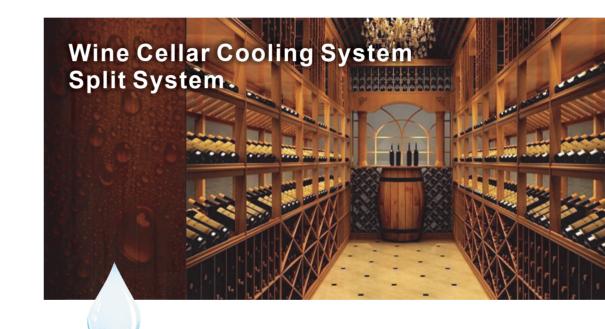


# **User Manual**





Thenow Australia PO Box 107 Park Orchards Vic 3114

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www.thenowair.com.au



- Thank you for purchasing this "Thenow" product;
- Please read this manual carefully before attempting to install, operate or service;
- Please retain this booklet for future reference.



To avoid the risk of electrical shock ,property damage ,personal injure or death,please read the following instructions carefully with safety or warning labels.

- \* During transportation or moving, please follow the correct direction on the packing case.
- \* After transportation or moved, it needs to be allowed to stand for more than 24 hours before it can be turned on.
- \* Do not attempt to carry out any measurement, device replacement or other maintenance work not covered in this manual, otherwise it may lead to warranty failure, endanger normal operation, extend equipment downtime and increase additional maintenance costs.



Disconnect electric power from the appliance before performing any maintenance or repairs, failure to do so could result in death or electrical shock.

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# Introduction

Thenow wine cellar cooling units split system is intended for cellars without access to proper ventilation. They are known for their efficiency and longevity. Each unit is designed to maintain a consistent temperature and humidity in spaces where proper ventilation is not feasible. The evaporator is installed inside and the condensing unit can be placed as far as 30m away. Since it exhausts outside, split cooling systems operate quietly and reduce vibration inside the cellar, which is believed to negatively affect the quality of wine.

This unit we have different models for different occasions, widely used in household, wine cabinet, underground wine cellar, wine wall and so on.

#### Features:

- ▶Auto cooling and heating mode, keep wine cellar under constant temperature.
- >The evaporator is nickel plated for corrosion protection.
- ▶Adopt circulating water wet-film auto control humidification system, wet film is made of Swedish organic polymer material with sterilization and disinfection function.
- ▶Intelligent control panel, integrated ModBus connection.
- ▶Pull-out design wet film module, easy to replace.
- ▶ Control constant condensation temperature.
- ▶Three speed air flow under auto control to maintain the ideal environment for long-term wine storage.
- ▶Can be ceiling mounted, rack mounted, or floor mounted.

# **Working Principle**

### 1、Refrigeration

Using cycling vapor compression refrigeration system, when the compressor work, indraft low temperature and pressure refrigerant gas from evaporator, compressed by compressor into high temperature and pressure gas, and then into the condenser to condense into liquid, meantime release heat, after throttling under the function of the thermal expansion valve, entering into the evaporator and absorbed heat, then evaporate into gas, finally back to the compressor through the suction tube and complete a refrigeration cycle; On the other hand, through changing of refrigerant flow direction, total or partial condensing heat generated from refrigeration can be exhausted to outside, to achieve the purpose of adjusting the indoor temperature.

# 2 Heating Principle (Optional)

- a Electric heating compensation
- b. Heat pump heating: Using the working principle of the compressor, through a four-way reversing valve, the condenser and evaporator are interchangeable, to absorb heat from the outside and transfer it to the inside, so as to increase the room temperature.

### 3 Dehumidification Principle

When the wet air flows through the evaporator surface, the air temperature will drop, when it falls below the dew point, the steam in the air will condense out, gathering and drainage of water pipes in the receiving plate, the controller automatically adjusts the compressor start-up time according to the setting humidity, so as to achieve the purpose of adjusting humidity.

