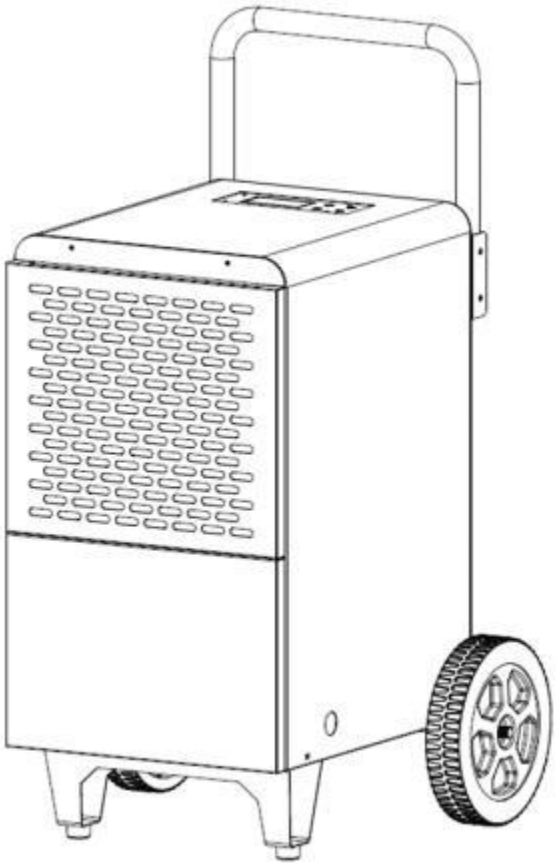
USER MANUAL



PORTABLE COMMERCIAL / INDUSTRIAL DEHUMIDIFIER

80 Liters per day

Thank you for choosing us.
Please read this user manual before using this innovative dehumidifier.
Please keep it safe for future reference.

1. BEFORE YOU BEGIN

1.1 PRODUCT DESCRIPTION

The dehumidifier is used to remove excessive moisture from the air. The resulting reduction in relative humidity protects buildings and their contents from the adverse effects of excess humidity.

The environmentally friendly R290 is used as the refrigerant. R290 has no damaging influence on the ozone layer (ODP), a negligible greenhouse effect (GWP) and is available worldwide. Because of its efficient energy properties, R290 is highly suitable as a coolant for this application. Special precautions must be taken into consideration due to the coolant's high flammability.

1.2 SYMBOLS FROM THE UNIT AND USER MANUAL

warning

This unit uses a flammable refrigerant.
If refrigerant leaks and comes in contact with fire or heating part, it will create harmful gas and there is risk of fire.

Read the USER MANUAL carefully before operation.

Further information is available in the USER MANUAL, SERVICE MANUAL, and the like.

Service personnel are required to carefully read the USER MANUAL and SERVICE MANUAL before operation.

THE FOLLOWING SHOULD ALWAYS BE OBSERVED FOR SAFETY

- It is strongly recommended that installation and service should be performed by a qualified technician or the service agency.
- The unit is designed only for use with R-290(propane) gas as the designated refrigerant.
- **THE REFRIGERANT LOOP IS SEALED. ONLY A QUALIFIED TECHNICIAN SHOULD ATTEMPT TO SERVICE!**
- Do not discharge the refrigerant into the atmosphere.

- R-290 (propane) is flammable and heavier than air.
- It collects first in low areas but can be circulated by the fans.
- If propane gas is present or even suspected, do not allow untrained personnel to attempt to find the cause.
- The propane gas used in the unit has no odor.
- The lack of smell does not indicate a lack of escaped gas.
- If a leak is detected, immediately evacuate all persons from the store, ventilate the room and contact the local fire department to advise them that a propane leak has occurred.
- Do not let any persons back into the store until the qualified service technician has arrived and that technician advises that it is safe to return to the store.
- No open flames, cigarettes or other possible sources of ignition should be used inside or in the vicinity of the units.
- Component parts are designed for propane and non-incentive and non-sparking. Component parts shall only be replaced with identical repair parts.

FAILURE TO ABIDE BY THIS WARNING COULD RESULT IN AN EXPLOSION, DEATH, INJURY AND PROPERTY DAMAGE.

2. FOR YOUR SAFETY

Your safety is the most important thing we concerned!

WARNING **Please read this manual carefully and fully understand before operating your dehumidifier.**

2.1 OPERATIONAL PRECAUTIONS

WARNING - to reduce the risk of fire, electric shock or injury to persons or property:

- Always operate the unit from a power source of equal voltage, frequency and rating as indicated on the product identification plate.
- Always use a power outlet that is grounded.
- Unplug the power cord when cleaning, servicing, or when not in use.
- Do not operate with wet hands. Prevent water from spilling onto the unit.
- Do not immerse or expose the unit to rain, moisture or any other liquid.

- Do not leave the unit running unattended. Do not tilt or turn over the unit.
- Do not unplug while the unit is operating.
- Do not unplug by pulling on the power cord.
- Do not use an extension cord or an adapter plug.
- Do not put objects on the unit.
- Do not climb or sit on the unit.
- Do not insert fingers or other objects into the air outlet.
- Do not touch the air inlet or the aluminum fins of the unit.
- Do not operate the unit if it is dropped, damaged or showing signs of product malfunction.
- Do not clean the appliance with any chemicals.
- Do not operate the product with damaged plug or cord. If it is not working properly, contact a qualified electrician or service centre for examination and repair, never try to dismantle it by yourself (user).
- Take care to ensure that children do not play with the unit.
- Ensure the unit is far away from fire, inflammable, or explosive objects.
- The unit shall be installed in accordance with national wiring regulations.
- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacture.
- The appliance shall be stored in a room without continuously operation sources (for example: open flames, an operating gas appliance or an operating electric heater).
- Do not piece or burn, even after use.
- Be aware that refrigerants may not contain an odour.
- Pipe-work shall be protected from physical damage and shall not be installed in an unventilated space, if that space is smaller than 12m².
- Compliance with national gas regulations shall be observed.
- Keep any required ventilation openings clear of obstruction.

WARNING	Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry, recognized assessment specification.

⚠ **WARNING**	Servicing shall only be performed as recommended by the equipment manufacturer. Maintenance and repair requiring the assistance of other skilled personnel shall be carried out under the supervision of the person competent in the use of flammable refrigerants.

