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# APRILAIRE APR300 Owner's Manual

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**READ AND SAVE THESE INSTRUCTIONS**

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## SAFETY INSTRUCTIONS

### CAUTION

#### RISK OF PROPERTY AND EQUIPMENT DAMAGE

- Sharp edges may cause serious injury from cuts. Use care when making plenum openings and handling ductwork.
- Do not install humidifier where freezing temperatures could occur. The water line could freeze and crack causing water damage to the home. Condensation damage can occur in unheated locations where temperatures are at a colder level than the balance of the contained space.
- Humidifier intake must be installed in area with air temperatures of at least 65 F or above.
- Do not set humidity level above recommended or to recommended level if condensation exists on inside windows of any unheated space, as condensation damage may result. Excess humidity can cause moisture accumulation which can allow the possibility for mold growth in the home.
- Connect Model 300 Series power cord only to 120 VAC, 60Hz. Follow all state and local codes regarding electrical wiring.
- Avoid obstructions such as plumbing or electrical wires when cutting into walls.
- Maximum water temperature 140°F at unit.
- Refer to mounting instructions on page 3 for proper installation of the unit. Not following the mounting instructions could result in danger to safety or risk of property and equipment damage.
- Do not install return or supply duct to a utility room that has any gas or oil fired equipment or fumes.
- Periodically check drain line make sure water flows freely to drain.
- Disconnect power to unit prior to servicing the unit.

### NOTICE

- Do not install humidifier where water pressure exceeds 125 psi, since damage to the humidifier may result. Follow codes in effect concerning pressure reduction.
- The duct system and supply grills must be on an inside wall.
- Follow all state and local codes regarding air distribution systems.

## LOCATION

### UNIT

Locate the unit close to the drain and where temperatures do not reach freezing such as a laundry room, basement, utility closet, etc. The unit is rated for 70 F; intake air temperatures below this will affect unit performance (see page 5). Provisions should be made for unit maintenance and service.

### DISCHARGE GRILLE

Select a standard grille size with free area of at least 50 square inches.

The grille or baseboard diffuser must be on an inside wall. If installed on an outside wall, condensation may occur. The air discharge should not be directed on cool surface to prevent condensation. Locate grille in an area with continuous ventilation. Intake and return grilles should be spaced as far apart as possible and ideally, located in different rooms.

## INSTALLATION

### LOCATION

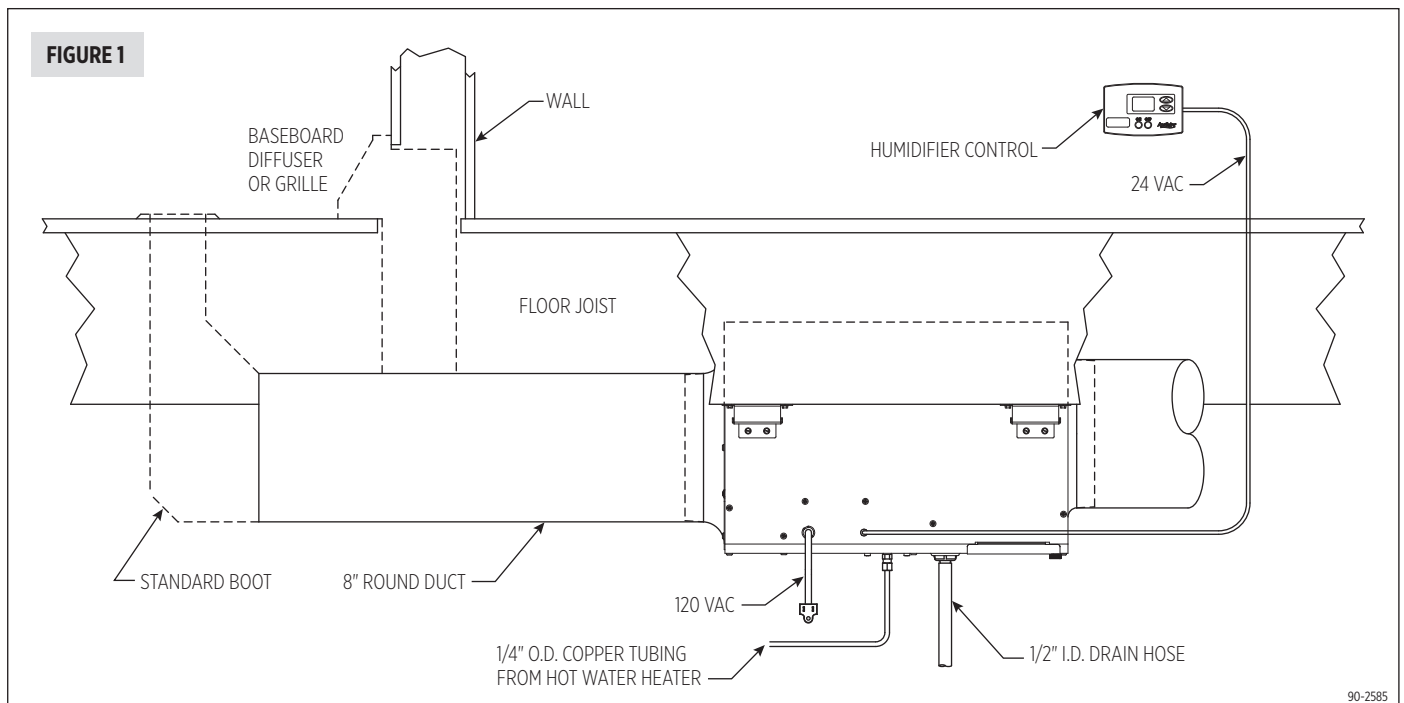
The Model 300 can be located in a utility closet, laundry room, or basement or any space where the unit can be mounted to floor joists and with safe and reliable access to hot water.

