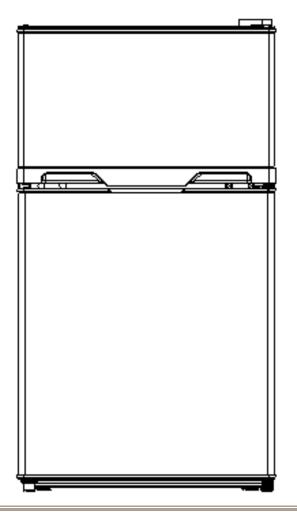


Service Manual

COMBI SERIES

Applicable Models	Model Code	Applicable Models
HD-113FN	CE-BCD87CM-SQ	22031020005421
HD-113FN	UR-BCD87CM-ST	22031020005301



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

A WARNING Electrical Shock Hazard.

Plug into a grounded 3-prong outlet. Do not remove the ground prong.

Failure to follow these instructions can result in death, fire, or electrical shock.

Do not use an adapter.

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.

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

A 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 Container transport

	515*550*875			
Container specification(LWH):	40HQ(12.032*2.352*2.690)m			
	What floor	QTY	Door direction	Cabinet direction
	1 st floor	<mark>69</mark>	Outside	/
Container acheme and	2 nd floor	<mark>69</mark>	Outside	/
Container scheme, and Container QTY:	3 rd floor	<mark>69</mark>	Outside	/
Container QTT.	4 th floor	<mark>42</mark>	Outside	
	5 th floor	<mark>42</mark>	Outside	
	Total	<mark>291</mark>		
Container diagram Vertical placement Lie down and placement Right Side Door				

container.



3.2 Handling

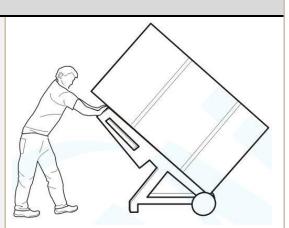
Handling

1)Protect the refrigerator in moving it,Same as shown as lef

t photo, please move it by handcart with cushion

2)Remove all packing materials and bottom cushion, the m ove into house for placement

3)After moving it to appropriate location, wait for 2 hours bef ore power on.





4. Installation and commissioning

4.1Door Disassembly and Assembly (None)

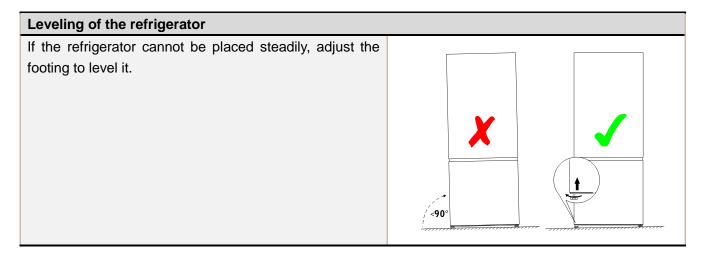
The refrigerator door needs to be dismantled if it cannot enter the room in the whole.