If you don't understand something or need help, please contact the dealer services.

2.2 SAFETY PRECAUTIONS ON SERVICING

Please follow these warnings when to undertake the following when servicing a dehumidifier with R290.

2.2.1 Checks to the area

Prior to beginning work on systems containing flammable refrigerants, safety checks are necessary to ensure that the risk of ignition is minimized. For repair to the refrigerating system, the following precautions shall be complied with prior to conducting work on the system.

2.2.2 Work procedure

Work shall be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapor being present while the work is being performed.

2.2.3 General work area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided. The area around the workspace shall be sectioned off. Ensure that the conditions within the area have been made safe by control of flammable material.

2.2.4 Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with flammable refrigerants, i.e. no sparking, adequately sealed or intrinsically safe.

2.2.5 Presence of fire extinguisher

If any hot work is to be conducted on the refrigeration equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO2 fire extinguisher adjacent to the charging area.

2.2.6 No ignition sources

No person carrying out work in relation to a refrigeration system which involves exposing any pipe work that contains or has contained flammable refrigerant shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition

sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which flammable refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

2.2.7 Ventilated area

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

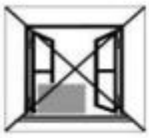
2.2.8 Checks to the refrigeration equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt consult the manufacturer's technical department for assistance.
The following checks shall be applied to installations using flammable refrigerants:
– The charge size is in accordance with the room size within which the refrigerant containing parts are installed;
– The ventilation machinery and outlets are operating adequately and are not obstructed;
– If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant;
– Marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
– refrigeration pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

2.2.9 Checks to electrical devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.
Initial safety checks shall include:
-those capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
-that there no live electrical components and wiring are exposed while charging, recovering or purging the system;
-that there is continuity of earth bonding.

VISUAL SAFETY GUIDE ON WHERE OR WHEN NOT TO USE YOUR DEHUMIDIFIER



Exposed to the weather outdoors

Near water

If ther power cable wires are frayed or cut

Where small children may be left unattended

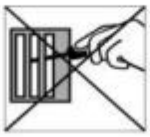
If an extension lead may become overloaded

Where the power cable may be damaged

On a slope or uneven surface

Where there is risk of fire or close to a naked flame

Where it may be damaged by chemicals



Where there is a risk or interference by foreign objects

This product is not made for DIY repair

If there is a risk of water falling on the unit

PARTS

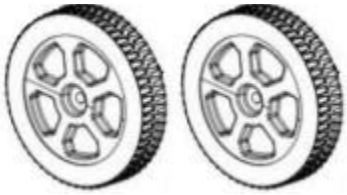
Bolts (For Axel) x 2

Bolts (For Handle) x 4

1m Flexible Water Pipe x 1

Nuts (For Wheels) x 2

Washers (For Wheels) x 2



Wheels x 2

FEATURES

The dehumidifiers use compressor technology to extract water from the environment.
Compressor dehumidifiers are ideal for environments which are heated during the winter months and maintain a temperature above 12-15^{o}C, although these units can be used in temperatures down to 5^{o}C.
The dehumidifiers are easy to move around and are designed to extract unwanted humidity. They feature an intelligent humidity where the desired relative humidity can be adjusted in increments of 5% between 10%* and 95% ensuring your room is not dried too much and power is not wasted.