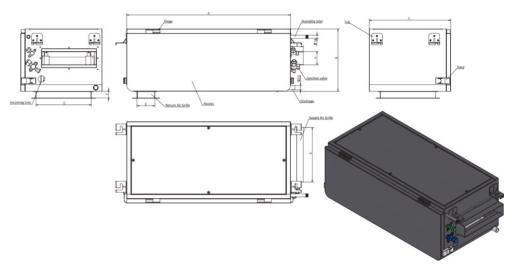
### 4 Humidification Principle (Optional)

Using environmental protection wet curtain, water was spurted to the room area under large air volume to achieve the purpose of humidifying.

## Main Technical Datas

#### **Unit Dimension**

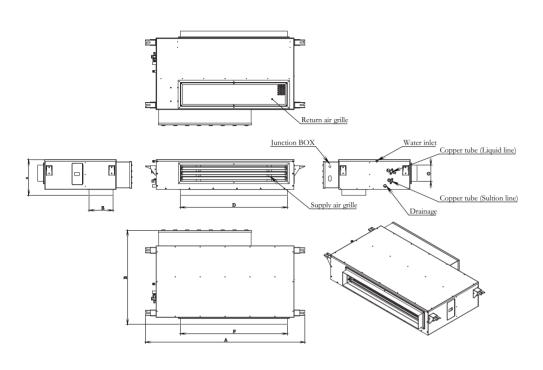
### **Evaporator Unit**

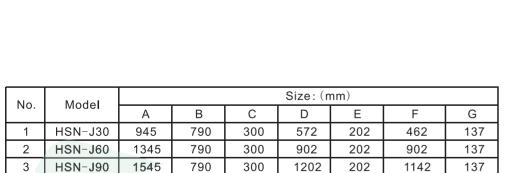


#### Unit:mm

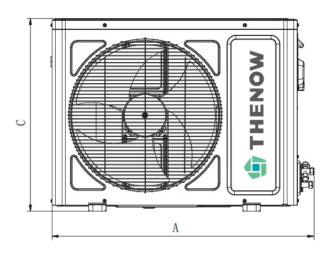
No. Size	Α	В	С	D	Е	F	G	Н	1
HSN-J15	750	285	375	255	82.5	30	250	60	57.5

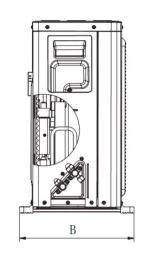
## **Condensing Unit**

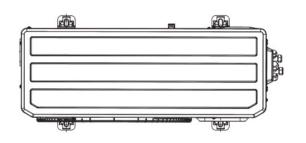




HSN-J150







No	o. Model	Size:mm				
NO.		Α	В	С		
1	HSN-J15	700	300	460		
2	HSN-J30	810	275	540		
3	HSN-J60	810	275	540		
4	HSN-J90	960	360	860		
5	HSN -J150	1010	400	1250		

### **Technical Datas**

Performano	e	Model	HSN-J15	HSN-J30	HSN-J60	HSN-J90	HSN-J150
Power Supply		1PH/220V,50Hz				3PH/380V,50Hz	
Cellar Size	(Up to)	m³	15	30	60	90	150
Power		Р	0.5	1	2	3	5
Cooling	ı	W	650	1320	3500	6000	8300
Heating		W	1000	4000	3000	6000	9000
Air Flow	(M)	m³/h	154	450	740	900	1300
Static Pressur	е	Pa	20	30	30	40	60
Noise		dB ( A )	40 (Indoor)	50 (Indoor)	50 (Indoor)	53 (Indoor)	62 (Indoor)
(	Controlle	er	Intelligent Control Panel				
	Refrigera	ant	R134A R410A/R407C				
Temperat	ure	$^{\circ}$	10-16, ±2				
Humidit	У	%RH			50-70,	±5	
Total Po	wer	W	1700	5300	7400	8900	14000
Humidifier		Туре			Wet-filn	n	
Evaporator Unit	size	L*W*H( mm)	885*375*315	945*790*300	1345*790*300	1545*790*300	1945*890*350
Condensing Unit	size	L*W*H(mm)	700*300*460	860*300*540	860*300*540	960*360*860	1010*425*1250
Tube Conn	ection	Liquid Line ( mm )	6.35	6.35	9.52	9.52	12.7
rube Connection		Suction Line ( mm )	9.52	9.52	12.7	15.88	19.05

 $<sup>^{\</sup>star}$  Cellar inside dry-bulb t=16°C 60% Outside dry-bulb t=35°C, wet-bulb t=28°C

# **Installation & Debugging**

### 1. Pre-installation Inspection

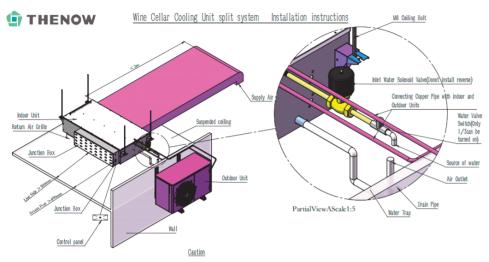
(1) Check the outer packing for breakage.

