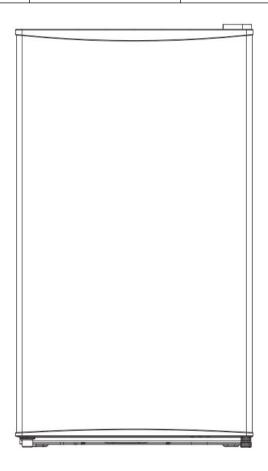
Service Manual

COMPACT SERIES

Applicable Models	Model Code	Applicable Models
HS-78FN	CE-BD60CM-JQ	22031010004864



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 \triangle 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.

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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.

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

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

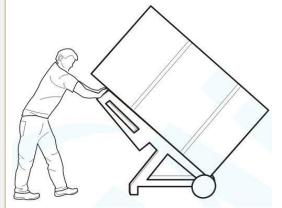
DANGER–Risk of Fire or Explosion. Flammable Refrigerant Used. To Be Repaired Only By Trained Service Personnel. Do Not Use Mechanical Devices. Do Not Puncture Refrigerant Tubing. CAUTION–Risk of Fire or Explosion. Flammable Refrigerant Used. Consult Repair Manual/Owner's Guide Before Attempting To Service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

- 1)Protect the refrigerator in moving it,Same as shown as rig ht photo, please move it by handcart with cushion
- 2)Remove all packing materials and bottom cushion, the move into house for placement
- 3)After moving it to appropriate location, wait for 2 hours bef ore power on.



4. Installation and commissioning

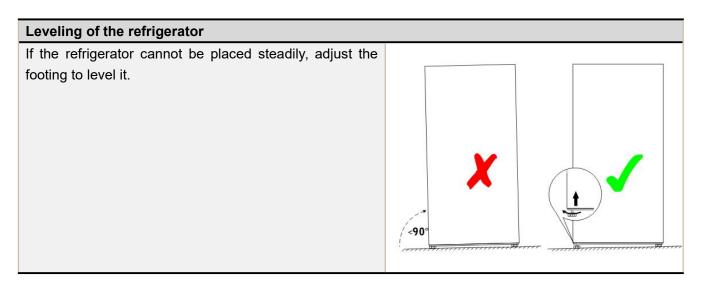
4.1 Door Disassembly and Assembly

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

4.2 Installation location

Location that is easy for ventilation shall be chosen to facilitate heat dissipation, enhance its performance and reduce the energy consumption. Sides 100mm (4") Back

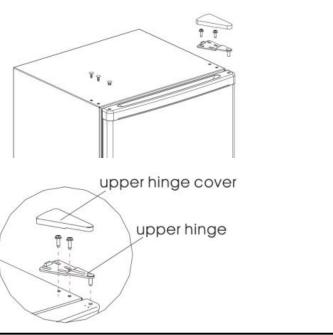
4.3 Leveling of the refrigerator



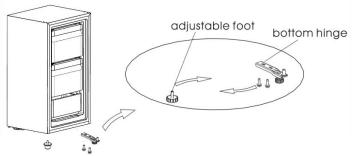
4.4 Left or right open door reversal

Door reversal

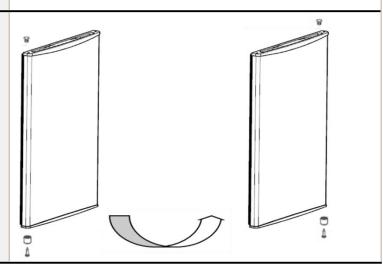
1) Dismantle the upper hinge cover, screws and upper hinge, and remove the plastic screw hole caps from the other side.



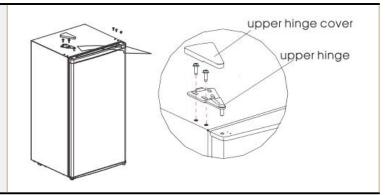
2) Dismantle the door and the bottom hinge assembly and adjustable foot, then assemble the bottom hinge assembly and adjustable foot on other side.



3) Dismantle the support under the door, then assemble the support on the other side.



4) Put the door on bottom hinge and assemble the upper hinge, upper hinge cover and plastic screw hole caps successively.

