SEAIRA Global

The WATCHDOG 900c

Quick Start Guide

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WatchDog 900c Quick Start Guide

- Prepare Crawl Space for Installation
- Tips for Dehumidifier Installation
- Operating Instructions
- Benefits of a Dehumidifier
- Common Terms
- Parts Diagram
- Trouble Shooting
- Submit Warranty
- Additional Resources

While you're waiting for your new dehumidifier to arrive, here are a few topics to keep in mind.

How to Prepare Your Crawl Space for Installation

If you decide to install your dehumidifier in a crawl space, there are a few steps you need to take prior to installation.

1. First, you will need clean out any debris that may be cluttering up the crawl space. This will make sure that there are no hidden problems such as cracks in the foundation. It will also ensure that the vapor barrier can be installed properly. In addition, cleaning out any unnecessary items will make it much easier to move around in the crawl space. Being able to move around more easily is useful for a hassle free installation, as well as for future maintenance that may need to be done.

2. After the crawl space is clear, you will need to inspect it for any potential issues so they can be fixed prior to installation. For instance, you may notice signs of pests or rodents in the crawl space. The crawl space could also show signs of structural issues, such as damaged floor joists or girders. Most importantly, you need to ensure that all signs of excess moisture are taken care of. This could be anything from puddles of water to leaking pipes.

   If not taken care of prior to installation, these issues could prevent your dehumidifier from running effectively. Consequently, if you discover any problems be sure to either repair them yourself or call the necessary people to take care of them.

3. Once the issues have been repaired, it's time to seal the openings in the crawl space. If your crawl space is not sealed properly, your new dehumidifier will never be effective. Everything from the ceiling to foundation vents needs to be properly sealed. To quickly test if your crawl space is completely sealed, complete the following test. First, close the access door, and then turn of all of the lights. Once that is done, check to make sure that no light is coming into the crawl space.

4. The final step in preparing your crawl space is to install the vapor barrier. A vapor barrier is a heavy duty plastic sheeting used to keep moisture out of the crawl space. Having a vapor barrier also makes it easier to move around in the crawl space. If you want a vapor barrier that works effectively, be sure to use polyethylene that is at least 10 mil. thick. Furthermore, be sure to overlap the seams by at least 12 inches and seal all joints with adhesive during installation.

Tips for Dehumidifier Installation

To help make dehumidifier installation hassle free, here are a few tips to keep in mind.

1. As we discussed earlier, it's important to prep your crawl space prior to installation. It's much easier to fix the problems now rather than let them get worse. If you need a refresher, refer back to the crawl space prep section.

2. After the crawl space is prepared, it's time to decide what area of the crawl space is best for the dehumidifier. You will need access to a 115V, 60Hz, 3-Prong GFI outlet with a 15 amp time delay fuse or circuit breaker. It's helpful to place it somewhere easily accessible to make routine maintenance easier. Another important factor is set up for the drainage system. The 900c can't sit directly on the ground unless the unit is feeding directly into a sump pump next to it. Elevation is required for water to flow through the gravity drain.

3. Once you've located the perfect spot, you need to create a base for the dehumidifier. This could be anything from a level pad to blocks, as long as it's a stable mounting location.

4. Now that you have the base set up, you can finally add the machine. Carefully bring in the dehumidifier and set it on top of the base. Make sure that the dehumidifier is level before proceeding.

5. After the dehumidifier is level, you need to direct the exhaust outlet into the desired location. Typically, you will want to choose the longest, unobstructed dimension in the crawl space.

6. At this point, you can set up the drain line. The drain line attaches to the unit via a compression type fitting on the discharge end of the unit. To attach the drain line, remove the compression nut and slide it over the end of the hose to be attached to the unit. Slide the compression nut side of the hose over the insert on the compression fitting completely. Tighten compression fitting.

7. That's it for installation, now you're ready to plug in your machine and turn it on! Prior to leaving the crawl space, don't forget to check the unit's serial number so you can activate your dehumidifiers warranty.

Operating Instructions

Turning the Unit On/Off

- To turn the dehumidifier on, press the power button. You will hear one beep as the machine starts to run. In addition, the Power light will illuminate red.
- Once running, the power light will illuminate red.
- To turn the unit off, press the power button again. You will hear a single beep as the machine begins to shut down process. Keep in mind that there is a one minute fan delay after shut down.

