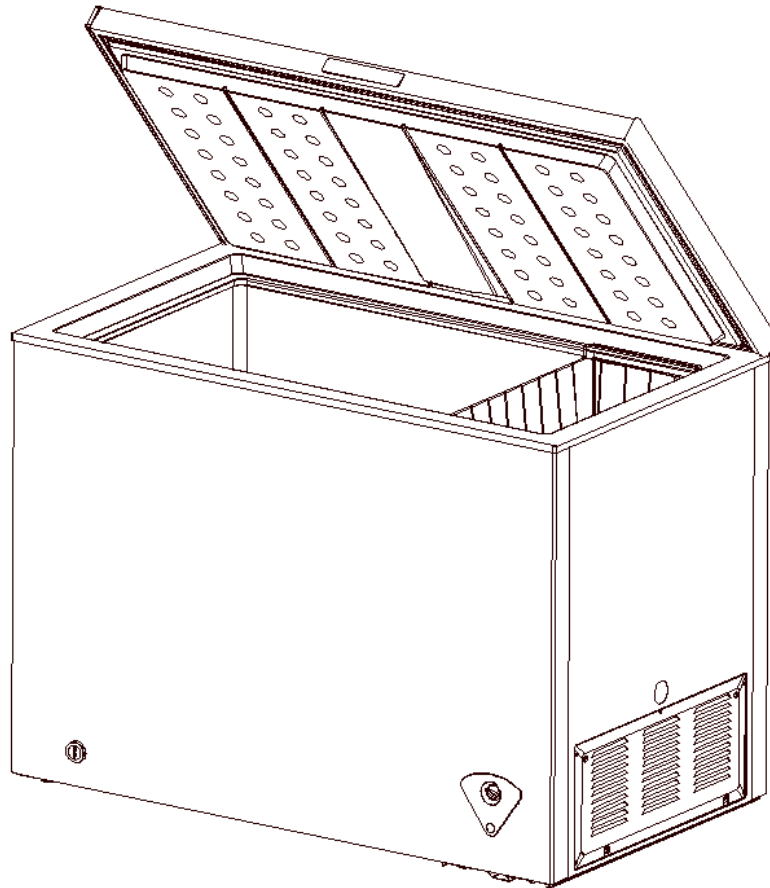


Service Manual

CHEST FREEZER SERIES

Applicable Models	Model Code	Applicable Models
HS-186CN	UR-BD143-SQ	22032010003884




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

This manual mainly teaches the method, the specific work skill needs engineer to accumulate through the daily work.

 **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. Significant update notes(None)

2. Safety Warning Code

2.1 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.

2.2 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

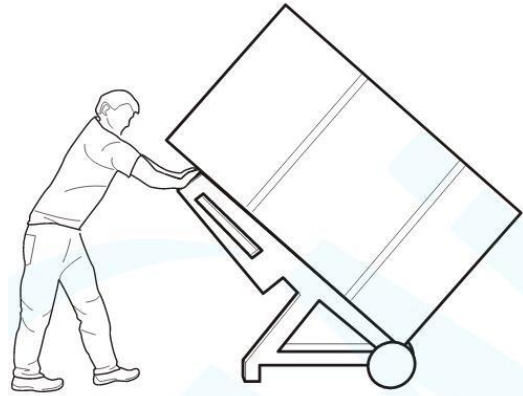
DANGER—Risk of Fire or Explosion. Flammable Refrigerant Used. To Be Repaired Only By Trained Service Personnel. Do Not Use Mechanical Devices. Do Not Puncture Refrigerant Tubing. CAUTION—Risk of Fire or Explosion. Flammable Refrigerant Used. Consult Repair Manual/Owner's Guide Before Attempting To Service 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.

3. Transport

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.



4. Installation and commissioning

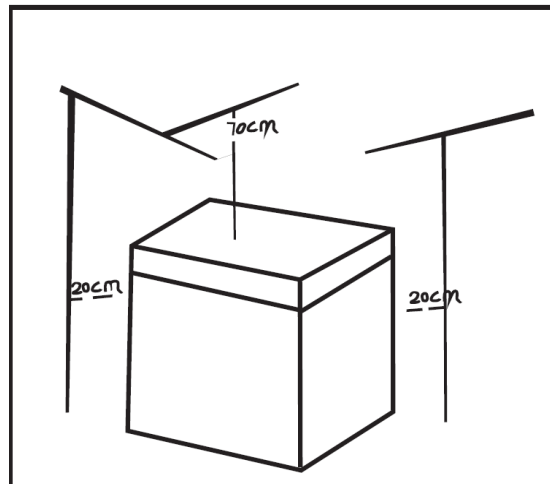
4.1 Door Disassembly and Assembly(None)

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

4.2 Installation location

Installation location

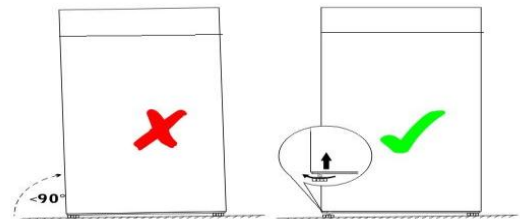
Location that is easy for ventilation shall be chosen to facilitate heat dissipation, enhance its performance and reduce the energy consumption.



4.3 Leveling of the refrigerator

Leveling of the refrigerator

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



4.4 Installation of handle

Installation of handle

1- Handle

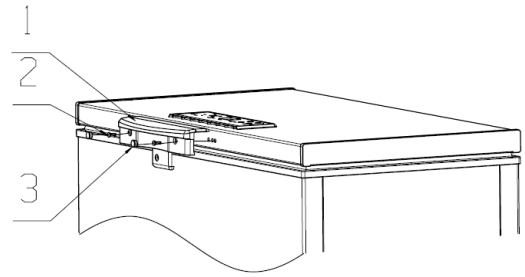
2- M5*14 screw(two)

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.

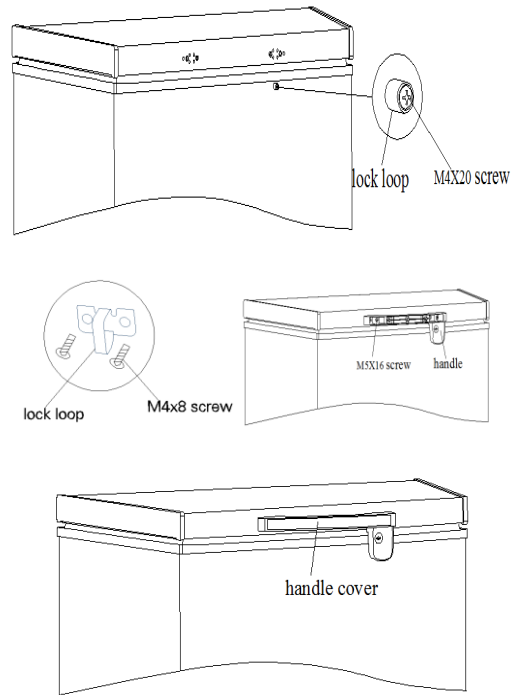
3) Assemble the screw hole cover onto the screw hole.



