Haier SERVICE MANUAL

Refrigerator

MODEL:HBM425BMRSS0

Contents

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 110V 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.

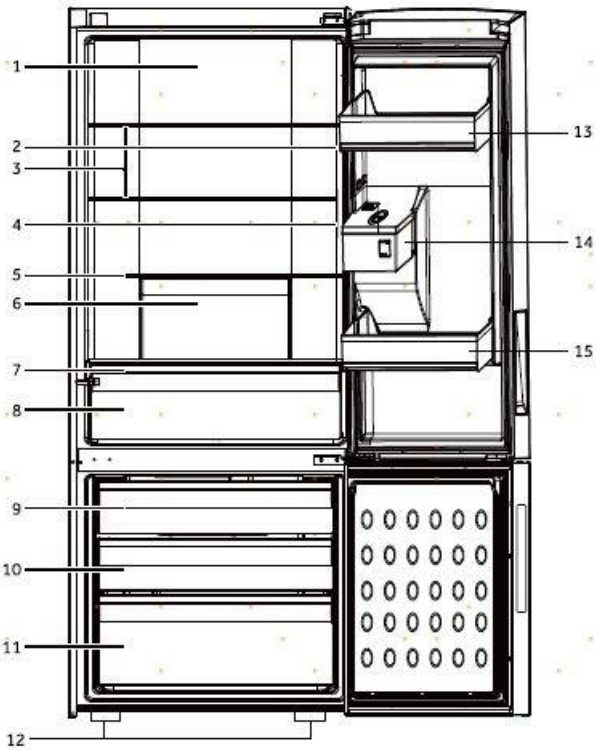
Chapter 2 Product Feature

2-1. Specifications

Picture		
Model		**HBM425BMRSS0**
Basic features		**ACM**
Energy efficiency class		****
Climate class		SN/N/ST/T
Freezer compartment star rating		*/***
Gross capacity	l	455L
Total net capacity	l	406L
Net capacity refrigerator compartment	l	272L
Net capacity freezer compartment (total)	l	94
Chill compartment	l	40L
Freezing capacity / 24 hours	kg/24 h	/
Energy consumption / year	kWh/ year	335
Energy consumption (EN153) per 24 h	kWh/ 24 h	0.92
Max noise level	dB(A)	38
Max storage time by power failure Freezer	h	16
Kind of coolant and weight (R134a/R600a)		R600a（57g）
Approvals (VDE / TÜV / IMQ / NF / ÖVE / DEMKO etc.)		NOM
Certifications (CE / ISO 9001/2 / LGA)		
Key features		
Cooling system: (K = Compressor / A = Absorbtion)		K
Number of compressor(s)	n°	1
Defrosting Fridge / Freezer (M=manual A=automatic)		A/A
Control system (E = Electronic / M =		E

Mechanical)		
NO FROST (Fridge/Freezer)		Y
Ventilated (Fridge only)		Y
Antibacteria system		Y
Basics datas		
Unit dimensions with-out handle (***H / W / D)***	mm	1725/700/676
Depth with open door	mm	1323
Net weight	kg	87
Voltage / frequency		115V~/ 60Hz
Input power / mains fuse (intensity)	W /A	150/15

2-2. External views



1 Refrigerator LED lamp
2 Rating plate
3 Glass shelves
4 O.K.-temperature indicator (optional)
5 Fruit and vegetable box cover
6 Fruit and vegetable box
7 My Zone glass cover
8 My Zone box
9 Upper freezer storage drawer
10 Middle freezer storage drawer
11 Lower freezer storage drawer
12 Adjustable feet
13 Upper door rack
14 Water dispenser
15 Lower door rack

2-3. Major 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、 Quick Freeze function: when you are out for Quick Freeze, 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.

Chapter 3 Disassembly and Installation

3-1 Disassembly of refrigerator/freezer air duct, freezer fan, lamps and other relative components

3-1-1 Disassembly of refrigerator air duct

 ①	①As shown in the figure, unscrew three bolts from the refrigerator air duct with a cross screwdriver;
 ②	② Follow the arrow direction in the figure and remove the refrigerator air duct from top to bottom;
 ③	③Pull out the connection terminal from the right side of the refrigerator air duct. The left and right refrigerator air ducts can then be removed. There are three connection terminals in total, and the corresponding loads are refrigerating sensor, My Zone sensor and damper.

3-1-2 Disassembly of top lamp

 ①  ②	①Follow the arrow direction in the figure and gently unscrew the lampshade of the top lamp with a screwdriver; ②The whole lamp is fixed by snap joint, and its location is shown in the figure. Pull out the terminal of the left lamp and remove the lamp.

3-1-4 Disassembly of freezer air duct

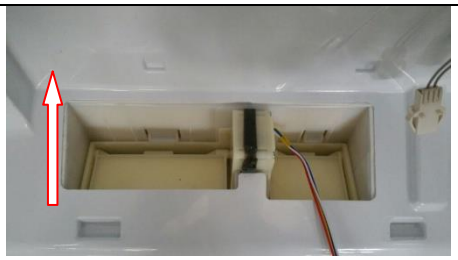
 ①  ②	①Unscrew five bolts from the freezer air duct with a cross screwdriver; ②As shown in the figure, pull out the two terminals those are connected to the freezer air duct; roll out the freezer air duct from below. There are two connection terminals, which are the freezing fan and the freezing sensor.

3-1-5 Disassembly of freezer fan

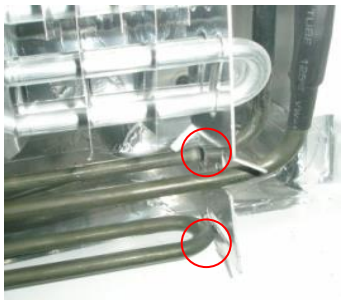
  ①	① Unscrew the bolts with a cross screwdriver. Gently unclench the upper and lower cover plates of the freezer air duct;
  ②	②Take the fan cable out. Unscrew three bolts with a cross screwdriver. Disassemble the freezer fan.

3-1-6 Disassembly of refrigerator air door

 ①	①Follow the methods in Figure 3-1-1 to disassemble the refrigerator air duct. And pull out the terminal of refrigerator air door as shown in the figure;

 ②	②Follow the arrow direction in the figure and slightly pull out the refrigerator air door from top to bottom.

3-1-7Disassembly methods of defrosting heater strip

 ①  ②  ③	①Take out the two connector terminals in the red circle connected to the defrosting cable; The two terminals on the left are the frosting sensor and the drain heating wire. The two terminals on the right are frozen frosting heating wire and fuse ① Gently spread two cards fixing the defrosting heater strip, as shown in the red circle in Fig. ②. Pull the defrosting heater strip through the right fixing card; ② Pull out the defrosting heater strip through the left fixing card.

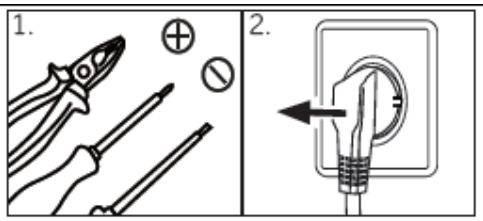
3-2 Door Reversibility

Before connecting the appliance to the power supply you should check, whether the door swing must changed from right (as delivered) to left, if this is required by the installation location and the usability.

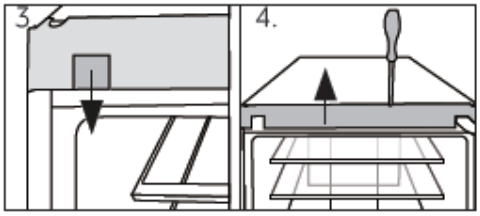
WARNING!

- The appliance is heavy. You need two persons to carry out the door reversibility.
- Before any operation, first unplug the appliance from the mains .
- Do not tilt the appliance more than 45 ° to prevent damage of the cooling system.

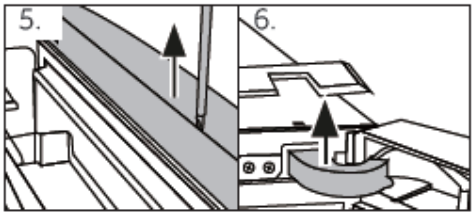
1. Provide necessary tool.
2. Unplug the appliance.



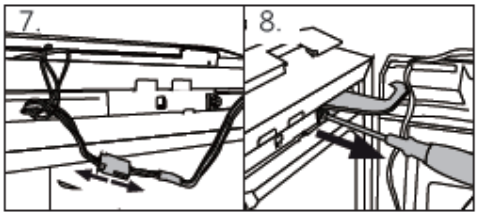
3. Remove the fixation of the cover
4. Remove the faceplate of the body



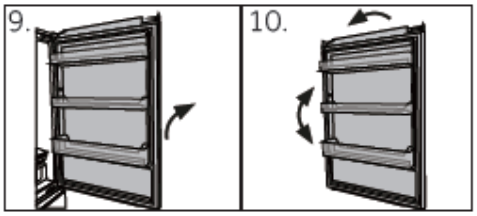
5. Remove the topplate of the upper door.
6. Remove the hinge cover.



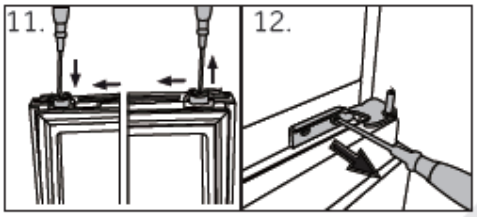
7. Unplug the connection cable
8. Unscrew the upper hinge.

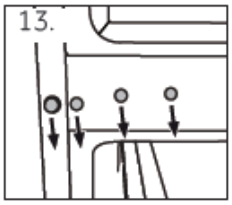


9. Lift the loose upper door carefully off the lower hinge.
10. Turn the upper door upside down and change the position of the hinge barrel on the lower side of the door.