- (2) Machine model (nameplate), check whether it is consistent with what you ordered.
- (3) The appearance of the whole machine is intact.
- (4) Check attached accessories. (as follows)

Item No. Item		Q'ty	Size	Photo
1	Unit	1 Set	See the nameplate	MI
2	User manual	1 pc	A5	Date of the second of the seco
3	Control Panel	1 pc	90*90mm	
4	Controller Cable	1 pc	3m	
5	Water valve line	1 pc	3m	O
6	Power line	1 pc	3m	
7	Inernal and external wiring	1 pc	3m	
8	Internal and external cmmunication line	1 pc	3m	
9	Copper pipe	1 pc	3m	
10	Inlet Valve	1 pc	/	DEL.03.
11	Thread taper	1 pc	14	-
12	Drain-pipe	1 pc	Ø20 15cm	
13	Ноор	1 pc	Ø22~Ø28	90
14	Inlet flange	1 pc	HSN-J15 253.5*82.5mm HSN-J30 572.5*202.5mm HSN-J60 902.5*202.5mm HSN-J90 1142.5*202.5mm	
15	Screw	HSN-J15、HSN- J30: 4 pcs HSN-J60: 6 pcs HSN-J90: 10 pcs	ST4.2*9.5	

Our company is not responsible for any accident caused by opening the panel and electric control cabinet without the permission of the company.

#### Installation



- 1. Inspection port on the ceiling must be reserved under the junction box near the piping side size must be confirmed with manufacturer or dealer

- To make sure the unit in good running.please install the unit strictly according to the above sketch and keep the supply air and return air smoothly.
   Water inlet solenoid valve must be installed by qualified person(s), and connect the wiring to the reserved port of the junction box.
   Standard pipe length is Sim,less than 3m no need to add refrigerant. If more than 3m, the supplementary refrigerant filling, please contact with Thenow
- 5. PVC drain pipe is acceptable, the size must be greater than or equal to the condensate water pipe and the shorter the better, keeping at least 2% downward Meantime, water trap and air outlet port must be installed according to the above sketch.

  6. The installation length of the outlet pipe does not exceed 2m, otherwise it will affect the performance of the unit

### **Condensing Unit**



- \*Test the system before installing it to check for non-visible shipping damage.
- \* Do not modify the equipment, it may cause damage to the equipment and will void the warranty.
- \*Never place anything on top of the unit.
- \*Never block or cover any of the openings or outlets to the unit.

#### Evaporator unit:

- 1. When the machine is hoisted, the lifting rod must be vertical and the install surface is flat. Meantime, the ceiling joists must be able to bear the weight of the unit.
- 2. To keep good ventilation and easy maintenance, requires that there must be more than 400\* 600mm maintenance space around and at the top of the equipment.
- 3. Never install the unit in danger areas, such as strong magnetic, steam, dust, heating source, corrosion and combustible gases etc.
- 4. If the installation location of the machine is not in the refrigeration area, the indoor unit needs to be insulated to prevent condensate water.
- 5. Never reduce the diameter of the drainage pipe by yourself when installing the drain line.
- 6. To better control the wet-film water inlet flow rate, electromagnetic water valve and ball valve are suggested to be installed. Otherwise, the water will always be supplied to the machine in a normally open state, which will cause the equipment to leak and fail to operate.
- 7. Recommended materials for commonly used air duct:
- A: Thermal insulation board, 15-20mm thickness.
- B: Stainless steel air duct, 20mm insulation outside.

