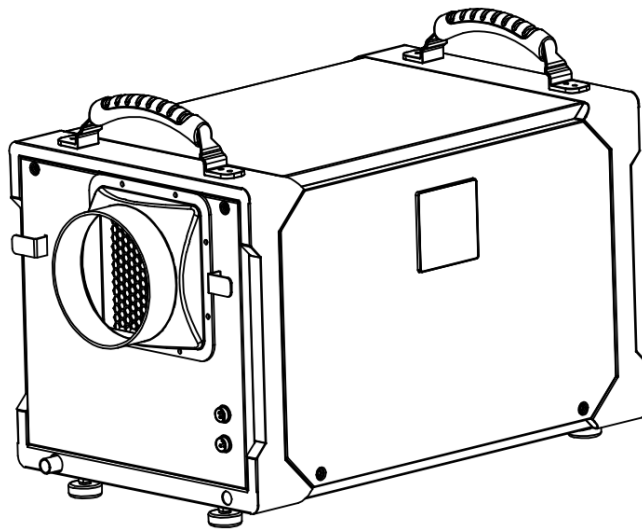


MOISWELL Dehumidifier

User Manual



Model No.: Defender X145

Please read this user manual before operating and save for future reference.

Welcome

Thanks for choosing MOISWELL dehumidifier!

Moiswell is offering high-quality commercial and industrial dehumidifier for sales including in both vertical and horizontal orientations. These commercial dehumidifiers reduce humidity levels quickly, being particularly ideal for excess water removal, high-speed construction drying, water damage restoration tasks. With an onboard humidistat, these commercial dehumidifiers will maintain the room humidity level at the setting level, providing effortless humidity control in warehouses, storage areas, manufacturing plants, office buildings, restaurants, bars, sports facilities, locker rooms, indoor pool and spa environments, marine environments, and other areas that are vulnerable to excessive humidity.

We do hope you'll enjoy the dehumidifier you purchased from us.

Before plugging in your new dehumidifier, we suggest that you read this user manual as it contains important safety information, operation instructions, troubleshooting, maintenance tips, and warranty information to ensure the reliability and longevity of your dehumidifier.

We also kindly ask you to take a few minutes to register your product at www.moiswell.com for more efficient support.

It is our goal that you are always happy with what you bought from us, so please let us know if your buying experience was anything short of excellent.

We're always just an email away

To access customer support, please email to service@moiswell.com with your purchase order ID to help us address the problem faster and serve you better.

Thank you again!

BEFORE FIRST USE


Please leave the dehumidifier sitting outside the box for **24 HOURS** before plugging it in.

The dehumidifiers may have been tilted or placed upside down during shipping. Leave the dehumidifier sitting for **24** hours so the oil in the compressor can settle from the move, not doing so can affect the performance or lifespan of the dehumidifier.