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

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.	300mm 100mm 100mm

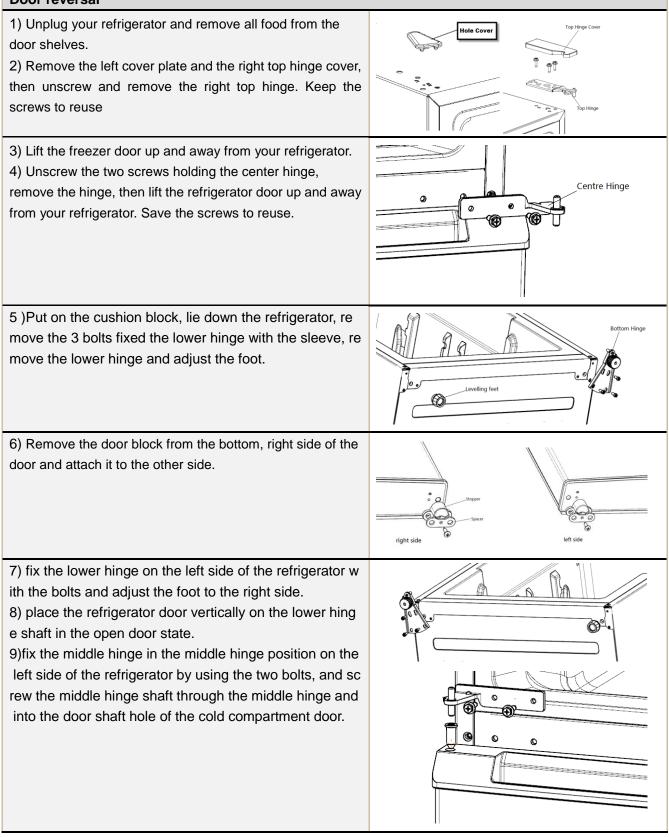
4.3 Leveling of the refrigerator





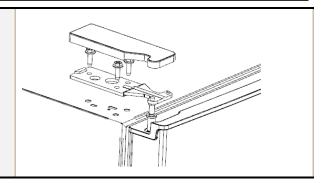
4.4 Left or right open door reversal

Door reversal

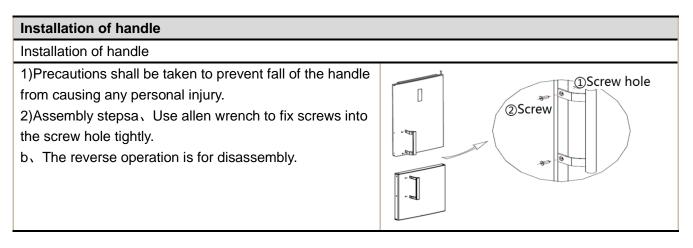




10)Put the freezer door onto the center left hinge, then attach the top left hinge to the top of refrigerator. Cover the hinge with the top left hinge cover and cover the screw holes on the right side of the top with the cover plate you previously removed.



4.5 Installation of handle



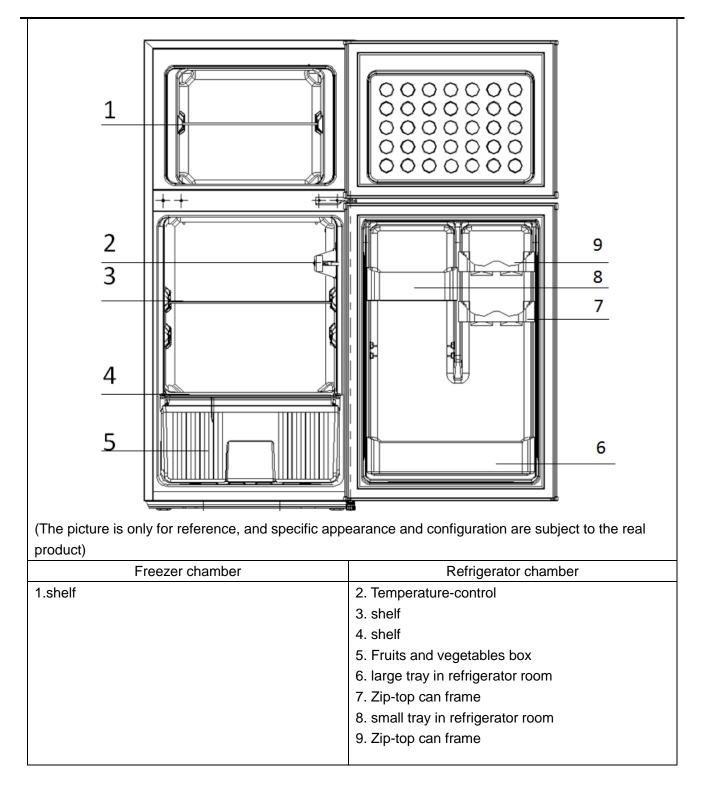
4.6 Installation of door lock (None)