### Condensing Unit:

- 1. Good heat dissipation must be ensured.
- 2. The load-bearing capacity of the unit installation frame shall not be less than 4 times of the unit weight. If mounting in the ground, the unit must above normal snowfall levels.
- 3. The condensing unit shall not be installed in a common area such as aisles, corridors, and exits inside the building.
- 4. The condensing unit should be as far as possible away from the adjacent doors and windows and green plants, and the distance between the door and the window shouldn't be less than 3 to 4 meters.
- 5. The copper pipe must be insulated, and the thickness of the insulation cotton is ≥15mm.

### Recommened distance between evaporator and condenser:

Model	horizontal distance	vertical distance
HSN-J15	≦10m	≦3m
HSN-J30	≦15m	≦3m
HSN-J60	≦18m	≦5m
HSN-J90	≦22m	≦6m
HSN-J150	≦25m	≦6m

If indeed distance exceed our recommendation, please contact with us, you may have to change models.

### **Online Debugging**

Note: Always operate this machine from a 220V 1 phase or 3-phase 380V, 50Hz power source, and the fluctuation amplitude does not exceed 10%, the junction box capacity meets the equipment electrical using requirements; Take reference to the internal electrical schematic diagram of the unit, connect the indoor unit and outdoor unit, and ensure that the unit is effectively grounded.

- 1. Power the machine.
- 3. Keep the machine running at least 30 minutes.

#### After the machine runs for 30 minutes:

- 1. Check the alarm record. If all functions work well, no alarm record will be generated.
- 2.Check the machine for leaks. In case of leakage, first check whether the drainage is smooth. If so, reduce the opening of the ball valve to reduce the inlet water pressure. Run the machine for half an hour again and check whether the leakage problem is solved.
- 3. Check whether the temperature is lower than that when the machine is started. Generally, the coil temperature is reduced by 5-14  $^{\circ}$ C as the normal range.
- 4. Check whether the humidity is higher or the same as when the machine is turned on.
- 5. If the cooling, heating and humidification of the equipment can operate normally and there is no water leakage, the debugging work is finished.

Tips: Save your box and all packaging materials, they provide the only safe means of transporting/shipping the unit.

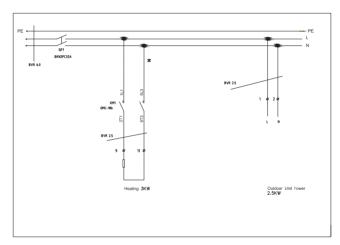
#### Note:

After transportation or moved, it needs to be allowed to stand for more than 24 hours before it can be turned on.

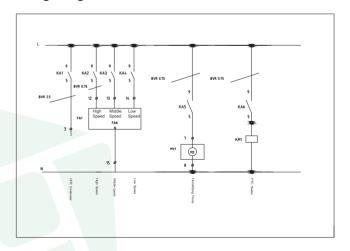
The system is designed to maintain a cellar temperature of 10-16  $^{\circ}$ C as long as the ambient temperature does not exceed 40  $^{\circ}$ C or no less than 5  $^{\circ}$ C.

# Wiring Diagram&Operation Instruction

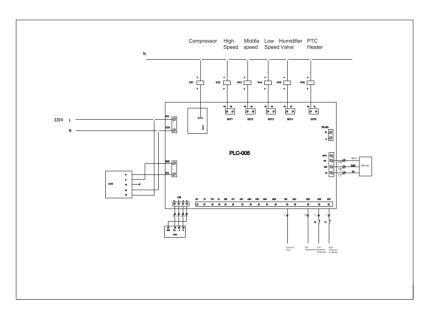
Electric Heating Wiring Diagram (HSN-J15~J60)



