Haier SERVICE MANUAL

Order No.: Ref1110S003V0

MODEL: HBCW100ABB
HVFE040BBB

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It dose not contain warnings and cautions to advice non-technical individuals of potential dangers in attempting to service a product. Product powered by electricity should by serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Haier Group

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Model: HBCW100ABB/HVFE040BBB

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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 115V with a frequency of 60Hz.
10. A big fluctuation of voltage 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.
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 the 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, but may nevertheless be valuable to the reader, such as tips and tricks.

Caution:

A “caution” is used when there is danger t, 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 the reader to other places in this binder or in this manual

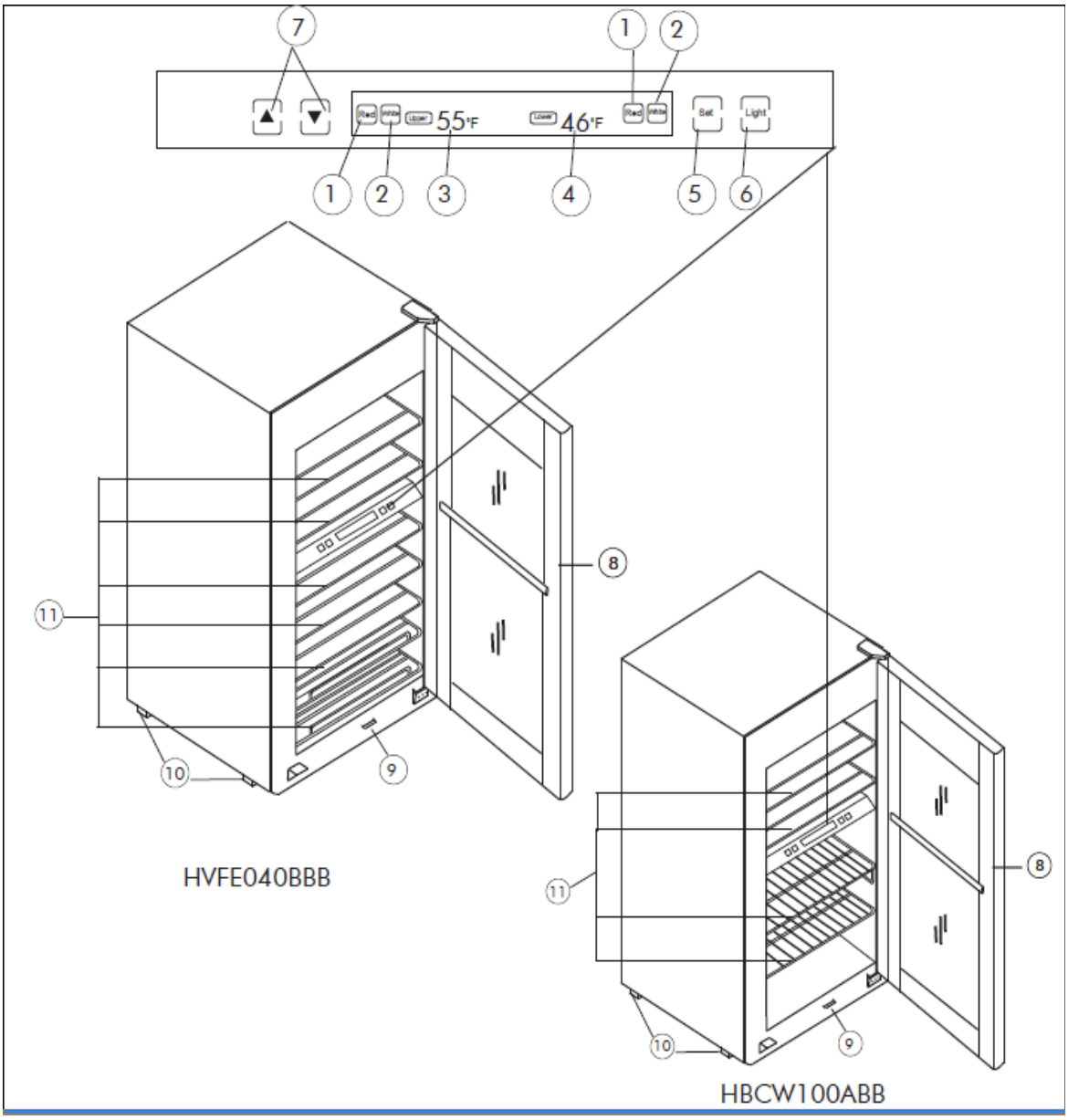
Chapter 2 Product Feature

2-1. SPECIFICATIONS

Model	HBCW100ABB	HVFE040BBB
PHOTO		
Features		
Capacity (Bottles)	Upper zone：16 Bottles Bottom zone： 60 Coke cans & 15 Coke Bottles	40
Capacity (cubic feet)	4.1	4.1
Temperature Control Type	Dual Zone Electronic	Electronic
Led Display		
Temp Level Display	Yes	Yes
Interior light	Manual	Manual
Door Type	Full View Glass Flat	Full View Glass Flat
Automatic Door Stop	Yes	Yes
Storage Racks QTY	4	7
Cabinet color	Black	Black
Interior Liner Color	Black	Black
Installation Type	Free Standing	Free Standing
Leveling Legs	Yes	Yes
Storage Compartments	Two	Two
Performance Data		
Electrical Requirements (v/Hz)	115V~/60Hz	115V~/60Hz
Amps	1.75A	1.5A
Start Up Amps	10.0 (max)	10.0 (max)
Temperature Setting Range		
Min/Max Ambient Temperature	1-18°C	6-18°C
Technical Details		
Door Insulation	Double Pane Tempered Glass	Double Pane Tempered Glass
Type Of Refrigerant Used	R134a	R134a
Ventilation (Rear/Side/Front)	Rear	Rear
Number Of Lights	1	1
Type Of Light Bulb	LED	LED

Dimensions		
Unit dimensions (H / W / D)mm	970/500/550	970/500/550
Net weight	45kg	45kg
Packing dimensions & load ability		
Packing dimensions (H / W / D)mm	1040/568/640	1040/568/620
Gross weight	50kg	50kg
40 ' High cube container load	156pcs	156pcs
Service		
User instruction (languages)	**English**	**English**

2-2. External views



1. Red Wine Indicator
2. White Wine Indicator
3. LED Temperature Display - Upper Compartment