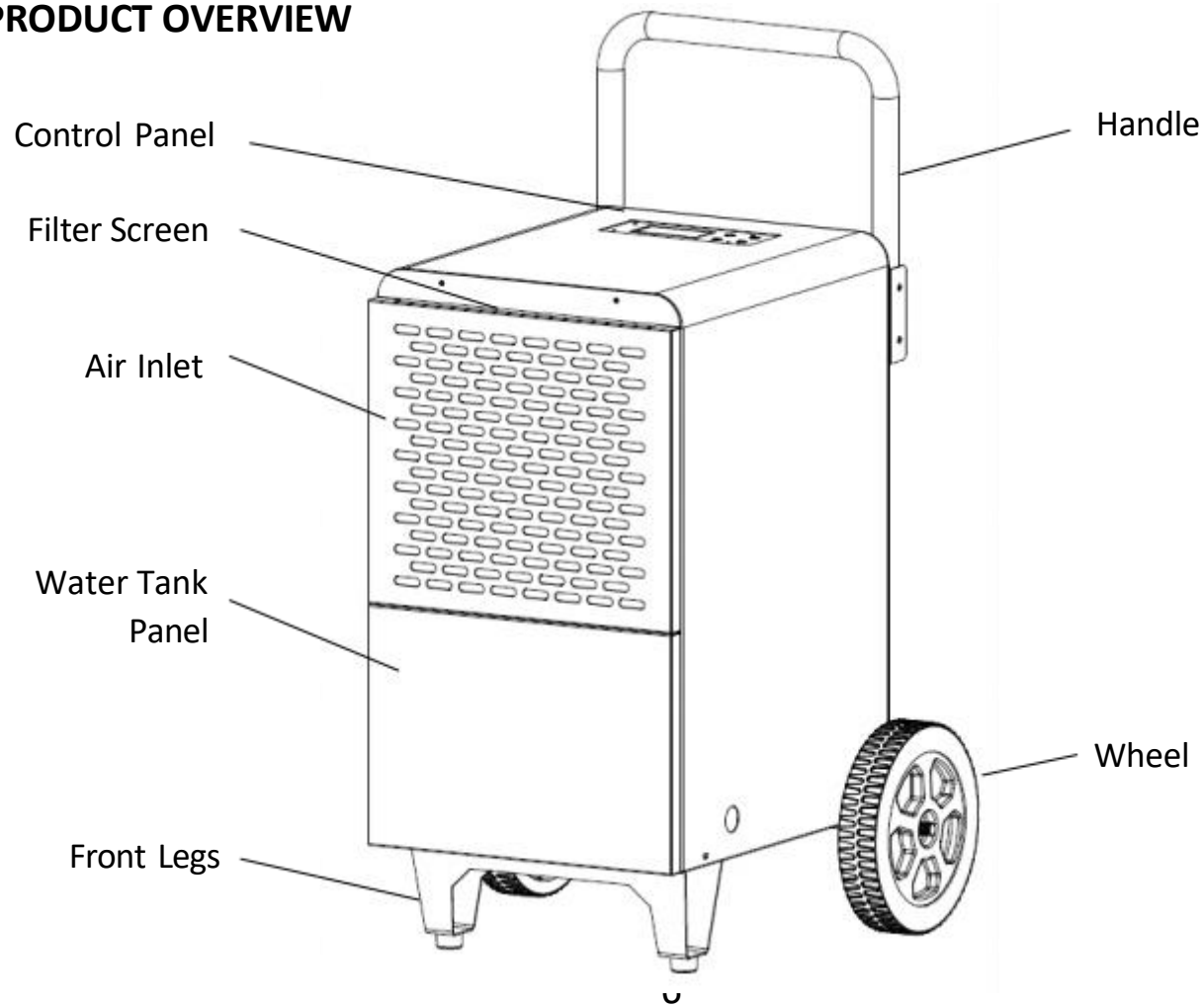
FEATURES

Your dehumidifier are range featuring power saving logic.

1. Easy to use controls
2. Cost effective way to combat mould, condensation and damp
3. Wheels for improved mobility
4. Intelligent CPU controlled digital humidity with 10*-95% RH and room humidity display
5. 24 hours start / stop timer
6. Tank operation or permanent drainage option with splash proof tank
7. Tank full alarm & auto-stop function
8. Auto restart

* Although the desired humidity can be set allow as 10%, lower settings will act as a continuous mode, as they are unlikely to be achievable in the market.

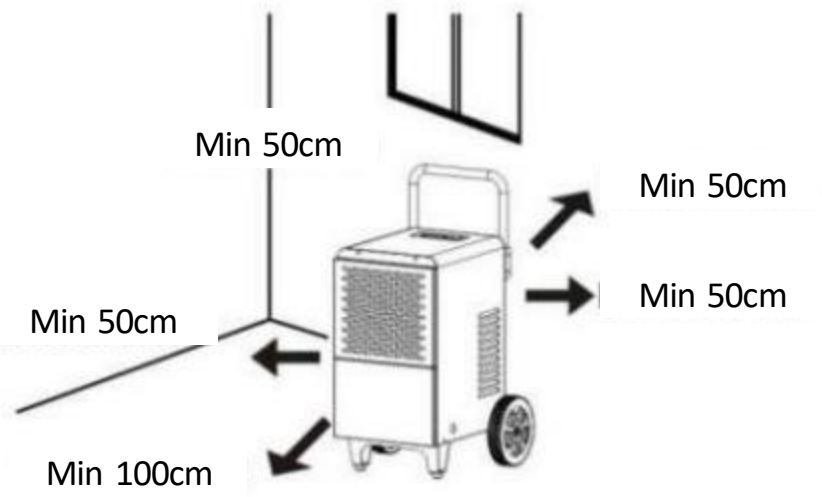
PRODUCT OVERVIEW



POSITIONING THE DEHUMIDIFIER

A badly positioned dehumidifier will have little effect. In positioning the dehumidifier please ensure circulation of air in not restricted around the unit.

Allow at least 50 cm space to the sides and back of the unit, and 100cm to the front. This dehumidifier is designed only for indoor applications.



Use in an enclosed area for maximum efficiency. Close all doors, windows to create an effective operating environment.

Your dehumidifier will extract water from the air, protecting your space from the harmful effects of excessive moisture as soon as it is turned on. Excess moisture is dispersed throughout your home. For this reason, the dehumidifier should be positioned in a central and clear location so that it can draw this moist air towards it from all over the home. A warm hallway or landing is an excellent position for your dehumidifier. If possible, leave interior doors ajar to allow air circulation.

Alternatively, if you have a serious problem in one area you can begin by positioning the dehumidifier there and moving it to a more central location at a later date. For the most effective use, run your dehumidifier with external doors and windows kept closed. Please note the unit should not be placed directly against a radiator or other heat source.

When positioning your dehumidifier, ensure that it is placed clear of any obstacle that may limit the air movement. Place the dehumidifier on a flat dry surface.

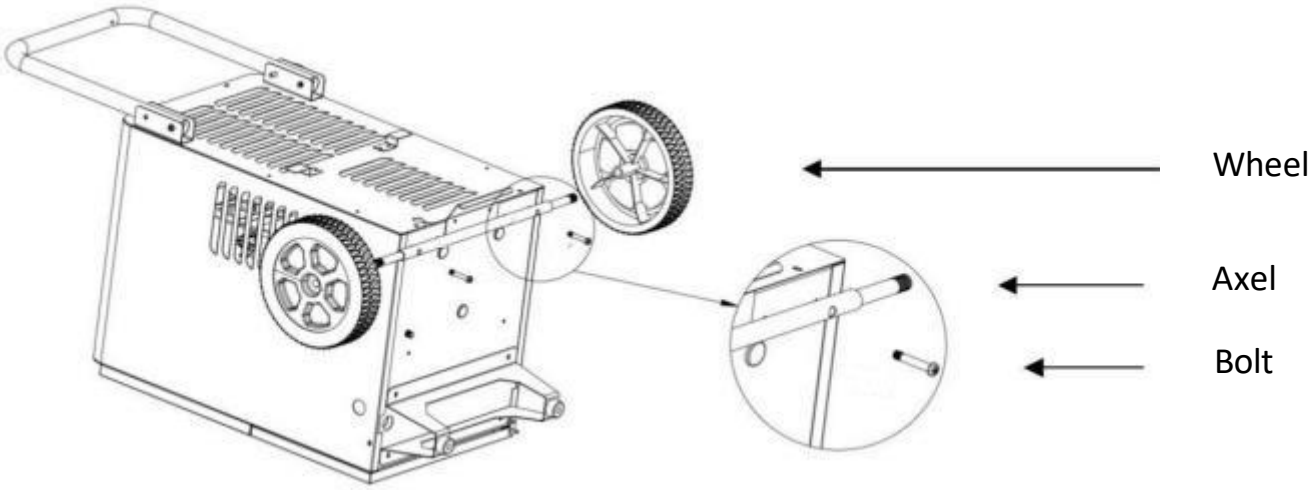
Note: Do not move the unit with water in the tank as it may tip over and spill water.

