WI6134

Caple Sense 60cm 2 Zone Wine Cabinet

Technical Manual

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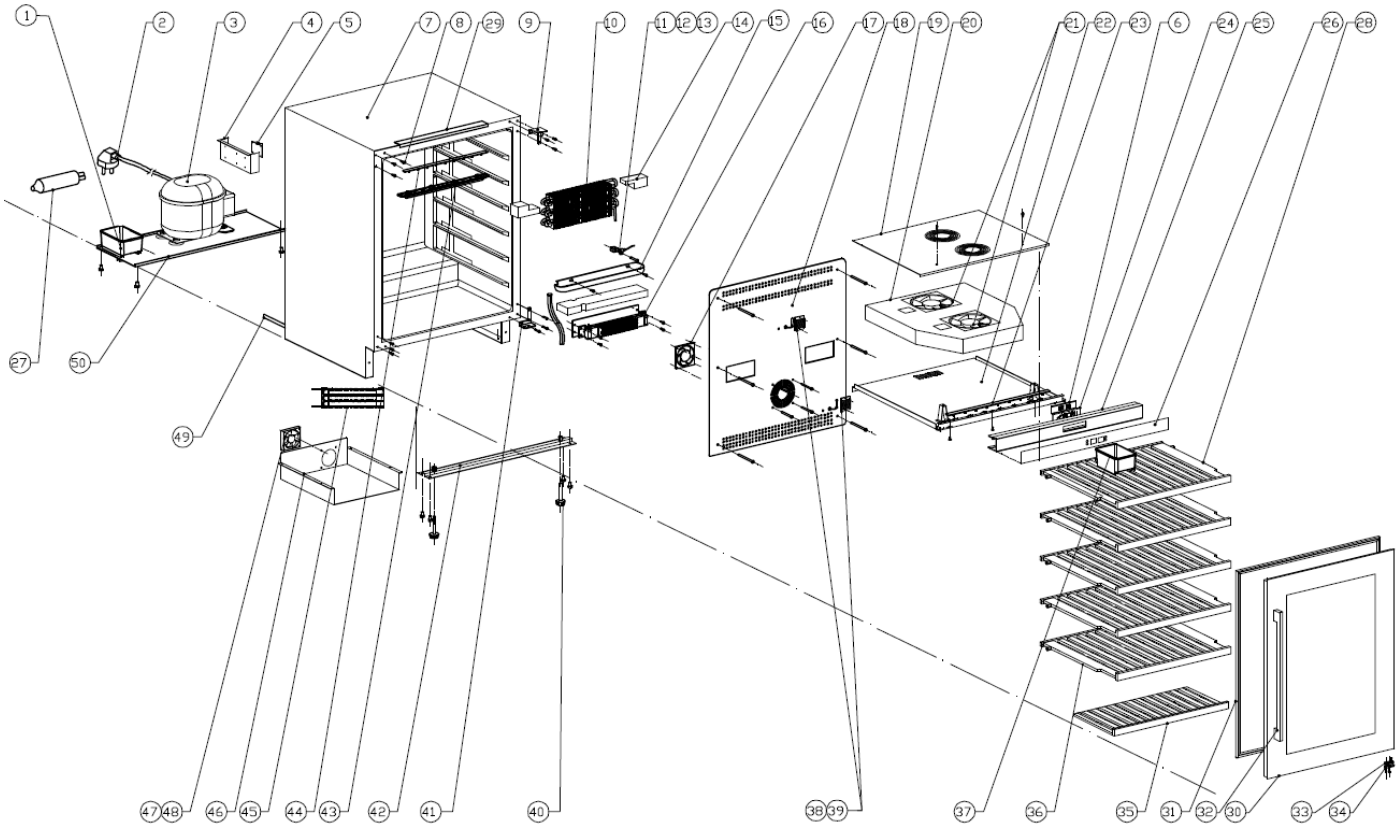

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Item	Part Number	Description	Quantity
1	DG13-1	Water box	1
2	DG2-14	Power cord	1
3	DG1-119	Compressor MG1080Y	1
4	DG13-272-1	Electrical box cover	1
5	DG3-312-3	PCB board	1
6	DG3-004-2	Display board	1
7	DG26-247	Cabinet	1
8	DG13-268	Decorative nail	6
9	DG14-190-SR	Top right hinge	1
10	DG12-50-1	Evaporator	1
11	DG13-7	Shelf support	1
12	DG20-1	Clip	1
13	DG8-8	Sensor	1
14	DG18-93	Foam	2
15	DG13-458	Water tank	1
16	DG11-18	PTC heater	1
17	DG7-41-BH	PTC heater fan	1
18	DG22-422-1	Air duct board A	1
19	DG22-421	Upper panel for middle airway-board	1
20	DG18-120	Foam	1
21	DG7-48	Evaporator fan	2
22	DG22-303-1	Lower panel for middle airway-board	1
23	DG3-18-W	LED light	1
24	DG13-3063	Display support	1
25	DG13-3233	Display board box	1
26	DG20-472	Control panel	1
27	DG11-45	Dry filter	1
28	DG15-303	Wooden shelf	2
29	DG13-3149	Fixing bracket A	1
30	DG23-382	Door	1
31	M160-050	Gasket	1

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Item	Part Number	Description	Quantity
32	DG22-3490	Handle	1
33	DG22-3057	Axis	1
34	DG13-3155	Door axis spacer	1
35	DG15-304	Wooden shelf	1
36	DG15-311	Wooden shelf	3
37	DG13-1.2	Humid box	1
38	DG13-198	Sensor cover	2
39	DG8-8	Sensor	2
40	DG13-3146	Cabinet leg	4
41	DG14-212-SR	Lower right hinge	1
42	DG22-330	Support bracket of front legs	1
43	DG13-129	LED light cover	1
44	DG3-14-W	LED light	1
45	DG12-91	Condenser	1
46	DG19-9	Condenser cover	1
47	DG7-47	Condenser fan	1
48	DG19-3	Fan cover	1
49	DG12-6.1	Air-circulating pipe	1
50	DG22-331	Compressor bracket	1
Spare part	DG14-190-SL	Top left hinge	1
	DG14-212-SL	Top right hinge	1
	DG22-3021	Bottom grill	1
	DG13-3154	Slider	2
	DG13-3152	Fixing bracket B	1

Here below we listed various faults while using the wine cellar, and the method of check-up and solve these default, and find the information of the correspondent page.

Statement: (Fig.4) shows the reference figure Fig4
(→6.1.6) shows the reference item 6.1.6.

Warning: before attempting any cleaning or maintenance this unit MUST be disconnected from the electrical supply, to prevent electrical shock

▲Preparation before maintenance

○ Tools

1. Pliers
2. Phillips head screwdrivers
3. Process pipe
4. Electrical Multi meter
5. Amp meter (5A) (caliper cable type)
6. Electrical soldering iron
7. Wire strippers
8. Seal pliers

○Equipment

1. Vacuum pump
2. Soldering iron for copper pipes
3. Refrigerant meter

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1. Safety rules on operation of repairing (Rules must be obeyed).

To avoid the accident during maintain the wine cooler, and make sure the product is safety, rules must be obeyed list below.

○ Below we list the symbols and explain the danger if ignore it.

	Danger	This symbol means that the instance may have the chance to suffer death or a serious wound.
	Warning	This symbol means that the instance may have the chance to suffer death or a serious wound.’
	Notice	This symbol means that the instance may have the chance to suffer a wound.’

○Below symbols’ distinguish and rules should be obeyed.

	This symbol means the instance hope to be noticed		This symbol means the instance must be done forcibly
	This symbol means the instance forbidden		

 Danger	
	・Please make sure to discharge the rest refrigerant in the parts. ・When discharging refrigerant, make sure that it never go to the fire place and drain to outdoors. Tell the customers that they never close to the discharge place and the fire is forbidden. ・Take apart the pipe by cutter. Never take apart the part by soldering, otherwise it will fire the rest refrigerant in the systems and cause blast. ・Exhaust the rest refrigerant in the systems before welding. ・After filling the refrigerant the sealing should be done by using smithing welding nozzle. Using the welding machine will fire the refrigerant and blast. ・Since the R600a is heavier than the air, please let the R600a on the ground go especially for the hypogeum. ・The operation on the servicing refrigerant bottle should be done in place without fire and outdoors. ・Use the refrigerant warner please， as the rest refrigerant will cause the fire.
	・Don’t use fire in the place with rest refrigerant. ・Don’t place the default compressor in indoor.

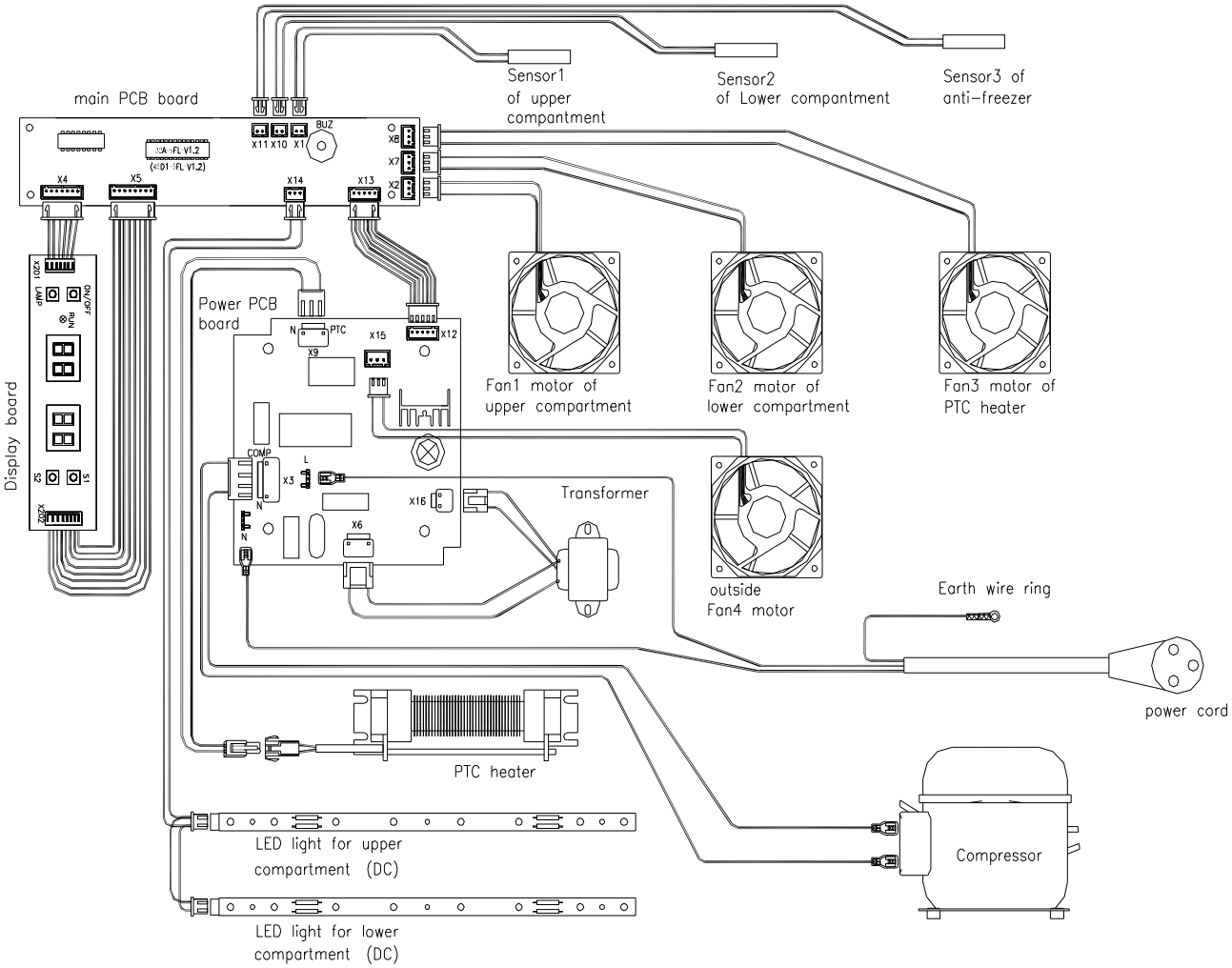
Danger	
	• During repairing, the power plug should be disconnected. Before remove, install, replace parts disconnect the power plug.
	• Attention don’t get electric shock. When checking current, voltage or charging never touch the connectors. When changing the parts, don’t touch the charged parts within three minutes after disconnect the plug. The capacitor will discharge for some time.
	• Don’t damage the cooling pipe, sine the refrigerant is flammable, the damage will cause the fire or blast. • Don’t smoking in the service car.
	• Discharge the refrigerant entirely in the place without fire before disusing the refrigerant bottle. • Don’t touch the wine cooler when the cooling pipe damaged, don’t fie inside the wine cooler, keep the windows open to exchange the air. • Disusing the default compressor should be done outdoor without fire. • The maximum weight of the refrigerant bottle loaded in the vehicle should be comply to stated, the bottle should be place upright, the maximum leaning angle is 40°. • Do use the appointed part, otherwise it have chance to smoke fire or default. • Please put the default compressor into plastic bag and seal the peristome, then pack it with strip, as the rest compressor oil may leak in the vehicle and cause fire or blast. • Check if all the snails, parts, wiring are install in it’s place, if the area around the service part worsen. When measuring the grounding resistance make sure that the test range is more than 1MΩ. Make sure the power cord and plug never be pinched on rear of the wine cooler. Exchange the power cord when it damaged. Clean the flake of the plug when it dirty.