4. LED Temperature Display - Lower Compartment
5. Temperature Set Button
6. Interior Light Button
7. Temperature Adjustment (up/down)
8. Door
9. Auto Light Switch
10. Adjustable Leveling Legs
11. Shelves

Chapter 3 Installation, adjustments and maintenance

3-1. Installation

3-1-1.Unpacking the Unit:

Remove all packaging material. This includes the foam base and all adhesive tape holding the Unit accessories inside and outside, compressor from shipping damage due to vibration and shock.

Inspect and remove any remains of packing, tape or printed materials before powering on the Unit.

3-1-2.Leveling the Unit:

The Unit has four leveling legs which are located in the front and rear corners of the Unit. After properly placing the Unit in its final position, you can level the Unit.

Leveling cellar or by turning them clockwise to lower the unit, the unit door will close easier when the leveling legs are extended.

Proper Air Circulation

1. To assure the unit works at the maximum efficiency it was designed for, you should install it in a location where there is proper air circulation, plumbing and electrical connections.
2. The following are recommended clearances around the unit:
   Sides……..2” (50mm)
   Top ……..……2” (50mm)
   Back……..2” (50mm)
3. Do not over fill the unit for proper internal air circulation.

3-1-3.Electrical Requirement

Make sure there is a suitable power outlet (115~V) with proper grounding to power the unit.

Avoid the use of three plug adapters or cutting off the third grounding in order to accommodate a two plug outlet, this is a dangerous practice since it provides no effective grounding for the unit and may result in shock hazard.

3-1-4.Install Limitations

Do not install the unit in any location not properly insulated or heated e.g. garage etc, the unit was not designed to operate in temperature settings below 55 ° Fahrenheit.

Select a suitable location for the unit on a hard even surface away from direct sunlight or heat source e.g. radiators, baseboard heaters, cooking appliances etc, any floor unevenness should be corrected with the leveling legs located on the front and rear bottom corners of the unit.

The unit is designed for free-standing installation only; it is not designed for built-in application.

3-1-5. Net Dimension

Model	HBCW100ABB/ HVFE040BBB
Unit Dimension(W*D*H)	500*550*970

3-2. Maintenance

To avoid electric shock always unplug the unit before cleaning, ignoring this warning may result in death or injury.

