

## User Manual PREPARING FOR THE INSTALLATION

Be sure to identify all the required (Table 1) accessories (included) and make sure the appropriate tools are available before beginning the installation.

### Included Accessories

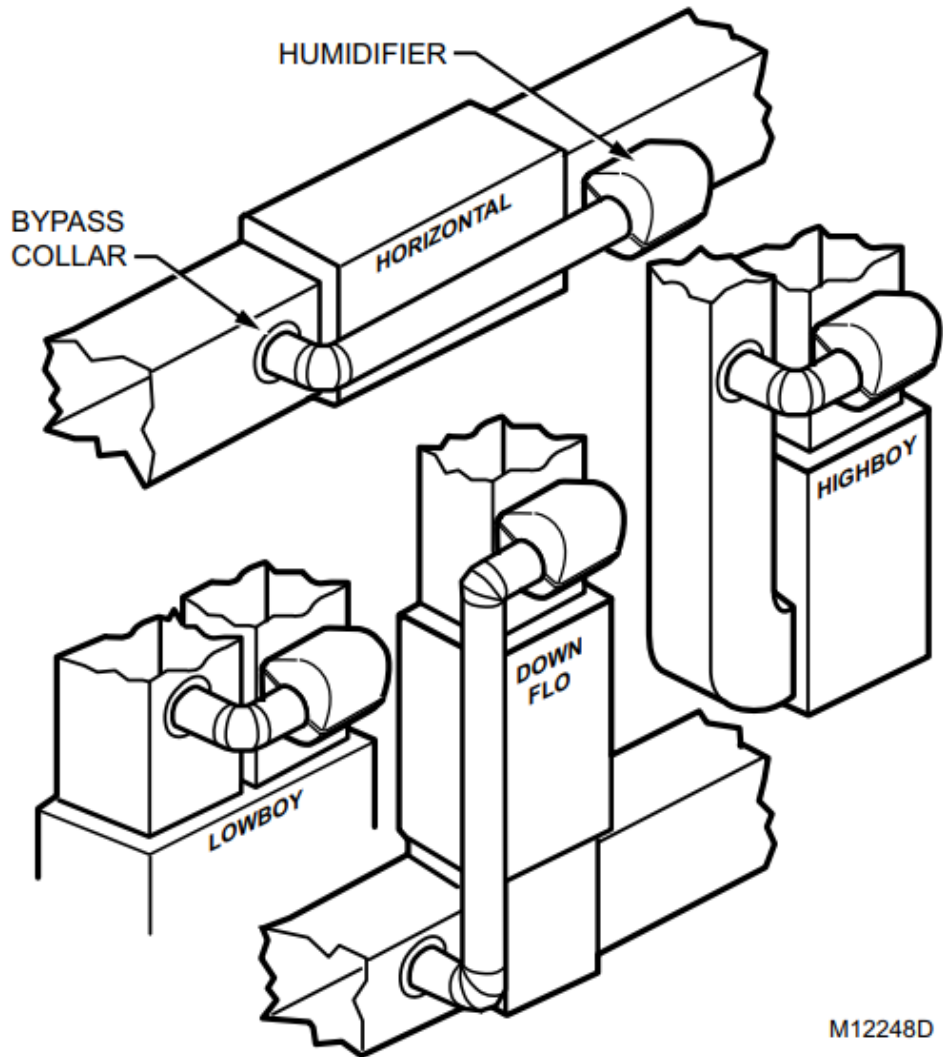
**Table 1. Included Accessories.**

<b>Quantity</b>	<b>Accessory</b>
48 in. (1.22 m)	Bypass ducting including: 6 in. (155 mm) diameter flexible duct
20 ft (6.2 m)	18 gauge, two-strand thermostat wire
20 ft (6.2 m)	1/4 in. (6.35 mm) OD feed water tubing
10 ft (3.1 m)	1/2 in. (12.7 mm) ID drain tubing
1 bag	Connecting and mounting hardware: 4 mounting screws 1 drain tube clamp
1	H8908 Humidistat
1 bag	Saddle Valve Assembly: 1 saddle valve and top clamp 1 threaded bottom clamp 2 bolts 1 rubber gasket 1 brass insert 1 plastic bushing 1 eyelet
1	Plug-in transformer
1	Foil tape roll
1 bag	1 plastic elbow 1 grommet 1 connector strap 1 PVC tubing 1 wire nut
1	Mounting template

### Determining Best Location for Humidifier

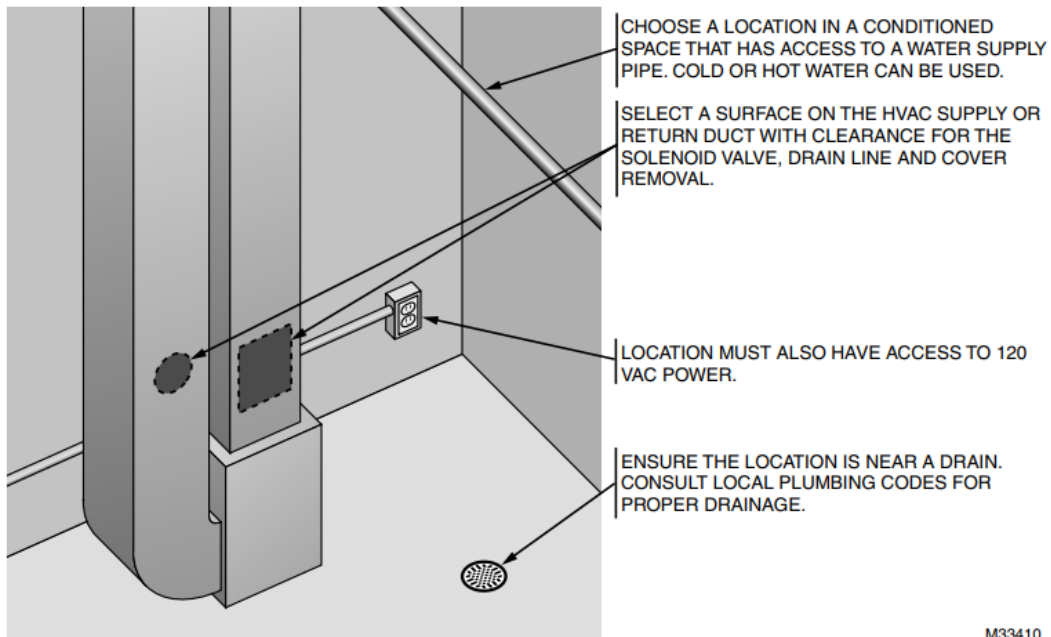
- Select a location for the humidifier on the supply (warm air stream) duct. See Fig. 1 for examples. Return duct mounting is acceptable if there are space restrictions on the supply duct. If you are mounting the humidifier on the return duct, simply swap “return duct” for “supply duct” throughout these instructions.

