



# WatchDog NXT100c



## Installation and Operation Manual

Read These Instructions Carefully Before Proceeding

[www.SeairaGlobal.com](http://www.SeairaGlobal.com)

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# Safety Instructions

**Read these instructions carefully and completely before continuing with the installation.**

## **Warning**

- Install dehumidifier according to all applicable local, state and national codes
- Connect your dehumidifier to a grounded, dedicated electrical connection that is GFCI protected with 15 amp capacity. Do not use an extension cord or plug adapter
  - The use of any other type of electrical connection will void the warranty.
  - Be sure to follow your GFCI manufacturer's maintenance instructions
- Unless otherwise noted, all maintenance should be done with the unit powered off.

## **Caution**

- Do not insert objects or your fingers into the inlet or discharge of the dehumidifier
- Do not use water to clean the exterior of the unit. To clean the unit, unplug the dehumidifier and then use a damp cloth to wipe the exterior.
- Your dehumidifier should only be serviced or repaired by a qualified technician
- Do not stand on the dehumidifier or place objects on it.
- This unit is not designed for swimming pool applications.

# Warranty Registration

Your dehumidifier comes with an extensive warranty. To register your unit, simply fill out and return the warranty form provided in the box, or visit our website.

For future reference, write down the model, serial number and date of purchase. This information is necessary for seeking assistance in the future and can be found on the data label on the side of the unit.

**Model Number:**

**Date Of Purchase:**

**Serial Number:**

# How the Dehumidifier Works

The Watchdog NXT100c is a whole home dehumidifier that can be used in a variety of ways to control the humidity level in your entire home. In the simplest terms, when the humidity level exceeds the setpoint of the humidity controller, the dehumidifier will energize. The internal fan and compressor will turn on, forcing air to be drawn across the evaporator coil, which is cooler than the dewpoint of the air, allowing the coil to remove water from the air and exit via the drain. The air is then reheated as it flows across the condenser coil and distributed back into the conditioned space.

## Dehumidifier Specs

Model	100c
<b>Capacity (80°F / 60%)</b>	100 ppd
<b>Capacity (73°F / 60%)</b>	71.75 ppd
<b>Power Supply</b>	115V / 60Hz / 4.6A
<b>Operating Temperature Range</b>	33 - 105°F
<b>Airflow @0.0"</b>	220 cfm
<b>Airflow @0.2"</b>	185 cfm
<b>Airflow @0.4"</b>	145 cfm

# Basic Set Up – All Applications

## 1. Place the dehumidifier on a level surface.

- a. Do not place unit directly on vapor barrier.
- b. If the unit has been turned or flipped so that the compressor did not remain upright, place the unit on a level surface and wait a minimum of 2 hours before proceeding.

## 2. Duct Collars

- a. Attach duct collars to inlet and outlet of dehumidifier with included screws. While not needed for freestanding installation, they can be used to help reduce the sound level.
- b. Maximum recommended combined duct length (inlet and outlet) is 10'.
- c. Note that for 60 / 85 pint units there will only be 6 screws provided as 2 can be reused from the unit.

## 3. Set up the drain line

- a. Remove the compression nut and slide it over the end of the hose to be attached to the unit.
- b. Slide the side of the hose with compression nut over the insert on the compression fitting completely.
- c. Secure compression nut. \*\*Do not overtighten

## 4. Plug unit into a dedicated 15 amp GFCI protected outlet.

## 5. Auxiliary Terminals (for external devices):

- a. Auxiliary Terminals A5/A6 (Normally Open Accessory)
  - i. The A5/A6 on the terminal strip can be used as a safety switch for an external float switch or condensate pump with Normally Open Contacts.
  - ii. If an E4 error occurs immediately, remove the wires from terminal strip and unplug the dehumidifier. Plug in dehumidifier with nothing attached to terminal strips. If E4 occurs again, contact Seaira Global. If not, see step three.
  - iii. Double check that external device is intended to be Normally Open. You may need to switch to Normally Closed (see below). Note that you may need to unplug the unit to reset the error code.
- b. Auxiliary Terminals A8/A9 (Normally Closed Accessory)
  - i. The A8/A9 on the terminal strip can be used as a safety switch for an external float switch or condensate pump with Normally Closed contacts.
  - ii. Remove the factory installed jumper between A8 and A9 when you connect your accessory.