Notice	
	• Attention the hot. The running or just stop compressor and the pipe sometimes are very hot. And the heating or just stop heater is very hot. The hot will cause scald. • Attention the hot parts of the pipe after the welding.
	• Attention the refrigerant during charge and discharge it, as it will frostbite the skin when touch it. • Attention the burr. The burr on the metal or plastic part may hurt the hand. • Attention the fins of the evaporator. The fins of the evaporator may hurt the hand.

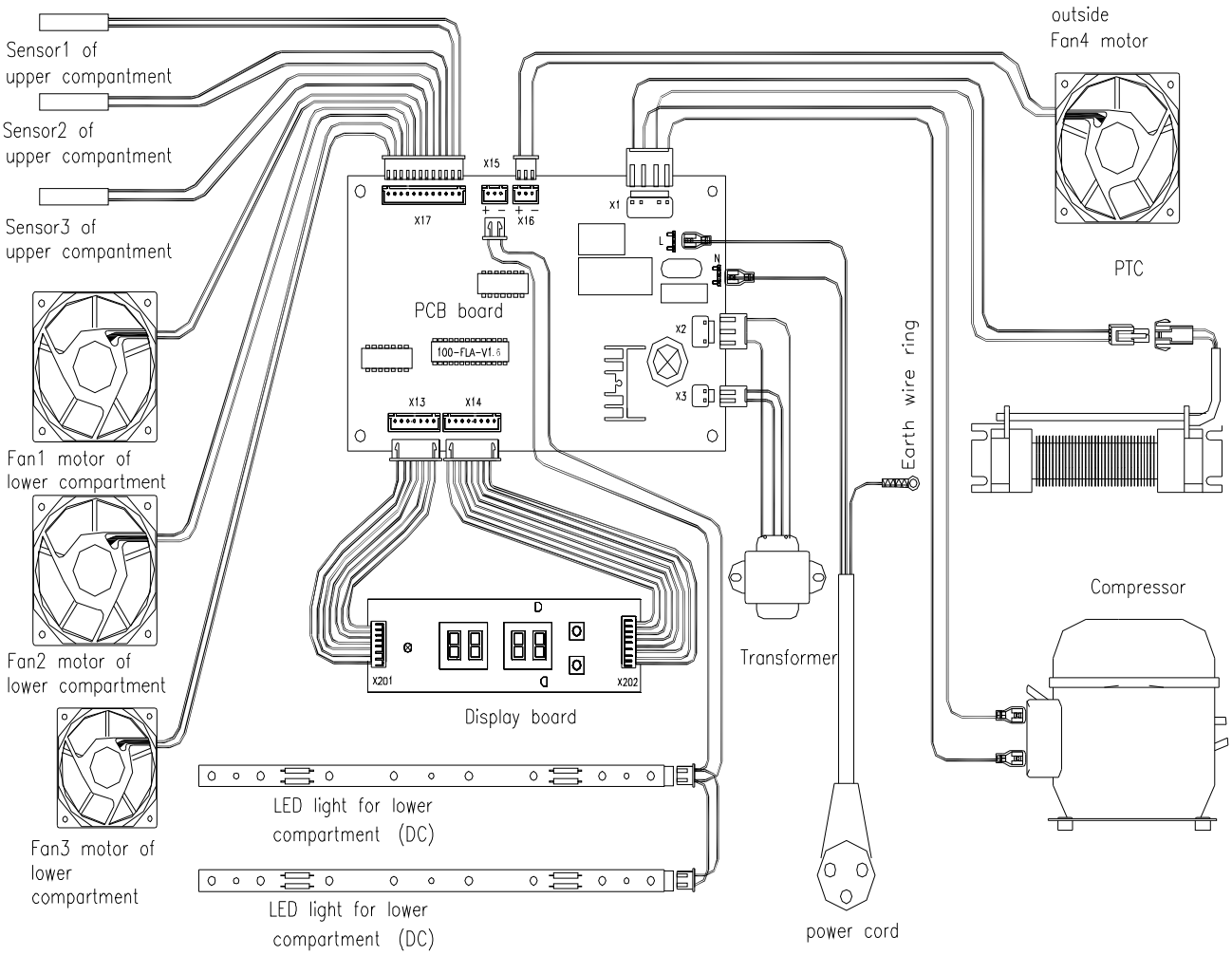
	• Drive up the wine cooler when moving it. Pushing it may damage the floor. Cover a protector board on the easy damage floor.

2. Electrical circuit diagram. There are three version

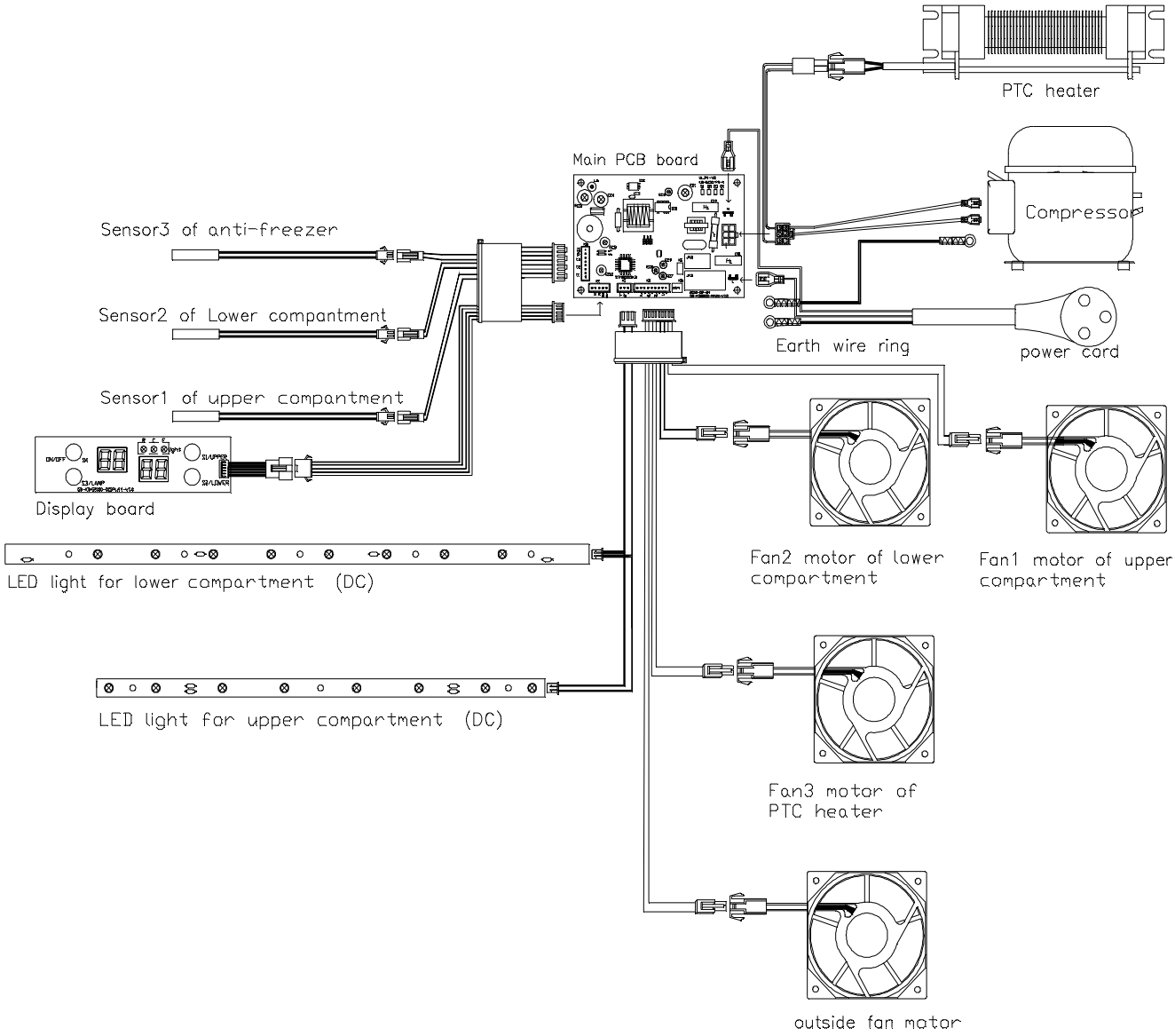
2.1 Version A whole PCB



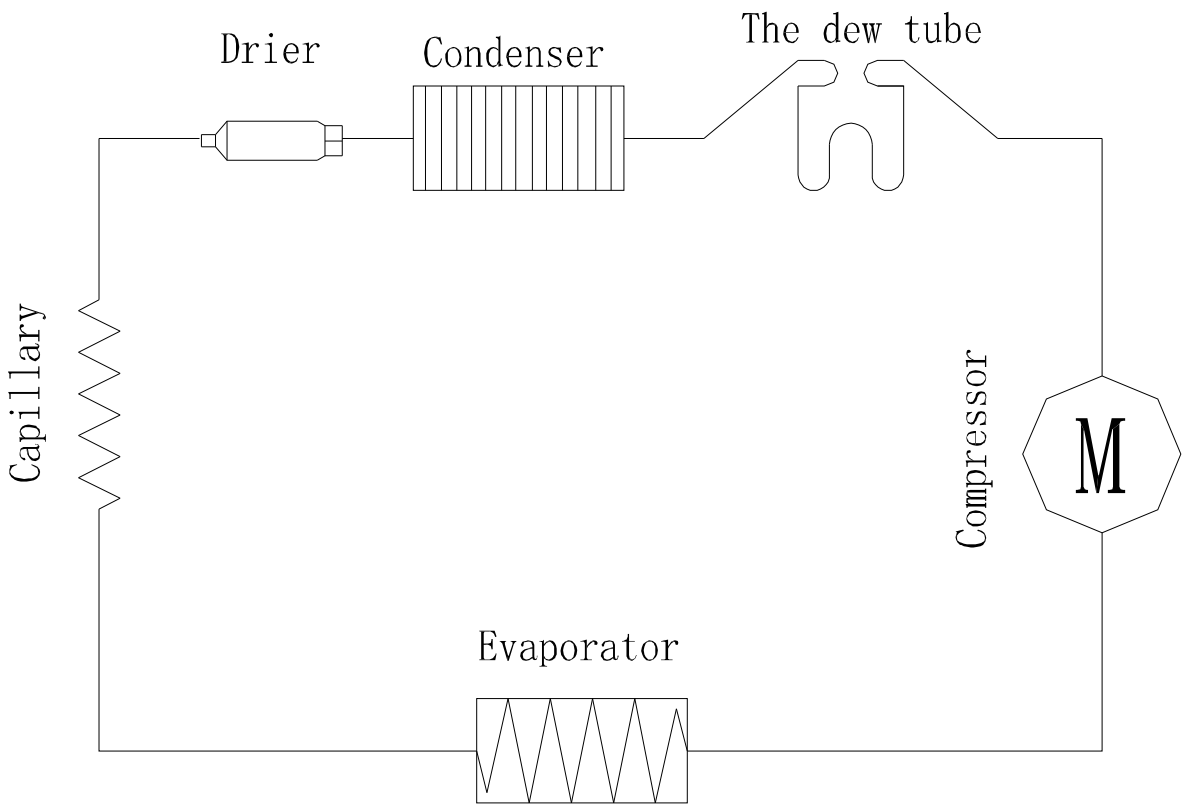
2.2 Version B divided PCB



2.3 Version C Switching power supply PCB

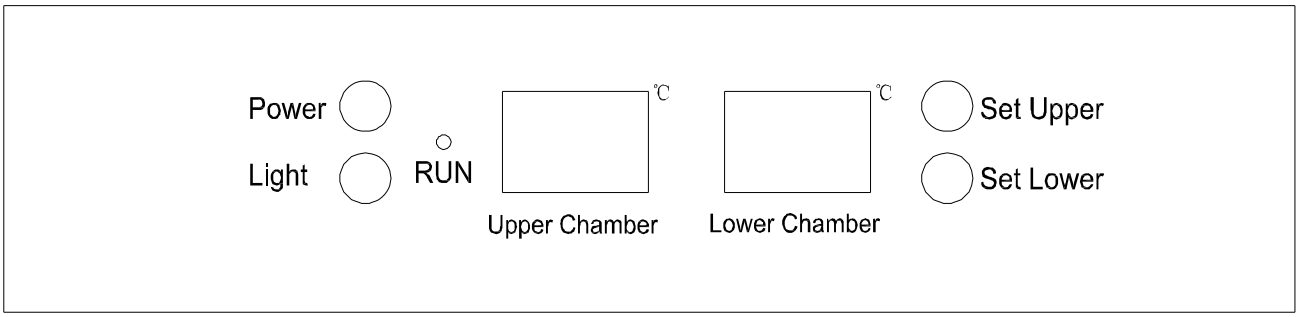


3. Cooling system diagram.



4. Name and function on control panel.

4.1 Style A



- **POWER**
  Power button, use to switch on/off the power.