- Select a location that cannot damage the air conditioner A-coil during installation.
- Do not locate the humidifier on the furnace body.
- Mount the humidifier in a conditioned space to prevent freezing.
- Mount the humidifier at least 3 in. (78 mm) above the furnace body to allow adequate space for the solenoid valve and drain line.



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**Fig. 1. Typical humidifier installation locations.**

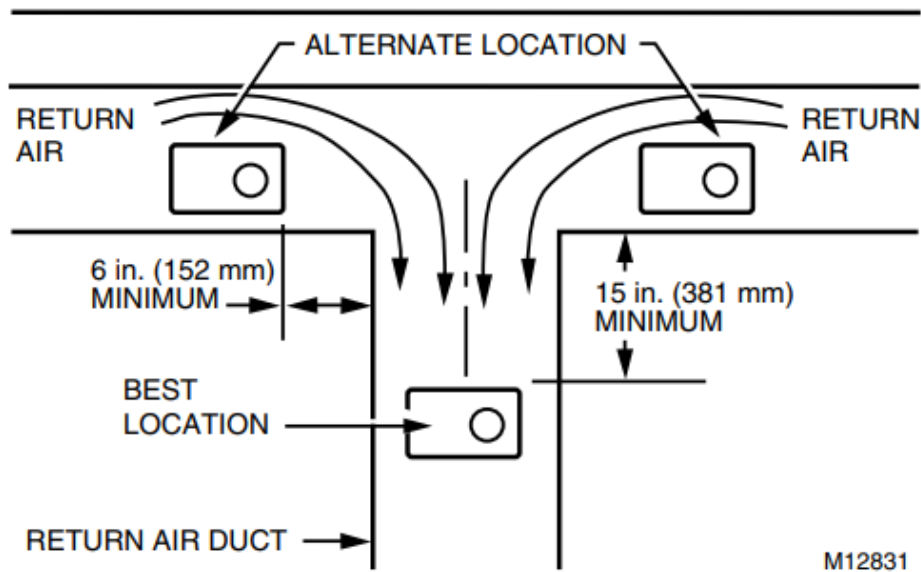


**Fig. 2. Typical humidifier installation locations.**

### Selecting Location for Humidistat

- Select a location for the humidistat on the return plenum or on the wall in the living space.
- Mounting on the return plenum is the easiest installation for the control wiring circuit.

**IMPORTANT** The humidistat must be mounted upstream from the humidifier or bypass duct to ensure it is properly sensing the relative humidity of the living space. Locate the control at least 8 in. (203 mm) upstream from the humidifier in the return air duct. (See Fig. 3.)