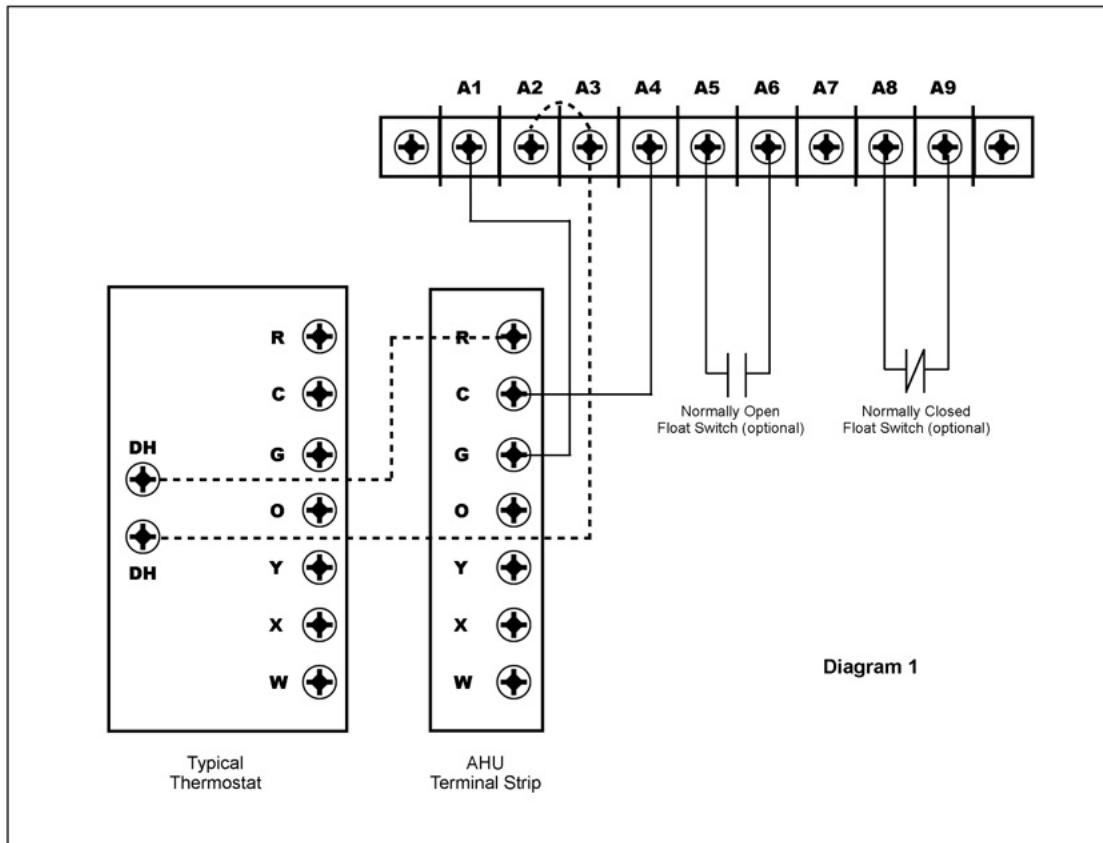
- iii. If an E4 error occurs immediately, remove the wires from terminal strip, unplug the dehumidifier and replace the jumper. Plug in dehumidifier with nothing attached to terminal strips. If E4 occurs again, contact Seaira Global. If not, remove jumper, see step four.
- iv. Double check that external device is intended to be Normally Closed. You may need to switch to Normally Open (see above). Note that you may need to unplug the unit to reset the error code.

## Set Up – HVAC System

This dehumidifier is set up for automatic detection of external controls. It is not necessary to make any adjustments to the dehumidifier display panel or control board. Once connected to the external controls, the dehumidifier buttons will no longer be active.

***NOTE: Check local building codes prior to connecting the dehumidifier to the HVAC system.***

1. Connect controls per diagram below (Diagram 1):



2. A 24VAC input to terminal #3 and #4 from the HVAC controller will turn the machine “on”. The power light on the dehumidifier display will light up and the two character LED display will read “CC” for central control. The unit will run until the HVAC controller has met the desired humidity level.
3. When the humidity level is satisfied, the HVAC controller will remove the external 24VAC supply signal. This will cause the power light on the dehumidifier display to turn off and the 2 character display will now read “--”.
4. If a power outage occurs, the dehumidifier will return to the state it was in and cycle on and off based on the 24VAC external control signal.
5. If desired, the dehumidifier can turn the HVAC fan on. Simply put a jumper on the dehumidifier terminal strip between #3 and #2. Connect terminal #1 back to the HVAC controller as shown above (Diagram 1). The fan will come on whenever the dehumidifier is running.

