

# **Envirowise**<sup>®</sup>

INDOOR AIR SYSTEMS



## **Installation Instructions**

**INSTALLATION BY A HVAC PROFESSIONAL IS RECOMMENDED**

The Envirowise 120V is a whole house ventilating dehumidifier that is integrated into the heating and cooling system to provide the ultimate in comfort and property protection through:

- Dehumidification
- Fresh Air Ventilation (Optional)
- Air Filtration

**HVAC Installer: Please Leave Manual for Homeowner**

P/N: EDHUM120    Serial No.: \_\_\_\_\_    Install Date: \_\_\_\_\_

Installing Dealer: \_\_\_\_\_



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Ingersoll Rand is committed to manufacturing quality products. To maintain our standards, product specifications may change without notice.



Ingersoll Rand, 6200 Troup Hwy. Tyler, TX 75707

## Items Included in Box:

- Envirowise 120V Dehumidifier
- Envirowise 120V Installation Instructions
- 10" Duct, 8" Duct (x2), 6" Damper, 8" Duct Cover Plate
- 8" Duct Foam Tape, 26.75" (x2)
- Duct Fasteners (x14)

# SAFETY INSTRUCTIONS

**READ THE INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS CAREFULLY BEFORE INSTALLING AND OPERATING THIS DEVICE. PROPER ADHERENCE TO THESE INSTRUCTIONS IS ESSENTIAL TO OBTAIN MAXIMUM BENEFIT FROM YOUR ENVIROWISE WHOLE HOUSE VENTILATING DEHUMIDIFIER.**

## **⚠ WARNING!**

**THIS SYMBOL MEANS IMPORTANT INSTRUCTIONS. FAILURE TO HEED THEM CAN RESULT IN SERIOUS INJURY OR DEATH.**

## **⚠ CAUTION!**

**THIS SYMBOL MEANS IMPORTANT INSTRUCTIONS. FAILURE TO HEED THEM CAN RESULT IN INJURY OR MATERIAL PROPERTY DAMAGE.**

### Registrations



The Envirowise 120V conforms to unified standard UL 60335-2-40 and CSA standard C22.2.60335-2-40.

## **⚠ WARNING!**

**120 VOLTS MAY CAUSE SERIOUS INJURY FROM ELECTRIC SHOCK. DISCONNECT ELECTRICAL POWER BEFORE STARTING INSTALLATION OR SERVICING, AND LEAVE POWER DISCONNECTED UNTIL INSTALLATION OR SERVICE IS COMPLETED.**

## **⚠ CAUTION!**

**READ ALL INSTRUCTIONS BEFORE BEGINNING INSTALLATION.**

**ALWAYS USE CAUTION AND WEAR CUT RESISTANT GLOVES WHEN HANDLING SHEET METAL.**

**IMPROPER INSTALLATION MAY CAUSE PROPERTY DAMAGE OR INJURY. INSTALLATION, SERVICE, AND MAINTENANCE MUST BE PERFORMED BY A QUALIFIED SERVICE TECHNICIAN.**

**DEHUMIDIFIER IS HEAVY. HANDLE WITH CARE AND FOLLOW INSTALLATION INSTRUCTIONS. DO NOT USE IN POOL APPLICATIONS, OR WARRANTY WILL BE VOID.**

**NEVER OPERATE A UNIT WITH A DAMAGED POWER CORD. IF THE POWER CORD IS DAMAGED, IT MUST BE REPLACED BY THE MANUFACTURER, ITS SERVICE AGENT, OR A SIMILARLY QUALIFIED PERSON IN ORDER TO AVOID A HAZARD.**

**THIS APPLIANCE IS NOT INTENDED FOR USE BY PERSONS (INCLUDING CHILDREN) WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES, OR LACK OF EXPERIENCE OR KNOWLEDGE, UNLESS THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING THE USE OF THE APPLIANCE BY A PERSON RESPONSIBLE FOR THEIR SAFETY. CHILDREN SHOULD BE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE APPLIANCE.**

# SPECIFICATIONS

<b>Part Number:</b>	EDHUM1201V1MDA	
<b>Blower:</b>	445 CFM @ 0.0" WG 390 CFM @ 0.2" WG 360 CFM @ 0.4" WG	335 CFM @ 0.6" WG 305 CFM @ 0.8" WG
<b>Power:</b>	680 Watts @ 80°F and 60% RH	
<b>Supply Voltage:</b>	115 VAC – 1phase – 60 Hz	
<b>Current Draw:</b>	5.8 Amps	
<b>Transformer Protection:</b>	Push Button Reset (located near power cord)	
<b>Circuit Requirement:</b>	15 Amps	
<b>Energy Factor:</b>	3.60 L/kWh	
<b>Operating Range:</b>	49°F Min, 95°F Max (Inlet Air Temperature) 34°F Min, 135°F Max (Outside Cabinet)	
<b>Sized For:</b>	Up to 3,000 Square Feet	
<b>Water Removal at:</b>	<b>80°F and 60% RH</b>	<b>70°F and 60% RH</b>
Capacity:	124 Pints/Day	95 Pints/Day
Efficiency:	7.6 Pints/kWh	6.5 Pints/kWh
<b>Duct Connections:</b>	6" Round Inlet; 10" Round Inlet; 8" Round Outlet (x2)	
<b>Air Filter:</b>	MERV-11, Standard Pleat	
Efficiency:	65% ASHRAE® Dust Spot	
Size:	16" x 20" x 2"	
<b>Power Cord:</b>	9', 115 VAC, Ground	
<b>Internal Insulated Cabinet:</b>	Yes	
<b>Drain Connection:</b>	3/4" Threaded Female NPT	
<b>Refrigerant Type:</b>	R410A	
Refrigerant Amount:	2 lbs., 5 oz.	