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



4.5 Installation of door lock (None)

Installation of door lock

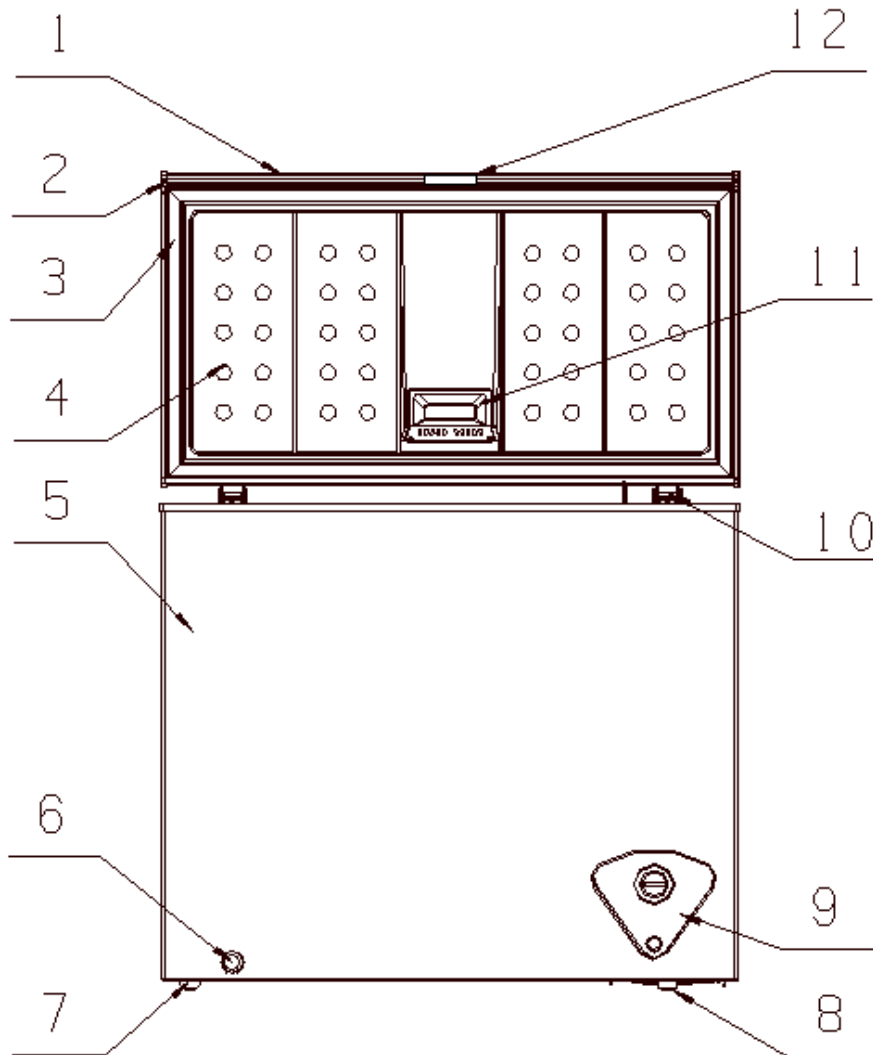
Installation of door lock

With the door handle together

5. Product configuration and dimension

5.1 Main parts and their names

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



Freezer chamber

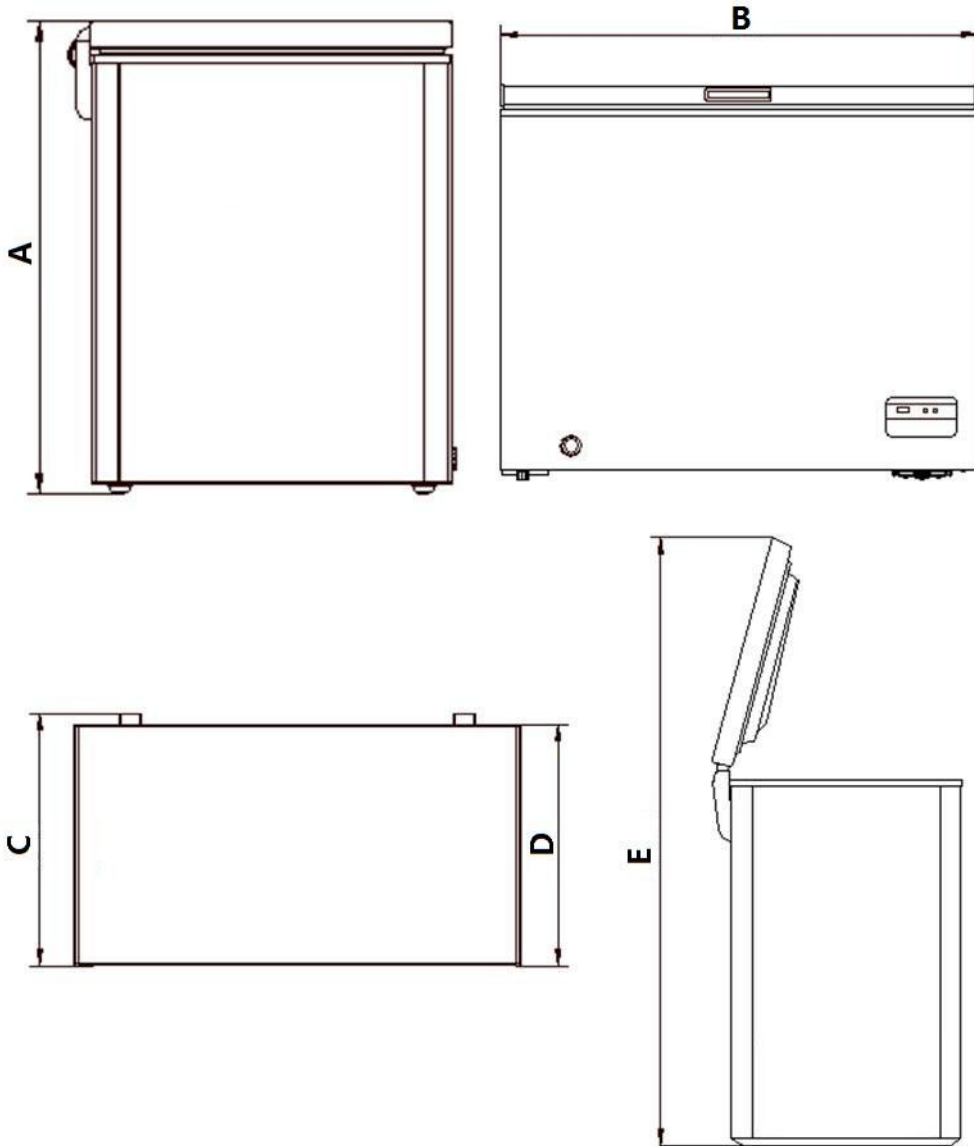
Refrigerator chamber

- ① Door shell
- ② The door end cover
- ③ Door gasket
- ④ Door liner
- ⑤ Cabinet assembly
- ⑥ Drain-pipe cover

- ⑦ Levelling feet
- ⑧ Compressor mounting panel
- ⑨ Temperature-control panel
- ⑩ Hinge
- ⑪ Lamp cover
- ⑫ Door handle