ASSEMBLY

The appliance must be fully assembled before plugging in. In order to prevent damage to the compressor, after assembly the unit must be left in an upright position for 2 hours before plugging in.

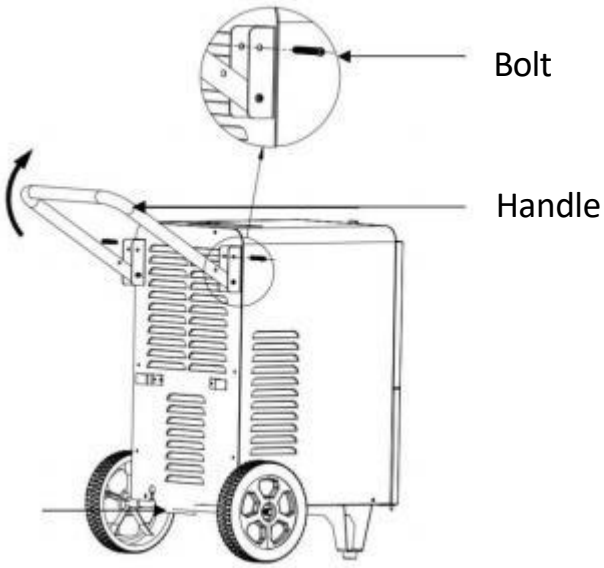
ATTACHING THE WHEELS

1. Attach the Axel to the base of the appliance using the 4 bolts provided.
2. Fix the wheels onto each end of the axel using the supplied washers and nuts, ensuring that they are secure.
3. Turn the appliance upright, and stand on the wheels.



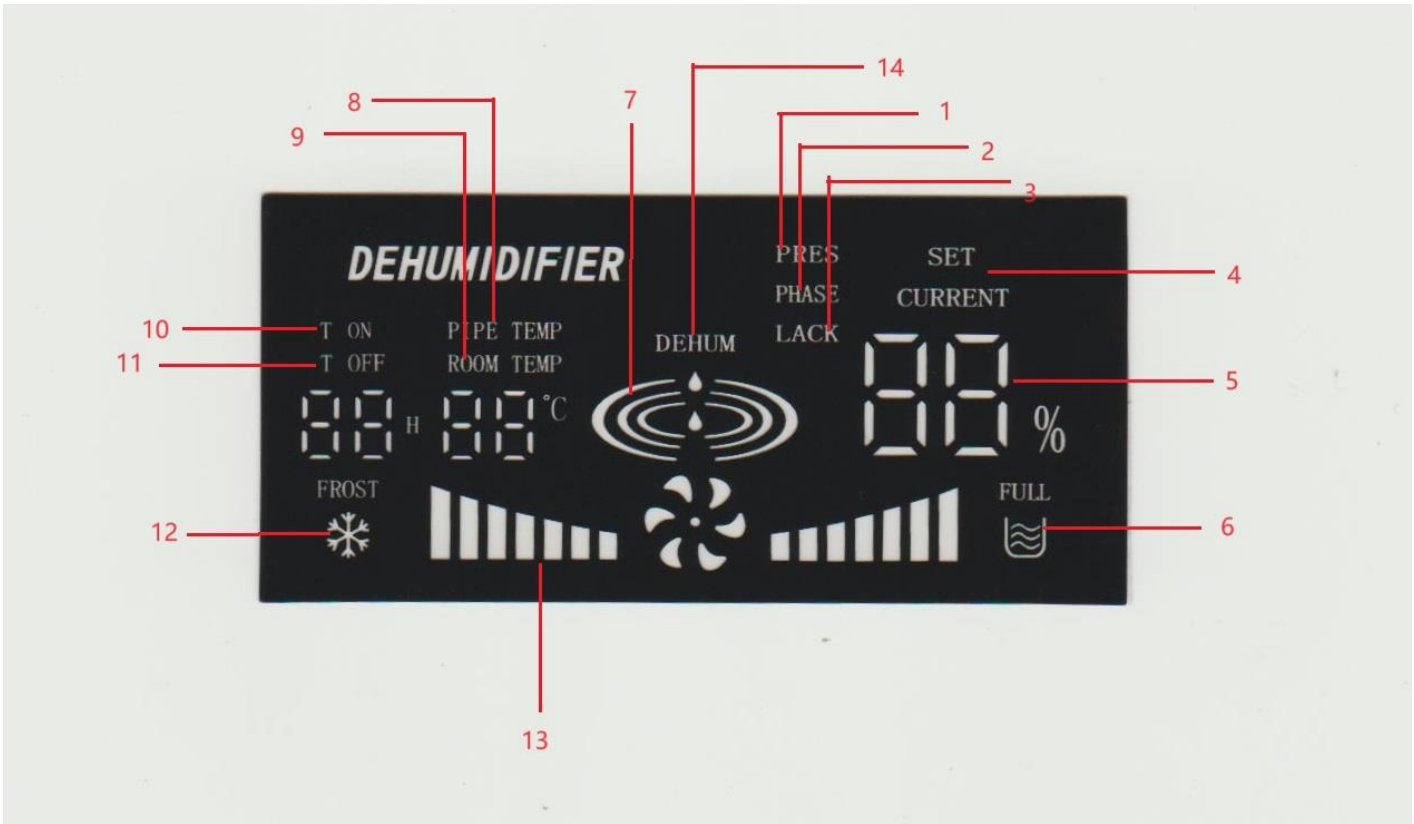
ATTACHING THE HANDLE

The handle is supplied resting against the rear of the unit for transportation. Unfold the handle so it is in the upright position and secure using the two bolts provided.