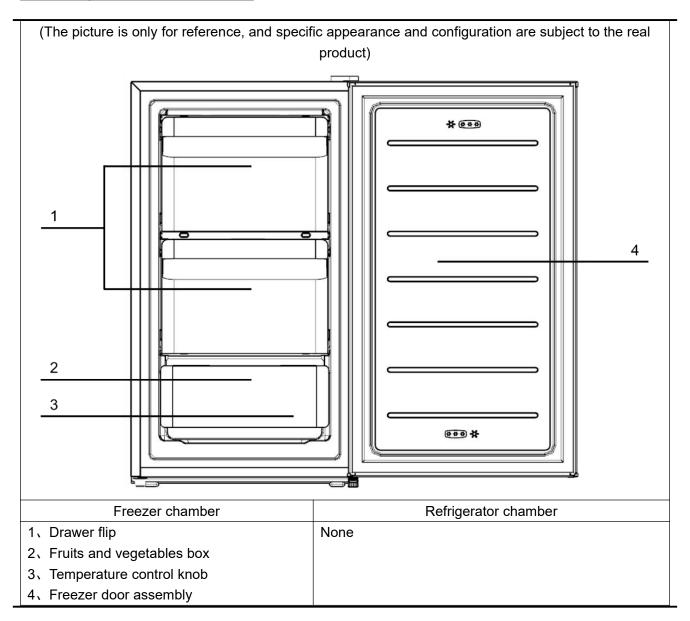


4.5 Installation of handle (None)

4.6 Installation of door lock (None)

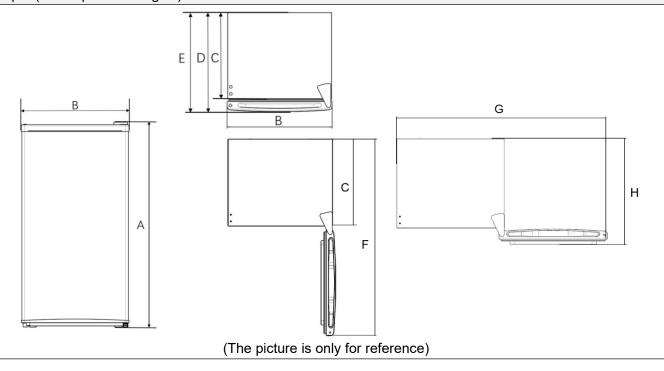
5. Product configuration and dimension

5.1 Main parts and their names

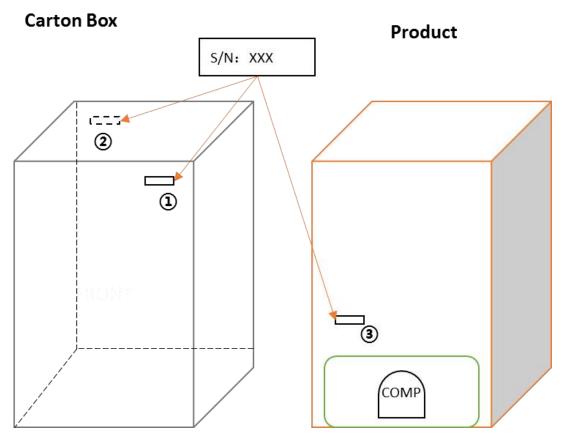


5.2 External dimension

Description	Code	Size (mm)	
Height to Top of Case	Α	845	
Width	В	475	
Depth w/Cabinet	С	390	
Depth w/Door	D	445	
Depth w/Handle	E	445	
Depth (Door open 90 deg. w)	F	881	
Width (Door open 180 deg. w)	G	921	
Depth (Door open 180 deg. w)	Н	461	



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

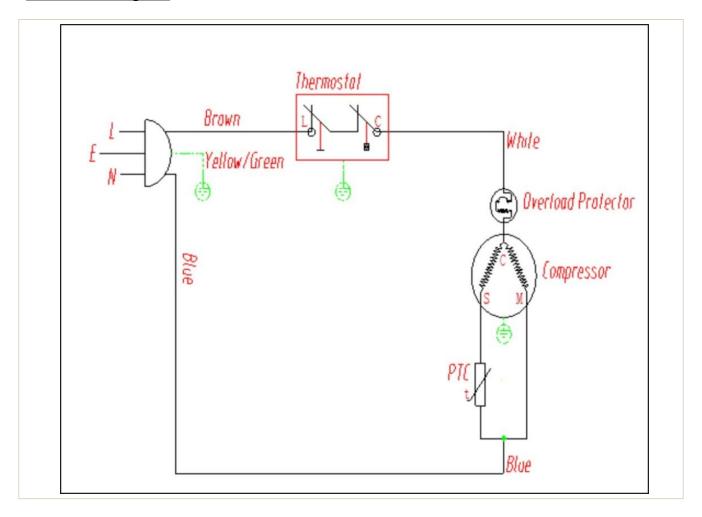
6.1 Electrical parameters

Product Name CE-BD60CM-JQ		
Applicable Models HS-78FN		
Item	Specification	Specification
Refrigerant	R600a	
Compressor	N075YL	
Starter(PTC)	QP2-15	
Overload protector(OLP)	DRB12R61A1	
Integrate PTC+OLP	None	
Variable frequency driver board	None	
Capacitor	None	
Power filter	None	
Winding resistance of compressor	Rmc: $60.5\pm7\%\Omega$	
wiring terminal	Rsc: 18.7±7%Ω	
Willing Communication	Rms=Rmc+Rsc	
Winding resistance picture	R/M S	
The input power of compressor	44W	
Lights inside the refrigerator		
Lights inside the refrigerating chamber	None	
Switch of the refrigerator door	None	

6.2 Cooling temperature setting range

Compartment	The highest (°C)	Lowest (°C)
Freezing	-12	-24
Refrigerating	None	None

6.3 Circuit diagram



8. Dismantling of parts

8.1 Parts on the door

Door seal

It's more convenient to pull out from the corner.

Take the door seal ①out of door liner;

When reloading, the door must be installed into the tank, carefully pressed flat, and check whether there is a gap between the door seal and the box body.



8.2 Parts inside the refrigerator

Drawer flip

Remove the drawer flip according to below steps:

1) Pull out the rotating shaft from both sides as shown in the figure;2) Remove the drawer flip.



Freezer Drawer

Remove the freezer drawer according to below steps:

- 1); Pull the drawer out completely;
- 2); Lift it up slightly and take it out from the refrigerator.

