Model: HQM458BKNSS0

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Chapter 1 General Information

1-1. General Guidelines

When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

1) Leakage Current Cold Check
2) Leakage Current Hot Check
3) Prevention of Electro Static Discharge (ESD) to Electrostatic Sensitive

1-2. Insurance test

1. Check if there is any leak of current.
2. Cut out the power supply before the repair to avoid an electrical shock hazard.
3. In the case of a live-line test, insulating gloves should be worn to avoid potential electrical shock.
4. Confirm the rated current, voltage and capacity before testing with any kinds of instruments.
5. Watch if the upper door is open when you check something at a lower position.
6. Take out every part in the cabinet before moving the machine, especially things like panels (e.g. glass shelf).
7. Please wear intact cotton gloves when repair any parts of the evaporator, so that scratches by the sharp fins can be avoided.
8. If there is a breakdown with the refrigeration system, please surrender the machine to the service center, else the leaked refrigerant may pollute the atmosphere.
9. The refrigerator use AC of 220V with a frequency of 50Hz.
10. A big fluctuation of voltage (exceed the range 187～242V) may cause a start failure of the refrigerator, a burn-out of the control panel and compressor, or an abnormal sound from the compressor in operation. In this condition an automatic voltage regulator over 60W should be added.
11. Take care not to damage the supply line. Don't yank at the line; pull the plug out gently from the receptacle. Don't press the line under the cabinet or step on it. Take care not to roll on or damage the supply line when moves the machine from the wall.
12. In the case of leakage of inflammable gases like carbon monoxide, open the door and windows. Don't pull out or insert the plugs of the appliance.
13. Don't touch the refrigeration surface of the freezing compartment when the refrigerator is in operation, especially when your hand is wet, else you may be glued to the surface.

14. Pull out the plug of power supply during clearance or power outage. Wait at least five minutes to resume the power supply in order to prevent damage to the compressor caused by continuous restart.

Photo used in this manual

The illustration and photos used in this Manual may not base on the final design of products, which may differ from your products in some way.

1-3. How to read this Service Manual

The meaning of each icon is described in the table below:

Note:

A “note” provides information that is not indispensable.

Caution:

A “caution” is used when there is danger, through incorrect manipulation, may damage equipment, loose data, get an unexpected result or has to restart (part of) a procedure.

Warning:

A “warning” is used when there is danger of personal injury.

Reference:

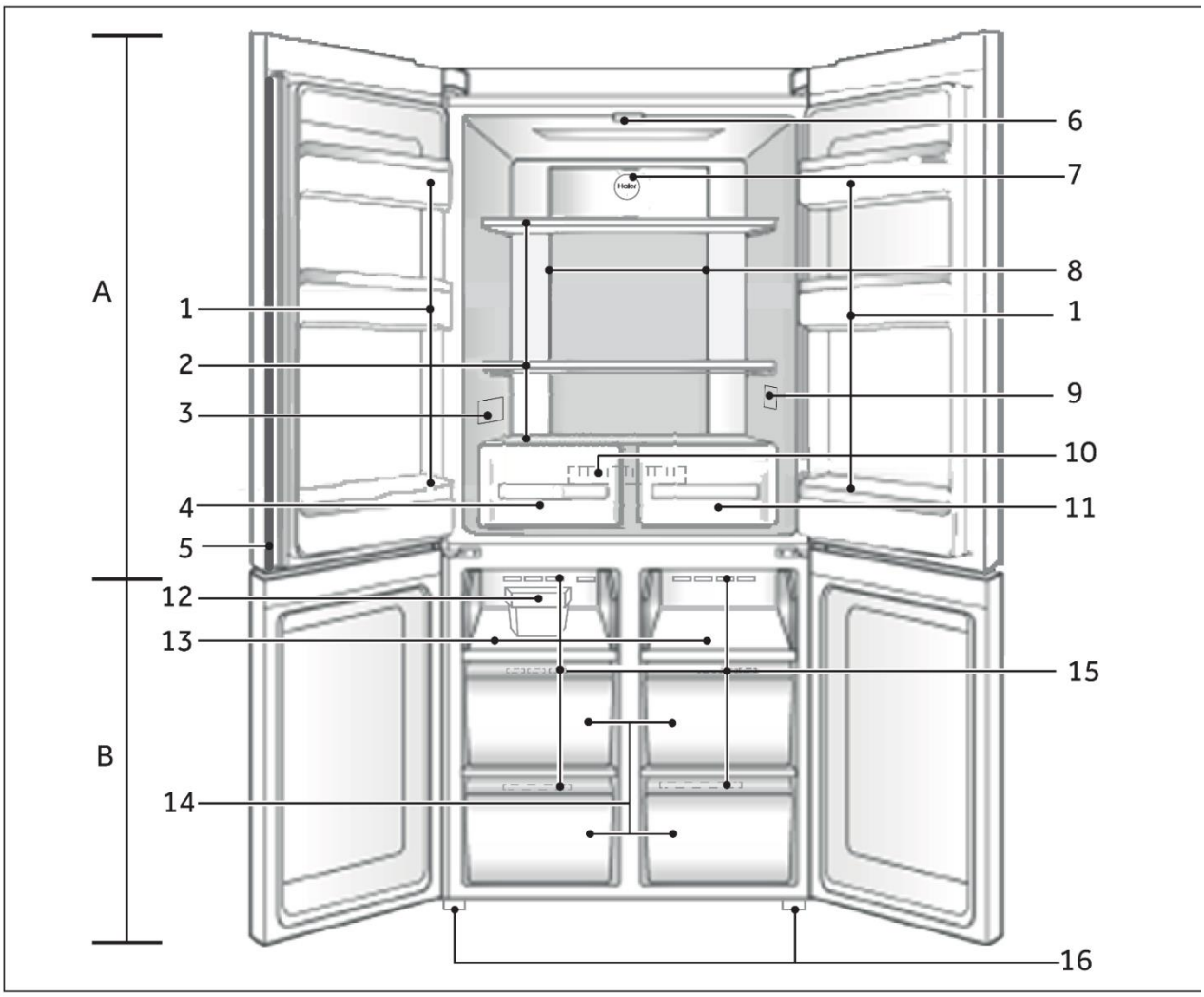
A “reference” guides to find additional information on a specific topic.

Chapter 2 Product Feature

2-1. Specifications

Model		HQM458BKNSS0
Door type		Sheet metal
Exterior		Titanium (ACM)
Power consumption	kWh/year	/
Total effective volume	L	458
Effective volume of refrigerator compartment	L	318
Effective volume of freezer compartment	L	140
Freezing capacity	kg/24 h	12
Climate type		SN-N-ST-T
Input current	A	1.2
Starting voltage	V	AC115
Refrigerant		R600a 57g
Noise (acoustic power level)	dB(A)	40
Nominal voltage/frequency		AC220~240V/50Hz
Control system (electronic/mechanical)		Electronic
Display mode (door)		LED
Variable frequency		YES
Low temperature compensation		Automatic
Dimensions (length/width/height)	mm	666*833*1804
Package size (length/width/height)	mm	744/910/1925
Net weight	kg	94
Gross weight	kg	104
Door alarm		YES
Artificial intelligence		YES
Dual frequency conversion (fan and compressor)		YES
Lock function		YES

2-2. Designation of Product Components



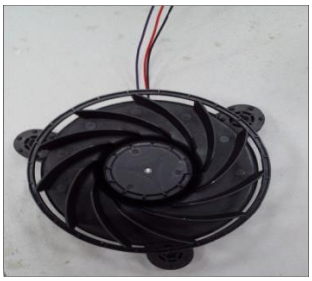
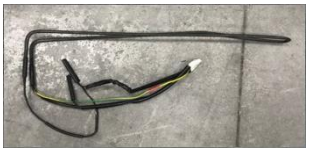
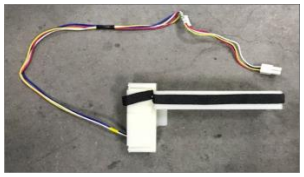
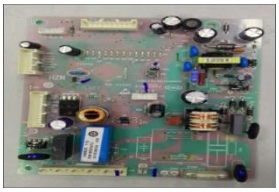
A: Refrigerator compartment

1 Bottle holder/Door rack
2 Glass shelves
3 Rating plate
4 Humidity zone drawer
5 Door strip
6 Ceiling lamp
7 Blue light
8 Air duct and sensor (behind panel)
9 O.K.-temperature indicator (optional)
10 Air duct (behind drawers)
11 Dry zone drawer

B: Freezer compartment

12 Ice maker with ice scoop
13 Freezing tray
14 Freezer storage drawer
15 Air duct
16 Adjustable feet

2-3.Parameter

No.	Model	Spare parts list	The main parameters	
1	VEMT9C （0060705848E）	Compressor	Power：40-131 EER：1.70-1.80 Refrigerating capacity ： 61-223W working current：0.30-1.24 the main winding resistance at 25℃ 11.5	
2	GW12E12MS1AZ-52 （0064001594）	Frz. fan	Volt: 12V Current: 0.33A	
3	/	Vertical beam heater	Volt: 220V Power: 12W	
4	0064001878A	Frz. Defrost heater	Volt: 230V Power: 190W	
5	0064000440	Damper	Volt: 12V Power: 0.5W	
6	0060841620F	Door display panel	Volt: 5V	
7	0061800347C	Main control panel	Volt: 230V	