Installation guide

3. Operating and function



1. PRES Pressure protection(only show in 3 phase voltage)
2. PHASE Phase mistake(only show in 3 phase voltage)
3. LACK Lack phase(only show in 3 phase voltage)
4. SET CURRENT set humidity you want
5. Current humidity display
6. Water full alarm
7. If this cycle flashing that means the machine in dehumidification state
8. PIPE TEMP. The temperature for evaporator copper tube
9. ROOM TEMP. The current room temperature
10. T ON timer ON
11. T OFF timer OFF
12. FROST in defrost state
13. Fan speed
14. DEHUM if this flashing means in standby state have not dehumidifcation only fan working

PS:

The factory setting humidity is 10%RH
The humidity value is set to 10% in automatic mode
Press and hold the auto and + buttons to check the coil temperature. When the difference between the coil temperature and the current temperature value is less than 7, it means that the refrigeration system is abnormal
Press and hold the setting button once to adjust the defrost time 8-15 minutes (the default defrost time is generally 8 minutes. When the temperature is low and the evaporator surface is not completely defrosted, it can be adjusted to 15 minutes)
Press and hold the setting button twice to adjust the temperature error value by ±8 degrees (when the temperature displayed on the screen is different from the temperature displayed by your precision temperature and humidity sensor, the error value can be adjusted)
Press and hold the setting button three times to adjust the humidity error value by ±8% (when the humidity displayed on the screen is different from the humidity displayed by your precision temperature and humidity sensor, the error value can be adjusted)

4. Function keys and Indicators

1.	POWER button	Press once to switch unit on or off.
2.	SET button	Press to enable or disable the timer function.
3.	Setting button(ADD)	Adjust the humidity set-point within the range of 10%-95%. Adjust the timer set-point. (1h~24h)
4.	Setting button(MINUS)	
5.	AUTO button	Press to set the unit for continuous dehumidifying mode.
6.	Tank full LED	Lights up when water tank is almost full.
7.	Timer indicator LED	Lights up when the timer function is set.
8.	Defrost LED	Lights up when automatic defrosting is in process.
9.	AUTO	when the continuous dehumidifying mode is turned on you can press the ADD and MINUS button but it can not change the humidity data.
10.	Inside dry	When you OFF the machine, press this button the machine will dry inside.
11.	Digital Display	Displays the current humidity (10-95%) and the humidity setting (10-95%). Displays timer setting and temperature.

5. Settings

1. **Operation mode**

   A. Continuous Operation

   Press **POWER** key to turn on the unit.
   The unit starts to dehumidify in continuous operation, regardless of the humidity. The humidity set-point cannot be adjusted in this mode.

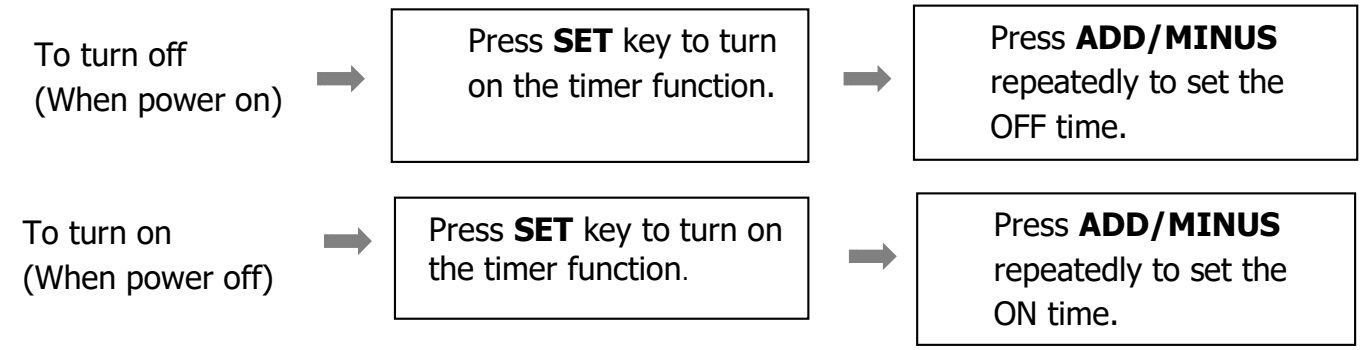
   B. Normal Operation

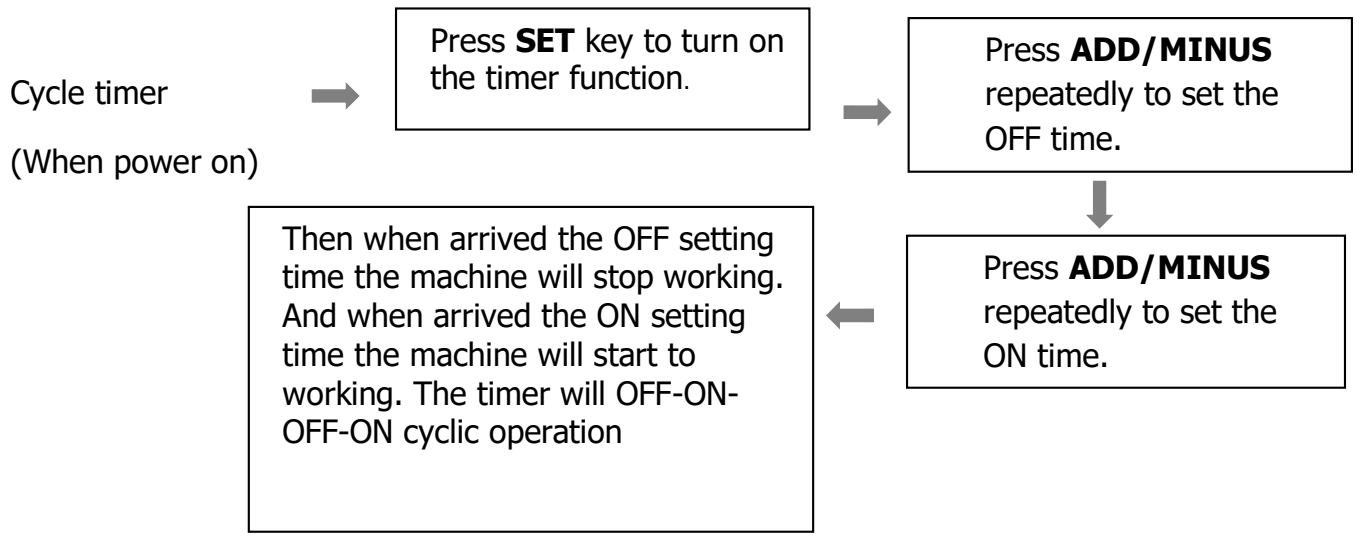
   Press **POWER** key to turn on the unit.
   Press the **AUTO** key to deactivate the continuous mode.
   The unit operates in normal mode with the default 50% humidity set-point.
   Press **POWER** key again to turn off the dehumidifier.
   The fan keeps running for a while and then stops.