5. Product configuration and dimension

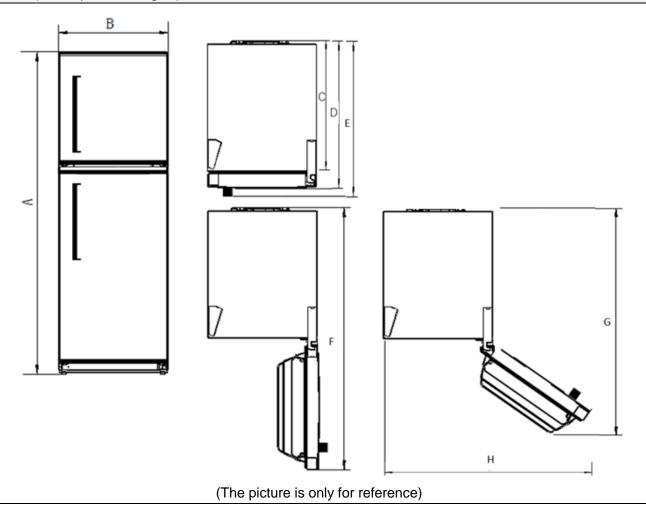
5.1 Main parts and their names





5.2 External dimension

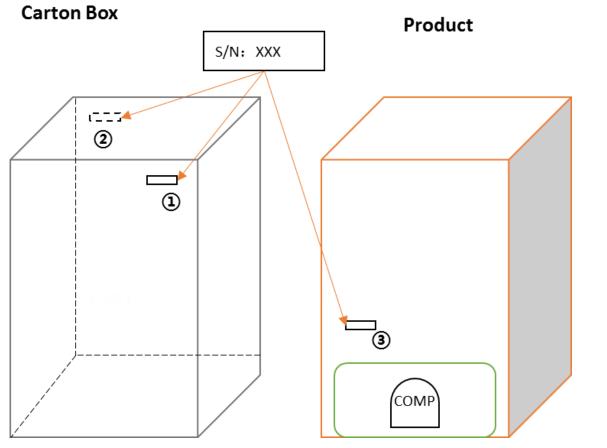
Description	Code	HD-113FN Size (mm)	
Height to Top of Case	A	837	-
Width	В	470	
Depth w/Cabinet	С	492	
Depth w/Door	D	445	
Depth w/Handle	E	506	
Depth (Door open 90 deg. w)	F	980	
Depth (Door open 145 deg. w)	G	678	
Width (Door open 145 deg. w)	Н	913	





Some

5.3 Location of S/N



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



6. Product specification

6.1 Electrical parameters

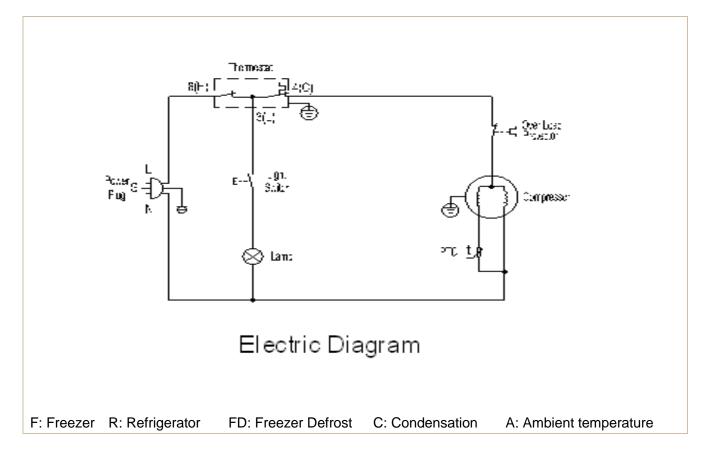
Applicable Models	HD-113FN	HD-113FN	
Product Name	CE-BCD87CM-SQ	UR-BCD87CM-ST	
Product Code	22031020005301	22031020005421	
ltem	Specification	Specification	
Refrigerant	R600a	R600a	
Compressor	SZ45C1M	FZ35C1M	
Starter(PTC)	QP2-15	QP2-4R7	
Overload protector(OLP)	DRB18T61A1	DRB18T61A1	
Integrate PTC+OLP	None	None	
Variable frequency driver board	None	None	
Capacitor	None	None	
Power filter	None	None	
Winding resistance of compressor wiring terminal	Rmc: 52.3±7%Ω Rsc: 16.4±7%Ω Rms=Rmc+Rsc	Rmc: 13.7±7%Ω Rsc: 13.7±7%Ω Rms=Rmc+Rsc	
Winding resistance picture	R/M S	R/M S	
The input power of compressor	53W	53W	
Lights inside the refrigerator			
Lights inside the freezing chamber	None	None	
Lights inside the refrigerating chamber	220-240V/10W	115V/10W	
Switch of the refrigerator door	■Mechanical switch □Magnetism control switch	■Mechanical switch □Magnetism control switch	

6.2 Cooling temperature setting range

Compartment	The highest (°C)	Lowest (°C)
Freezing	-12	-26
Refrigerating	10	1
Variable temperature	/	/