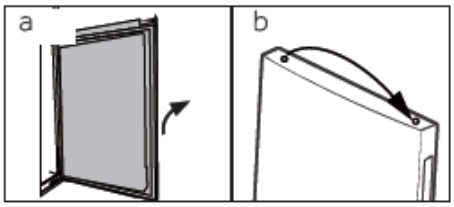


11. Change the door stop from the current position to opposite side
12. Unscrew the lower hinge of the upper door.



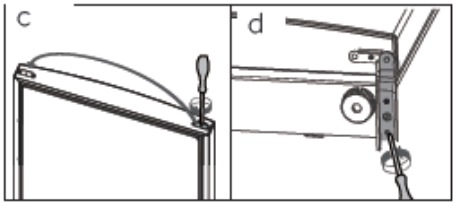


13. Change the positions of the blanking plugs and the screw on the side.



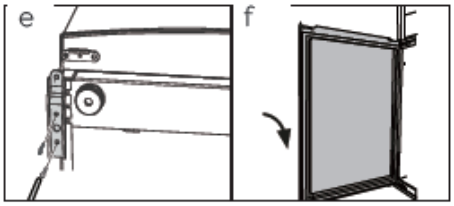
a Remove lower door

b Change the positions of the blanking plug at the top of the lower door.



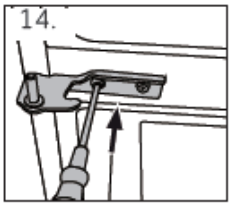
c Change the door stop at the bottom of the lower door from the current position to opposite side

d Unscrew the lower hinge

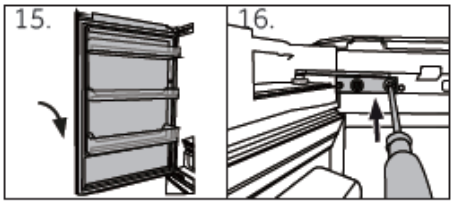


e Take out the new lower hinges from the accessory bag and screw the new lower hinge to the other side of the door opening

f Lift the lower door carefully on to the lower hinge so that the pivot fits into the hinge barrel.

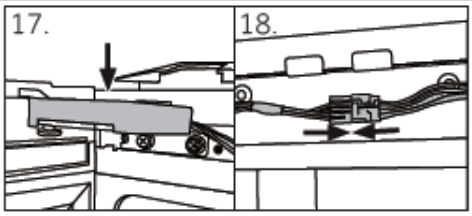


14. Take out the new hinges from the accessory bag and screw the new lower hinge of upper door to the other side of the door opening.



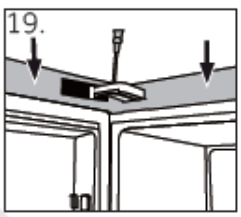
15. Lift the door carefully on to the lower hinge so that the pivot fits into the hinge barrel.

16. Fix the upper hinge with the screws.



17. Put the connection cable through the hinge cover (delivered in the accessory bag) and put it over the hinge.

18. Plug in the connection cable and fit it into the opening.



19. Replace faceplate and cover, fix it with the screws and reinsert the fixation (see fig. 3).

After the change of the door check that the door seals are located properly on the housing and all screws are tightened well.

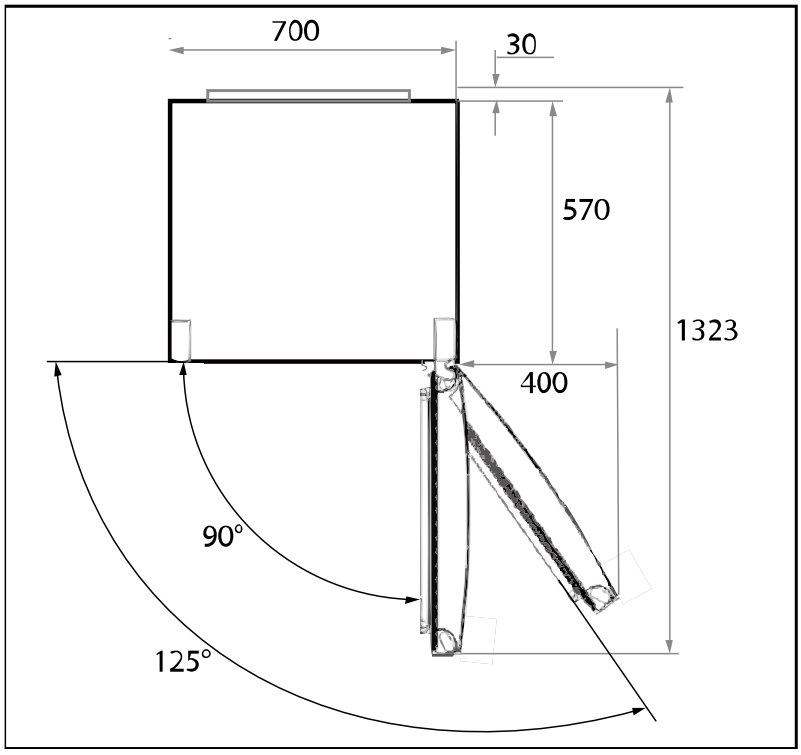
Chapter 4 The Preparation Before Use

4-1 Space requirement

Required space when door is opened:

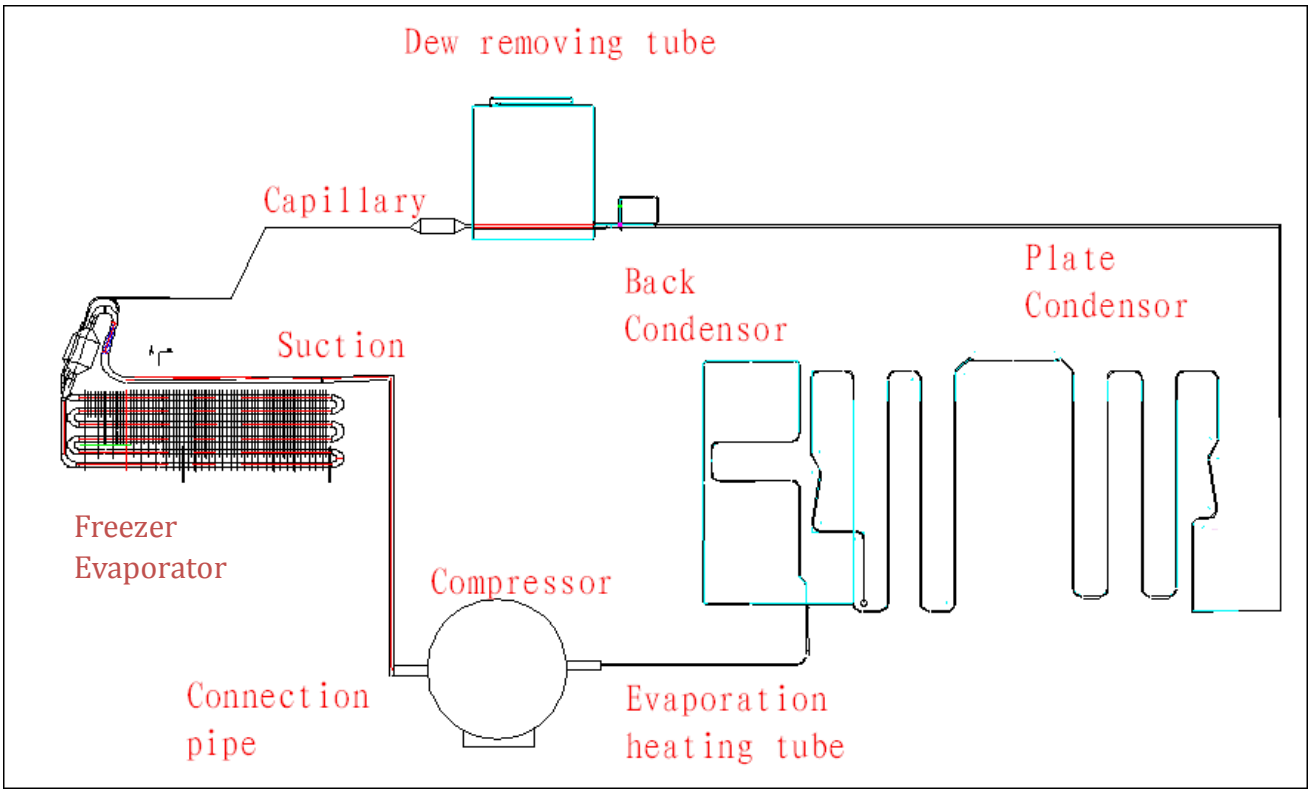
Appliance width:1100cm;

Appliance depth:1323cm.

