



# **Instruction Manual for Origin Dehumidifier OS110 / OS165**

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Thanks for choosing Origin de-humidifiers and we highly recommend you to have a careful reading of the instructions before using the devices. It will provide you with necessary information for proper use and maintenance.

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## Chapter 1. Operation Safety

### 1.1 Safety and Warning

The dehumidifier meets the safety requirements of AUE and European standards. The design and manufacturing have taken the safety of personnel and equipment into consideration. In each chapter of this manual, there is information about security, which clearly points out the dangerous operation, and signs the warning signs in the front.

This manual provides the best operation experience and procedures for dehumidifiers. But these recommendations serve as guidance and do not take any personal responsibility or implement local safety regulations. When installing and operating equipment, everyone must assume the following responsibilities:

- Protect the safety of the equipment according to the description of this manual.
- Keep safety of yourself and others.
- Electrical components must be maintained by authorized electrical installation personnel.
- The equipment is not explosion-proof and is forbidden to be used in inflammable and explosive places.
- Disconnect the dehumidifier from the main power supply before opening any maintenance panel.
- When the operation is over, the dehumidifier should be cooled for at least 5 minutes before being maintained.
- If the dehumidifier is not maintained, the maintenance panel should be closed.
- Dehumidification equipment is limited to do dehumidification of air under atmospheric pressure.
- It is prohibited to use dehumidifier in case of uninstalled filter. If the filter device is not installed, the surface air cooler will be contaminated, thereby losing the ability to dehumidify.
- Deletion or alteration of marks and instructions on dehumidification equipment are prohibited.
- This manual shall be properly kept.
- Use spare part of the original equipment.
- our product's written permission must be obtained before any modification or adjustment of the device.

### 1.2 Application Range of the Machine

our product series dehumidifier adopts direct evaporation cooling design, which can dry the air in atmospheric pressure. Dehumidifying equipment can dehumidify air temperature range between 5-40 °C with 99% relative humidity. The working principle is that the blower dehumidify and heat

the indoor air or outdoor mixing air through the surface air cooler and send them into the room, so that the indoor temperature can be lowered to meet the comfort requirements of people.

The equipment is applicable to the working temperature range of 5-38°C, beyond which will affect the normal use of the equipment.

### **1.3 Contents of the Manual**

This manual is oriented to the most users of the dehumidifier, including installation, operation, maintenance and basic failure analysis. Purpose of this manual is providing necessary information for users to comprehend the structure and function of the equipment and guide users about installation, operation, maintenance and basic fault analysis before our product provides services.

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## Chapter 2 . Installation of Equipment

### 2.1 Brief Introduction

The dehumidifier can be installed in many places which depending on the user's needs. If there are requirements, it can be used with the existing power system or existing duct system together. This section covers the description of required job of dehumidification equipment from leaving the factory to being installed. Read before equipment installation can help you to arrange work properly.

### 2.2 Shipping and Storage

In order to ensure the quality and reliability of the dehumidification equipment, every equipment has been inspected before leaving the factory. If the dehumidification equipment is to be stored for a period of time before installation, the following items should be noted:

- a. It is not suitable to remove the transport packaging.
- b. Placement of equipment can avoid physical damage and hurt.
- c. Must be stored under cover to prevent dust, frost and rain from encroaching.
- d. The equipment is not allowed to lie down or stand upside down.

### 2.3 Inspection

Disassemble the packaging of the equipment and inspect the product to ensure that the equipment is not damaged during transportation. If any damage is found, contact the equipment supplier. If the piping connected to the dehumidifier is arranged, it should be checked if the piping arrangement is suitable. If the environment and installation conditions are not satisfying, please contact the manufacturer's relevant design and technical personnel.

To ensure optimum dehumidification effect, the fan outlet should be equipped with a diffuser.

## 2.4 Electrical Connections

### NOTICE!

All electrical connections works must be done by local professionals and shall be carried out by qualified personnel. Dehumidifier control circuit has been marked with different color to prevent confusion, unit design adopts three-phase ac power supply, electric equipment installation and configuration are in accordance with the voltage and frequency of equipment nameplate on the calibration.

The appliance shall be installed according to the national wiring standard.

