Service Manual

COMPACT SERIES

Applicable Models	Model Code	Applicable Models
HS-173FN	CE-BC133CM-JQ	22031010005582

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

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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 Handling

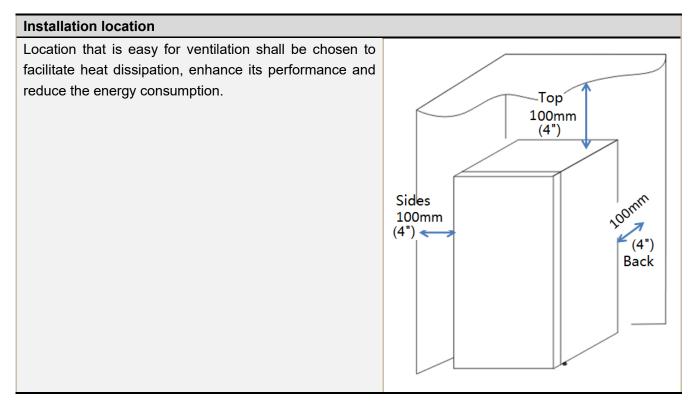
Handling	
Handling1)Protect the refrigerator in moving it,Same as shown as left photo, please move it by handcart with cushion2)Remove all packing materials and bottom cushion, themove into house for placement3)After moving it to appropriate location, wait for 2 hours before power on.	