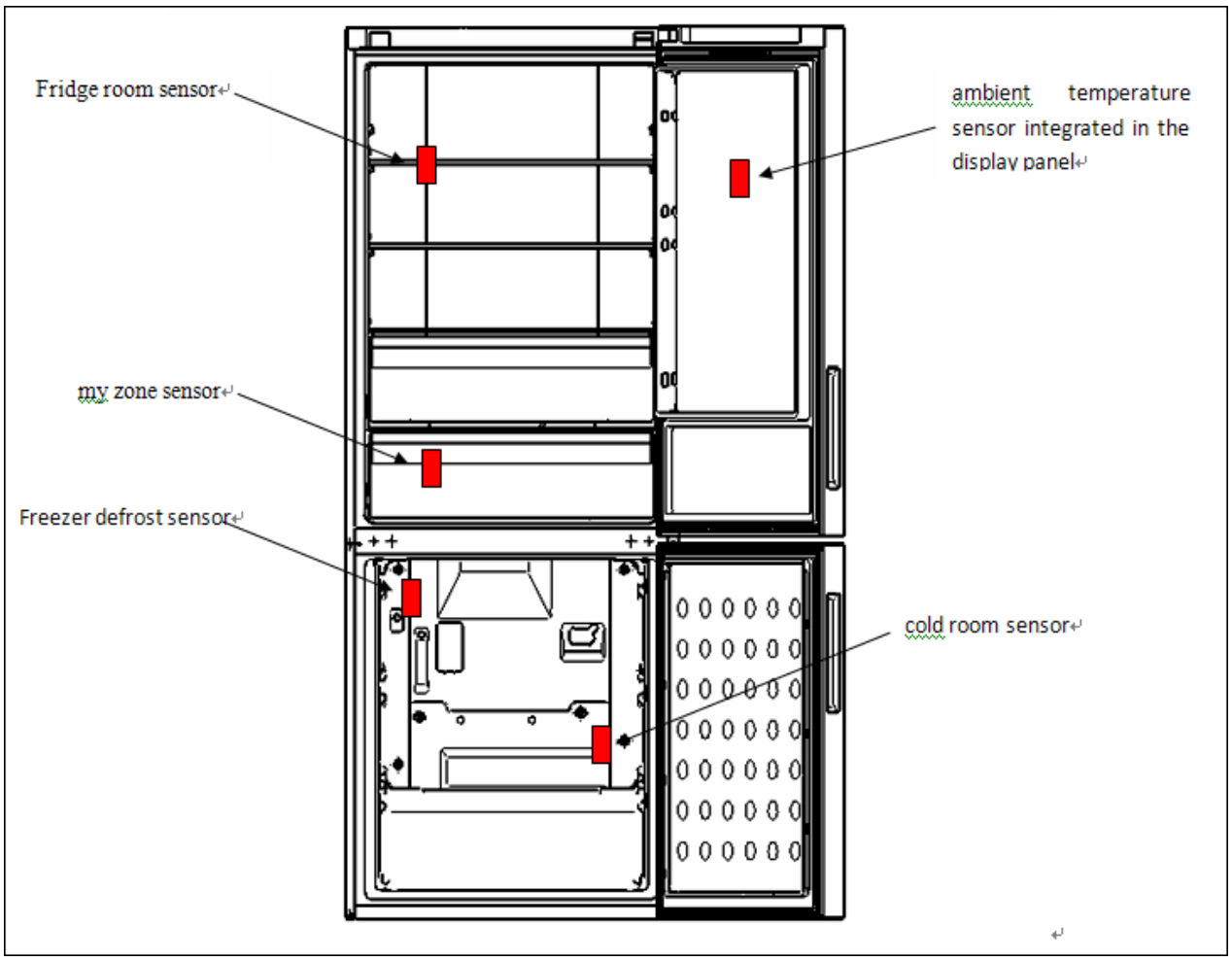


Chapter 5 System flow principle

5-1 Refrigerating cycle plan



5-2 Sensor layout plan

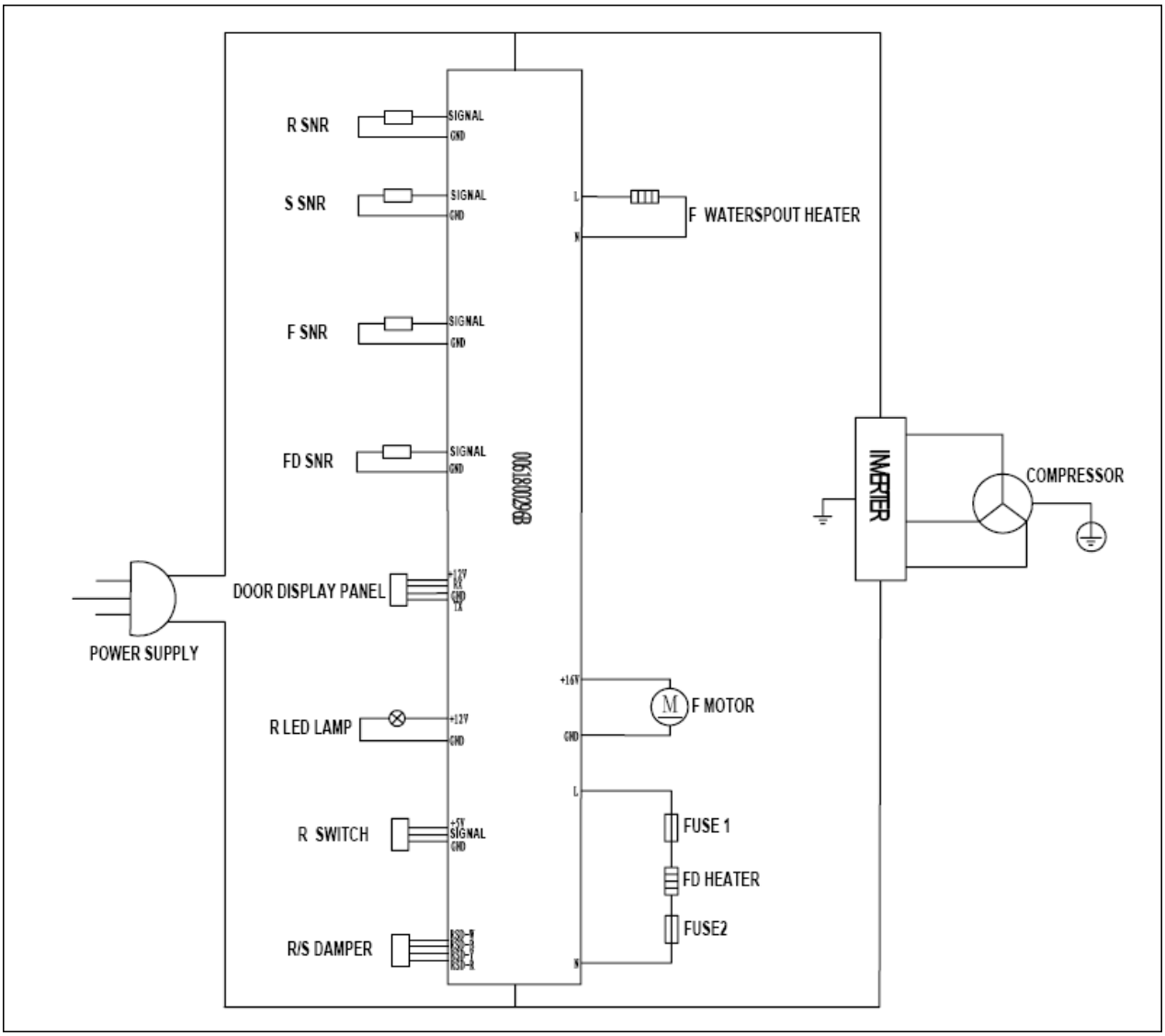


Temperature (℃)	Refrigerated resistance (K)	Freezing resistance (K)	Temperature (℃)	Refrigerated resistance (K)	Freezing resistance (K)
-40	63.42	64.11	6	4.714	4.810
-39	59.45	60.10	7	4.491	4.581
-38	55.74	56.35	8	4.279	4.365
-37	52.29	52.86	9	4.078	4.160
-36	49.08	49.61	10	3.887	3.965
-35	46.07	46.58	11	3.707	3.781
-34	43.27	43.74	12	3.536	3.606
-33	40.65	41.10	13	3.373	3.440
-32	38.21	38.63	14	3.219	3.283
-31	35.93	36.32	15	3.073	3.134
-30	33.07	33.84	16	2.935	2.922
-29	31.16	31.88	17	2.803	2.858

-28	29.37	30.04	18	2.678	2.730
-27	27.69	28.32	19	2.559	2.609
-26	26.12	26.70	20	2.446	2.493
-25	24.64	25.19	21	2.339	2.384
-24	23.25	23.77	22	2.237	2.280
-23	21.95	22.43	23	2.140	2.180
-22	20.73	21.18	24	2.047	2.086
-21	19.58	20.00	25	1.960	1.977
-20	18.50	18.90	26	1.876	1.911
-19	17.49	17.86	27	1.796	1.830
-18	16.54	16.89	28	1.721	1.753
-17	15.64	15.97	29	1.649	1.679
-16	14.80	15.11	30	1.580	1.609
-15	14.00	14.30	31	1.514	1.542
-14	13.25	13.53	32	1.452	1.478
-13	12.55	12.81	33	1.392	1.418
-12	11.89	12.14	34	1.339	1.360
-11	11.27	11.50	35	1.281	1.304
-10	10.68	10.90	36	1.230	1.252
-9	10.12	10.33	37	1.181	1.201
-8	9.600	9.800	38	1.134	1.153
-7	9.108	9.296	39	1.089	1.108
-6	8.643	8.821	40	1.046	1.064
-5	8.204	8.373	41	1.005	1.022
-4	7.790	7.950	42	0.966	0.982
-3	7.398	7.551	43	0.928	0.944
-2	7.029	7.173	44	0.892	0.908
-1	6.680	6.817	45	0.858	0.873
0	6.350	6.480	46	0.826	0.839
1	6.038	6.162	47	0.794	0.808
2	5.743	5.861	48	0.764	0.777
3	5.464	5.576	49	0.736	0.748
4	5.201	5.306	50	0.708	0.720
5	4.951	5.051			