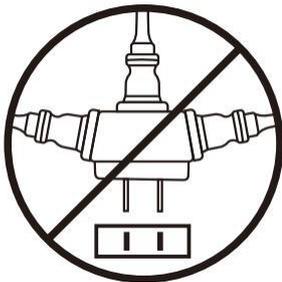
- The dehumidifier must not operate in a voltage or frequency beyond the manufacturing range.
- The three-phase ac power supply should be checked before the unit is connected to the main power supply to ensure that the voltage fluctuation range of the power supply is not more than  $\pm 10\%$  of the voltage and frequency of the equipment. his check is particularly important for high load situations (which are due to the switching of large electrical equipment).
- The machine set must be grounded and equipped with a power isolating switch to ensure that the power is cut off when checking and servicing.
- The fuse power of the power supply fuse must be consistent with the power and type of the dehumidifier. The fuse should be installed near the dehumidifier. The selection of power supply cable and main fuse should be equipped with the correct operation power of the wet unit. Fuse rated value: 16A 250V
- If the power cord is damaged, in order to avoid danger, it must be replaced by the manufacturer, its maintenance department or similar department.

### 3. Matters Need Attention

This section describes important aspects of safety matters to prevent personal injury or property damage to users and others. Please read the text on the basis of fully understanding the following contents (logo, icon), and be sure to follow the safety precautions listed.



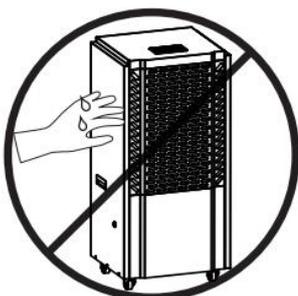
When cleaning, be sure to stop the operation and turn off the power switch.  
The internal rotor rotates at high speed and may cause injury. Prevent accidental electric leakage and cause electric shock.  
Please clean the air filter frequently  
Contamination of the air filter screen may result in reduced dehumidification, reduced comfort and increased power consumption.



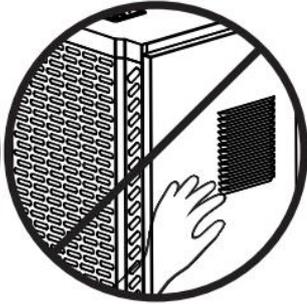
It is forbidden to replace the power cord without authorization, or connect the power cable in the middle and other appliances in parallel.  
Unauthorized replacement, mid-way connection, overload use may cause electric shock or fire. If the power cord is damaged, please entrust your local dealer or service outlet for repair.  
Unauthorized disassembly, modification, repair or cleaning of internal components is prohibited.



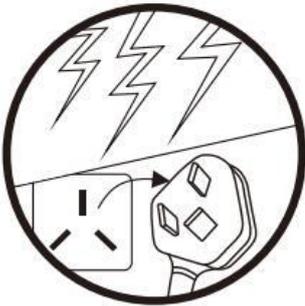
It is forbidden to store flammable and explosive gases in the place where the dehumidifier is used.  
Leaks of flammable and explosive gases collect around the components and may cause accidental ignition.  
Do not place the dehumidifier near a heat source as this may cause deformation or fire.



Do not operate the dehumidifier with wet hands.  
Contact with water inside the dehumidifier may cause leakage, and wet operation may cause electric shock.  
Do not flush the dehumidifier directly with water. Do not place the dehumidifier near water, as this may cause water to splash into the machine, causing leakage or short circuits.



Do not put your hand into the air inlet, do not climb or sit on the dehumidifier. This can cause the device to deform or cause a fire.



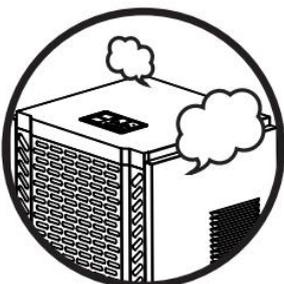
In thunderstorms, the power must be disconnected. Failure to disconnect the power supply may result in lightning strikes and damage to the dehumidifier.



Place the dehumidifier on a stable level surface. If the ground is not flat, it may affect the use of the dehumidifier. Never throw or place anything inside the dehumidifier.