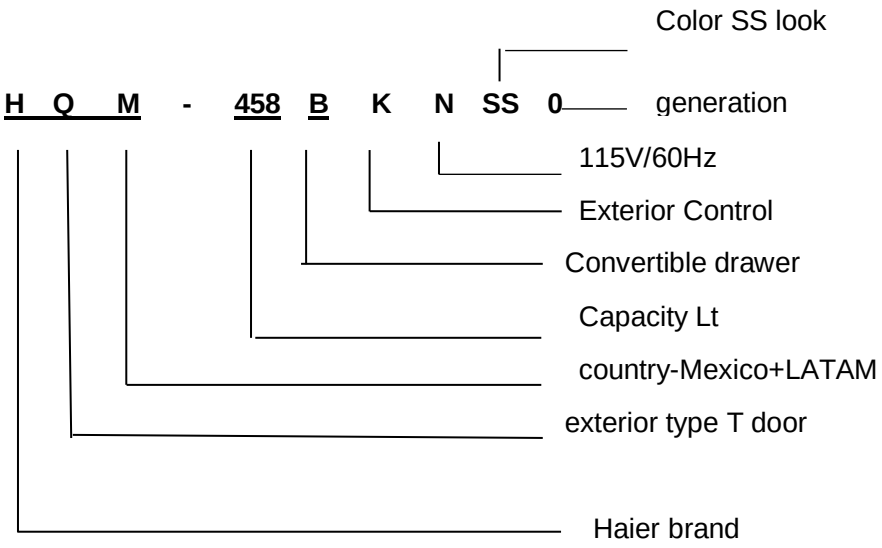
2-4. Main features

1. Fully closed freezing system and drawer storage can avoid food tainting, keep cold and are energy-saving. As warm air can't easily enter into the storage area when opening the door.
2. Cool wind but no frost: adopting fully air cooled refrigeration system, deep cooling and quick freezing.
3. Holiday function: when you are out for holiday, refrigerator will run at the low energy consumption to make sure there's no odor in the refrigerating chamber and guarantee soft freezing and the normal storage of frozen food.
4. LED display: adopting dynamic LED to display the operational situation of refrigerator.
5. LED light guide plate illumination: adopting the technique of light guide plate illumination, the light is soft, even, bright and no illumination dead angle.
6. Adjusting shelf height：The shelf can be relocated to accommodate food size or height.
7. Double-layer drawer freezer door: the freezer compartment is equipped with the straight-opening fully with drawable double-layer drawer door with which it is easier to access food. Imported slide rails with automatic closer are used for labor and energy saving during door opening and closing.
8. Humidor zone: the humidor box at the refrigerating compartment can retain freshness of food effectively.

2-5. Explanation of The Models

A3/B3	F	E	7	42
PRODUCT FAMILY A1 = 3D Gen 1 A2 = 3D Gen 2 A3 = 3D Gen 3 C1 = 2D Gen 1 C2 = 2D Gen 2 D1= Double doors Gen 1 B3=4D Gen3 C3=2D Gen3	COOLING TECHNOLOGY F= FULL NO FROST S= DIRECT COOLING T= HYBRID	USER INTERFACE M= Mechanical S= Semi Electronical E= Electronic (= display on the door)	CLASS 9= A++++ 8=A+++ 7=A++ 6=A+	VOLUME 05 = 45-54 lt 14 = 135-144 lt 21 = 195-204 lt 31 = 305-314 lt 32=315-324lt 33 = 325-334 lt 35 = 345-354 lt 36 = 355-364 lt 42 = 435-444 lt

C	M	J
SPECIAL FEATURES A = Without chiller C = Chiller I = Automatic Ice Device / ice maker with water tank in the fridge T = ATD (Adj. T° Drawer) W = Water through the door	COLOUR W = White T = Titanium S = Silver M=ACM X = Inox (Stainless steel) G = Glass (Transparent Door) GW = Glass white GR = Glass red GB = Glass black GS= Glass stainless steel N = Black SS (VCM) A = Aluminium SS (VCM) B = Obsidian F = Inox looking	HANDLES J= Recessed/integrated T= External E= Easy handles



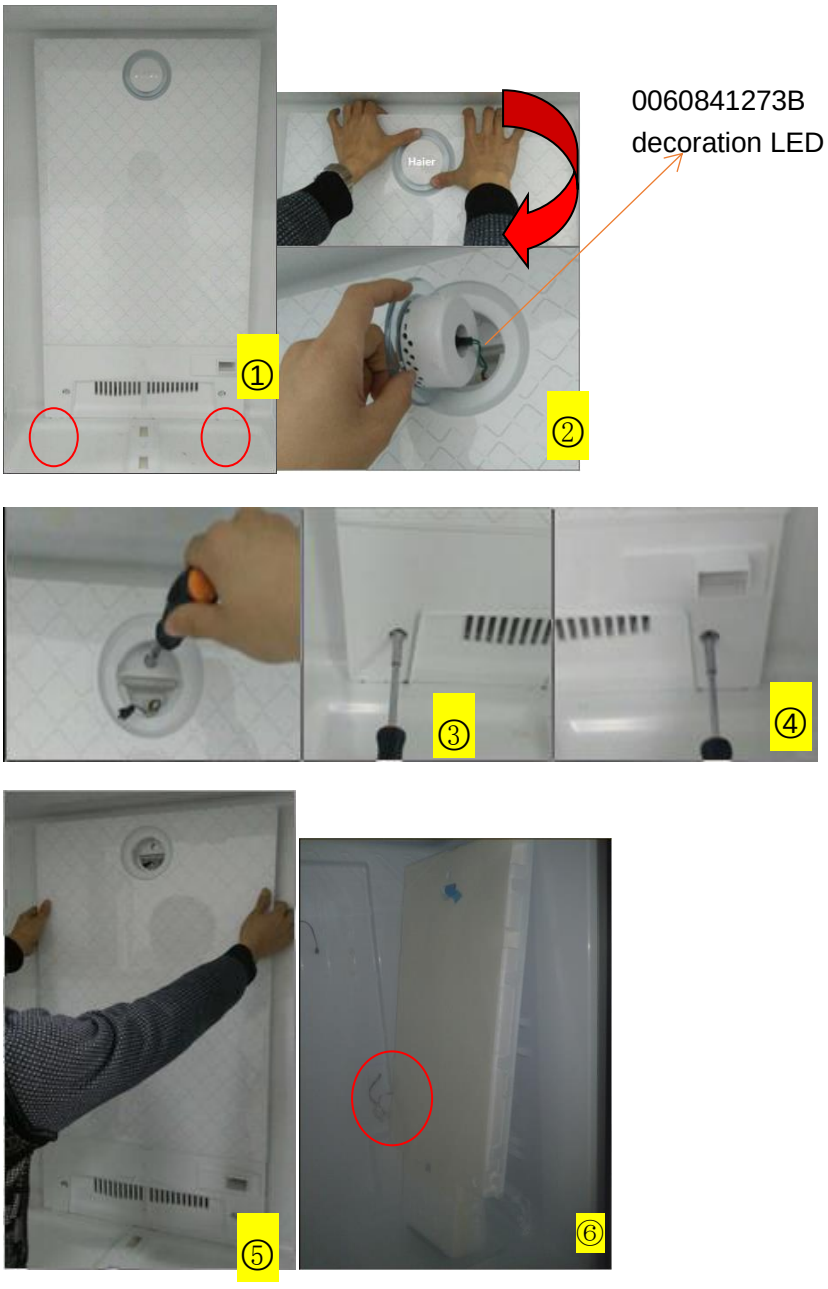
Chapter3 Disassembly and Installation

Note: Unplug the power cord from the outlet when demount the refrigerator.

3-1. Disassemble refrigerator compartment partition plate

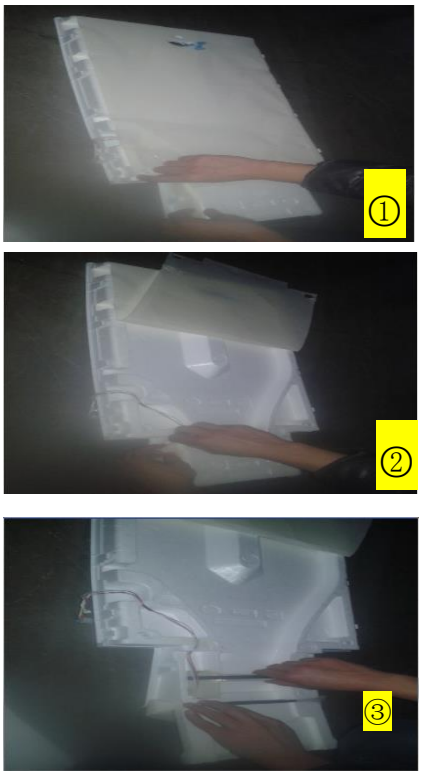
1. Remove the drawer Take out the shelf.
2. With the front end slightly raised, the upper and lower shelves can be removed.
3. remove 4 screws with a Phillips screwdriver. Then, hold the roller by both hands and remove the partition plate by pulling it upward.

3-2. Disassemble the refrigerator air duct



1. After step 3-1, remove the screw covers (indicated by the red circles).
2. Turn the air duct cover light clockwise to open it, as indicated in the figure.
3. Disconnect the terminal connecting the air duct cover light and you can remove the light.
4. Remove the screws (3) places with a Phillips screwdriver.
5. Gently pull the air duct out with both hands. Note: there are cables on your right, so do not apply too much force, to avoid breaking the cables.
6. Place it as indicated in the figure. Remove the terminal and you can remove the air duct.

3-3. Disassemble the air damper

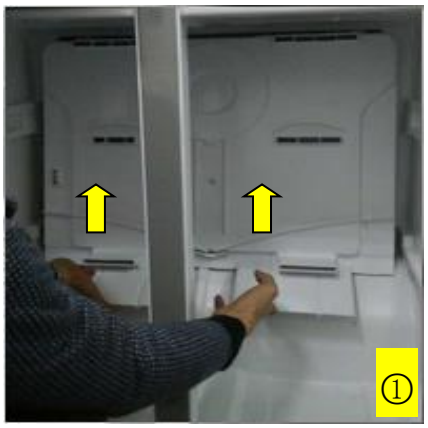


1. Remove the PE tape on the back of the air duct.
2. Tear the crepe paper adhesive tape around it. 。
3. Remove thecrepe paper adhesive tape and take the damper out.

3-4. Disassemble freezer compartment partition plate

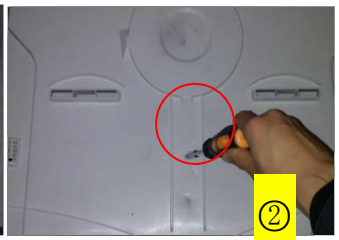
1. Remove the (6) freezer storage drawers.
2. Remove the (2) glass shelves.
3. Remove the (4) screws with a Phillips screwdriver.
4. Remove the partition plate along the direction indicated in the figure.

