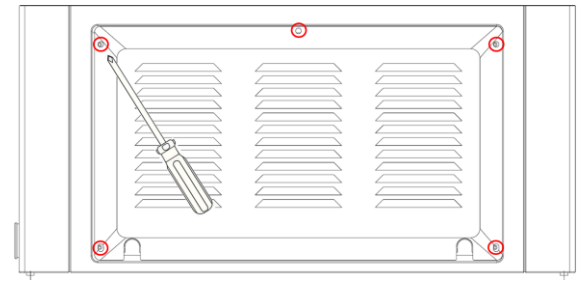
Condenser

Condenser	Inside
-----------	--------

8.6 Compressor case

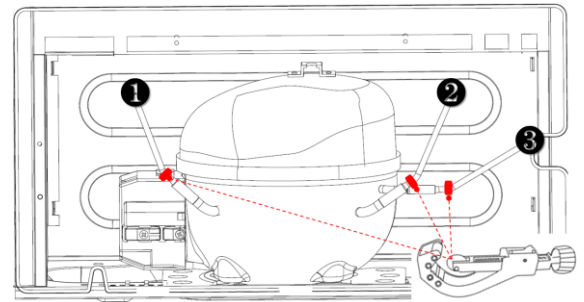
shutter and compressor case

Pull down the screw, open the shutter.



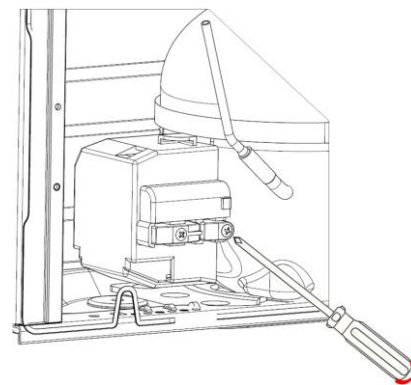
Compressor and the cooling system pipe

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



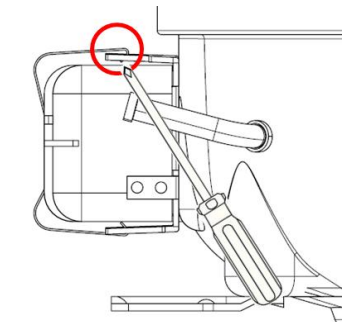
2-1) Remove the screws(for some models)

- Two screws outside
- One screw inside



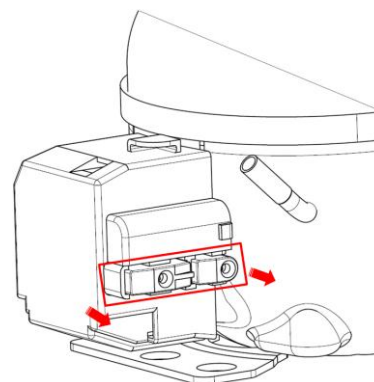
2-2) Remove the metal clamp(for some models)