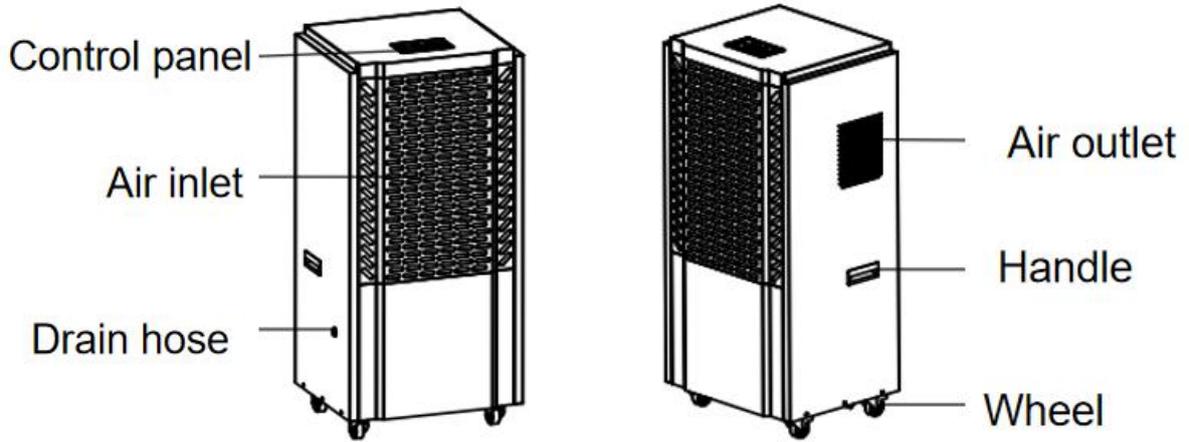


Do not turn off the dehumidifier directly with the power switch. Turning off the dehumidifier with the power switch may result in electric shock, fire, etc. Always use the control panel to stop the dehumidifier operation. Turn off the power switch when not in use for a long time. Dust accumulation may cause leakage, loss, heat, fire, etc. Turn off the power to avoid lightning strikes.

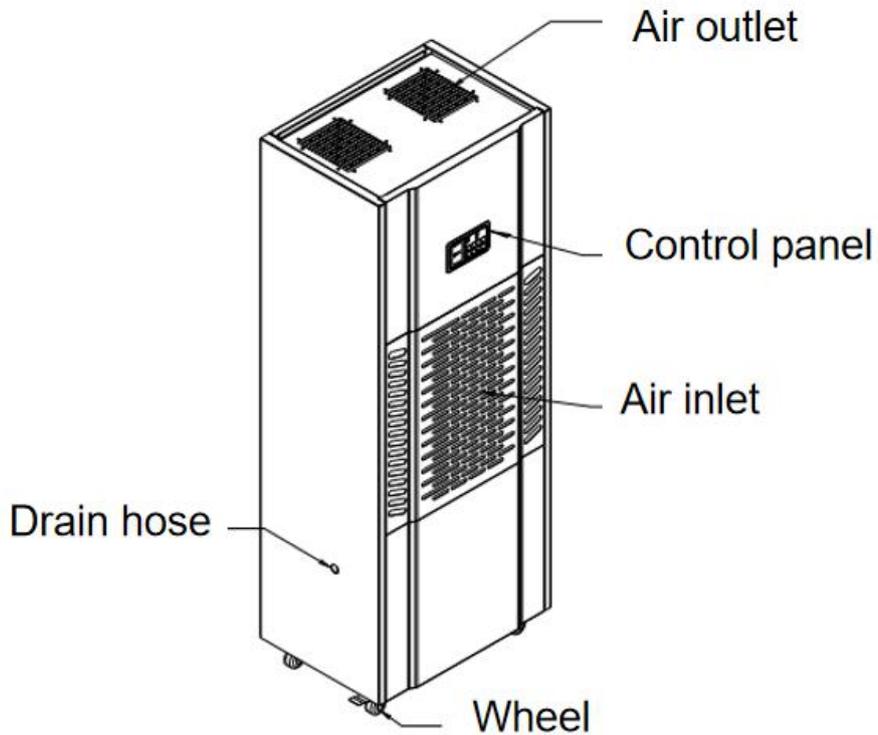


When an abnormal phenomenon (such as a burnt smell) occurs, the operation must be stopped and the power supply turned off. Continued use may result in malfunction, electric shock or fire. Please entrust your local dealer or service outlet for repairs.