6.3 Circuit diagram

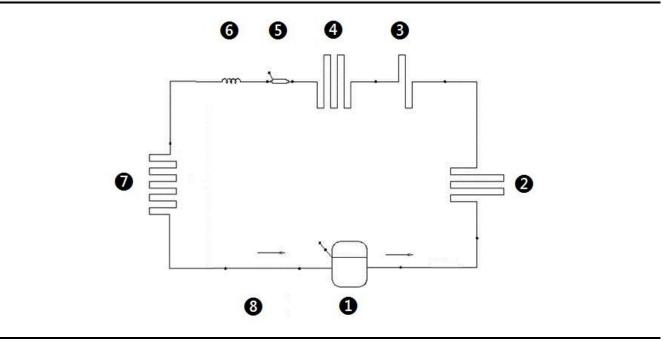




7.Refrigerating piping system and circulating route of cooling air

7.1 Refrigerating piping system

 $\begin{array}{l} \textcircled{1} Compressor \rightarrow \textcircled{2} Left condenser \rightarrow \textcircled{3} Anti-condensation tube \rightarrow \textcircled{4} Right Condenser \rightarrow \fbox{5} Dry \\ filter \rightarrow \textcircled{6} Capillary tube \rightarrow \textcircled{7} Evaporator \rightarrow \textcircled{3} Suction tube \rightarrow \textcircled{1} Compressor \\ \end{array}$





7.2 Special soldering position





8. Dismantling of parts

8.1 Parts on the door

Door seal

Door seal is installed into door liner groove.

- 1) Open the refrigerator door.
- 2) Take the door seal ① out of door liner.



Door tray

As shown in figure direction, take up.



8.2Parts inside the refrigerator

Refrigerator Fruit box cover

Remove the crisper cover of ref. compartement accordin g to below steps:

- 1) Take out the crisper firstly.
- 2) Lift up the Fruit box cover, and then pull out it.





Shelves

- 1) Pull out the partition plate.
- 2) Lift it up and take it out from the refrigerator.



8.3 Light system

Light

Light of the refrigerating

Light of the refrigerating chamber is located upper chamber(inner display)

1)

2)3)4)6) The reverse process can complete installation.





Light switch

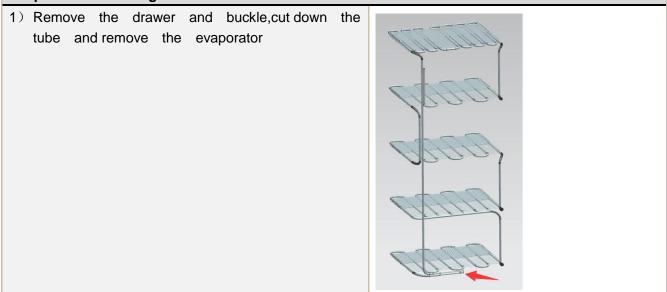
There is a light switch on the side wall of the refrigerating chamber.1) Loosen the hook with small normal screwdriver and pull out the switch until the wire connector reveals.