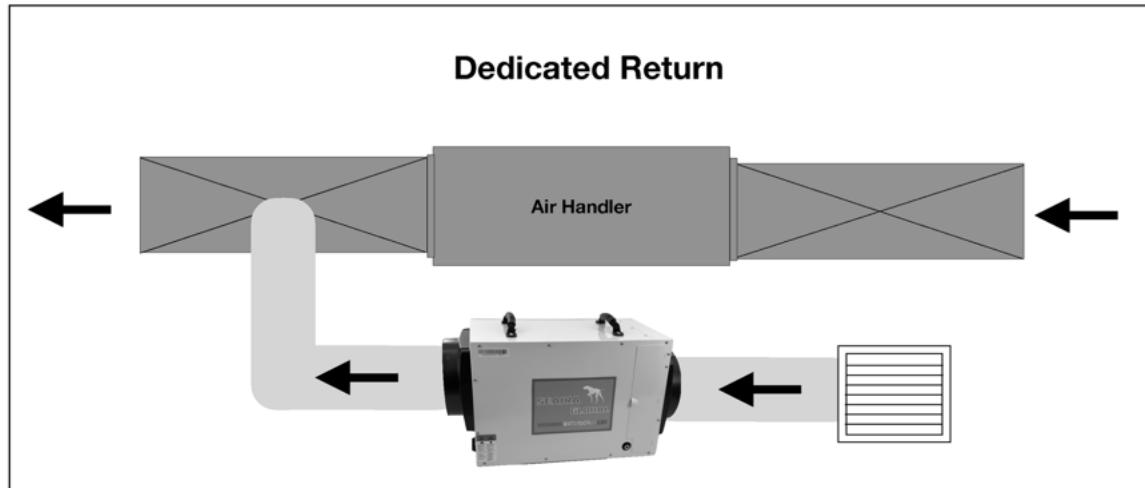
## HVAC Connection Options

### Option #1 - Dedicated Return

In this setup, the dehumidifier is connected to either the supply side or the return side of the air handler (supply side shown).

#### Notes:

- The maximum combined length of ducting for the dehumidifier is 10'.
- Air handler fan should be set up to run while dehumidifier is running

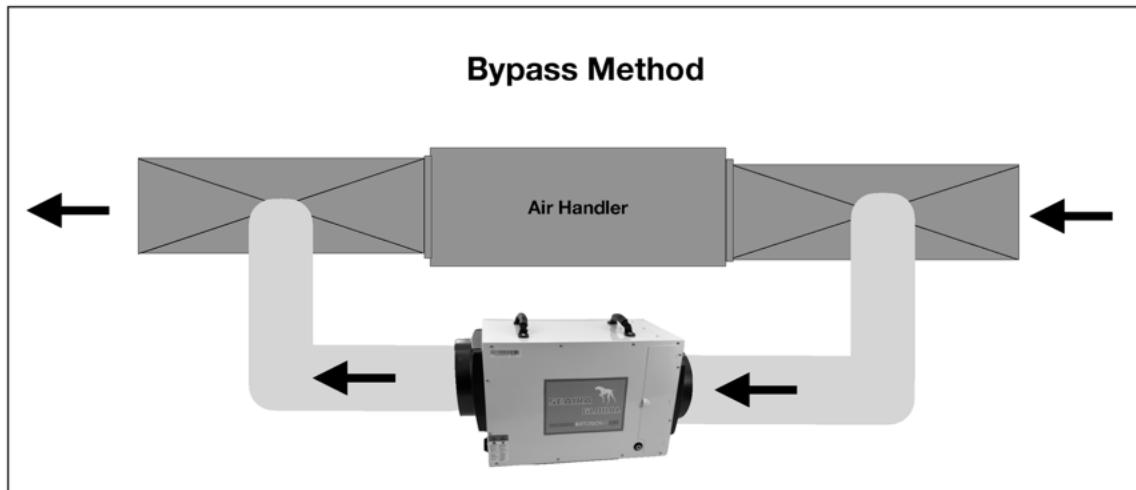


## Option #2- Bypass Method

In this setup, some air bypasses the air handler to be conditioned by the dehumidifier.

### Notes:

- For this method, you may need a damper to prevent backflow.
- The maximum combined length of ducting for the dehumidifier is 10'.
- Air handler fan should be set up to run while dehumidifier is running