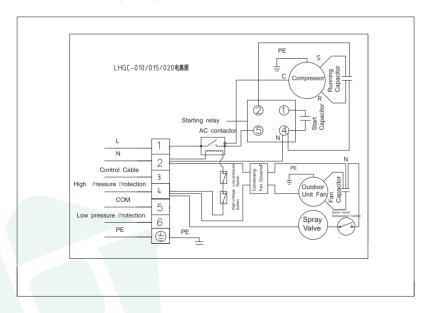
Fan+Valve Wiring Diagram



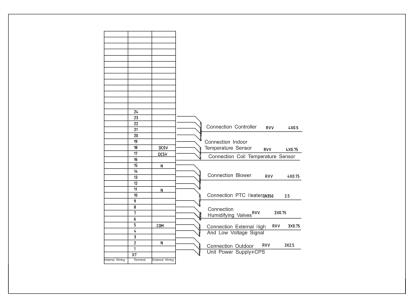
### Main Control Board Wiring Diagram



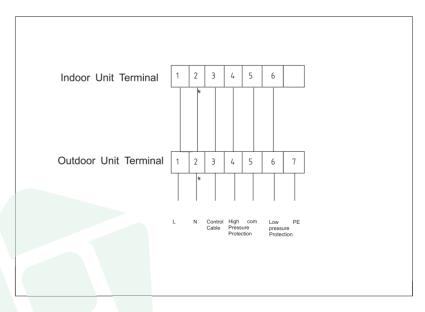
### Condenser PBC Wiring Diagram



### Terminal Diagram

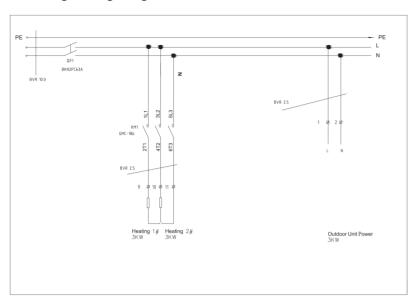


### Indoor And Outdoor Unit Terminal Connection Diagram

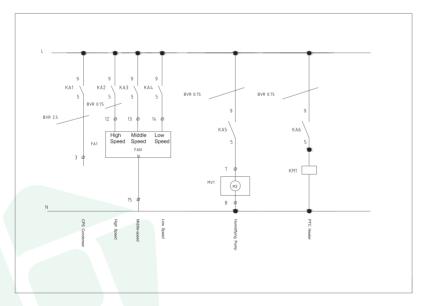


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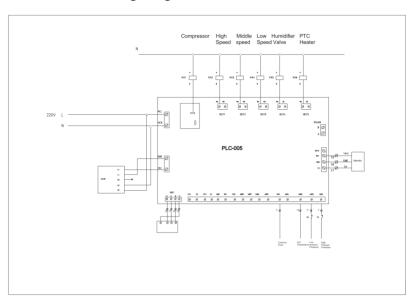
## Electric Heating Wiring Diagram (HSN-J90~J150)



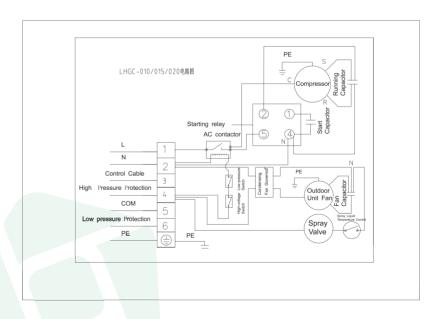
# Fan+Valve Wiring Diagram



## Main Control Board Wiring Diagram

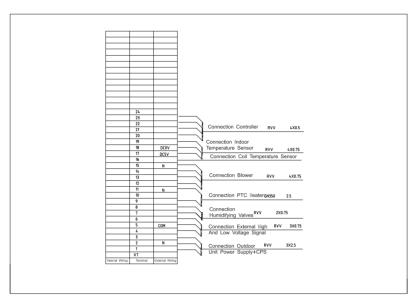


# Condenser PBC Wiring Diagram

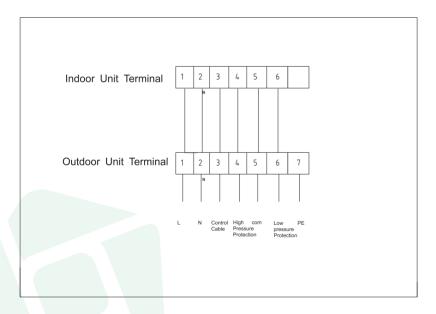


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### **Terminal Diagram**



### Indoor And Outdoor Unit Terminal Connection Diagram



### **Introduction And Use Of The Control Panel**



#### **Product Introduction:**

CK-4C-86 series controller is a new type of controller to realize intelligent control of constant temperature and humidity for a wine cellar and wine cabinet cooling units, which is widely used in precise temperature control places with small volume.