General:

- Prepare a cleaning solution of 3-4 tablespoons of baking soda mixed with warm water, Use sponge or soft cloth, dampened with the cleaning solution, to wipe down the unit.
- Rinse with clean warm water and dry with a soft cloth.
- Do not use harsh chemicals, abrasives, ammonia, chlorine bleach, concentrated detergent solvents or metal scouting pads, some of these chemical may dissolve, damage and/or discolor the unit.

Door Gaskets:

- Clean door gaskets every three months according to general instructions, Gaskets must be kept clean and pliable to assure a proper seal,

Petroleum jelly applied lightly on the hinge side of gaskets will keep the gasket pliable and assure a good seal

Chapter 4 Disassembly

4-1. Door

1. Remove the top hinge cover with flat screwdriver

2. Remove the screws fixed the top hinge with screwdriver and then lift the door, the door will be removed.

4-2. light and the display panel

The light and the display panel both are in the electronic box which is on the middle of the wine cellar.

1. The middle partition is fixed on the cabinet with two screws, so you should loosen the screws and take off the middle partition from the unit.

2. Then make the up lid , foam , low lid separate from the middle partition

3. Dissemble the lampshade from the low lid, and loosen the screws fixed the LED light.

4. Loosen the screws which fixed on the display panel.

4-3. Main control panel

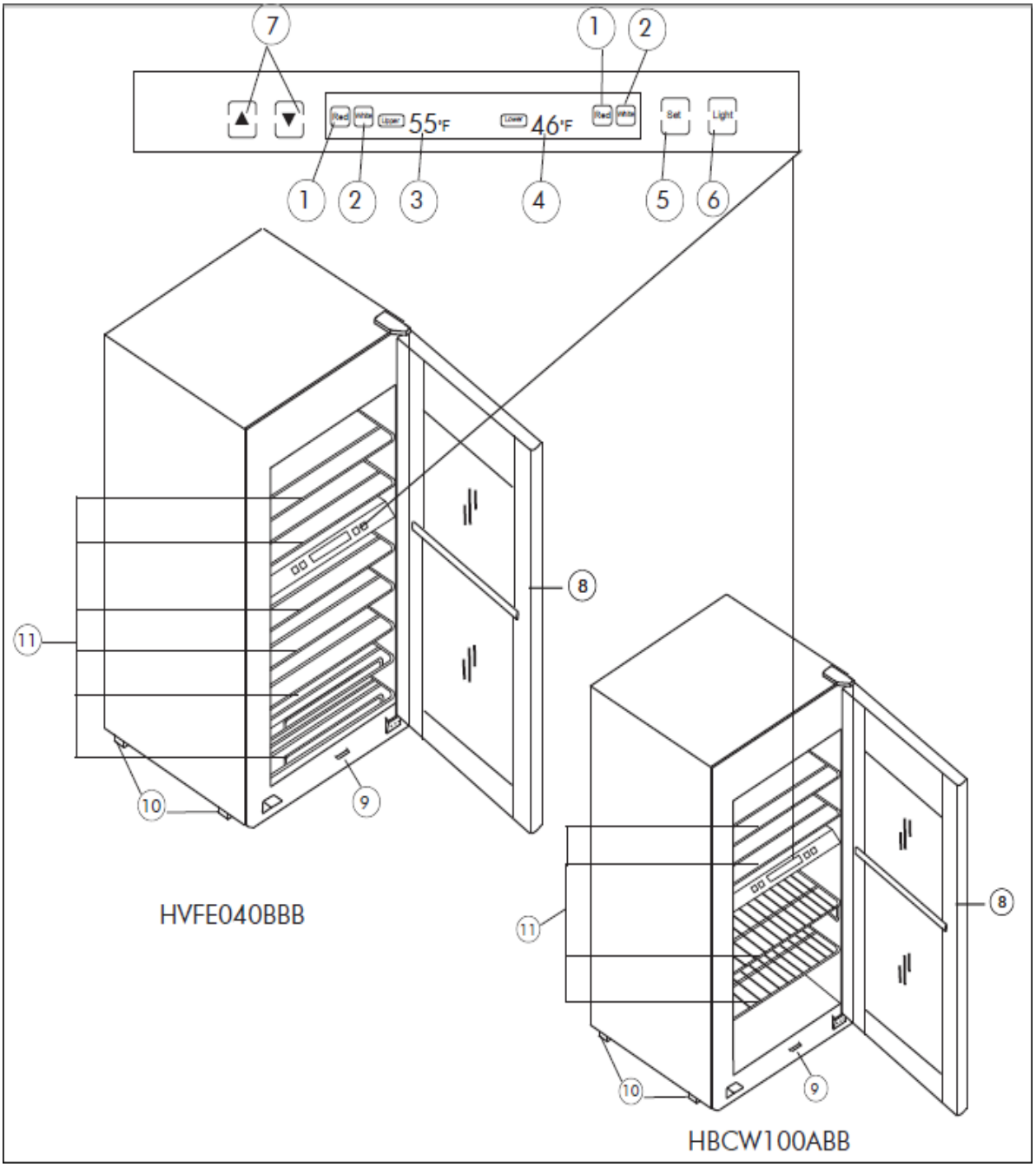
1. Remove the cover of the cabinet which is on the back of the unit
2. Remove the screws which fix the main control panel box.