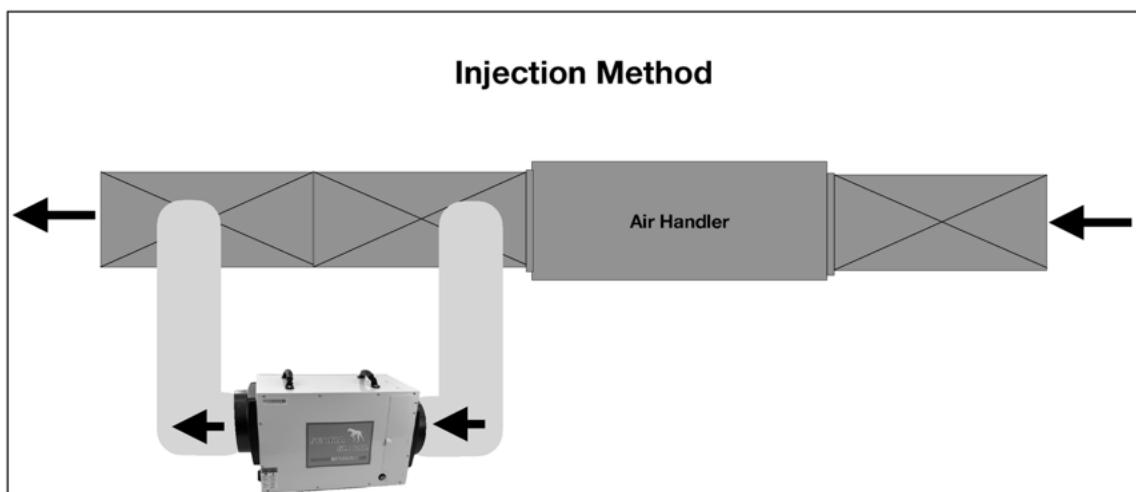


## Option #3- Injection Method

In this setup, both sides of the dehumidifier are connected to the same side of the air handler (either supply or return). With this setup, a damper may be needed to prevent backflow.

### Notes:

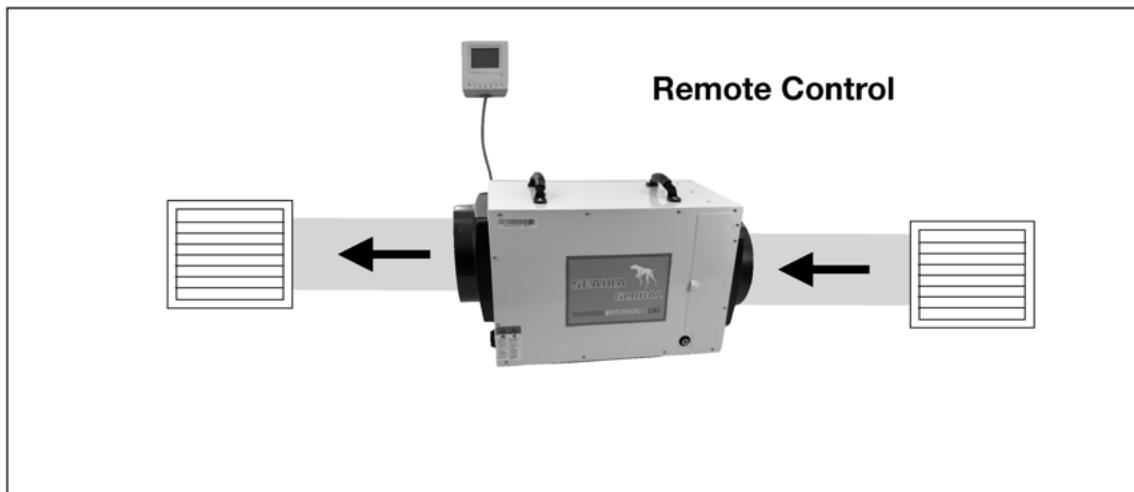
- For this method, you may need a damper to prevent backflow.
- The maximum combined length of ducting for the dehumidifier is 10'.
- Air handler fan should be set up to run while dehumidifier is running



# Set Up – Remote Control System

You also have the option to give the dehumidifier independent ducts when you use a WatchDog Wired Remote (W-100). The remote connects to the CAT 5 port on the dehumidifier, which is located next to the terminal stop. This is useful if:

1. You install the dehumidifier in one room with the conditioned air ducted into a second room that contains the remote.
  - a. For this set-up, select the ducted option using the “M” (mode) button on the remote.
2. You install the dehumidifier in a crawlspace or basement, and would like to control the dehumidifier from a different room.
  - a. For this set-up, select the dehumidifier sensor option using the “M” (mode) button on the remote.



## How to Use a Remote Control

### 1. On / Off Power Button

Press the on/off button and the machine will start running. Press the button again to turn the machine off.

### 2. Up / Down Arrows

Use the Up and Down arrow buttons to adjust the humidity level.

### 3. Mode Button

Use the Mode button to switch between dehumidification and a ducted application.