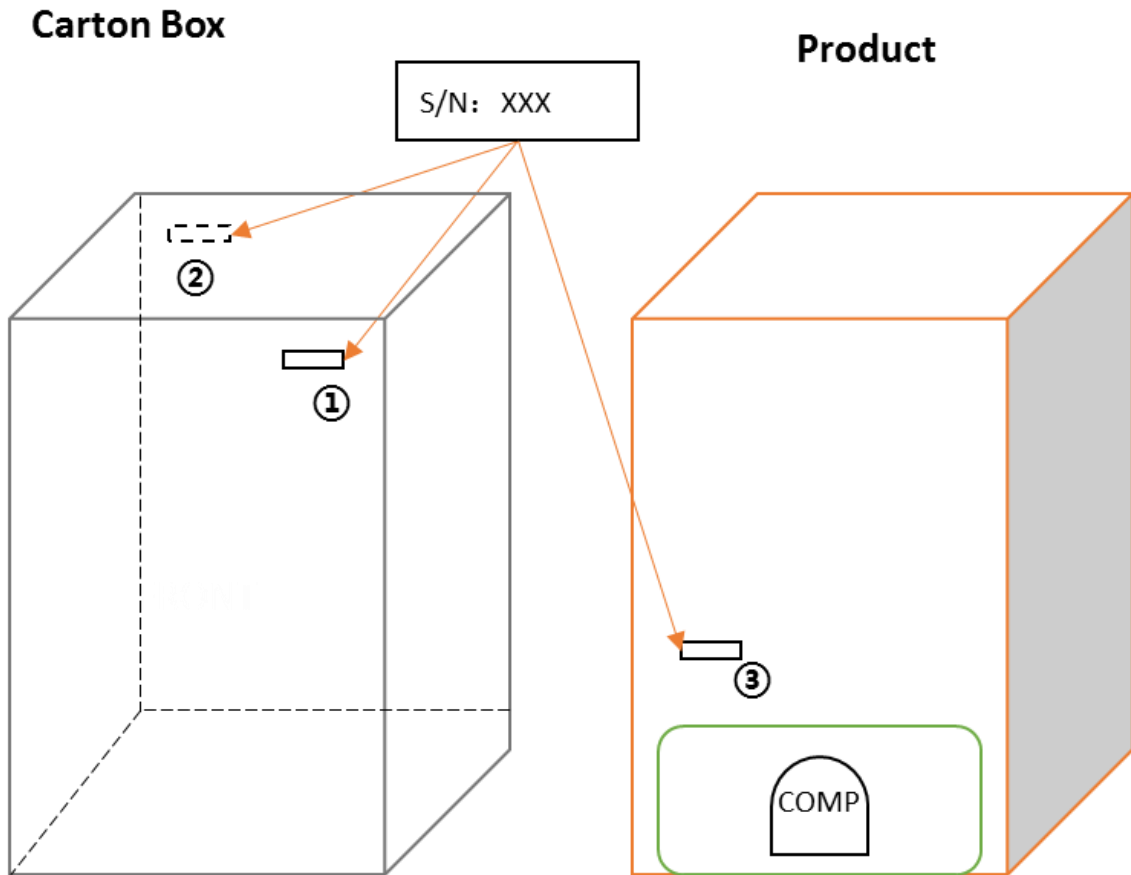
5.2 External dimension

Description	Code	Size (mm)
Height to Top of Case	A	850
Width	B	635
Depth/Hinge	C	550
Depth	D	535
Height (Door open)	E	1032



(The picture is only for reference)

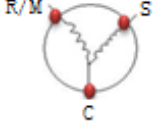
5.3 Location of S/N



Some products also have S/N on the lower part of the right side of the Cabinet.

6. Product specification

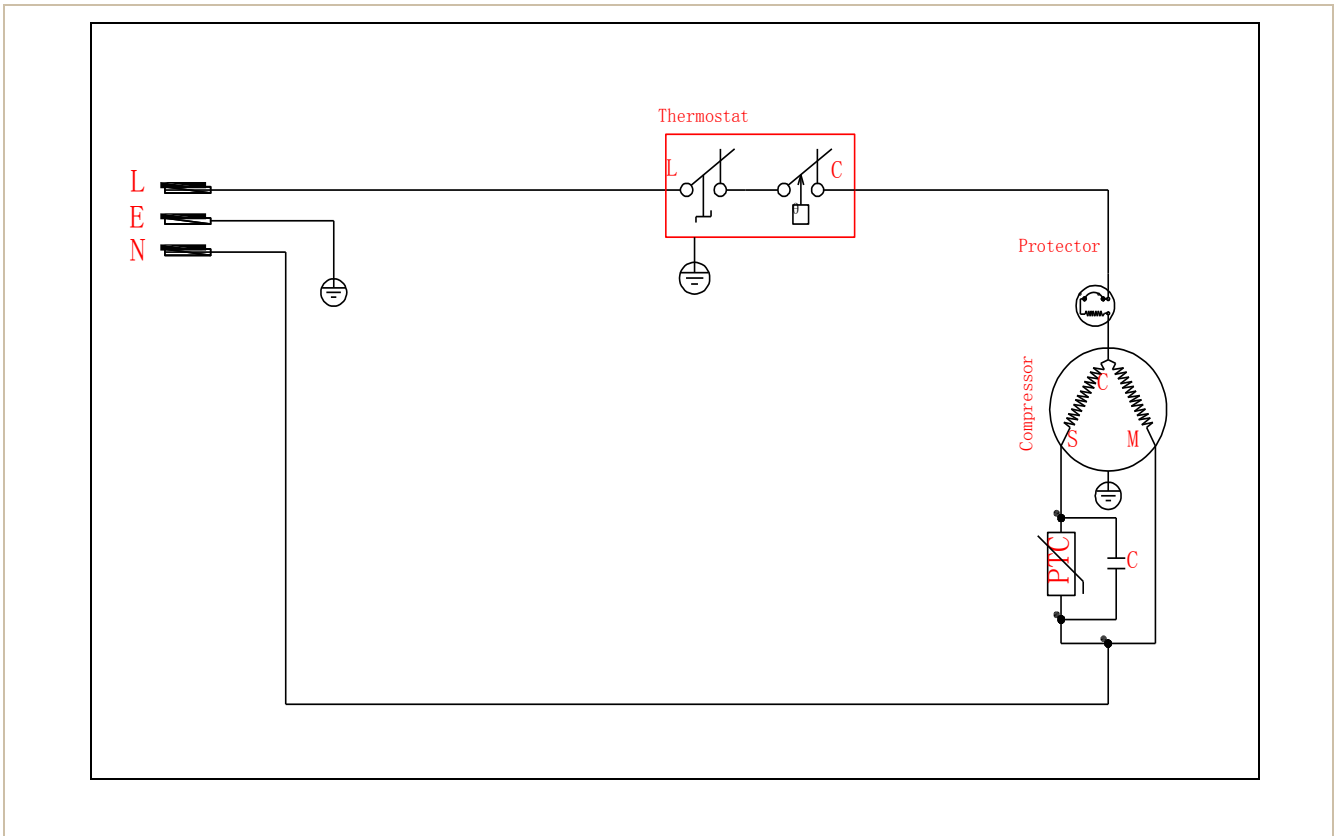
6.1 Electrical parameters

Applicable Models	HS-186CN
Product Name	UR-BD143-SQ
Product Code	22032010003884
Item	Specification
Refrigerant	R600a
Compressor	EZ59E1A
Starter(PTC)	QP2-4R7
Overload protector(OLP)	DRB28R61A1
Integrate PTC+OLP	None
Variable frequency driver board	None
Capacitor	8uf
Winding resistance of compressor wiring terminal	R _{mc} :7.86±7%Ω R _{sc} :7.24±7%Ω R _{ms} =R _{mc} +R _{sc}
Winding resistance picture	
The input power of compressor	64.1W
Door lamp	<10W
Indicator lamp	Power+run+Fast freeze
Switch of the refrigerator door	<input checked="" type="checkbox"/> Mechanical switch <input type="checkbox"/> Magnetism control switch

6.2 Cooling temperature setting range

Compartment	The highest (°C)	Lowest (°C)
Freezing	-12	-28
Refrigerating	/	/

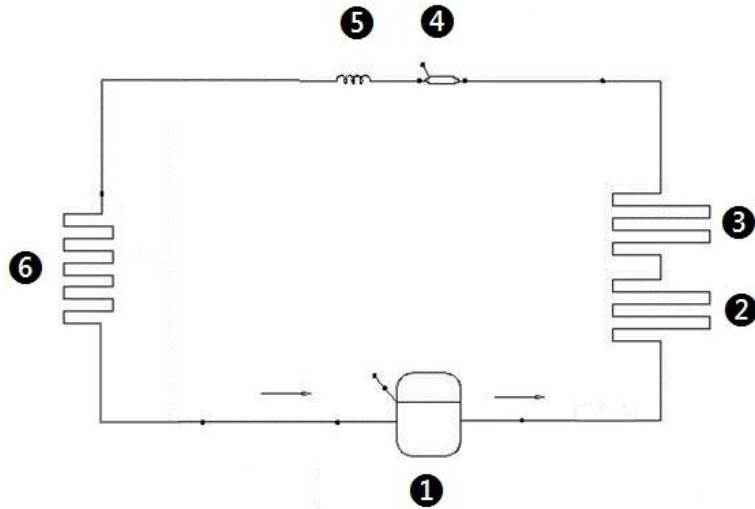
6.3 Circuit diagram



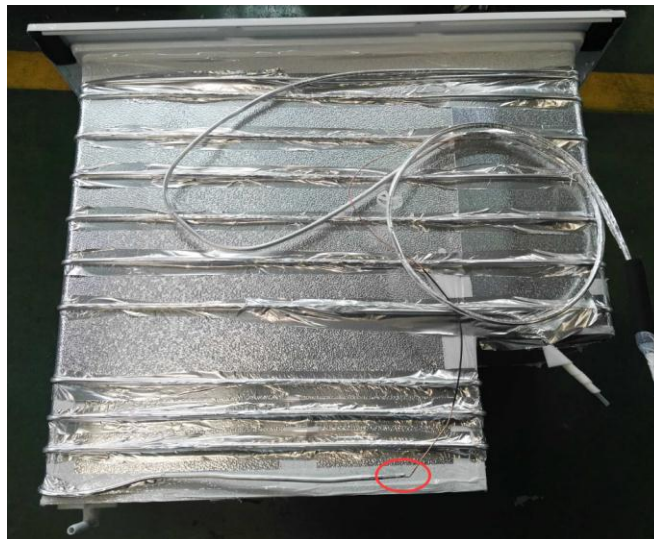
7.Refrigerating piping system and circulating route of cooling air

