THENOW

Shanghai Thenow Purification Technology Co.Ltd

Wine Cellar Cooling Units

Self-contained

User Manual

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.

!!! WARNING !!!

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.

* The power cord must be plugged into a 3-prong grounding-type wall receptacle.

*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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Wine Cellar Cooling Units Self-contained

Thenow wine cellar cooling units self-contained is best suited for home or light commercial proper wine storage. This unit is intended for use in cabinets or smaller wine storage rooms. Designed to lower the temperature at its best scope 10~18ºC(50-64ºF), and maintains the humidity at optimal levels, between 50 and 70 percent. With build-in humidifier and PTC heater, our cooling units keep your collection area with perfect humidity and temperature level.

Features:

Condenser and evaporator combined inside one appliance, easy and fast to install;

Intelligent control panel, famous brand sensors with stable quality, integrated ModBus connection;

Suitable temperature between 10~18℃(50-64ºF) and humidity maintenance at 50~70% RH;

Unique appearance design, no vibration, lower noise;

Optimal air distribution ensures the most uniform temperature in the wine cabinet space;

Commercial-grade, corrosion resistant components and spray painting frame for long-term durability;

Build-in wet film humidifier and heater, maintaining proper constant temperature and humidity.

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. 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.

3. **Heating**

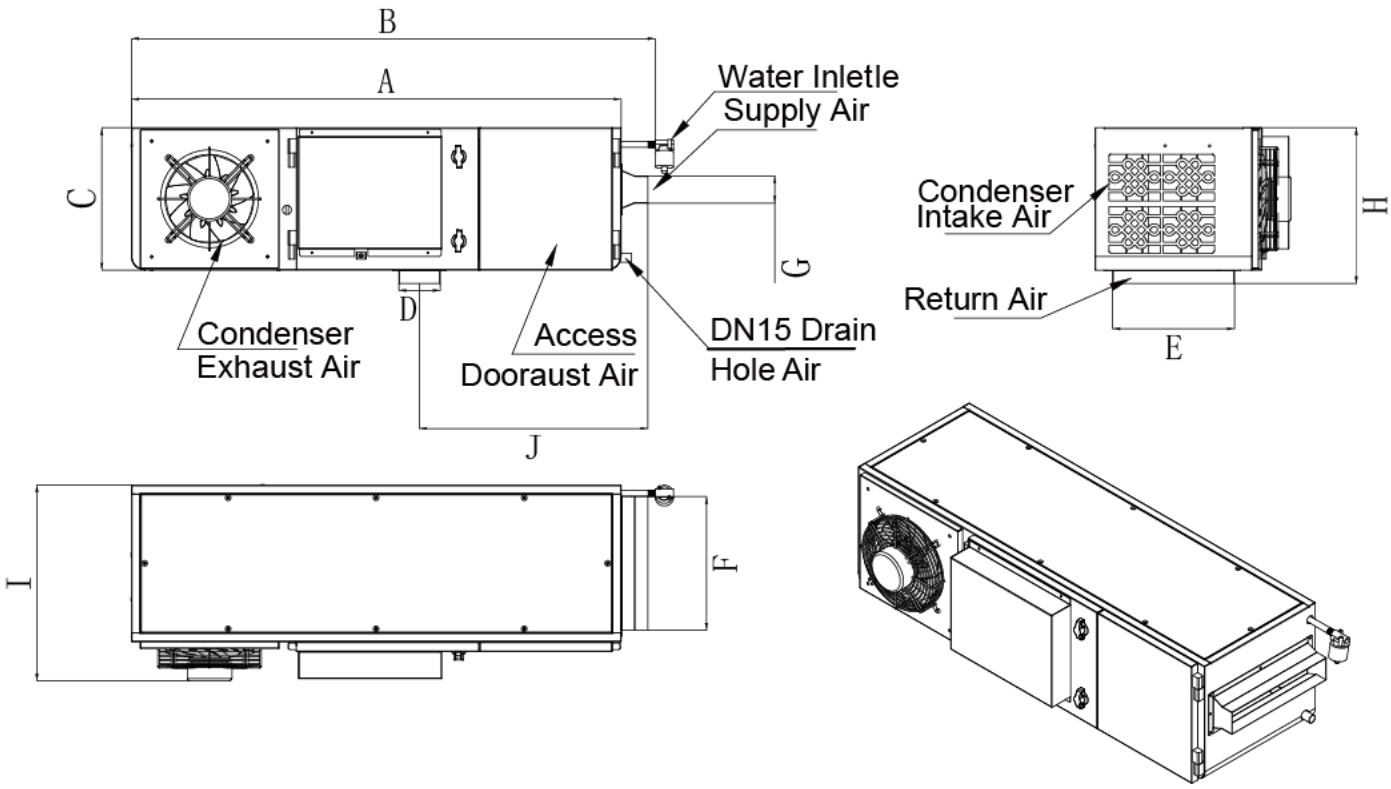
Inside PTC heater-Electric heating compensation