- **LIGHT**
  Light button, use to switch on/off the light.

- **RUN**
  Indicator, when it on, it means the compressor is running.

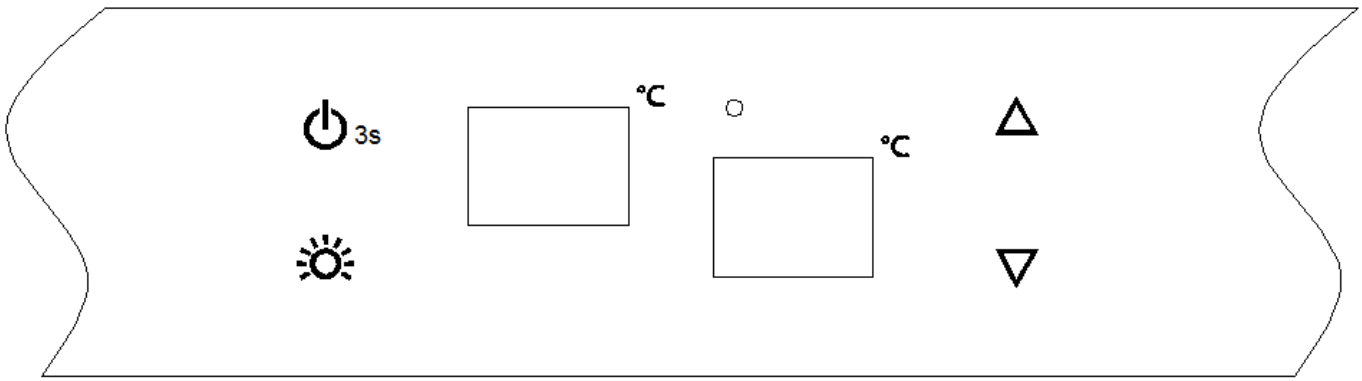
- **"Set Upper"**
  Upper compartment temperature setting button. Press it, the upper compartment setting temp will decrease in 1.

- **"Set Lower"**
  Lower compartment temperature setting button. Press it, the lower compartment setting temp will decrease in 1.

- **“Upper Chamber” Upper Chamber display.**
- **“Lower Chamber” Lower Chamber display.**

Read the user manual for more detail.

4.2 Style B



- ‘△’ Upper compartment temperature setting button. Press ‘△’ one time, the upper compartment setting temp will decrease in 1.
- ‘▽’ Lower compartment temperature setting button. Press it, the lower compartment setting temp will decrease in 1.
- “ ” Light button
  Press one time, the light on, press again, the light off, it is not effect by the door switch.
- ‘ ’ Power button
  Press it power on, press it and hold on for three seconds power off.
- Left display, show upper chamber.
- Right display, show lower chamber.

Notice:

According to customers’ requirement, this wine cooler can be set to that the readout display actual temp or setting temp.

a. In the readout display actual temp mode, press the ‘△’ or ‘△’, the systems enter the temperature setting mode and the setting temperature twinkling. Five seconds twinkling after stopping adjust temperature, the readout stop twinkling and the readout show actual temperature, the temperature setting mode end.

b. In the readout display actual temp mode, press the ‘△’ or ‘▽’, the systems enter the temperature setting mode and the setting temperature twinkling. Five seconds twinkling after stopping adjust temperature, the readout stop twinkling and the readout show actual temperature, the temperature setting mode end.

Notice: If any doubt, please refer to the user manual.

5. How to diagnose the fault.

5.1 Self-check

The wine cooler is controlled by electronic Controller, in order to maintain the wine cooler easily, there is a self-check function in the control PCB. If you suspect that the control system fault, you can start the self-check mode by following below:

5.1.1 Style A for press-button control

1>. Press and hold “Set lower” and “Set upper” button with power on. 2 beeps will sound, and then the controller will start the self-check function,

2 >. If everything is correctly as below:

a. No response when pressing buttons.
b. LED display “- -”
c. The compressor works and the “RUN” indicator light are on all the time.
d. If the cooler has condenser and evaporator fans they should work fully.
e. The light switch controls the light normally.

3>.If all a~e are correct, the parts are normal, if the various components of the unit do not respond as above, check the faulty part and relevant connection. If replace the part does not cure the fault, replace the control board. see. (→6.2.1)

4>. To return the control to its normal working mode, unplug and plug it in again

5.1.2 Style B for Touch-key control

1 >. Power on the wine cooler, it will beep one sound, the wine cooler star, within 10 seconds after it start, press the ‘△’and‘▽’at the same time and holding, three beeps will sound, the systems enter self-check mode.
The power indication light is on.
The readouts show the actual temperatures.
The heater on and last for ten seconds
The LED light is on.
All of the inner and outer fans running.
No response when touch the controlled button.

2>. If all tally with above description, the parts are normal. If any part fail, check the failed part and the corresponding wiring and connection, if the wiring and connection is in good condition, replace the part and check again, if it still failed, the default should be the control PCB, replace it with same model. (→6.2.1)

3>. To return the control to its normal working mode, unplug and plug it in again

5.2 Err code

Code	Representation	Checking point	Solution
E1	Upper compartment sensor open circuit	Check the wiring and connection between PCB and sensor, if it open circuit.	If the connection and wiring is normal, replace the sensor please.
E2	Upper compartment sensor short circuit	Check the wiring and connection between PCB and sensor, if it short circuit.	If the connection and wiring is normal, replace the sensor please.
E3	Defrost sensor open circuit	Check the wiring and connection between PCB and sensor, if it open circuit.	If the connection and wiring is normal, replace the sensor please.
E4	Defrost sensor short circuit	Check the wiring and connection between PCB and sensor, if it short circuit.	If the connection and wiring is normal, replace the sensor please.
E7	Lower compartment sensor open circuit	Check the wiring and connection between PCB and sensor, if it open circuit.	If the connection and wiring is normal, replace the sensor please.
E8	Lower compartment sensor short circuit	Check the wiring and connection between PCB and sensor, if it short circuit.	If the connection and wiring is normal, replace the sensor please.
HI	Inner temperature too high	A Check if any refrigerant leakage.	Repair the leakage and refill.
		B Check if the capillary jam	Clean or replace the capillary.
		C Check it the inner fan run normally	Repair the wiring or replace the fan.
LO	Inner temperature too low	a Check if the inner fan run normally	Repair the wiring or replace the fan.
		b Check if the PCB normal.	Replace the PCB.

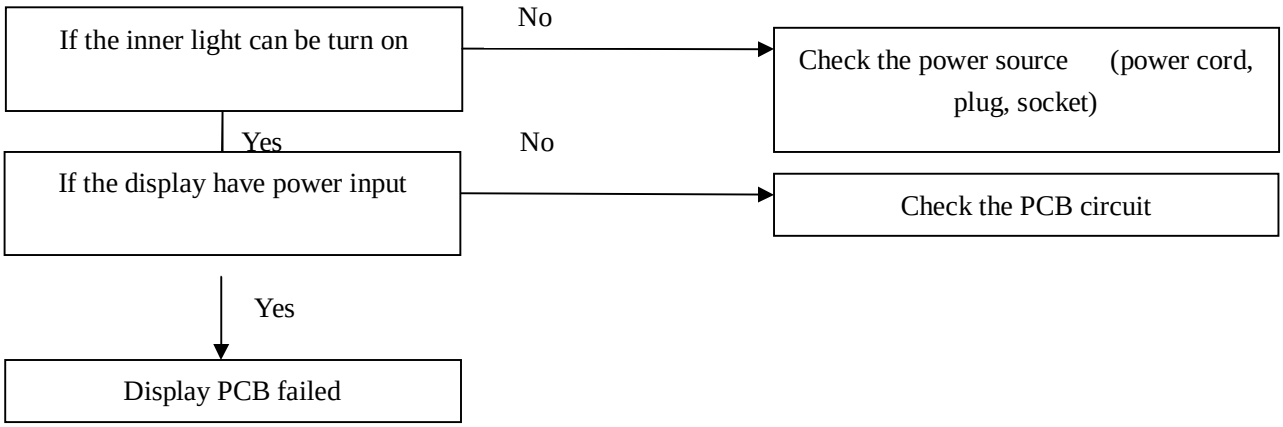
"HI"—High temperature warning. After turning on the wine cooler ten hours, if the inner temperature is over 23ºC, the readout show HI, after it showing for one hour, the "HI" twinkling and the buzzer alarm, and twenty minutes later, the buzzer stop, the compressor stop, the readout keep twinkling. The HI alarm can be stopped by disconnect the power plug.

"LO"—Low temperature warning. After turning on the wine cooler two hours, if the inner temperature is lower than 0 ºC and lasting for 15 minutes, the readout show "LO", the buzzer alarm, and the compressor stop at the same time, when the inner temperature is over 2ºC, the LO warning stop.

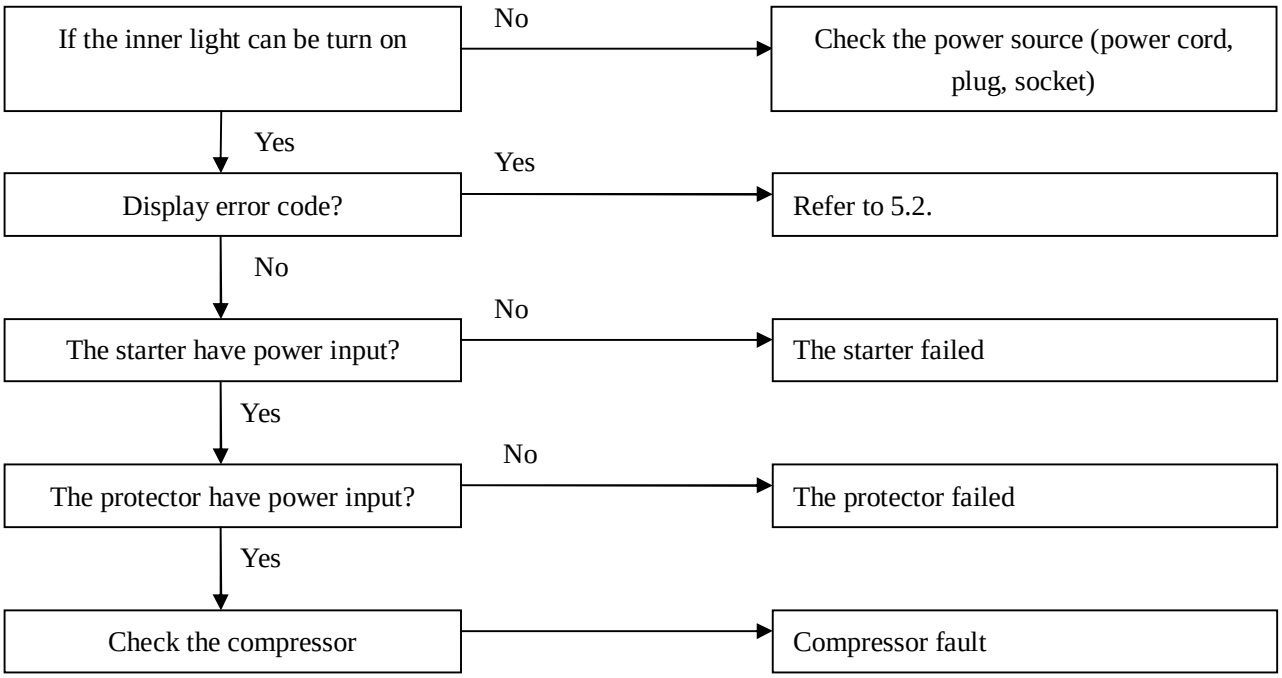
* Remark: some models without the HI and LO warning function.