7.1 Refrigerating piping system

① Compressor→② Back hanging wire tube condenser→③ Front condenser→④ Dry filter→⑤ Capillary tube→⑥ Evaporator

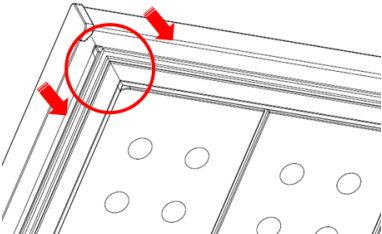
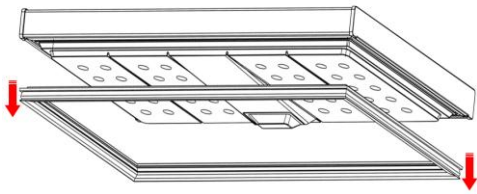
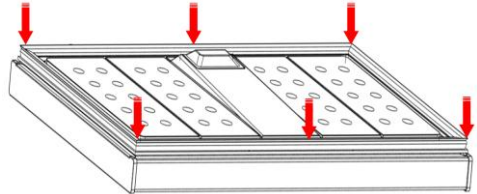
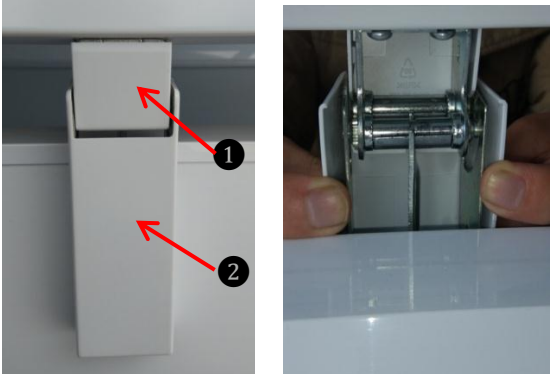



7.2 Special soldering position



8. Dismantling of parts

8.1 Parts on the door

Door seal	
<p>1) Pull the door seal from the corner</p>	
<p>2) Take efforts until door seal totally detaches from door inner liner groove, remove the door seal</p>	
<p>3) Fixing the four corners and pressing smoothly.</p>	
The hinge cover	
<p>The hinge cover teardown</p> <p>1) Strongly apart a proper angle with your hands along the side wall of the lower hinge cover when the refrigerator door is open to separate the hinge cover boss from the hinge hole and outwardly remove the lower hinge cover. ① ② Note: ① represents the upper hinge cover, and ② represents the lower hinge cover.</p>	
<p>2) Remove the upper hinge cover in the same way. Then both the lower and upper hinge covers are all removed.</p>	

The hinge cover install

1) Apart a proper angle with your hands along the side wall of the lower hinge cover when the refrigerator door is closed, align to the side wall of hinge and push forward until the hinge cover boss is fully and correctly inserted into the hinge holes;

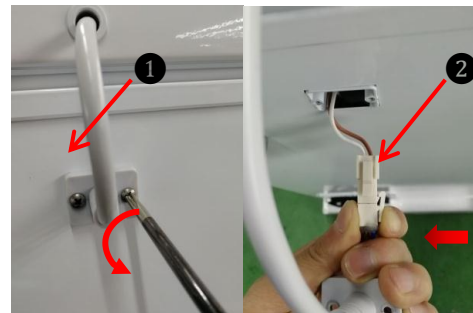


2) Hold the side of hinge cover with your hands, align the opening to the side wall of hinge and push downward until the hinge cover boss is fully and correctly inserted into the hinge holes. Then the upper and lower hinge covers are all installed in place.



Door lamp line

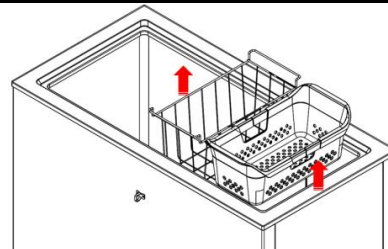
1) Remove the two screws;
2) Press the clip with your hand to disconnect the block terminal and separate the wiring harness **①②**Note: **①** represents the door lamp line; **②** represents the wiring harness connecting the refrigerator.



8.2Parts inside the refrigerator

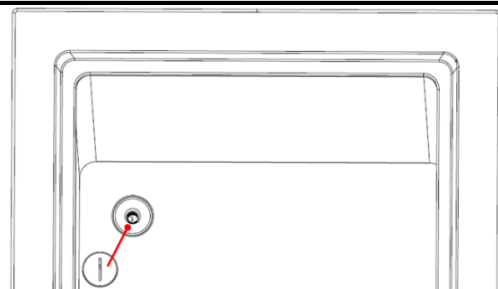
Basket

Open the door and upwardly lift the basket Note: There are plastic baskets and wire baskets, and the basket we offer you is subject to the real product you received.



Inside water pipe cover

Counterclockwise to remove the pipe cover



8.3 Light system

Door lamp

Door lamp disassembly

1) Open the refrigerator door to dismantle the lamp cover; Note: There are two kinds of door lamps, namely, incandescent lamp and LED lamp, and what is shown in the picture is the incandescent lamp.



2) Screw off the screws to remove the incandescent lamp holder or LED lamp panel; Note: The incandescent lamp is shown in the left picture, and the LED lamp is shown in the right picture, which is mounted on the mounting panel.



3) Screw the lamp off the holder (or remove the LED lamp panel).



Pilot light

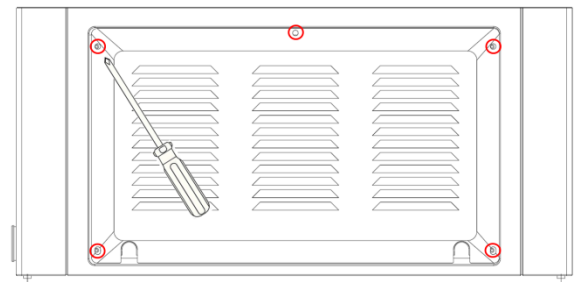
Pilot light

POWER+RUN+PAST FREEZE

8.4 Compressor case

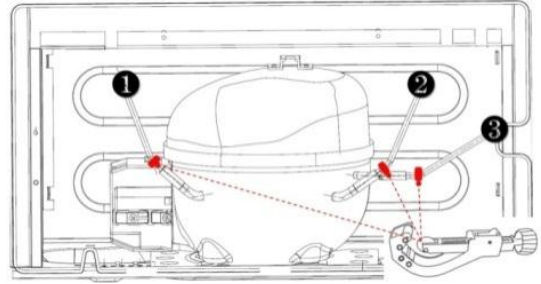
shutter

Pull down the screw, open the shutter.



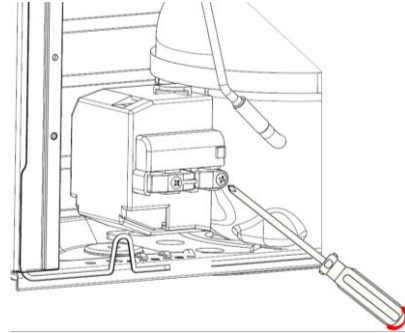
Compressor and the cooling system pipe

1) 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.