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



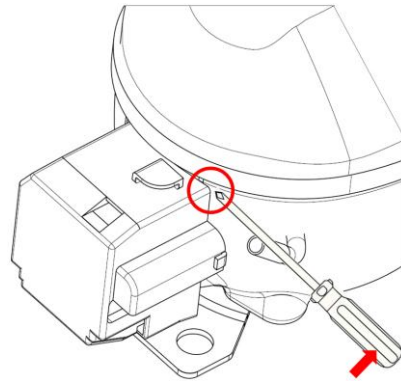
3) Remove the clipping strip

Slowly pull it out

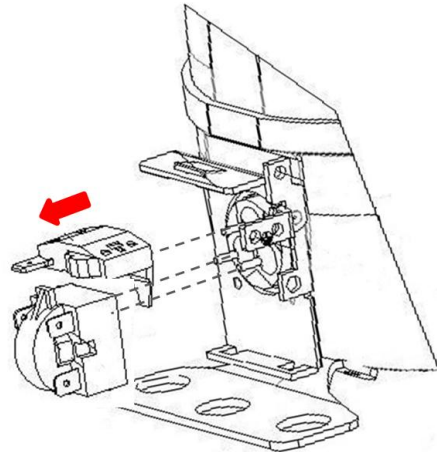


4) Remove the protective cover

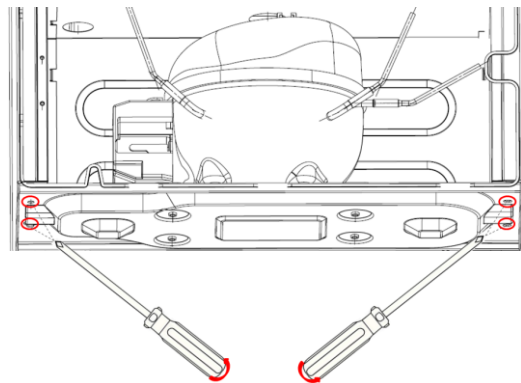
- Pry the protective cover slowly from the upper part,
- Pull it out and remove it.


5) Remove the starter and protector

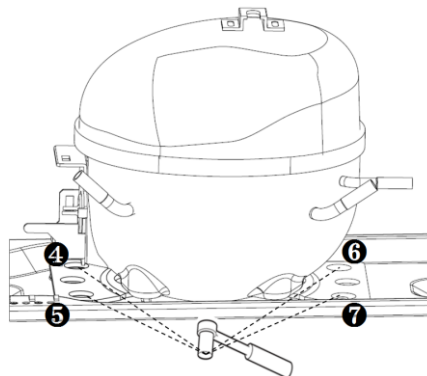
- Unplug the starter and protector (you can use a screwdriver to pry it slowly)



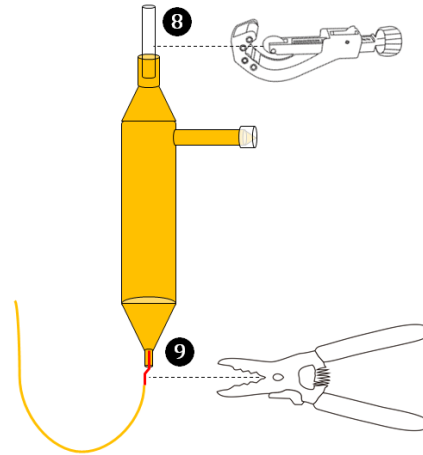
- 6) Loosen the screw of the compressor bottom plate, remove the floor together with the compressor from the box.



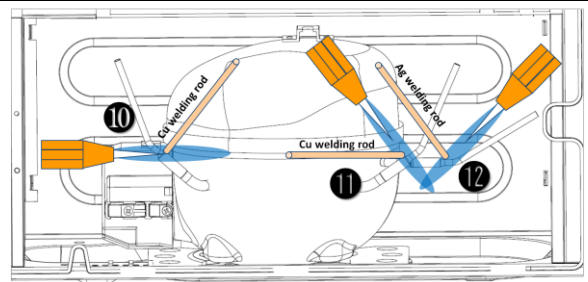
- 7) Use the wrench to remove the bolts by steps ④ ⑤ ⑥ ⑦, replace the compressor and reverse process can complete installation.



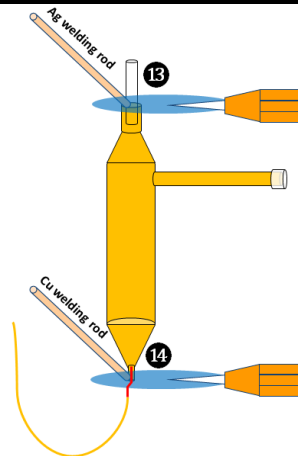
8) Use Pipe cutter cut off the condenser tube ⑧, then Shear off capillary ⑨ by the capillary tube scissors.



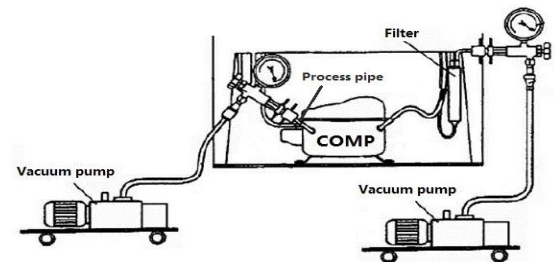
9) Replace the compressor and welding the compressor pipeline.-⑩Welding the process pipeline.-⑪Welding the low-pressure muffler.-⑫Welding the high-pressure exhaust pipe.