5.3 Diagnose the defaults

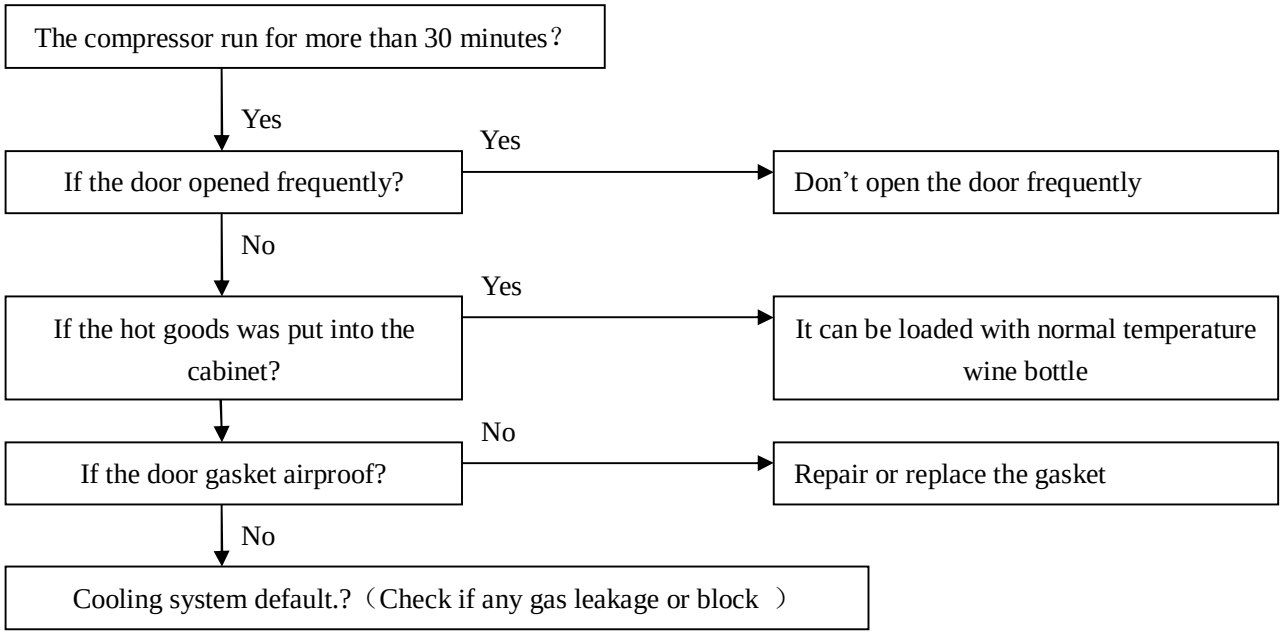
●There isn't any display on the display PCB.



●Not cooling (the compressor stop)



●Not cooling (the compressor running)



6. Disassembly

Warning: Disconnect the power plug before maintain the wine cooler.

6.1 Disassembling the inner cabinet.

6.1.1. How to remove the shelves.

Push the shelf to the end, and revolve the shelf on either side, make the stopper on the out of the guiding rail, then pull the shelf out (Fig.1).

Fig.1

6.1.2. How to remove the air-duct board

The middle electrical box come with upper panel B, lower panel C and control box.

①、Removing upper panel B

The process: remove the shelves ⟶ Remove the screws fixing the air-duct board ⟶ remove the panel B.

After removing the shelves, remove the fixing screws on panel B(Fig.2).

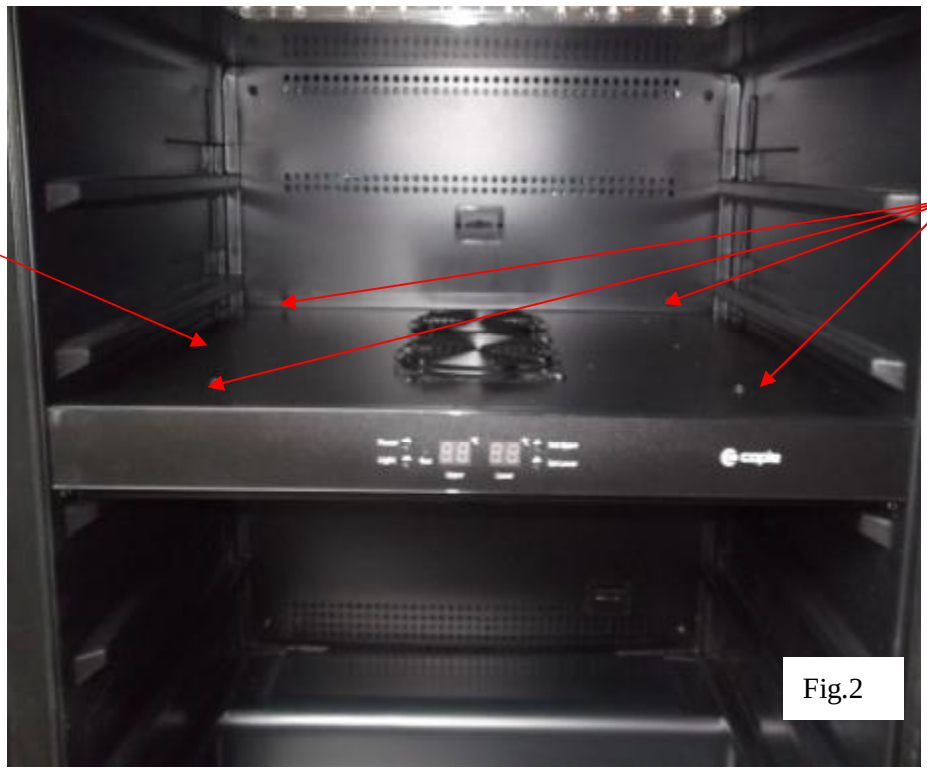


Fig.2

②、Removing the lower panel C

The process: remove the shelves ⟶ Remove the screws fixing the air-duct board ⟶ remove the panel B ⟶ Remove the screws fixing panel C ⟶ Disconnect the connector ⟶ Remove the Panel C

After removing the panel B, removing the two screws fixing panel (Fig.3), remove panel C.

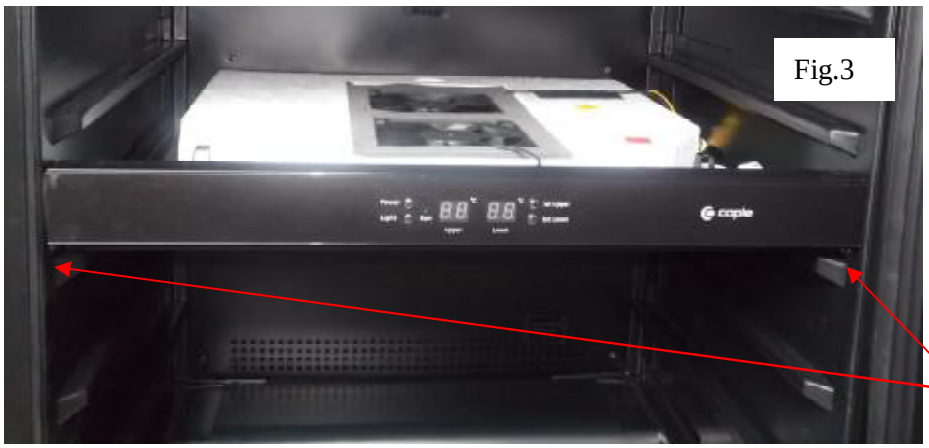


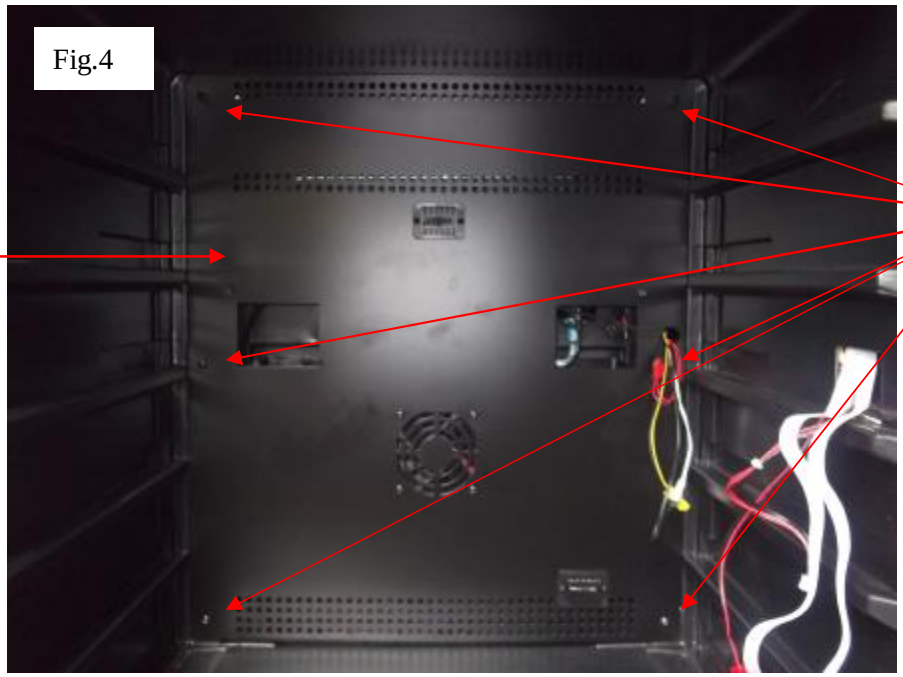
Fig.3

③、Removing the air-duct board A.

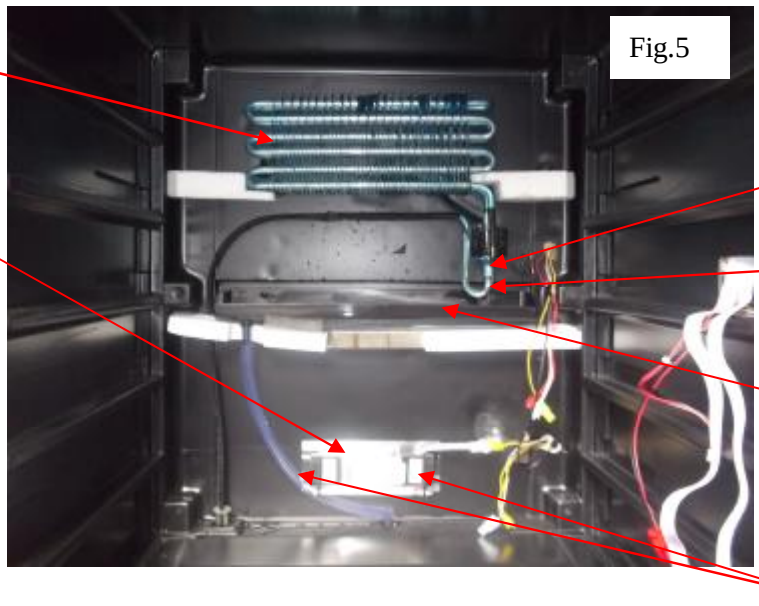
The process of removing the panel C: remove the shelves ⟶ Remove the screws fixing the air-duct board remove the panel B ⟶ Remove the screws fixing panel C ⟶ Disconnect the connector Remove the Panel C ⟶ Remove the screws fixing air-duct board A. ⟶ Disconnect the connectors

Remove the air-duct board A.

After removing the middle electrical box according to above, remove the screws fixing air-duct board A, disconnect the connectors, remove the air-duct board A. (Fig.4)



View after removing the air duct board A (Fig.5)



6.1.3. How to remove the evaporator

The process: Remove the shelves→Remove the middle control box→ Remove the screws→Remove the upper and lower air-duct board.→ Remove the air-duct board A→ separate the evaporator from the compressor and dry filter on the joints → Remove the evaporator from inner cabinet

After removing the air-duct board A according to above, you can see the evaporator is jointing to suction pipe and capillary (Fig.5). Heat the joint D, E (Fig.22 & Fig.23) in the compressor room, and disconnect the pipe from compressor by using the pliers. Then remove the evaporator and

capillary and suction pipe upward. （Fig.5 ）

6.1.4. How to remove the display PCB

The process: Remove the upper shelves ⟶ Remove the display supporter⟶remove the display PCB

① . After removing the shelves, remove the panel B (Fig.2)(Fig.3)， discor Hook and remove the control box. (Fig.6)

②. Pull the box and take out the display and it's supporter, pull the hooks and remove the display PCB. (Fig.6.1)

Fig.6

Display control box

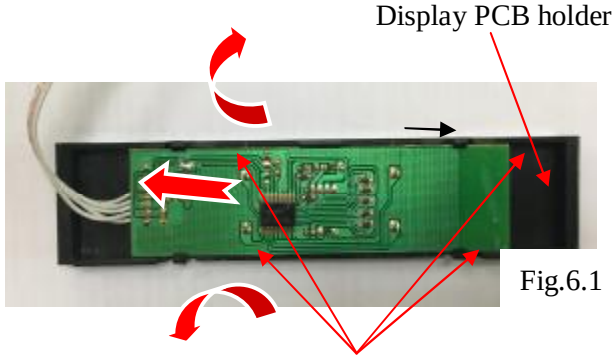


Fig.6.1

6.1.5. How to remove the inner fan

There are two air circulating fans and one heater fan inside the cabinet.

1. Removing the air circulating fans.

The process: Remove the shelves⟶Remove the screws fixing the air-duct board ⟶ remove the panel B⟶ Remove the fans

After removing the panel B according to above, disconnect the fan connectors and replace the fans.