3. The main control panel is fixed in the panel box by a screw, dismantle it ,the control panel will be removed

Chapter 5 Control and display system

5-1.Control and display panel



Once we plugged the unit, it needs to run for 30 minutes at least to acclimate itself before any adjustments. During this time, depending on the internal temperature, the red or white wine light will stay on for the upper compartment and red or white wine light will stay on for the lower. The LED display will show the current internal temperature.

5-2.Function Schedule

Button	Function
▲	Temperature adjustment up
▼	Temperature adjustment down
Light	Control the LED light
Set	Temperature adjustment & enactment

5-3. Function adjustment and control principles

5-3-1 Temperature Adjustments:

1. Wine cellar (HVFE040BBB): It can be set to any temperature between 39˚and 65˚F in either of the compartments to accommodate your wine storage requirements.
2. Wine/Beverage center(HBCW100ABB):The upper compartment can be set to any temperature between 46˚and 65˚F;the lower compartment cab be set to any temperature between 34˚and 62˚F
3. To set the temperature, hold the "Set" button for about 3 seconds. You will notice the temperature display blink for the upper compartment. Press the" ▲ " or "▼ "button to increase or decrease the temperature setting, Once the desired temperature is attained, press the " Set " button, Doing this, the electronic control panel will revert back to display the inside temperature. It may take some time to reach the set temperature.

5-3-2 Light Adjustments

To complement the look of your wine collection, soft light has been built into the wine cooler. Simply push the " Light "button on the electronic controlled unit, and the light comes on, push again for off. If you want to leave the light on always after closing the door, simply push the " Light "button, before closing the door leave light off when not viewing your collection.

5-4. Failure code display

Some times the display works out of orders, reading the following contention may give you some help.