### SOUND

Hard duct is recommended for optimum evaporative performance, however, sound coming from the running unit is quieter with the use of flex duct.

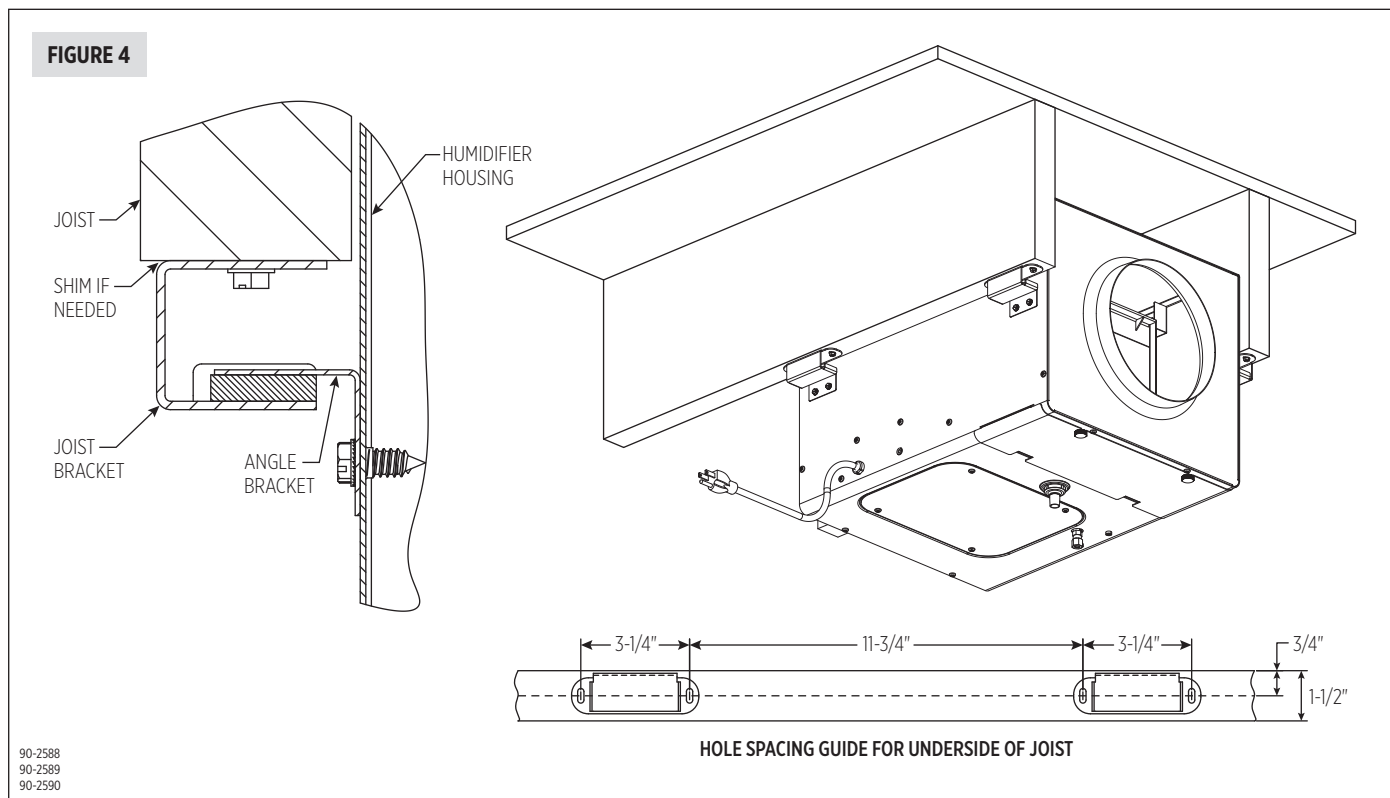
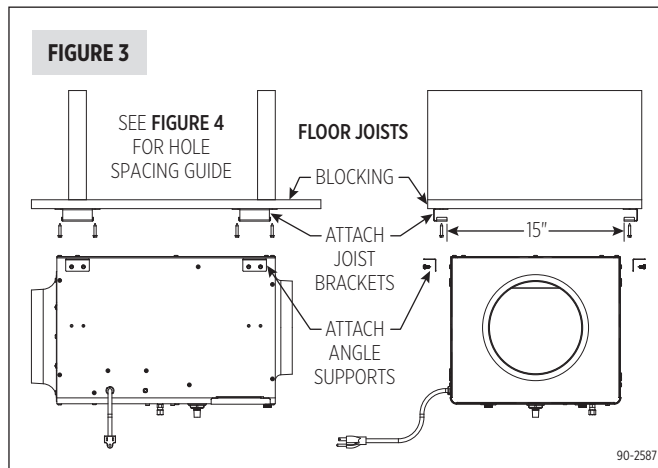
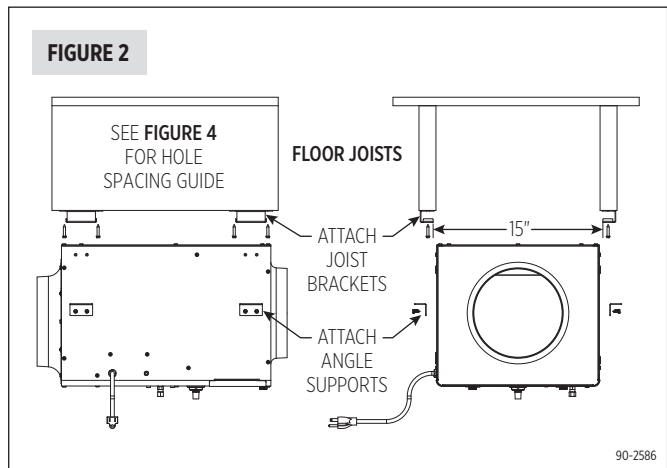
### MOUNTING

The Model 300 is meant to be suspended from the floor joists. A typical complete installation is shown in **FIGURE 1**.



To install parallel to joist, attach the angle supports to the middle holes in the housing with the #8 x 1/2" screws provided. If distance between joists is less than 14.5", top mounting holes must be used. Using the hole spacing guide in **FIGURE 4**, attach the joist brackets in a parallel manner so the bracket edges are approximately 15 inches apart, as shown in **FIGURE 2**, with the #8 x 1" screws provided. After the joist brackets are secured, lift the humidifier so the angle supports rest inside the brackets, as shown in **FIGURE 4**. After the humidifier is hung, check levelness of the unit and shim the joist brackets as necessary.

If this is a finished ceiling, or you wish to install humidifier perpendicular to the joists, attach the angle supports to the top holes in the housing. Attach the joist brackets in a parallel manner, so that bracket edges are approximately 15 inches apart, as shown in **FIGURE 3**, with the #8 x 1" screws provided. After the joist brackets are secured, lift the humidifier so the angle supports rest inside the brackets.