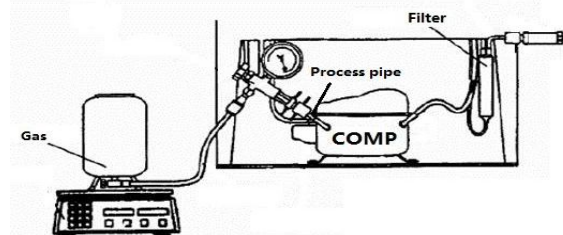
10) Replace the filter, Cu-Fe tubes welding ⑬ used Ag welding rod, Cu-Cu tubes welding ⑭ used Cu welding rod.



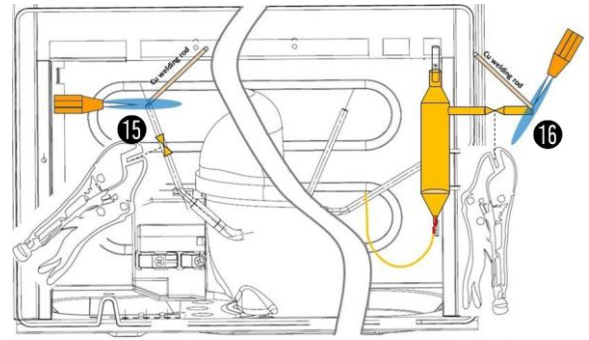
11) Vacuum system, The degree of vacuum below 6Pa.



12) Perfusion refrigerant.

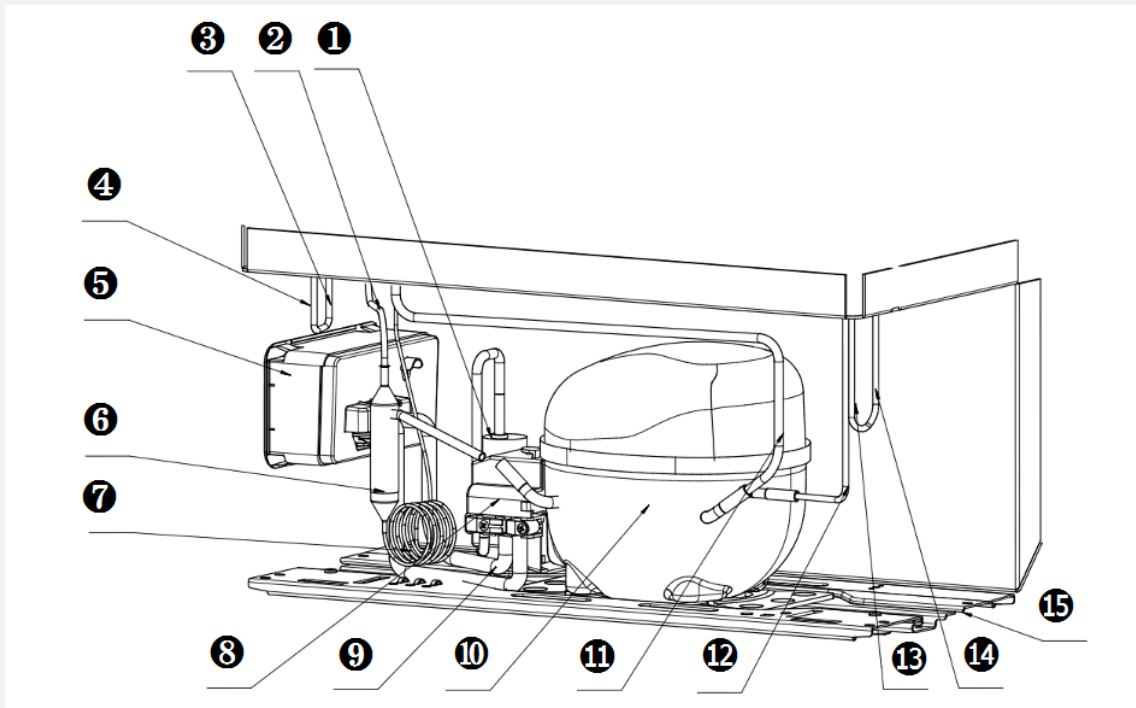


13) Use the vise grip pliers clamp the middle of the process pipe, then seal welding process tube 15 16.