**Dimensions:**

**Unit With Collars**  
 Width: 26 3/4"  
 Height: 43 1/2"  
 Length: 18 3/4"  
 Weight: 120 lbs.

**Unit Without Collars**  
 Width: 20 1/2"  
 Height: 40 1/4"  
 Length: 18 3/4"  
 Weight: 118 lbs.

**Shipping**  
 Width: 25 1/4"  
 Height: 46 1/2"  
 Length: 22"  
 Weight: 145 lbs.

**Top View**

**Front View**

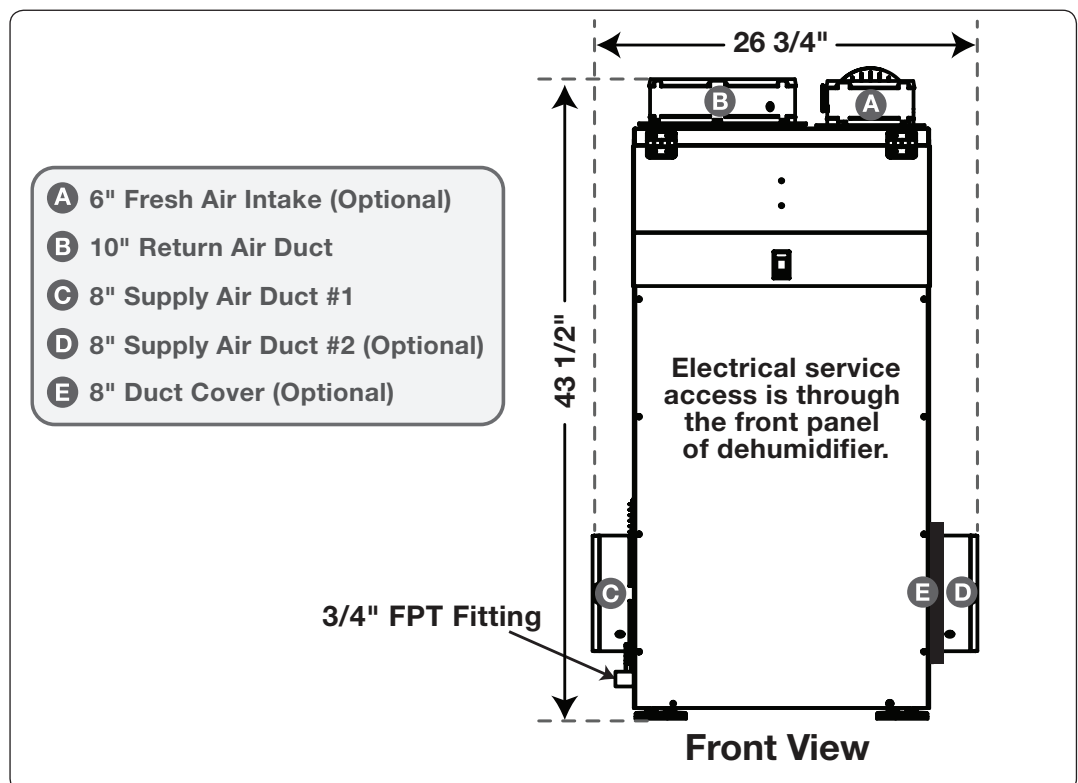
**Side View**

## Important Precautions

- The device is designed to be installed indoors in a space that is protected from rain and flooding.
- Install the unit with enough space to access the front panel for maintenance and service.
- Avoid directing the discharge air at people. The dehumidifier should be used in the upright position.
- If used near a water source, be certain there is no chance the unit could fall into the water or get splashed and that it is plugged into a dedicated circuit and Ground Fault Circuit Interrupter (GFCI) protected outlet.
- DO NOT use the dehumidifier as a bench or table.
- DO NOT place the dehumidifier directly on structural building members without vibration absorbers or unwanted noise may result. Place the Envirowise 120V on supports to raise the base of the unit.
- A drain pan with a float switch MUST be placed under the dehumidifier if installed above a living area or above an area where water leakage could cause damage.

## Location Considerations

- Allow sufficient clearance to handle the unit's overall dimensions as well as the necessary return and supply ductwork to the unit.
- Allow sufficient clearance for filter removal and to prevent airflow obstruction.
- Electrical service access will require the removal of the front panel. Allow sufficient clearance on this side of the unit.
- Locate the dehumidifier in an area where the cord's length (9') easily reaches a 115 VAC electrical outlet with a minimum of a 15 Amp circuit capacity.
- Locate the dehumidifier in an area where field wiring the control (low voltage) to the unit will be possible.
- It is recommended that a backdraft damper be used in the discharge duct of the Envirowise 120V, especially when connecting to the supply ducting system. The backdraft damper prevents supply air from counter flowing through the Envirowise 120V when it is not operating. The dehumidifier's location should be chosen to allow installation of this accessory if necessary.
- DO NOT hang the Envirowise 120V from its cabinet.
- Allow for proper routing and drainage of needed drain pipes.



# ATTACHING DUCT COLLARS

Before installing the damper and duct collars listed below, apply the corresponding foam tape included for each.

## Fresh Air Ventilation Duct

Fresh air ventilation is optional. A 6" diameter damper is included with the unit and can be attached to the top using the corresponding foam tape provided. The 6" damper should be closed if fresh air is not desired. If setting up the unit to provide fresh air ventilation, see page 17.

## Return Air Inlet

A 10" diameter duct collar is included with the unit and can be attached to the top with the corresponding foam tape provided.

## Supply Air Outlet #1

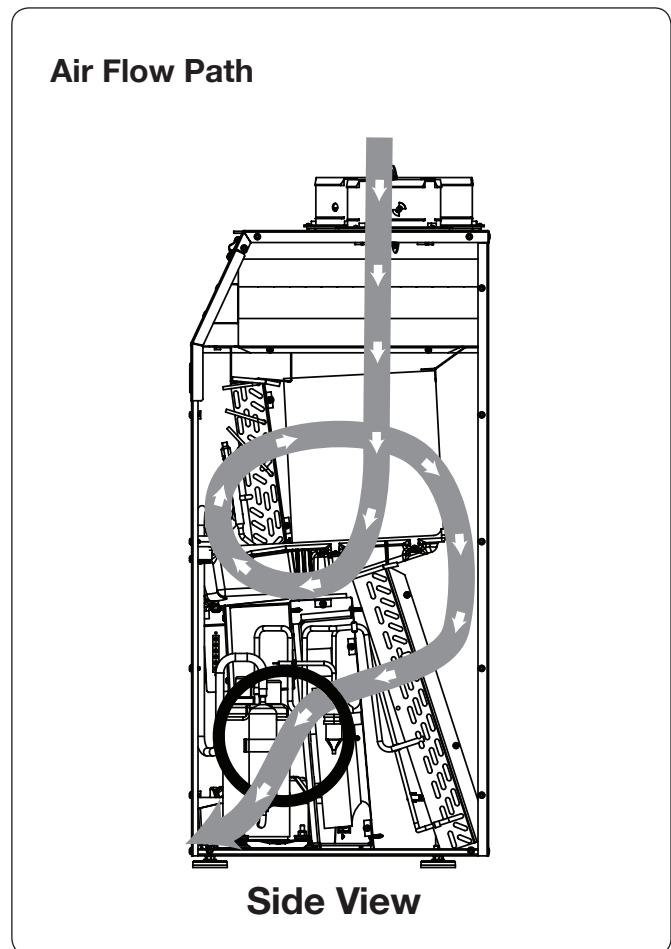
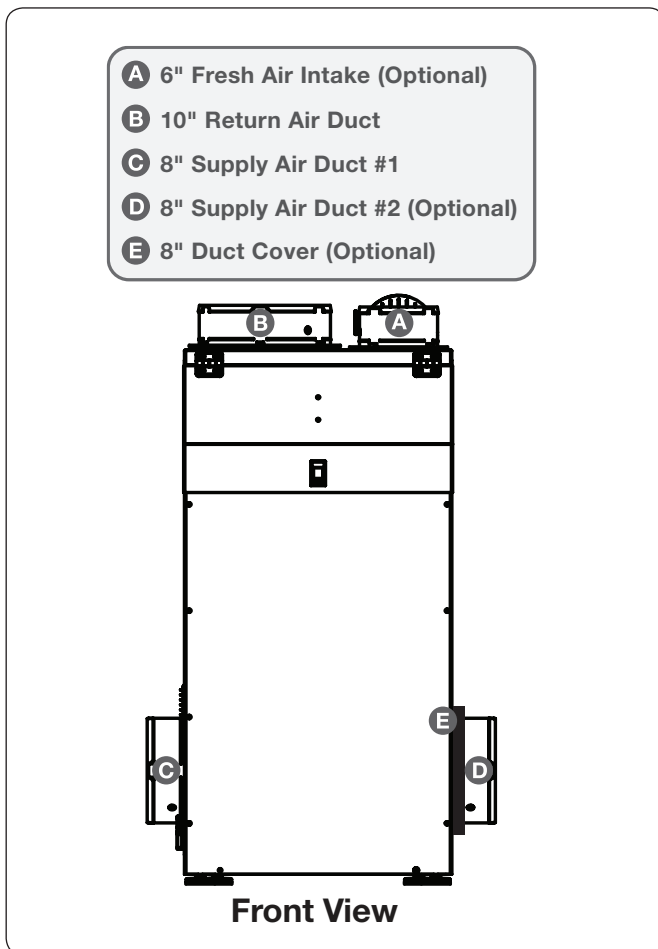
An 8" diameter duct collar is included with the unit and can be attached to the side using the corresponding foam tape provided.

## Supply Air Outlet #2

An optional 8" diameter duct collar is included with the unit and can be attached to the other side with the corresponding foam tape provided.

## Supply Air Duct Cover

An optional 8" diameter duct cover (attached) can be used to block one of the supply air outlets if not being used.



## Electrical Requirements

The Envirowise 120V plugs into a common grounded 115 VAC outlet. The device draws 5.8 Amps at 80°F and 60% RH. Locate the dehumidifier in an area where the cord's length (9') easily reaches a 115 VAC electrical outlet with a minimum of 15 Amp circuit capacity. If used in an area that may become wet, a GFCI protected circuit is recommended. Consult local electrical codes for further information.