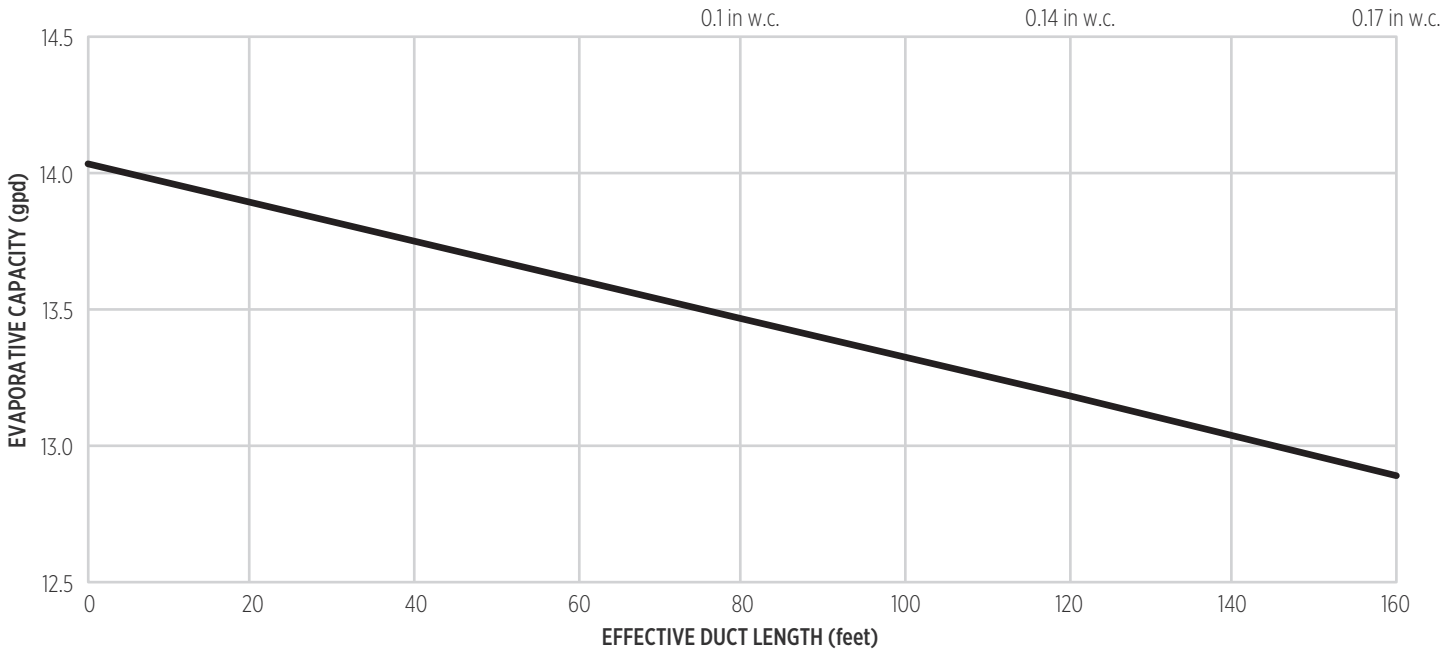
## AIR DISTRIBUTION AND EVAPORATIVE CAPACITY

Check all state and local codes and proper design regarding air distribution systems.

Provision should be made for air circulation back to the unit. Where doors are normally closed, the door should have a 1/2" minimum undercut or have a grille installed for proper air circulation.

The Model 300 has the capacity to deliver 250 CFM at 0.1 inches of water gauge external resistance equivalent to 80 effective feet of duct length. The evaporative capacity at various effective duct lengths are plotted in the graph below.

### EVAPORATIVE CAPACITY AT VARIOUS EFFECTIVE FEET OF DUCT



*These values were determined by testing done in laboratory conditions of approximately 70°F and 30% RH. Variation in capacity depends on the length of duct used and the temperature of intake air and water.*

## PLUMBING

Heat for evaporation is obtained from hot water. Minimum water temperature to the humidifier should be 120°F and maximum 140°F. It will be necessary to blend hot and cold water whenever water temperature exceeds 140°F. (Tankless domestic water systems may have water temperatures in excess of 140°F.)

Be sure that the water heater has sufficient capacity and recovery rate to supply a minimum of 6 gallons per hour of hot water to the humidifier. Tankless water heaters may not activate at 6 GPH.

Tap off the hot water line at the water heater using the saddle valve provided and 1/4" copper tubing (not furnished). The 1/4" copper tubing is connected to the inlet fitting under the unit. Remove the grille and Water Panel™ assembly. Double wrench when making this connection.