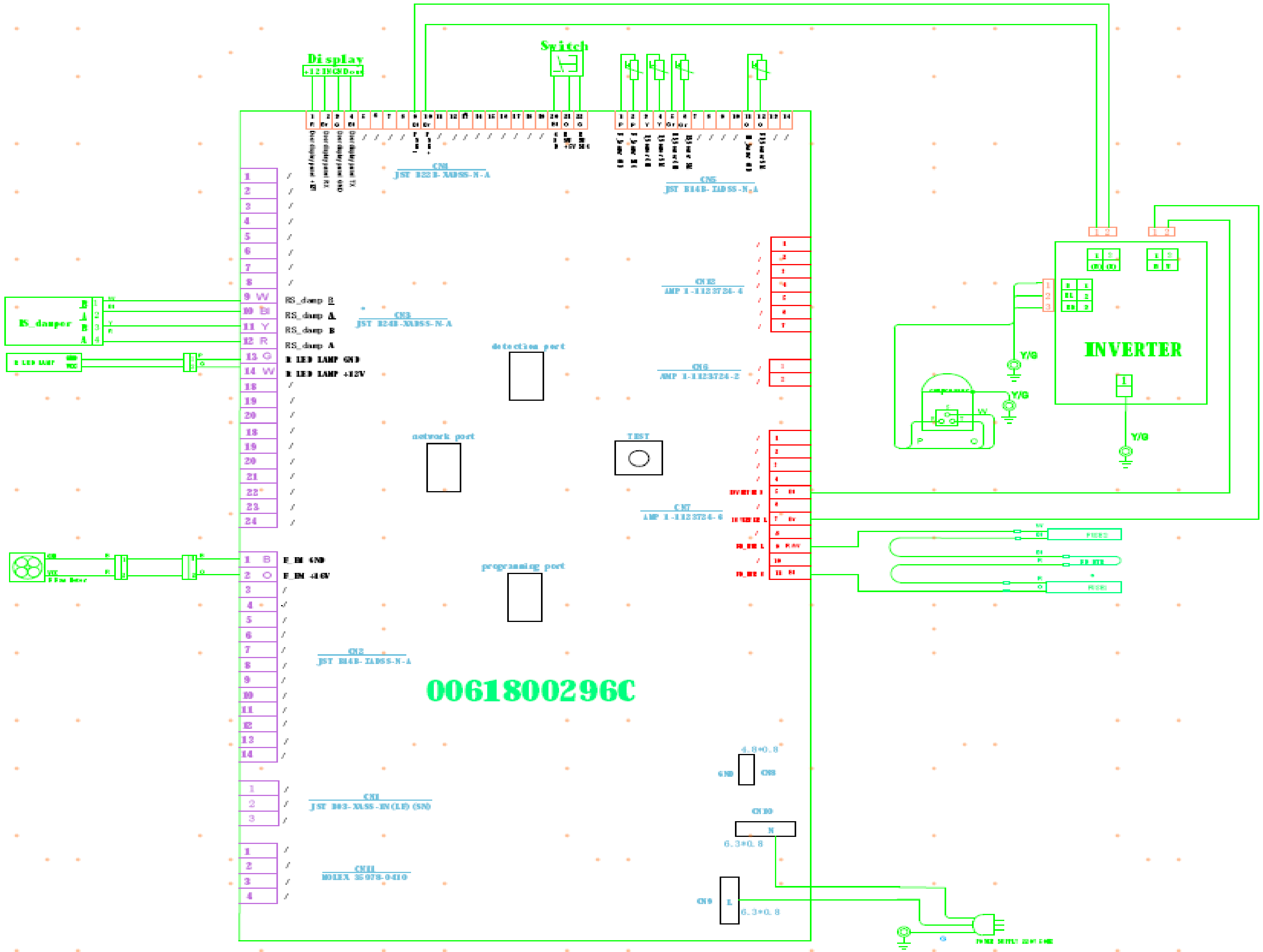
Chapter 6 Circuit diagram

6-1. Brief principle diagram

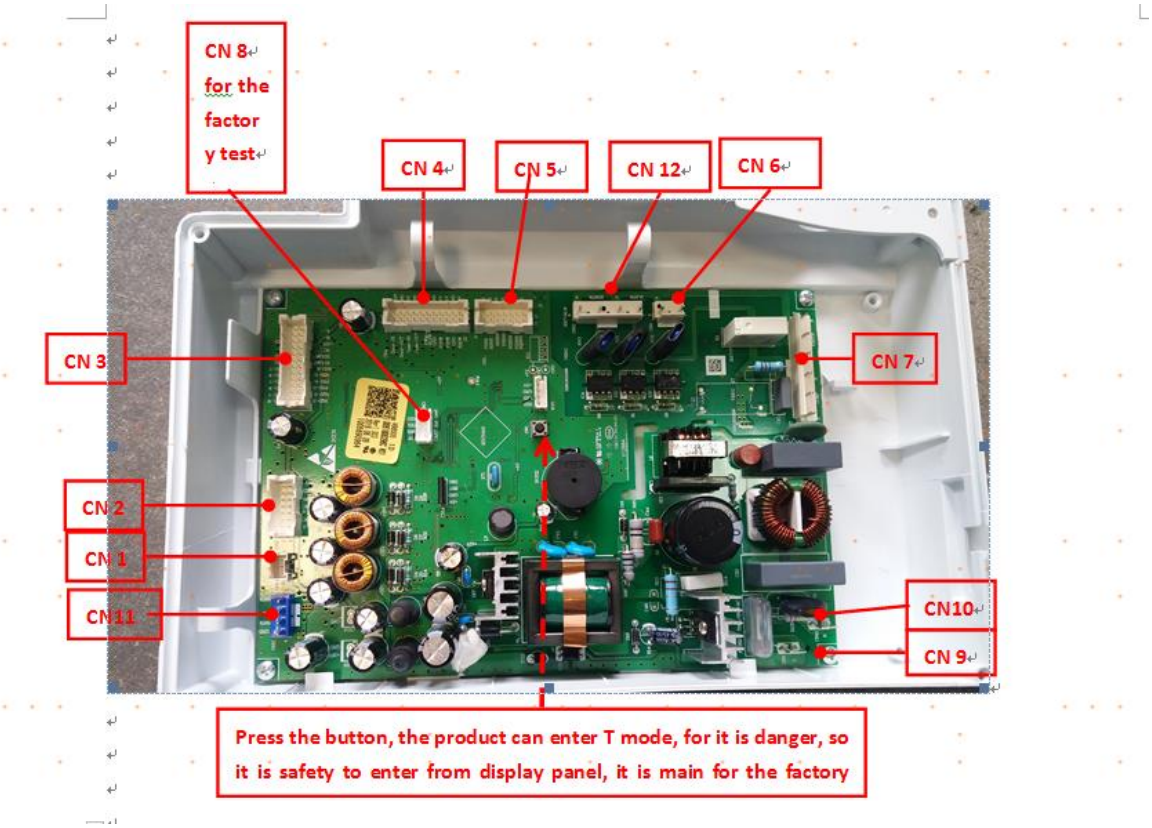


Ps:RS SENSOR is MY Zone SENSOR

6-2. Main control Chart



Display
Switch
INVERTER
RS_damper
RS_damp B
RS_damp A
RS_damp B
RS_damp A
R LED LAMP GND
R LED LAMP +12V
E_EM GND
E_EM +16V
CN1
JST B22B-XADSS-N-A
CN5
JST B14B-ZADSS-N-A
CN3
JST B24B-XADSS-N-A
CN2
JST B14B-ZADSS-N-A
CN4
JST B03-XASS-1N(LF)(SN)
CN11
MOLEX 35978-0410
CN12
AMP 1-1123724-4
CN6
AMP 1-1123724-2
CN7
AMP 1-1123724-6
detection port
network port
programming port
TEST
0061800296C
4.8*0.8
CN8
CN10
6.3*0.8
CN9
Y/G
capacitance



Connector name	Wire connecting (color)	Parts connecting	Position of parts	Normal working parameter
CN2	1 Black 2 Orange 3 -14 Blank	freezing fan motor	Freezing fan motor on the unit assembly of freezing air duct	1 ~2: DC 7-14V
CN3	1-8 Blank 9 White 10 Blue 11 Yellow 12 Red 13 Gray 14 White 15-24 Blank	9-12 Electric damper 13-14 Refrigerator LED lighting	1.Under the refrigerator air duct 2.Refrigerator top	9-12 DC12V 13-14 DC12V

CN4	1 Red 2 Brown 3 Green 4 Blue 5-8 Blank 9 Blue 10 Brown 11-19 Blank 20 Blue 21 Orange 22 Green	1/3 Display board power supply 2/4 Display board communication 9/10 Frequency conversion board signal 20-22 Refrigerated door switch	1-4 Display panel in refrigerated door 9/10 Compressor compartment left 20-22 Refrigerated top trim	1/3 DC12V/Gnd 2/4 Signal 9/10 Signal 19 Gnd 21 DC +5V 22 Signal
CN5	1 Pink 2 Pink 3 Yellow 4 Yellow 5 Gray 6 Gray 7-10 Blank 11 Orange 12 Orange 13-14 Blank	1/2 Freezing sensor 3/4 Refrigerated sensor 5/6 Mzone sensor 11/12 Frozen frost sensor	1/2 On the frozen air duct 3/4 On the refrigerator air duct 5/6 On the refrigerator air duct 11/12 On the freezer evaporator	Sensor signal

CN7	1 Blank 2 Blank 3 Blank 4 Blank 5 Blue 6 Blank 7 Brown 8 Blank 9 Red and Yellow 10 Blank 11 Blue	5/7 Compressor power supply 9/11 Defrost heating wire	5/7 Compressor compartment left 9/11 Under the freezer evaporator	AC 115V

PCB pins break method

This model has no board break

6.3 Operating principle, parameters and testing method of sensors (forced start, forced defrosting, ice maker testing)

6-3-1 Refrigerator control overview

(1) Control of refrigerator compartment: when the temperature of refrigerator sensor is no less than that at the startup point, the refrigerator starts up (the refrigerator damper opens); when it is no greater than that at the refrigerator shutdown point, the refrigerator stops (the refrigerator damper closes).

(2) Control of freezer compartment: when the temperature of freezer sensor is no less than that at the startup point, the freezer starts up; when it is no greater than that at the freezer shutdown point, the freezer stops.

(3) Control of my zone compartment: when the temperature of my zone sensor is no less than that at the startup point, the my zone starts up (the my zone damper opens); when it is no greater than that at the my zone shutdown point, my zone stops (the my zone damper closes)

(4) Quick-freeze control: the quick-freeze mode will switch off 56 hours after the freezer compartment has been set at quick-freeze function.

(5) Quick-cooling control: the freezer damper opens and the fan runs when the refrigerator enters into the quick-freeze function of the freezer compartment. In the quick-cooling status, the quick-cooling control will switch off when the temperature of refrigerator compartment reaches

Gear 2 shutdown point.