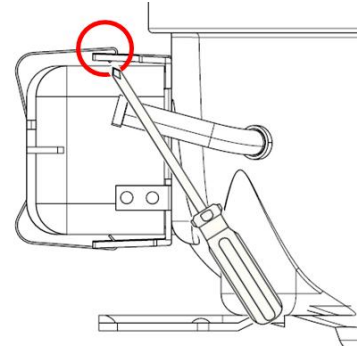
2-1) **Remove the screws(for some models)**

- Two screws outside
- One screw inside



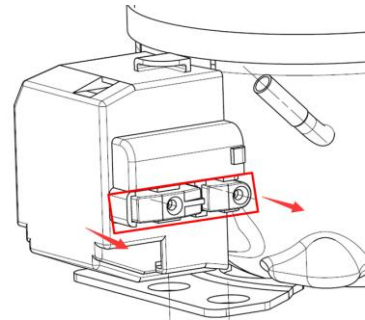
2-2) **Remove the metal clamp(for some models)**

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



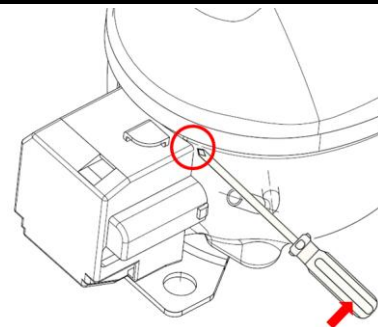
3) **Remove the clipping strip**

Slowly pull it out



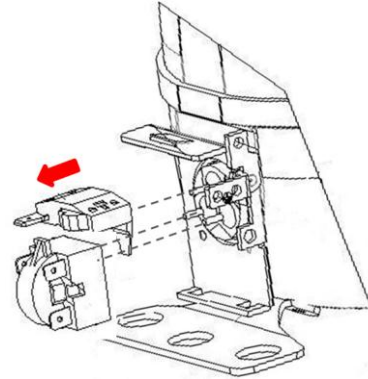
4) **Remove the protective cover**

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

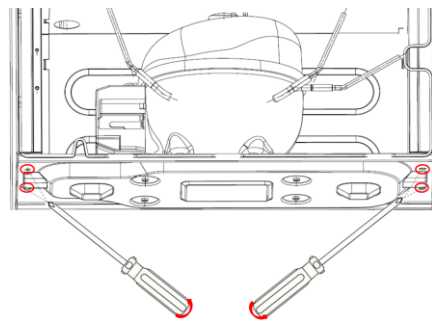


5) **Remove the starter and protector**

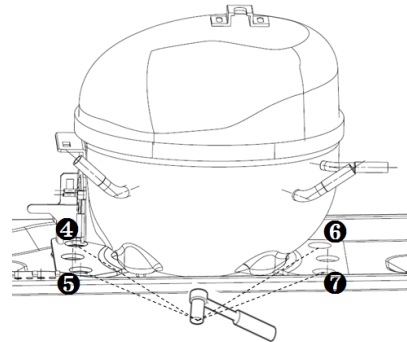
Unplug the starter and protector (you can use a screwdriver to pry it slowly)



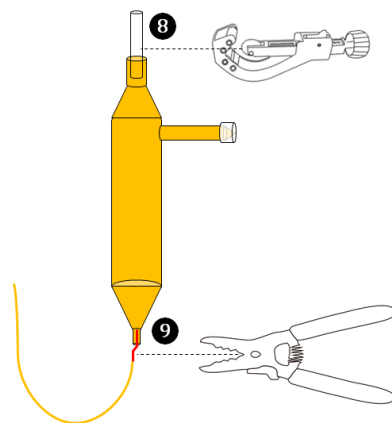
6) Loosen the screw of the compressor bottom plate, remove the floor together with the compressor from the box.



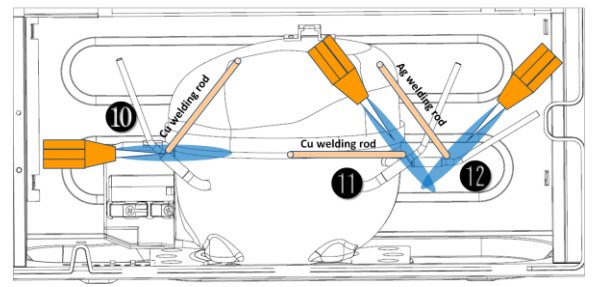
7) Use the wrench to remove the bolts by steps ④ ⑤ ⑥ ⑦, replace the compressor and reverse process can complete installation.



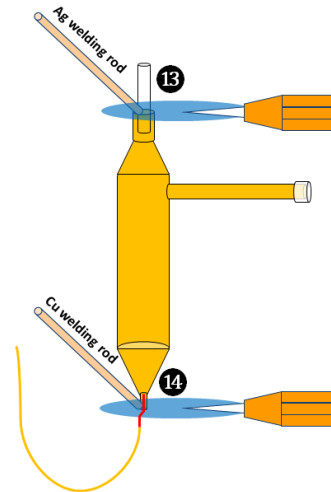
8) Use Pipe cutter cut off the condenser tube ⑧, then Shear off capillary ⑨ by the capillary tube scissors.



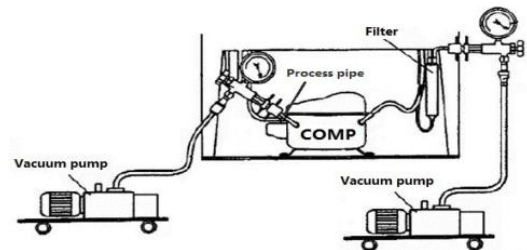
9) Replace the compressor and welding the compressor pipeline.-**10**Welding the process pipeline.-**11**Welding the low-pressure muffler.-**12**Welding the high-pressure exhaust pipe.



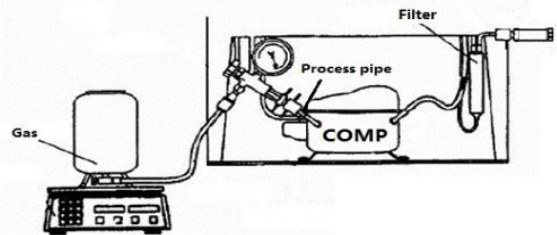
10) Replace the filter, Cu-Fe tubes welding **13** used Ag welding rod, Cu-Cu tubes welding **14** used Cu welding rod.



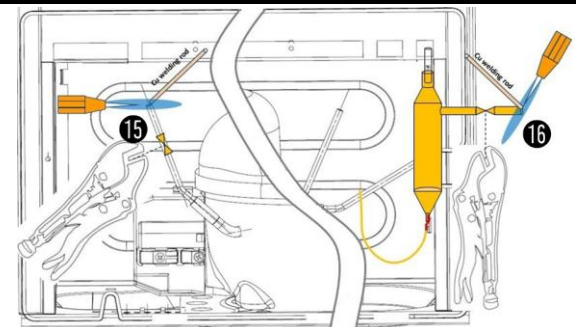
11) Vacuum system, The degree of vacuum below 6Pa.



12) Perfusion refrigerant.