#### 4. Appearance And Structure



### OS110



### OS165

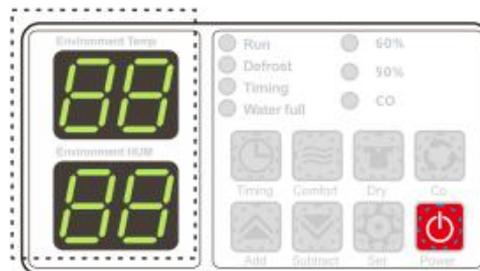
## 5. Function Of Button



### On/Off



Press "Power"  
Machine will beep.  
Machine start to work.



The LCD shows the current  
temperature and humidity

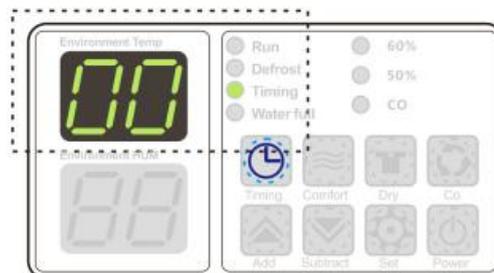


Press again  
Shut down the machine

### Timing Mode



Press "timing",  
Machine will beep.



Indicates light on. The set value will flicking.  
(It will stop flicking and back to ambient humidification  
after stop operation for 6secs)

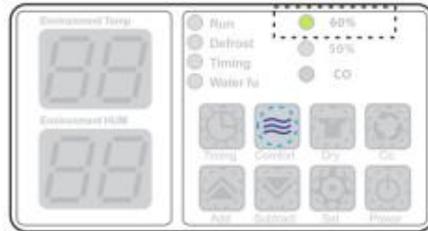


When Power on,  
timing set for switch off;  
When Power off,  
timing set for switch on.

## Comfort Mode



Press "Comfort"  
Machine will beep.



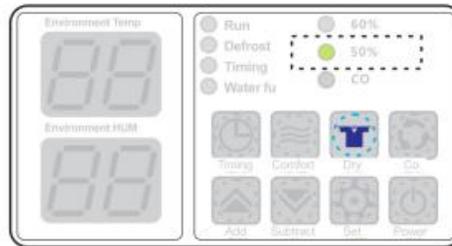
Enter the Comfort Mode.  
Indicates(60%) light on.

1. When you press "Add" or "Subtract", it will switch to normal mode.
2. You can press other Mode instead, like Comfort Mode, CO Mode.....

## Dry Mode



Press "Dry"  
Machine will beep.



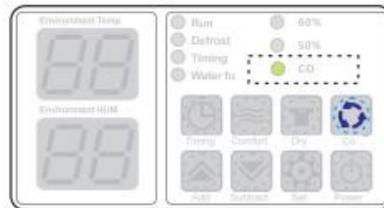
Enter the Dry Mode.  
Indicates(50%) light on.

1. When you press "Add" or "Subtract", it will switch to normal mode.
2. You can press other Mode instead, like Comfort Mode, CO Mode.....

## CO Mode



Press "CO"  
Machine will beep.



Enter the Dry Mode.  
Indicates(CO) light on.

1. When you press "Add" or "Subtract", it will switch to normal mode.
2. You can press other Mode instead, like Comfort Mode, CO Mode.....

## Add Mode



Press "Add",  
Machine will beep  
The set value increase 1%RH



The set value will flicking It will stop flicking and back to ambient humidication after stop operation for 6secs

## Subtract Mode



Press "Subtract",  
Machine achine will beep  
The set value decrease 1

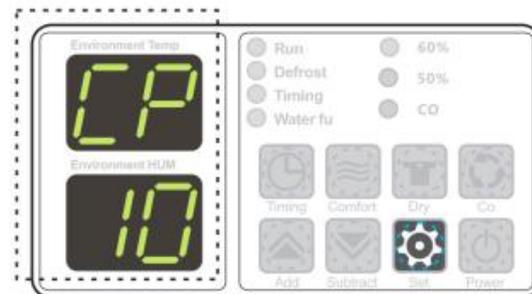


The set value will flicking It will stop flicking  
and back to ambient humidication after stop  
operation for 6secs

## Set Mode



Press "Set " for 10 seconds,  
Enter to the  
Internal parameter modification mode



Display shows the setting rate

- Press "Set " for 10 seconds to enter to the Internal parameter modification mode, Che display will show "CP", at this time, you can use the "Add" and "Subtract" to select the target, and press "Set" to confirm. When you confirm the display data will flicker, use the "Add" and "Subtract" again to adjust the data, and press "Set" to confirm what you set and will back to Superior setting interface. After you enter to the Internal parameter modification mode, It will come out after five seconds if you are not doing anything.
- Reset to Factory Defaults: When the machine is on "OFF" state, press "Subtract" for 5 seconds, It will be done as  will display on the screen.