(6) Function of my zone compartment: the my zone compartment is automatically controlled under -3~5℃ when it enters into soft freezing function.

(7) Open alarm: the buzzer sounds continuous “beep” alarm and the display and refrigerator lamp light on when the refrigerator door is not closed 180s after it opens. The open alarm will not cancel until the refrigerator door is closed or any button on the display is touched. The display and refrigerator lamps automatically light off after the door keeps open for 7 minutes.

(8) Power failure with memory: this refrigerator is designed with power failure with memory. Specific status prior to power failure will be kept when the refrigerator goes into power failure; power failure with memory: defrosting status, refrigerating, my zone and freezing temperature gear setting, quick-freeze, quick-cooling, intelligent. Power failure without memory: compressor protection, quick-freeze time, quick-cooling time.

(9) Control of refrigerator lamp: when the refrigerator door opens, its lamp lights; when it is closed, the lamp is off. The refrigerator lamp automatically lights off when the refrigerator door keeps open for more than 7 minutes.

(10) Fan/Damper control: when refrigeration is activated in the freezer compartment, the freezer fan and compressor work at the same time. When the refrigerator door opens, the freezer fan and damper stop working immediately. The compressor is under normal control with compartment temperature until the refrigerator door is closed or the fan and damper return to normal control after 7 minutes.

(11) Initial power-on status: the temperature of refrigerator compartment is set to be 41℉-64.4℉ the freezer compartment and 32℉ for the my zone compartment when the refrigerator is initially powered on. The refrigerator will not start up if the refrigerator, my zone and freezer temperature are between the starting temperature and the stopping temperature. It starts when the temperature returns to that at the starting point.

(12) Display control: The display lights off if the refrigerator door is closed and the button is not activated within 30s. The display lights on when any button on the display panel is touched or when the refrigerator door opens. The LED lights off when the opening time is more than 30s.

(13) Compressor protection: Startup of the compressor is permitted after it is put in shutdown for 5 minutes. It enters into normal control upon completion of the 5-minute delay.

Control principle of defrosting system

*For initial power-on, defrosting begins when the compressor accumulatively works for 8hr.

*Frost change control is tabulated as follows:

	A	B	C	D	E
Environmental	General	(1) Compressor operates for 120	Starting	Power on for	

<table>
<tr><td rowspan="4">temperature</td><td rowspan="4"></td><td colspan="2">minutes continuously,
and the energy-saving mode is changed into 180 minutes</td><td rowspan="4">judge when COMP OFF:
No R SNR≤OFF will appear during COMP ON-OFF.</td><td rowspan="4">the first time (unrelated to the initial value of F-SNR temperature)</td><td rowspan="4">Defrosting for 90 minutes and D-SNR<8 degree</td></tr>
<tr><td colspan="2">(2) Compressor operates for 180 minutes after defrosting;</td></tr>
<tr><td rowspan="2">(3) Under high-load condition</td><td>F-SNR≤-5℃ and R-SNR≥R set+6.</td></tr>
<tr><td>F-SNR≤-5 ℃ and refrigerator air door opens for 60 minutes continuously</td></tr>
<tr><td>AT>82.4℉</td><td>30Hr defrosting</td><td colspan="2">4Hr defrosting</td><td rowspan="3">8Hr defrosting</td><td rowspan="3">8Hr defrosting</td><td rowspan="3">5Hr defrosting
Control of defrosting: start from STEP2</td></tr>
<tr><td>AT≤82.4℉</td><td>49Hr defrosting</td><td colspan="2">25Hr defrosting</td></tr>
<tr><td>AT≥82.4℉</td><td>30Hr defrosting</td><td colspan="2">Defrosting period in the condition under (1) (2) is 30Hr;
Defrosting period in the condition under (3) is 12Hr.</td></tr>
</table>

*The compressor and freezer fan stop and the dampers close during defrosting. When the temperature of defrosting sensor is no less than 46.4℉, the defrosting heater strip shall be disconnected.

*For entrance into defrosting, the defrosting heater strip exists defrosting after working for 10s if the temperature of defrosting sensor is no less than 46.4℉.

***Forced defrosting**: when the refrigerator door is open, push down the buttons “Fridge”and "Sabbath” for 5 times at the same time, then push button “Lock” 2 times,T2 is shown in the display board ,the refrigerator bigen Forced defrosting. The refrigerator shows the setting gear after 3s and defrosting is under normal operation. Defrosting exits when the defrosting sensor temperature reaches 46.4℉. The power of defrosting is 180W (rated voltage 110V). The deviation shall be within 10W.

***Testing method of forced start:**Open the refrigerator door. In the locking condition, press and hold the “Fridge” button, and push down the “Sabbath” button for 5 times; T1 is shown in the refrigeration temperature zone). At this time, the freezer continuously runs and the refrigerator is under normal control without defrosting; the voltage of refrigerator fan and freezer fan is 12V and 9V respectively.

1- List of compressor model, manufacturer, power, energy efficiency ratio (EER), refrigerating capacity, operating current and starting current

Compressor model	Manufacturer	Power	EER	Refrigerating capacity	Operating current	Starting current
VEMX9C+	Beijing Embraco Snowflake Compressor Company Ltd.	88@3000rpn	1.80	159	0.84	2.1A

6-3-2 Control of refrigerator air door

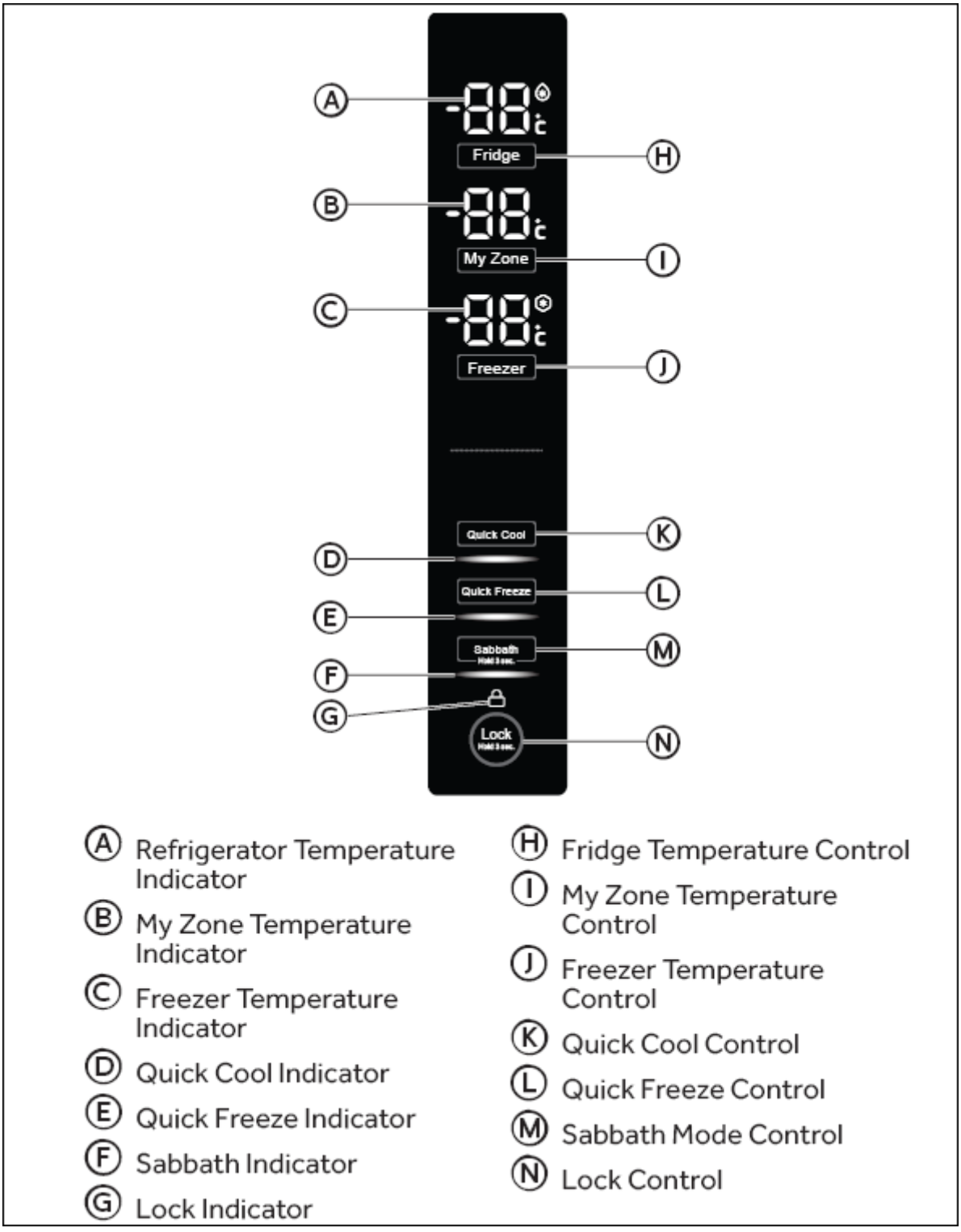
Conduct power-on and power-off control of air door VD (R/S room) (Myzone)		
	S1	
	R	S
When power on	Power on and power off for one time	
Protection	No operation for 1 minute after the operation	
R room (fridge)	R-sensor control switch	
S room (my zone)	My zone-sensor control switch	
Stop the operation	When the R door is open	
Special operation	No operation for 1 hour on S1 or S2 air door, reset for one time.	
Moisturizing function	open	
When pulldown	Take operations according to the condition	

6-3-3 External photo and electric parameter of main electric appliance

No	Model	Photo	Spare parts name	The main parameters
1	/VEMX9C+ US part 0060705712		Compressor	Power 29-178W Working current :0.45-2.26A The main winding resistance at 77℉: 16.07Ω The secondary winding resistance at 77℉::16.07Ω
2	0064001021		Freezer compartment fan	Volt: 12V Current: 0.168A(max)0.14A(normal)
3	0064001866A		Defrost heating	Volt : 115V Power: 180w Resistance: 73.5 Ω
4	0064001405		Air Damper	Volt : 12 Power: 0.5w

Chapter 7 Control and display system

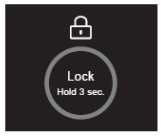
7-1 Control and display panel



Ⓐ Refrigerator Temperature Indicator
Ⓑ My Zone Temperature Indicator
Ⓒ Freezer Temperature Indicator
Ⓓ Quick Cool Indicator
Ⓔ Quick Freeze Indicator
Ⓕ Sabbath Indicator
Ⓖ Lock Indicator
Ⓗ Fridge Temperature Control
Ⓘ My Zone Temperature Control
Ⓙ Freezer Temperature Control
Ⓚ Quick Cool Control
Ⓛ Quick Freeze Control
Ⓜ Sabbath Mode Control
Ⓝ Lock Control

7-2 Function adjustment

7-2-1 First, The panel is unlocked. .