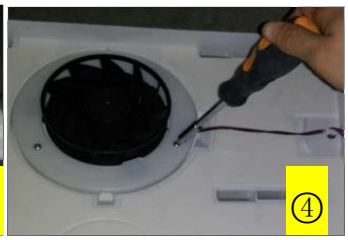
3-5.Disassemble the freezer air duct



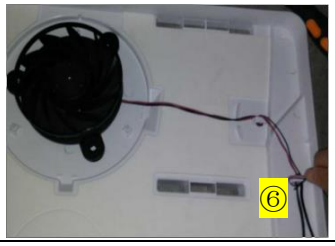
1. After step 3-4, As indicated in the figure, support the lower end of the freezer compartment air duct with your hand, pull it up with force and then slowly pull it forward. Attention should be paid not to exert too much force, to avoid breaking the cables.
2. Disconnect the cable terminal and remove the air duct.

3-6. Disassemble the fan in the freezer compartment air duct

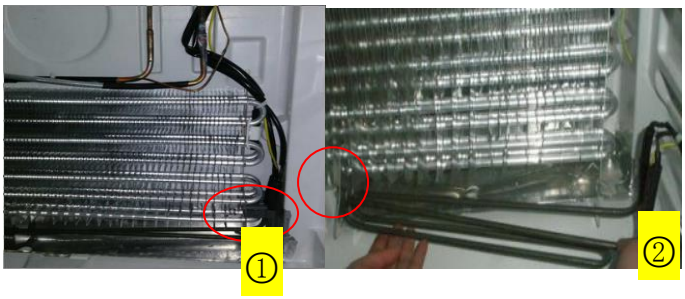




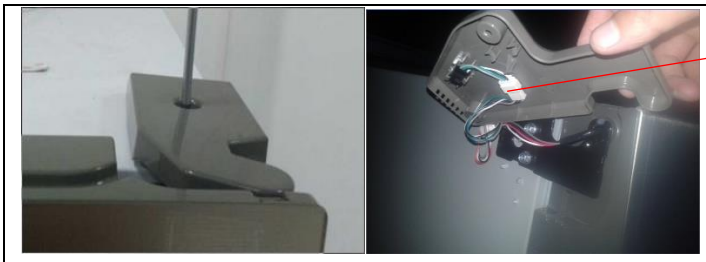
1. Unwind the cable around the clip.
2. Remove the (1) set screw with a Phillips screwdriver.
3. Remove the front and back covers of the air duct with a straight screwdriver.
4. Remove the (3) set screws on the fan fixing plate with a Philips screwdriver.

 	5. Remove the fan fixing plate. 6. Unwind the cable around the clip and you can remove the fan.

3-7. Defrost heater wire disassembly method

	1. Remove the defrost heater wire terminal and gently separate the two clips fixing the defrost heater wire. Then, pull the defrost heater wire out through the fixing clip on the right, as indicated by the red circle in the figure. 2. Pull the defrost heater wire out through the fixing clip on the left.

3-8. Disassemble the refrigerator compartment door

  3 4	Humidity sensor 1. Remove the screws fixing the upper hinge box with a Phillips screwdriver. 2. Disconnect the cable terminal, remove the sensor cable and then remove the upper hinge box cover. 3. Dismount the screws fixing the upper hinge with a socket wrench and remove the upper hinge. 4. Lift the door upward and it can be removed.

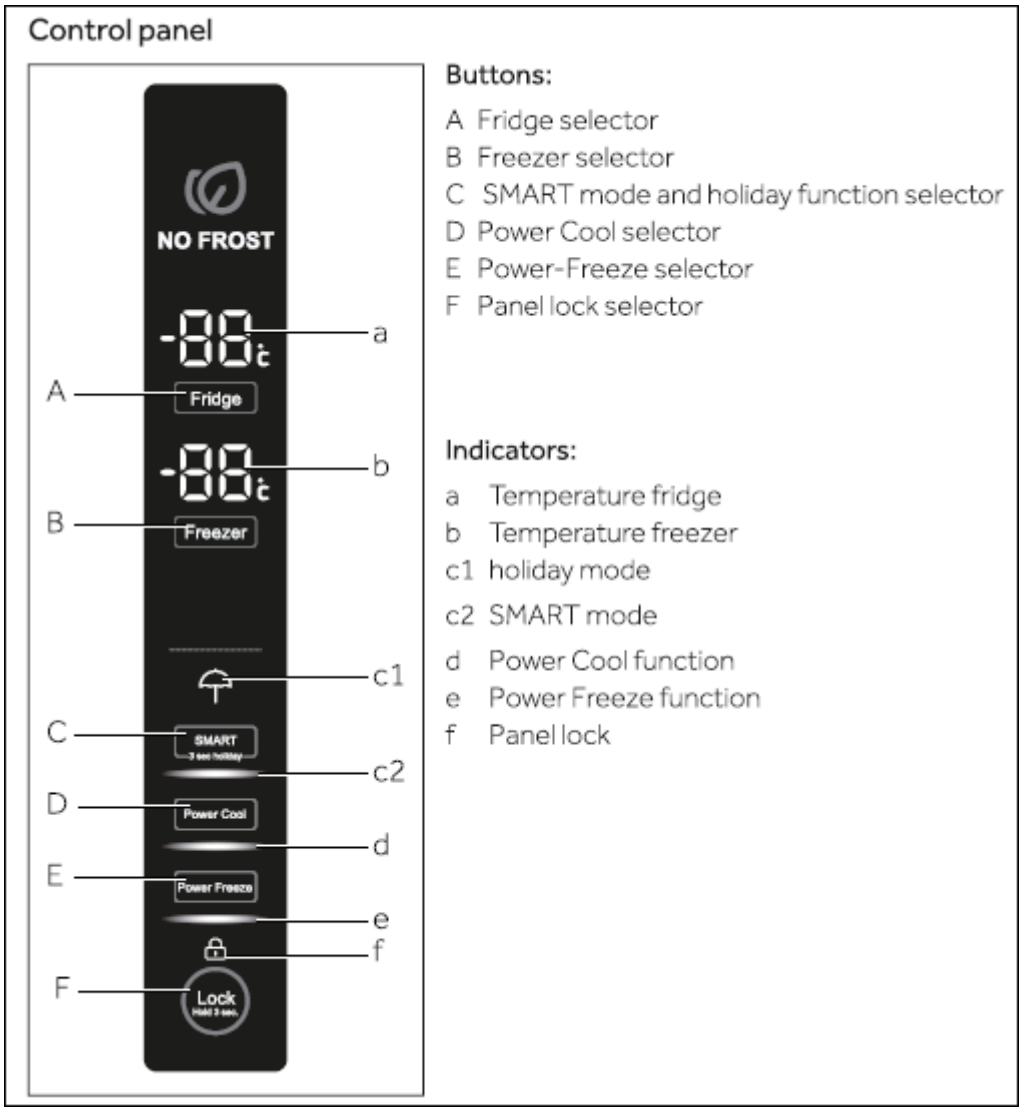
3-9. Disassemble the freezer compartment door

	1. With the refrigerator compartment door removed, dismount the middle hinge set screws with a Phillips screwdriver. 2. Remove the middle hinge screws and the middle hinge. 3. Lift the door upward and it can be removed.

3-10.Disassemble the display panel on the door

	Place a holding chuck on one corner of the display panel. When the corner is sucked up, hold it with your hand and the display panel can be removed.

Chapter 4 Control and display system



Function introduction (see User Manual)

(1) Initial powering on

When the power of the refrigerator is turned on for the first time, the display panel will be lit, and the temperature fridge will be automatically set at 5°C and the temperature freezer at -18°C.

The temperature indicators in the refrigerator and freezer compartments will show the actual temperature.

(2) Panel lock/unlock

1) In the non-locked state, press F“LOCK Hold 3.sec.” and hold for 3s. Then the buzzer will beep and the “Lock Indicator” f will be illuminated. The panel is locked.

2) In the locked state, press F“Unlock/Lock Key” and hold for 3s, and the “Lock Indicator” f will go out. The panel lock is released.

Note: In the locked state, Temperature Fridge, Temperature Freezer, Power Cool function, Power Freeze function, SMART/Holiday mode and other functions cannot be adjusted.

(3) Adjust refrigerator compartment temperature

Adjust the fridge storage temperature in the non-locked state. Every time you press key A “Fridge temperature selector”, the fridge storage temperature indicated in area a –“Temperature fridge” will be reduced by 1°C and it will blink. When it stops blinking, the temperature indicated in area a –“Temperature fridge” shows the actual temperature of the refrigerator compartment. When the temperature reaches 8°C, continue to press key A “Fridge temperature selector” and the temperature will cycle to the lowest temperature of 1°C. The refrigerator compartment temperature cycles in the following way: “04→03→02→01→OF→08→07→06→05→04”.

Note: In the state of Power Cool, SMART/Holiday or locked, the refrigerator compartment temperature cannot be adjusted. If you tried to do so, the icon of Power Cool, SMART/Holiday or Lock will flash and prompt tone will be sounded to warn you that you cannot adjust the temperature in the current state.

(4) Adjust freezer compartment temperature

In the non-locked state, every time you press key B “Freezer temperature selector”, the freezer storage temperature indicated in area b –“Temperature freezer” will be reduced by 1°C and it will blink. When it stops blinking, the temperature indicated in area b –“Temperature freezer” shows the actual temperature of the freezer compartment. When the temperature reaches -24°C, continue to press key I “Freezer temperature selector” and the temperature will cycle to the highest temperature of -14°C. The freezer compartment temperature indicated cycles in the following way: “- 18→-19→-20→-21→-22→-23→-24→-14→-15→-16→-17→ -18”.

Note: In the state of power Freeze, SMART/Holiday or locked, the freezer compartment temperature cannot be adjusted. If you tried to do so, the icon of Power Freeze, SMART/Holiday or Lock will flash and prompt tone will be sounded to warn you that you cannot adjust the temperature in the current state.