**Fig. 3. Selecting duct location for humidistat.**

### Locating Closest 120 V Electrical Outlet

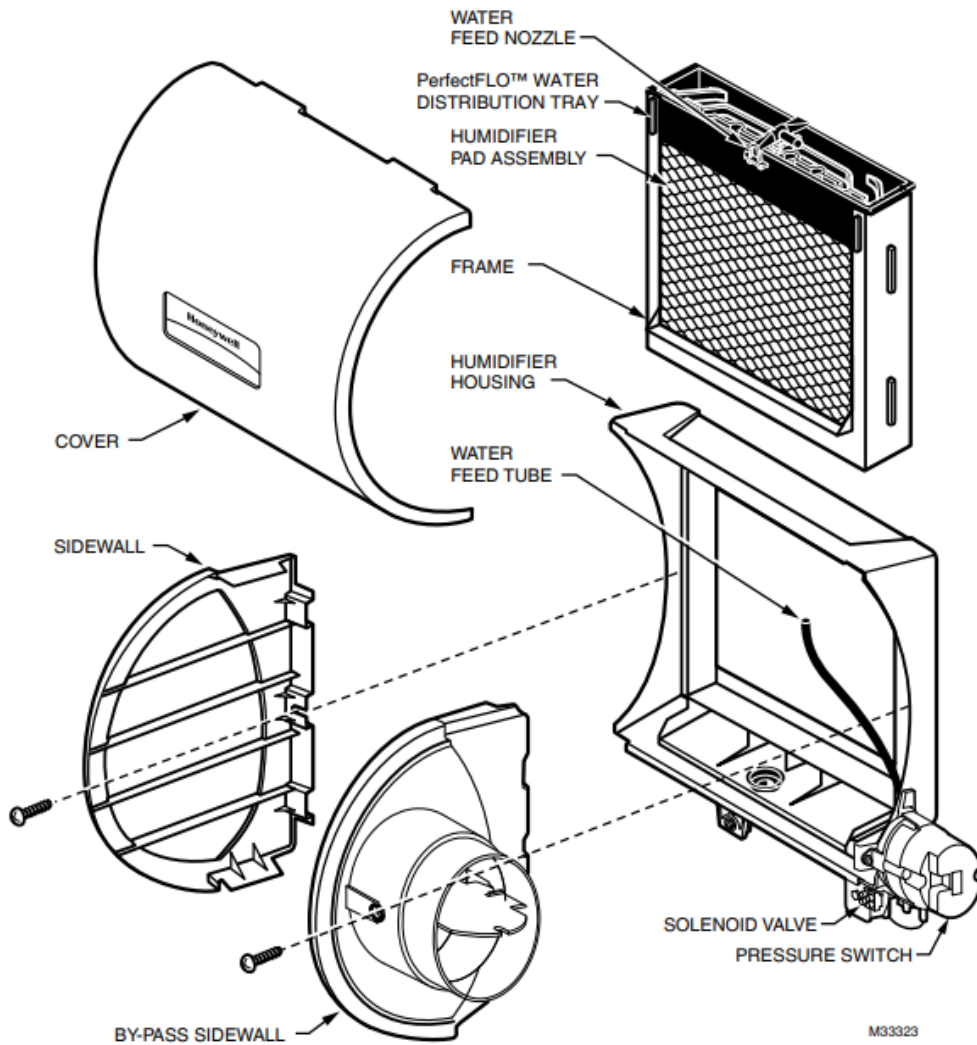
- Select location with access to an outlet. If not available, contact an electrician to have one installed.
- Make sure that the 20 ft (6.2 m) of thermostat wire is adequate to reach from the humidifier to the humidistat, and also from the humidifier to the transformer. Please note that the thermostat wire will need to be cut into the 2 correct lengths. See “Wiring” on page 14 for more information.

## **INSTALLATION**

1. Turn off power to the air handling system at the circuit breaker.
2. Draw a level line on the plenum in the selected location.

**IMPORTANT** To ensure optimal product performance, be sure the mounting template is level before marking. Use of a small level is recommended.

3. Locate the template (form number 69-2710 included in the box). For the HE240 model, cut out the template along the dotted line.
4. Tape the template in position and trace around the template.
5. Remove the template and carefully cut the rectangular opening using tin snips.
6. Disassemble the humidifier; remove the cover and take out the humidifier pad assembly. See Fig. 4.

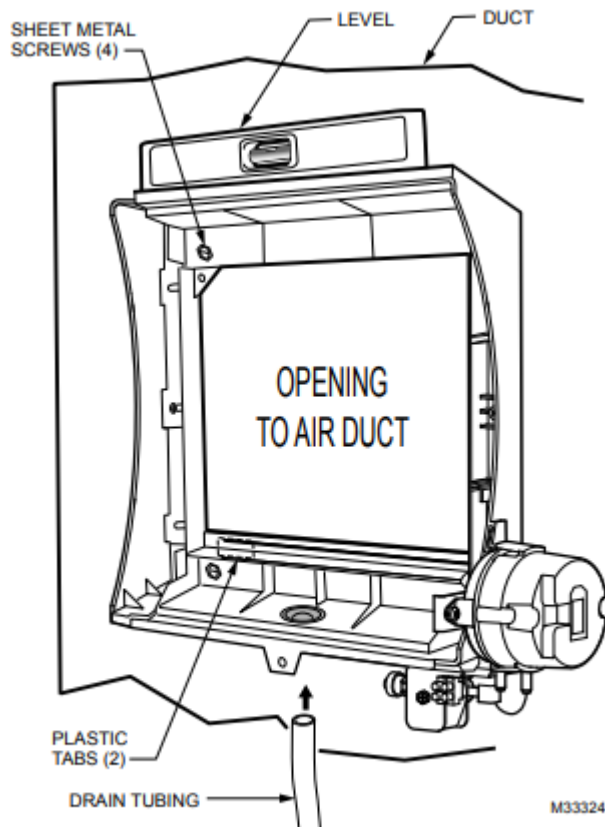


**Fig. 4. Disassembling humidifier.**

7. Make sure the humidifier housing is level, then position it in the opening so the plastic tabs are in place on the lower sheet metal edge of the opening. Use pliers, as necessary, to flatten cut edges. See Fig. 5.

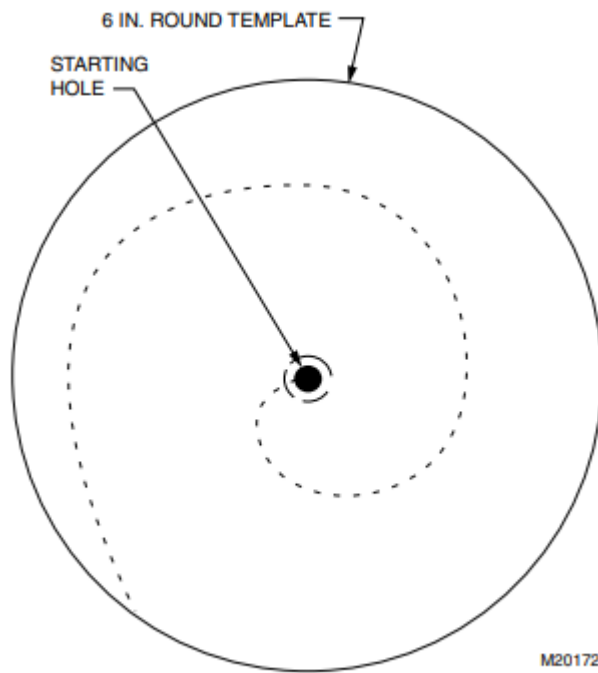
8. Secure the humidifier housing to the opening at the top and bottom using sheet metal screws.