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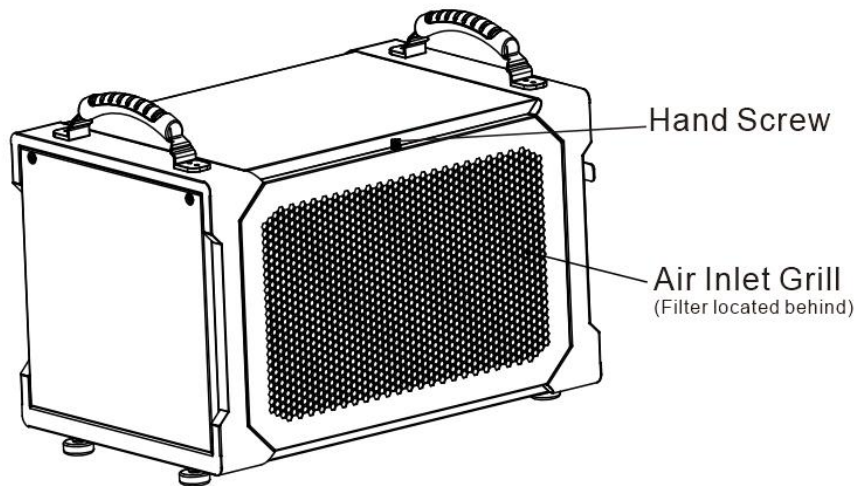
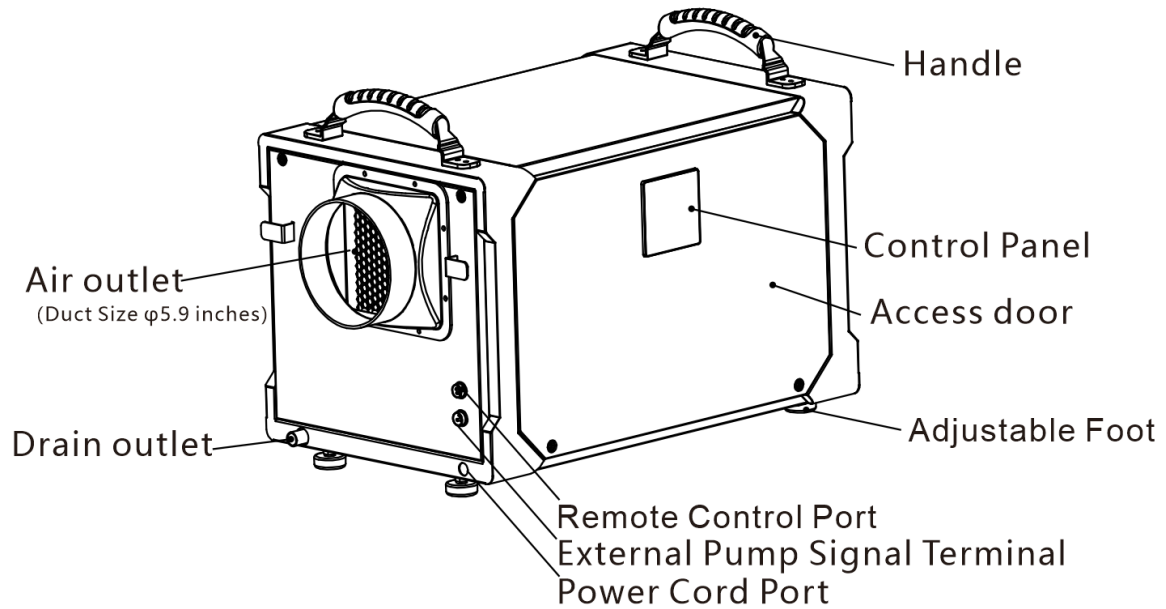
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SAFETY INFORMATION

 To prevent injury and property damage, the following instructions must be followed when using the dehumidifier.

- Install the dehumidifier properly on a floor, table, or shelf that is level and strong enough to support it.
- Do not place or use the dehumidifier near a heater, flammable gas or combustibles, such as gasoline, benzene, thinner; etc.
- Do not operate this dehumidifier with a damaged power cord plug. If the supply cord is damaged, it must be replaced by qualified personnel or other similarly qualified persons in order to avoid hazards.
- Always plug into a grounded outlet properly.
- Do not use the socket if it is loose or damaged.
- Do not place a heavy object on the power cord and make sure that the cord is not compressed.
- Do not modify power cord length.
- Do not operate the dehumidifier with wet hands.
- Never insert your finger or other foreign objects into grills or openings. Take special care to warn children of these dangers.
- Do not place flower vases or other water containers on top of the dehumidifier.
- Do not climb on or sit on the dehumidifier.
- Do not operate or turn off the dehumidifier by plugging in or unplugging the dehumidifier. Use the control panel instead.
- Disconnect the power if strange sounds, odors, or smoke come from the dehumidifier.
- Turn off and disconnect the power when not using the dehumidifier for a long time.
- Make sure to turn off and unplug the dehumidifier before cleaning.
- Use a soft cloth to clean. Do not use wax, thinner; or a strong detergent.
- Do not clean the dehumidifier with water. If water enters the dehumidifier, turn off the dehumidifier immediately.
- Care should be taken when using the dehumidifier in a room with the following persons: infants, children, the elderly and people not sensitive to humidity.
- This dehumidifier is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the dehumidifier by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the dehumidifier.

PARTS IDENTIFICATION



NOTE: DO NOT OBSTRUCT THE AIR INLET OR OUTLET.

OPERATION INSTRUCTIONS

1. Position Your Dehumidifier

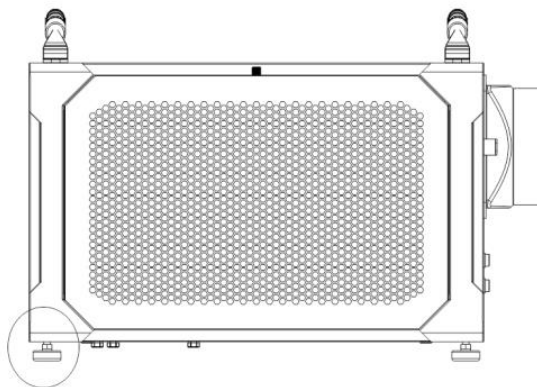
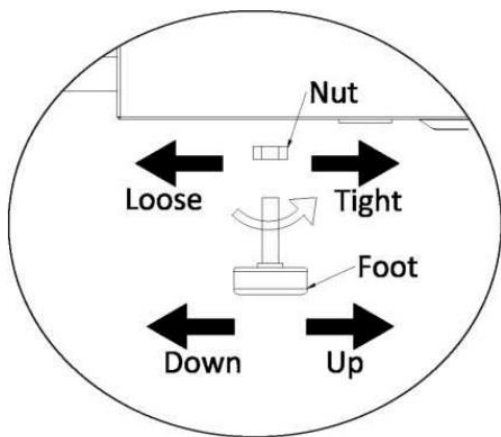
- Install the dehumidifier horizontally to minimize vibration and or noise.
- You can adjust the feet to level the dehumidifier.