4.Humidification

Adopt circulating water wet-film auto control humidification system, water was spurted to the room area under large air volume to achieve the purpose of humidifying， the wet film is made of Swedish organic polymer material with sterilization and disinfection function.

Dimensions & Technical Data

Dimensions HSN-J15-Z:



Unit:mm

Size / No	A	B	C	D	E	F	G	H	I	J
HSN-J15-Z	1100	1176	320	92.5	273.5	300	61	350	440	513

Technical Data

Model	Unit	HSN-J15-Z
Cellar Size (Up to)	m³	5
Power	V/HZ	220/50
Cooling	W	410
Heating（Electrical）	W	2000
Air Flow(M）	m³/h	170
Static Pressure	Pa	20
Nosie	dB（A）	42
Refrigerant	/	R134
Control		PC Full-touch smart control
Temperature	℃	10-18℃, ±2℃
Humidity	℃	50~70%, ±5%
Total Power	W	2500
Humidifier	Type	Wet-film
Humidification	Kg/h	1
Size	mm	1176*440*350
Drainage	mm	Φ20

Cooling capacity on above sheet test conditions:

Cellar inside dry-bulb t=12℃ 60% Outside dry-bulb t=35℃， wet-bulb t=28℃

Note: There are several factors such as glass,stone,concrete,insulation,ambient temperature,ventilation etc. which will change the required amount of Kw needed to properly cool your wine room or wine cabinet. We strongly recommend you contact with us or our distributors beforehand to help you to choose the model matched. We do not bear the losses caused by the selection errors caused by the above reasons.

Installation and Debugging

Pre-installation Inspection

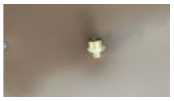
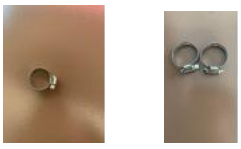
A. Check the outer packing for breakage.

B. Machine model (nameplate), check whether it is consistent with what you ordered.

C. The appearance of the whole machine is intact.

D. Check the below packing details.

HSN-J15-Z Packing Details:

Item No.	Item	Q'ty	Size	Photo
1	Unit	1 set	See the nameplate	
2	User Manual	1 pc	A5	
3	Control Panel	1 pc	90*90mm	
4	Water Inlet Valve	1 pc	/	
5	Head Outside The Wire	1 pc	Φ14	
6	Drain-Pipe	1 pc	Ø20 Length-15cm	
7	Inlet flange	1 pc	301x120x30mm	
8	Screw	4pcs	ST4.2*9.5	
9	Hoop	1 pc	Ø22~Ø28	

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

Installation

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

Because of potential safety hazards under a certain condition, we strongly recommend against the use of an extension cord. However, if you still elect to use an extension cord, it is absolutely necessary that it will be a related national standard LISTED 3-wire grounding type appliance extension cord having a 3- blade grounding plug and a 3-slot receptacle that will plug into the appliance. The marked rating of the extension cord shall be 220V 15A.

IMPORTANT NOTES FOR INSTALLATION

When building a wine cellar, it is essential to insulate it. Traditional building materials such as brick, concrete and glass are NOT good insulators. Failure to insulate your custom wine cellar will essentially put additional load on the conditioning system & void manufactures warranty. Cellar space MUST be insulated with Kingspan K17/K18 (or equivalent insulation panels).

Any glass doors/windows/panels must be double glazed argon gas filled min 6mm/12mm/6mm.

Calculated M3 measurement of the cellar MUST be less than the highest capacity the unit is engineered to service.

Identify gas pipe run in the user manual to ensure horizontal & vertical measurement meets recommendations

No other equipment that can expel heat, such as fridges, should be housed in the cellar space as it will compromise temperature & humidity control.