4. Installation and commissioning

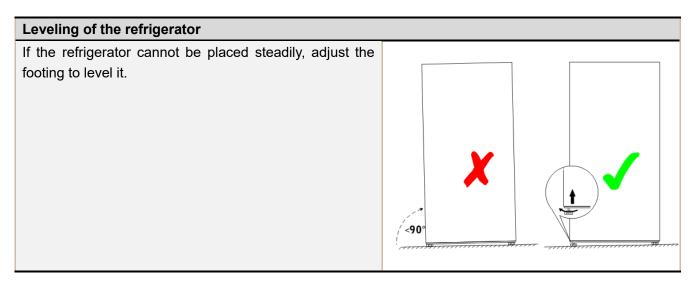
4.1 Door Disassembly and Assembly

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

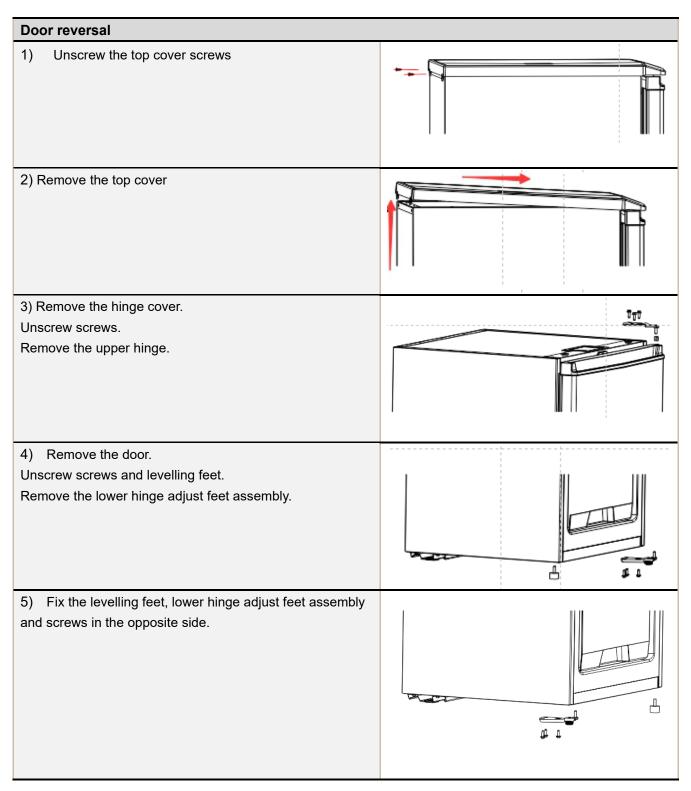
4.2 Installation location

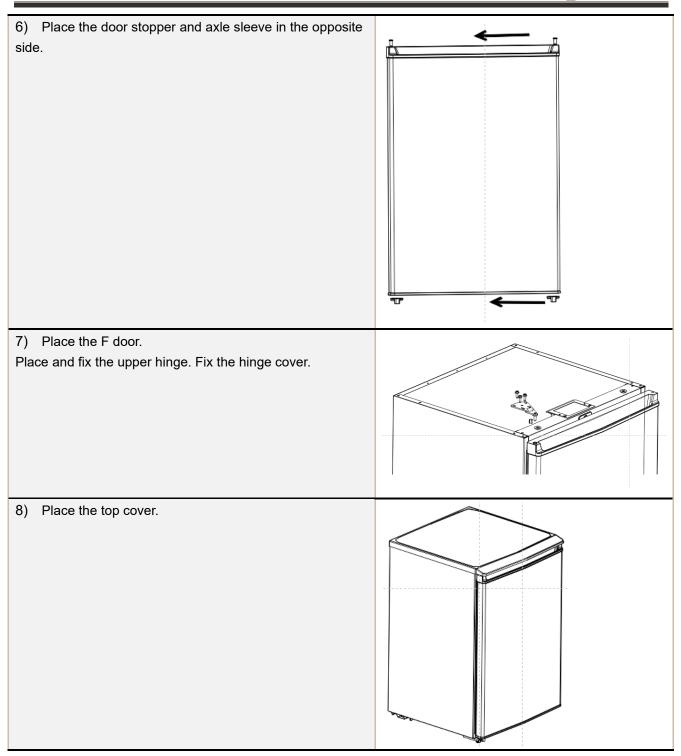


4.3 Leveling of the refrigerator



4.4 Left or right open door reversal

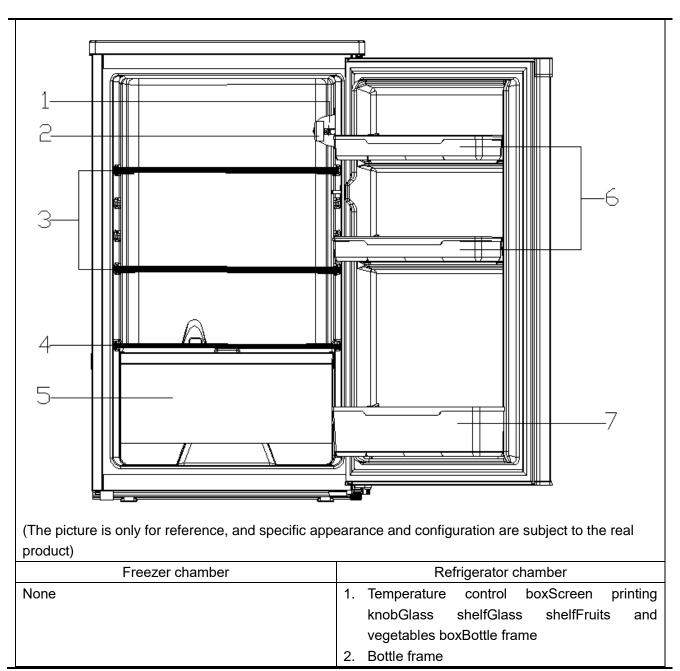




4.5 Installation of handle (None)

4.6 Installation of door lock (None)

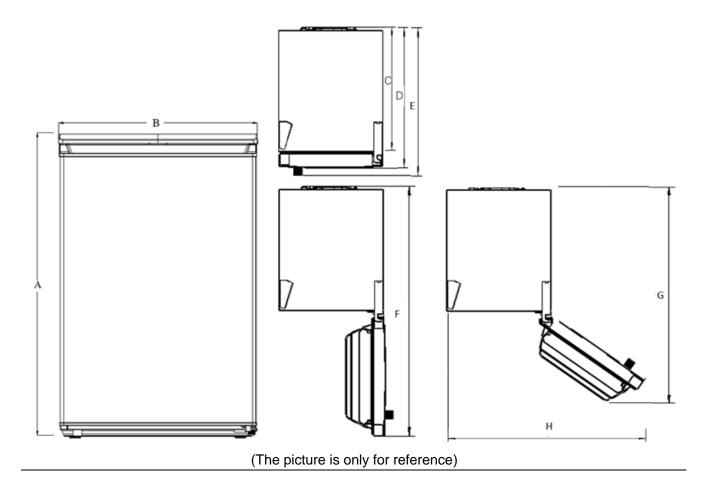
5. Product configuration and dimension



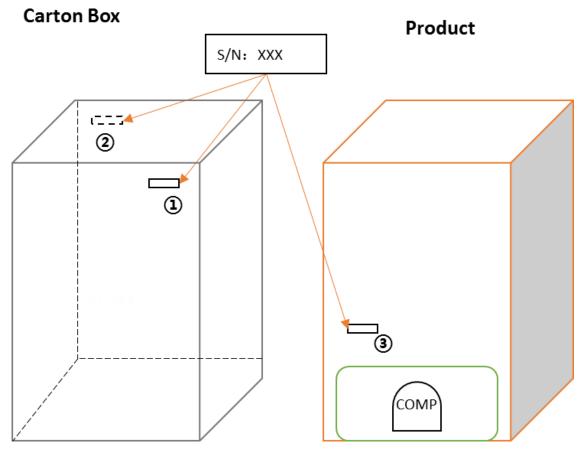
5.1 Main parts and their names

5.2 External dimension

Description	Code	Size (mm)	
Height to Top of Case	А	845	
Width	В	553	
Depth w/Cabinet	С	574	
Depth w/Door	D	600	
Depth w/Handle	E	600	
Depth (Door open 90 deg. w)	F	1078	
Depth (Door open 135 deg. w)	G	885	
Width (Door open 135 deg. w)	Н	935	



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

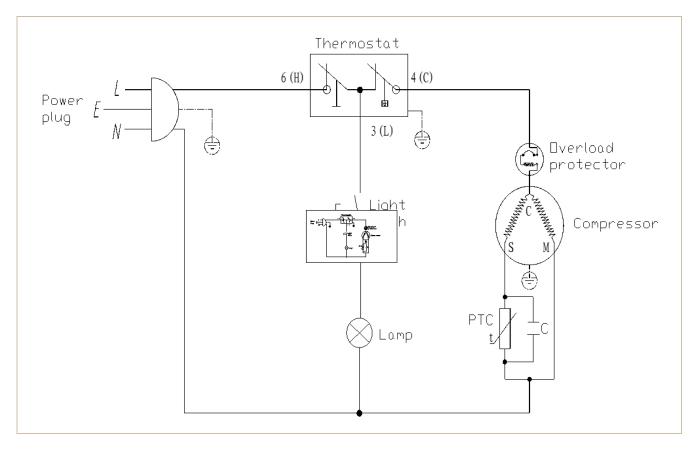
6.1 Electrical parameters

Product Name CE-BC133CM-JQ	
Applicable Models	HS-173FN
Item	Specification
Refrigerant	R600a
Compressor	WV43YT
Starter(PTC)	QZ2-80F12/QPE2-A15MD3
Overload protector(OLP)	BT15-120A61D2/DRB07K61A1
Integrate PTC+OLP	None
Variable frequency driver board	None
Capacitor	2.5µF
Power filter	None
Winding resistance of compressor	Rmc: 56.1±15%Ω
•	Rsc: 35.3±15%Ω
ring terminal	Rms=Rmc+Rsc
Winding resistance picture	R/M S
The input power of compressor	45W
Lights inside the refrigerator	
Lights inside the refrigerating chamber	230V/15W
Switch of the refrigerator door	■Mechanical switch
	□Magnetism control switch

6.2 Cooling temperature setting range

Compartment	The highest (°C)	Lowest (°C)
Freezing	None	None
Refrigerating	8	0

6.3 Circuit diagram



7.Refrigerating piping system and circulating route of cooling air

Compressor---Left condenser----Right condenser---Dry filter---Capillary tube---evaporator---Suction tube---Compressor

7.1 Refrigerating piping system

Compressor₽

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

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;

Take the door seal ①out of door liner;



Door tray

Lift up the bottle frame and take it out from the door liner of the refrigerator.



8.2 Parts inside the refrigerator

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

Drawer

The drawer is located at the bottom of refrigerating chambers;

1) Pull the drawer out completely;

Lift it up slightly and take it out from the refrigerator.



8.3 Light system

Light

The light at the left of refrigerator chamber

1、Remove the light cover

2、Loosen the thermostat knob and fastening screw, and remove the thermostat box assembly

- 3、Remove the connector
- 4、Remove the light









Light switch

There is a light switch on the side wall of the refrigerating chamber.