To adjust the feet,

- Turn the nut in a clockwise direction to get the nut loosen;
- Turn the foot in a clockwise direction to get the foot down or turn the foot in a counterclockwise direction to get the foot up;
- Turn the nut in a counterclockwise direction to fix the foot.

NOTE:

- For best results, operate your dehumidifiers in an enclosed area.
- Close all doors and windows that open to the outside to maximize water removal efficiency.
- Place your dehumidifier away from obstructions, and keep it away from anything that could block airflow into and out of the unit.



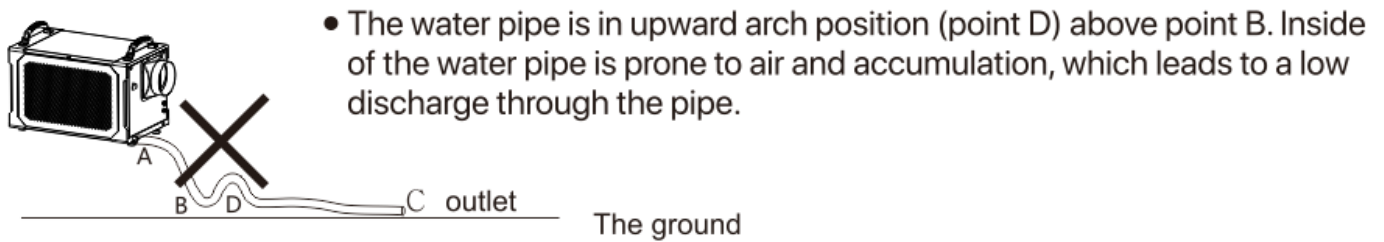
2. Connect the Drain Hose

- Connect the drain hose to the Gravity Drain Outlet;
- Place the unattached end of the hose to a suitable drainage facility.

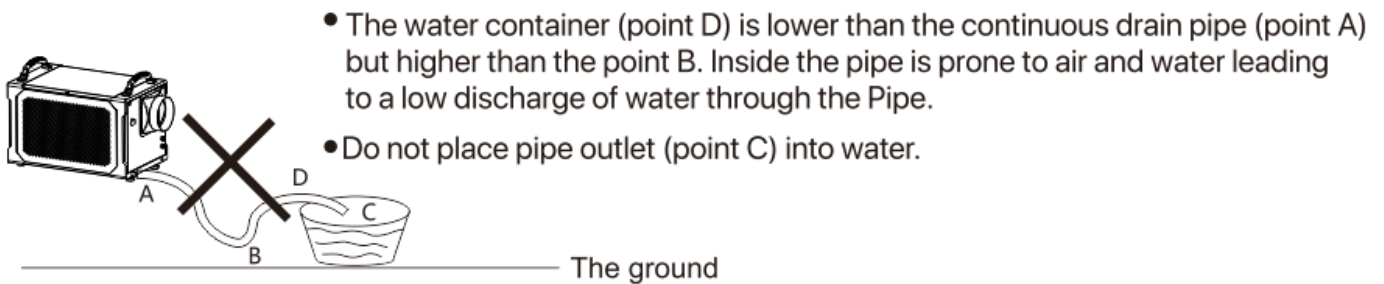
Note: The drainage facility should be lower than the drain outlet of the dehumidifier.

(Ensure there are no kinks or other obstructions that will stop the water to flow.)