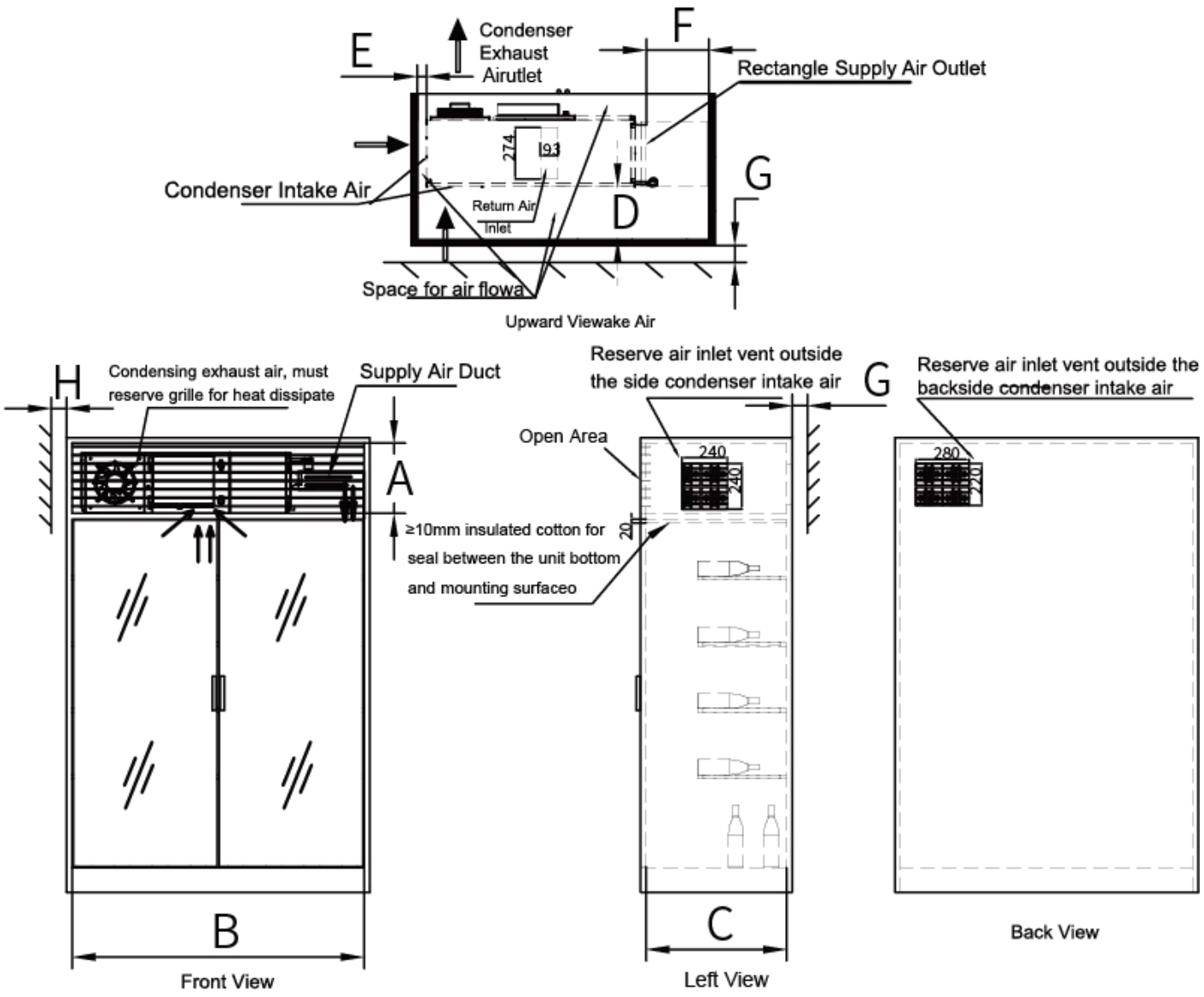
All trades involved with installation must be registered:

- HVAC technician
- Plumber
- Electrician

The units are to be installed as recommended allowing ease of access for any future maintenance for both indoor and outdoor units.