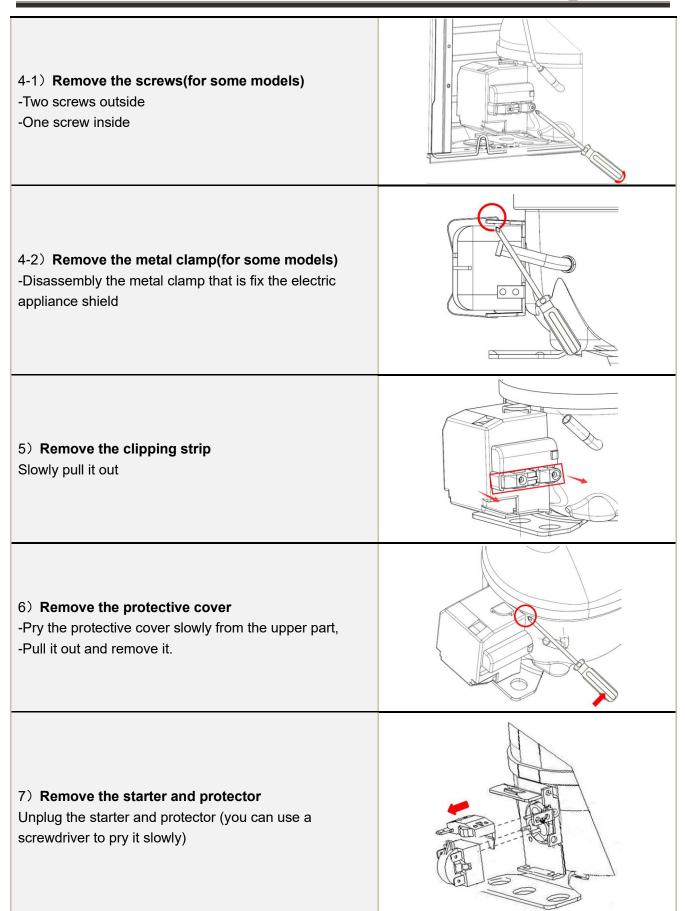
Loosen the hook with small normal screwdriver and pull out the switch until the wire connector reveals.



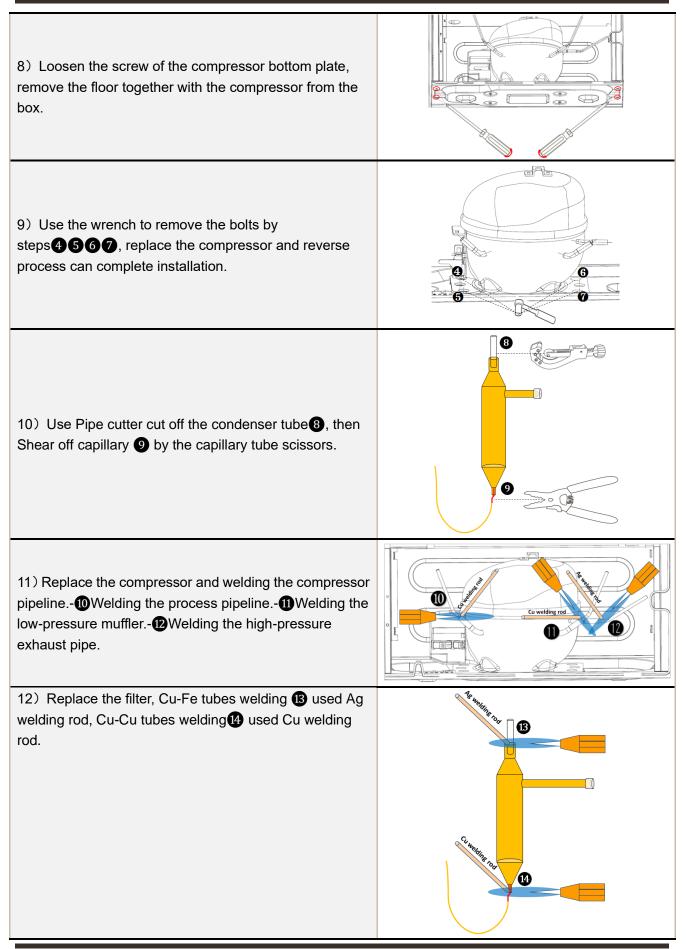
8.4 Evaporator and Defrost system (None)

8.5 Compressor case

Rear cover and compressor case		
	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°	
3) Cut off the compressor pipeline①Cut off the process pipeline②Cut off the low-pressure muffler③Cut off the high-pressure exhaust pipe.		