8.4 Evaporator and Defrost system(None)

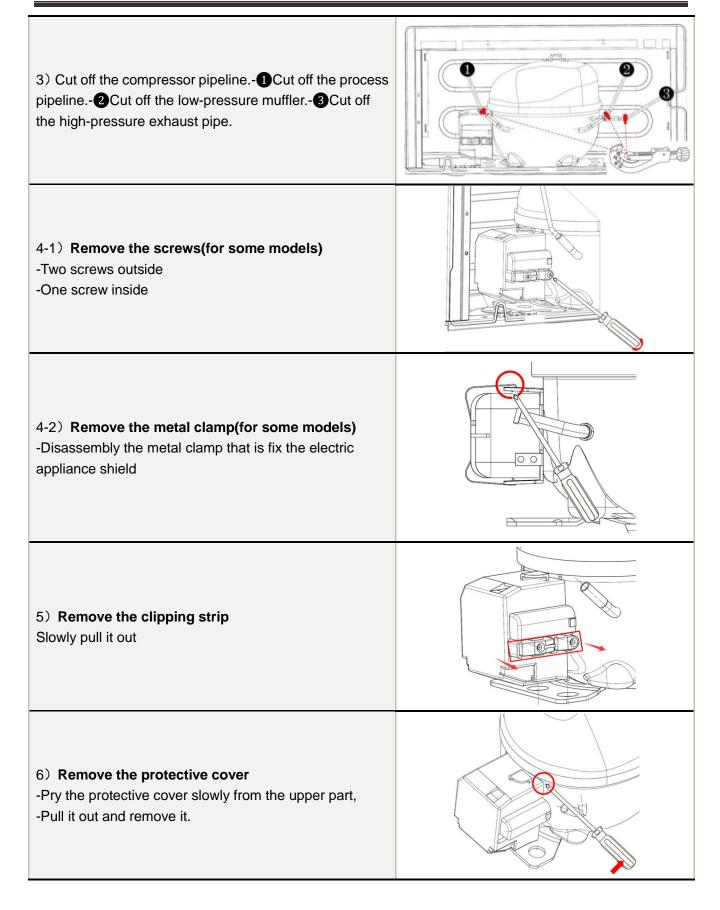
Evaporator in freezing chamber



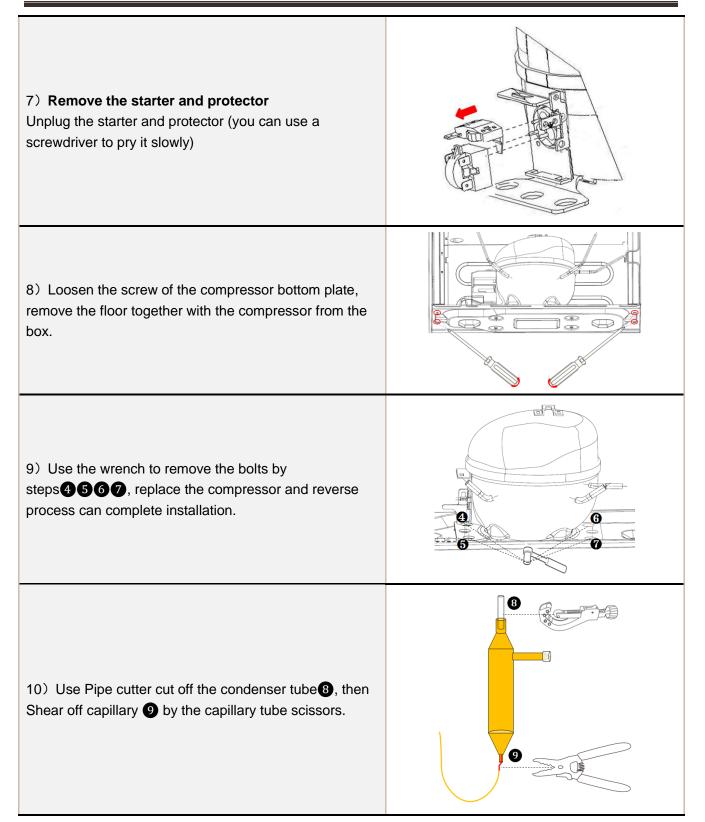
8.5 Compressor case

Rear cover (None)		
Compressor and the cooling system pipe		
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.		
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.	Side 45°	