1. Press and hold LOCK for 3 seconds. The Lock indicator will turn OFF.

7-2-2 Adjust the fridge temperature

1. If locked, unlock the control panel by pressing and holding LOCK for 3 seconds.
2. Press Fridge to adjust the temperature.

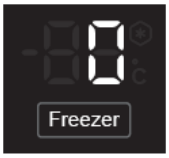
   NOTE: The temperature increases by one degree and a tone sounds with each press of the button.

After 5 seconds have passed with no button being pressed the temperature setting confirms automatically.

7-2-3 Adjust the freezer temperature

1. If locked, unlock the control panel by pressing and holding LOCK for 3 seconds.
2. Press the Freezer button to adjust the temperature.

   NOTE: The temperature decreases by one degree and a tone sounds with each press of the button.



After 5 seconds have passed with no button being pressed the temperature setting confirms automatically.

7-2-4 Adjust the my zone temperature

1. If locked, unlock the control panel by pressing and holding LOCK for 3 seconds.
2. Press MY ZONE to adjust the temperature.

   NOTES:

   - The temperature increases by two degrees F (one degree C) and a tone sounds with each press of the control.
   - The temperature in the My Zone compartment cannot be set warmer than the temperature of the refrigerator compartment.

3. Press any control except My Zone to confirm. The indicator light will stop flashing.

7-2-5 Adjust the quick cool function

1. If locked, unlock the control panel by pressing and holding LOCK for 3 seconds.

2. Press the Quick Cool button. The Quick Cool indicators will illuminate.

3. Repeat steps 1 and 2 to manually turn off the Quick Cool feature.

   NOTE: Quick Cool will automatically turn off after 3 hours.

7-2-5 Adjust the quick freeze function

1. If locked, unlock the control panel by pressing and holding LOCK for 3 seconds.

2. Press the Quick Freeze button. The Quick Freeze indicators will illuminate.

3. Repeat steps 1 and 2 to manually turn off the Quick Freeze feature.

NOTE: Quick Freeze will automatically turn off after 24 hours.

7-2-6 Adjust the SABBATH function

1. If locked, unlock the control panel by pressing and holding LOCK for 3 seconds.
2. Press and hold SABBATH for 3 seconds until the Sabbath indicator illuminates.

NOTES:

- All alert tones and lights are deactivated.
- If Quick Cool and/or Quick Freeze was on, Sabbath mode turns off these features automatically.
- The Control Panel will remain unlocked while in Sabbath mode.

3. To deselect Sabbath mode, press and hold SABBATH for 3 seconds.

Chapter 8 Quick check and Self-test model

【1】Fault code

Entering mode: open the refrigerator door, under the locked state of display board, press and hold “Fridge” and press “Quick Freeze” for five times to enter the fault mode.

Exit mode: open the refrigerator door; under the lock-out state of display board, press and hold “Fridge” and press “Quick Freeze” for five times to exit the fault mode; it will exit the mode automatically after 2 minutes.

When entering the fault mode, corresponding fault code will be displayed; exit the mode if no fault exists, and the original tap position will be displayed.

Checking method: after entering this mode, display fault code in the temperature display area as per superior selection level and press “lock” button to display next code.

Exit method: exit from fault display mode after 2 minutes or as per same operation

NO	Items	Temperature display area	Content	Control Methods
1	Normal	Display temperature value	Display current temperature value of each sensor	/
2	RT-SNR bad	F2	Short circuit or disconnection of RT-SNR	Control according to the environmental temperature scope of 73.4℉≤RT＜28.4℉
3	R-SNR bad	F3	Short circuit or disconnection of R-SNR	In the process of regular control in the freezing room, the air door enters the circulation state under which it opens for 10 minutes and then closes for 10 minutes every 20 minutes
4	F-SNR bad	F4	Short circuit or disconnection of F-SNR	Compressor enters the circulation state under which it opens for 15 minutes and then closes for 15 minutes every 30 minutes
5	S-SNR bad	F5	Short circuit or disconnection of S-SNR	When the freezing room is under regular control, the air door enters the circulation state under which it opens for 10 minutes and then closes for 10 minutes every 20 minutes
6	D-SNR bad	F6	Short circuit or disconnection of D-SNR	Automatic defrosting procedure is carried out normally, and the defrosting time is 30 minutes.
7	Bad communication	E0	Display board and power board can not be connected for 2 minutes	/
8	Defrosting fault	Ed	Temperature of defrosting sensor can not reach 12 degrees in 90 minutes after rising	/

Priority of display: E0 display>F2 display> F3 display>F4 display>F5 display> F6 display> Ed display.

【2】T mode

Entering mode: open the refrigerator door, under the locked state of display board, press and hold “Fridge” and press “Sabbath” for five times to enter the TEST function mode.

Exit mode: open the refrigerator door; under the locked state of display board, presses and hold

"Fridge" and press "Sabbath" for five times to exit the TEST function mode; it will exit the mode automatically after 2 minutes.

MODE	Operation	Content	Notes
TEST1	Press Lock for one time, entering TEST1 function after 2S	1) COMP high speed 64Hz; 2) F-FAN 12V; 3) DEF-HTR OFF; 4) Refrigerator air door is fully opened; 5) Opening angle of my zone air door is 30°; 6) Display board displays T1.	Under TEST1 state, TEST1 state continues unless exit through manual operation
TEST2	Press Lock for 2 times, entering forced defrosting function without precooling after 2S	1) COMP OFF; 2) F-FAN OFF; 3) DEF-HTR ON; 4) C-FAN OFF; 5) Refrigerator air door is closed; 6) Air door in the my zone room is closed; 7) Display board displays T2; 8) If defrosting is cancelled in defrosting process, exit defrosting immediately.	Start defrosting: When D-SNR＜53.6℉, exit after D-HTR works for 10s; When D-SNR＜53.6℉, exit after D-SNR reaching 53.6℉ (D-SNR will be forced to exit after working for 90 minutes; when D-SNR is in default, exit after working for 30 minutes); Exit immediately if it is forced through manual operation.
TEST3	Press Lock for 3 time, entering energy consumption test function after 2S	1) The procedure controls normally but the refrigerator does not conduct defrosting; 2) Display board displays T3.	Operate through normal procedure controlling methods
Normal reset	Press Lock for 4 times to exit	Restore normal control	Press Lock in 30S under T3 state; exit TEST function immediately

【3】 Exhibition function

Entering mode: open the refrigerator door, under the locked state of display board, press and hold "Fridge" and press ""Quick cool" for five times in the same time to enter the function of refrigerator exhibition room.

Exit mode: open the refrigerator door, under the locked state of display board, press and hold "Fridge" and press ""Quick cool" for five times in the same time to enter the function of refrigerator exhibition room.

Control mode: After entering refrigerator exhibition function, refrigerator and freezer lighting lamp.

Compressor, fan, damper and heater strip shutdown and refrigerator gear is set at 4/-20, with varying temperature 32℉

Common questions

① **Refrigerator not working**

● Power off (plug, socket, fuse, etc.)

● Low power voltage

② **Refrigerator making abnormal sound**

● Refrigerating fluid will make a sound during flowing in pipeline, which is normal.

● Refrigerator will give out loud buzzing sound when used for the first time due to under unstable condition, which is normal.

● When refrigerator operating, evaporator and pipeline will give out “bang-bang” sound due to heat expansion and cold contraction, which is normal.

● When refrigerator starts and stops operating, relay and other components will give out “click” because of action, which is normal.

③ **Temperature inside the refrigerator is not low enough**

● Excessive setting temperature.

● Door is not closed tightly or refrigerator door is opened frequently, door opened for a long time.

● Place where refrigerator is located is affected from direct sunlight or too close to stove and heater, other heat source.

● Improper ventilation, panels on both sides of refrigerator steel plate on the back is blocked, or this position is too dirty.

④ **Big noise**

● Whether floor is flat and refrigerator is placed stably.

● Whether part of refrigerator touches external object or wall. Refrigerator gives out a sound and key operation is invalid.

● Check to see whether refrigerator is power-off.

⑤ **Invalid sound button operation of refrigerator**

● Check to see whether refrigerator is power-off.

● Whether button operation is wrong, correctly operate as per “function introduction”.

⑥ **Automatic variation of temperature display value**

● Temperature display value of refrigerator varies, which is normal.

● Variation of temperature display value under artificial intelligence: when environmental temperature changes, temperature of refrigerator will be adjusted automatically, which is normal.

⑦ **Serious frosting on the back wall of refrigerator**

● Temperature setting is improper and see “manual temperature regulation”.

● Door is not closed tightly or propped by foods.

● Door is opened frequently.

● Hot weather, excessive moistening and improper ventilation.

⑧ **Higher temperature of containing box of fridge**

● Heat distribution through panels on both sides of containing box, partition between refrigerator compartment, temperature-variation compartment and freezer compartment, with higher temperature, which is a normal phenomenon.

● Operating for a long time and high temperature on the surface of containing box when using initially, which is a normal phenomenon.