Envirowise offers a variety of control devices for use with the Envirowise 120V. The control is to be located remotely from the dehumidifier and placed in the space to be conditioned. A low voltage (24 Volt) control **MUST** be used with the Envirowise 120V and **MUST** be connected with low voltage (18-22 gauge) thermostat wire.

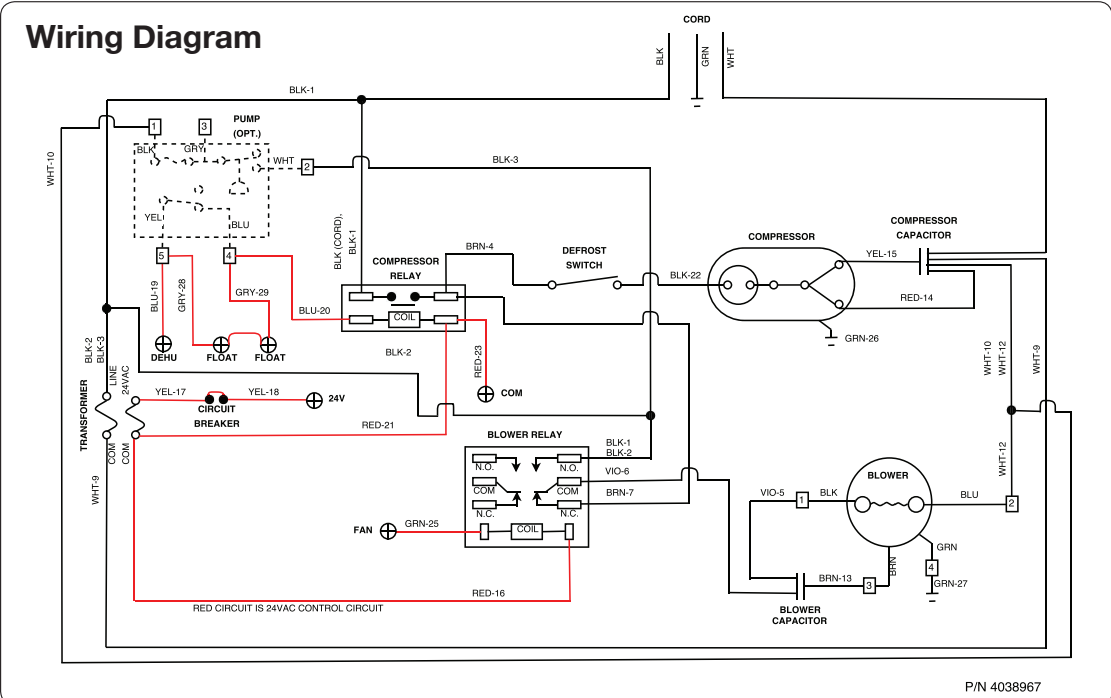
**⚠ WARNING!**  
**THE REMOTE CONTROLS OF THE ENVIROWISE 120V ARE POWERED BY A LOW VOLTAGE CIRCUIT (24 VAC) AND MUST NEVER CONTACT OR BE CONNECTED TO A HIGH VOLTAGE CIRCUIT.**

**⚠ CAUTION!**  
**DO NOT ALLOW THE 24V TERMINAL TO CONTACT THE COM TERMINAL ON THE ENVIROWISE 120V OR DAMAGE TO THE TRANSFORMER WILL RESULT.**

**⚠ CAUTION!**  
**SOME OF THE TERMINALS ON THE ENVIROWISE 120V MAY NOT BE USED WITH CERTAIN CONTROLS AND SHOULD BE LEFT UNCONNECTED.**

## Electrical Precautions

- Do not install the control where it may not accurately sense the relative humidity such as near HVAC supply registers, near exterior doors, on an outside wall, near a window, or near a water source.
- The terminals on the Envirowise 120V and the control are labeled to prevent confusion.
- Be sure to consult the electrical schematic in the CONTROLS Section (page 19) of this manual or inside the access panel of the Envirowise 120V before making control connections.



# GENERAL SET UP

## Drain Installation

The Envirowise 120V generates condensate.

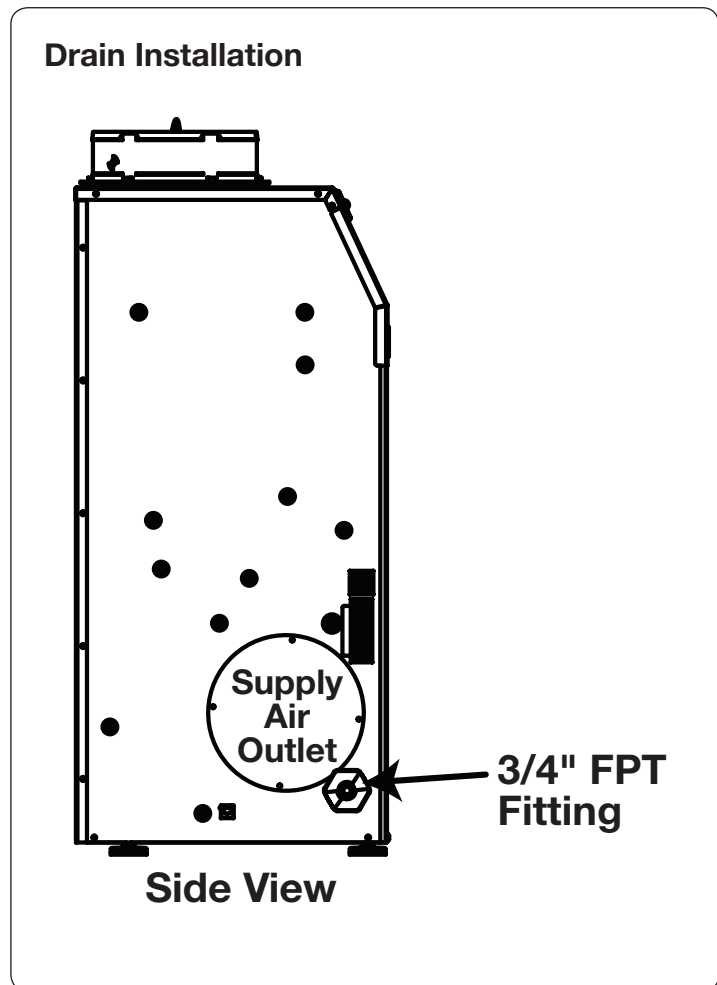
Place a secondary drain pan with a float switch under the dehumidifier if it is suspended above a finished area or above an area where water leakage could cause damage.

The Envirowise 120V contains an internal drain trap for proper dehumidifier operation. Install a 3/4" threaded male NPT adapter to the external condensate fitting. Install a drain pipe assembly utilizing 3/4" PVC pipe to transport the condensate to a drain. Pitch of drain should be 1" per 10'.

An optional condensate pump kit is available for use with the Envirowise 120V and may be installed if lift is required to dispose of condensate. Condensate is automatically pumped to a remote location when the water level in the pump's reservoir rises to close the float switch.

The pump also contains a safety float switch. If the pump fails, this switch opens the common control circuit and stops water production before the reservoir overflows.

**Note:** An optional condensate pump kit can be purchased through your dealer or online. Refer to the kit literature for installation instructions.





## Ducting to HVAC Systems

The recommended installation creates a separate return for the Envirowise 120V in a central area of the structure. Duct the supply of the unit to the air supply of the existing HVAC system. Connect an insulated duct from outside to the 6" damper of the Envirowise 120V to provide fresh make-up air.