Locate the unit as close to the water heater as possible. For homes using a combination of 1/2" and 3/4" pipe for hot water lines: typically a short 3/4" pipe comes from the water heater and branches into 1/2" supply lines for individual fixtures.

A contractor can calculate the time for hot water to reach the humidifier using the graph below.

As a rule of thumb, dividing the distance to the water heater by 10 and adding a couple minutes to account for the short section of 3/4" main line will give an adequate approximation of time.

**EXAMPLE:** if the unit is 50 feet away from a water heater it may take about 5 minutes for the unit to receive hot water; 100 feet will take about 10 minutes.

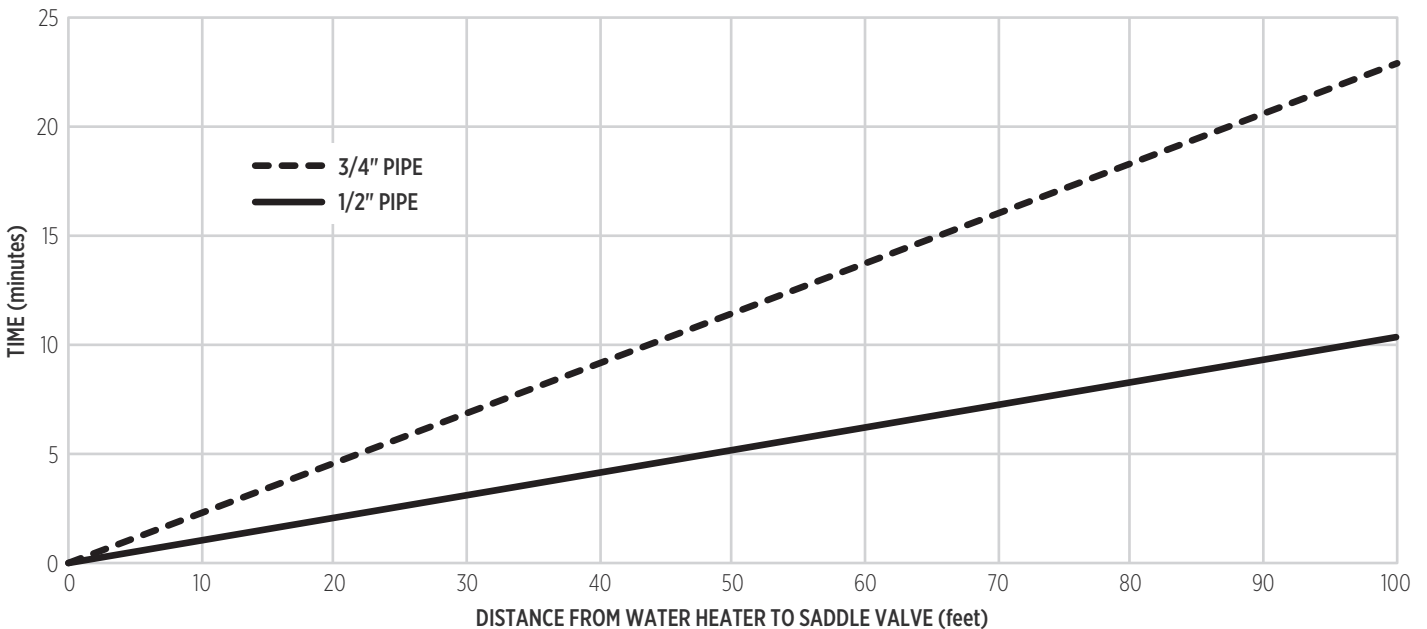
Use 1/2" I.D. plastic hose for the drain.

**Do not sweat or otherwise directly attach metal drain line to drain fitting. Do not use solvent type adhesives when connecting the plastic drain hose to the plastic drain fitting. Damage to the drain fitting will result. Be sure drain line has an adequate slope to the floor drain. There can be no low spots or long horizontal travel.**

### TIPS

- Install saddle valve on the smallest available hot water supply line. Install as close to the water heater as possible to minimize hot water delivery time (see graph below).
- Using a section of braided tubing near the unit can reduce water hammer.
- A condensate pump can be used if an adequate drain angle cannot be achieved (Aprilaire Part #4856).