Adjusting the Settings

Humidity Level

- To adjust the humidity level, use the up arrow and the down arrow buttons until the desired level is displayed on your screen. The dehumidifier can be set anywhere between 35%-90%. The typical set point is between 50% and 55% humidity.
- Creating a desired humidity set point means that when the indoor humidity is higher than the set level, the unit will operate.

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Benefits of a Dehumidifier

Now that you've purchased a dehumidifier, you will be able to eliminate many of the problems that have been plaguing your home. Here are just a few benefits that you can look forward to:

- *Pleasant Air Quality*

Although your dehumidifier will be located in the crawl space, it will affect the air quality in your entire home. See, the moisture in your crawl space mixes with the air and naturally rises upwards through a process called the "Stack Effect". This means that all of the moist humid, air in the crawl space is spread throughout your entire home.

Adding a dehumidifier will help reduce humidity in the crawl space, thus affecting your entire home. Once you install your dehumidifier, you won't have to deal with a muggy, uncomfortable living environment.

- *Healthier Environment*

Not only is high humidity uncomfortable, but it can also be harmful to your health. Living in a humid home can lead to serious health issues, especially when mold and mildew develop. Furthermore, high humidity can exacerbate current medical issues, such as asthma or allergies.

- *Eliminate Mold*

A humid crawl space is the perfect environment for mold and mildew to spread. Mold spores spread through damp, moist areas so if you can eliminate the moisture, you can eliminate the mold. Using your new dehumidifier in the crawl space is the perfect way to remove moisture and maintain environment.

• *Deter Pests*

Excess moisture and humidity is also very enticing to pests and bugs since they need moisture to survive. So, for instance, if there are puddles on the ground or moisture in the sub-flooring, your home will attract all sorts of pests from termites to cockroaches. By installing your dehumidifier, you can dry out the environment and discourage them in the future.

• *Preserving your Home*

Another big advantage of installing a crawl space dehumidifier is protecting your home from damage. Long period of high humidity plus the damage from mold and pests can be very damaging for your home. Everything from the foundation to walls can begin to show signs of wear and damage.

Pints Per Day is the volume (in pints) of moisture extracted from the air daily by your dehumidifier.

Vapor Barrier:

A vapor barrier is a thin layer of impermeable material, typically polyethylene sheeting, included in building construction to prevent moisture from damaging the foundation of the building. Vapor barriers are used in crawlspaces to prevent moisture in the ground from seeping back into the space once the dehumidifier has removed it.

Gravity Drain:

A dehumidifier with a gravity drain uses gravity to move water through the drain line to an acceptable area for drainage out of the crawl space. In order for a gravity drain to work effectively, the drain tube must be set up properly on a downward slope with no kinks or twists.

Condensate Pump:
A dehumidifier with a built-in condensate pump pumps the condensate (water) from the dehumidifier to an acceptable area for drainage outside of the crawl space. Condensate pumps turn on intermittently depending on the water level in the pump reservoir. As the water rises in the reservoir, it raises a float switch which energizes the pump. The pump will then run until the level of water in the reservoir is substantially lowered. It is important to note that a condensate pump is a mechanical device and will require yearly maintenance to ensure it is functioning properly.

Condensate Pump Lift:
Condensate Pump Lift describes how high the condensate pump is capable of moving water. For instance, the Watchdog 900c has a 15-foot condensate pump lift.

Set Point:
Set point is the desired value in a closed-loop feedback system. When using a dehumidifier, you choose humidity set point, which is the desired humidity level you wish to maintain in the area.

Stack Effect:
Stack Effect describes the the process of humid air entering your crawlspace and rising up throughout your home. As the warm air rises and escapes through your roof, it creates a vacuum. The warm air is then replaced with cool air. This is considered the natural airflow pattern of your home. As the air from the crawlspace is drawn up into your home it brings moisture and all of it's harmful side effects with it.

Coils (Evaporator and Condenser):
The condenser coil condenses the refrigerant from its gaseous to its liquid state by cooling it. This then moves into the evaporator coil where the refrigerant evaporates as it absorbs heat from the indoor air passing over it. The evaporator coil is the one you can see on your dehumidifier that is cool and wet to the touch.

Inlet Filter:
The inlet protects the evaporator coil from dirt and debris as the air is being pulled into the dehumidifier to be conditioned. All Seaira Global dehumidifiers have a filter that protects the coils. The Watchdog 900 and 900c come standard with a washable prefilter. The Watchdog 550 comes standard with a Merv8 filter, which is also available for the Watchdog 900 series. All Watchdog dehumidifiers can also be upgraded to HEPA filters or carbon filters.