(5) SMART

1)In the non-locked state, press key C“SMART mode selector”, the SMART mode icon c2 will be lit and the refrigerator enters SMART mode. Under SMART mode, press key C “SMART mode selector”, the SMART mode icon c2 will go out and the refrigerator exits the SMART mode. Under SMART mode, the refrigerator will automatically adjust the internal temperatures based on the ambient temperature and internal temperatures.

2) In the state where the SMART mode icon is on, press the SMART mode selector, the buzzer will beep and the SMART mode icon will go out, which means the SMART function is turned off.

Note: Under the SMART mode, fridge or freezer storage temperature cannot be adjusted. If the temperature selector key is pressed to adjust the temperature, the SMART mode icon will blink, indicating that you cannot carry out such operation.

Under the SMART mode, if Power Freeze or Holiday function is selected, the SMART mode icon will go out and it will automatically exit the SMART mode.

(6) Setting of Holiday function

In the non-locked state, press and hold key C “SMART mode selector” for 3s and the Holiday function icon c1 will be lit; the refrigerator enters Holiday mode. Under Holiday mode, press and hold key C “SMART mode selector” for 3s and the Holiday function icon c1 will go out; the refrigerator exits the Holiday mode. Under Holiday mode, the freezer compartment functions normally while the temperature of the refrigerator compartment will be automatically

set at 17°C, so that the refrigerator compartment will not produce undesirable odor and it can save energy.

Note: 1) Under Holiday mode, the key H “Fridge temperature selector” cannot be operated, but the key “Freezer temperature selector” is not affected. Please empty the refrigerator compartment before entering the Holiday mode, to prevent the food from spoiling.

2) Under SMART mode, if Holiday function is selected, it will automatically exit SMART mode and if SMART function is selected under Holiday mode, it will automatically exit Holiday mode.

(6) Power Cool function

1) In the non-locked state, press key D“Power Cool selector” and the Power Cool icon d will be lit; the refrigerator enters Power Cool mode.

2) Under Power Cool mode, press key D“Power Cool selector” and the Power Cool icon d will go out; the refrigerator exits Power Cool mode.

Note: Under Power Cool mode, the fridge storage temperature cannot be adjusted.If you press the“Fridge temperature selector” to adjust the temperature, the Power Cool icon will blink, indicating that you cannot carry out the operation.

(7) Power Freeze function

The Power Freeze function is designed to preserve the nutrition of frozen food by deep freezing of food in the shortest possible time.

1) In the non-locked state, press key E “Power Freeze selector” and the Power Freeze icon e will be lit; the refrigerator enters Power Freeze mode and it will automatically exit Power Freeze mode 50h later.

2) Under Power Freeze mode, press key E “Power Freeze selector” and the Power Freeze icon e will go out; the refrigerator exits Power Freeze mode.

Note: Under Power Freeze mode, the freezer storage temperature cannot be adjusted.If you press the“Freezer temperature selector” to adjust the temperature, the Power Freeze icon will blink, indicating that you cannot carry out the operation. If SMART function is selected under Power Freeze mode, the Power Freeze icon will go out, automatically exiting the Power Freeze mode.

(8) Refrigerator compartment switch

When you do not need the refrigerator compartment, you can press the “Fridge temperature selector” to adjust the refrigerator compartment temperature to 0F and the refrigeration of the refrigerator compartment is turned off.

Note: It cannot enter SMART mode when the refrigerator compartment is turned off.

(9) Door open alarm

If the refrigerator compartment door is open for 1min, the refrigerator will sound the alarm to warn the user and the alarm will not stop until the door is closed.

(10) Power off memory

The instant working state when the power is cut off will be memorized and the refrigerator will continue to work according to the settings made before power off when the power is recovered. Lock state of the display panel is not memorized.

Chapter 5 Control principal and related test functions

5-1 Refrigerator controls

(1) Refrigerator compartment control: When the refrigerator sensor temperature is no lower than the start temperature, the refrigerator compartment will start working (the damper on and the fan working); when it is no higher than the start temperature, the refrigerator compartment will stop (the damper closed).
(2) Freezer compartment control: When the freezer sensor temperature is no lower than the start temperature, the freezer compartment will start working and it will stop when the temperature is no higher than the shutdown temperature.
(3) Power Cool control: The refrigerator compartment will start super cooling when the refrigerator enters Power Cool mode and it will exit the Power Cool mode in approximately 180min.
(4) Power Freeze control: The refrigerator will exit Power Freeze when the Power Freeze mode works for about 50h.
(5) SMART control: When the refrigerator enters SMART mode, the refrigerator compartment and freezer compartment will operate respectively at the temperature of 5°C and -18°C.
(6) Holiday function: When it enters Holiday mode, the refrigerator compartment will work at the temperature of 17°C while the freezer compartment is not affected.
(7) Door open alarm: The alarm will be activated when the refrigerator compartment door is open for 60s. The buzzer will beep 3 times at the interval of 0.5s and it will beep 3 times at the interval of 0.5s every 30s if the switch remains turned on until the switch is turned off or the switch-on time exceeds 10min.
(8) Power off memory: The refrigerator has power off memory and it will preserve the specific state before power is off.

Power off memory : defrost state, set fridge and freezer storage temperatures, Power Freeze, Power Cool, SMART, refrigerator compartment shut;

Power off memory does not include: Lock state, defrosting time, exhibition room
(9) Ceiling lamp control: The lamp illuminates when the refrigerator compartment door is opened and goes out when the door is closed. It will automatically go out when the door is open for more than 7min.
(10) Damper and fan control: When the freezer compartment requires refrigeration, the freezer fan and compressor will operate simultaneously. When the refrigerator compartment requires refrigeration, the fan and damper will start. When the refrigerator compartment alone requires refrigeration, the freezer fan will work and the damper opened.
(11) State of initial powering on: When the refrigerator is turned on for the first time, the refrigerator compartment temperature is set at 5°C and that of the freezer compartment at -18°C.
(12) Display panel control: With the refrigerator compartment door closed, the display panel will go out when no key is pressed within 30s.It will illuminate when any key is pressed or the door is opened. When the door is open for over 30s, the LED will go out.
(3) Compressor protection: The compressor will not start within 7min each time after it stops and the compressor can only be properly controlled when the 7min delay ends. If the freezer sensor

temperature is determined to be lower than -5°C when power is on after a power interruption, there will be 7min duration for compressor protection.

(14) Defrosting control:
In the case of initial powering on, defrost will start when the compressor has operated for 5h in total. Afterwards, variable defrosting control will be run based on ambient temperature and frequency of door opening and closing.

5-2 Test method of forced start

1) In the locked state, press and hold the “Fridge temperature selector” key and press the “Power Freeze selector” key 5 times; T1 will be indicated in the fridge and freezer temperature indicator areas and the compressor and fan will run continuously and enters forced startingt in 10s ,the air damper fully open and all heater turned off.

2) When the display panel indicates T1, press the”Lock selector” key and it will indicate T2; the refrigerator will enter forced defrost mode.

3) With T2 indicated on the panel, press the “Lock selector”key and T3 will be shown on the panel.The main control panel has no T3 mode control and the refrigerator will work normally.

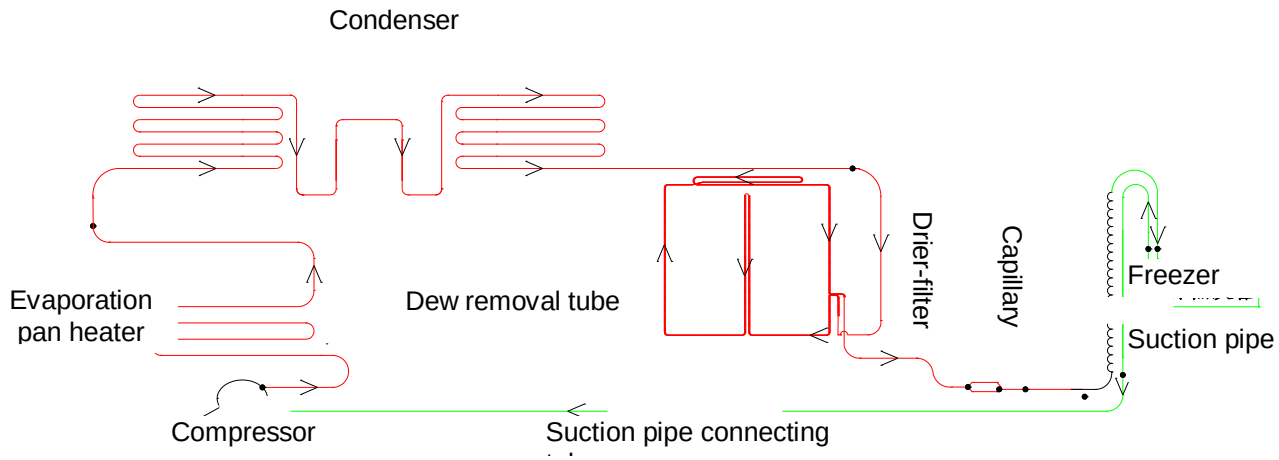
4) With T3 indicated on the panel, press the “Lock selector “key and T4 will be shown on the panel. Also the main control panel has no T4 mode control and the refrigerator will work normally.

5) Way to exit: With the refrigerator under the T4 mode, press the “Lock selector”key on the panel again and it will exit the T mode, or the refrigerator will exit T mode when the power is turned on again after a power interruption.