(1) HSN-J15-Z Wine Cabinet & Wine Room Installation

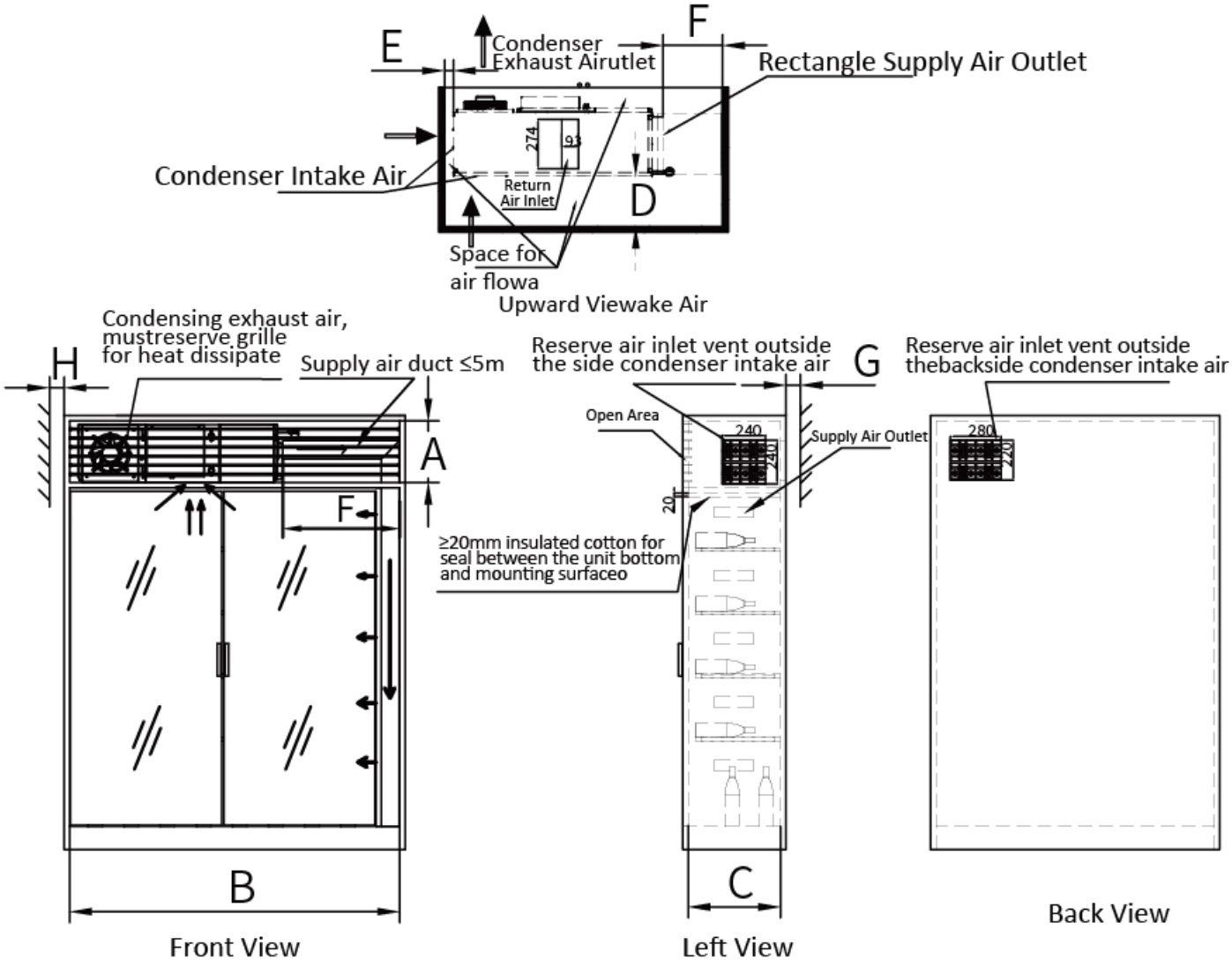
J15-Z Installation I: Wine Cabinet with Small Space, Internal Fan with Low Speed



Unit:mm

A	B	C	D	E	F	G	H
⩾400	⩾1600	⩾540	⩾50	⩾50	⩾400	⩾80	⩾80

J15-Z Installation II: Wine Cabinet with Large Space, Internal Fan with High Speed