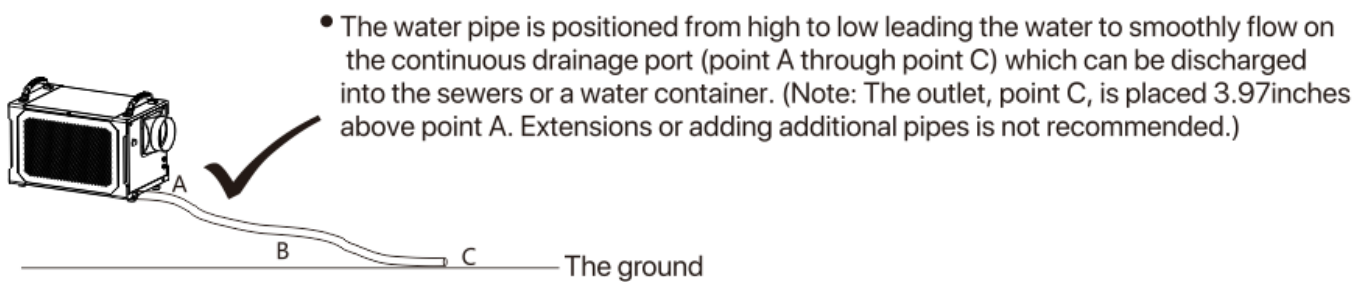
Picture 1: Example of improper installation.



Picture 2: Example of improper installation.



Picture 3: Example of proper installation.



The picture is for reference only.

3. Plug in

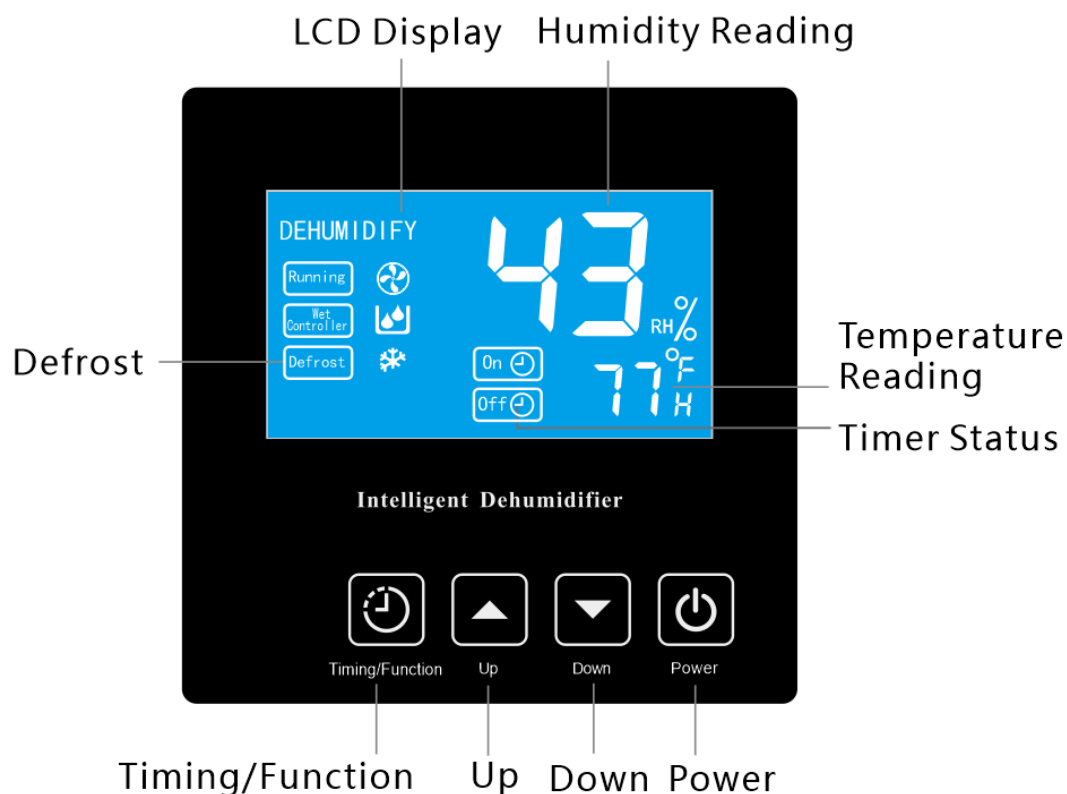
IMPORTANT

Please let the dehumidifier sit outside the box for **24** hours before initial plugging in.

- Uncoil the power cord and plug it firmly into a properly grounded 110-120 volt AC outlet.
- After plugged in, the control panel will light up for 1-2 seconds and then goes off, which is the normal self-diagnose process and does not require any user intervention.

4. Understand the Control Panel

The control panel on the dehumidifier has an LCD screen and 4 buttons. Press the ON/OFF Button to turn the dehumidifier on. The LCD screen will light up and display the readouts as below.



What is on the LCD Screen?

Big Font Digital Number (43 RH% on the above illustration) is humidity percentage reading of the inlet air that the dehumidifier detects which is similar to the room humidity level. When you are pressing the ▲ or ▼ button to set a desired humidity percentage value, the big font digital number will turn to display the setting value and flash.

Small Font Digital Number (77°F on the above illustration) is temperature reading of the inlet air which is similar to the room temperature. However, if the timer function is being set or has been activated, the small font digital number will turn to display the timer setting value or time remaining.