5-3 PCB pins no break off

Chapter 6 System flow principle

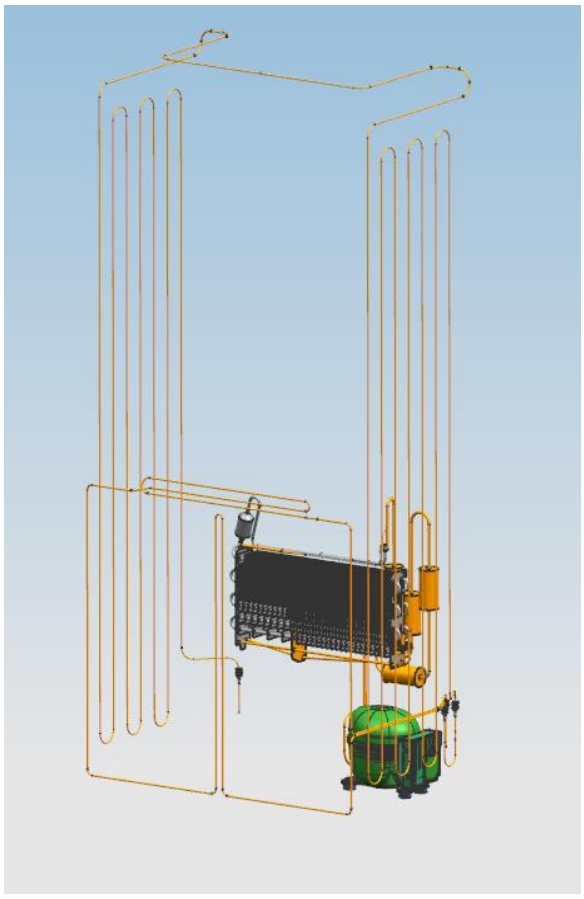
6-1 Refrigeration cycle plan diagram

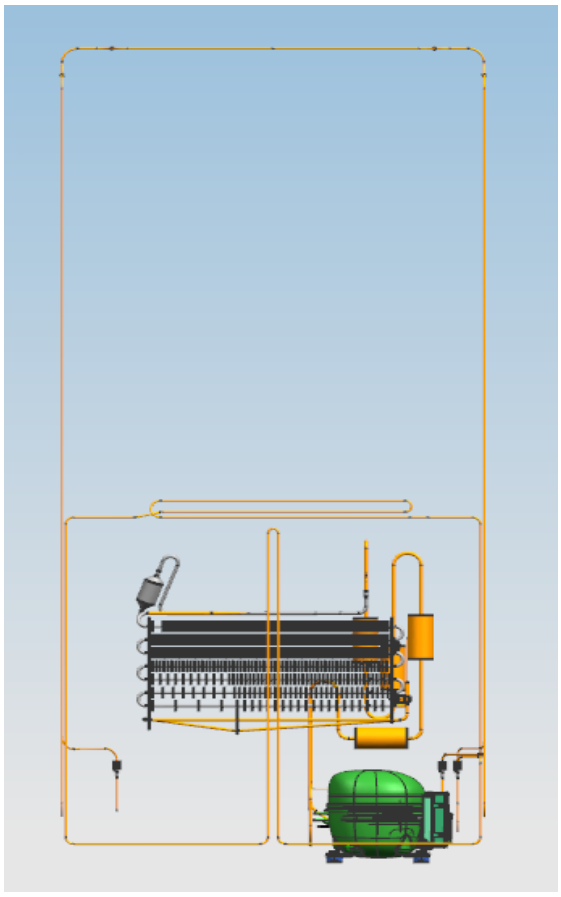


Refrigeration System Circuit Diagram

BCD-450W Refrigeration System Circuit Diagram

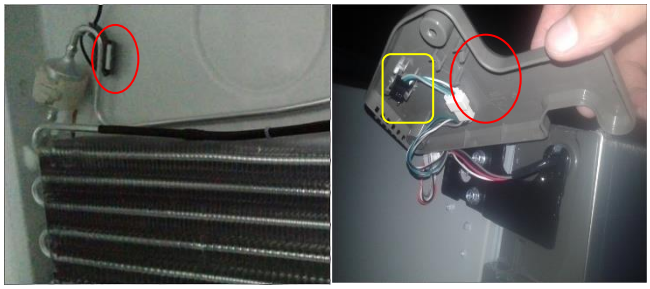
Refrigeration cycle perspective drawing





6-2 Sensor location

6-2-1.Sensor Location



Designation	Symbol	Location
Freezer sensor	F SNR	Left middle of freezer compartment air duct cover
Refrigerator sensor	R SNR	Lower left of refrigerator compartment air duct
Freezer/defrost sensor	F/D SNR	On freezer evaporator
Humidity sensor	Humidity SNR	Below the right hinge box

Value of the sensors

T(℃)	The resistance(±5%KΩ)		T(℃)	The resistance(±5%KΩ)	
	R type	F type		R type	F type
-30	33.070	33.84	1	6.038	6.162
-29	31.160	31.88	2	5.743	5.861
-28	29.370	30.04	3	5.464	6.576
-27	27.690	28.32	4	5.201	5.306
-26	26.120	26.70	5	4.950	5.051
-25	24.640	25.19	6	4.714	4.810
-24	23.250	23.77	7	4.491	4.581
-23	21.950	22.43	8	4.279	4.365
-22	20.730	21.18	9	4.078	4.160
-21	19.580	20.00	10	3.887	3.965
-20	18.500	18.90	11	3.707	3.781
-19	17.490	17.86	12	3.536	3.606
-18	16.540	16.89	13	3.373	3.440
-17	15.640	15.97	14	3.219	3.283
-16	14.800	15.11	15	3.073	3.134
-15	14.000	14.30	16	2.935	2.922
-14	13.250	13.53	17	2.803	2.858
-13	12.550	12.81	18	2.678	2.730
-12	11.890	12.14	19	2.559	2.609
-11	11.270	11.51	20	2.446	2.493
-10	10.680	10.906	21	2.339	2.384
-9	10.120	10.341	22	2.237	2.280
-8	9.600	9.8067	23	2.140	2.180
-7	9.108	9.3031	24	2.047	2.086
-6	8.643	8.821	25	1.960	1.977
-5	8.204	8.373	26	1.876	1.911
-4	7.790	7.95	27	1.796	1.830
-3	7.398	7.551	28	1.721	1.753
-2	7.029	7.173	29	1.649	1.679
-1	6.680	6.817	30	1.580	1.609
0	6.350	6.48	31	1.514	1.542

6-2-2.Error code

S/N	Item	Fault Code	Content	Location	Remarks
1	Normal	/	/	/	Normal
2	F-SNR defective	F4	F-SNR short circuit or open circuit	Freezer	Sensor defective; Sensor connection wire defective.
3	RT-SNR defective	F2	RT-SNR short circuit or open circuit	Refrigerator	
4	Humidity sensor defective	EH	Humidity sensor short circuit or open circuit	Refrigerator	
5	R-SNR defective	F3	R-SNR short circuit or open circuit	Refrigerator	
6	D-SNR defective	F6	D-SNR short circuit or open circuit	Freezer	
7	Poor communication	E0	No communication between display panel and power panel in 2min	Refrigerator	The display panel is defective: abnormal display and inoperative keys; Connection wire between display panel and power panel is defective: display and keys work normally.
8	Defrost fault	Ed	D-SNR defective, D HTR defective	Freezer	The defrost time exceeds 50min, but the D-SNR temperature still haven't reached 10°C.
9	Freezer fan failure	E1	The control panel cannot detect feedback signal from the fan	Freezer	

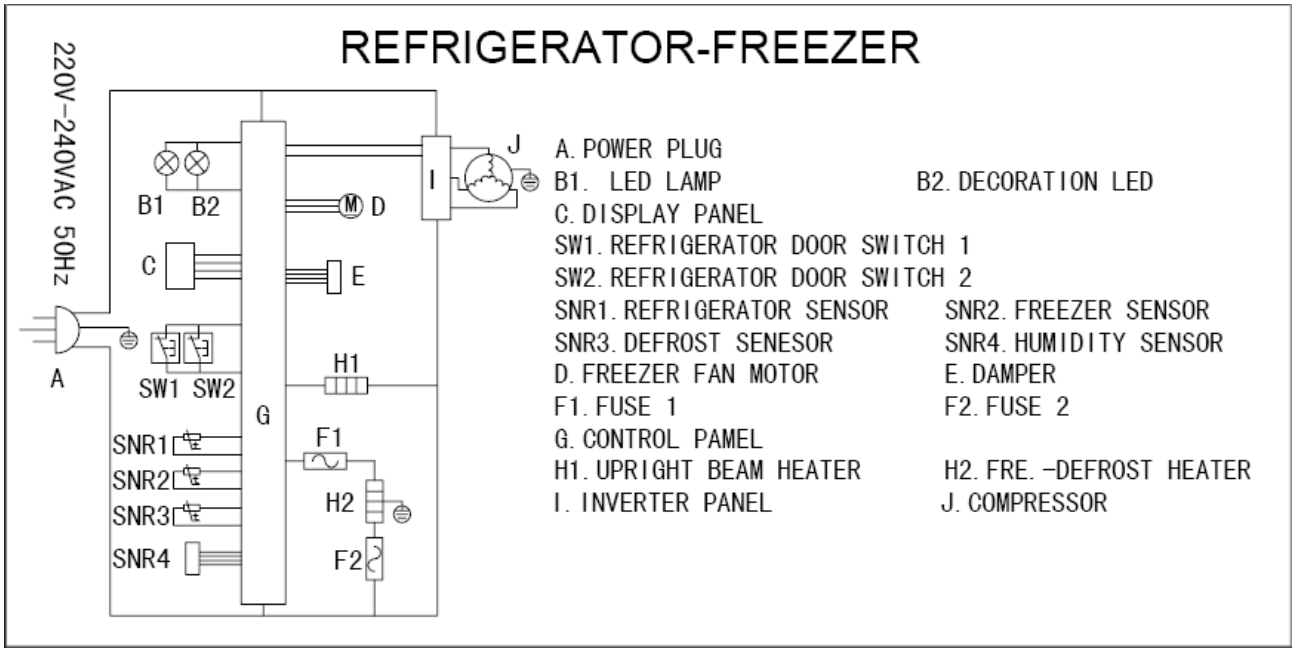
Enter method: In the locked state, press and hold the "Fridge temperature selector" key and press the "SMART mode and holiday function selector" key 5 times; the buzzer will beep once and it will enter the error code mode. The error code will be indicated in the corresponding temperature indicating area (-- will be indicated if there is no fault code).

Viewing method: The error codes are displayed based on priority. Every time the :Lock" key is pressed, the fault code of the next level will be displayed.