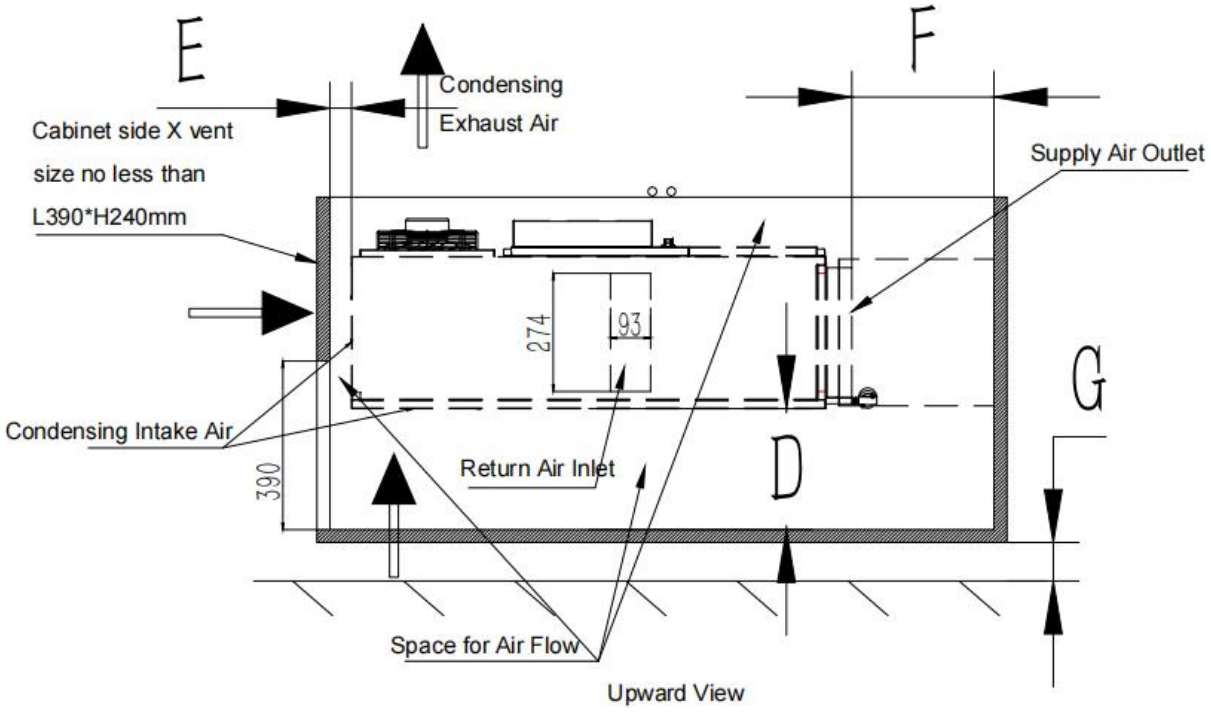


Unit:mm

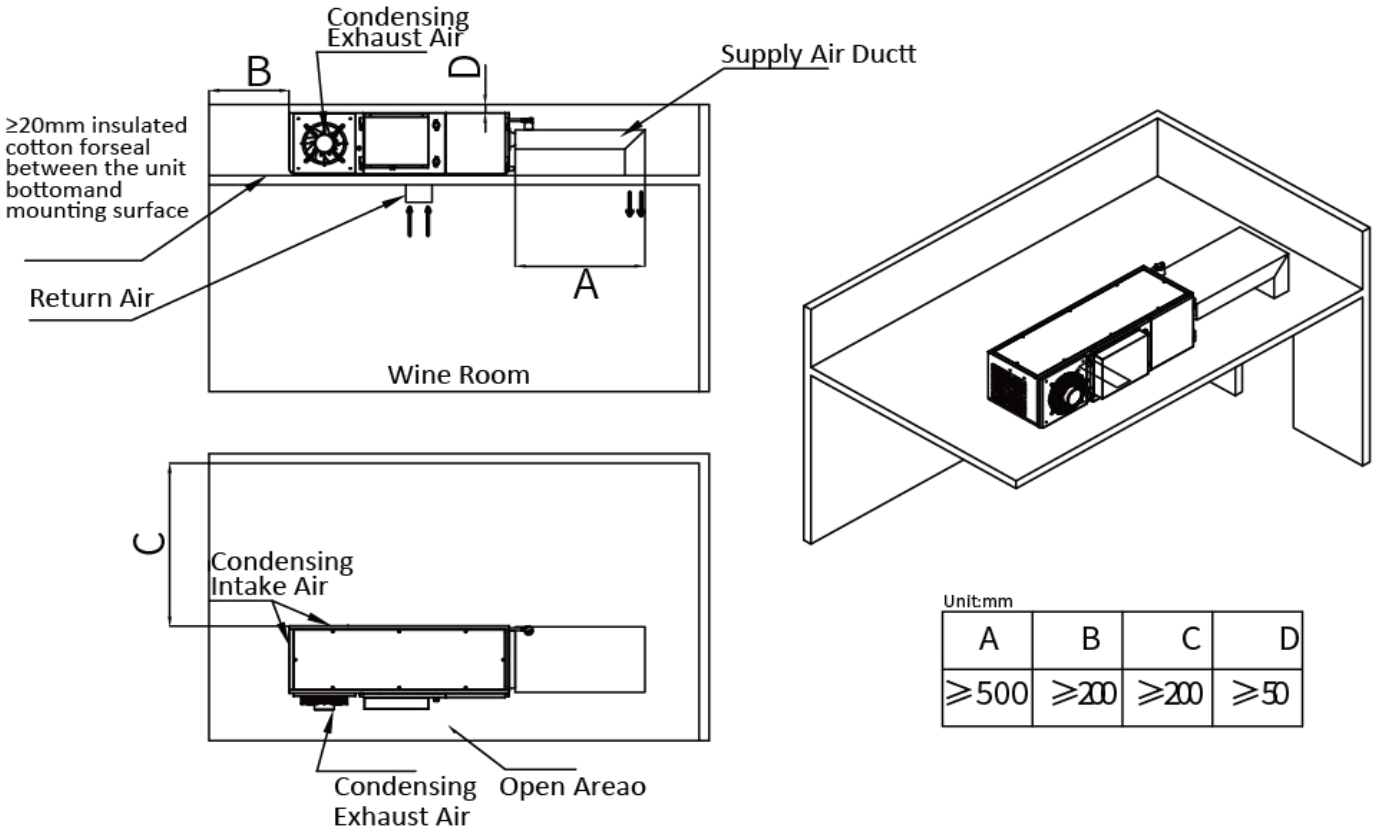
A	B	C	D	E	F	G	H
⩾400	⩾1600	⩾540	⩾50	⩾50	⩾400	⩾80	⩾80

HSN-J15-Z Installation I & II

Note: If site size G=0mm and cannot open air inlet vent, then must keep size D no less than 100mm and E≤50mm. Meantime, cabinet side X vent size refer to below picture.



J15-Z Installation III: Wine Room Installation



Unit:mm

A	B	C	D
⩾500	⩾200	⩾200	⩾50

Wine Cabinet Installation Conditions

1. Place the wine cabinet in a properly ventilation location. Otherwise, heat exhausted by the cooling unit will build up and it will not operate properly.

2. Equipment should install on horizontal ground or platform, tilt angle must not exceed one degrees, platform or ground should be able to load-bearing unit weight;

3. To keep good ventilation and easy maintenance,requires that the wine cabinet grill can be flexibly disassembled.

4. Never install the unit in danger areas,such as strong magnetic,steam,dust,heating source,corrosion and combustible gases etc.

5. Unobstructed airflow to and from the unit is critical to unit's overall performance and lifespan, make sure there is a minimum of 50mm(100mm is better) of horizontal clearance in every direction around the unit.

6. Before install the unit, foam tape needs to be placed in the bottom and side of the unit.

7. Working environment: Temperature 5℃-35℃， Humidity RH<80%

8. Recommend air duct: A- Heat-insulating phenolic board, thickness 15~20mm

B- Stainless steel duct, 20mm insulation

9. If the back of the wine cabinet is close to the wall,and there is no space to reserve vents. Please make sure left intake air vents at the two sides of the condensing intake air, and the larger the better. Meantime, keep at least 100mm of horizontal clearance in every direction around the unit.

10. To avoid any possible water leaking, water flow gauge(HVAC guys prepare it by themselves) is 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.

Below suggested water flow rate of Thenow split cooling units for your checking: (Unit: L/M)

Model	HSN-J15-Z
Inlet Water Rate	0.5

Note: Make sure the smooth drainage too.

In order to avoid fire or electric shock hazard, please do not expose the equipment to damp environment.