Running **Running Icon** :Running icon flickers typically because the compressor has not kicked in. It usually happens ① when the dehumidifier is under the 3-minute compressor delay status; ② when the dehumidifier is programmed to delay-start (AUTO ON TIMER).

Wet **Wet Controller Icon**: Wet Controller Icon flickers when the room humidity level

(inlet humidity reading) is 3% lower than the set humidity.


When you see the "wet controller" icon illuminating while setting up, it typically means the set humidity level is not 3% lower than the inlet humidity reading. Please make sure the set humidity value is at least 3% (10% recommended) lower than the inlet humidity reading.

In Humidistat Mode, if you see "wet controller" icon illuminating after running the dehumidifier for a while, it means the dehumidifier has got the room humidity down to the set point and the dehumidifier enters into standby mode.

 **Defrosting Icon:** The dehumidifier begins to defrost when the frost has accumulated on the interior of the dehumidifier. When the dehumidifier is defrosting, the fan is running, but the compressor is not, the defrost icon is flashing. The dehumidifying function will cease until the frost has melted. When defrosting is complete, the defrosting Icon will disappear and the dehumidifier begins to dehumidify again automatically.

Note: The frequent defrost process indicates that the room temperature is too cold. Therefore, if the room temperature is lower than 60°F, please consider adding heat to promote proper drying.

 **Fan Icon:** The fan icon illuminates when the fan is running.

 **Water Droplets Icon:** The water droplets icon illuminates when the compressor kicks in, which means the dehumidifier is dehumidifying. When the compressor delays to start due to the 3-minutes delay system, this icon flickers.

 **Timer Icon:** Timer icon illuminates when the timer function is enabled.

Understand the Control Buttons

ON/OFF Button: Press to turn the dehumidifier ON or OFF.

▲ Button: Press ▲ to increase the set-point of humidity level or timer.

▼ Button: Press ▼ to decrease the set-point of humidity level or timer.

Timing/Function Button: Press once to check the settings. Press and hold for 3

seconds to enter Timer setting system.

5. General Operation Instructions

(1) Turn the Dehumidifier On

Press the **ON/OFF** button to turn the dehumidifier on. Typically, the dehumidifier will run in the default setting with set humidity 30%.

(2) Set a Desired Humidity Percentage Value

Press ▲ or ▼ button to set your desired humidity percentage value between 10%-98% in increment of 1 %. 40%-60% is a general humidity setting guide. After selected the target value, press Timing/Function Button to confirm your setting, or let the setting be registered automatically after 5 seconds of no operations on the control panel.

Note:

The dehumidifier with a humidistat will stop and start automatically to maintain room humidity level within a range of $\pm 3\%$ of the set point.

For example, if the set humidity is 50%,

- when the inlet humidity level the dehumidifier detects is 47%, 3% lower than the set humidity, the dehumidifier will automatically stop and enter into "wet controller" mode.
- when the inlet humidity level the dehumidifier detects raises to 53%, 3% higher than the set humidity, it will automatically restart.
- However, if the set humidity level is equal to or lower than 30, the dehumidifier will enter CONTINUOUS MODE where the dehumidifier will run continuously.

(3) Turn the Dehumidifier Off

Press the ON/OFF to turn the dehumidifier off.

Note:

To protect the compressor, the fan will continue to operate for 5 seconds after the dehumidifier has shut off. So please do not disconnect the power cord to force the dehumidifier to stop. Always use the power button.

(4) Water Drainage

During normal operation, this dehumidifier will automatically drain by the force of gravity. If you want to move or store your dehumidifier, wait at least 10 minutes to allow the dehumidifier to completely defrost, then lean the dehumidifier gently towards drain to ensure that it is completely drained.

6. Timer Setting

The TIMER function enables you to either delay AUTO-ON or delay AUTO-OFF the dehumidifier in the choice from 1 hour to 24 hours.

- **Setting an AUTO-ON timer:** When the dehumidifier is off, selecting Timer will turn the dehumidifier on in the hours that will be set.
- **Setting an AUTO-OFF timer:** When the dehumidifier is on, selecting Timer will turn the dehumidifier off in the hours that will be set.

Follow the below steps to set the TIMER:

- Press and hold the Timing/Function Button for about 3 seconds, until you see the TIMER icon lights up and the small font digital number changes into **00 H** and flashes.
- Adjust the timer setting by pressing **▲** or **▼** button repeatedly to change the delay timer at 1-hour increments, up to 24 hours.
- After selected the target timer value, press Timing/Function Button to confirm your setting, or let the setting be registered automatically after 5 seconds of no operations on the control panel.
- The small font readout will count down the time remaining (8,7,6, etc.) until the dehumidifier either starts or stops.
- To disable the timer function, manually turn ON/OFF the dehumidifier, or set the timer to **00 H**.