### Notices!

1. If the set humidity is higher than the actual humidity, the dehumidifier stops working;
2. During dehumidification, after the compressor starts working, the fan and compressor can only be stopped after working for at least 3 minutes; the compressor can only be re-started 3 minutes after stops; After about 72 hours of continuous operation, the compressor will be stopped and resumed 30 minutes later;
3. If works under low temperature, the dehumidifier may judge the system temperature automatically and defrosts automatically; when defrosting, the indicator of defrosting is light, the fan works and compressor stops working.

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4. The system has auto memory. When all the mode setting has been finished, if there is sudden power cut during operation, or the power jack slips out, the system may store the current status before the power is cut and enter the operation before power cut automatically after power is supplied;
  5. Range for humidity is 10%-99%;
  6. If the dehumidifier is going to be spared for a long time, please unload the power cord or cut the power.
  7. Auto detection of temperature/humidity failure.
    - a. When the system detects that temperature sensor exceeds the limited range, the system enters mode of temperature sensor failure. Under this mode, LCD displays temperature failure code "E1", the system works in a circle of dehumidification for 30 minutes and defrosting for 15 minutes;
    - b. When the system detects that humidity sensor exceeds the limited range, the system enters mode of humidity sensor failure. Under this mode, LCD displays humidity failure code "E2" and the system starts continuous dehumidification.
- C.** After temperature/humidity sensor failure being removed, the system works normally.

## 6. Operating Instructions

When the substrate is powered on for the first time, the substrate enters the standby state, press the power button and set the required humidity 3% less than the current humidity to enter the running state, If the setting humidity is higher than ambient humidity, the dehumidifier will not work.

### 6.1 DEHUMIDIFYING RUNNING

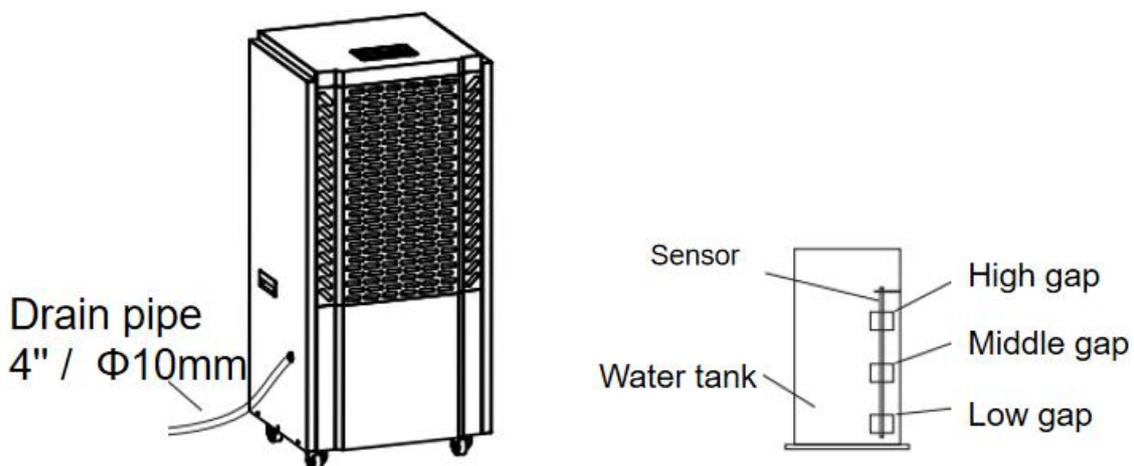
1. When the compressor has passed the protection for 3 minutes and the indoor humidity  $\geq$  set humidity + 3% RH, the compressor will work again.
2. When the indoor humidity  $<$  set humidity - 2% RH, the compressor is turned off.
3. Set the humidity - 3% RH  $<$  indoor humidity  $<$  set humidity + 3% RH to keep the original compressor working.
4. The compressor stops the fan if it has not been operated for three minutes after the humidity has dropped.
5. Defrost
  - A) After the machine starts to run for 30 minutes, the copper head coil sensor starts to detect the tube temperature. When the tube temperature is  $\leq -1$  °C (there is 3 seconds of detection time), the compressor stops and the fan runs, and the defrosting operation starts. The lights are shining.
  - B) When the temperature sensor detects that the coil temperature on the evaporator is greater than or equal to 5 degrees and the detection is greater than or equal to 5 degrees for 3 minutes, the defrosting is exited.