### CAUTION!

**DO NOT CONNECT WITH A STATIC PRESSURE GREATER THAN OR EQUAL TO +0.8 WG. CONTACT TECHNICAL SUPPORT AT (800) 533-7533 FOR ADDITIONAL DETAILS.**

## Ducting Considerations:

- All flexible ducting connected to the Envirowise 120V should be UL listed.
- A short piece of flexible ducting on all Envirowise 120V duct connections is recommended to reduce noise and vibration transmitted to rigid ductwork in the structure.
- Use a minimum 8" (10" for inlet) diameter round or equivalent rectangular duct for total duct lengths of up to 25'. Use a minimum 10" (12" for inlet) diameter round or equivalent rectangular duct for longer lengths.
- Grills or diffusers on the duct ends must not excessively restrict airflow.
- A length of 10' or more of insulated flex duct or any other vibration isolating material on the outlet of the Envirowise 120V will reduce air noise from the blower.
- Effective dehumidification may require that ducting be branched to isolated, stagnant air flow areas. When ducting to two or three areas, use 8" or larger diameter branch ducting. When ducting to four or more areas, use 6" or larger diameter branch ducting. Provisions must be made to provide airflow from supply locations to the central return location. Proper air distribution is important to ensure even humidity control and heat distribution throughout the structure.
- DO NOT locate the return in a bathroom or a kitchen.

# GENERAL SET UP

## Recommended HVAC Ducting Installations

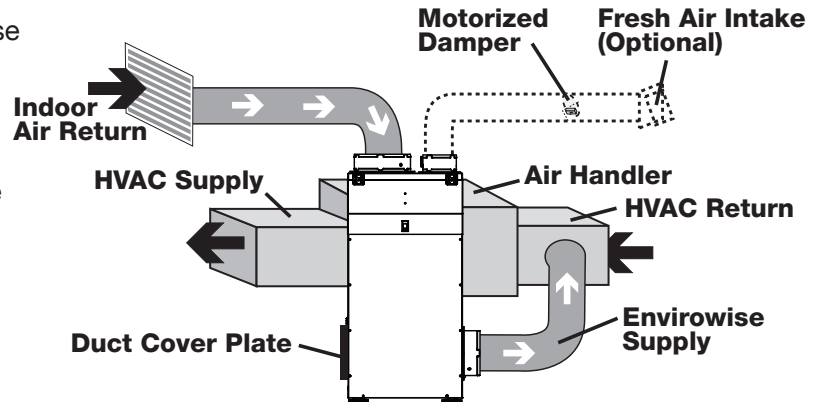
- Control should be located remotely from the dehumidifier and placed in a central location.
- For basement installations, an optional tee can be installed on the Envirowise Supply.

### Dedicated Envirowise Return to HVAC Return

Create a separate return for the Envirowise 120V in a central area of the building.

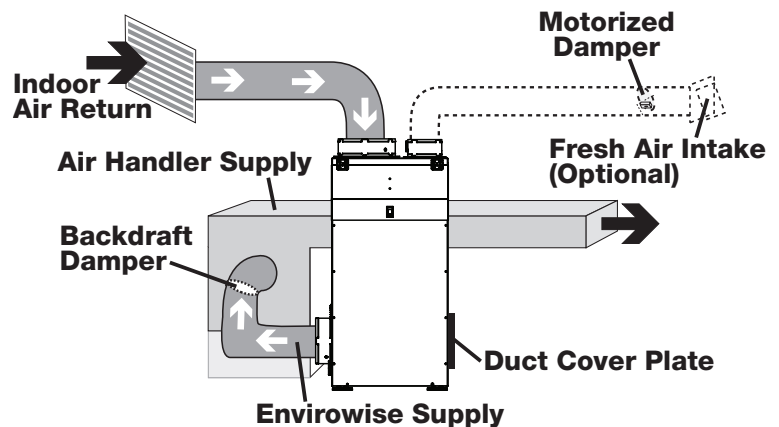
DO NOT locate return in a bathroom or kitchen.

Installing the supply air from the Envirowise 120V to the return of the HVAC system requires the HVAC fan to run when the Envirowise 120V is operating.



### Dedicated Envirowise Return to HVAC Supply

- Install a dedicated 10" air return for the Envirowise 120V from a central area of the structure.
- Install an insulated duct from outside to the 6" damper of the Envirowise 120V to provide fresh air ventilation (optional).
- The optional second supply of the Envirowise 120V may be ducted to another location. This can provide a second source of airflow to the basement or supply of the existing HVAC system with a backdraft damper.
- When using only one of the two supplies on the Envirowise 120V, the unused supply must be blocked using the duct cover plate included.
- A dedicated return is required to be installed and connected to the 120V. Add the return from a central location in the house that is always open to the rest of the structure. DO NOT use a return from a room where doors are kept closed.
- DO NOT locate return in a bathroom or kitchen.



## Recommended Closet Installations

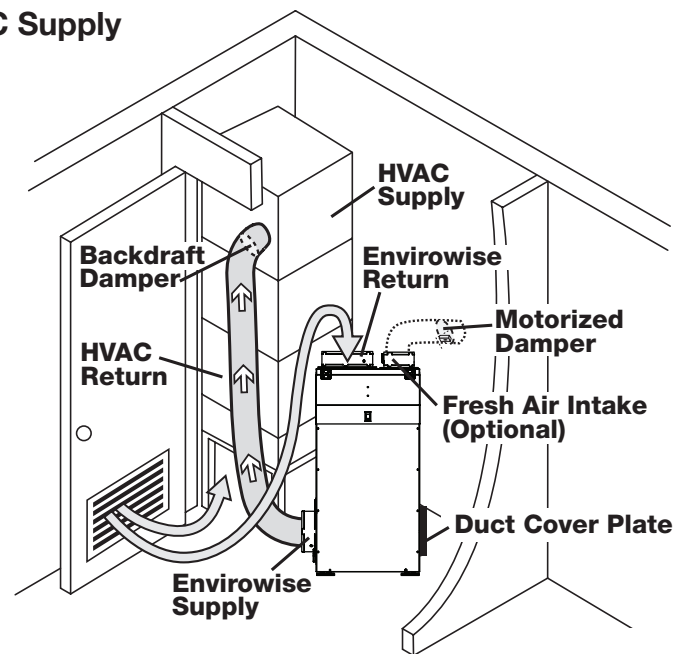
- Locate the dehumidifier under or next to the HVAC system as space allows.
- No inlet duct is required. A passive vent or louver door is required. Air is pulled through the passive vent or louver door from the living space.
- Install an insulated duct from outside to the 6" damper of the Envirowise 120V to provide fresh air ventilation (optional).
- Control should be located remotely from the dehumidifier and placed in a central location.

### **⚠ WARNING!**

**WHEN INSTALLING THE DEHUMIDIFIER AS PART OF A COMBUSTION TYPE HVAC SYSTEM (GAS, OIL, PROPANE, ETC.), FOLLOW ALL LOCAL AND NATIONAL BUILDING AND SAFETY CODES.**

### Closest Installation - Central Return to HVAC Supply

- A passive vent or louver door with a minimum net free area of 1 square foot is required to allow air to be pulled in from the living space.
- No inlet duct is required. Air is pulled through the passive vent or louver door from the living space. Where outlet space is restricted, the outlet duct collar is optional.
- Install an insulated duct from outside to the 6" collar of the Envirowise 120V to provide fresh air ventilation. If the fresh air ventilation duct is to be used, the return of the Envirowise 120V must be ducted or an inline fan may be required on the fresh air ventilation line to bring in outside air.
- Duct the supply of the Envirowise 120V to the supply of the existing HVAC system with a backdraft damper.