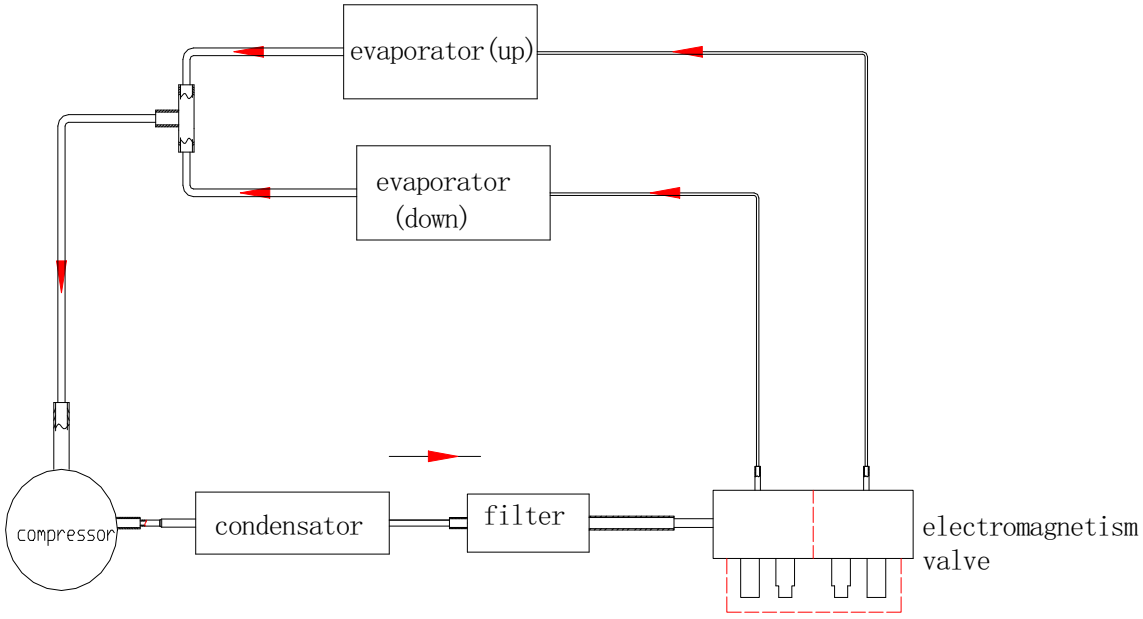
Failure code display

Error code display	Description and reason	Solutions
LL	“LL” blinks with buzzing; That means the related compartment temperature is lower than -5°C	Stop the unit running until the temperature rises up; Don’t use the unit in lower temperature environment if necessary.
HH	“HH” blinks with buzzing; That means the related compartment temperature is higher than 50°C	Don’t use the unit in high environment
EE	“EE” is the abbreviation of “ERROR, ERROR”; It is something wrong with the sensors. Usually, the sensor circuit is broken.	Check the sensor if connects well with the main control panel or find the location of the sensor broken circuit and repair it.

Buzzing sound we may hear when “LL” or “HH” or “EE” appears on the display panel, to remove the buzzing sound ,we can press the ” Set ” button.

Chapter 6 System flow principle

6-1. Refrigeration Flow System Chat



Explanation: The electromagnetism valve includes two single valves. When the two compartment temperature does not reach the set temperature, the two valves are keeping open; when one compartment temperature reaches the set temperature, the related valve is closed and the other one is keeping open. Both the two compartments temperature reaches each set temperature; the valves don't close but the compressor stop working.

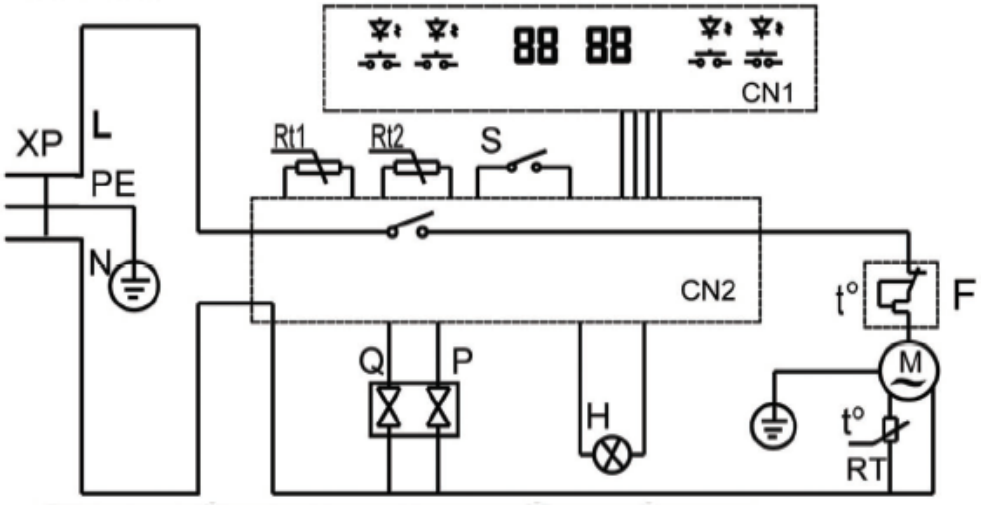
6-2.Compressor's starting and stopping control

Form: The temperature display & the compressor's and valves' working status

Set ℃ / Actual ℃	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Working	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Not working	3	4	4	5	6	7	8	9	10	11	12	13	14	15	16
Temperature display	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