Relative Humidity (RH) Sensor:
The RH sensor reads the relative humidity of the space within +/- 5% to determine when your dehumidifier needs to run.

Supply Duct Collar:
The black collar on the side of your unit is the supply duct collar. You can attach flexible 6" tubing to this collar and blow the warm conditioned air to any place you would like. For example, if you have an area of your crawlspace that tends to be damp and is cut off from the rest of your crawlspace by your HVAC system, you can attach the flexible duct and run it over to that closed off area to help dry it out.

Drain Line:

The drain line is how the water is moved out of the unit and into the drain system. The Watchdog 550 and Watchdog 900 both have 12" of drain line for the water to flow from the drain tray to the system you or your installer has put in place to move the water out of your crawlspace. The Watchdog 900c has 20 feet of drain line to move the water away from the dehumidifier using the condensate pump.

MERV:
MERV stands for Minimum Efficiency Reporting Value. A MERV rating varies from 1-16. The higher the value, the more efficient the filter will be in trapping airborne particles.

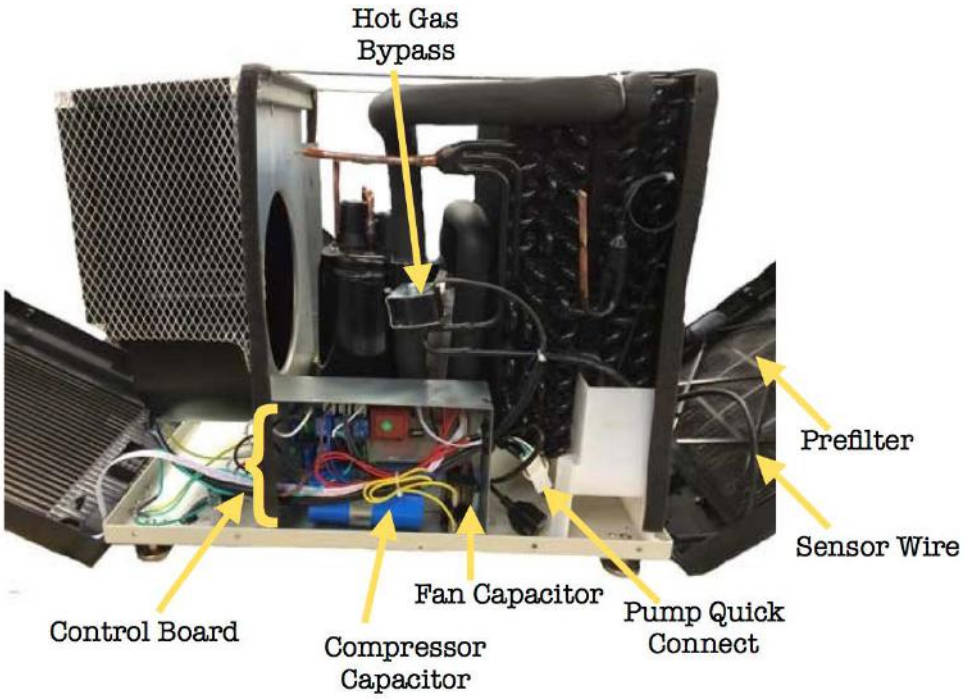
MERV8 Filter:
A MERV8 filter is capable of trapping airborne particles in the 3.0-10.0 pm size. The disposable filters have an extended surface area and are made with a thick cotton-polyester blend media.

HEPA Filter:
HEPA filters are also known as high-efficiency particulate air filter. To qualify as a HEPA filter, it must remove 99.97% of particles that have a size of 0.3 micrometers. The filters are composed of a mat of randomly arranged fibers that are typically composed of fiberglass. HEPA filters are commonly marketed in HVAC systems for people with allergies.