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



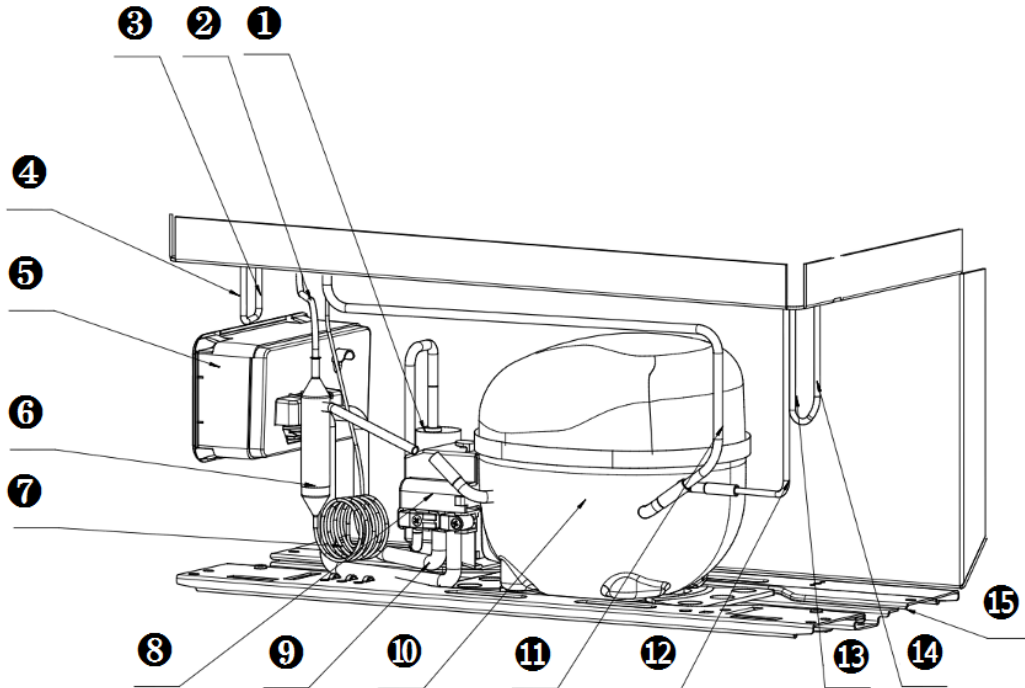
Piping system in the compressor case

1 Capacitor

10 Compressor

- ② -1 Front condenser pipeline-1
- ③ -2 Hanging wire condenser pipeline-2
- ④ -1Anti-dew pipe-1
- ⑤ Temperature-control box assembly
- ⑥ Drying filter
- ⑦ Capillary
- ⑧ Protective cover
- ⑨ Wires

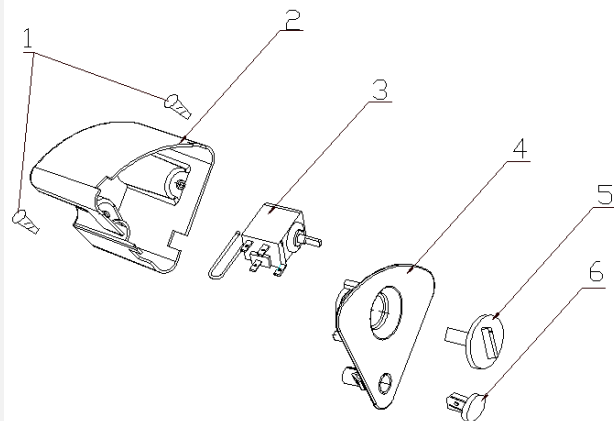
- ⑪ Suction Pipe
- ⑫ -1 Hanging wire condenser pipeline-1
- ⑬ -2 Front condenser pipeline-2
- ⑭ -2Anti-dew pipe-2
- ⑮ Compressor Assembly Board








8.5 Temperature-control box assembly

Temperature-control box assembly

- | | |
|--|--|
| <ul style="list-style-type: none"> ① screw ② Temperature-control box ③ Thermostat | <ul style="list-style-type: none"> ④ Temperature-control panel ⑤ TEMP. control knob ⑥ Indicator light |
|--|--|



Destuffing

<p>1) Pull down the screw, open the shutter.</p>	
<p>2) Pull out the temperature probe from the temperature tub</p>	
<p>3) Hold two tabs on the back cover of temperature-control box to remove the components</p>	
<p>4) Use screwdriver to remove the two screws</p>	
<p>5) Separate the temperature-control box from the panel</p>	

6) Pull out the control knob



7) Pull out the fixed nut of the thermostat



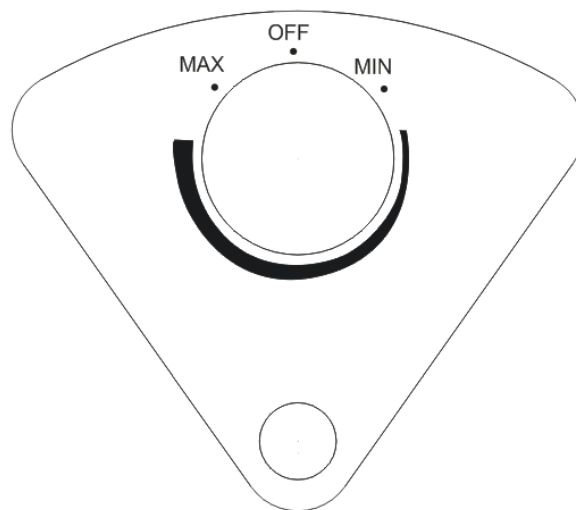
8) Pull out the wiring harness and indicator light. remove the indicator light and thermostat, the reverse operation is for assembly



9. Function and operation

9.1 Operation panel

Icons	Button
Power	freezer—super super cooling



9.2 Temperature control

- 1.The temperature of the chamber is adjusted through the thermostat knob, Clockwisely rotate the thermostat knob and the interior temperature will decrease .Rotate to “MIN” gear and interior temperature will increase ; Rotate to “MAX” gear and interior temperature will decrease.
- 2.“OFF”stands for inoperation

9.3 High temperature an alarm (None)

9.4 Defrosting function

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. Compressor

10.1 Compressor on and off Control specifications

1.1 When one of the following conditions is met, the compressor stops:

- 1) $T_r \leq T_{rt}$;
- 2) The compressor runs continuously for more than 3 hours (Stop 5 minutes);

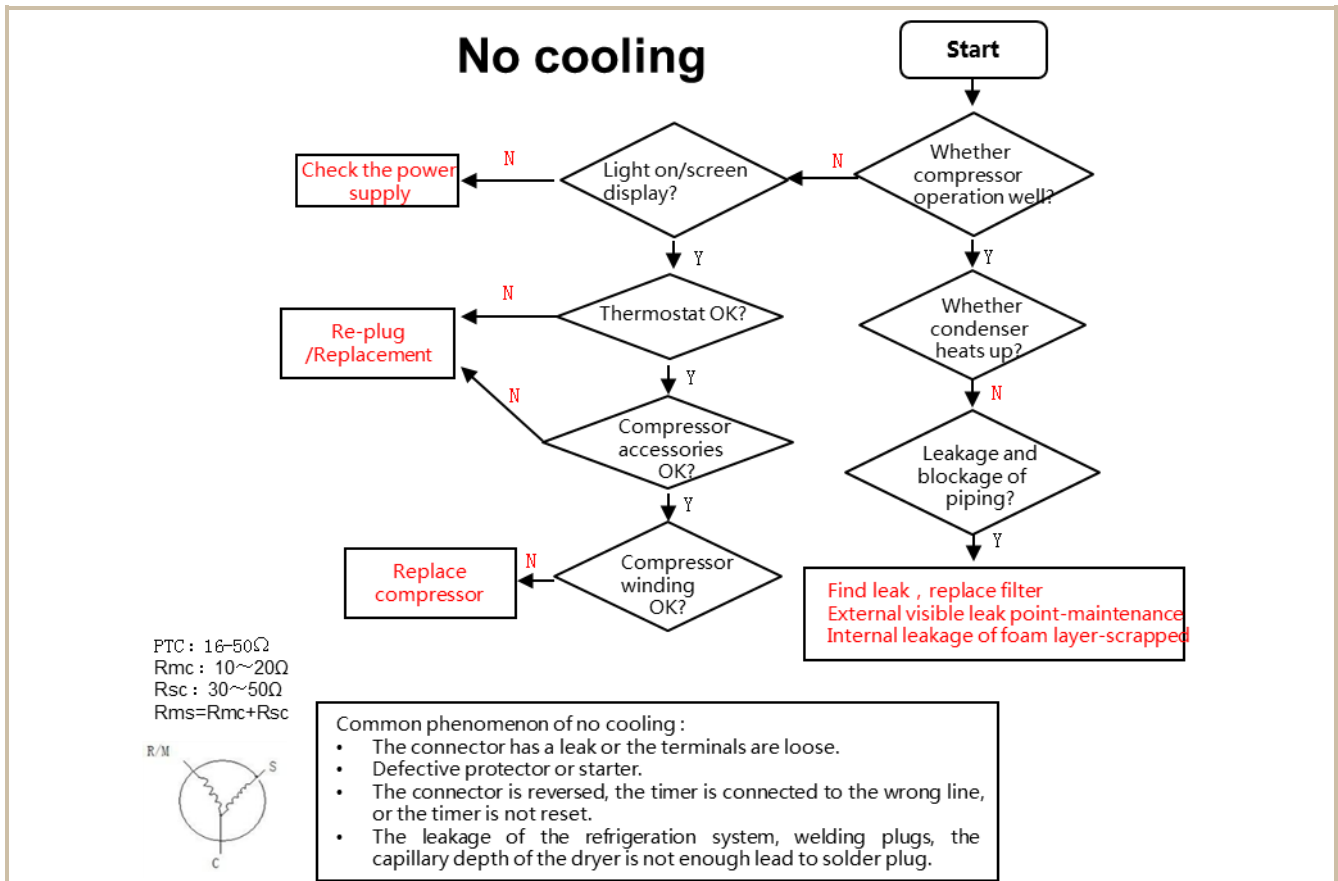
1.2 When all the following conditions are met, the compressor starts up:

- 1) $T_r \geq T_{rk}$;
- 2) Compressor downtime is more than 5min.

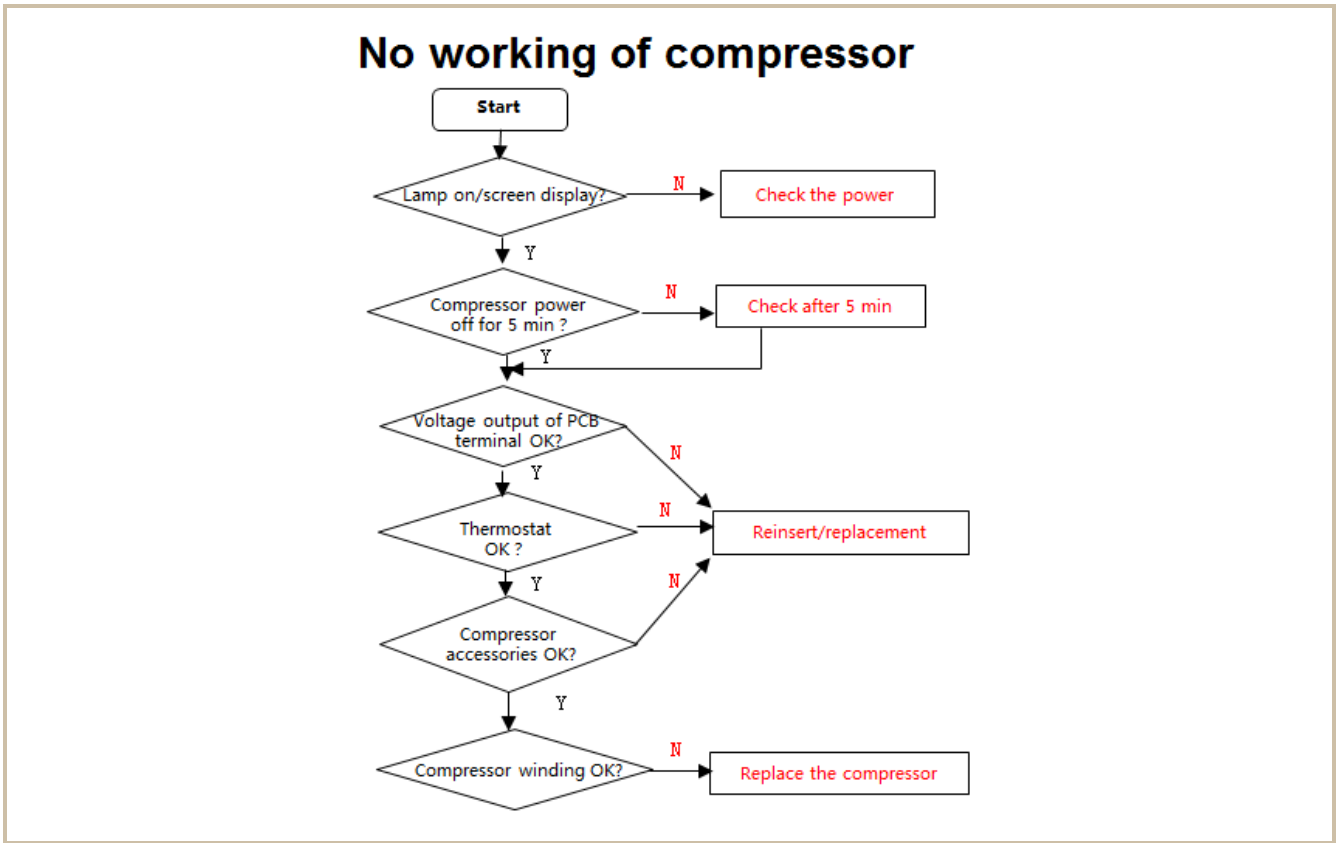
★When 1.1 and 1.2 are not satisfied, the compressor maintains the original state