Chapter 7 Circuit diagram

7-1.Circuit Diagram

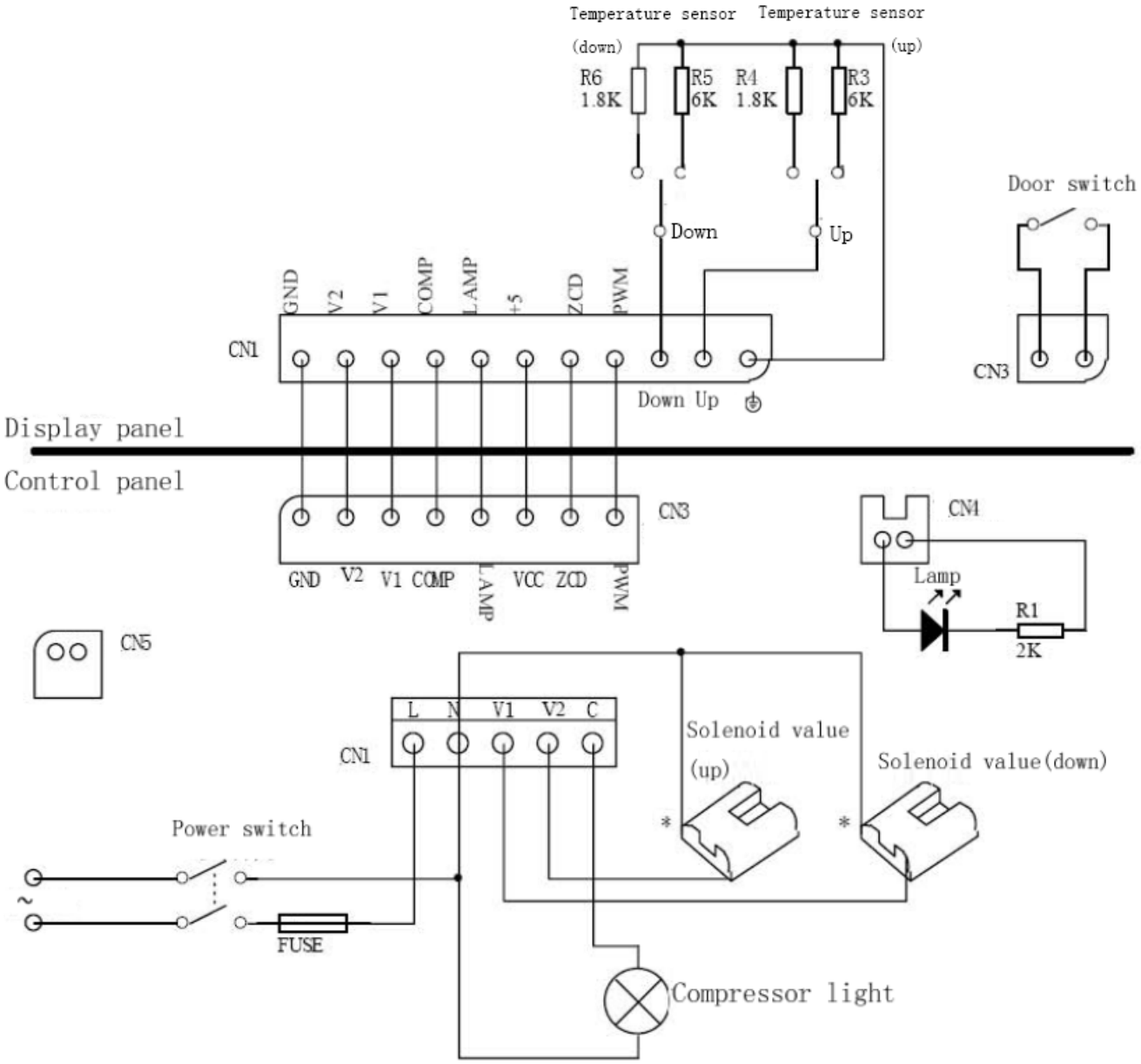


XP-Power Plug CN1-Display panel CN2-Control Panel S-Lamp switch

H-Lamp Rt1-Temperature Sensor(up) Rt2-Temperature Sensor(down)

P-Solenoid valve(up) Q-Solenoid valve(down) M-Compressor

7-2.Connection Sketch Map



Chapter 8 Trouble shooting

8-1. Normal Problems

8-1-1 Sounds of Unit

1. Boiling water, gurgling sounds or slight vibrations that are the result of the refrigerant circulating through the cooling coils.
2. The thermostat control will click when it cycles on and off.

8-1-2Temperature of Unit

Too warm

1. Frequent door openings.
2. Allow time for recently added wine to reach desired temperature.
3. Check gaskets for proper seal.
4. Clean condenser coils.
5. Adjust temperature control to colder setting.

Too cold

1. If temperature control setting is too cold, adjust to a warmer setting.

8-1-3 Unit runs too frequently

1. This may be normal to maintain constant temperature during high temperature and humid days.
2. Doors may have been opened frequently or for an extended period of time.
3. Clean condenser coils,
4. Check gasket for proper seal.
5. Check to see if doors are completely closed.