### HOT WATER DELIVERY TIME THROUGH STANDARD PIPE SIZE



## WIRING

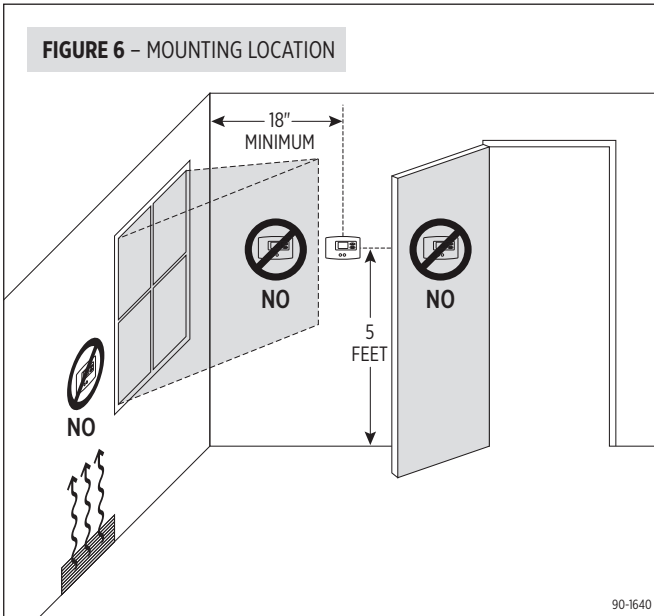
### POWER

The Model 300 is prewired internally and equipped with a 120 VAC cord and plug.

### HUMIDITY CONTROL

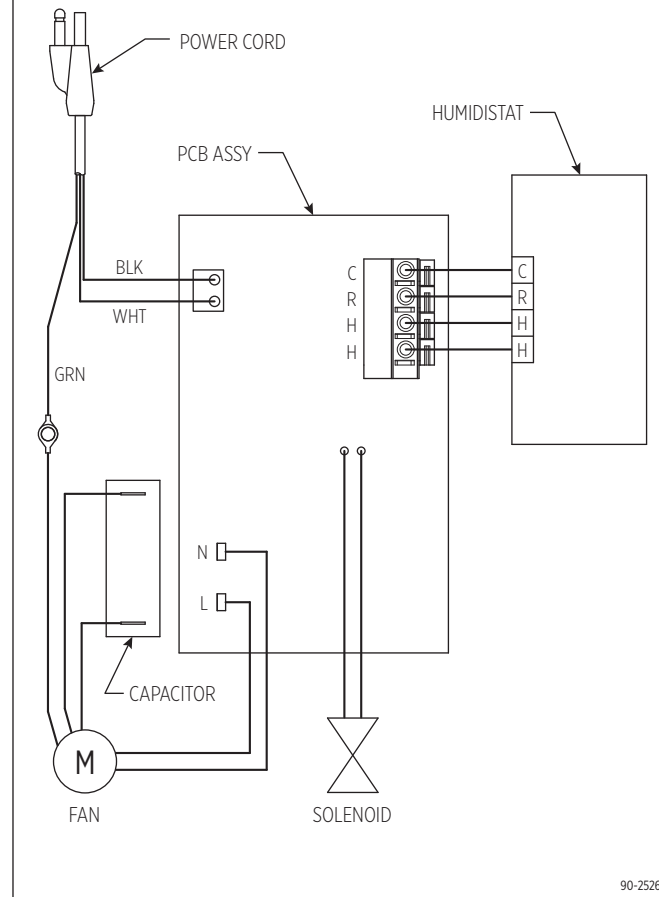
The Aprilaire® Model 65 Humidifier Control is designed for 24 VAC to control humidification equipment. For instructions on how to install and operate the humidistat, see **Model 65 Humidifier Control Installation Instructions** provided.

FIGURE 6 – MOUNTING LOCATION



90-1640

FIGURE 5 – WIRING



90-2526

## CHECK UNIT OPERATION

1. Ensure there is no packaging left inside of the unit on the inlet side (accessible via the Wet Pack™ access panel). Ensure that the Wet Pack sits flush between the Wet Pack guides and nestles in the drain spud.
2. Call for humidity and check for leaks and water flow out the drain.
3. Check fittings at the solenoid valve to ensure the humidifier installation is water tight.
4. Reset humidifier control to recommended level.
5. The fan will continue to run for several minutes after a humidity call is completed to dry the Water Panel and clear ductwork of humidity.
6. As season progresses, periodically check drain line for free flow. Clean drain and inspect Wet Pack and solenoid valve if necessary.

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