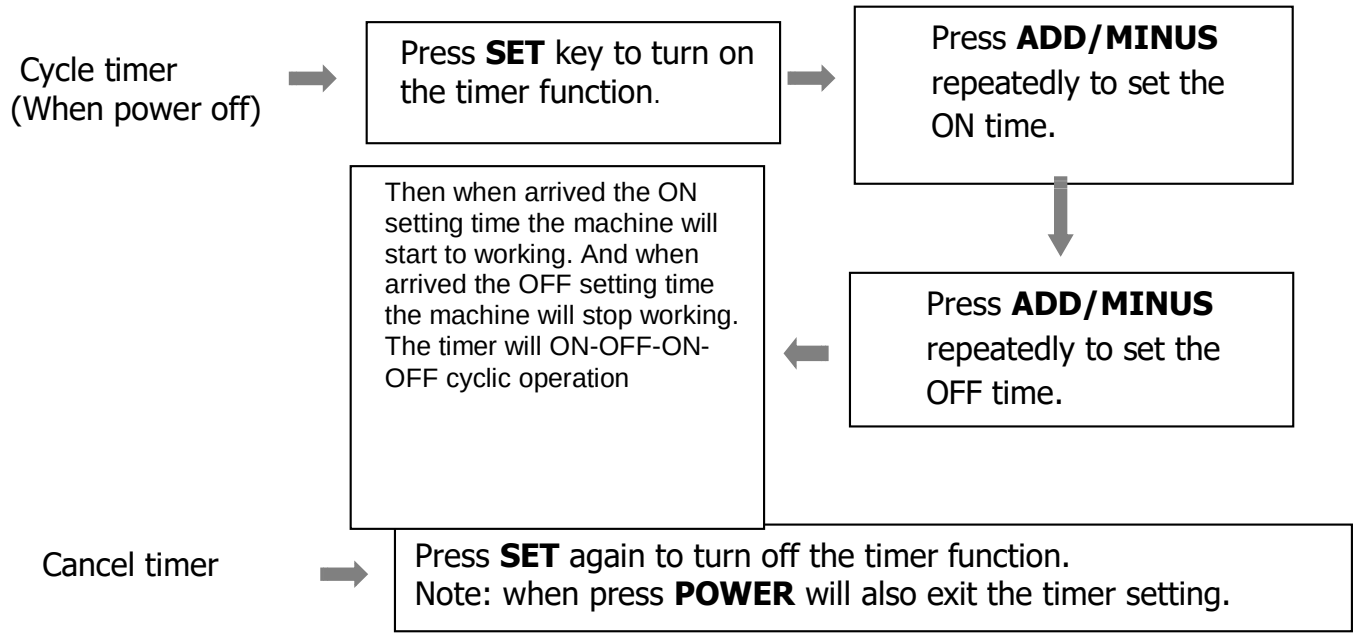
2. **Set Humidity (setting range: 10%-95%):**
   The humidity set-point can be adjusted in **normal operation.**
   Press **ADD/MINUS** key repeatedly to adjust humidity set-point.
   Set the humidity level between 40% and 60% for comfort.
   The unit will cycle on and off to maintain the level.

3. **Timer Setting（1hour-24hours）: Press SET key to set the timer**

   The timer has two ways of operation:







4. **Inside dry**

When you OFF the machine press this button it will dry the inside of the machine.

To prevent water rusting the machine.

5. **Room Temperature Inspection**

The LED display

indicate the current room temperature.

6. **Automatic Defrost function**

At low room temperatures, frost may buildup at the evaporator reducing the airflow across it during dehumidifying.

The dehumidifier will automatically start defrosting for 15 minutes.

The Defrost

LED blinking.

The compressor stops and the fan keeps running.

Do not turn off the unit and it will automatically restart dehumidifying.

7. **Overload Protection**

In the event of a power loss, to protect the compressor there is a 3-minute delay until the compressor restarting.

7. DRAINAGE

There are two ways of removal collected water produced by the unit.

A. Manual draining: Empty water tank by manual.

B. Continuous draining: Use gravity to drain condensate water by attaching a drain hose.

8. EMPTYING THE WATER TANK

The water tank built in unit will fill up and shut the unit down once it is full. It will run again once you empty the water tank and installed properly.

1) When the tank is full, the "FULL

" light will turn on.

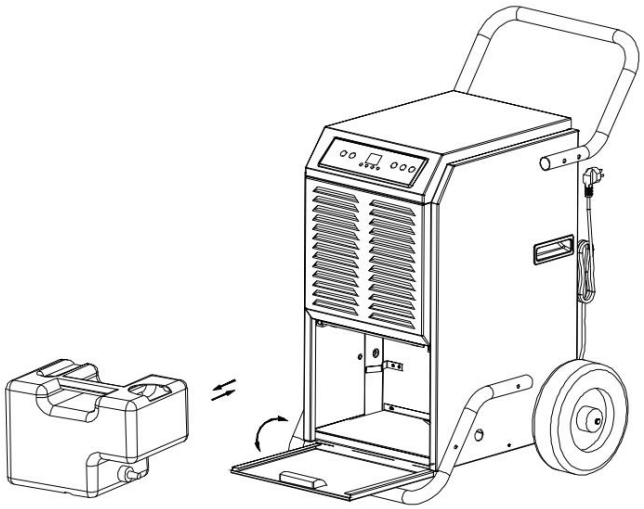
2) The unit will make a buzzing sound. Press the power button to turn off the machine.

3) To empty the water tank, open the front panel to access the water tank.

4) Grab the handle of the water tank and pull it out horizontally.

5) After disposing of the water, replace the tank and close the front panel.

6) Press the POWER button to resume operation.