Note:

- Before entering the AUTO ON TIMER setting, make sure power is being supplied to the dehumidifier.

- For the AUTO ON setting, please turn on the dehumidifier to select a desired humidity level.

Otherwise, the humidity maintained will be the same as the previous setting.

- You can only set AUTO ON timer when the dehumidifier is off or set AUTO OFF timer when the dehumidifier is on, but not be able to set both AUTO ON and AUTO OFF timer at the same time.

- The TIMER will ONLY function one time instead of cycling the dehumidifier on or off indefinitely.

- The TIMER function will be disabled when the dehumidifier has been powered on/off manually.

- Set the timer as 00, the timer function will not be activated.

7. Connect the Dehumidifier to an External Pump to Drain

 **Make sure your dehumidifier is turned off and unplugged before the following operations:**

Run the drain hose from the Gravity Drain Outlet down into the external pump (The drain hose nor the external pump can be above the Gravity Drain Outlet).

NOTE:

- If the pump has a water full signal cable, connect it to the External Pump Terminal on the dehumidifier, then the dehumidifier will auto stop when the pump is full to avoid leakage. However, connecting a water full signal cable is not a must for using an external pump to drain.

- Not all the output signal of the external pump compatible with this dehumidifier.

If the external pump output signal compatible with our dehumidifier

When the pump is full, the dehumidifier stops working and displays E5 and the

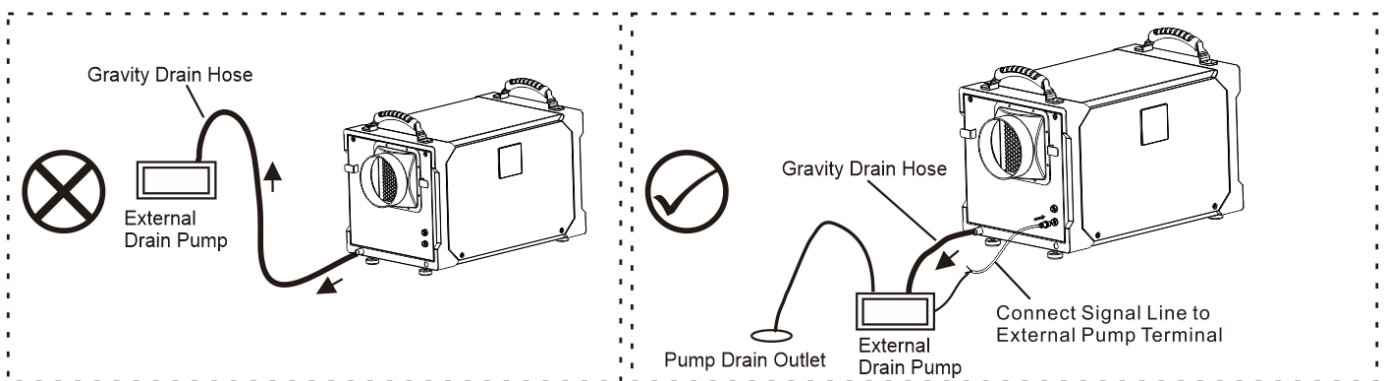
external pump starts to drain the water out. After the pump drained, the dehumidifier will automatically restart.

When the dehumidifier displays an E5 error after confirming the compatibility with the pump signal, it typically because the drain hose or the water pump is blocked. Please turn off the dehumidifier and troubleshoot, and then restart the dehumidifier after troubleshooting.

If the external pump output signal NOT compatible with our dehumidifier

After connecting the output signal cable to the dehumidifier, the dehumidifier does not work and displays an E5 error and the pump does not work, which indicates the external pump output signal is not compatible with our dehumidifier.

In this case, please disconnect the signal cable from the dehumidifier, turn off the dehumidifier and then restart the dehumidifier. The dehumidifier will automatically eliminate the Error code and resume working.



8. Smart Functions

(1) 3 Minutes Compressor Delay Mechanism

To avoid any damage to the dehumidifier, the dehumidifier will not start operation following a complete cycle until after 3 minutes. Operation will automatically start after 3 minutes. In other word, if you turn the dehumidifier off and then restart it immediately, the compressor will not kick in until 3 minutes later. During this period, you can see the RUNNING icon flashing on the LCD screen until the compressor kicks in.

(2) Auto Defrost

When the frost builds up on the evaporator coils, the compressor will cycle off and the fan will continue to run until the frost disappears. When the dehumidifier is defrosting, you can see the DEFROSTING icon light up on the LCD screen.