The controller adopts 4-inch large -screen colorful display technology, timing control, automatic/manual control of wind speed , automatic operation of the appropriate wind speed , comfortable energy saving , accurate and reliable.

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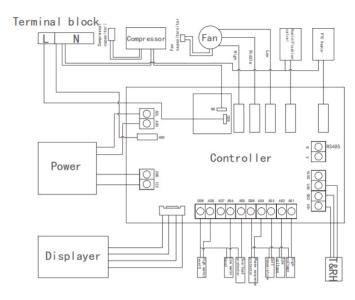
#### **Functional Features:**

- 1. With 4-inch capacitive full-touch screen to display clear texture.
- 2. Temperature and humidity ,clock real time display .
- 3. Can be controlled regularly.
- 4. Wind speed manual/automatic control selection.
- 5. Multiple operating mode options.
- 6. Built-in advanced parameter settings, manufacturers can freely set according to different customer needs.
- 7. Standard 86 mounting bottom case for quick and easy installation.
- 8. Power off and restart function.
- 9. Alarm can be remembered.

### **Technical Specifications:**

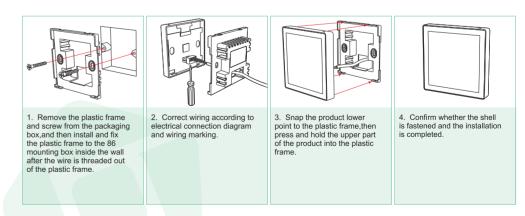
Power supply	PCB: AC220V±10% 50/60HZ
mode	The control panel: DC12V
The shall material	Flame retardant ABS+PC
Power	<12W
Pitch-row	60mm
size	PCB: 123mm×85mm
3120	The control pan $:91$ mm $ imes90$ mm
Storage environment	-10~~70°C 5%~~95%RH
Work condition	-10~~70°C 5%~~95%RH

### **Schematic Diagram Of Electrical Connection:**



Please connect in strict accordance with the product wiring diagram ,wiring must be disconnected from the power supply ,if any abnormality occurs ,please cut off the power supply and contact the manufacturer as soon as possible. Non-professionals should not disassemble it in order to avoid danger.

#### **Product Installation:**



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## **Operating Instructions**



- Power ON/OFF
- Set (humidity/temperature/time)
- 3 Setting temperature
- 4 Setting humidity
- 5 Status (Showing the running mode of the unit)
- 6 Coil temperature
- Mode (Setting running mode)
- 8 Manual/Auto
- 9 Air speed or set the air speed
- Wine cabinet/cellar temperature
- Wine cabinet/cellar humidity

### Schematic diagram of electrical connection

How to :		
Turn system ON/OFF	### Col 1 1201    Sunda	*Press the "ON/OFF" button once, make the from red to, green, then the unit is on.
Set humidity	# Transfer France Franc	1.Press the set button  2.Find humidity ,click to enter.  3.Set humidity
Set temperature	Scalifor Status Control 10 Contro	1.Press the button  2.Find control click to enter.  3. Set temperature
Set time	# Treated To Treated T	1.Press the button 2.Find ,click to enter. 3.set time
Set the wind speed	Status Cost 10 c Cost 10 c Cost 20 c	1. When 8 shows M,press to manually set the wind speed.  2. When 8 shows A, the wind speed is in automatic mode.

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### **Maintenance**

### 1. Using Requirements

- (1) Working conditions: Surrounding temperature at  $5^{\circ}$ C- $35^{\circ}$ C, relative humidity lower than 90% .
- (2) Please make certain power supply is specified voltage, it's strictly prohibited to operate equipment with phase missing or under voltage.
- (3) If the equipment has not been used for a long time ,please make sure to turn off the power.

### 2. Cleaning



Disconnect electric power from the appliance before any operation, otherwise there will be the risk of electric shock.

- (1) Because the temperature probe is a sensitive element,in dusty place,please use low pressure water to clean regularly (for example,with the dust ball blowing wash),when the accuracy become poor ,please orrect or replace;
- (2) When dust collects on the air filter, will affect the effect of the equipment, or even breakdown, so must clean the filter regularly, at least once per month; if the environment is dusty, it must be cleaned weekly or daily, except for connecting with pipes. (cleaning method: remove the filter from the side of the inlet of the unit, knocking gently when cleaning or use cleaner to remove the dust on the net, or put the filter in warm water below 40 degrees and add a small amount of neutral detergent washing, then rinse with water and dry it in the air).