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13) Vacuum system,The degree of vacuum below 6	Pa.
14) Perfusion refrigerant.	Gas COMP
15) Use the vise grip pliers clamp the middle of the process pipe, then seal welding process tube (5)(6).	
Back hanging wire tube condenser	
Piping system in the compressor case	None
1.left condenser	4.compressor
2.right condenser	5. suction tube
3.processing tubes	6.dry filter
	7.Capacitor

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Drain tray

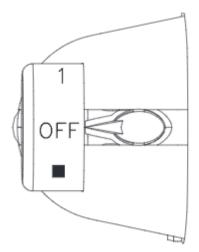
9. Temperature sensing system

9.1 Thermostat

Thermostat	
1.Remove the screw on the thermostat assembly	
2.Loosen the thermostat knob and fastening screw, and remove the thermostat box assembly	
3.Remove the connector and replace the thermostat.	

10. Function and operation

10.1 Operation panel



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

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.

10.3 Defrosting function

Manual defrost

11. Compressor

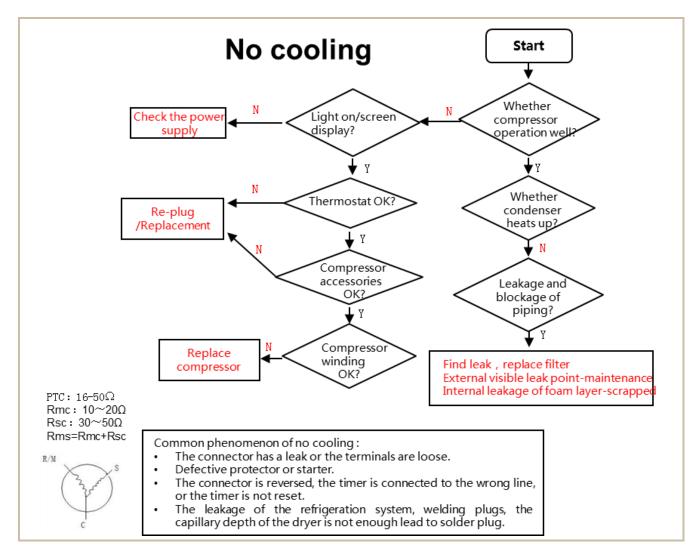
11.1 Compressor on and off Control specifications

- 1.1 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.

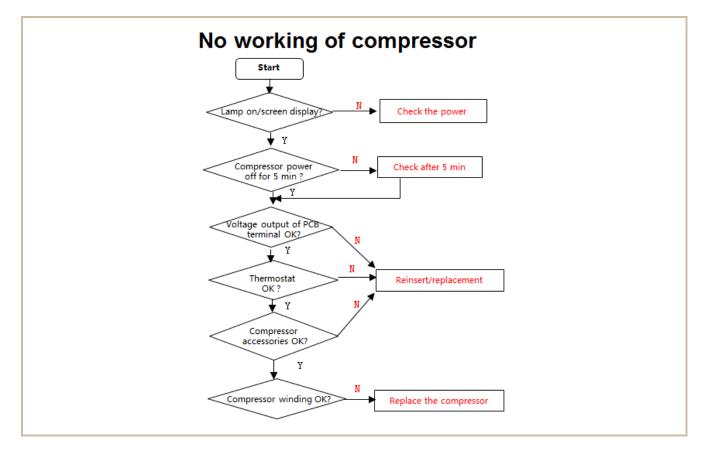
 \star When 1.1 and 1.2 are not satisfied, the compressor maintains the original state