#### 4. Temperature Button

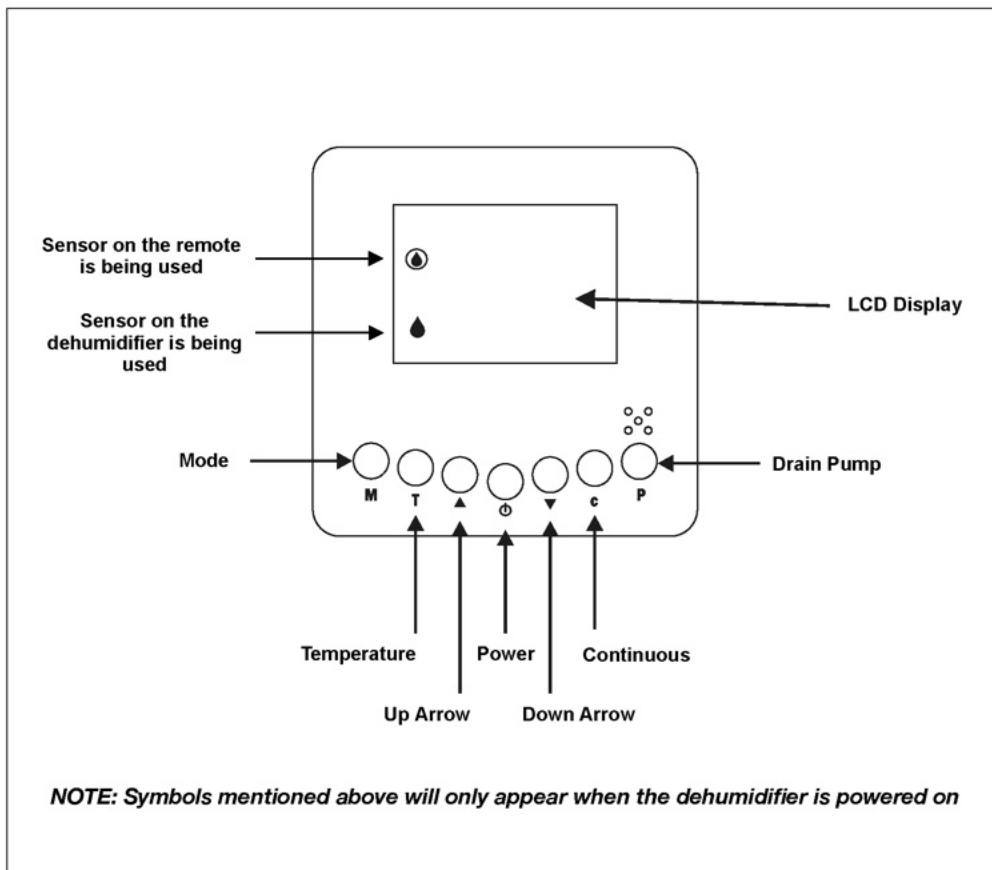
The T button changes the temperature reading on your remote. The remote comes from the factory in Celsius. Press this button once and it will switch to Fahrenheit.

#### 5. Continuous Button

Press this button to switch the unit into continuous mode. "Cont" will appear on the display to indicate continuous mode.

#### 6. Drain Pump

Pressing the drain pump button will remove water from the pump reservoir, so the unit can be safely moved or stored. *THIS FUNCTION IS ONLY AVAILABLE ON PUMP MODEL DEHUMIDIFIERS.*

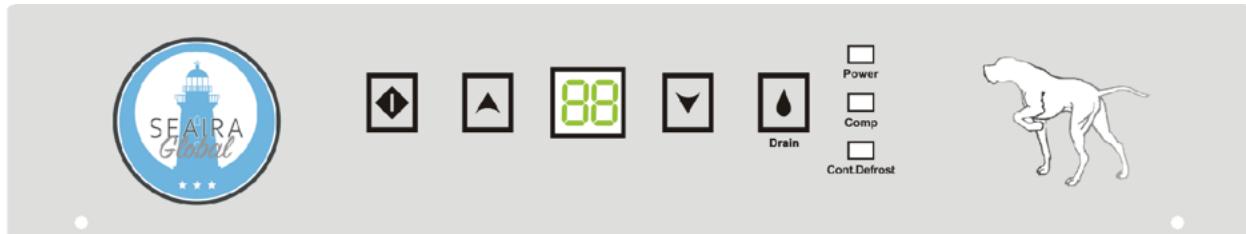


# Set Up - Standalone Installation

It is also possible to use the dehumidifier without any ducting.

## Using the Dehumidifier Display

Note: While connected to the HVAC system, display functions on the dehumidifier will not work.



### 1. Power Key

- Use this button to turn the dehumidifier on and off.
- Press once to turn the machine on. You will hear two beeps and the  light will illuminate green (solid or flashing depending on mode).
- Press the power button a second time and you will hear one beep as the machine shuts down. Note that there is a one minute fan delay.

### 2. Arrow Buttons

- Use the up and down arrows to set the desired humidity setpoint on the  display screen.
- The setpoint can be any number between 36% - 90%. When the indoor humidity is higher than the setpoint, the unit will operate.
- Keep in mind that the displayed humidity levels are approximate (+/- 5%)

### 3. Continuous Mode

- To set the unit to run continuously, regardless of humidity, simply use the down arrow to set the humidity below 36%.
- The continuous light will illuminate green and the display will show "CO".
- To switch back to normal humidistat operation, use the arrow keys to move the setpoint above 36%

### 4. Manual Drain Button

- If you need to store or move your dehumidifier, press the "drain" button to remove water from the pump's reservoir.