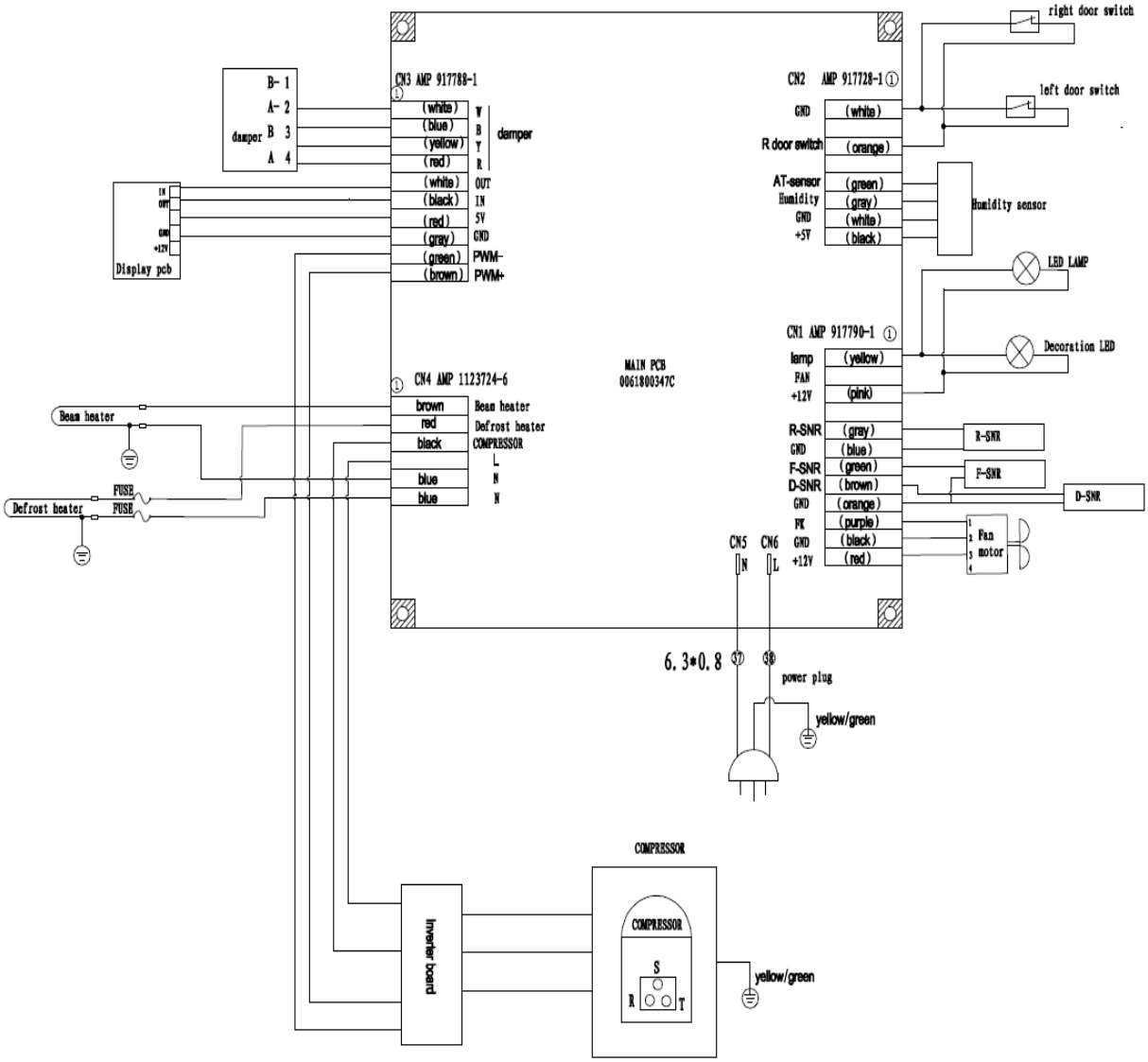
Exit method: In the locked state, press and hold the "Fridge temperature selector "key and press the "SMART mode and holiday function selector" key 5 times; the buzzer will beep once and it will exit the error code mode.

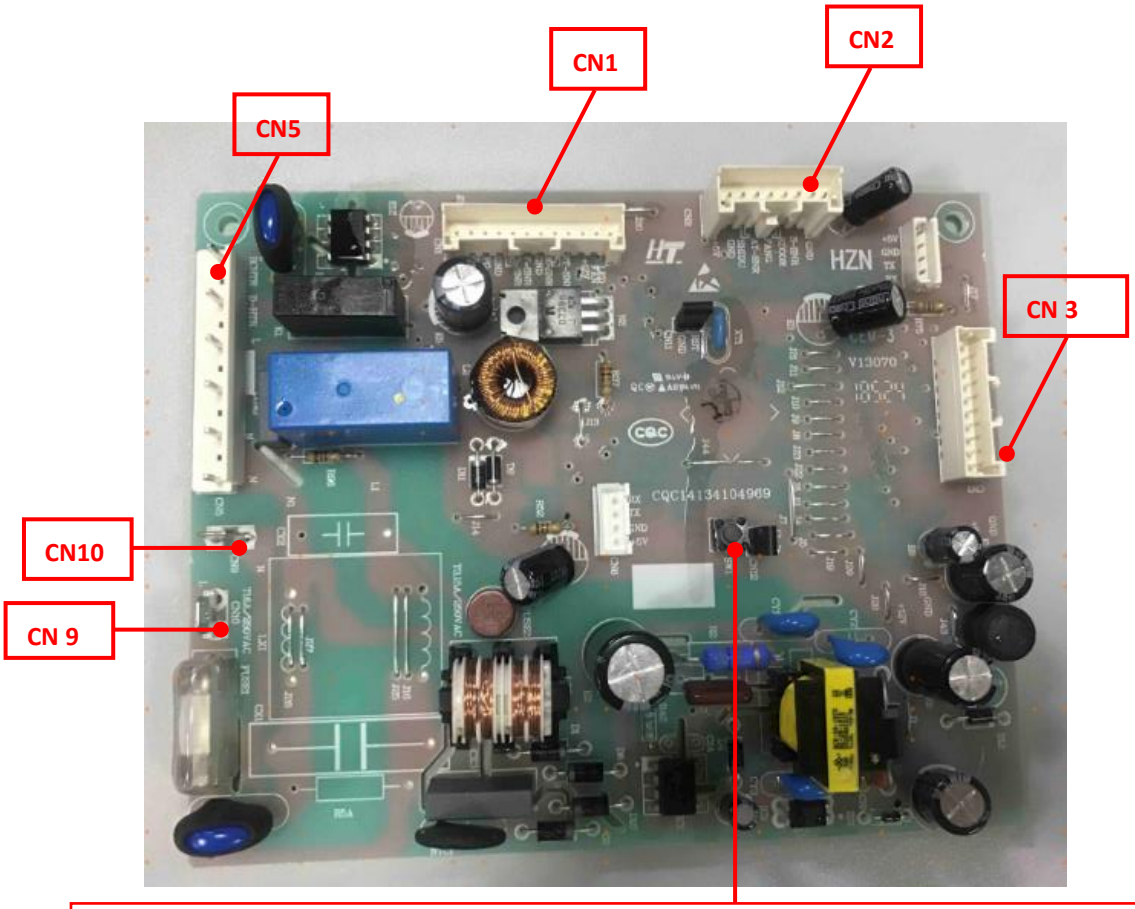
Chapter 7 Circuit diagram

7-1 Schematic diagram



7-2 Wiring diagram



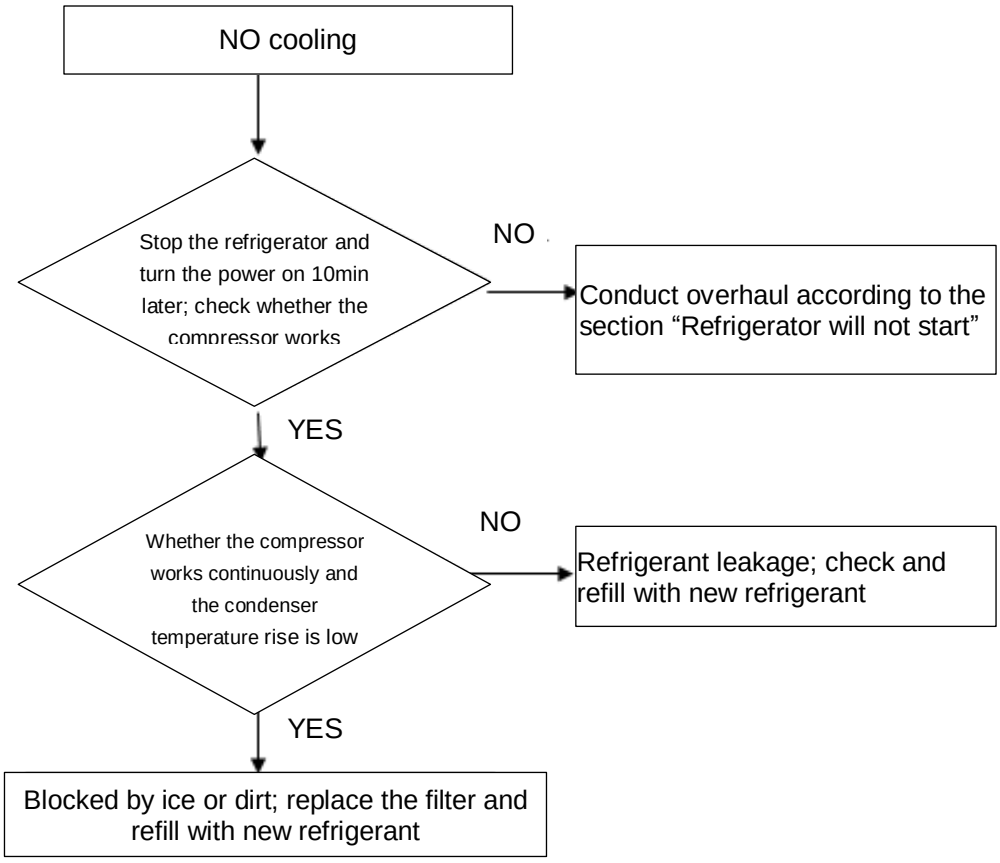


Press the button, the product can enter T mode, for it is danger, so it is safety to enter from display panel, it is main for the factory