Piping system in the compressor case

- | | |
|---|--|
| <ul style="list-style-type: none"> ① Capacitor ② -1 Front condenser pipeline-1 ③ -2 Rear condenser pipeline-2 ④ -1 Anti-dew pipe-1 ⑤ Temperature-control box assembly ⑥ Drying filter ⑦ Capillary ⑧ Protective cover ⑨ Wires | <ul style="list-style-type: none"> ⑩ Compressor ⑪ Suction Pipe ⑫ -1 Rear condenser pipeline-1 ⑬ -2 Front condenser pipeline-2 ⑭ -2 Anti-dew pipe-2 ⑮ Compressor Assembly Board |
|---|--|



Condenser fan motor

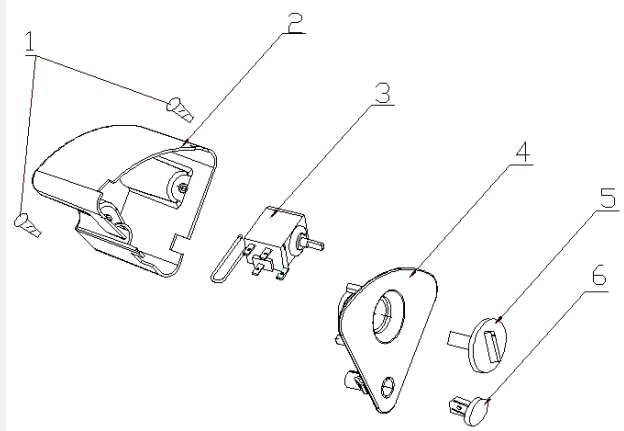
Fan motor	None
Standby condenser	None

8.7 Temperature-control box assembly view

Temperature-control box assembly view

- ① screw
- ② Temperature-control box
- ③ Thermostat

- ④ Temperature-control panel
- ⑤ TEMP. control knob
- ⑥ Indicator light



Destuffing

1) Pull down the screw, open the shutter.



2) Pull out the temperature probe from the temperature tube



3) Hold two tabs on the back cover of temperature-control box to remove the components



4) Use screwdriver to remove the two screws



5) Separate the temperature-control box from the panel



6) Pull out the control knob



7) Pull out the fixed nut of the thermostat



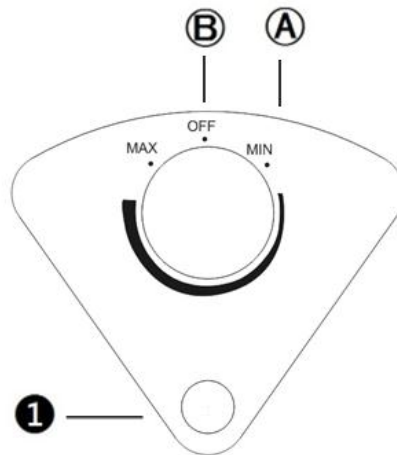
8) Pull out the wiring harness and indicator light. remove the indicator light and thermostat, the reverse operation is for assembly



9. Function and operation

9.1 Operation panel

Icons	Button
① Indicator hole cover/Power indicator	Ⓐ freezer gear Ⓑ "OFF"



9.2 Temperature control

Control panel without indicator light

1. Connect the freezer to power supply;
2. The interior temperature of the freezer is adjusted through the thermostat knob. Clock wisely rotate the thermostat knob and the interior temperature will drop. "MIN" is the warmest setting, "MAX" is the coldest setting.
3. "OFF" stands for stopping working.