9. Use the 6 in. (155 mm) starter collar as a template to mark the opening for the bypass. The starter collar end can be identified by the pliable metal tabs.



**Fig. 5. Installing humidifier on duct.**

10. Carefully cut the opening for the 6 in. (155 mm) starter collar end of the 48 in. (1.22 m) flex duct. See Fig. 6. Use a drill to start the cut in the middle of the circle. Cut in an outward spiral to assist in controlling the cut.

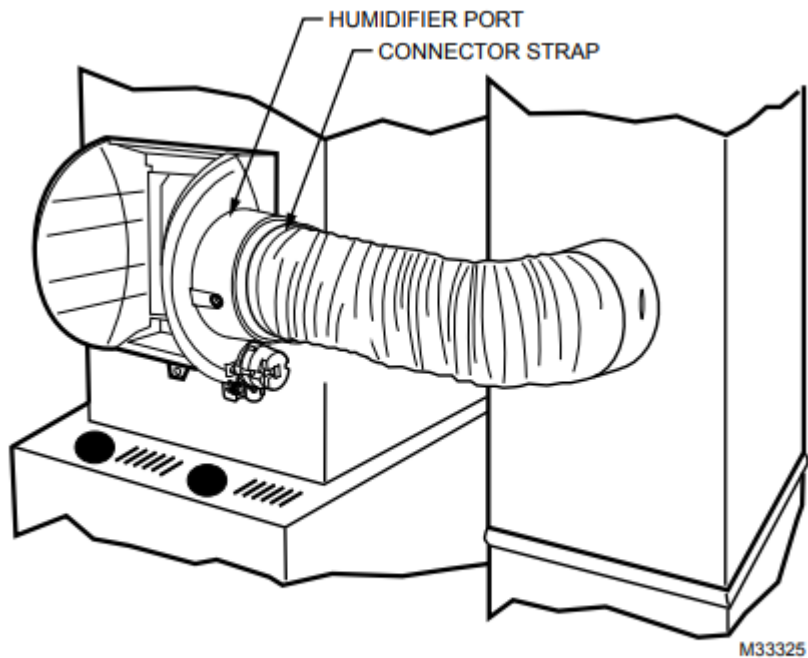


**Fig. 6. Cutting bypass opening.**

11. Reassemble humidifier side plates to customize the orientation for your specific install. The side plate with the humidifier port needs to be on the side of the humidifier that is closest to the 6 in. (155mm) hole cut in Step 10.

12. Insert flex duct with starter collar into the 6" (155mm) hole that was cut in Step 10. Reach into hole **THROUGH THE FLEX DUCT** so that the pliable metal tabs can be bent outwards into the hole. These tabs, when bent outwards, will help secure the flex duct into your home's duct work.

13. Slide remaining loose end of flex duct over the humidifier port on the HE240/ HE280, making sure that the flex duct advances past the raised plastic tabs on the port. These tabs will help to hold the flex duct in place. Verify that the damper blade has adequate clearance to move back and forth between the summer and winter positions. Secure the flex duct in place with the plastic connector strap.



**Fig. 7. Connecting bypass ducting.**

14. Seal the duct connections with foil tape. Seal both
  - 1) the connection between the starter collar end of the flex duct and the home's duct work and
  - 2) the end of the flex duct to the humidifier over the top of the connector strap.
15. Reinstall the humidifier pad assembly in the humidifier housing.
16. Hinge the cover in place and secure with the thumbscrew located at the bottom of the cover.

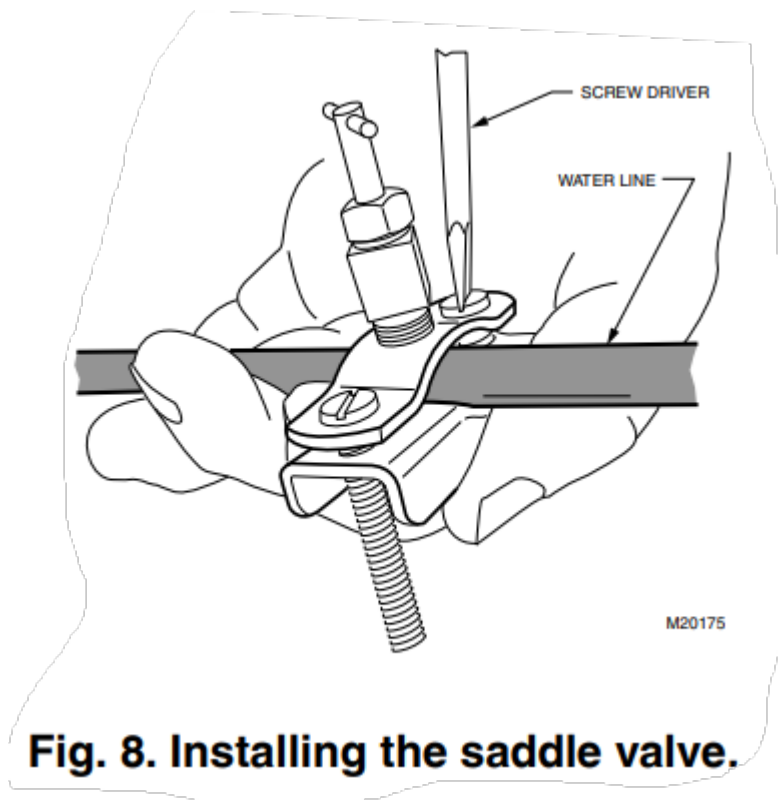
### **Connecting the Plumbing**

Use hot or cold water and either hard or softened water in the humidifier.