12. Troubleshooting Method

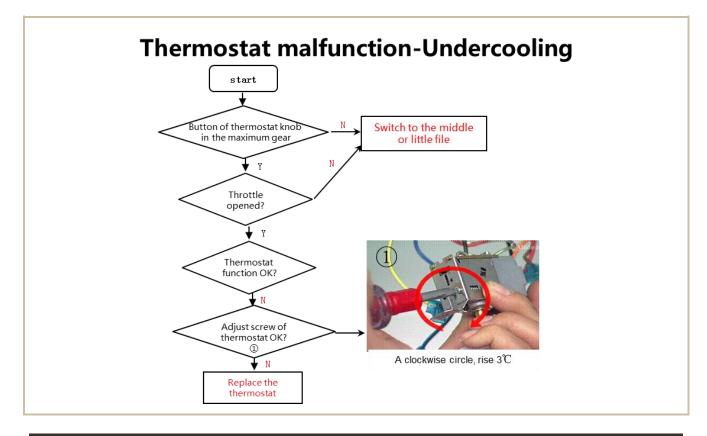
12.1 Not cooling



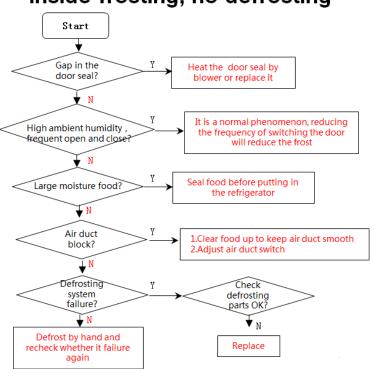
12.2 No working of compressor



12.3 Thermostat malfunction-Undercooling

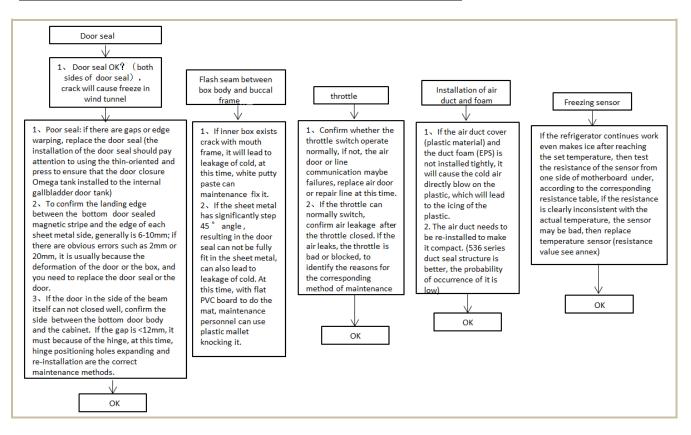


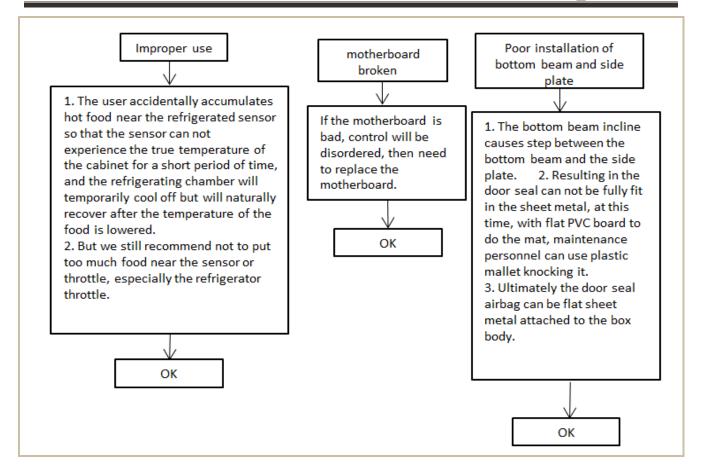
12.4 Inside frosting, no defrosting



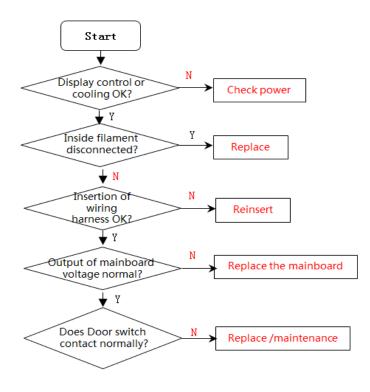
Inside frosting, no defrosting

12.5 Inside frosting, no defrosting-Maintenance guidelines

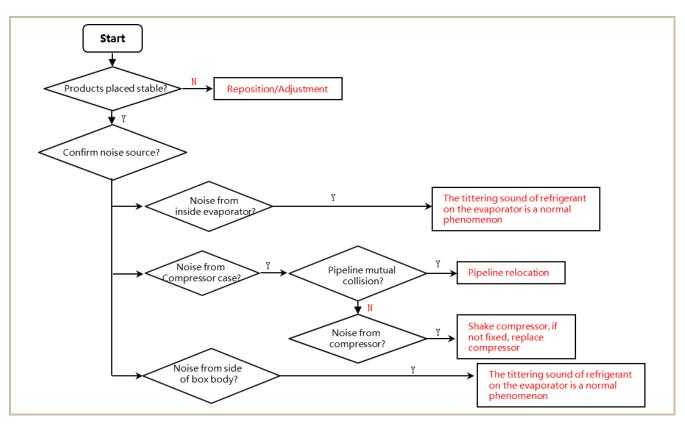




12.6 Light is not on



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 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)











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

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