### 5. Pump Trouble Warning

- If the pump reservoir level gets too high, the water sensor will activate to prevent overflow.

- b. When this occurs, the compressor will stop automatically, and the display will show "E4". After a 1 minute delay, the fan motor will turn off and the dehumidifier will not operate until the problem has been resolved.
- c. Check to verify that the pump is functioning, then unplug the unit for 2 minutes to reset the error code.

## Indicator Lights on the Display

### 1. Humidity Display Screen

- a. The display screen has two functions:
  - i. When the unit is powered on, it shows the humidity of the space
  - ii. When setting the desired humidity level, the screen will show the set point. After a brief delay, it will revert to the current humidity of the space.

### 2. Power Indicator Light

- a. This light indicates that the unit is properly powered on and ready to operate.
- b. Always make sure the unit is "off" prior to performing any service, unless otherwise indicated.
- c. If the humidity is above the setpoint, the light will be solid green and the machine will operate.
- d. If the humidity is below the setpoint, the unit will be in standby mode and the light will be flashing.

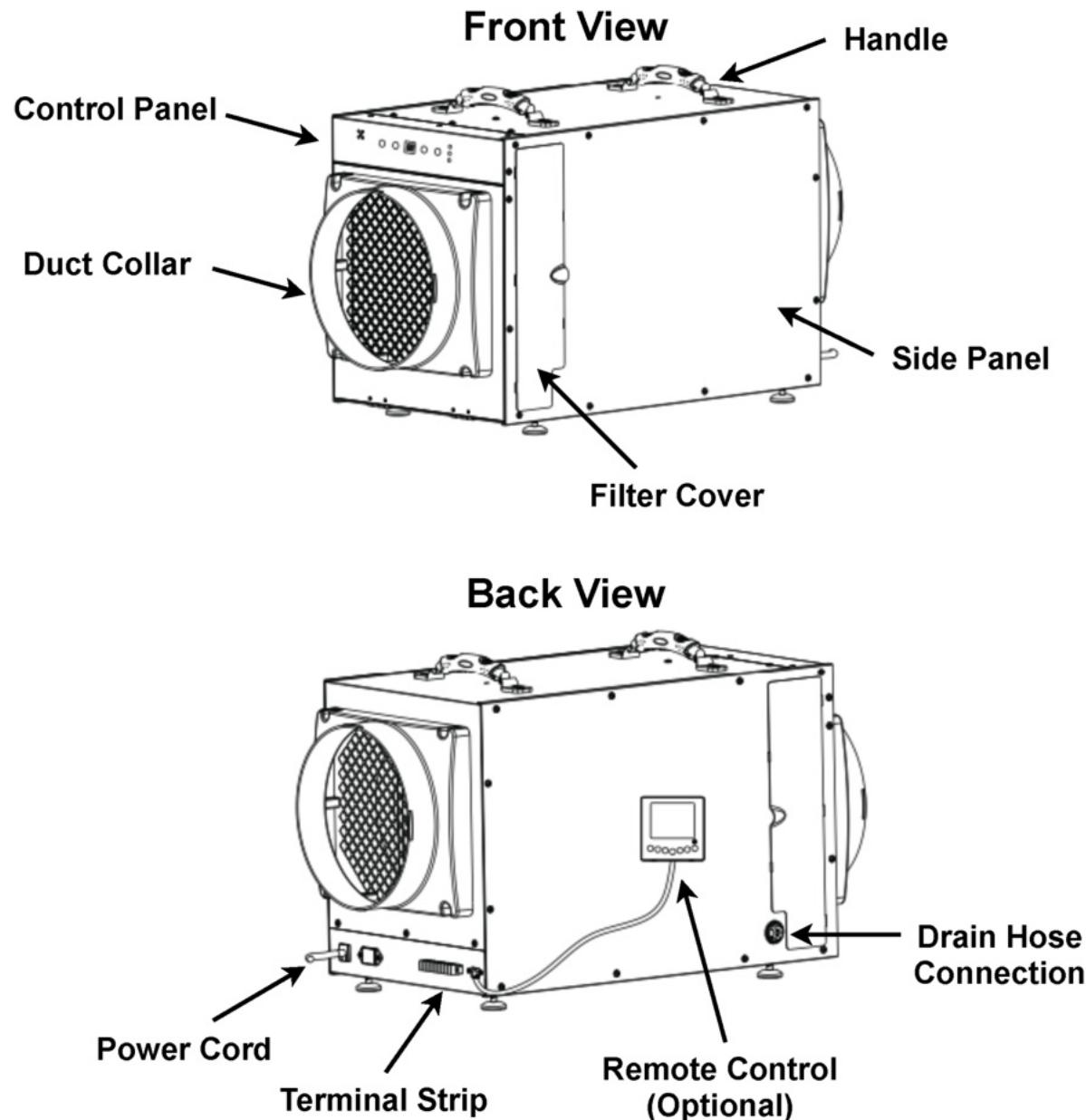
### 3. Continuous Mode / Auto Defrost Light

- a. When the light illuminates green, it indicates that the dehumidifier is set to continuous operation mode.
- b. When the light illuminates red, it means the unit is in auto defrost mode and clearing the evaporator coils of any ice buildup.