NOTE: Using hot water will increase operating costs, but may provide a small increase in the amount of humidity delivered.

IMPORTANT Please consult local plumbing code for proper plumbing regulations before beginning. Use of a manual shutoff valve may be required to meet code in your area.

1. Shut off the water.
2. Use the self-piercing saddle valve (included) to tap into the water supply line at the location selected. Turn the handle on the top of the saddle valve to the right (clockwise) until the needle pierces the water supply line. Leave the needle in this position until the humidifier is fully installed to prevent leaking (even though the water supply is turned off, there can still be water in the line that will leak as soon as the needle is backed out). See Fig. 8. If tapping into galvanized pipe, drain the line and pre-drill 3/16 in. tap for the saddle valve



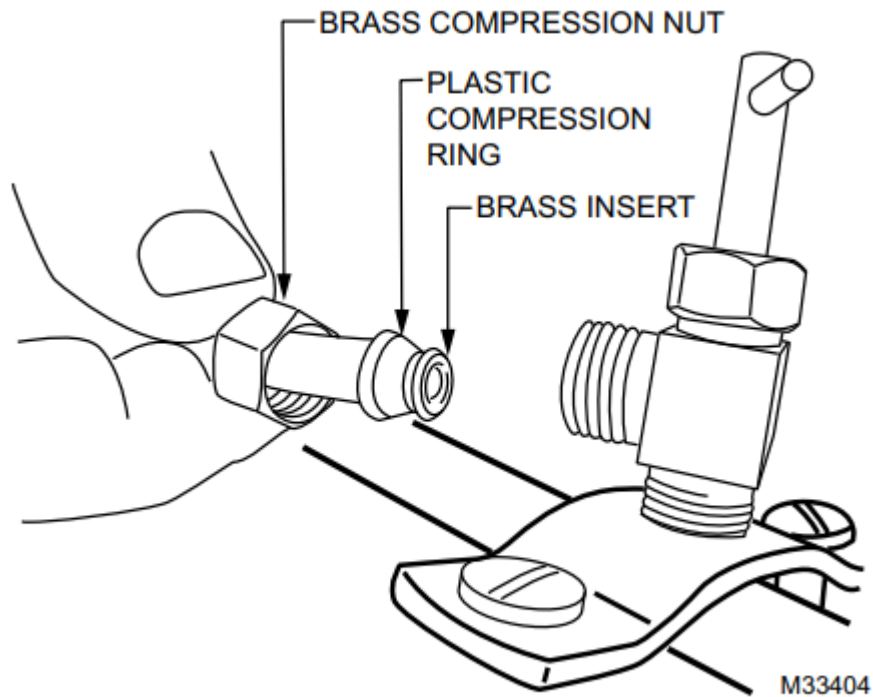
**Fig. 8. Installing the saddle valve.**

NOTE: The saddle valve is not designed to regulate water flow. The valve is either open or closed.

IMPORTANT To prevent debris from clogging the solenoid in-line filter, be sure to install the saddle valve handle pointing toward the ceiling.

3. Use 1/4 in. (6 mm) OD tubing and connect the saddle valve to the inlet side of the solenoid valve on the humidifier (see Fig. 9).

- a. Place the brass compression nut over the tubing.
- b. Slide the plastic compression ring over the tubing. (Discard copper compression ring provided with valve.)
- c. Install brass insert into end of tubing.
- d. Insert the tubing into the saddle valve fitting and support the valve while tightening the compression nut.
- e. Insert plastic supply tubing into quick connect fitting. Insert fully, and apply modest pull pressure to ensure a tight fit.

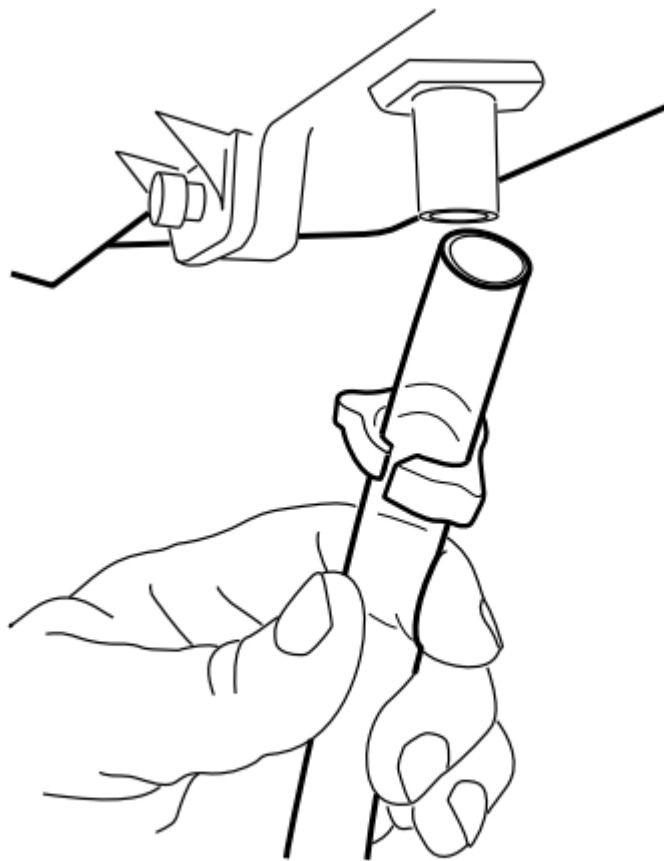


**Fig. 9. Installing feed tubing.**

NOTE: To prevent leaking, use plastic (Delrin) compression rings with plastic tubing. Use copper sleeve rings only with copper tubing.