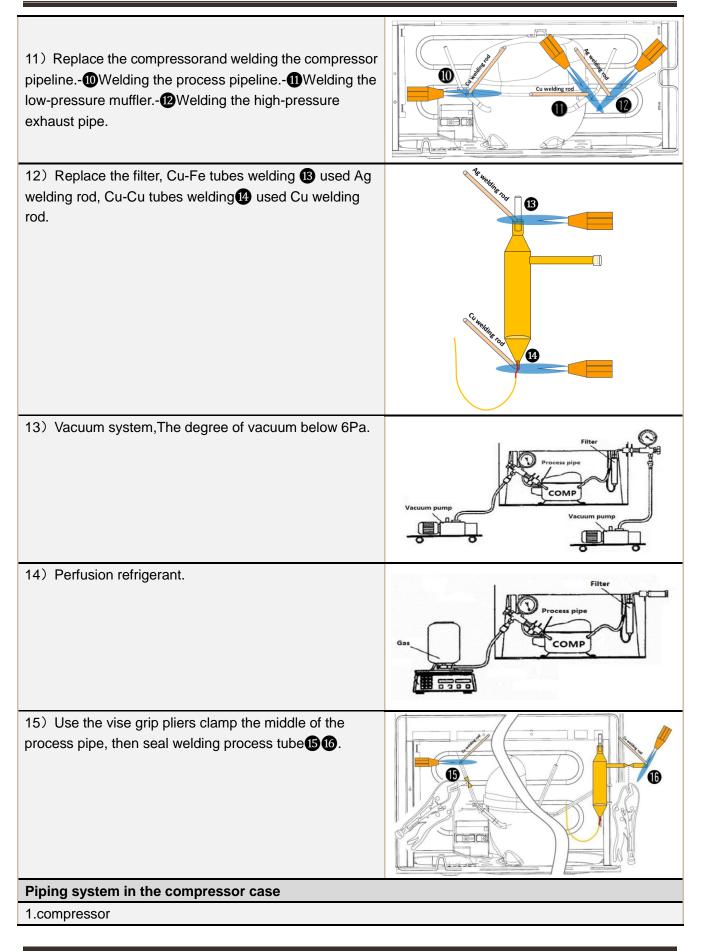








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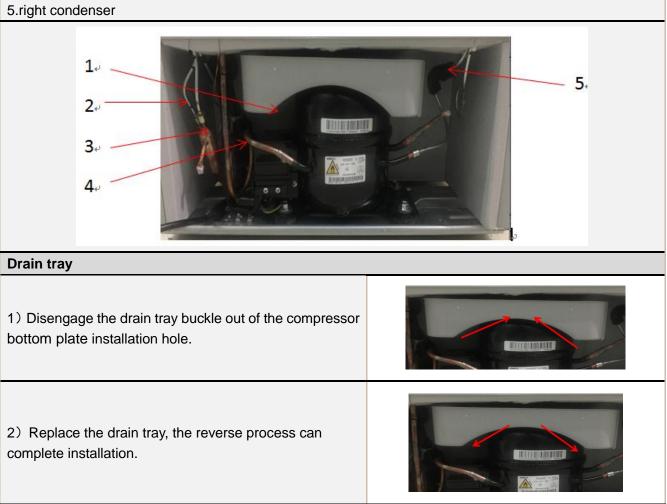




2.left condenser

3.dry filter

4.suction pipe





9. temperature sensing system

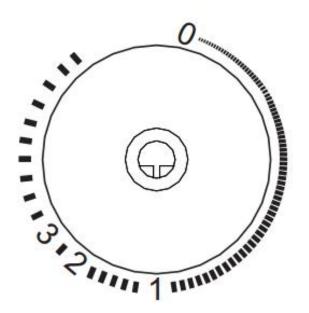
Thermostat	
1.Remove the lamp cover and insert pin, remove the screw under insert pin, outward pulling the thermostat-control box at horizontal	
2.pull out the knod,remove the socket the terminal,replace the thermostat	





10. Function and operation

10.1 Operation panel





(The inpute bases sindy orfeferrence, he caual one figuration ill endend no he hysical replact rotatement y thet is bributor)

- Turn the temperature control knob to 3, the internal temperature of the refrigerator becomes lower.
- Turn the temperature control knob to 1, the internal temperature of the refrigerator becomes higher.
- The letter on the knob only represents the temperature level, but does not mean the specific temperature, the "0" means stop working.

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

10.2 Temperature setting

Turn the temperature control knob to MAX, the internal temperature of the refrigerator becomes lower. Turn the temperature control knob to MIN, the internal temperature of the refrigerator becomes higher. NOTE: Please adjusting and using between "MAX" and "MIN"



10.3 Open door alarm(None)

10.4 Defrosting function(None)

- 10.5 Test mode(None)
- 10.6Backup data for power fail(None)



11. Compressor

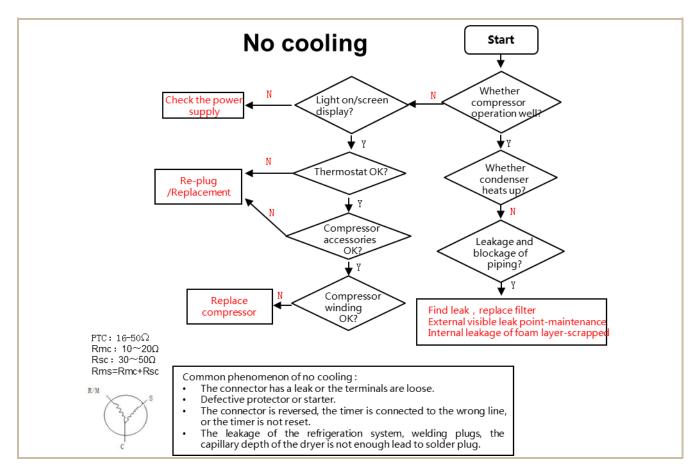
- 1.1 <u>11.1Compressor on and off Control specifications</u>When one of the following conditions is
 - met, the compressor stops:
 - 1) Tr ≤ Trt;
 - 2) The compressor runs continuously for more than 3 hours (Stop 5 minutes);
- 1.2 When all the following conditions are met, the compressor starts up:
 - 1) Tr ≥Trk;
 - 2) Compressor downtime is more than 5min.