Control panel with indicator light

1. Connect the freezer to power supply and "Power" indicator (the green light) will shine;
2. The interior temperature of the freezer is adjusted through the thermostat knob. Clock wisely rotate the thermostat knob and the interior temperature will drop. "MIN" is the warmest setting, "MAX" is the coldest setting.
3. "OFF" stands for stopping working.

9.3 give an alarm

None

9.4 Defrosting

Unplug the freezer and open the freezer door, remove foods and drawers before defrosting; Open the outflow holes and drainage holes (and place water container at the outflow holes); indoor frost will naturally melt, wipe the defrost water with a dry, soft cloth. When the frost softens, an ice scraper might be

used to the accelerate de-icing process.

Please remove the food and put in a cool place when defrosting before removing accessories.

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)

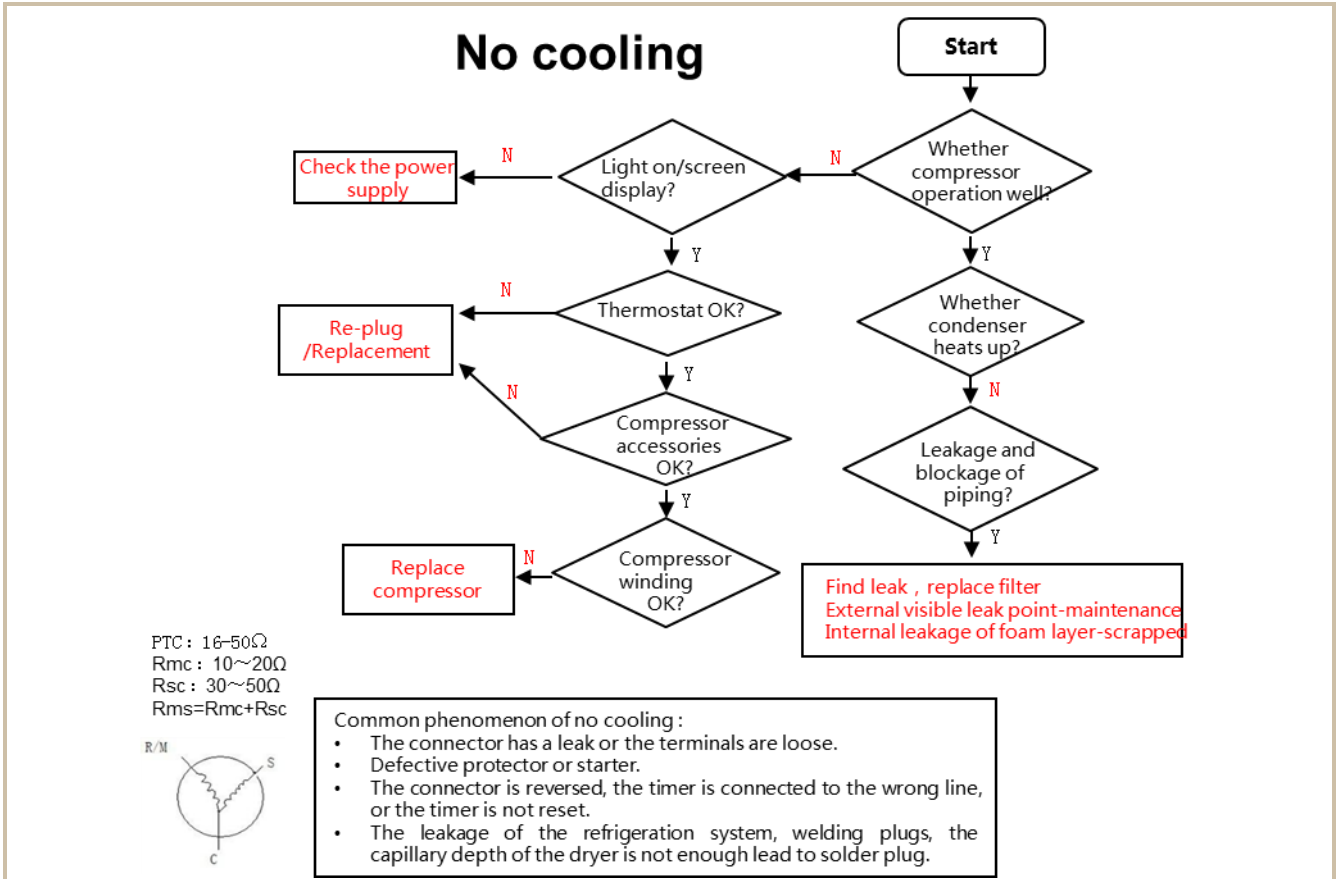
10.6 Condensation fan circuit (None)