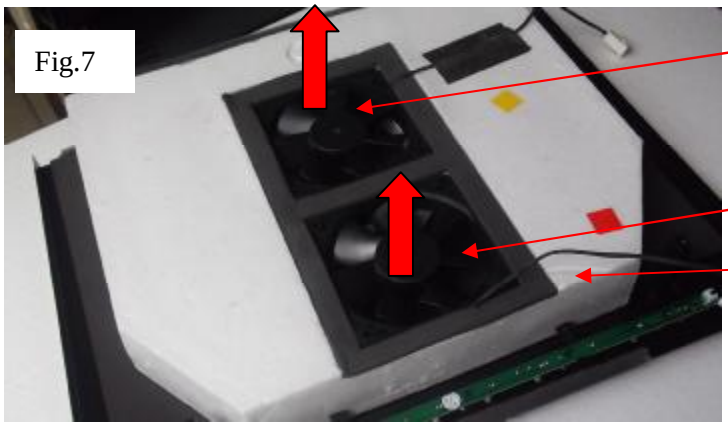


Fig.7

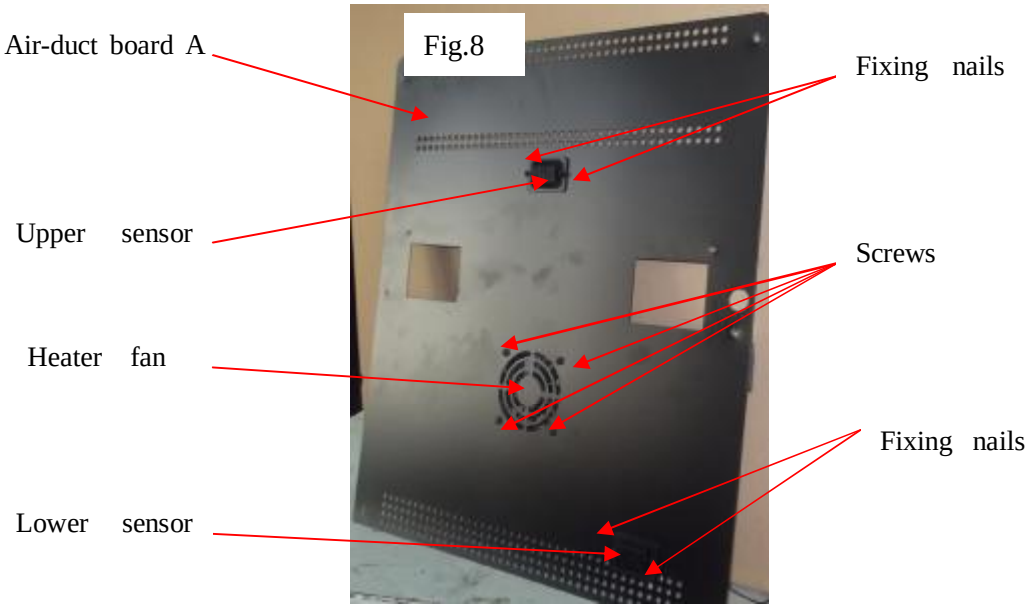
2. Removing the heater fan.

The process of removing the heater fan: remove the shelves ⟶ Remove the panel B ⟶Remove the Panel C ⟶ Remove the air-duct board A. ⟶ Remove the heater fan

①. Remove the shelves (Fig.1)

②. Remove the middle electrical box (Fig.2&Fig.3)

③. Remove the air-duct board(Fig.4) , disconnect the connectors , and remove the fan fixing screws (1, 2, 3, 4), remove the fan. (Fig.8)



6.1.6. How to remove the inner sensors

The process: Remove the shelves ⟶ Remove the panel B ⟶Remove the Panel C ⟶Remove the air-duct board A. ⟶Remove the sensor

Remove the shelves (Fig.1); Remove the middle electrical box (Fig.2&Fig.3); After remove the air-duct board A, Push the fixing nails from back with hard tool and remove the sensor cover, take the sensor way(Fig.8).

Defrost sensor fault (→7.12)

6.1.7. How to remove the heater

The process: Remove the shelves ⟶ Remove the panel B ⟶Remove the Panel C ⟶Remove the air-duct board A. ⟶Remove the heater

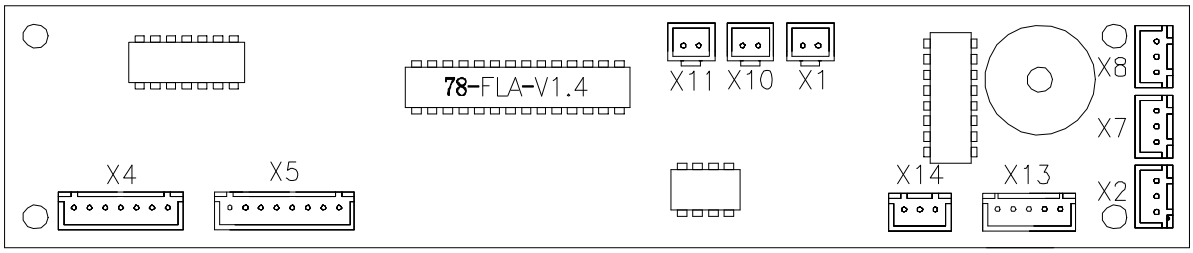
After removing the air-duct board A according to above, remove the heater fixing screws, disconnect the connector and remove the heater. (Fig.5)

6.1.8. How to remove the control PCB.(only for the divided PCB)

The process: Remove the shelves ⟶ Remove the panel B⟶ Remove the main PCB

After removing the panel B according to above, disconnect the connectors on main PCB, press the supporting nail and pull the PCB upward to remove the PCB from four nails. (Fig.8 & Fig.8.1)

Connectors on PCB (Fig.9)



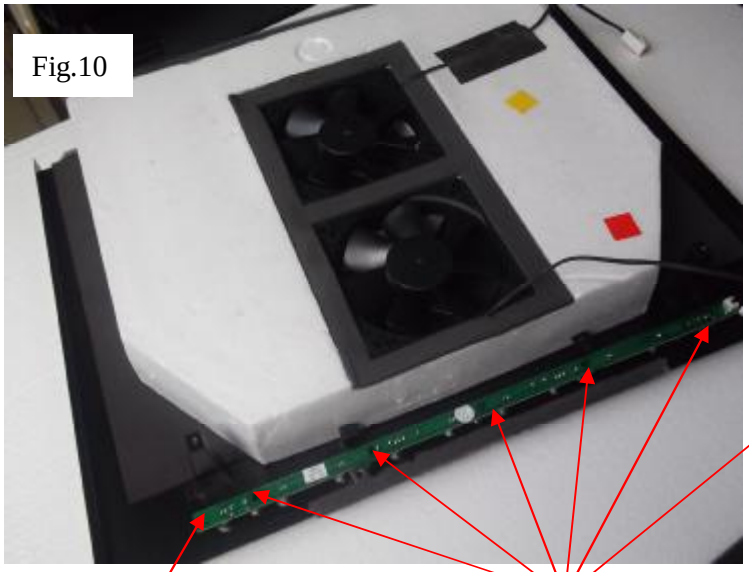
X11: the sensor of the evaporator (White) X10: the sensor of the red(lower) compartment (Yellow)
X1: To the fan of the white(upper) compartment (Red) X8: fan of heater (White)
X7: the fan of the red(lower) compartment(Yellow) X2: the sensor of the white(upper) compartment (Red)
X13: power PCB (White) X14: LED light（Black） X4/X5: the display PCB

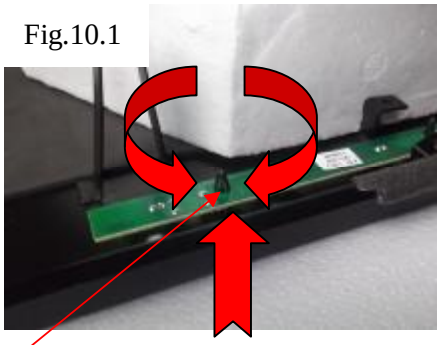
6.1.9. How to remove the LED

1. Remove the lower LED light

The process: Remove the shelves → Remove the panel B →Remove the main PCB → Remove the LED light

After removing the panel B according to above, disconnect the LED light connector, press the supporting nail and pull the LED light upward to remove it. (Fig.10 & Fig.10.1) (for some models, remove the main PCB before removing the LED light(Fig.8 & Fig.8.1).)





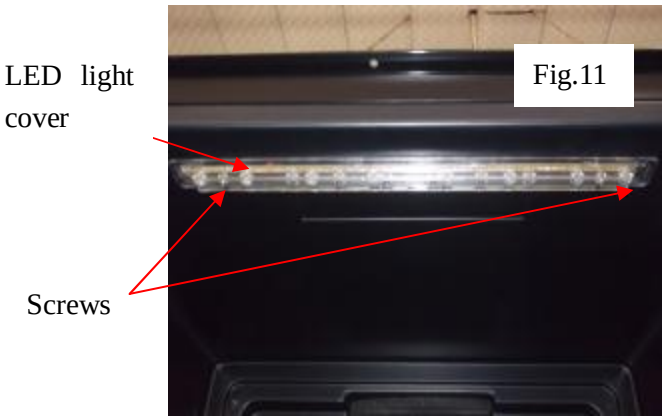
2. How to replace the upper LED light

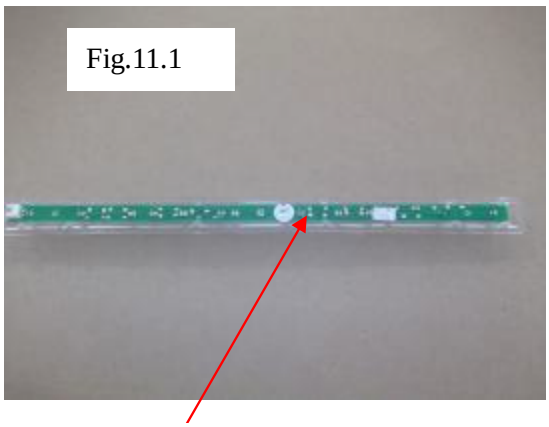
The process: Remove the shelves ⟶ remove the light cover fixing screws ⟶ remove the light cover ⟶ Remove the LED light PCB fixing screws ⟶ remove the LED light

（1）Remove the shelves (Fig.1)

（2）Remove the screws fixing the LED light cover and disconnect the connector , remove the light. (Fig.11)

（3）Remove the LED light PCB fixing screws and remove the LED light. (Fig.11.1)





6.2 Disassembly outside of the cabinet.

There are maybe some difference in special models, but the structure are similar, so it will not effect to the removing method.

6.2.1. How to remove the power PCB and transformer.

The process: remove the power box fixing screws ⟶ Disconnect the connectors/Remove the transformer ⟶ press the head of the nails ⟶ remove the power PCB

①. Remove the power box fixing screws 1 (Fig.12)

②. Push the power box inward and downward, and pull out to remove the power box. (Fig.12)

③. Disconnect the connectors, press the head of the nails and take of the PCB at the same time

one by one, remove the power PCB, and replace it with new one. (Fig.12.1, Fig.13) (Fig. 14 & Fig. 14. 1) (Fig. 16& Fig. 16. 1)

④. Remove two fixing screw(3) of the transformer, take off the transformer（B）for replacement. (Fig.12.1, Fig.13) (Fig. 14 & Fig. 14. 1) (Fig. 16& Fig. 16. 1).

For the version with individual transformer, it need remove the cove screws. (Fig. 17& Fig. 18)

For Switching power supply PCB, there isn't any single transformer. (Fig. 17& Fig. 18).