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.

2.) Set the operation mode, temperature and humidity (For setting methods, please check the operation section of the controller in the user manual)

3.) Humidity setting value is 95% (higher than the ambient humidity) and temperature is set at 8℃ (lower than the ambient temperature), the setting operation mode is auto. Then cooling, heating and humidification will be calling automatically according to the setting value.

4.) 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℃ 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 completed.

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

Introduction of Controller

Controller 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 air flow speed , automatic operation of the appropriate air flow speed , comfortable energy saving , accurate and reliable.

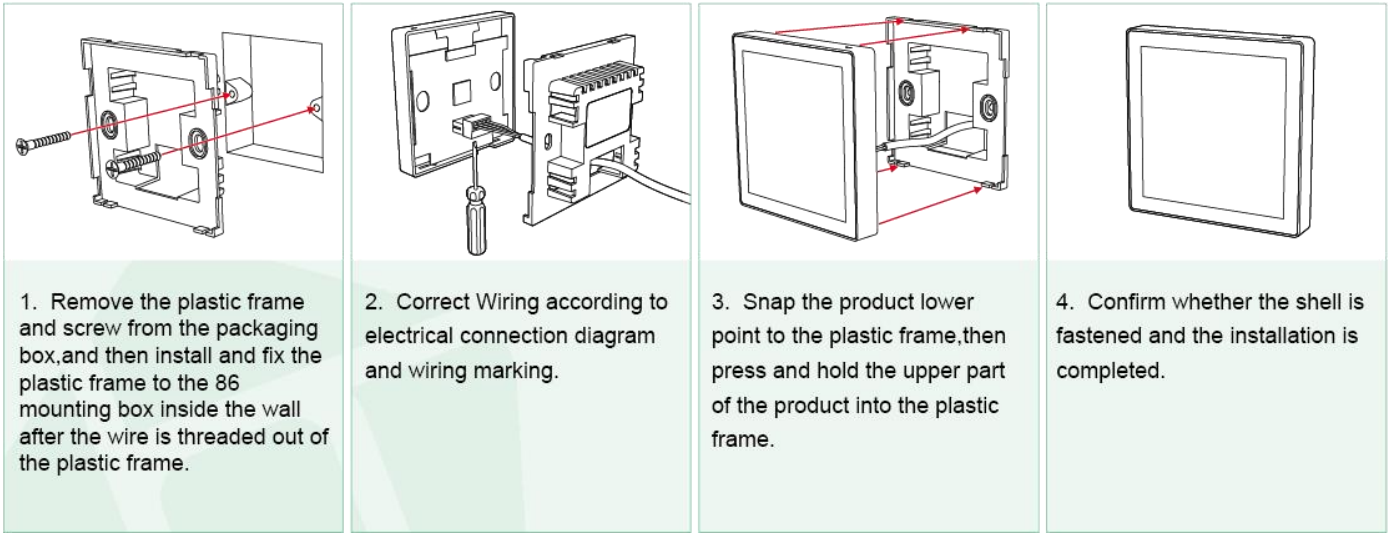
Functional features:

1. With 4-inch capacitive full-touch display, clear picture and easy to operate.
2. Real-time display of temperature, humidity and clock.
3. Timing control.
4. Fan 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
	Display：DC12V
Shall Material	Flame retardant ABS+PC
Power	<12W
Pich of Installation	60mm
Size	PCB：123mm×85mm
	Display：91mm×90mm
Storage Environment	-10~~70℃ 5%~~95%RH
Working Condition	-10~~70℃ 5%~~95%RH

Product installation:



1. Remove the plastic frame and screw from the packaging box,and then install and fix the plastic frame to the 86 mounting box inside the wall after the wire is threaded out of the plastic frame.
2. Correct wiring according to electrical connection diagram and wiring marking.
3. Snap the product lower point to the plastic frame,then press and hold the upper part of the product into the plastic frame.
4. Confirm whether the shell is fastened and the installation is completed.