10.7 Fan motor circuit of the ventilation door (None)

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

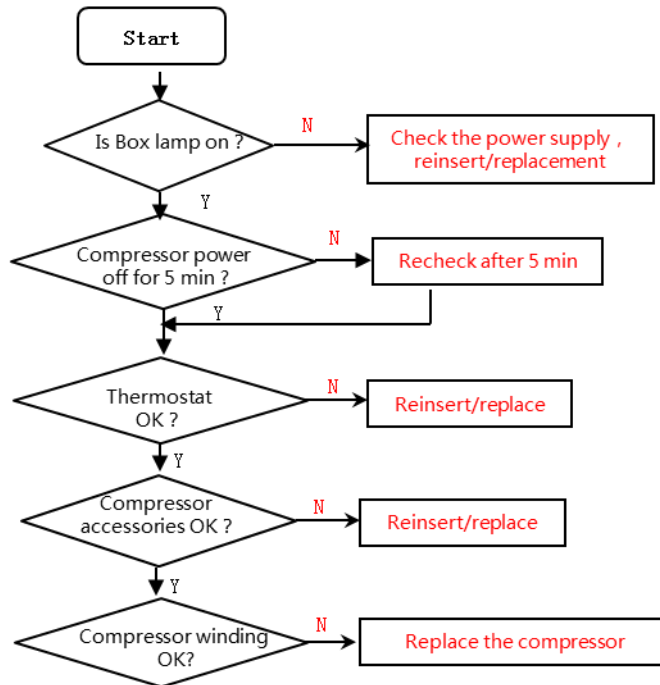
11. Troubleshooting Method

11.1 Not cooling



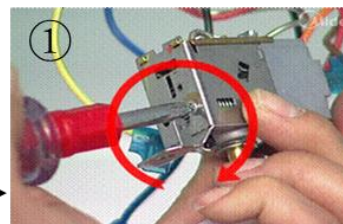
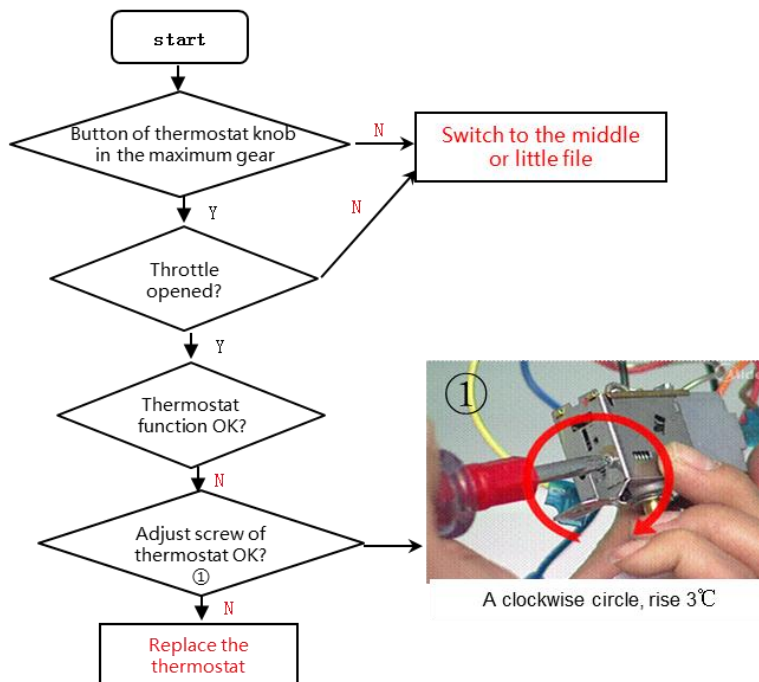
11.2 Not working of compressor