4. Use the following steps to install a 1/2 in. (13 mm) drain tube between the humidifier and the floor drain (see Fig. 10).

- a. Slide the drain clamp over the tubing.
- b. Push the tubing over the drain nipple on the humidifier.
- c. Hand-tighten the clamp around the tubing to secure it to the humidifier drain. The clamp is tightened by compressing the two sides together so that one side fits into the ridged groove on the other side.
- d. Secure the tubing (can use foil tape) along the route to prevent movement and ensure downward slope for correct drainage

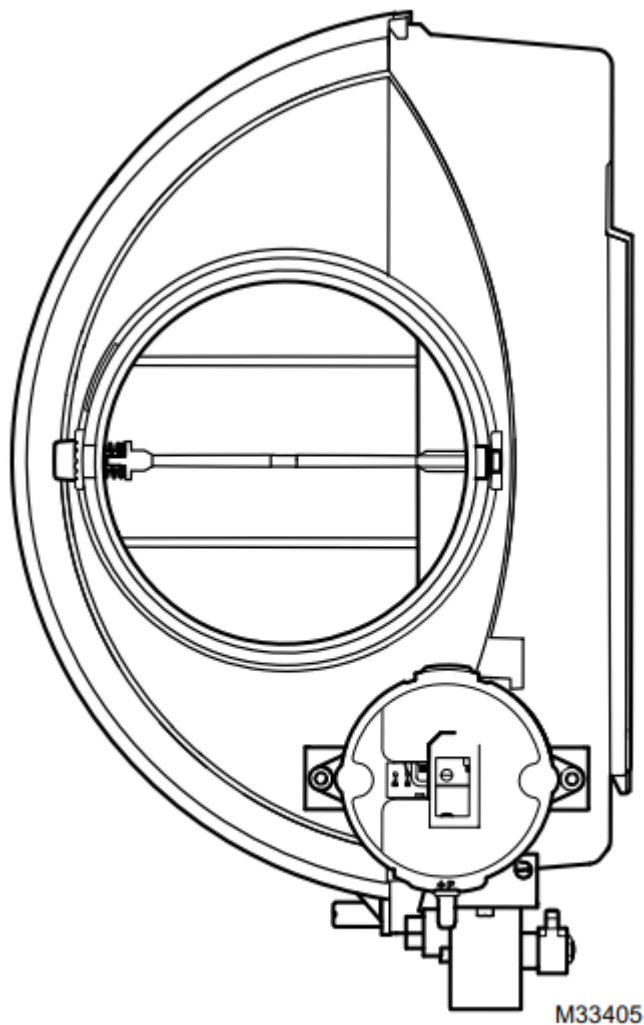


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**Fig. 10. Installing the drain tubing.**

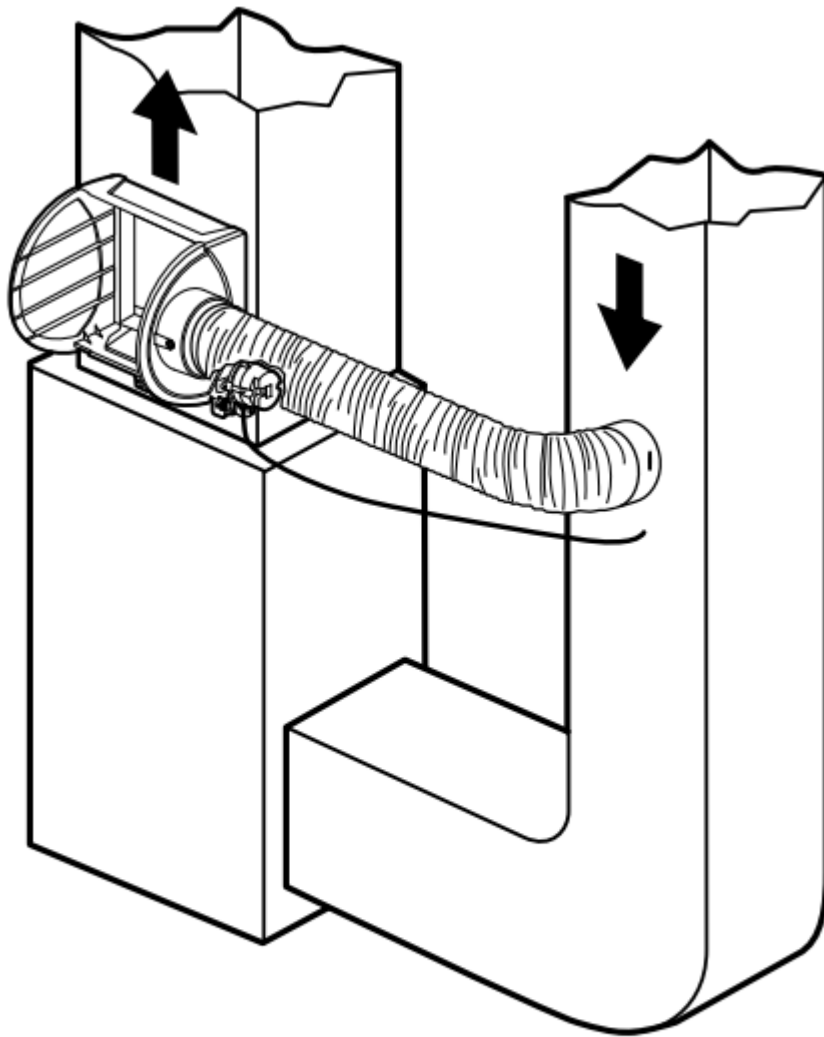
### **Connecting the Pressure Switch**

1. If the humidifier is installed on the supply duct (as is recommended), the pressure switch needs to have the tubing fed to the return duct. If the humidifier is installed on the return duct, the pressure switch needs to have the tubing fed to the supply duct.
2. Drill a 3/4-in. (19 mm) diameter hole in the duct within 10 ft. (3 m) of the switch to ensure the provided tubing reaches the pressure tap elbow.