### Pump Instruction:

Draining by Pump:

There is a water tank in the machine, once the water level reach the middle gap; Pump will start to work automatically, When the water level down to low gap, water pump will stop to work.

When the water reach the high gap, machine will stop to work and show "E4" error on the display with sounding "Bee, bee, bee".



## Chapter 7. Troubleshooting

Problems	Phenomenon/Reason	Solutions
Dehumidifier does not work.	<ol style="list-style-type: none"> <li>1. Could be a power outage.</li> <li>2. The power switch is not on.</li> <li>3. Maybe the fuse has blown out.</li> <li>4. It's not the definite starting up time.</li> <li>5. The water tank may be full or not fixed well, and the light of full water on screen is flashing.</li> </ol>	<ol style="list-style-type: none"> <li>1. Please wait for power supply.</li> <li>2. Turn on the power switch.</li> <li>3. Change the fuse.</li> <li>4. Wait or cancel the time setting.</li> <li>5. Pour out water of water tank, then put it back.</li> </ol>
Unsatisfied dehumidification effect.	<ol style="list-style-type: none"> <li>1. The humidity setting is inappropriate.</li> <li>2. The front and back of the dehumidifier may be blocked.</li> <li>3. Dehumidification time may be not enough.</li> <li>4. Door and window may be open.</li> <li>5. The temperature indoor is lower than 5°C or higher than 40°C.</li> </ol>	<ol style="list-style-type: none"> <li>1. Set appropriate humidity.</li> <li>2. Clear the obstructions.</li> <li>3. Keep waiting.</li> <li>4. Close door and window.</li> <li>5. Please use the machine in the temperature of 5-40°C.</li> </ol>
Turn on immediately after shutdown, dehumidifier does not dehumidify.	3 minutes delay protection of compressor.	The machine will work after 3 minutes.
There is water leak.	<ol style="list-style-type: none"> <li>1. Drain connection is slack.</li> <li>2. The drainage system is blocked</li> <li>3. The water tank is't placed well.</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect the drain.</li> <li>2. Clean the stopper.</li> <li>3. Place the water tank well.</li> </ol>
Frost formation.	There is frost on the surface of dehumidifier.	It's normal, the machine can defrost automatically.
The dehumidifier has a slight wobble.	A slight wobble occurs when turn on/off dehumidifier.	It's normal phenomenon.

1. Where the above troubles cannot be fixed and repair is needed, please contact supplier or distributor. Do not disassemble without authorization.
2. When the dehumidifier is in operation or stops, voice of circulating of refrigerating can be heard. Such phenomenon is normal.
3. It is normal for the air outlet to drain hot air.

## Chapter 8. Instruction on Code of Failure

The dehumidifier is able to automatically judge failure. If there is any failure, there will be failure code displayed on the humidity display window.

Failure Display	Problem	Solution
E1	Temperature sensor failure	Replace the Temperature sensor
E2	Humidity sensor failure	Replace the Humidity sensor
E4	Water tank full	Check the water pump and electric
HL	High temperate warning	Put the machine under 40°C

## Chapter 9. Maintenance

### 9.1 Maintenance Introduction

The maintenance and care of dehumidification equipment during the long term use, not being maintained will reduce the dehumidification performance and even cause failure.

### 9.2 Filter Unit

The dehumidifier is equipped with an independent filter which is installed in the inlet of the device. It is prohibited to operate unfiltered device for a long time. It is strictly forbidden to clog the air inlet and outlet of this equipment, and it is recommended that the filter unit should be checked and cleaned at least once a month.

### 9.3 Electric Motor

The service life of the bearing is the same as that of the motor, so no additional maintenance is required. The motor startup capacitor should be checked every year to ensure its normal condition.