# GENERAL SET UP

## No Existing Ductwork Installation

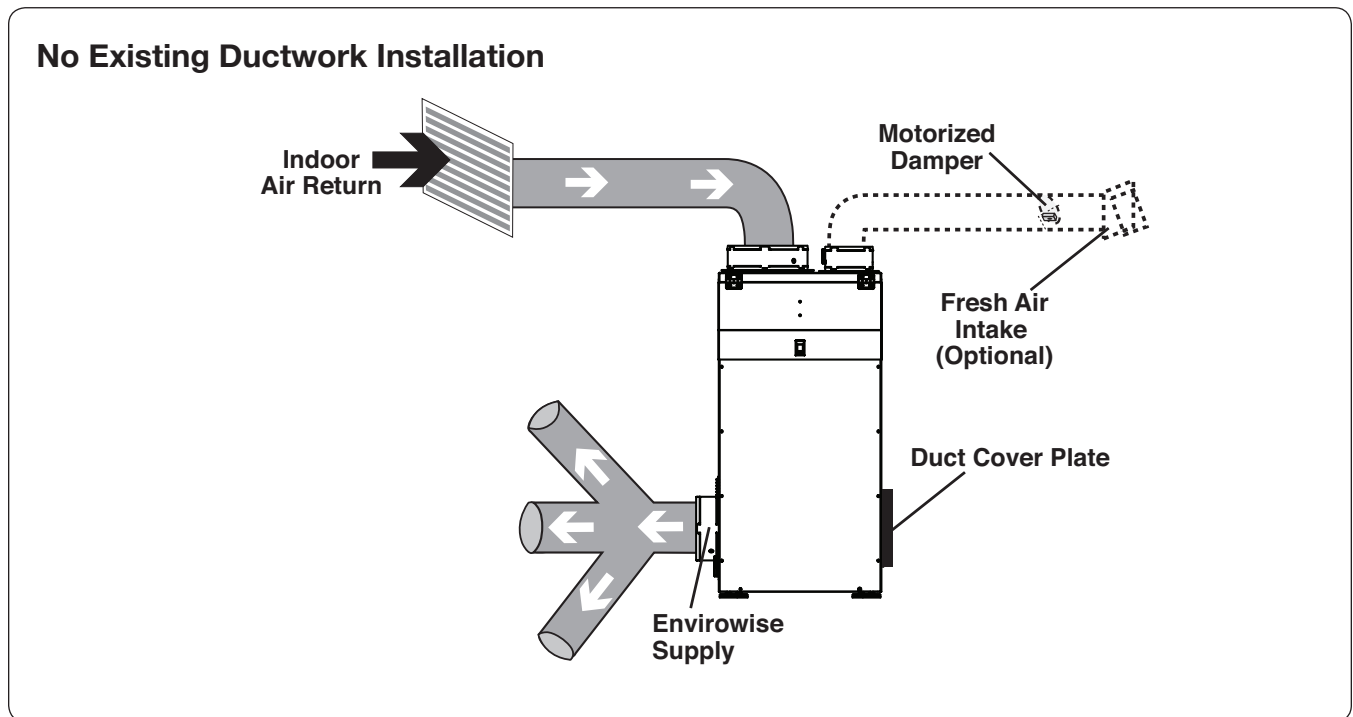
When installing the Envirowise 120V in a structure that does not have a forced air HVAC system, a single return for the Envirowise 120V should be installed in a central location.

Install an insulated duct from outside to the 6" collar of the Envirowise 120V to provide fresh air ventilation (optional).

The supply of the Envirowise 120V should be ducted to remote areas of the structure such as bedrooms, living room, den, etc. Either one or two supply ducts may be used to distribute air. Be sure to utilize multiple rooms to allow air inside the structure to properly circulate. Proper air distribution is important to ensure even humidity control and heat distribution throughout the structure.

A 6" diameter duct is recommended for branches to bedrooms. An 8" diameter duct is recommended for branches to larger areas.

- DO NOT locate the return in a bathroom or kitchen.
- DO NOT locate the supply in rooms where doors may be closed.
- Control should be located remotely from the dehumidifier and placed in a central location.



## Fresh Air Ventilation

### Fresh air ventilation is optional.

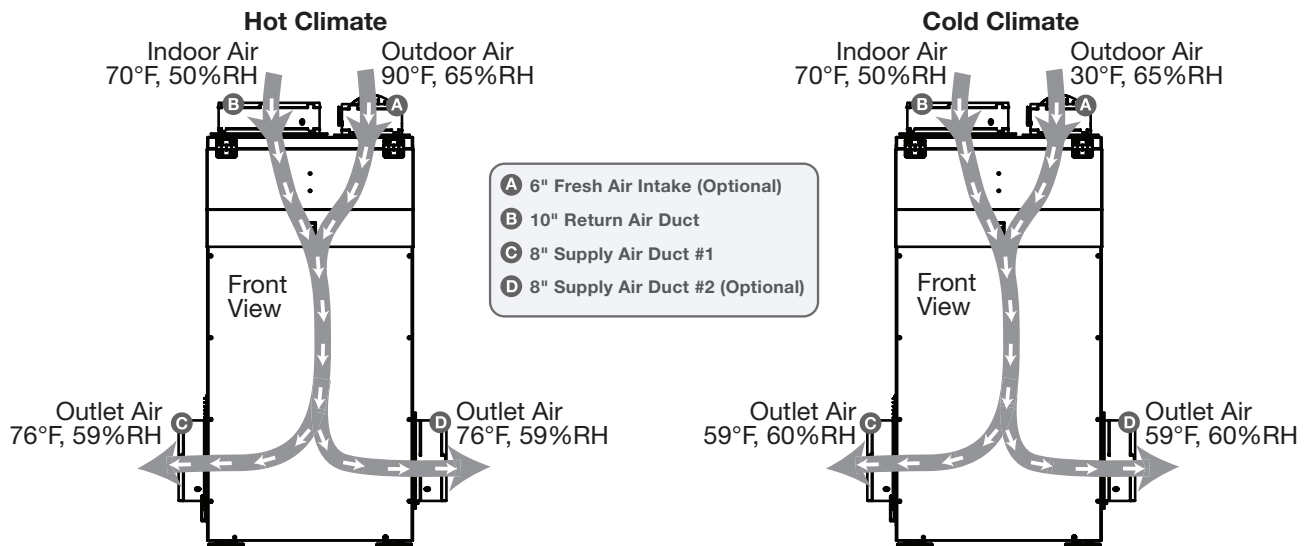
Fresh air may be brought into the structure by connecting an insulated duct from outside the structure to the 6" inlet of the Envirowise 120V. A ventilation control is needed to program the time and frequency that the unit introduces outside air. The time and frequency of ventilation should be based on the size and occupancy of the residence.

- The fresh air ventilation duct should be connected to the 6" damper on the top of the Envirowise 120V.
- An insulated 6" diameter duct provides up to 100 CFM of outside air.
- If a motorized damper is not being used, fresh air is controlled by the manual damper in the 6" collar of the Envirowise 120V.
- Performance of the Envirowise 120V can be impacted by inside and outside air conditions.
- When a 6" motorized damper is used, a digital control is required.
- It may be necessary to use 8" duct work if additional fresh air is required over 100 CFM.
- In cold climates or at times when the dew point is low, ventilation can be used to dehumidify the structure, making the Envirowise 120V capable of year-round drying.

### Fresh Air Ventilation With Dehumidifier Off and Dehumidifier Fan Only Operation

Outside air mixes with the dehumidifier's return air before being supplied to the home. Outside temperature, inside temperature and relative humidity will impact the combined outlet air conditions.

Note: Temperature and relative humidity may vary depending on duct distribution scheme.



# GENERAL SET UP

## Determine Ventilation Requirements

The MINIMUM ventilation requirement is calculated using ASHRAE 62.2-2016. Use one or both of the options below to determine your ventilation requirement. Follow all local and national building and safety codes.