11. Troubleshooting Method

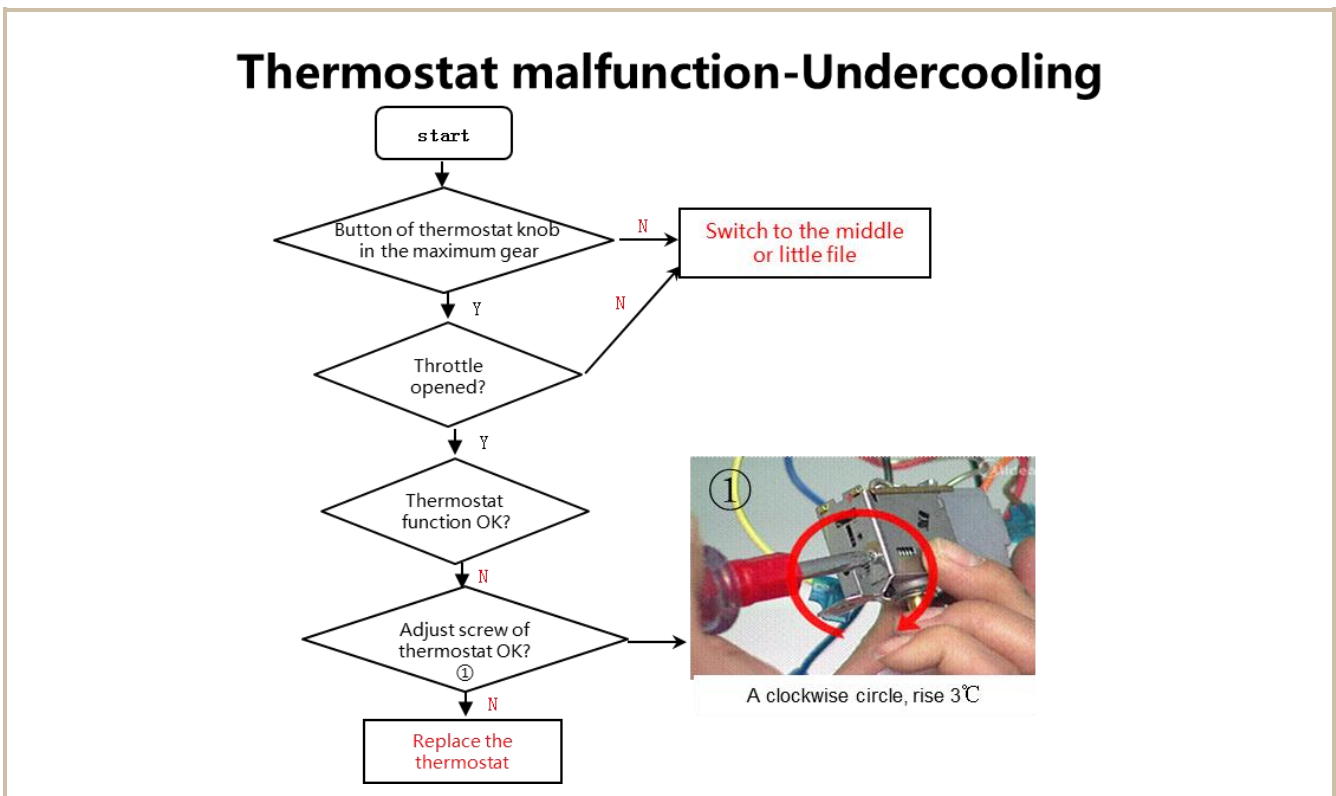
11.1 Not cooling



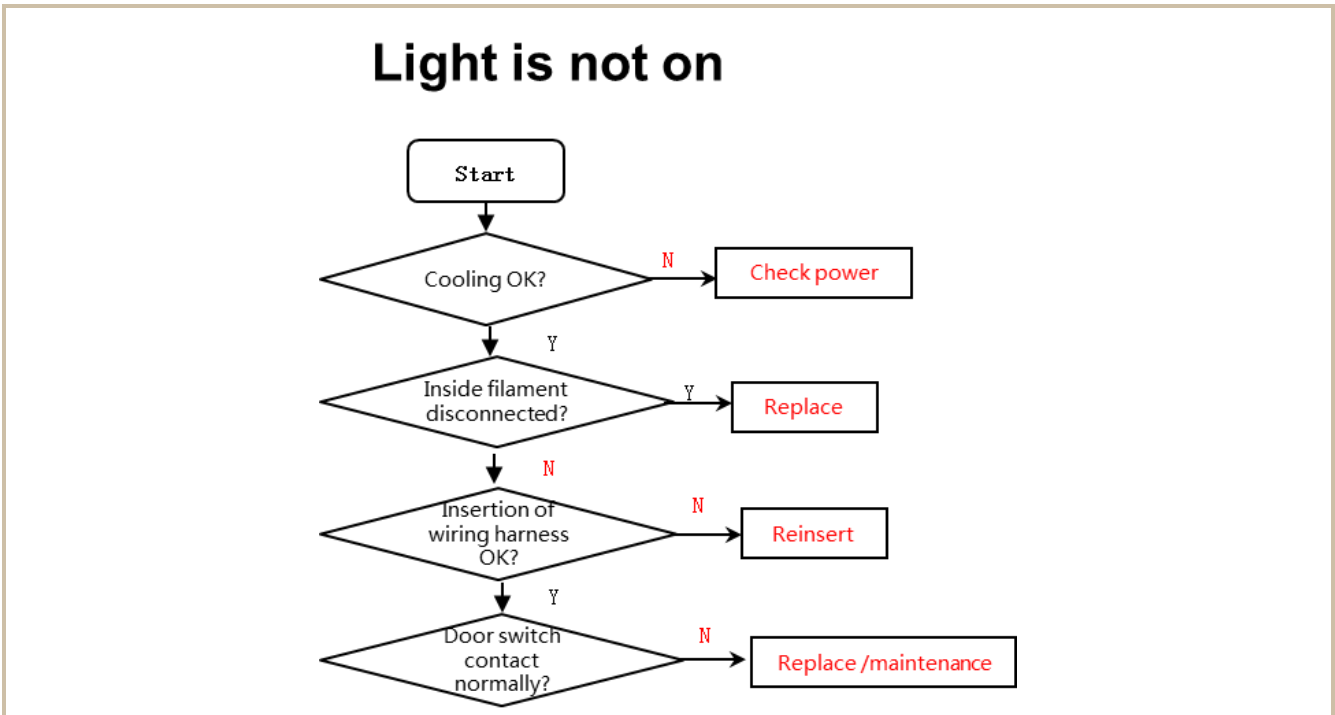
11.2 No working of compressor



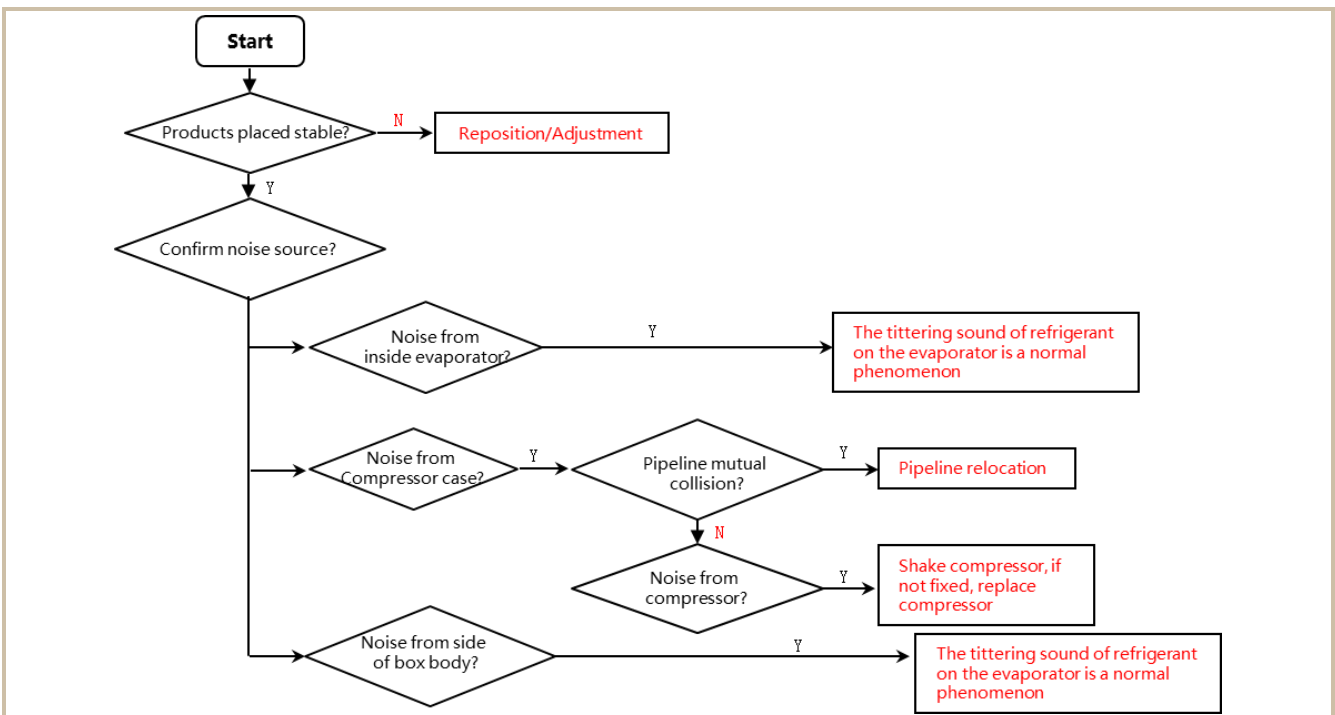
11.3 Thermostat malfunction-Undercooling



11.4 Light is not on



11.5 Noise



13. Figures and details of repair parts

See this section in the TSP.

Entry Guidelines (TSP System)

■ Where

Chrome


<https://tsp.midea.com>

■ How

- Midea user: Same as your [MIP](#) account & password.
- Overseas customer:

Account: Generated by TSP (provided by administrator).

Each customer have a code in Midea Group, G/E + seven numbers.

If you buy different categories from Midea group, you can see all the product information by one account.

Password: abcd1234 (please revise after login in).

If the input error more than 5 times, account will be locked, need the administrator to unlock.



Admin team:

REF: Jamie Liu(liujc5@midea.com)

IT: Martin He(dingding.he@midea.com)



**ON LINE
ANY TIME
ANY WHERE**



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**

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