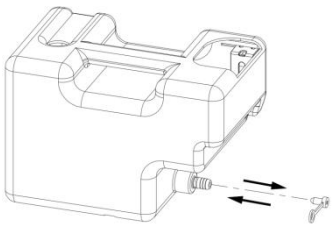


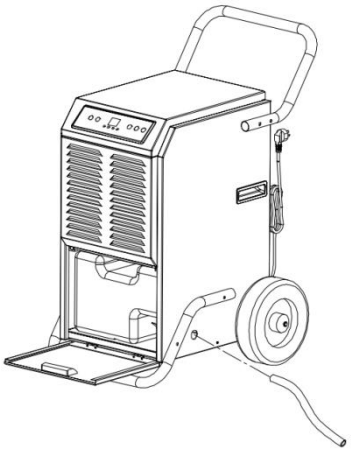
9. CONTINUOUS DRAINING

For continuous operation or unattended dehumidification, please connect the attached drain hose to the unit.

1. Press the POWER button to turn off the machine.
2. Open the front lower cover; remove the water tank from the unit.
3. Push the drain hose through the continuous drainage opening and connect one end to the hose connection.
4. Refit the water tank in the unit and close the front lower cover.
5. Direct the other hose end to the desired area. Make sure the drain hose is not kinked or bends.

Remove the hose and seal the hose connection off with the plug if you want to collect the water in the water tank again. Allow the hose to dry prior to storage.





WARNING:

Do not block the drain hose, water will not drain properly and could damage components of the unit.

10.Trouble shooting

Symptom		Inspection	Solution
The unit is not operating.		✓ Check the power connection in securely.	➢ Insert the power cord securely into the wall Outlet.
		✓ Check if the water level indicator lights up?	➢ Empty the water tank and reinstall correctly.
		✓ Check the room temperature.	➢ The range of operating temperature is 5-35 ℃.
There is little formation of condensate.		✓ Check the air filter for dirt.	➢ Clean the air filter as necessary.
		✓ Check if the air duct is blocked.	➢ To clear the obstacle.
		✓ Check if the room temperature is below 20℃.	➢ This is normal. Low humidity in low temperature environment.
		✓ Set humidity level is higher than current Humidity value.	➢ Set the humidity level below current humidity value.
Water Leakage		✓ Overflow while moving the unit.	➢ Empty the water tank before transport.
		✓ Check if the drain hose is kinked or bends.	➢ Straighten the hose to avoid a trap existing.
Excessive Noise		✓ Check if the unit is securely positioned.	➢ Place the unit on horizontal and firm ground.
		✓ Check if any loose, vibrating parts.	➢ Secure and tight the parts.
		✓ Noise sounds like water flowing.	➢ Noise comes from flowing refrigerant. This is normal.
Error Codes	E1	✓ Temperature sensor failure	➢ Check connection or replace it.
	E2	✓ Humidity sensor dampened or failure.	➢ To clean or replace the humidity sensor.

11.Maintenance

CLEANING THE AIR FILTER (every two weeks)

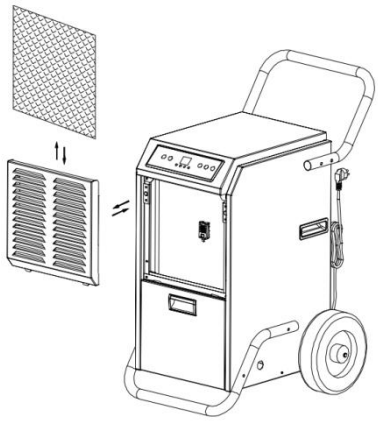
The air filter is removable for easy cleaning. Do not operate the unit without an air filter, or the evaporator may be contaminated.

1.Clean the machine with a soft wet cloth.

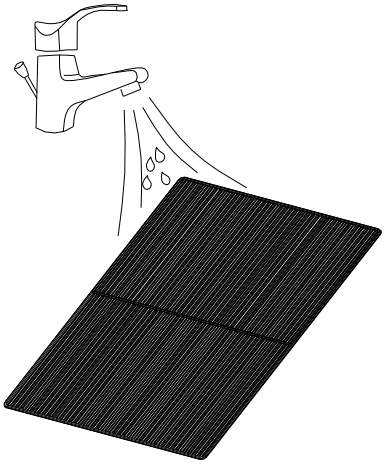
2.Pull out the louver on the front panel to gain access to the filter.

3.Remove the filter mesh from the unit.

4.Use a clean rag to absorb the surface dust on the filter mesh. If the filter is extremely dirty, use tap water to flush the filter. Fully dry the filter before putting it back into the air inlet fence. A clean filter will increase the machine's capacity.



Pic1. Switch off the unit and remove air filter.



Pic2. Rinse the air filter under running water.