Chapter 8 Trouble shooting

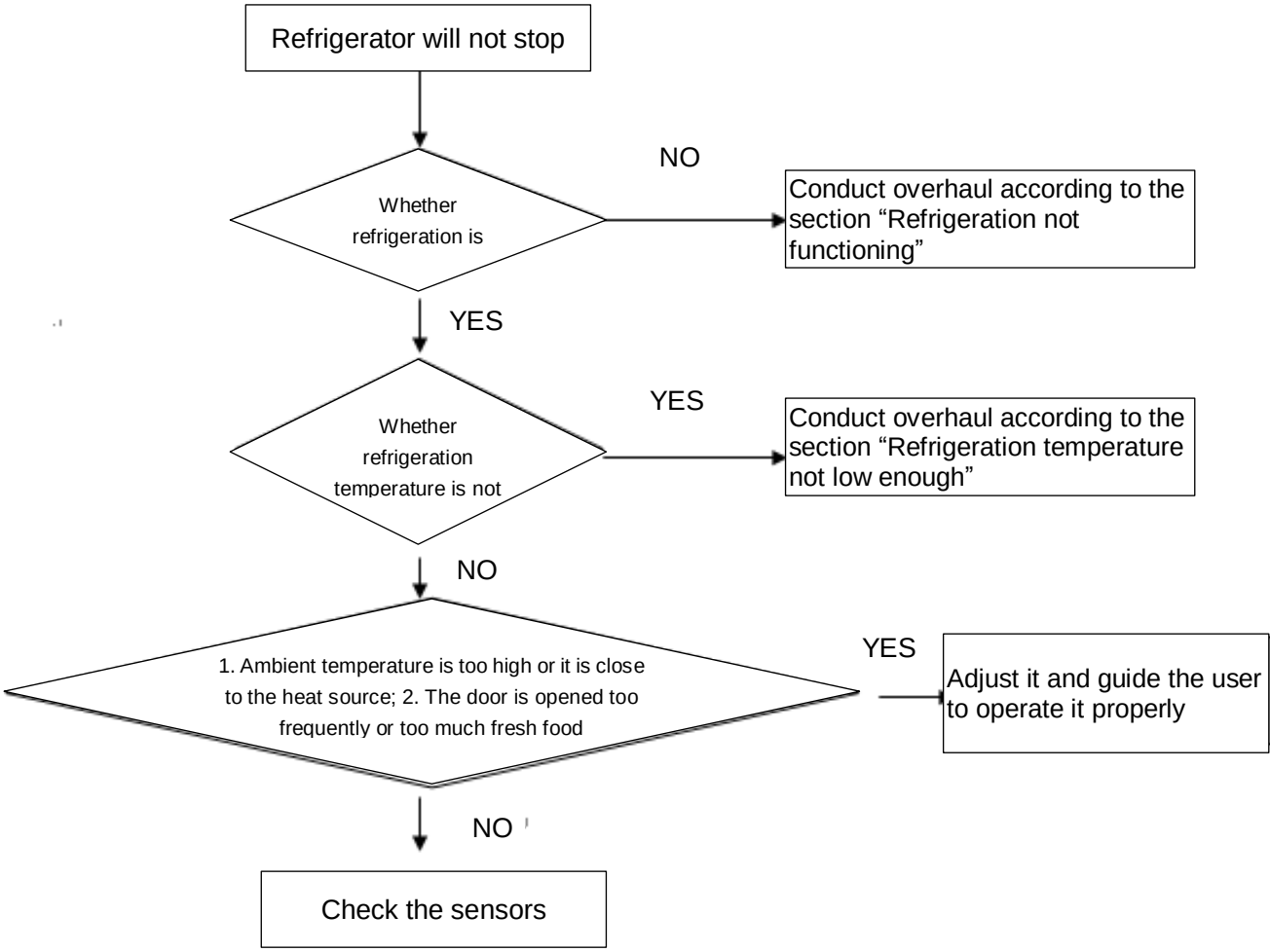
8-1. Typical faults and solutions

1) NO Cooling

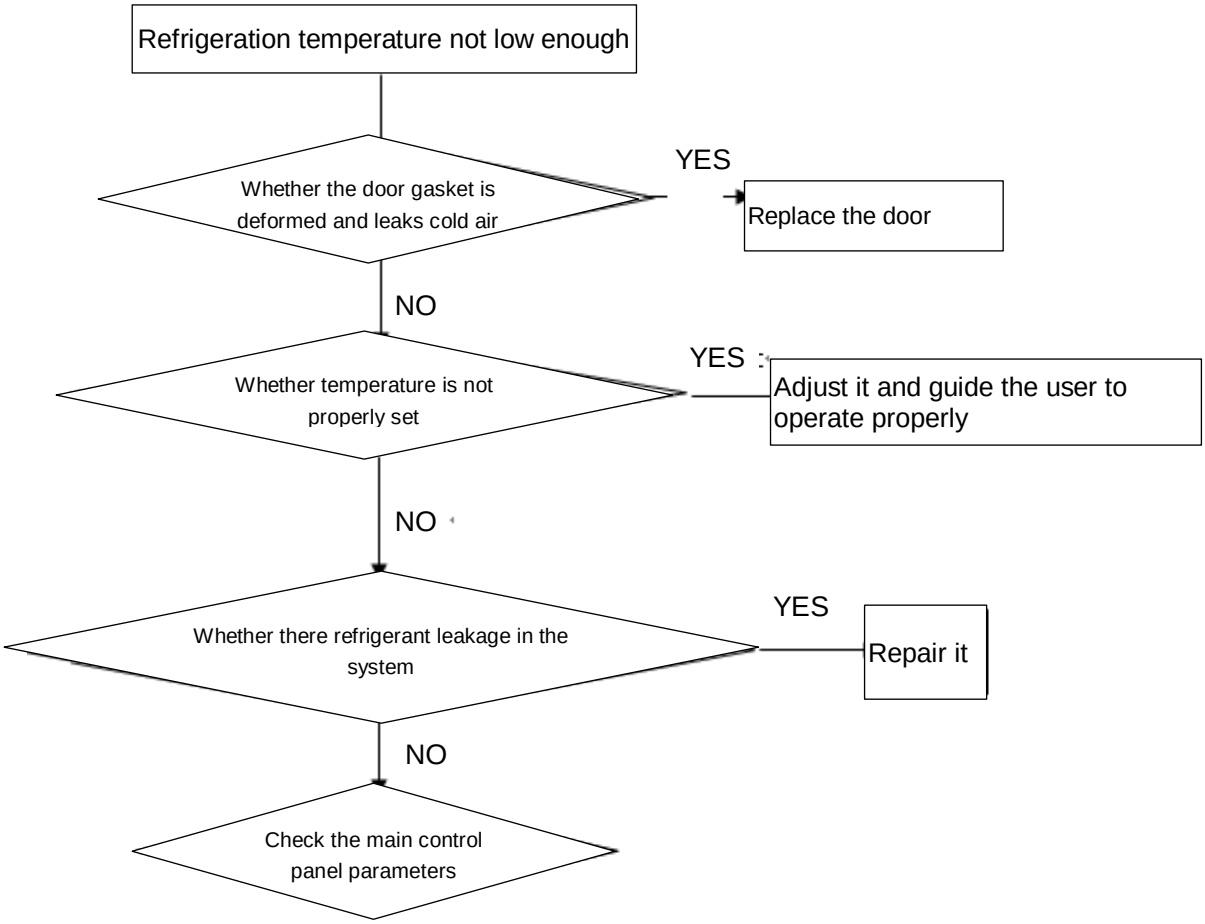


Notes:
A. The refrigerant for refilling shall be consistent with the original.
B. Isobutane and refrigerant shall be handled in strict accordance with the requirements of operation procedures.