**Fig. 11. Pressure switch.**

3. Insert the black rubber grommet into the duct hole.
4. Connect the tubing to the tubing fitting elbow and insert the tubing fitting elbow into the black rubber grommet.
5. Connect the other end of the tubing to the applicable pressure connection on the switch.
  - a. If the humidifier is installed on the supply duct (as is recommended), the tube that inserts into the humidifier needs to be attached to the black port, and the tube that runs to the return duct needs to be attached to the gray port.
  - b. If the humidifier is installed on the return duct, the tube that inserts into the humidifier needs to be attached to the gray port, and the tube that runs to the supply duct needs to be attached to the black port.



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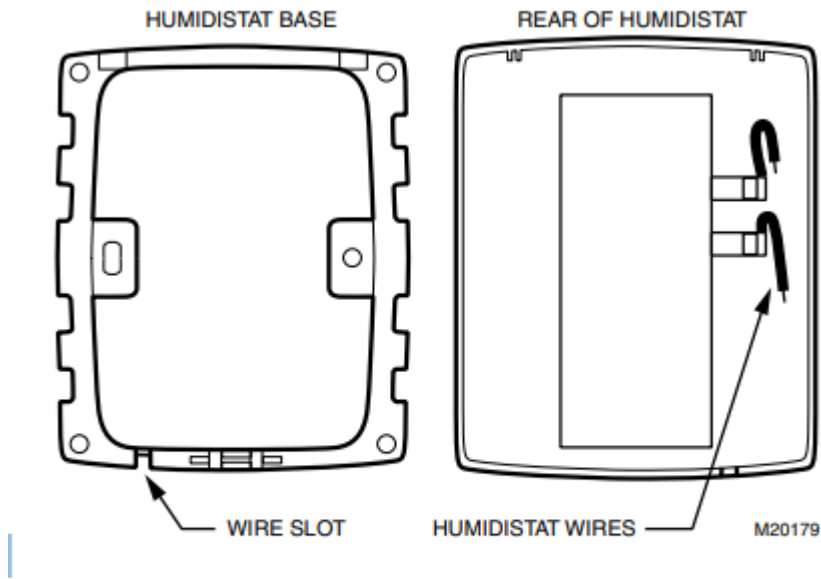
**Fig. 12. Installing the pressure switch tubing.**

6. You may cut the tubing to fit the connection length between the elbow fitting and switch. It is also recommended to secure the hose to existing structures to avoid accidental disconnection.

### **Installing the Humidistat**

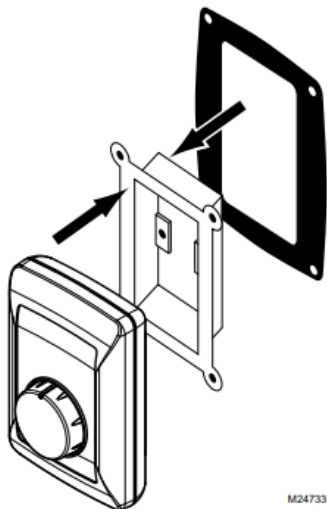
1. Find the mounting template included in the H8908 Humidistat Installation Instructions.
2. Apply the template to the return duct (see Fig. 3 on page 6). Make sure the template is level before drilling. (Use of a small level is recommended.)
3. Remove base bracket from the H8908.
4. Slide the foam gasket onto the base. (See Fig. 14.)

5. Position the base bracket on the duct with the arrow up.
6. Secure the base bracket to the duct using the four 1 in. (25 mm) mounting screws provided with the humidistat. (See Fig. 15.)