Functions:

1.Power ON/OFF
2.Set (humidity/temperature/time etc.)
3.Setting temperature
4.Setting humidity
5.Running mode display (Constant Temperature/Constant Humidity/Auto/Ventilation)
6.Coil temperature
7.Running Mode Setting
8.Fan running mode(Manual/Auto)
9.Fan air flow setting(Only when fan running mode at “Manual”)
10.Cellar temperature
11.Cellar humidity

Turn system ON/OFF		Touch the switch icon in the lower left corner to turn on or off the unit Color red is on and green is off
Set temperature		1. Touch icon ‘Set' 2. Find 'Temperature' , click to enter and set temperature
Set humidity		1. Touch icon ‘Set' 2. Find 'Humidity' , click to enter and set humidity
Set time		1. Touch icon ‘Set' 2. Find 'Time' , click to enter and set time
Mode		Touch icon 'Mode' to choose the running mode, default value is 'Auto'
Fan Running Mode		Touch icon next to the switch, choosing the running mode of the fan at 'A' or 'M' (A-Auto running speed, M-Selecting running speed manually)
Set the fan speed (Only available at the fan work under “Manual” running mode)		Touch the fan icon to change the fan speed

Maintenance

1、Using Requirements

(1) Working conditions: Surrounding temperature at 5℃-35℃, relative humidity lower than 80% ;

(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 and Replacing

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

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 correct or replace;

Note: In a high temperature and high humidity environment, if excess condensate may be generated in the wine cabinet, this part of the condensate needs to be manually removed.

Troubleshooting

WARNING

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 a dangerous voltage at the terminals of the starting capacitor.

Troubleshooting

Status	Reason	Suggestion
Cooling unit not running	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 ambient temperature. 7. Defrosting mode on.	1. Check power at receptacle &fuses. 2. Plug-in power cord plug. 3. Contact an authorized electrician. 4. Check all wirings and connections. 5. Ambient temperature not meet unit working conditions. 6. Lower temperature setting . 7. Wait 5-30minutes.
Cannot dehumidification	1. Inlet or outlet air grille is stuck. 2. Air filter is stuck. 3. Refrigerant leakage. 4. Compressor not working. 5. Fan is not working	1. Please check the air grille and clean it. 2. Check air filter. 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 is not working.	1. Check and clean air outlet. 2. Check the fan.
Louder noise	1. Loose parts. 2. Air filter is stuck. 3. The unit is not installed smoothly.	1. Check parts. 2. Clean filter. 3. Install the machine smoothly.
Temperature too high	1. Setting too high. 2. Improper cabinet seals. 3. Ambient temperature too high. 4. Cabinet/room too large. 5. Fan fault. 6. Refrigerant leakage.	1. Lower setting. 2. Check gasket and door opening. 3. Check installation location. 4. Check for excessive size or the machine model choice is improper. 5. Check both evaporator and condenser fans. 6. Add refrigerant.
Unit running too long or continually	1. The machine model choice is improper or improper room sealing. 2. Ambient temperature to high.	1. Check machine mode or check room tightness. 2. 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	1. Fan protection procedure. 2. Wrong wiring harness connection	1. Wait 3 minutes. 2. Check harness links.
No cooling but compressor running	1. Refrigerant leakage. 2. Evaporator airflow restricted.	1. Check of refrigerant. 2. Check for airflow through evaporator.

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.

Warranty

Limited Warranty

The machine provided by our company is guaranteed for one year and the fan is guaranteed for two years and the compressor for three years from the date of arrival. During the warranty period, any defects due to workmanship or materials, we guarantee to repair or replace the machine free of charge. (warning: the machine due to the use of dust ,corrosive liquid and other non-machine quality reasons for damage is not covered by the warranty.

Thenow company guarantee the project for 1 year, the fan is guaranteed for 2 years and the compressor for 3 years from date of delivery. During the warranty period, any defects due to workmanship or materials Thenow guarantee to repair or replace the machine free of charge.

Warranty Claims

Proof of insulation (photo images & specification) will be requested on warranty claims.
If access to the unit is hindered this will also void technicians labour on warranty claims and/or refusal to undertake works until the unit is moved to meet installation guidelines.

Warning the machine is not covered by warranty if the unit is installed within the guidelines stated above & in the user manual and is not maintained by regular cleaning of the condenser for removal of dust, has been misused, abused or neglected, has any contact of corrosive liquid, and other non-machine quality reasons for damage.

Remove - Commitment in after-sales service

During the warranty period, our company is responsible for the maintenance of the equipment，if the equipment exceeds the warranty period, our company will charge for reasonable maintenance cost.

Other preferential terms

Our company provides free technical advisory services to users.

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