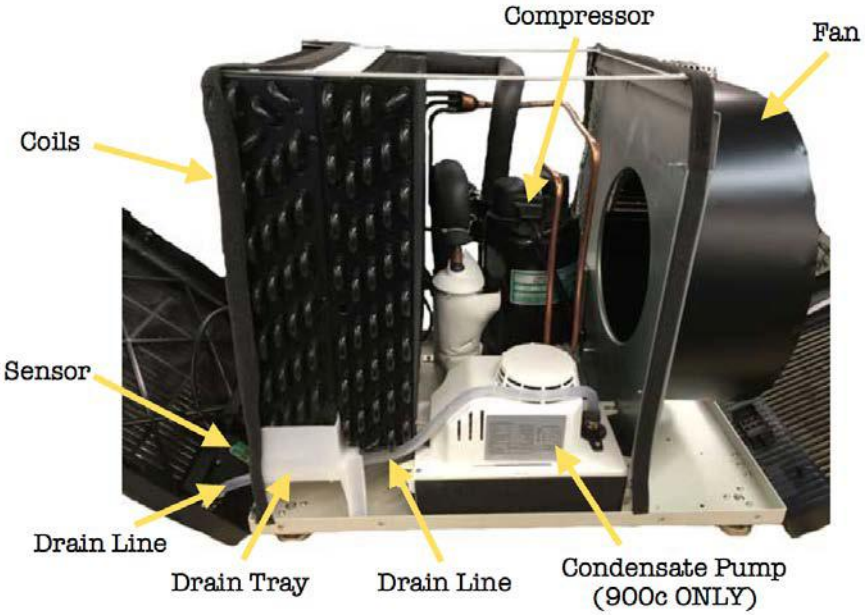
Carbon Filter:
Carbon filters, also known as activated carbon filters, aid in odor removal. The activated carbon attracts and removes odor molecules by trapping the molecules in the pores of the activated carbon.

Hot Gas Bypass (HGB):
The main purpose of having HGB is to prevent condensate from freezing on the surface of the evaporator coil when the dehumidifier is operating at extremely low load conditions. The HGB diverts hot, high-pressure refrigerant vapor to the evaporator side of the system, which raises the suction temperature to prevent frost from forming.

Watchdog 900c Parts Diagram



WatchDog 900 & 900c
Back Interior View



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Troubleshooting

Issue	Potential Cause	Solution
Dehumidifier Will Not Power On	Power Supply	• Make the unit is properly plugged in and that the outlet is functional t
Low Air Flow	Room Temperature is outside of operational range (over 105°F= Display HI or below 33°F = Display LO)	• Modify the room conditions so the temperature is within operational range (between 33°-105°F) and operation will commence.
	Filter is Blocked	• Clean the filter mesh (see maintenance section in manual for details)
	Air Inlet or Outlet is Jammed	• Clear the blockage from the inlet or outlet
Loud Noise	Dehumidifier is Not Level	• Adjust the base and/or dehumidifier as necessary, to create a level surface
Error Code E:1	Filter Mesh is Jammed E:1 indicates humidity sensor issues	• Clean the filter mesh (see maintenance section in manual for details) • Verify sensor wire is connected at both ends. • If there are no visible issues, it may be a faulty sensor that needs to be replaced
Error Code E:3	E:3 indicates the coil sensor has failed	• Replace the coil sensor
Error Code HI or LO	Room Temperature is outside of operational range (over 105°F= Display HI or below 33°F = Display LO)	• Modify the room conditions so the temperature is within operational range (between 33°-105°F) and operation will commence.

Issue	Potential Cause	Solution
Error Code E:4	Pump has failed	Verify that the pump is working. If so, unplug the unit for two minutes, then restart.

E4 Error Code Advanced Troubleshooting

If a pump alarm is shown on the display, complete the following steps:

1. Reset the unit by disconnecting the power cord and then reconnecting it.
NOTE: UNIT WILL NOT FUNCTION UNTIL ERROR CODE HAS BEEN CLEARED.

2. Manually check to see if pump is operational by pressing the drain button. Check if the pump energizes and de-energizes properly. Additionally, check to see if any water was purged from the system.

3. If you haven't cleaned the system recently, check the discharge line for an obstruction, then clean the balance of the pump system

4. Replace the hoses and/or pump, if maintenance alone is not sufficient.

Activating Your Warranty

Once you have your dehumidifier installed, it's time to activate your warranty. All Seaira Global dehumidifiers include a 1 year warranty on all parts plus a 5 year warranty on the parts in the refrigeration circuit (for complete details, check your owner's manual). In order to take advantage of this service, please be sure to submit the warranty card in your owner's manual.

Additional Resources

For further assistance on the operating and maintaining your new dehumidifier, visit www.seairaglobal.com where you can find how to guides, videos, spec sheets and much more.