### Option 1: Calculating Airflow Requirement Using ASHRAE 62.2-2016 Airflow Equation

ASHRAE Airflow in CFM = [House Area in Sq.Ft. x 0.03] + [(Number of Bedrooms +1) x 7.5]

**NOTE:** Use 'Number of Bedrooms + 1' or 'Number of Occupants', whichever is larger.

**Example 1: Number of Bedrooms + 1**

1800 square foot house with 3 bedrooms, 4 occupants = [1800 X 0.03] + [(3+1) X 7.5] = 84 CFM

**Example 2: Number of Occupants**

1800 square foot house with 3 bedrooms, 5 occupants = [1800 X 0.03] + [5 X 7.5] = 91.5 CFM

Record the required CFM \_\_\_\_\_

### Option 2: Calculating Airflow Requirement Using Table 4.1 from ASHRAE 62.2-2016

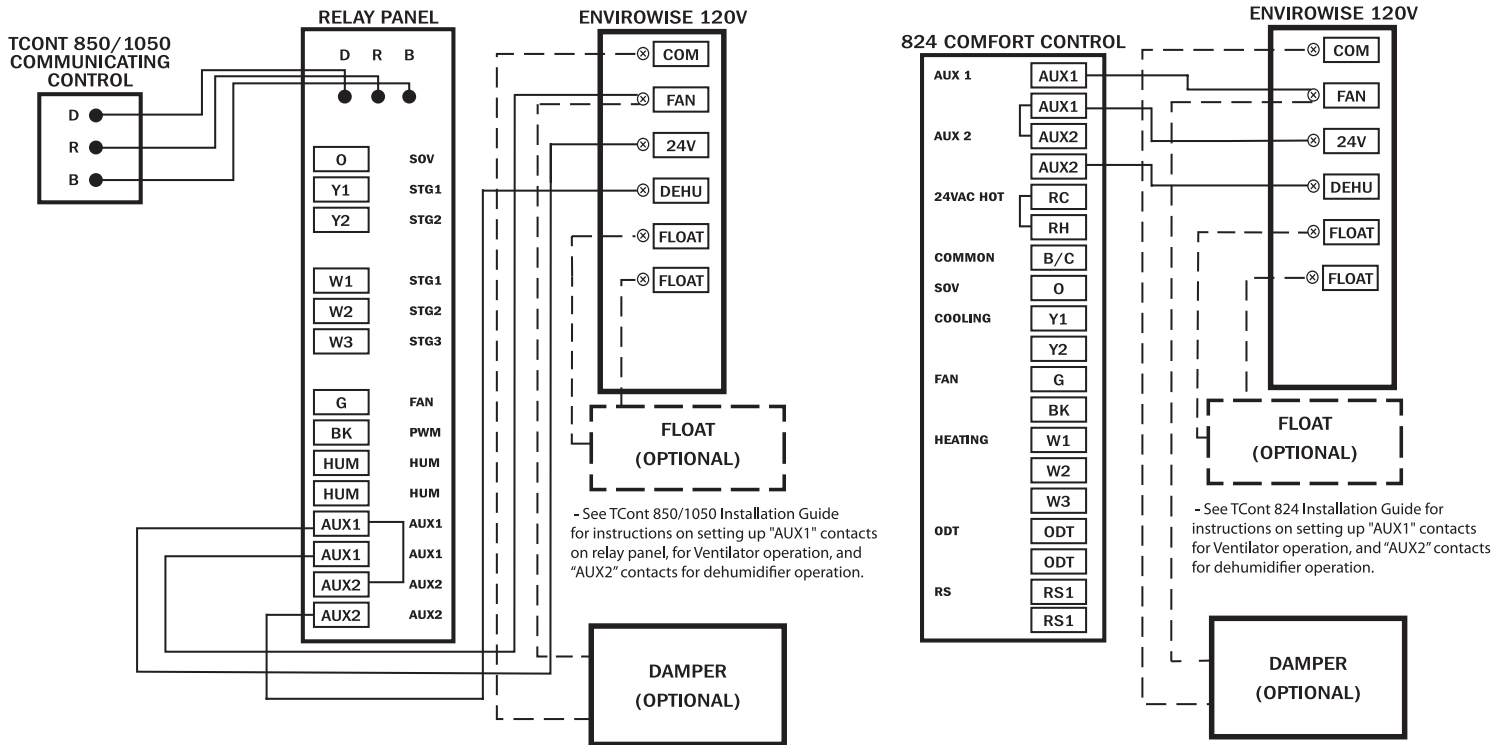
Ventilation Air Requirements, CFM

Floor Area (ft <sup>2</sup> )	Number of Bedrooms				
	1	2	3	4	5
< 500	30	38	45	53	60
501 - 1000	45	53	60	68	75
1001 - 1500	60	68	75	83	90
1501 - 2000	75	83	90	98	105
2001 - 2500	90	98	105	113	120
2501 - 3000	105	113	120	128	135
3001 - 3500	120	128	135	143	150

Table 4.1 from ASHRAE 62.2-2016

Record the required CFM \_\_\_\_\_

A control must be used with the Envirowise 120V. Nexia® Connected Controls, like the 824, 850 and 1050, have built-in dehumidification software that allows homeowners to monitor and control relative humidity and proper ventilation levels in their home. Nexia Controls are available from your installing contractor. The diagrams below show how the 120V connects to Nexia Controls.



# CONTROLS

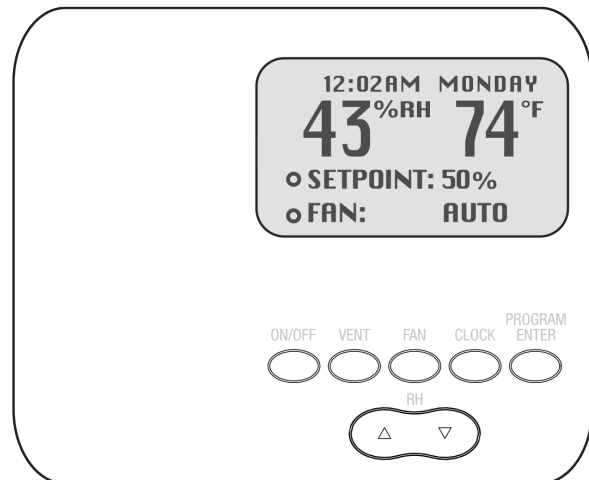
A control must be used with the Envirowise 120V. Envirowise offers the D30 proprietary control. The D30 allows homeowners to monitor and control relative humidity and proper ventilation levels in their home. This control is also available with a remote sensing option.

**Note:** The D30 is sold as an accessory and can be purchased through your installing contractor.

## Envirowise D30 Digital Control

- **Central Fan Integration** – Operates HVAC fan with dehumidifier operation.
- **A/C Sensor** – Automatically activates or deactivates the dehumidifier when the air conditioner runs.
- **High Temperature Cut-Out** – Disables dehumidifier operations if household temperature reaches the cut-out setpoint.
- **Dry-Out Cycle Timer** – Automatic fan cycling to ensure dry and clean coils.
- **Auto Reboot** – Resumes operation with prior settings in the event of power failure.

See D30 manual for detailed instructions.



## Wiring Controls

### ⚠ CAUTION!

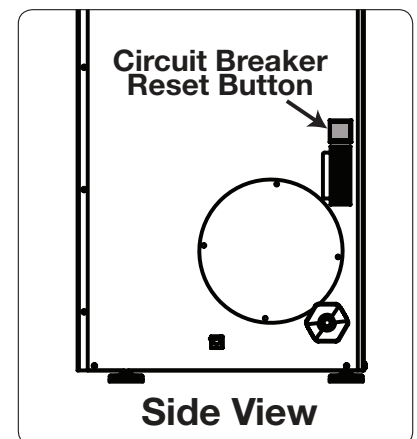
DO NOT ALLOW THE 24V TERMINAL FROM THE ENVIROWISE 120V TO CONTACT THE COM TERMINAL ON THE ENVIROWISE 120V OR DAMAGE TO THE TRANSFORMER WILL RESULT.

### Circuit Breaker

To prevent damage to the 24 volt control transformer, the Envirowise 120V comes with a resettable circuit breaker. Check wiring for any electrical short and repair before resetting breaker. Resetting the circuit breaker without correcting the electrical short may result in transformer damage. Be sure to check the electrical schematic in this manual or inside the access panel of the Envirowise 120V before making any control connections. The reset button for the circuit breaker can be found on the side of the unit.