Do not replace the filter while the machine is working

# **Troubleshooting**



Disconnect electric power from the appliance before performing any maintenance or repairs, failure to do so could result in death or electrical shock.

- \* If maintenance is needed, wait for 3 minutes after power failure (let capacitor discharge on PCB), and then open the maintenance door.
- \* The surface temperature of the condenser may be very high. Do not touch it to prevent burns.
- \* Even if the fan and compressor have stopped ,there is still adangerous voltage at the terminals of the starting capacitor.

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Troubleshooti ng				
Status	Reason	Suggestion		
1. No power. 2. power cord unplugged. 3. low voltage 4. Incorrect or loose wirings. 5. Ambient temperature above 35°C or lower 5°C. 6. Setting higher than ambi ent temperature. 7. Defrosting mode on .		<ol> <li>Check power at receptacle &amp;fuses.</li> <li>Plug -in power cord plug.</li> <li>Contact an authorized electrician.</li> <li>Check all wirings and connections.</li> <li>Ambient temperature not meet unit working conditions.</li> <li>lower tempera ture setting.</li> <li>Wait 5 -30minutes.</li> </ol>		
Cannot 3. Refrigerant leakage.		1. Please check the air grille and clean it. 2. Air filter is stuck. 3. Add refrigerant. 4. Check whether the compressor is normal. 5. Check the fan.		
No air exhaust  1. The air supply is blocked. 2. Fan not working.		Check and clean air outlet.     Check the fa n.		
Louder noise     2. Air filter is stuck.     3. The unit is not installed smoothly		Check parts.     Clean filter.     Install the machine smoothly.		

Status	Reason	Suggestion
Temperature too high	<ol> <li>Setting too high.</li> <li>Improper cabinet seals.</li> <li>Ambient temperature too high.</li> <li>Cabinet/room too large.</li> <li>Fan fault.</li> <li>Refrigerant leakage.</li> </ol>	lower setting.     Check gasket and door opening.     Check installation location.     Check for excessive size or the machine model choice is improper.     Check both evaporator and condenser fans.     Add refrigerant.
Unit running too long or continually	The machine model choice is improper or improper room sealing.     Ambient temperature to high.	Check machine mode or check room tightness.     Check installation location or increase setting.
Evaporator icing	1. Evaporator airflow restricted. 2. Unit not stopping due to air leak, high ambient temperature or low setting. 3. Low ambient temperature 4. Bad thermostat or sensor 5. Refrigerant leaking 6. Expansion valve blockage	1. Check the fan. 2. Check fr seal,door opening,ambient temperature and setting. 3. Defrost the unit. 4. Check for thermostat and sensor. 5. Check for sealed system leakage. 6. Check for low side pressure.
The fan keeps running	Fan protection procedure     Wrong wiring harness connection	Number of the second of t
No cooling but compressor running	Refrigerant leakage.     Evaporator airflow restricted.	Check of refrigerant.     Check for airflow through evaporator.

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The above information is for reference only. If the machine fails to work properly, please contact your local dealer or your local authorized repair station.

All electrical installation and maintenance work in this manual must be performed by a professional electrical engineer., our company is not responsible for opening the panel and electric control cabinet without the permission of the company.

## **After Service**

1 year guarantee from installation is provided for the indoor & outdoor unit.

2 years guarantee from installation is provided for the fan.

During the warranty period any defects due to the workmanship or materials of the unit will be repaired and/or replaced free of charge.

#### WARNING

ALL WARRANTIES WILL BE CEASED IF:

Installation IS NOT undertaken by a licenced & registered ARC technician & electrician.

The installation is not to the instructions provided.

Dust, corrosive liquid or any other non-machine quality reasons for damage.

ON-GOING MAINTENANCE:

Filter to be cleaned regularly every 6 months.

ON-GOING SERVICE:

Any service and/or repair needs that arise must be undertaken by a licenced & registered ARC technician.