8-1-4 Moisture builds up on interior or exterior of the unit:

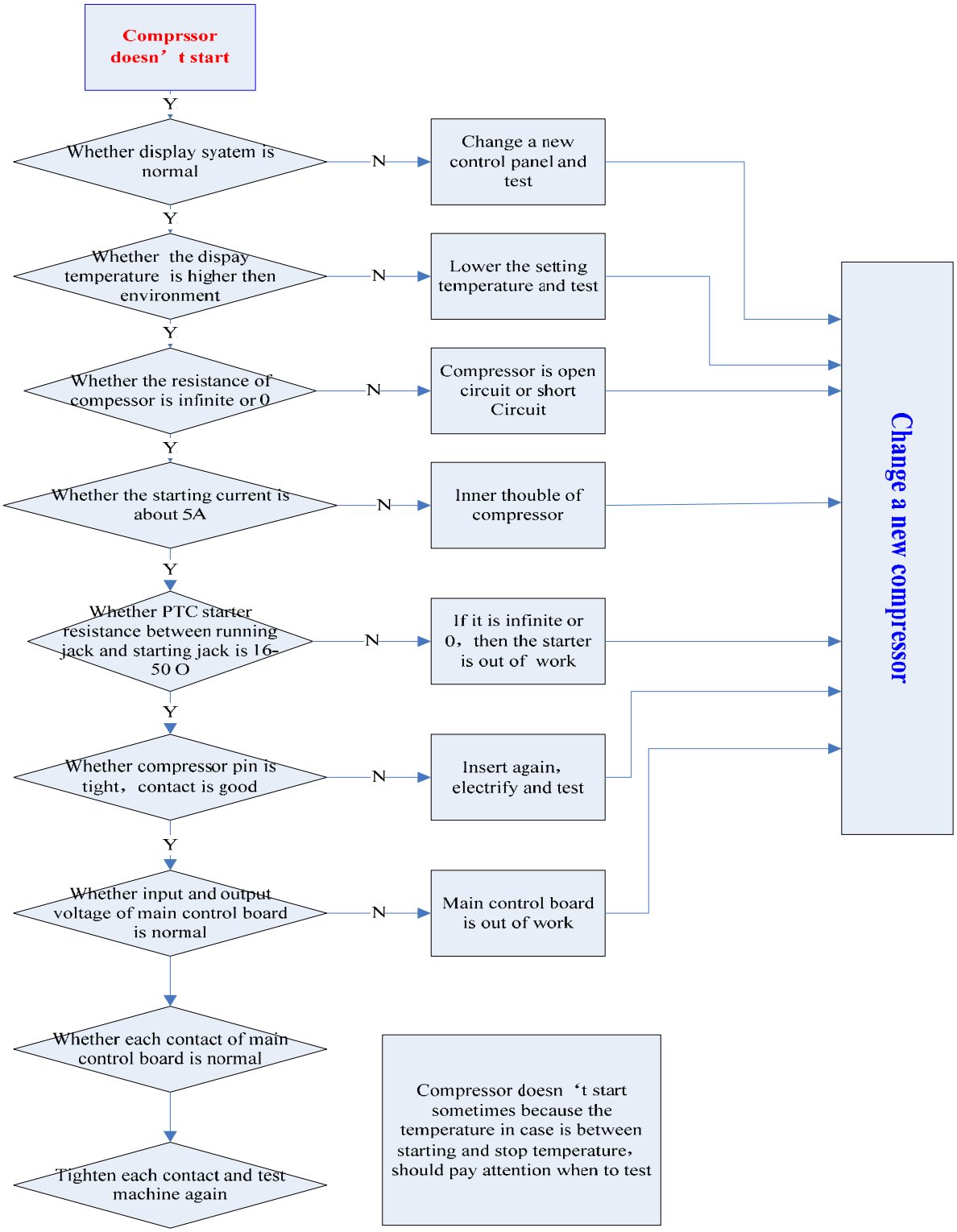
1. This is normal during high humidity periods.
2. Prolonged or frequent door openings.
3. Check door gaskets for proper seal.