### 4. Compressor Light

- a. When the light illuminates red, it indicates the compressor has been initiated but is currently warming up.
- b. Once the light switches to green, it means the compressor is currently in working status.

# Unit Diagram



# Maintenance

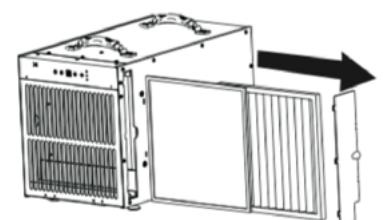
**Warning: Always unplug the dehumidifier before performing any maintenance.**

## Cleaning Exterior Shell

Use a soft damp cloth to clean the exterior of the unit. Do not use any soap or solvents

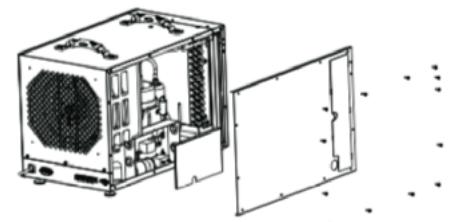
## Coil Maintenance

At least once per year, spray the coils with an approved coil clean. The coil cleaner should be a self-rinsing, foaming cleaner, such as WEB® Coil Cleaner.



## Filter Maintenance

1. Prefilter: Vacuum or wash with warm water (no soap)
2. MERV-10 / HEPA / Carbon: Check at least once per year and replace, as needed



## Electrical Access

1. Remove the screws on the side panel
2. Remove the screw on the control board cover

## Pump Maintenance

Your dehumidifier is equipped with an integral condensate pump designed to pump water from the dehumidifier out to the desired drain. **The pump requires routine maintenance that is not covered by the warranty.**

Preventative maintenance is necessary to prevent issues from dirt and slime that may accumulate in the drain system. This includes the drain pan, hose to the condensate pump, pump reservoir, pump head assembly, and discharge tubing.

## Basic Pump Cleaning

*Complete about once per year, depending on the environment.*

1. Remove the filter(s) from inlet of unit. Remove screws on front grill, so it hinges down and you can access drain tray. Press the drain button to drain the reservoir.
2. Disconnect power to the dehumidifier.
3. Mix a 16 ounce solution of bleach (1 oz bleach + 15 oz water) or vinegar (4 oz white vinegar + 12 ounce water).

4. Pour the cleaning solution into the drain tray at the base of the coils. If any cleaning solution gets on the coils, flush with water.
5. Allow solution to soak for 15 minutes.
6. Reconnect dehumidifier to power.
7. Fill the reservoir with 16 ounces of water and flush/cycle the pump at least twice.
8. If the drain line is still filled with debris, repeat process. If drain line still does not appear clean, move on to Advanced Cleaning.

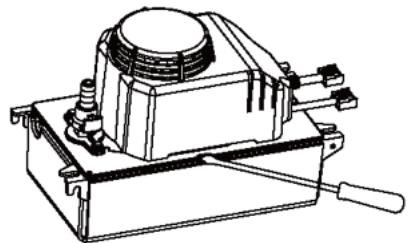
## **Advanced Pump Cleaning**

*Complete as needed*

1. Press the drain button to drain the water from the reservoir.
2. Unplug the dehumidifier and remove the side panel so you have access to the pump.
3. Remove the pump head from the reservoir by unscrewing the screw(s). See below for details.
4. Wipe reservoir clean with paper towels.
5. Reassemble the pump.
6. Repeat steps 3-8 from basic pump cleaning.

## **Removing the Pump**

1. Remove the 13 screws on the side panel and set panel aside.
2. Remove the screw(s) holding the pump in place.
3. Undo the 3 pump electrical quick connects and 1 drain quick connect.
4. Insert a flat head screwdriver into the notch on the side of the pump. This will allow you to gently lift the pump off its reservoir (the reservoir remains attached to the unit).