Screws

Power box

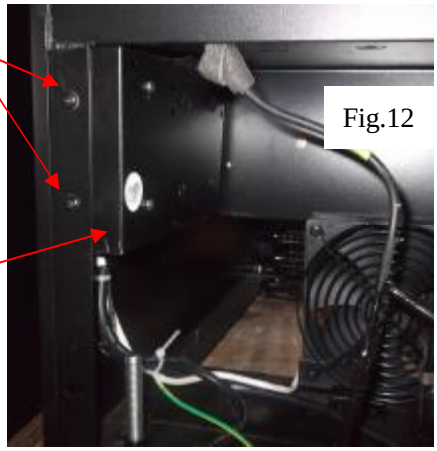


Fig.12

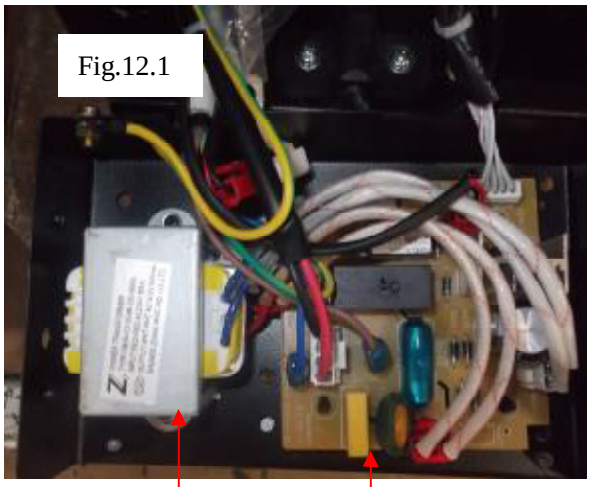


Fig.12.1

Transformer

Power box

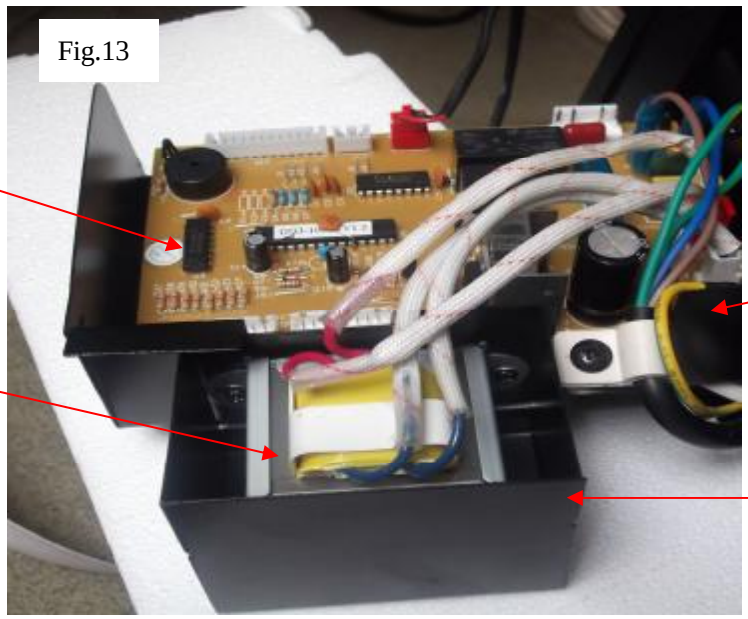


Fig.13

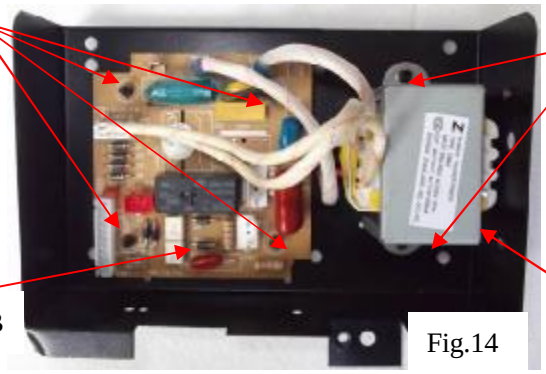
Power/main PCB

Transformer

Power box

Transformer cover

Supporting nails



Power PCB

Fig.14

Screws

Transformer

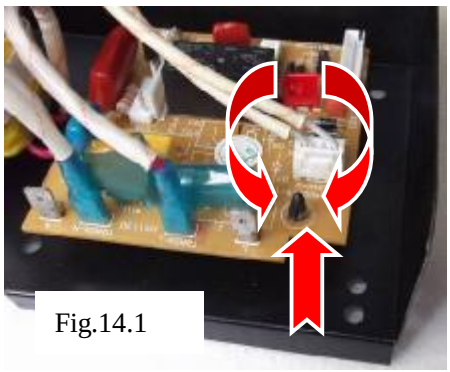


Fig.14.1

6. 2. 1. 1. Power PCB connections version A (Fig. 15)

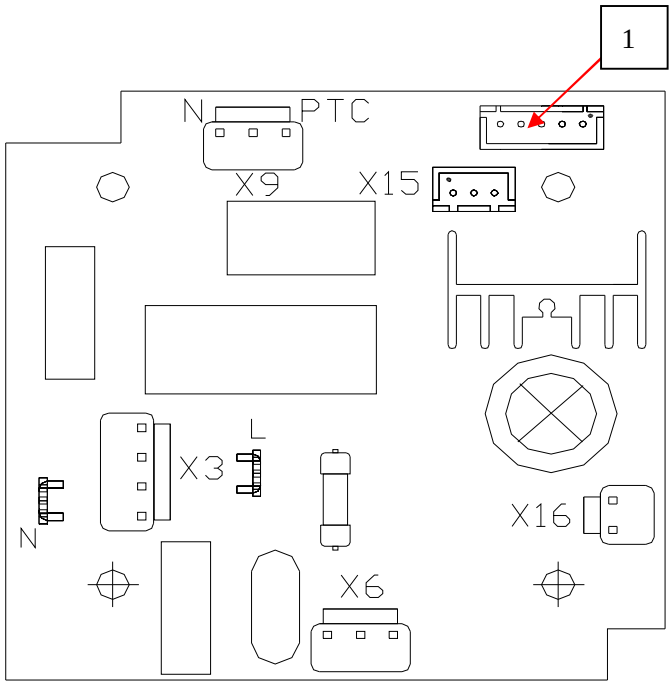
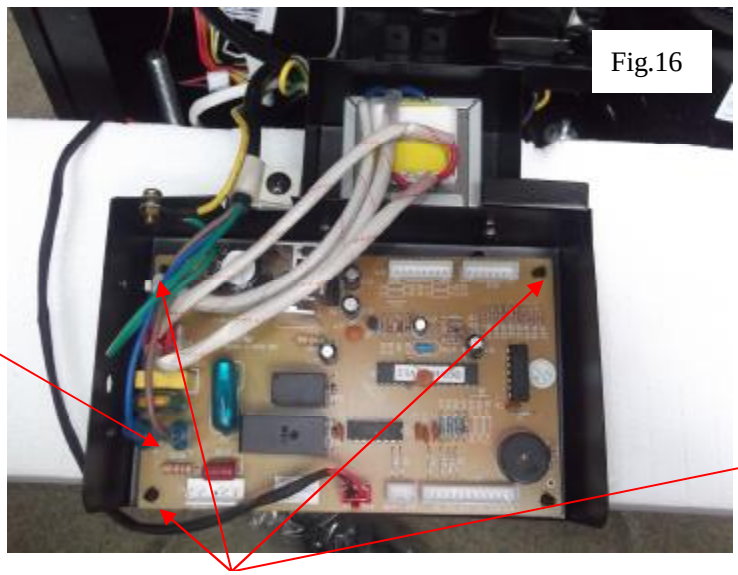
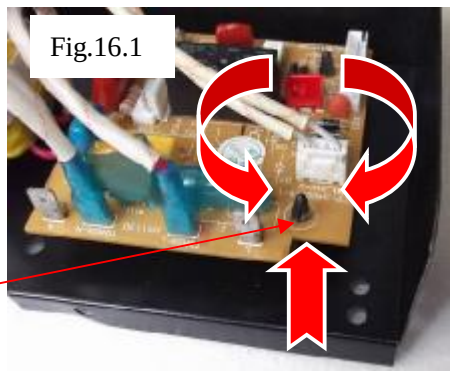


Fig.15

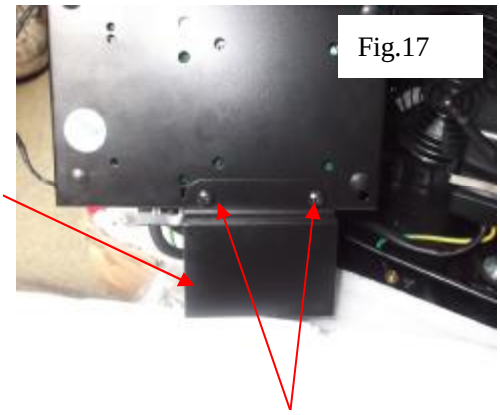
X9：PTC heater （White）
X15：To outer fan (Red)
1: Control PCB （White）
X3: Compressor
N:power – N
L: power -L
X16: To transformer secondary
X6：transformer primary



PCB

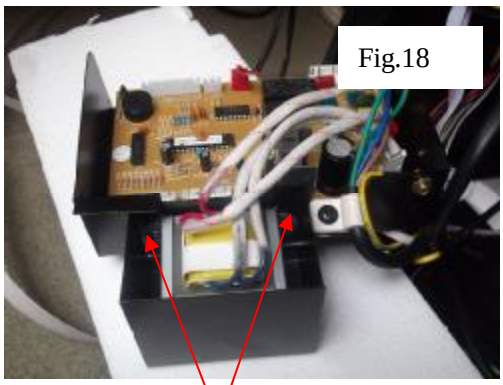


Supporting nails



Transformer cover

Screws



Screws

6.2.1.2 Power PCB connections for version B (Fig.19)

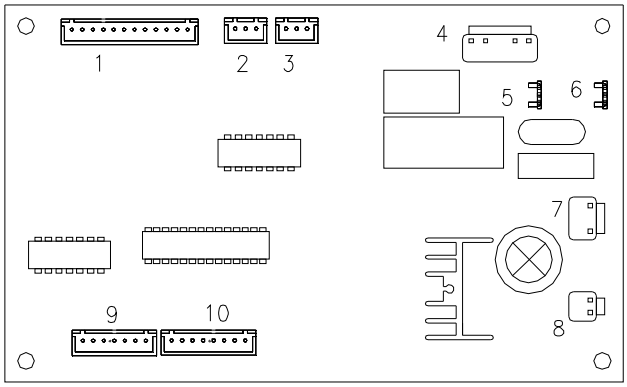


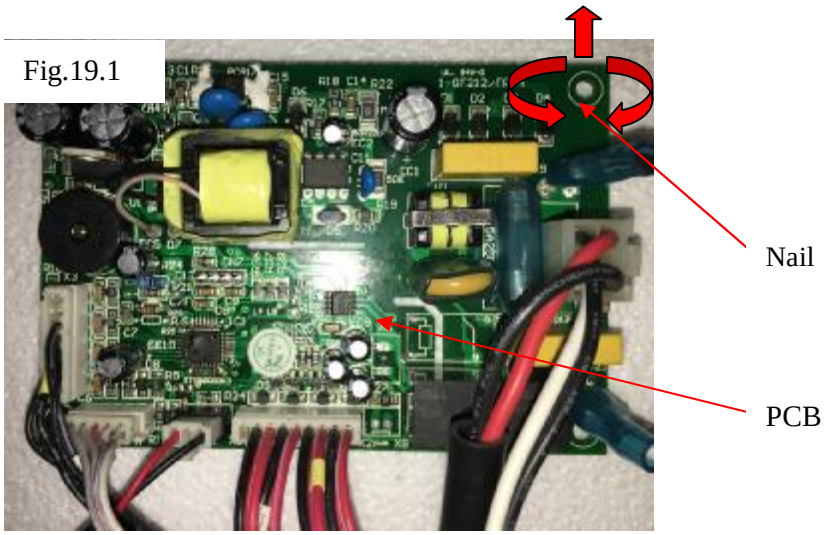
Fig.19

1. To heater fan, lower compartment fan, upper compartment fan, evaporator (defrost) sensor, lower compartment sensor, upper compartment sensor.

2. To LED light 3.To outer fan 4 .To compressor 5 .To power-L

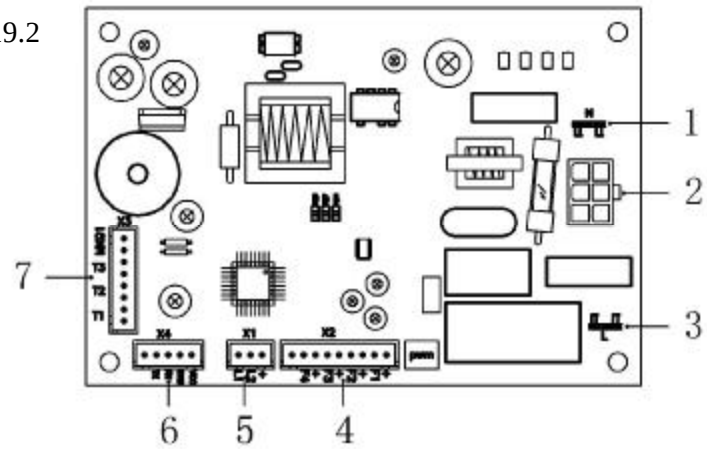
6.To power-N 7. To transformer primary N/L 8. To transformer secondary

Fig.19.1



Power PCB connections version C. (Fig.19.2)

Fig.19.2



1. To power-N 2.To compressor 3.To power-L 4. To fans

5. To LED light 6. Display PCB 7. To sensors and door switch.

6.2.2. How to remove the condenser fan

The process: Remove the back cover → Remove the electrical box → disconnect the condenser fan connector →Remove the condenser fan

There are two fixing structure: 1. on compressor basic. 2. on condenser cover

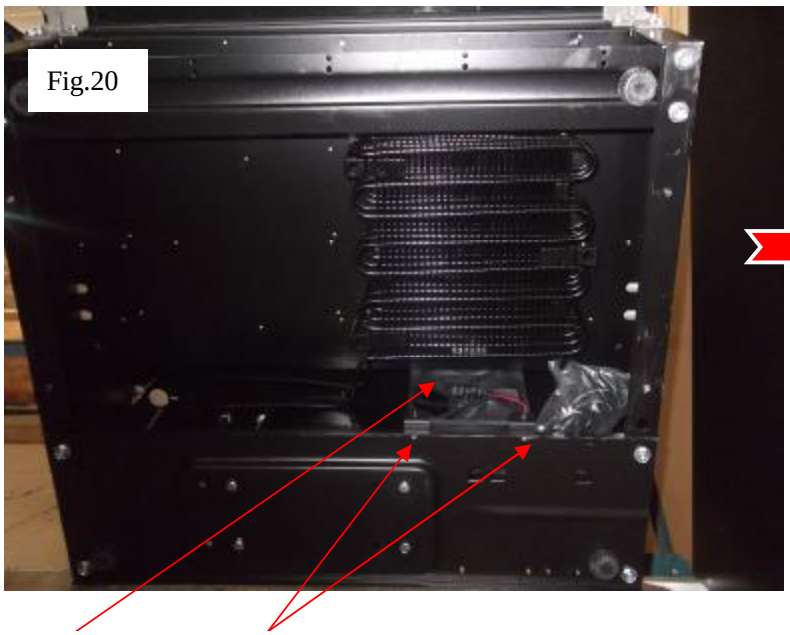
1、On compressor basic

1>. Remove the power box . (Fig. 12 & Fig. 12. 1), if the fan with extending wiring, just disconnect the connector out of the box, it is not need to remove the power box.