(3) Auto-Restart

If the dehumidifier shuts off unexpectedly due to power outage, the dehumidifier will restart with the previous function settings automatically when the power resumes.

(4) Temperature Protection Function

When the room temperature is higher than 113°F, the dehumidifier will automatically enter into HIGH-TEMPERATURE PROTECTION SYSTEM where the LCD screen displays an "HH" message and the compressor stops.

When the room temperature is lower than 40°F, the dehumidifier will automatically enter into LOW-TEMPERATURE PROTECTION SYSTEM where the LCD screen displays an "LL" message and the dehumidifier stops working.

Note: When you see HH or LL message under normal circumstances, please contact the customer service at service@moiswell.com to get technical support.

MAINTENANCE



To avoid possible electric shock, ensure to turn the dehumidifier off and disconnect the plug from the power source before performing any cleaning or maintenance.

1. Cleaning the Dehumidifier

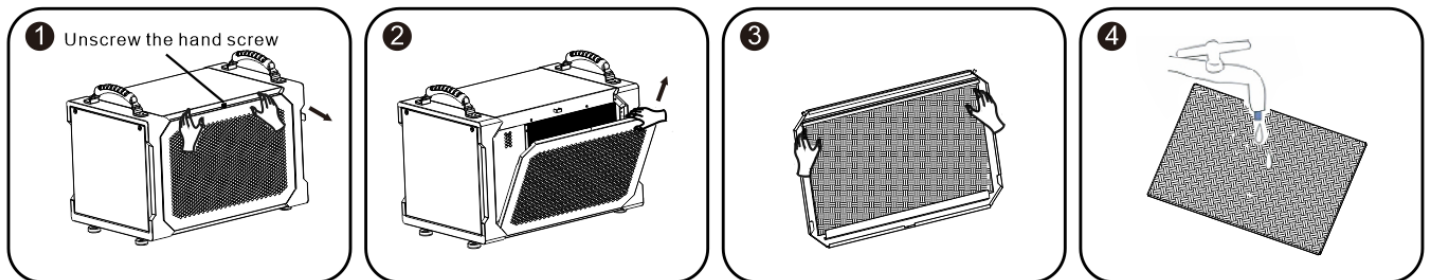
Clean the dehumidifier housing with a soft damp cloth. Do not submerge or place water on the dehumidifier or control panel. Water may damage the electronic components of the dehumidifier. Do not use chemical solvents such as benzene, alcohol, gasoline or other heavy-duty cleaners. The surface may become damaged or deformed.

2. Cleaning the Air Filter

The working performance of the dehumidifier will be greatly reduced if the filter becomes blocked. The air filter should be cleaned approximately every 2 weeks and may require more frequent cleaning if there is significant dander or fur in the air. The air filter is located behind the inlet grill.

Follow the steps below to clean the filter:

- Unscrew the hand screw on the top of the inlet grill, open the inlet grill and take the filter out.
- Use a vacuum cleaner with a soft brush attachment to remove any large debris or dust build-up from the filter.
- Wash the filter in lukewarm, soapy water, below 40°C (104°F), or use a neutral cleaning agent.
- Rinse the filter with clean water and dry thoroughly.
- Re-install the filter.



NOTE: DO NOT operate the dehumidifier without a filter because dirt and lint will clog it, hence reducing performance.

TROUBLESHOOTING

1. Error Codes

No.	Error Code	Error Message
1	E5	External pump is full
2	Ec (Ec)	Display information transmission abnormal

When Ec occurs, the operation of the dehumidifier will not be controlled.

- Press any button on the control panel to eliminate the alarm.
- Turn off the dehumidifier and unplug it to check if any obstructions.
- Restart the dehumidifier 10 minutes later.

If the ERROR code does not disappear after the restart, immediately contact MOISWELL customer service at service@moiswell.com

2. Trouble Shooting





The below chart will help you solve common problems that may occur. If the problem you come across can not be fixed after troubleshooting or the problem is not listed in the below troubleshooting chart, please contact MOISWELL customer service to obtain professional support.