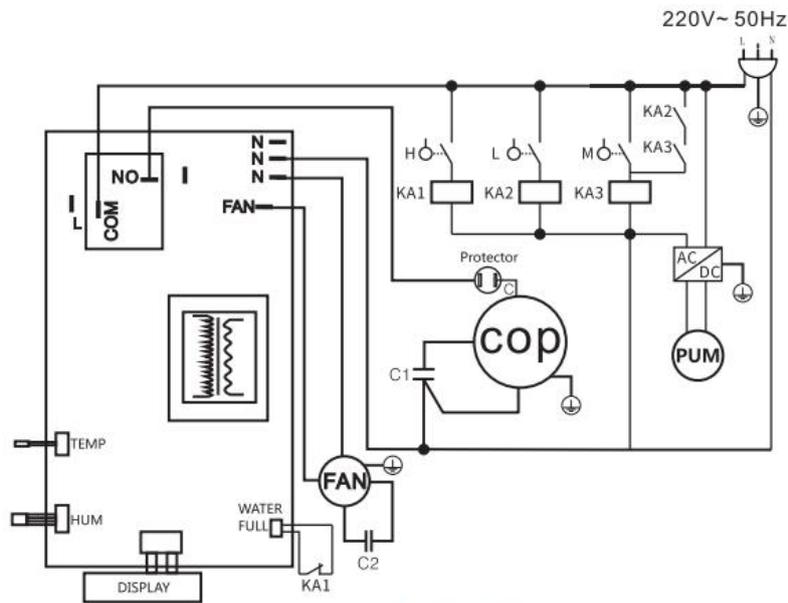
### 9.4 Maintenance Procedures

The procedures for inspection and maintenance of routine parts of the unit are listed in the table.

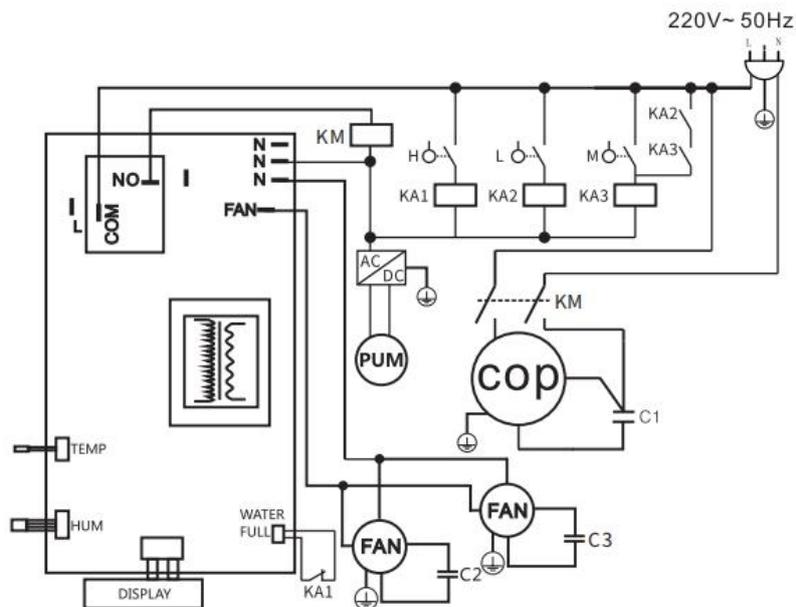
Components	Check and Maintenance Procedures	
	1-3 months	12 months
Filter unit	Clean filter unit	
Compressor	Check whether the compressor works normal and the vibration is normal	Check if there is loose, aging or damage of the compressor connection.
Cool&heat Exchange	Wash the debris and dirt on the bottom and surface of the evaporator and condenser.	

Seal	Check if there is damage and displacement. It should be replaced if there is wear or damage.	Check if there is damage and displacement. It should be replaced if there is wear or damage.
Temperature and Humidity Control		Check whether all external temperature and humidity probes are properly working.

### 10. Electric Schematic Diagram



- OS110



- OS165

## 11. Technical Specification

Model	OS 110
Extraction capacity (30°C, 80% RH)	110 ltrs/day
Air Flow	900 m <sup>3</sup> /hr
Power rating	1660 watts
Power source	220V/50HZ
Temperature Operating range	5°C - 35°C
Operating humidity	40%-80% RH%
Tank capacity	6.5 ltrs (SS tank)
Water Pump	Max : 4 - 4.5 meters height
Noise Level (approx.)	≤ 58 db (A)
Dimensions (WXDXH)	20*17*42 inches
Refrigerant	R-410a
Compressor	Panasonic (Rotary Type)
Body Material	SS 304
Packing weight	60 kgs