No working of compressor



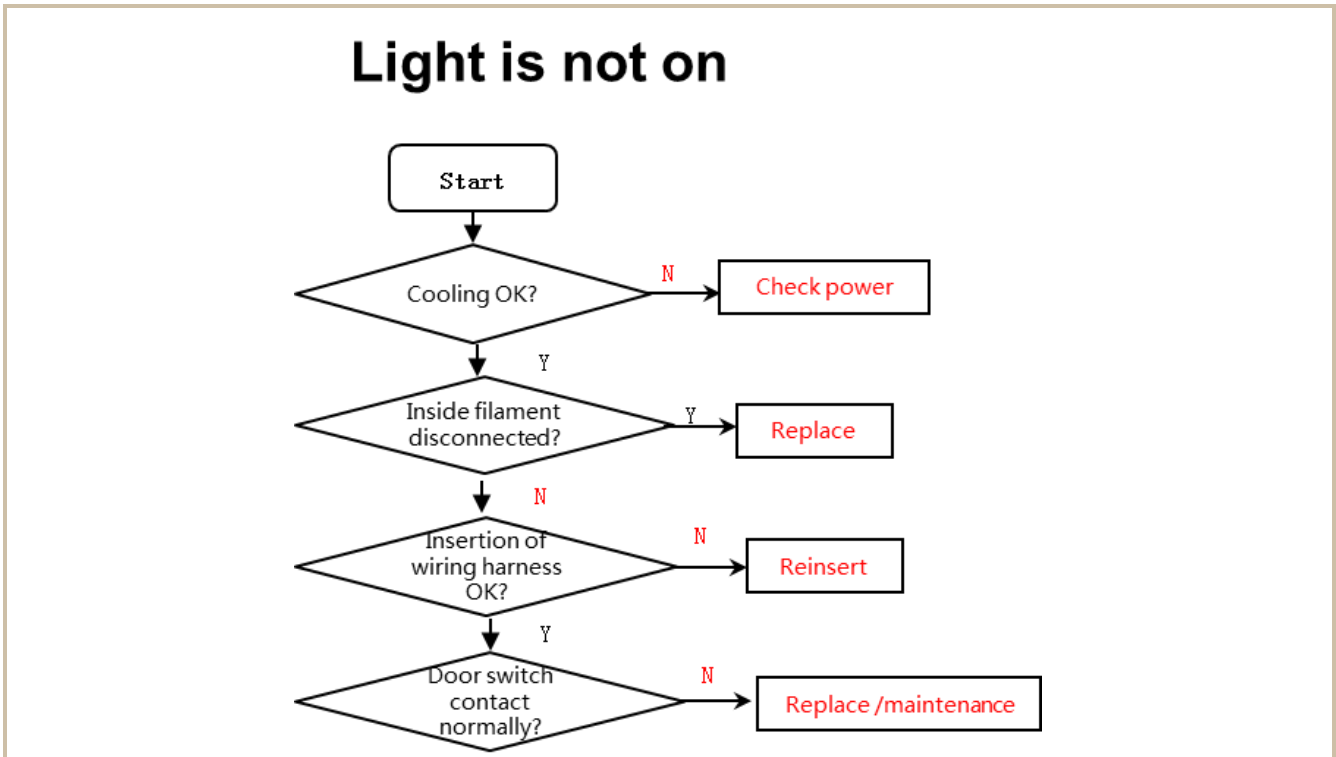
11.3 Thermostat malfunction-Undercooling