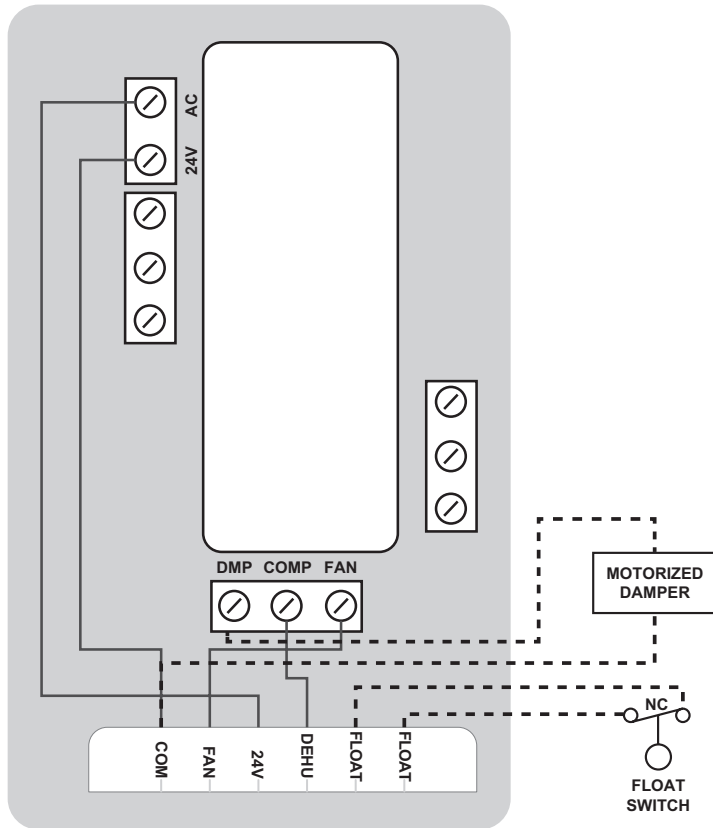
### Control Connections

The control and the Envirowise 120V are labeled to prevent confusion. Depending on the control, some of the screw terminals on the Envirowise 120V may not be used. Be sure to consult the electrical schematic in this manual or inside the access panel of the Envirowise 120V before making control connections.

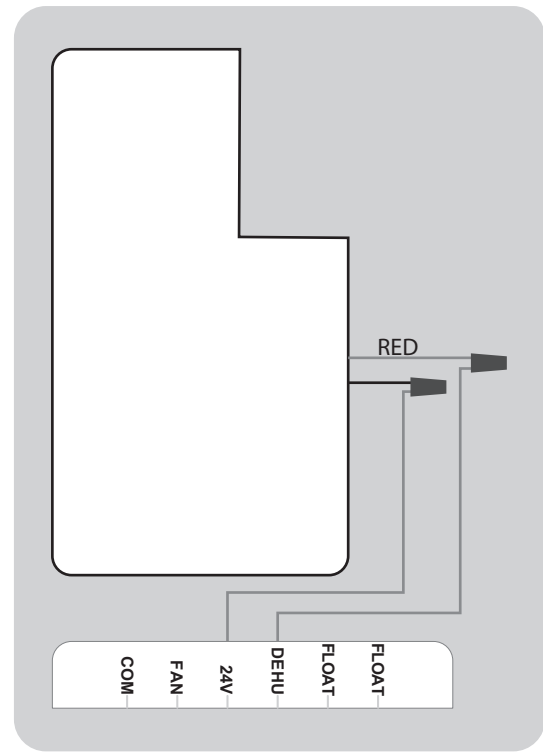




## Envirowise 120V Wired to the D30 Digital Control (Part # E4037893)



## Envirowise 120V Wired to a 2-Wire Thermal-Mechanical Dehumidistat



A low voltage control must be used with the Envirowise 120V.

### Terminal Block Control Operation:

COM	24VAC Power Transformer Neutral Side
FAN	Fan Control
24V	Transformer High Side
DEHU	Dehumidification (Fan and Compressor) Control
FLOAT	External low voltage float switch or water sensor (two terminals). Use normally closed switch.

Between the COM lead and the 24V TERMINAL is a 40VA transformer. This low voltage power source powers the relay coils which control the fan and compressor. This 24VAC transformer can also be used to power HVAC accessories external to the dehumidifier.

Compressor ON / Fan ON	Make contact between 24V and DEHU terminals
Compressor OFF / Fan ON	Make contact between 24V and FAN terminals
Power HVAC Accessory	Connect the accessory to the COM and 24V terminals

NOTE: 18 gauge wire needed between the Envirowise 120V dehumidifier and the external control.

# FILTER INSTRUCTIONS

The Envirowise 120V is equipped with a MERV-11 filter. Contact your installing contractor for more information. DO NOT operate the unit without the standard MERV-11 filter. Operating the unit with no filter in place will damage the coil and may void the factory warranty.

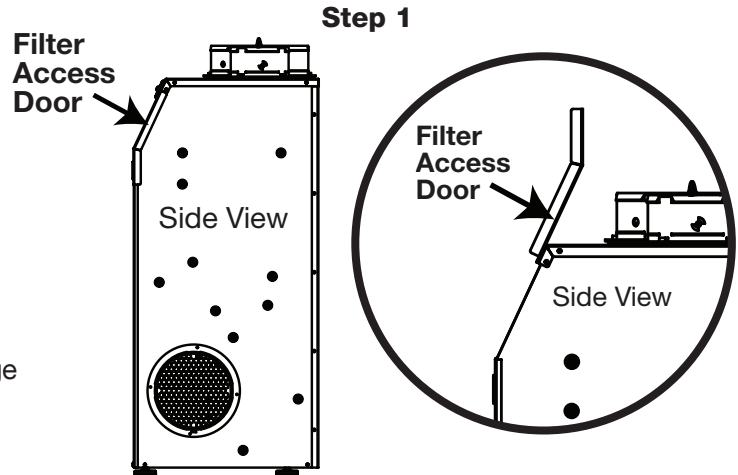
## ⚠ CAUTION!

MAKE SURE UNIT IS OFF BEFORE CHANGING THE FILTER.

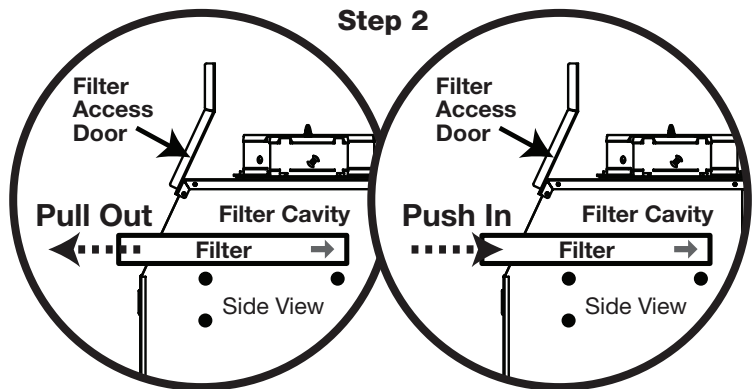
### Changing the Filter

For greatest filtration and efficiency of the Envirowise 120V, it is recommended the air filter be replaced every three to six months with a MERV-11 filter.

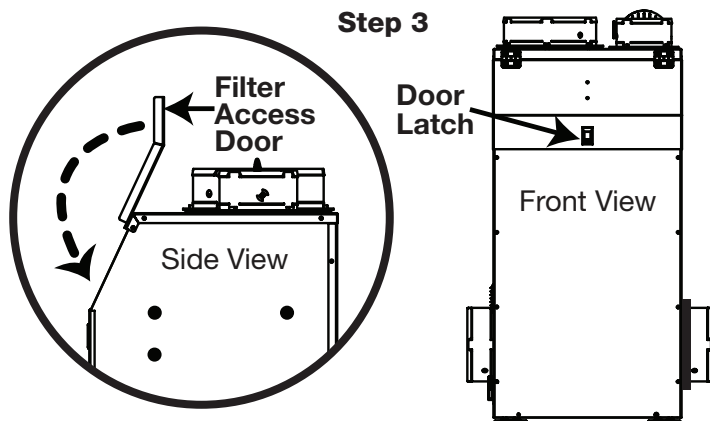
**Step 1:** The filter access door is located above the front panel of the dehumidifier. Pull straight up on the door latch to disengage from the front panel, then lift door to its vertical position.