⑨ **Compressor operating for a long time**

● Operating for a long time when used for the first time, which is normal.
● Lots of foods are placed into the refrigerator at a time to be cooled.
● Hot weather and refrigerator is opened frequently.
● Refrigerator is not closely tightly.
● Low temperature setting and see “manual temperature setting”;

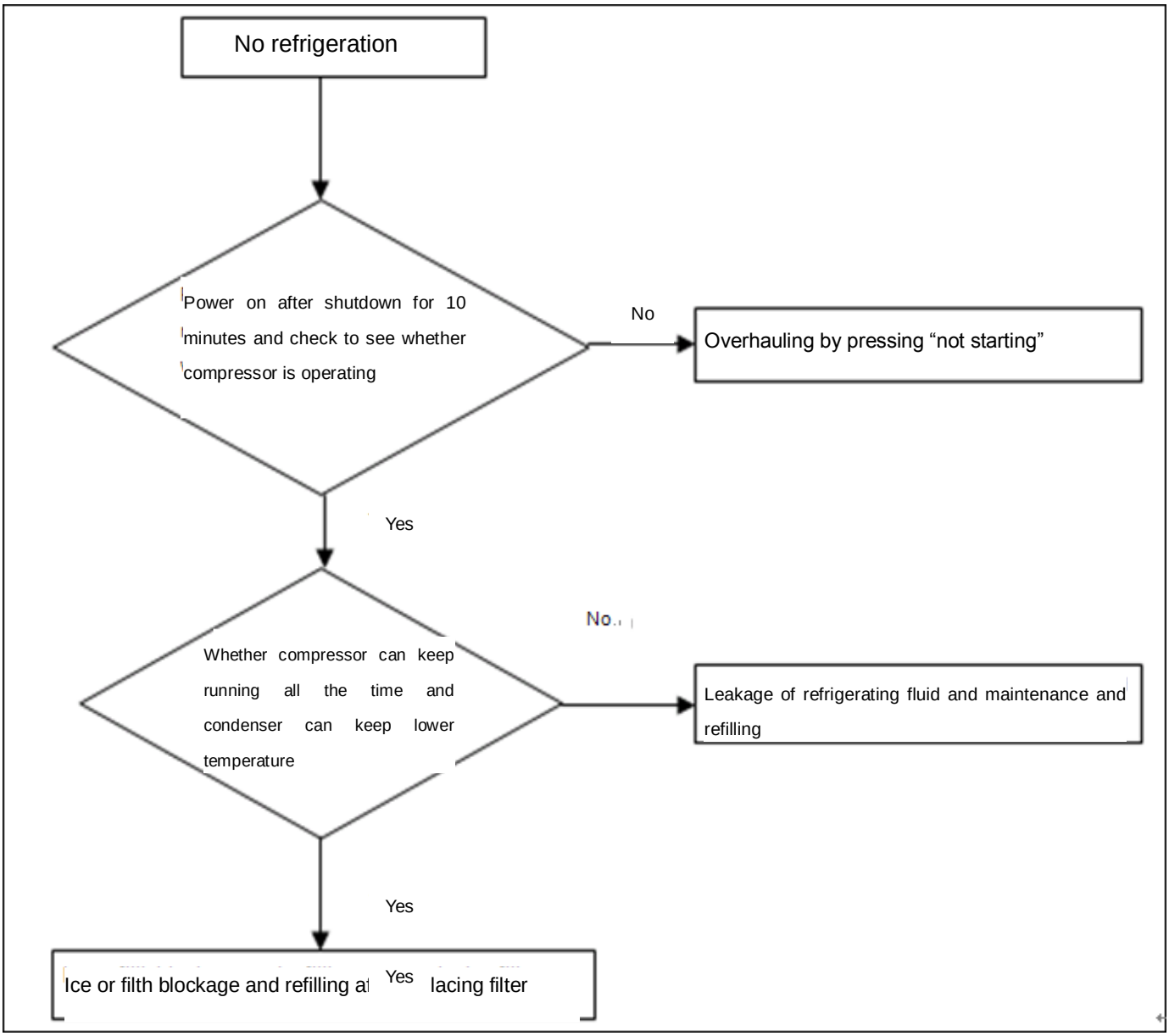
⑩ **Higher temperature of containing box and light is out**

● Whether lamp is damaged.
● Whether power is off.