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



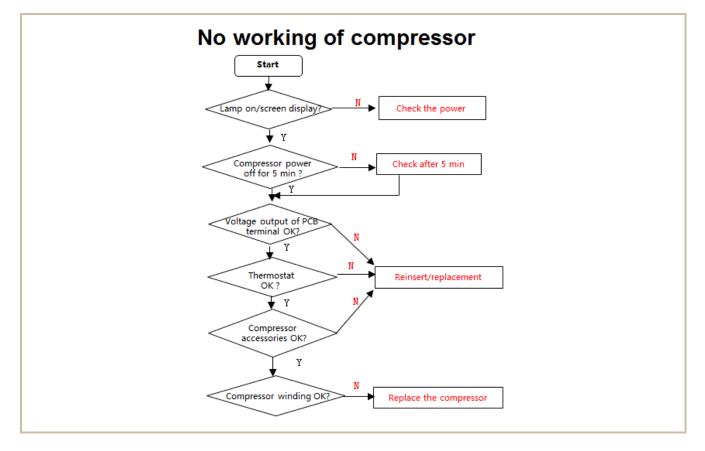
12. Troubleshooting Method

12.1Not cooling

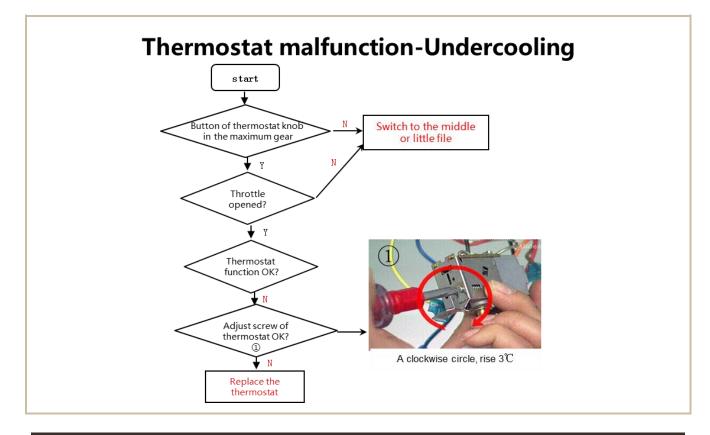




12.2 No working of compressor

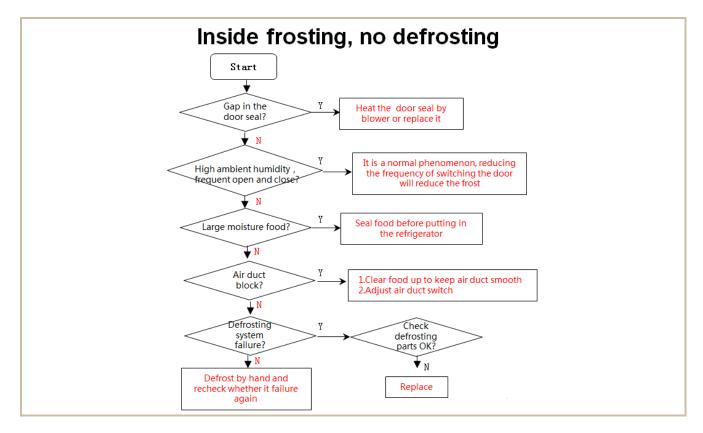


12.3Thermostat malfunction-Undercooling

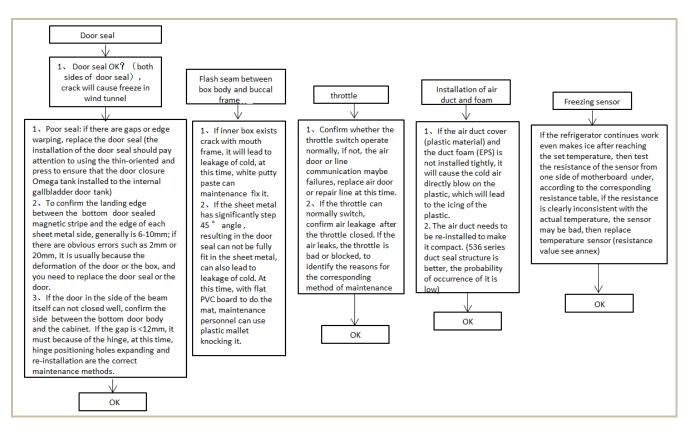




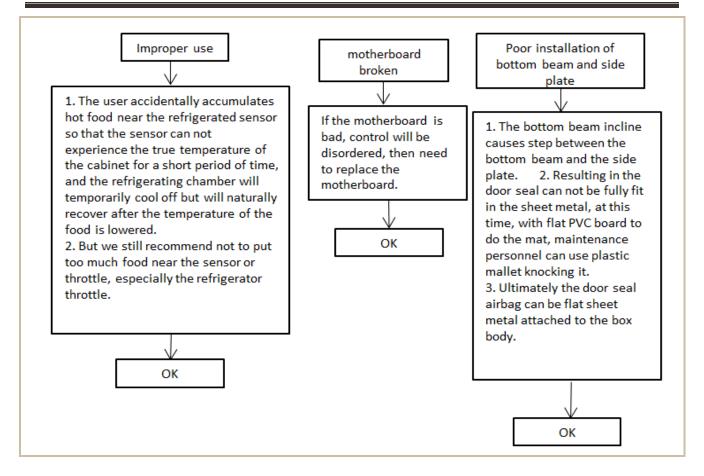
12.4 Inside frosting, no defrosting



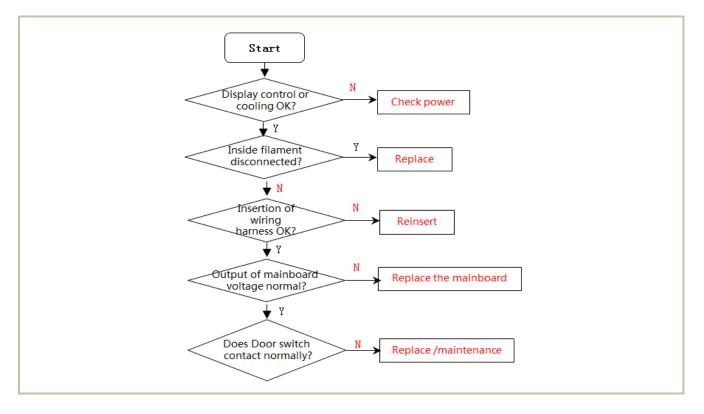
12.5 Inside frosting, no defrosting-Maintenance guidelines





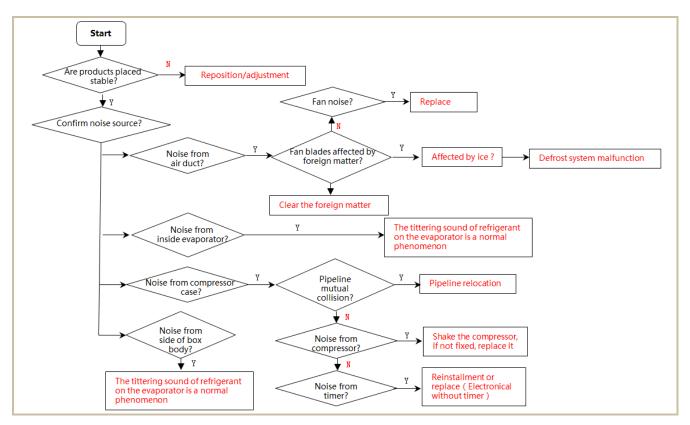


12.6 Light is not on





12.7 Noise





13. Figures and details of repair parts

See this section in the TSP.

Entry Guidelines (TSP System)

Where

Chrome

Google https://tsp.midea.com

- How
- Midea user: Same as your <u>MIP</u> 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(<u>liujc5@midea.com</u>) IT: Martin He(<u>dingding.he@midea.com</u>)



Midea







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 <u>tsp.midea.com</u> For more information about the service manual, please visit the <u>tsp.midea.com</u> For more information about the EV and SBOM, please visit the <u>tsp.midea.com</u>



How to login TSP system

Use Google browser visit the <u>https://tsp.midea.com/</u> 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