Thermostat malfunction-Undercooling

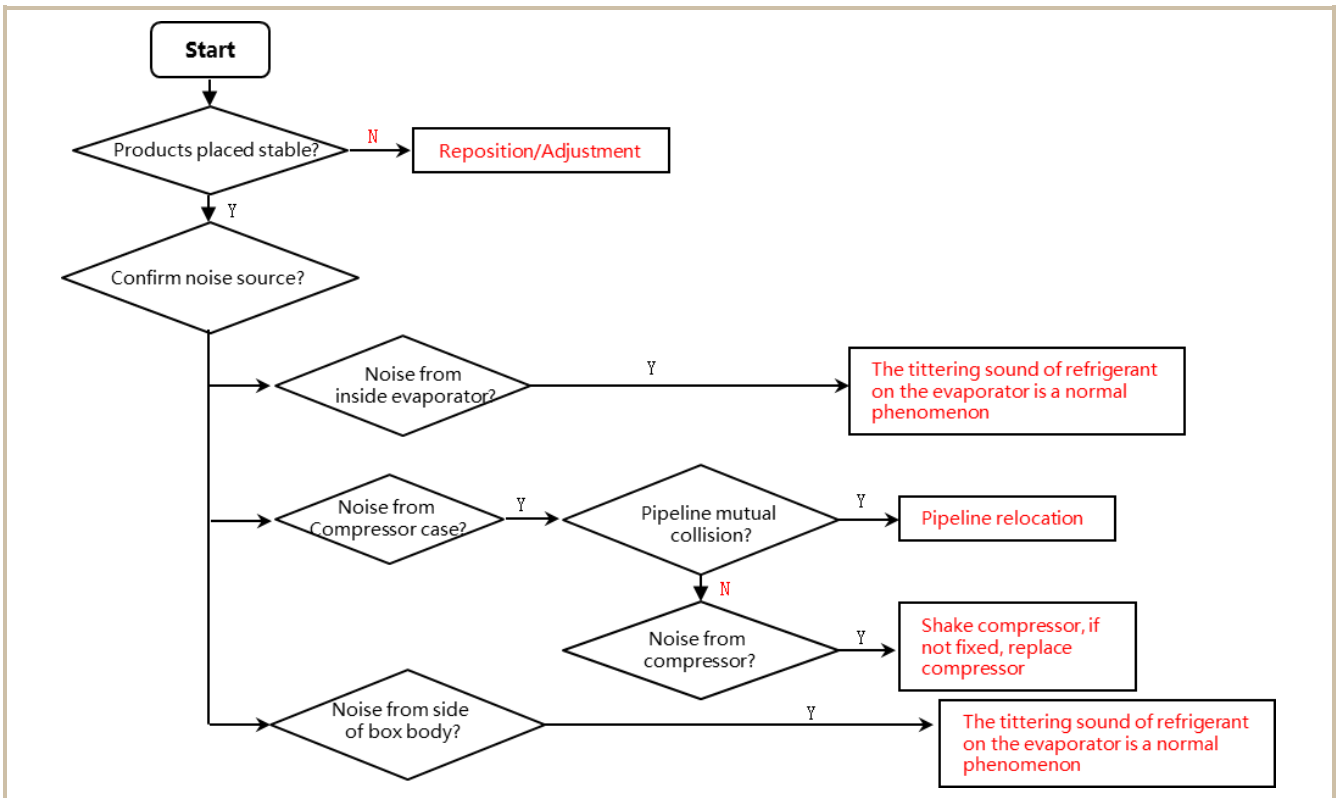


A clockwise circle, rise 3°C

11.4 Light is not on



11.5 Noise



12. Figures and details of repair parts

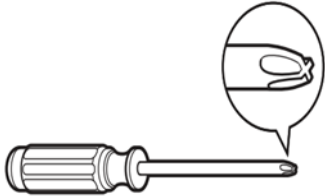
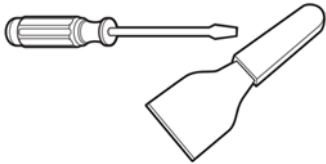
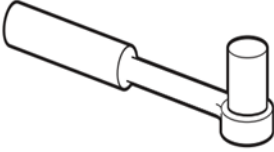


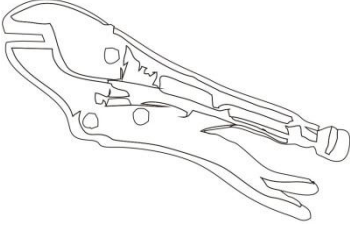
(Documents are provided separately)

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	



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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