Problem	Possible Cause	Solution
Dehumidifier does not operate	No power to dehumidifier	Plug it into a working outlet
	Not turned on	Turn the dehumidifier on
	Has not set it properly	Make sure the set humidity level is at least 3% lower than the inlet humidity reading
	Error code displays	Contact customer service
Dehumidifier collects little water	Insufficient working time	Allow more working time
	Filter is blocked	Clean filter
	Air inlet or outlet is blocked	Clear the obstructions
	Low ambient temperature	Heat up the room
	Condensate hose is blocked	Check hose for restrictions
Dehumidifier operating, but room not dry	Doors and windows are open	Seal room from external areas
Leak	The dehumidifier is not level.	Verify that the dehumidifier is level
	The drain hose is blocked	Check the drain hose blockages and for a continuous downward slope
Noise	The dehumidifier has not been placed properly.	Place the dehumidifier in a horizontal position
	Filter is blocked	Clean filter
Humidity reading remains at 10 _{RH} %, (far from the actual room humidity)	Humidity sensor failure	Set the target humidity percentage value at 10 _{RH} %, the dehumidifier works normally, which means this failure does not affect the function of this dehumidifier.
		Repair and replace the humidity sensor.
Humidity reading remains at 99 _{RH} %, (far from the actual room humidity)	Water on the surface of the humidity sensor	Please let the dehumidifier work for a period of time, the humidity reading will get normal after the water on the surface of the humidity sensor is evaporated.
	Humidity sensor failure	The dehumidifier works normally, which means this problem does not affect the function of this dehumidifier.
		Repair and replace the humidity sensor.

Note: It is normal that the dehumidifier pulls warm air out.

Parts List

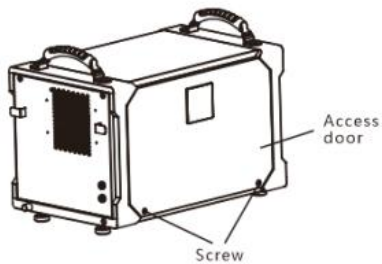
1. Parts List

Picture	Description	Quantity
	Air Outlet Duct Collar (Pack behind the Access Door)	1 pcs
	External Pump Signal Cable	1 pcs
	Drain Hose	1 pcs
	M4 Screws (to install outlet duct collar)	4 pcs

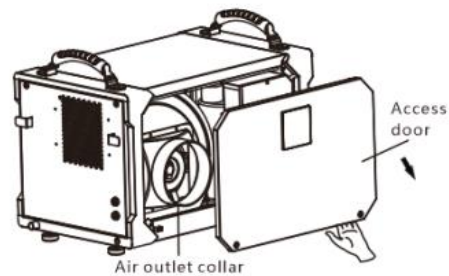
2. Install the Outlet Duct Collar

 **Make sure your dehumidifier is turned off and unplugged before the following operations:**

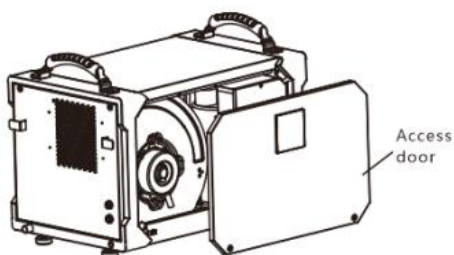
- ① Unscrew the 2 screws on the access door with a Phillips screwdriver.



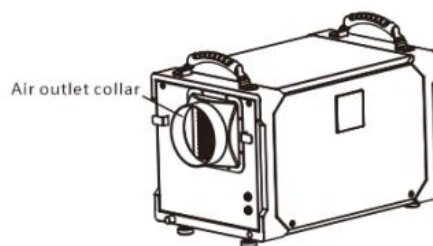
- ② Remove the access door, take the duct collar out.



- ③ Reinstall the access door.



- ④ Install the duct collar to the air outlet with the M4 screws



WARRANTY

MOISWELL warrants to the original purchaser that this MOISWELL product is free from manufacturing defects in material or workmanship for the limited warranty period of:

2 Years Full Warranty (1 year standard + 1 year with registration)

This warranty starts from the date of purchase and covers all parts and labor to repair or replace any part of the product that proves to be defective in materials or workmanship.

5 Years Limited Warranty on Refrigeration System

MOISWELL warrants the refrigeration system, including compressor, condenser and evaporator, that prove to be defective in materials or workmanship, for 5 years from the date of purchase, the labor and shipping fee will be not included after the above full warranty.

The warranty does not apply where damage is caused by other factors, including without limitation:

- normal wear and tear;
- abuse, mishandling, accident, or failure to follow operating instructions;
- exposure to liquid or infiltration of foreign particles;
- servicing or modifications of the product other than by MOISWELL.

This limited warranty is valid only on products purchased from the manufacturer or MOISWELL authorized dealer and operated, installed, and maintained according to the instructions included in this user guide or furnished with the product.

These are our general terms for warranty service, but we always urge our customers to reach out to us with any issue, regardless of warranty terms. If you have an issue with a MOISWELL product, please contact us at service@moiswell.com, and we will do our best to resolve it for you.

Website

www.moiswell.com

Email

service@moiswell.com