**Step 2:** Remove the used filter(s) from the housing. Insert the new filter by gently pushing it straight into the filter cavity. Make sure the air flow arrows on the filter are pointing down into the unit.



**Step 3:** Close the filter access door by pushing up on the door latch, inserting the latch into the front panel, then releasing. Ensure that the latch is firmly engaged with the front panel.



## OPTIONAL ACCESSORIES


E4037893	D30 Control
E4037897	D30 Control W/ Remote
E4037878	MERV-11 Filters, 4-Pack
E4037885	MERV-11 Filters, 12-Pack
E4039581	Pump Kit
E4037861	6" Motorized Damper
E4037907	6" Inlet Hood
E4037863	8" Gravity Damper

# SERVICE

## Troubleshooting

### CAUTION!

TROUBLESHOOTING SHOULD BE PERFORMED BY A QUALIFIED HVAC TECHNICIAN.

Symptom	Possible Reason	Troubleshooting Procedure
Neither fan nor compressor running. Dehumidification is being called for.	<ol style="list-style-type: none"> <li>1. Dehumidifier unplugged or no power to outlet.</li> <li>2. Humidity control set too high.</li> <li>3. Loose connection in internal or control wiring.</li> <li>4. Defective compressor relay.</li> <li>5. Defective control transformer.</li> <li>6. Missing jumper wire or open circuit between FLOAT terminals.</li> </ol>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p> <b>WARNING!</b></p> <p><b>ELECTRICAL SHOCK HAZARD: ELECTRICAL POWER MUST BE PRESENT TO PERFORM SOME TESTS. THESE TESTS SHOULD BE PERFORMED BY A QUALIFIED SERVICE PERSON.</b></p> </div> <p><b>Troubleshooting Procedure for Control Related Issues</b></p> <p>This method of diagnosis will test the 3 main components of the control circuit individually to indicate any potential problems. This is to be used when the control will not activate the main unit.</p> <ol style="list-style-type: none"> <li>1. Detach field control wiring connections from the terminals on the main unit.</li> <li>2. Connect the 24V and FAN terminals together; only the fan should run. Disconnect the terminals.</li> <li>3. Connect the 24V and DEHU terminals together; fan and compressor should run. Disconnect the terminals.</li> <li>4. If this test works, the main unit is working correctly from a control standpoint.</li> <li>5. Reconnect field control wiring to the terminals on the main unit.</li> <li>6. Remove the control panel cover and detach the field wiring from the control connections.</li> <li>7. Connect the 24V and FAN terminals together; only the fan should run. Disconnect the terminals.</li> <li>8. Connect the 24V and DEHU terminals together; fan and compressor should run. Disconnect the terminals.</li> <li>9. If this test works, then the field control wiring is ok.</li> <li>10. If the problem persists, then the control is most likely faulty.</li> </ol>
Compressor is not running. Dehumidification is being called for. Fan is running.	<ol style="list-style-type: none"> <li>1. Defective compressor run capacitor.</li> <li>2. Loose connection in compressor circuit.</li> <li>3. Defective compressor overload.</li> <li>4. Defective compressor.</li> <li>5. Defrost thermostat open.</li> </ol>	
Compressor cycles on and off. Dehumidification is being called for.	<ol style="list-style-type: none"> <li>1. Low ambient temperature and/or humidity causing unit to cycle through defrost mode.</li> <li>2. Defective compressor overload.</li> <li>3. Defective compressor.</li> <li>4. Defrost thermostat defective.</li> <li>5. Dirty air filter(s) or air flow restricted.</li> <li>6. Defective fan or relay.</li> </ol>	

## Troubleshooting (Continued)


Symptom	Possible Reason	Troubleshooting Procedure
Fan is not running. Dehumidification or fan is being called for.	<ol style="list-style-type: none"> <li>1. Loose connection in fan circuit.</li> <li>2. Obstruction prevents fan impeller rotation.</li> <li>3. Defective fan.</li> <li>4. Defective fan relay.</li> </ol>	<div style="border: 1px solid black; padding: 5px;"> <p><b>⚠ WARNING!</b></p> <p><b>ELECTRICAL SHOCK HAZARD: ELECTRICAL POWER MUST BE PRESENT TO PERFORM SOME TESTS. THESE TESTS SHOULD BE PERFORMED BY A QUALIFIED SERVICE PERSON.</b></p> </div>
Low dehumidification capacity (evaporator is frosted continuously). Dehumidification is being called for.	<ol style="list-style-type: none"> <li>1. Defrost thermostat loose or defective.</li> <li>2. Low refrigerant charge.</li> <li>3. Dirty air filter(s) or air flow restricted.</li> <li>4. Excessively restrictive ducting connected to unit.</li> </ol>	<p><b>Troubleshooting Procedure for Performance Related Issues</b></p> <p>This method of diagnosis is used to function check the internal components in the dehumidifier. This is to be used when a performance issue is suspected.</p> <ol style="list-style-type: none"> <li>1. Set the humidity controller all the way to the most humid setting or off position – Did the unit shut off?</li> <li>2. If yes, turn the fan setting to the ON position – does the fan start?</li> <li>3. If fan starts, leave in the fan ON position and set the humidity all the way to driest setting. May have to wait 5 minutes for the compressor to start.</li> <li>4. Listen for a distinct buzzing/humming sound of a compressor starting up – do you hear this noise?</li> <li>5. If compressor is running and continues to run, after about 15 minutes you should feel a slight increase in air temperature being discharged out of the discharge air side of the unit.</li> <li>6. If so, depending on your environmental conditions (temp/Rh%), you should see some water production out of the hose within 30 minutes or so. <i>(Note: If the room temperature is 55 degrees or below and/or in area of low relative humidity, the dehumidifier will produce little to no water.)</i></li> <li>7. Collecting the water removed in a 24 hour period will give a measurement of performance.</li> </ol>
No ventilation. Ventilation is being called for.	<ol style="list-style-type: none"> <li>1. Loose connection in ventilation control circuit.</li> <li>2. Loose connection in damper power circuit.</li> <li>3. Defective fresh air damper.</li> </ol>	
Dehumidifier removes some water, but not as much as expected.	<ol style="list-style-type: none"> <li>1. Air temperature and/or humidity have dropped.</li> <li>2. Humidity meter and/or thermometer used are out of calibration.</li> <li>3. Unit has entered defrost cycle.</li> <li>4. Dirty air filter(s) or air flow is restricted.</li> <li>5. Defective defrost thermostat.</li> <li>6. Low refrigerant charge.</li> <li>7. Air leak such as loose cover or ducting leaks.</li> <li>8. Defective compressor.</li> <li>9. Restrictive ducting.</li> </ol>	

# SERVICE

## Troubleshooting (Continued)

### CAUTION!

TROUBLESHOOTING SHOULD BE PERFORMED BY A QUALIFIED HVAC TECHNICIAN.

Symptom	Possible Reason	Troubleshooting Procedure
Control not powering dehumidifier.	<ol style="list-style-type: none"><li>1. No power to dehumidifier.</li><li>2. 24 volt circuit breaker tripped or faulty transformer.</li><li>3. Loose or missed wired control wires at humidity control.</li><li>4. Loose or missed wired control wires at unit.</li><li>5. Humidity control defective.</li><li>6. Missing jumper wire or open circuit between FLOAT terminals.</li></ol>	<div data-bbox="850 583 1127 632"><h3> WARNING!</h3></div> <p><b>ELECTRICAL SHOCK HAZARD: ELECTRICAL POWER MUST BE PRESENT TO PERFORM SOME TESTS. THESE TESTS SHOULD BE PERFORMED BY A QUALIFIED SERVICE PERSON.</b></p> <ol style="list-style-type: none"><li>1. Verify power to the unit at power outlet.</li><li>2. Verify closed circuit between FLOAT terminals.</li><li>3. Look for short in control wiring.</li><li>4. Check wire connections at control and unit.</li><li>5. Reset circuit breaker button on dehumidifier.</li></ol>





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**Supersedes (NEW)**