# Troubleshooting

Symptom	Cause	Solution
<b>Display is Blank</b>	Poor Connection	Make sure power cord is plugged in
	Power Outage	Reset power
<b>No Airflow</b>	Filter is Dirty	Clean the filter(s)
	Air Inlet or Outlet is Blocked	Clear the blockage
<b>E1 Error Code</b>	Humidity Sensor or Communication Error	Check that the sensor wire is connected at both ends. If no issue, the sensor may be faulty
<b>E4 Error Code</b>	Problem with Pump	Verify that the pump is properly installed and functioning. If so, unplug the unit for 2 minutes, then restart.
<b>LO Error Code</b>	Room Temperature is below 33°F	Increase room temperature so it's within operating range. If issue persists, check the sensor
<b>HI Error Code</b>	Room Temperature is above 105°F	Decrease the room temperature so it's within operating range. If issue persists, check the sensor
<b>Tripped GFCI Outlet or Breaker</b>	Not a Dedicated Circuit	Identify all sources connected to outlet and confirm source of trip. If it is dehumidifier, contact technical support. If not, move dehumidifier to dedicated circuit for future use.
	Defective GFCI	Replace outlet
	Dirt, Dust, or Moisture on Outlet	Clean or replace outlet
	Lightning or External Electrical Surge	Reset or replace breaker/GFCI, as needed

# Warranty

*All warranty benefits apply to the original owner only. Warranty cannot be transferred or assigned.*

**5 Years (From Date of Purchase):** Seaira Global warrants the dehumidifier will operate free of defects in workmanship and materials. At its discretion, Seaira Global will repair or replace any malfunctioning components, free of charge (excluding transportation costs)

**Customer Responsibilities:** In order to take advantage of the warranty service, the customer must do the following:

1. Customer must provide normal care and maintenance (including, but not limited to cleaning filters, coils and pumps)
2. Removal and re-installation of unit is the sole responsibility of owner.
3. If customer cannot return unit to Seaira Global, all costs associated with shipment are borne by the customer. In addition, all ancillary charges related to shipments, including but not limited to palletizing, wrapping, labeling, and pickup are associated with customer.
4. If shipped, customer is responsible for all risk of loss or damage.

## **Warranty Procedure:**

1. Customer must mail in warranty registration card to Seaira Global. If no card is submitted, warranty period will begin the day the shipment left the warehouse.
2. If warranty service is necessary, customer must contact Seaira Global Tech Support by phone 910-660-0962 to receive a Return Authorization (RA) number.
3. Once an RA has been issued, it is the customer's job to bring the unit to Seaira Global. If this is not an option, shipping will be arranged to bring the unit back to the Seaira warehouse (at the expense of the customer).
4. After the unit has been received by Seaira Global, an initial inspection will be completed, if it is determined to be an invalid warranty claim (see exclusions below), unit will only be completed after receiving payment from customer for all associated costs.
5. If unit is defective, the necessary parts will be repaired or replaced and the unit will be available for pickup at Seaira Global or returned via shipment (at customer's expense). Keep in mind that work is only done during normal working hours. After being repaired, all units are required to go through a rigorous testing process prior to being returned to customer.
6. Once a part is repaired and the dehumidifier is returned, the original warranty period still applies (no extensions).

**EXCLUSIONS:**

DAMAGE DUE TO THE FOLLOWING IS NOT covered under warranty 1. Acts of Nature- including but not limited to:

- flooding
- fire
- water damage
- hurricane/storm damage

**2. IMPROPER USAGE- Including but not limited to:**

- pool/spa/tub applications
- misuse, abuse, or tampering whether intentional or accidental
- improper installation or design
- improper voltage
- lack of normal care
- failure to follow instructions

**3. Corrosion****4. Freezing****5. any additional costs due to changes in laws or building codes****6. freight charges****7. any costs due to lost profit or delay****8. damage to property****9. cause beyond control****10. consumable parts, including but not limited to:**

- filters
- batteries
- power cords
- valves
- switches
- rubber parts

**11. Applicable law and venue**

ALL ASPECTS OF THIS AGREEMENT SHALL BE INTERPRETED BY AND UNDER THE LAWS OF THE STATE OF NORTH CAROLINA. ANY LITIGATION, ENFORCEMENT OF ARBITRATION, OR LITIGATION RELATED TO SHALL BE BROUGHT IN THE APPROPRIATE COURT IN NEW HANOVER COUNTY, NORTH CAROLINA.

**12. direct, indirect, collateral or inconsequential damages of any kind**

THE WARRANTIES AND LIABILITIES SET FORTH ARE IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, IN LAW OR IN FACT, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE. SEAIRA Global's total liability, regardless of nature of claim shall not exceed original purchase price of the product. If a product or component is replaced while under warranty, the applicable warranty period shall not be extended beyond the original warranty time period.

The foregoing shall constitute the total liability of seller in the case of defective performance of all or any of the equipment or services provided to Buyer. Buyer agrees to accept and hereby accepts the foregoing as the sole and exclusive remedy for any breach or alleged breach of warranty by Seller.

Any dishonesty or fraud in connection with SEAIRA GLOBAL warranty thoroughly voids all warranty policies. SEAIRA Global expressly reserves the right to pursue legal action in the event of dishonesty, fraud, or attempted fraud.