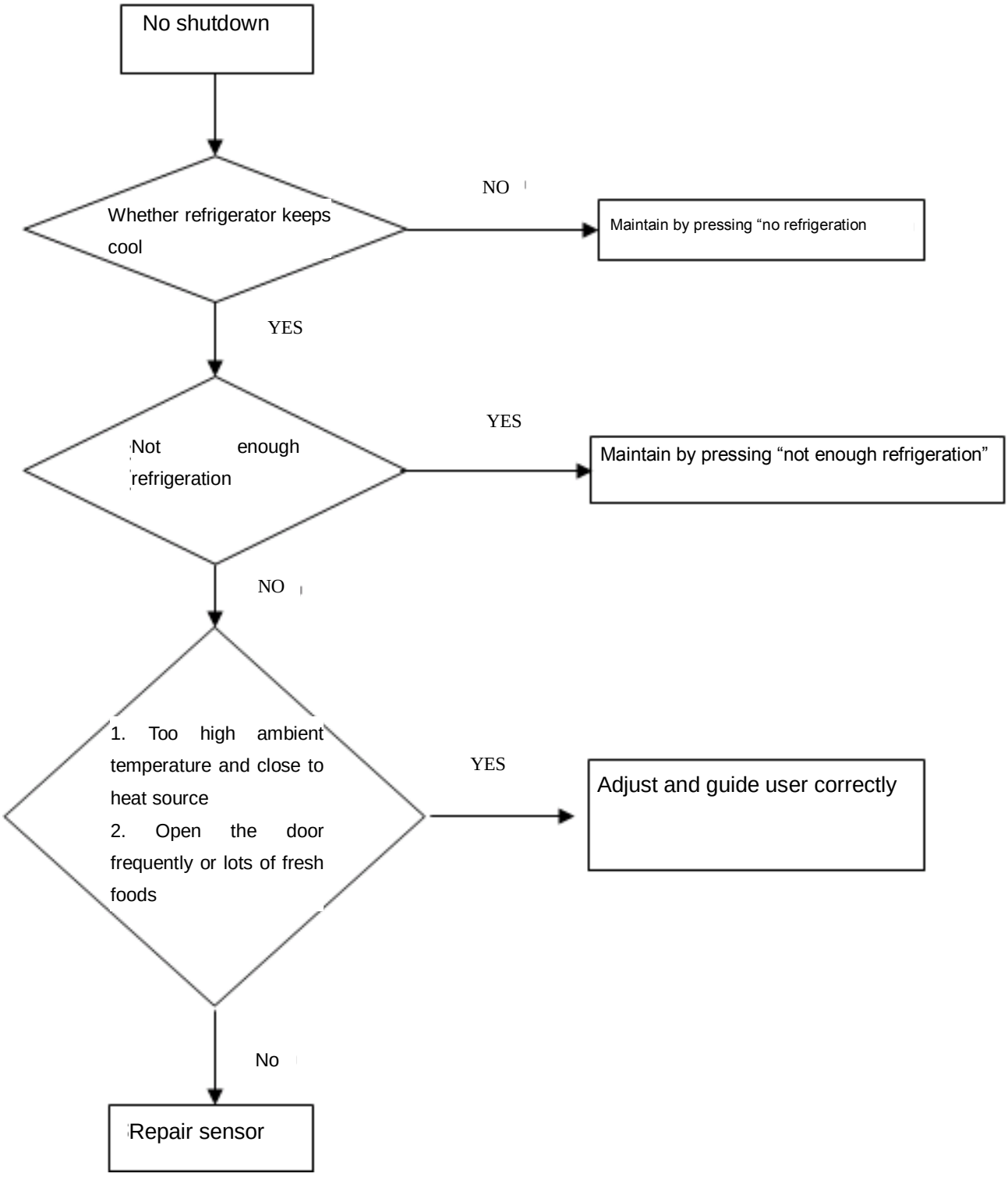
Chapter 9 Trouble shooting

Abnormal phenomena

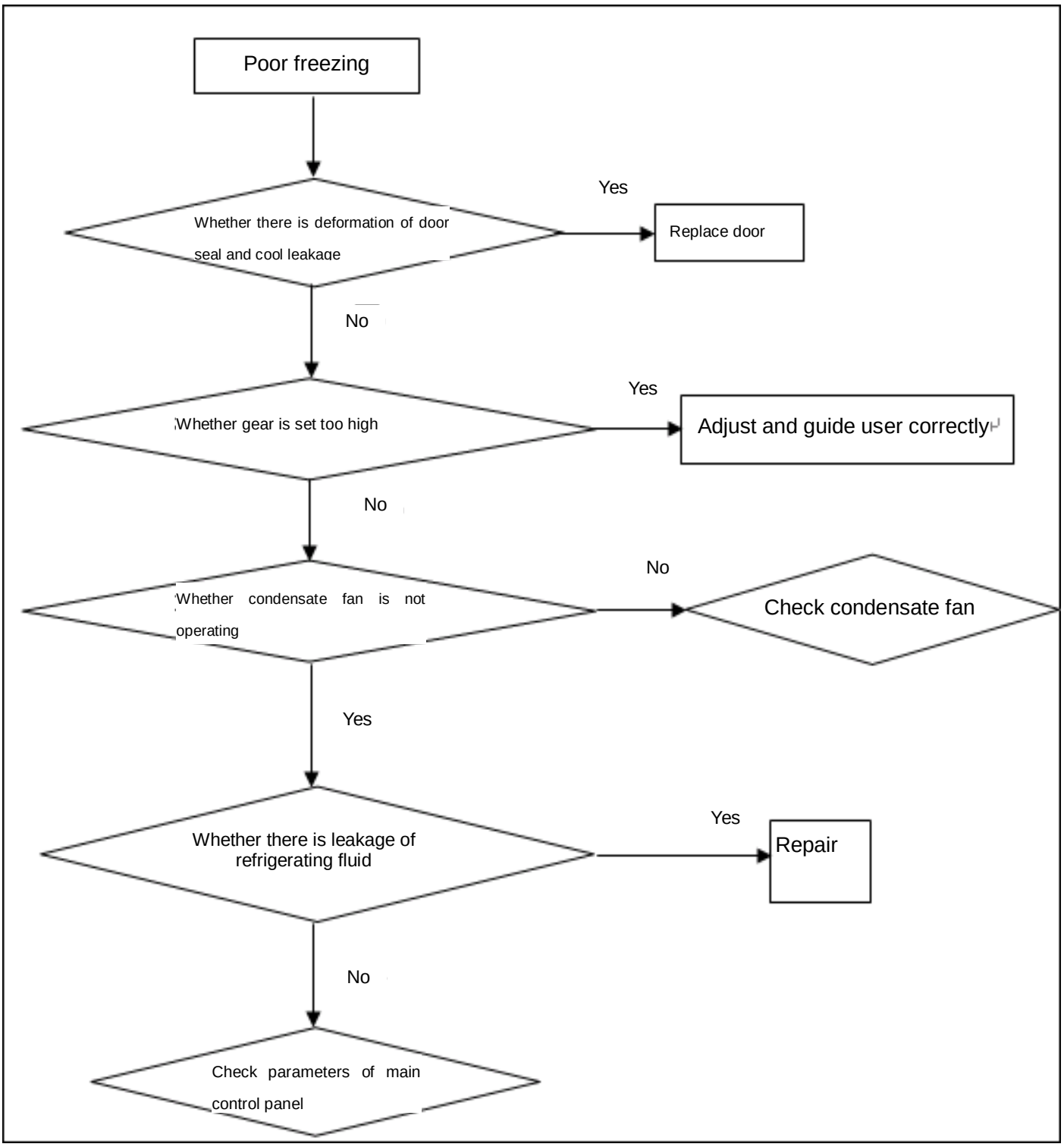
9-1. Symptom: No freezing



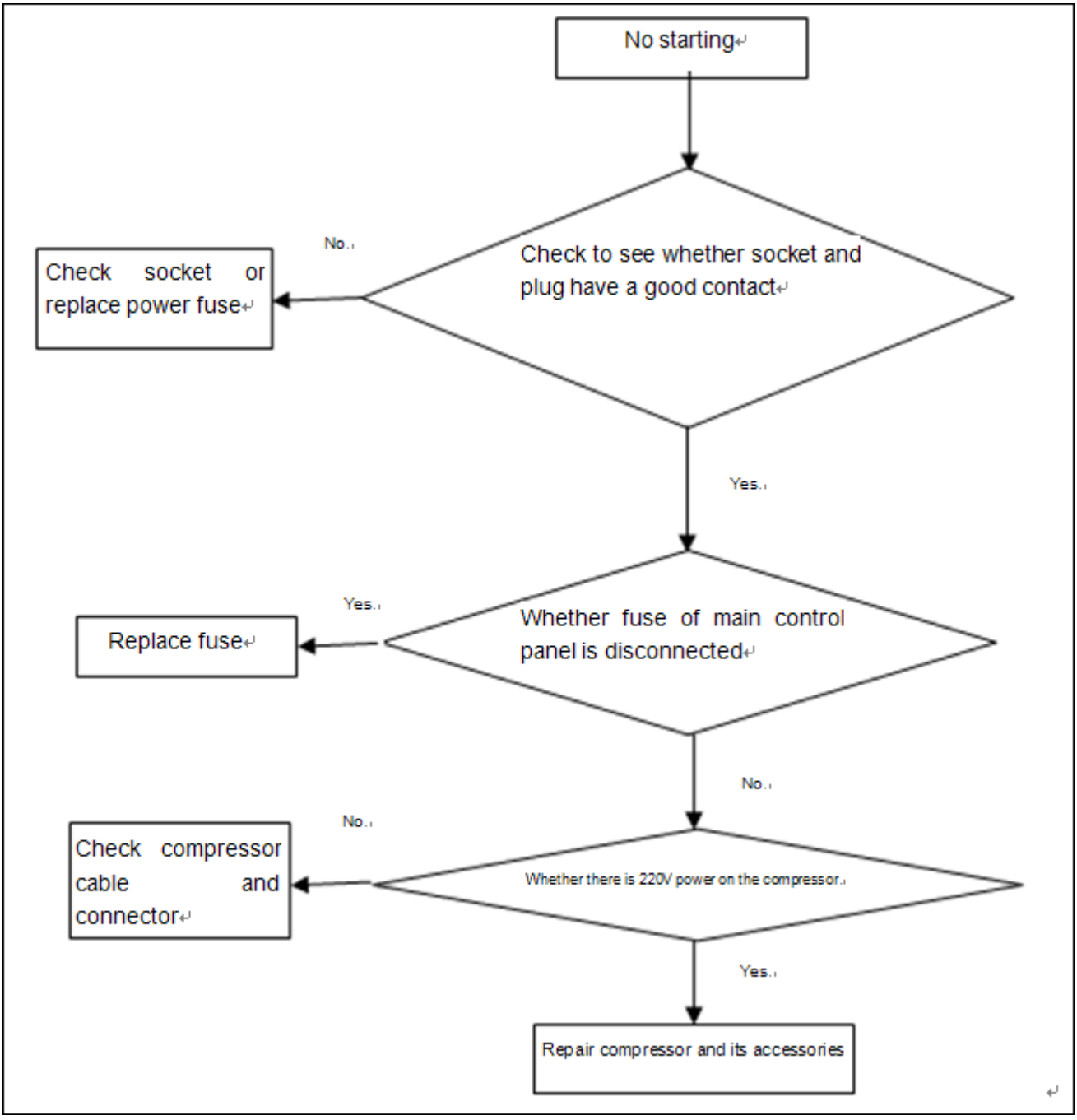
9-2. Symptom: no shutdown



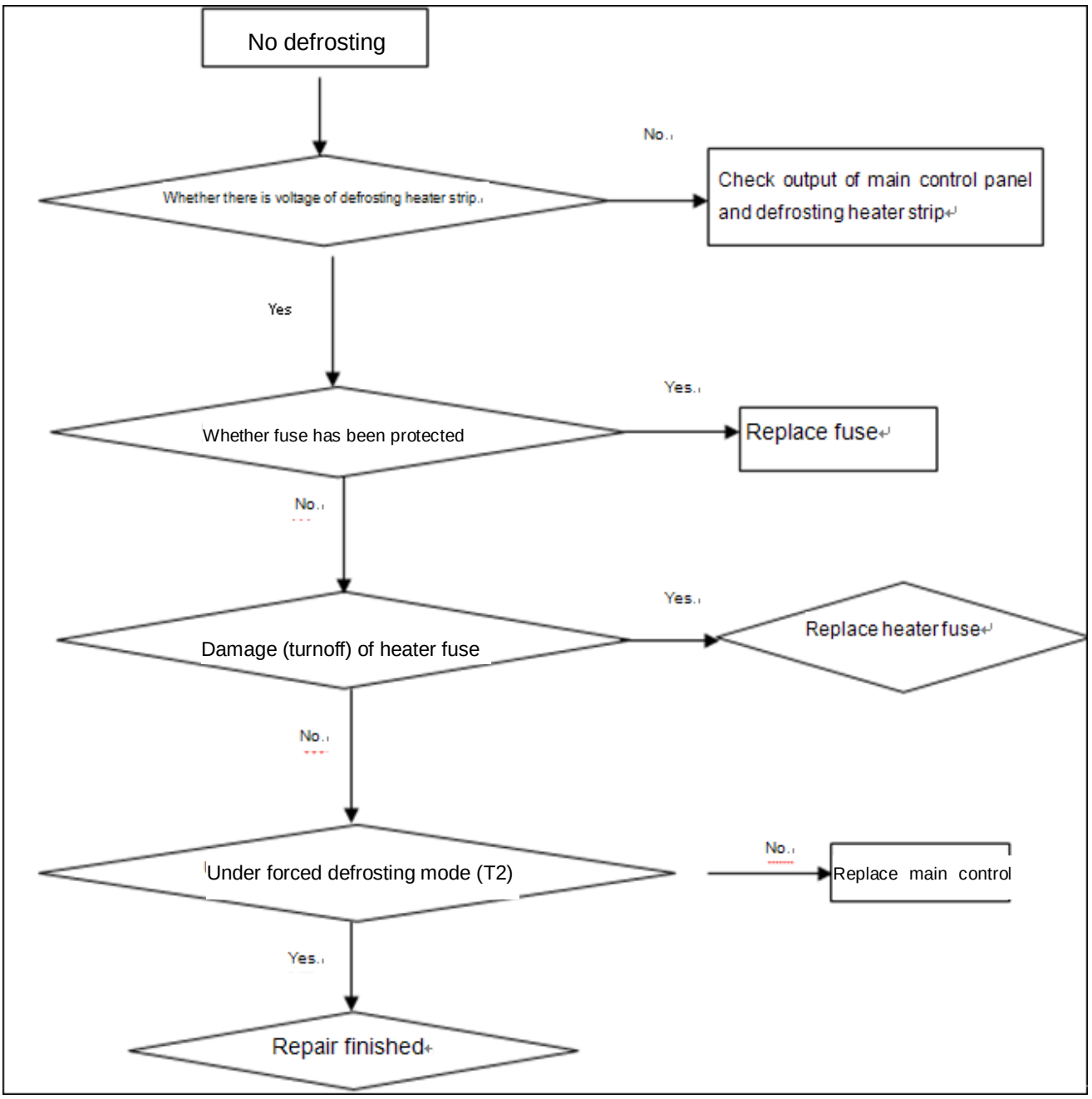
9-3. Symptom: Poor freezing



9-4. Symptom: No starting when powering on



9-5. Symptom: no defrosting



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