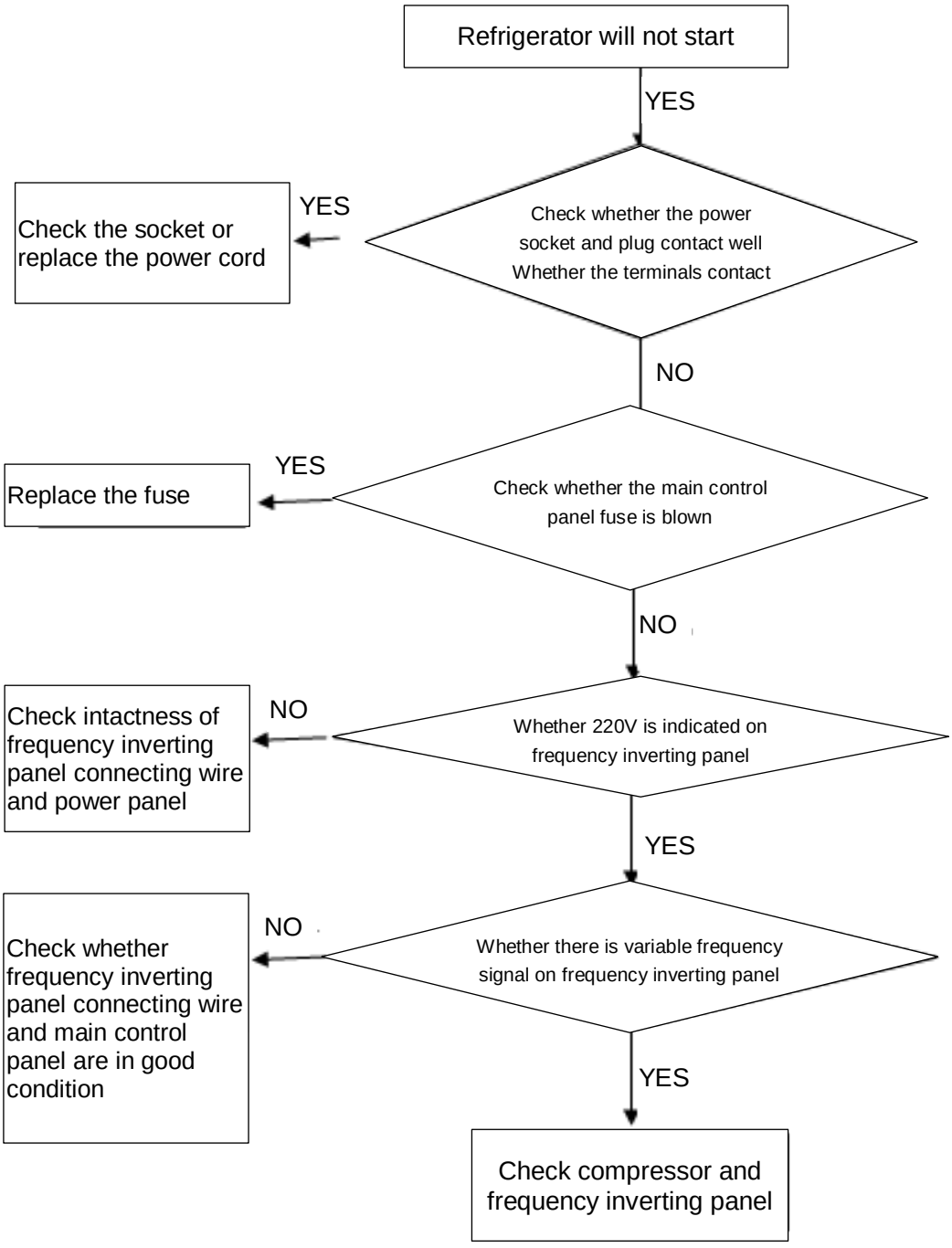
2) Refrigerator will not stop



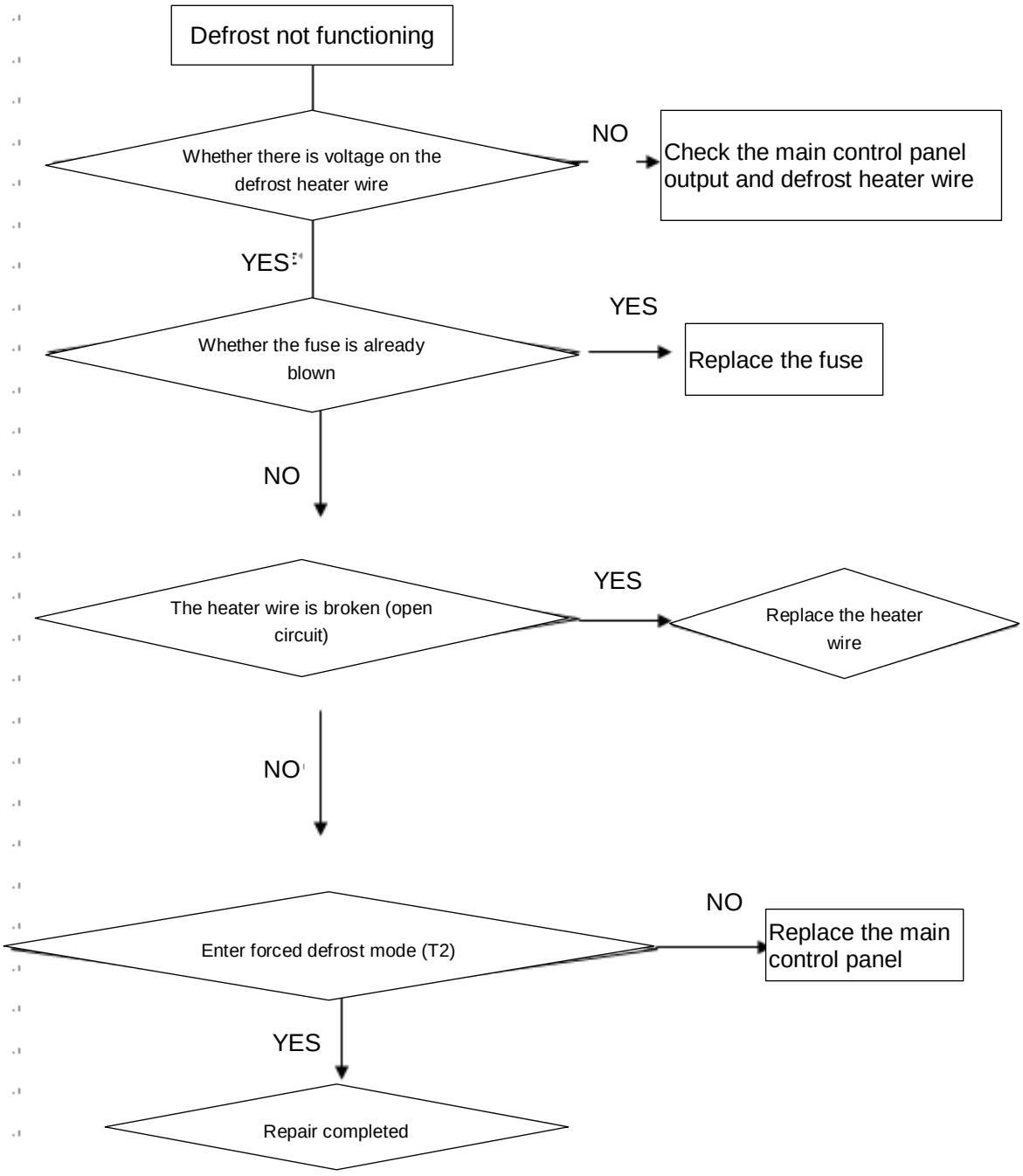
3) Refrigeration temperature not low enough



4) Refrigerator will not start



5) Defrost not functioning



8-2. Answers to frequently asked questions

① The refrigerator does not work

- Check whether the power is connected (the plug, socket, fuse, etc.).
- Whether the supply voltage is too low.

② The refrigerator produces noise

- Since the refrigerant flows in the pipeline, it will produce noise and it is normal.

● In the case of initial use, the refrigerator is not stable and will drone loudly. It is normal.
● The evaporator and pipeline will produce snaps due to thermal expansion and contraction when the refrigerator is working. It is normal.
● The relays and other elements will act and produce clicks when the refrigerator starts and stops working. It is normal.

③The internal temperature is not low enough

● Whether the temperature is set too high.
● The door not tightly closed or opened frequently or for excessively long period of time.
● The refrigerator is placed where it is exposed to direct sunlight or too close to such heat sources as furnace and heating.
● Poor ventilation: Check whether the plates at both sides of the refrigerator or the steel plate on the back is blocked or these places are dirty.

④ Loud noise

● Check whether the ground is level and the refrigerator is stably positioned.
● The refrigerator has produce noise because certain part is in contact with other objects or the wall.
● Check whether power of the refrigerator is off.

⑤Operation of refrigerator keys fails

● Check whether power of the refrigerator is off.
● Check for improper key operation. Please operate properly according to the section “Function introduction”.

⑥ The temperature value indicated changes automatically

● The refrigerator compartment temperature indicated changes: it is normal in the operating process of the refrigerator.
● The temperature indicated changes under the SMART mode: when the ambient temperature changes, the refrigerator will automatically adjust the temperature. It is normal.

⑦Much frost formed on rear panel inside refrigerator compartment

● The temperature is not set properly. See “Manual adjustment of temperature”.
● The door is not closed tightly or not closed with food bearing against it.
● The door is opened too frequently.
● Hot weather, high humidity and poor ventilation.

⑧The refrigerator body temperature is high

● Since the refrigerator dissipate heat through the plates on both sides, such parts will have high temperature and it is normal.
● In the case of initial use, the refrigerator body temperature may be high due to long working hours. It is normal.

⑨ The compressor runs for too long period

● In the case of initial use, it will run for a long time and it is normal.
● A large amount of food is put in the refrigerator one time for cooling.
● The weather is hot or door frequently opened.
● The door is not closed tightly.
● The temperature is set too low. See “Manual adjustment of temperature”.

⑩The refrigerator body temperature is high and the lamp does not shine

● Check whether the lamp is damaged.

● Check whether the power is on.

Chapter 9 Examples – Preventative Measures, Product Operation and Daily Maintenance Tips

(1) Defrosting

● The refrigerator is defrosted automatically, without requiring manual operation. operation.

(2)Cleaning

■The food stored in the refrigerator may produce undesirable odor, so the refrigerator must be regularly cleaned.

●Please unplug the plug prior to cleaning.

●Clean the refrigerator with soft towel or sponge dipped in warm water (mild detergent can be added).

Note: Do not clean the refrigerator with scrub brush, steel brush, abrasive (eg.: toothpaste, cleanser, etc.), organic solvent (eg.: gasoline, banana oil, acetone, alcohol, etc.), hot water, acid or alkali, etc.

■Please clean water on the refrigerator surface with dry cloth.

Notes: 1. Do not spray or drench it with water during cleaning, to prevent the electrical insulation property from being affected.

2. Please use dry cloth to clean the switches, lamps and other electrical components.

● The back and the plates on both sides of the refrigerator shall be frequently cleaned, to improve heat dissipation efficiency.

● The door gasket will easily get dirty. Please regularly clean it and keep it clean.

(3) Shutdown

■The refrigerator can preserve food inside for several hours in case of a power failure even in summer.

●In case of power failure, do not put new food inside and try not to open the door.

● If you know about a power failure in advance, you should make more ice, stored it in a watertight container and put it in the upper part of the refrigerator compartment.

Note: The temperature rise in freezer compartment due to power interruptions or other failures will reduce shelf life and edible quality of the food inside.

■Out of service

If the refrigerator is to be shut down for a long time, the plug shall be disconnected and the power cut off and the refrigerator shall be cleaned in the way as described above. The door shall remain open when the refrigerator is out of service, to prevent the food residual in the refrigerator from producing undesirable odor.

Note: 1. Do not shut the refrigerator in general, in order not to affect service life of the refrigerator. When power is turned off, it cannot be turned on until there is at least a 5min interval.

3. The appliances when scrapped shall be properly handled or handed over to professionals for further treatment. They shall not be arbitrarily discarded, to prevent endangering the environment or causing other hazards.

Sincere forever

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