Model	OS 165
Extraction capacity (30°C, 80% RH)	165 ltrs/day
Air Flow	1800 m <sup>3</sup> /hr
Power rating	2120 watts
Power source	220V/50HZ
Temperature Operating range	5°C - 35°C
Operating humidity	40%-80% RH%
Tank capacity	6.5 ltrs (SS tank)
Water Pump	Max : 4 - 4.5 meters height
Noise Level (approx.)	≤ 63 db (A)
Dimensions (WXDXH)	25*18*63 inches
Refrigerant	R-410a
Compressor	Panasonic (Rotary Type)
Body Material	SS 304
Packing weight	110 kgs

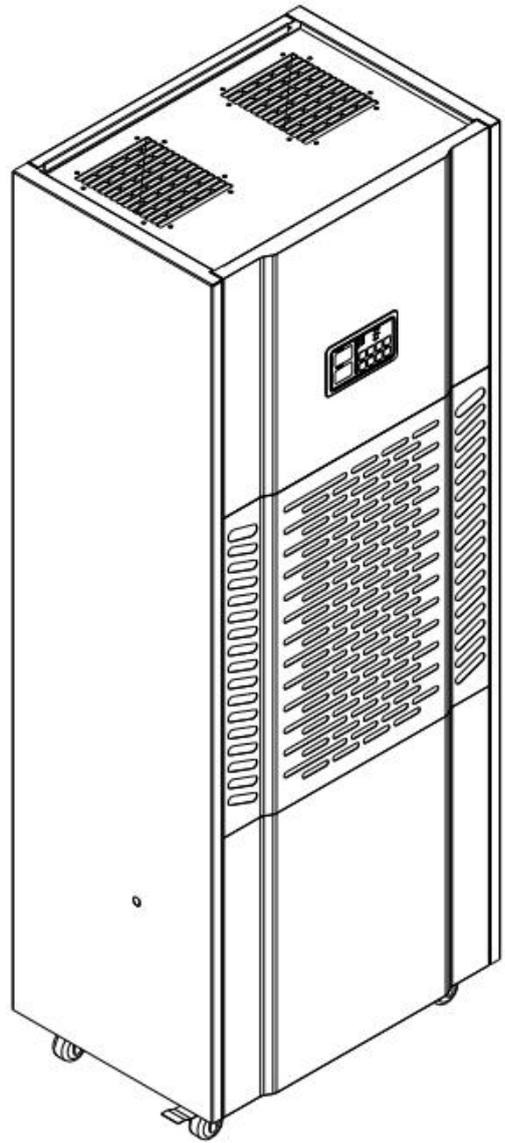
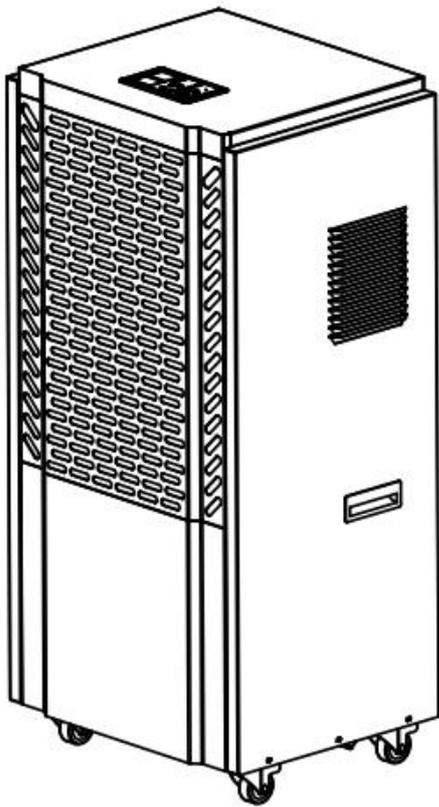
### Notes:

- 1) The above performance parameters are determined according to the standard requirements, and the dehumidification amount and are measured before leaving the factory.
- 2) Dehumidification amount in performance parameters, measured in high wind.
- 3) Test maximum input power at maximum dehumidification condition.
- 4) If the performance parameters are changed, the data provided on the nameplate shall prevail.

## 12. Packing List:

12.1 Dehumidifier \*1piece

12.2 Instruction Manual \*1 piece





## Origin Corporate Services Pvt Ltd.

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