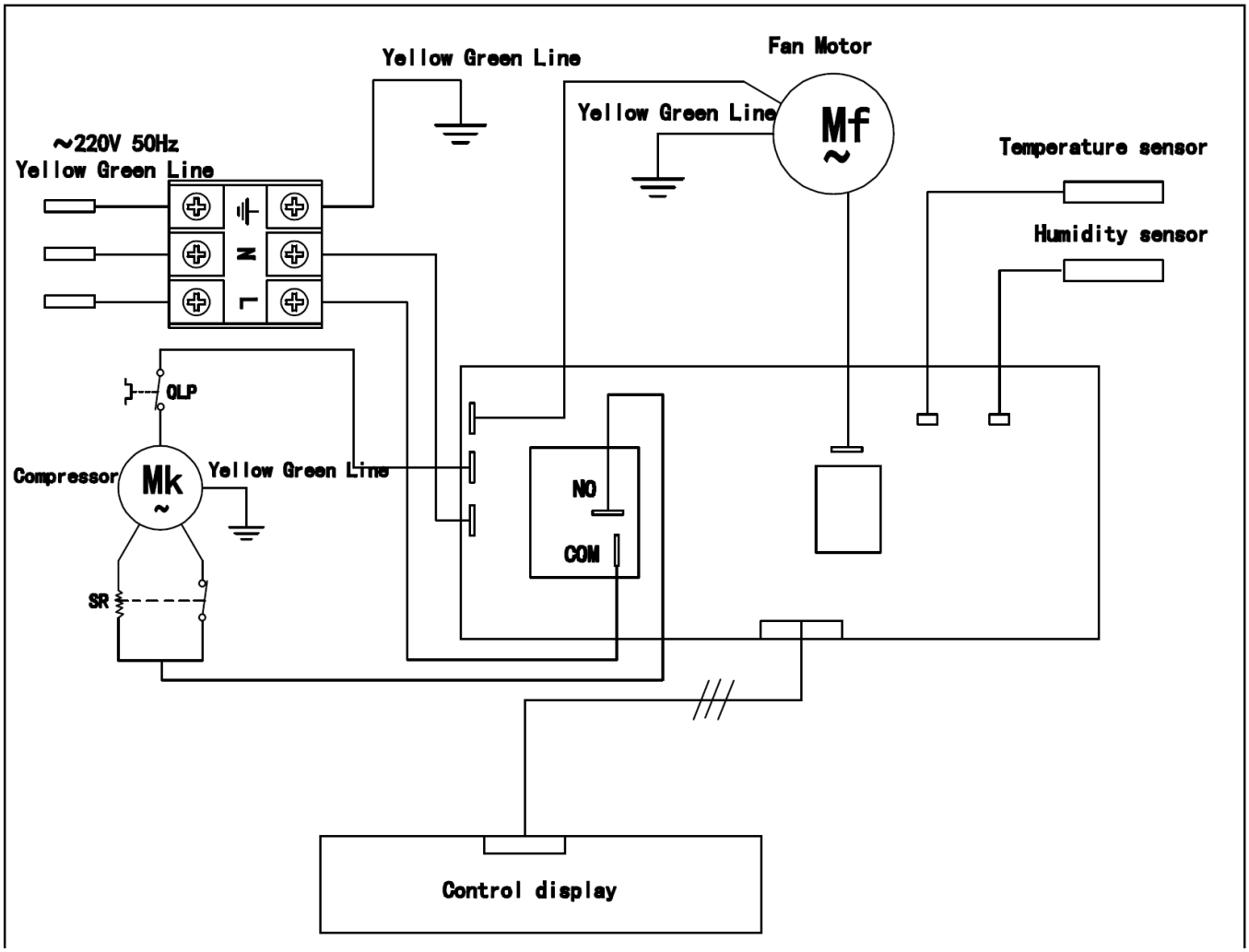
Warning!!!

Do not touch the evaporator surface with bare-hand, or could cause injury of your fingers.

13.Attentions

❊ This machine is suitable for temperature 5℃~35℃, When the machine is operating, please make sure that there is a earth lead.
❊ When moving the machine, to avoid any damage, please do not tilt the dehumidifier more than 45°.
❊ When it is draining off water continuously, please put the drain-pipe in a horizontal position, not higher than the water outlet.
❊ To lengthen the life of the machine, please wait 3 minutes to turn on the machine again after the machine stop working.
❊ Before you repair the machine or wash the machine, please make sure it is not power on and turned off.
❊ Please do not use chemicals、volatile solvent or corrosive solution to wash the machine.
❊ Please do not wash the machine with hot water that higher than 40°, or the plastic surface will fade away and damaged.
❊ Please use soft and clean fabric to dry the machine, if the outside of the machine is dirty, you can use neutral detergent clean and use water to wash it.
❊ To avoid leakage of electricity, please do not wash the machine with water directly.
❊ When the machine is operating, the compressor will produce heat, this is normal situation.
❊ The machine is not Explosion-proof device please do not use it in flammable and combustible place.
❊ When the plug wire damage please call our maintenance crews help or someone who have same qualified person repaired.
❊ Used in dust environment please take measures to prevent the dust.

13.Circuit diagram



TECHNICAL SPECIFICATION

Model	HACD-80B1
Rated Capacity	80L/day (30℃, 80%RH)
	47L/day (27℃, 60%RH)
Power supply	AC220-240V/50Hz
Max power	1100W
Max current	5.1A
Rated input power	950W (27℃, 60%RH)
Rated input current	4.3A (27℃, 60%RH)
Max.Rated input power	1100W (30℃, 80%RH)
Max. Rated input current	5.1A (30℃, 80%RH)
	950W/4.3A (27℃, 60%RH)
Sound pressure level	≤52dB(A)
Water tank capacity	7.0 L
Maximum Refrigerant Charge	R290/250g
Air flow	750 m^3/h
Net weight	38kg
Gross	40kg
Net machine size	89.5*48.5*46.7cm
Packing size	W46.5*L40*H69; W45.5*L40*H11 cm
Maximum suction/exhaust side working pressure	3.2MPa/0.7MPa
Heat exchanger maximum allowable pressure	3.2MPa
Fuse type and rating	T-Type, AC 250V, 3.15A

* Note: Although the unit can be set to very low desired humidity levels, levels below 40% are unlikely to be achievable in most circumstances, and as such acts as the unit being set to run continuously.

FREQUENTLY ASKED QUESTIONS

Why doesn't the dehumidifier seem to extract much water if the temperature is low?

This is a compressor dehumidifier which works best in temperatures above 15°C. If the temperature is low and the air is dryer than the setting on the humidistat the unit will not extract water. If you want to use a dehumidifier for outside buildings, unheated properties, boats or garages please check our desiccant range.

Why doesn't the unit work /or stops suddenly?

The water tank maybe full or displaced. To rectify: empty the tank and carefully place the tank back in the unit. Also the unit maybe running in dehumidifying mode with a low room temperature. Please check if the room temperature is lower than 5°C. If so, the unit will stop working while in dehumidifying mode. (unit may be defrosting).

The ambient operating range is between 5°C and 35°C with a relative humidity ranging from 30% to 80%. For maximum efficiency use the unit between 15°C and 32°C.

Sometimes cold and/or hot air comes out from the air outlet grill, why?

When the unit is in dehumidifying mode it absorbs humid air from room and freezes it to reduce the humidity. During the cold cycle there should be cold air coming out of the unit. During the hot cycle hot dry air should becoming out of the outlet grill.

ENVIRONMENTAL PROTECTION

Disposal: Do not dispose this product as unsorted municipal waste.
Collection of such waste must be handled separately as special treatment is necessary.

Recycling facilities are now available for all customers at which you can deposit your old electrical products. Customers will be able to take any old electrical equipment to participating civic amenity sites run by their local councils. Please remember that this equipment will be further handled during the recycling process, so please be considerate when depositing your equipment. Please contact the local council for details of your local household waste recycling centers.