8-2.Compressor parameter

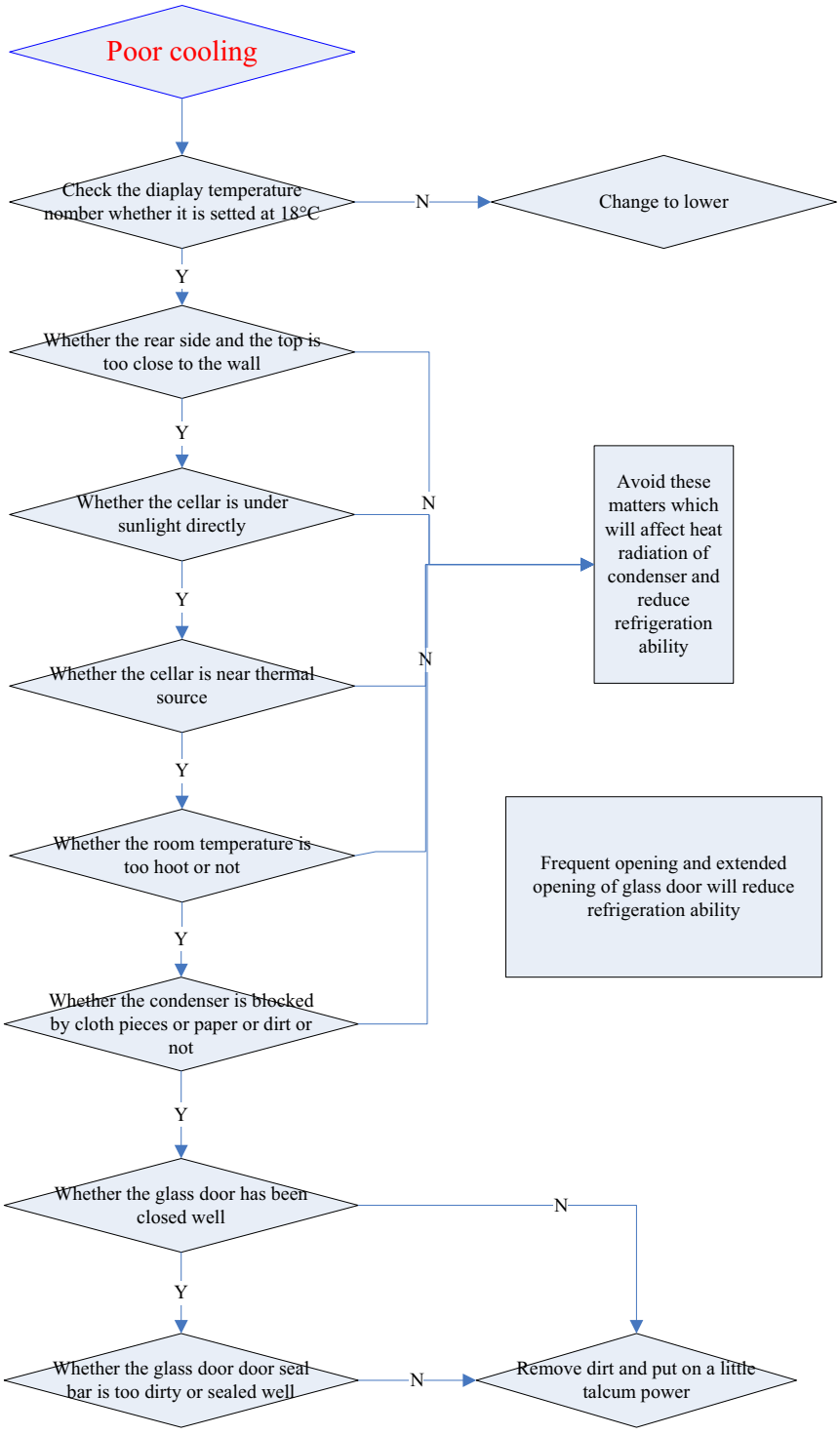
Part Name	Ambient temperature 25°C			
Compressor	model		Main Wiring	Auxiliary Wiring
	AS35U6	Normal	4.6Ω	9.4 Ω
Starter(PTC)	Model	**QP2-4.7G**		
	Resistance	4.7±20% Ω		
	Max working voltage	180 V		
	Max running current	12 A		
Overload protector	Model	**B77-120**		
	Operate temperature	120±5℃		
	Revert temperature	61±8 ℃		

8-3.Abnormal Problems

8-2-1. Compressor doesn't start



8-2-2.Poor cooling



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23

Sincere forever

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