2>. Disconnect the connector, mark it for reconnecting. (Fig.12.1)

3>. Incline the cabinet to loosen the screws under the fan, remove the fan with cover. (Fig.20)

4>. Loosen the fan cover fixing screws. (Fig.20.1)

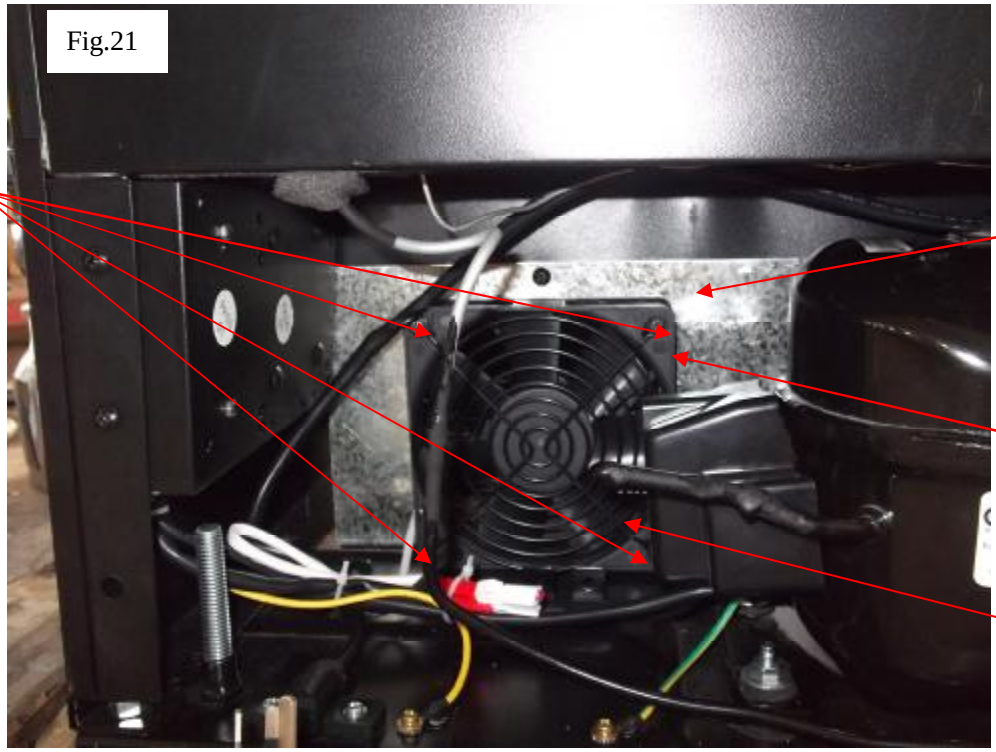


2、On condenser cover

If the fan with extending wiring, just disconnect the connector out of the box, it is not need to remove the power box.

After disconnect the fan connector, remove the screws fixing the fan, remove the fan with cover. (Fig.20.1)

Fig.21



6.2.3. How to remove the compressor

The process: Separate the jointing pipe ⟶ Remove the compressor electrical box ⟶ Disconnect the connectors ⟶ Remove the compressor

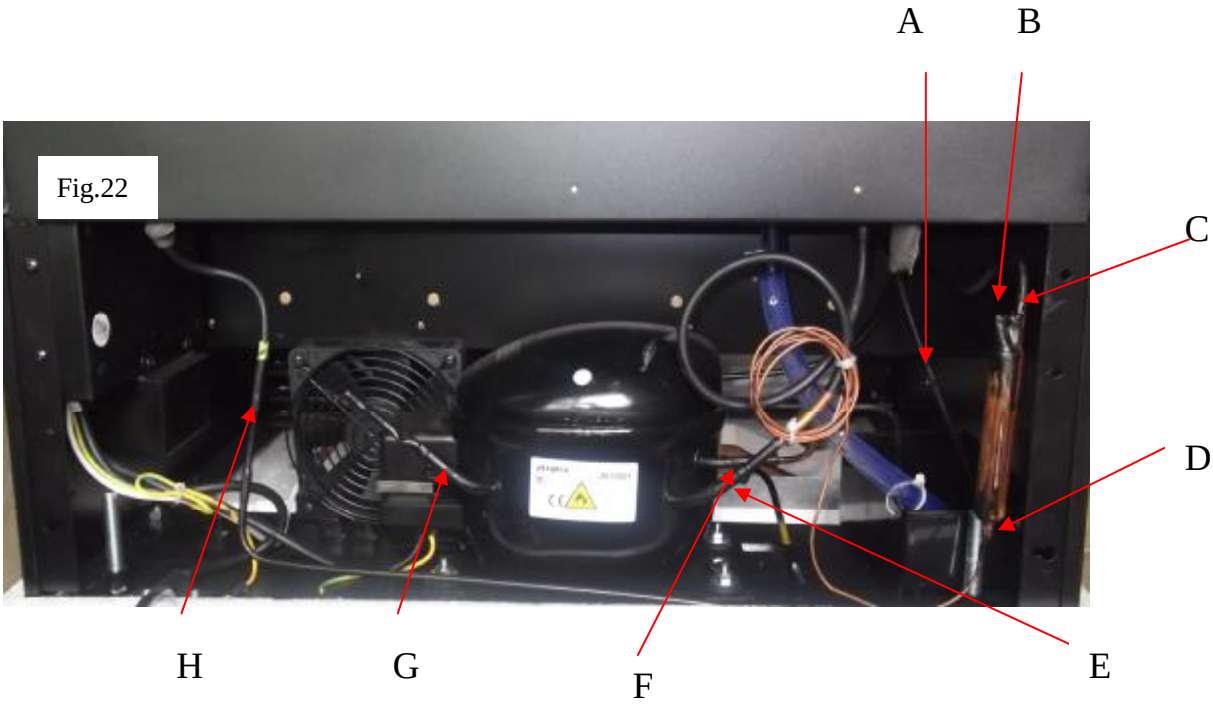
There are two of them. (Fig.22 & Fig.23)

Separate the joints E, F whit torch and remove the pipe from compressor with pliers. Remove the compressor electrical box, disconnect the connector, remove the four fixing screws of the compressor. (Fig.22 & Fig.23)

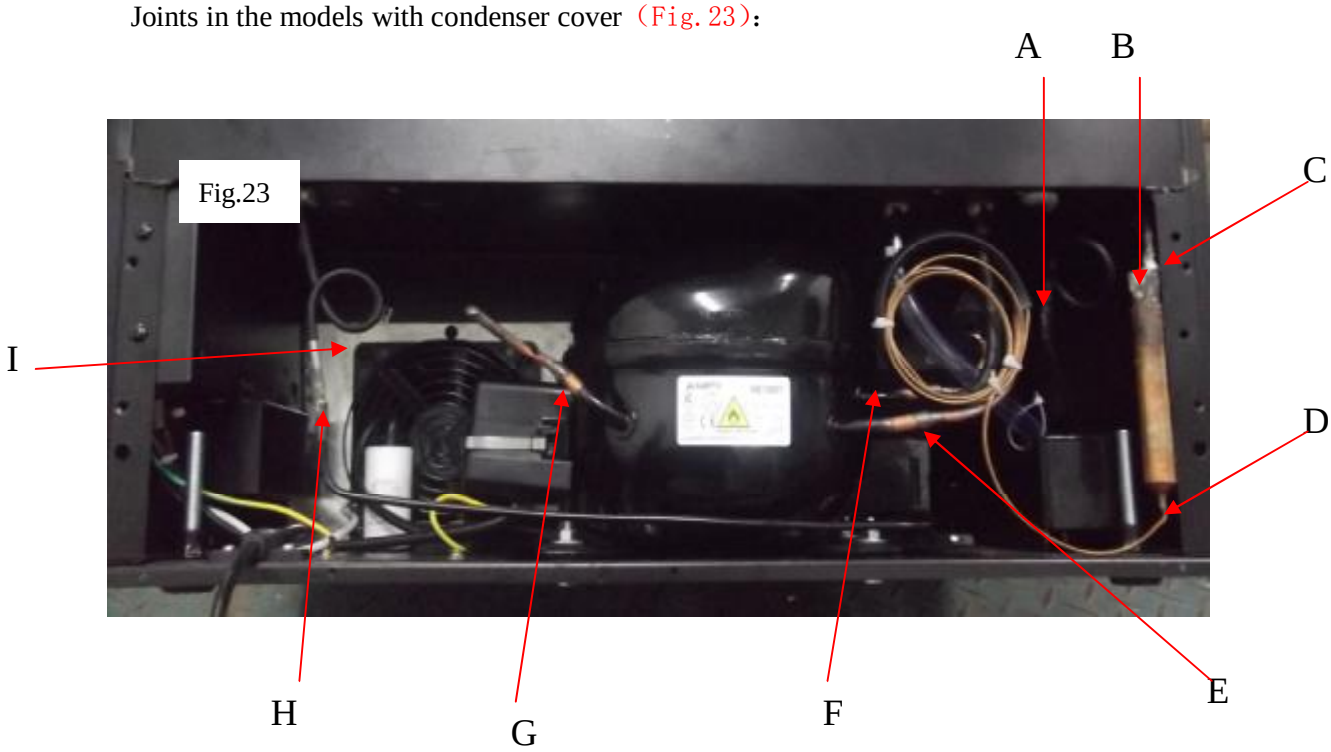
Connections on PCB

A: Anti-dew pipe and connection joint
B: Process pipe joint
C: Condenser and filter joint
D: Capillary joint
E: Suction pipe joint
F: Discharge pipe joint
G: Process pipe joint
H: Condenser and anti-dew pipe joint
I： Condenser cover

Joints in the models without condenser cover （Fig. 22）



Joints in the models with condenser cover （Fig. 23）:



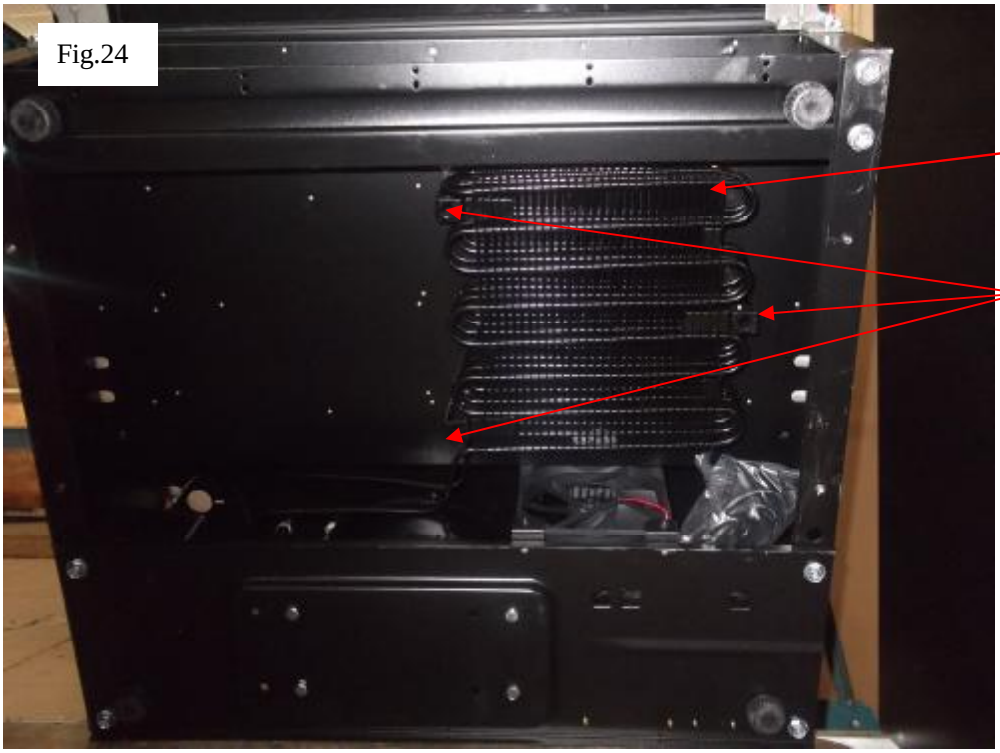
6. 2. 4. How to remove the condenser

There are two structure: 1. Without condenser cover 2. With condenser cover

1、 Without condenser cover

The process: Separate the jointing pipe → Remove the condenser

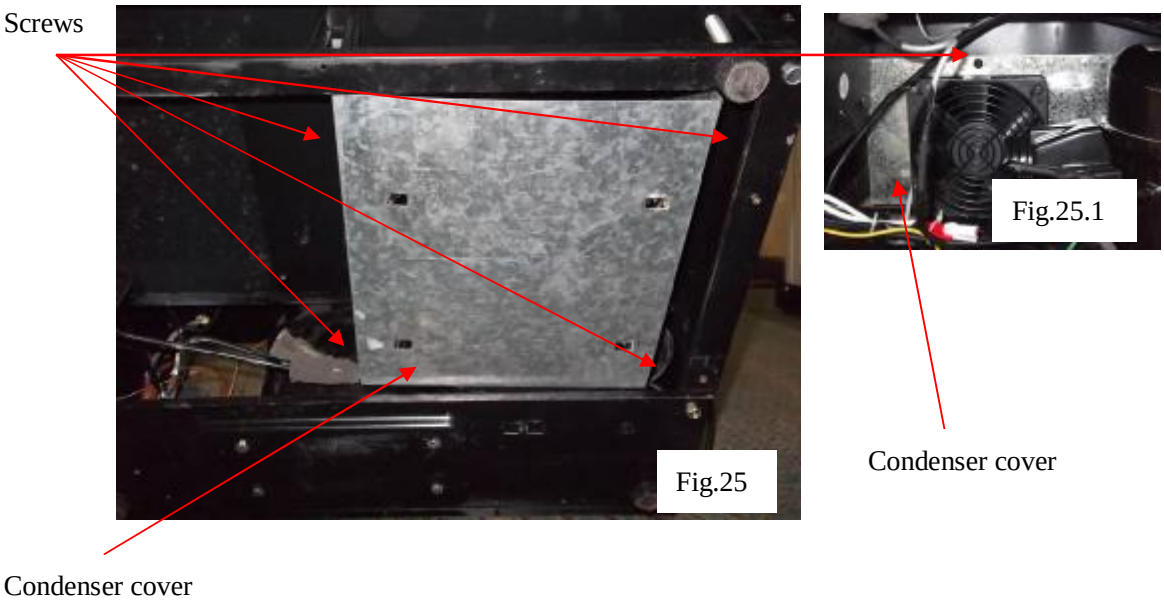
Heat the joints C, H, incline the cabinet backward, remove the fixing screws, remove the condenser. （Fig. 24 ）



2、With condenser cover

The process: Separate the jointing pipe →Remove the condenser cover → Remove the condenser

Heat the joints C,H(Fig.22 & Fig.23), incline the cabinet backward, remove the fixing screws, remove the condenser cover, remove the screws, remove the condenser. (Fig.25 & Fig.25.1, Fig.24)



7. How to maintain the default.

It should take approximate 3 hours to reach the lowest setting temperature of about 5℃ for an empty unit (assuming ambient temp of 32 degrees centigrade and continuous operation). If not, check the compressor, cooling fans, controller, and sensors. If all these are working normally. Check for possible Sealed System issues.

7.1. Check the compressor

If the wine cooler not cooling, check the current with the Amp meter，refer to rating label, if it too high or too low, cut the discharge pipe (Fig.22&Fig.23 F) and (Fig.22&Fig.23 G) power on, check the current, and feel the discharge pipe, if the obvious air pressure from compressor, if the current still very high or very low or the discharge pipe with small air pressure, the compressor fault, replace the compressor please.

Notice. After cut the discharge pipe and process pipe, in case of suck the damp, the compressor should ne power on long time (no exceed 15 minutes is best).

7.2. Check the cooling systems

When it is sure that the compressor is working normally and the cooling system's fault is concentrating on the cooling system pipe. Check following below:

1>.Cut off process pipe and check the refrigerant. If there is not enough refrigerant, the default of the refrigerant system should be caused by the leaking. If the refrigerant is sufficient., it is probably block in the capillary.
2>.If the default is concentrated on the cooling system, the checking procedure is as below.
a. Cut off the discharge pipe (Fig.22&Fig.23 F) of the compressor, and infuse 0.8-1.5 MP nitrogen per process pipe, and put the hand close to the cut kerf. If there is a little gas leak from the terminal, it means normal, otherwise it is jammed.
b . Make sure the capillary is working normally. Then reconnect the discharge pipe, and infuse 0.8-1.5 MP nitrogen from process pipe, then test the leakage, check with soap water if the cooling system of the soldering point is damaged. Check from the soldering points around the compressor(Fig.22&Fig.23,F), if it is OK, then check the soldering point of the evaporator(Fig.5), before check please remove the air-duct board, please see the remove method and procedure in (→6.1.2)
c. If all the soldering point in b is not leaking, there are two possibility, one is leakage in the inner condenser (or anti- dew pipe), another is the damage on the spare parts in the cooling system. If it is the inner damage, it can not be repaired, and if the damage on the spare parts, replace them.

3>. Make sure the systems is not any leakage, refill it.

7.3. Refill

1>.Using the vacuum pump form a vacuum in the system, via the joints of the high/low-pressure pipe, the low-pressure pipeline is on the process pipe of the compressor (Fig.22&Fig.23 G), high-pressure pipeline is on the process pipe of the filter. Apply the vacuum pump for approximately 20 minutes. Until the vacuum is lower than 100Pa. Then solder the process pipe of the filter. Keep the vacuum running while soldering this joint
2>. Fill Cooling system with refrigerant via the process pipe of the compressor (Fig.22&Fig.23 G). (Regarding

refrigerant quantity Please refer to the instruction at back label of wine cellar). Then solder the compressor process pipe after the system is charged with refrigerant.

7.4. Running test:

After the procedures above finish, turn the unit on. To verify the effectiveness of the repair, monitor the unit, the compressor should automatically stop within + or - 2.5 deg centigrade of the set temperature within approx 3 hours (assuming an ambient temperature of 32℃and the unit is empty).

7.5. Noise problem

1 Compressor noise

1>. The working of motor and piston motion will cause noise when compressor working. So if noise is steady, it's normal. If noise is not steady or very high, it's compressor fault and it should be maintained or replaced. （→6.2.4）

2>. If compressor's shock absorption rubber is hardening or damaged, or fixing screw of compressor is too tight or loose, it will cause noise. The settlement is to change new shock absorption rubber or adjust fixing screws. （→6.2.3）

2 Fan noise

1>. When the fans are running , the vanes are circumrotating rapidly and the air flows, which will cause steady and standard noise.

2>. If the noise is extremely high and abnormal, replace the default fan please. （→6.1.5）（→6.2.3）

7.6. Refrigerant jet noise

Default: There is continuous noise like a water spray from the capillary.

Reason: The end of the capillary is in the wrong position, or there are rough edges on the end of the capillary

Solution:

1>. Remove the evaporator （→6.1.3）, heat the soldered joint of the capillary （Fig.5）, then remove the capillary from the evaporator and smooth the end with an eraser. (Caution: do not allow any particles into capillary unit).

2>. Replace the capillary into the evaporator, then solder it back into the correct position (not exceeding 15mm in the evaporator) and pack the joint with anti vibration compound

3>. Recharge with refrigerant. （→7.3）

7.7. Capillary vibration noise

Default: high frequency impact noise in capillary Zone.

Caused by either reason below:

1>. The capillary being insert too deep into the evaporator, so when the refrigerant is Jetting, the end of vibrating capillary will hit the inside of the evaporator.

2>. Vibration from the capillary touching the inside of the cabinet or air duct board, then when refrigerant is jetting.

Solutions:

1>. Refer to （→7.6）

2>. If the capillary touch the inner cabinet and the air duct panel, adjust the position of the capillary and add the incabloc plastic.

7.8. Oil jammed noise

Fault: intermittent and deep jet noise coming from inside of the capillary.
Cause: Compressor oil flowing into the cooling system pipe work probably due to the capillary slightly out of alignment during transportation

Solution: Clean the cooling system pipe, vacuumize it and recharge with refrigerant see （→7.3）

7.9. Evaporator freezing.

Because the door seal is not air-proof, or the door is not closed well, cause much water fill in the cabinet, and the water got frozen when it encounter the cold air, sometimes the ice is too thick, and it will block the fan or broken the fan.

The solution:

1 >. Replace the door seal or close the door well. If the door seal is slightly not air-proof, it can be repaired by the heat dryer.

Aiming at the distortion of the seal with the heat dryer, and move up and down until it expand to the normal state. When it is cool, check it with the door closed, if there is any distortion, dry it again until it fix for the door. (Fig. 26)

2 >. If the fan is broken, replace the fan.

Fig.26

7.10. Unstable temperatures inside the cabinet.

The unstable temperature is caused by the evaporator fans cease, and it can be check by the below method: When the compressor is running, the light “Run” is on, the fan should be running, if the fan stop, check the whether is any fault in the fan or fan connection. If the fan is broken, replace it with the fan of the same model . （→6.1.5）

7.11. The digital display’s fault

This malfunction is caused by the display panel’s default, replace with the same model’s display panel. （→6.1.4）

7.12. Defrost sensor fault

1>.When the display show E3or E4, please check the defrost sensor （→5.2）. Remove the air-duct

board A （→6.1.2）, you can see the defrost sensor.

2>.Remove the sensor fixing screw, remove the clamp（Fig.27);

3>. Replace the sensor.

4>. If there isn't connector on sensor, it need to be cut and rejoin. （Fig.27.1)

Sensor clamp and fixing screw

Sensor

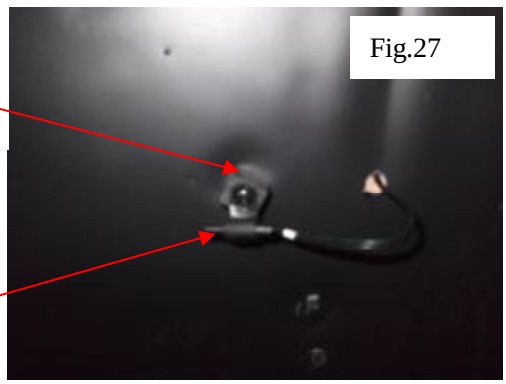


Fig.27

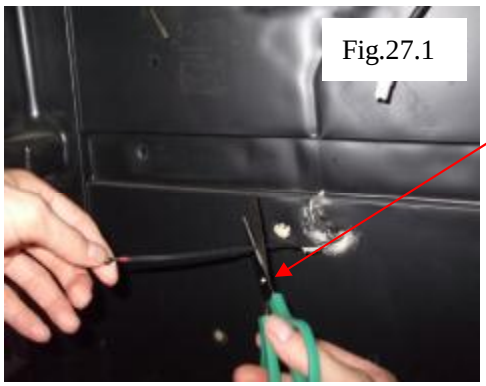


Fig.27.1

Scissors

5>. Peel off the scarfskin on the end about 12mm, cut the spare sensor and peel off the scarfskin, connect the ends and wrap the ends with insulating tape. (Fig.28& Fig.28.1)

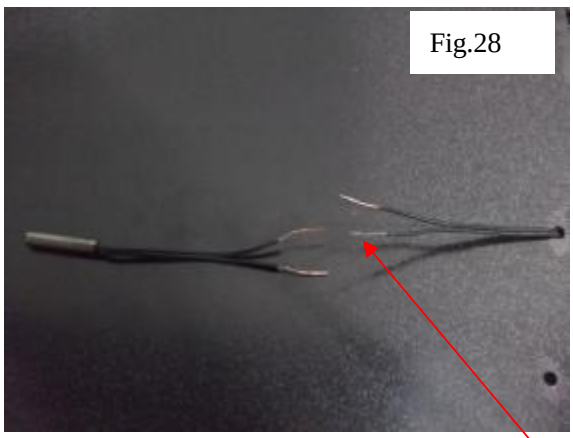


Fig.28

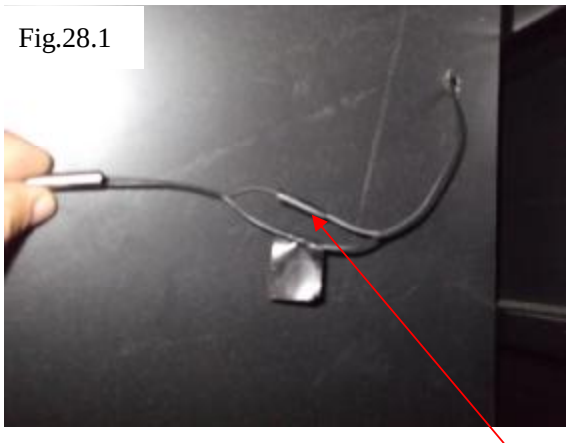


Fig.28.1

12mm（strip）*4

Insulating tape

6>. If the problem same, replace the main PCB. （→6.1.5）（→6.2.1）