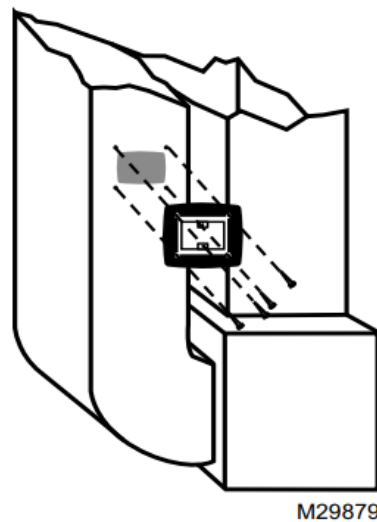


**Fig. 13. Humidistat base and rear view.**

7. Connect the low-voltage wires to the leads and replace the H8908 case. See Fig. 16.



**Fig. 14. Slide the foam gasket onto the base.**

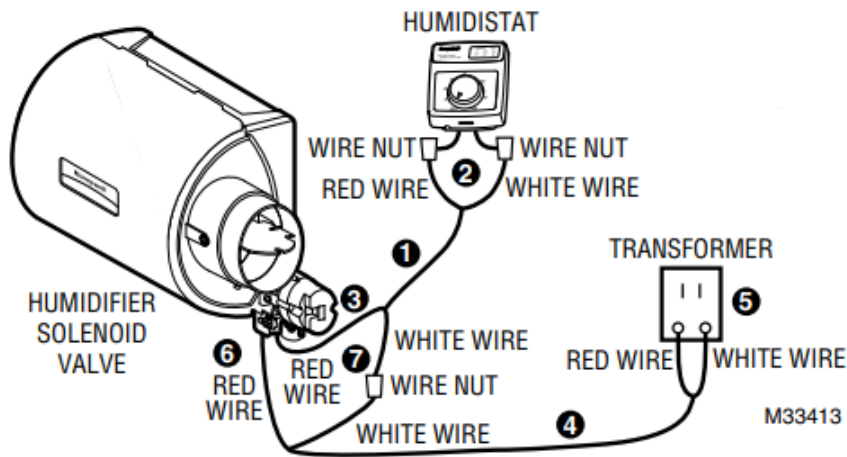


**Fig. 15. Secure the base bracket to the duct.**

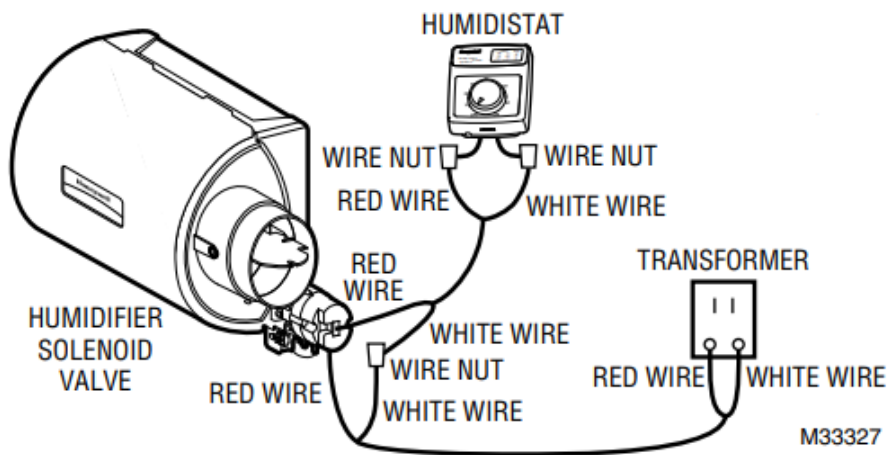
NOTE: For wall mounting instructions, see the H8908 Installation Instructions.

IMPORTANT All wiring must comply with applicable local code, ordinances and regulations.

Wire the humidifier solenoid valve, humidistat and transformer. See Fig. 16.



**Fig. 16. Wiring the controls and the HE240.**



**Fig. 17. Wiring the controls and the HE280.**

1. Determine the length of wire necessary to run from the humidifier to the humidistat. Cut to length and strip the ends appropriately.
2. Connect the red and white wires to the leads on the humidistat per the wiring diagram. Use the provided wire nuts to secure the connections.
3. Taking the opposite end of the wire, connect RED WIRE to one terminal on the humidifier. Leave the white wire loose at this point.
4. Using remaining wire, determine length needed to run from humidifier to the transformer. Cut to length and strip the ends appropriately.
5. Unplug the transformer. Connect the red and white wires to the transformer by loosening the screws on the transformer, wrap wire around screw post and then re-tighten the screws.
6. Taking the opposite end of the wire, connect the RED WIRE to the open remaining loose terminal on the humidifier.

7. Connect the remaining two white wires together using the provided wire nut.

## TESTING HUMIDIFIER OPERATION

### Checklist

- Humidifier is level.
- Control wiring was reviewed using circuit diagram.
- Humidifier is plugged in.
- Feed line has no kinks.
- Drain line slopes continuously down and ends at floor drain.
- Water hose inside humidifier is connected to PerfectFLO™ water distribution tray.
- Tubing from pressure switch is not kinked or pinched.

After installation use the following steps to check the humidifier operation:

1. Turn on the power and the water supply
2. Ensure the saddle valve is fully opened by turning the handle to the left (counter clockwise) until there is resistance.
3. Turn the H8908 Humidistat to On and turn on the heat by setting the thermostat to 10 °F (6 °C) above room temperature.
4. Make sure that water is flowing out of the drain hose. If water does not flow, see Troubleshooting Your Humidifier section.
5. Check for leaks.
6. Reset the thermostat and H8908 Humidistat to a comfortable setting for automatic operation. (35% relative humidity is recommended.)

## OPERATION

### Controlling Your Humidity Settings

Your H8908 Humidistat controls your humidifier.

- Choose the humidity control setting using the combination of relative humidity/ outdoor temperature setting scale on your humidity control dial.
- Match the dial setting to the outdoor temperature to optimize the humidity level while reducing the moisture condensation on your windows. See Table 2 on page 16 to adjust the humidity control to the recommended setting.

NOTE: As the outside temperature drops, a lower humidity setting is recommended to accommodate dewpoint effects. These settings should reduce the accumulation of moisture and ice on windows and other areas of the home.

- Adjust the humidity control setting to adjust for indoor activities such as cooking, showering and clothes drying, which can cause excessive levels of humidity that can accumulate moisture on your windows.

NOTE: If these activities persist for more than a few hours, set the humidity control to the lowest setting to turn off the humidifier. If the condition does not improve, ventilate your home to remove the moisture.

**Table 2. Setting Your Humidistat.**

<b>When Outside Temperature is:</b>	<b>Use This Control Setting:</b>
-20 °F (-29 °C)	15
-10 °F (-23 °C)	20
0 °F (-18 °C)	25
+10 °F (-12 °C)	30
+20 °F (-7 °C)	35
Above 20 °F (-7 °C)	40

## MAINTAINING YOUR HUMIDIFIER

A regular maintenance program prolongs the life of your humidifier and makes your home more comfortable. The frequency of cleaning depends on the condition of your water.

You can use either hard or soft water in your humidifier, but hard water mineral deposits are more difficult to clean than soft water deposits.

Use the following procedure to clean your Honeywell humidifier.

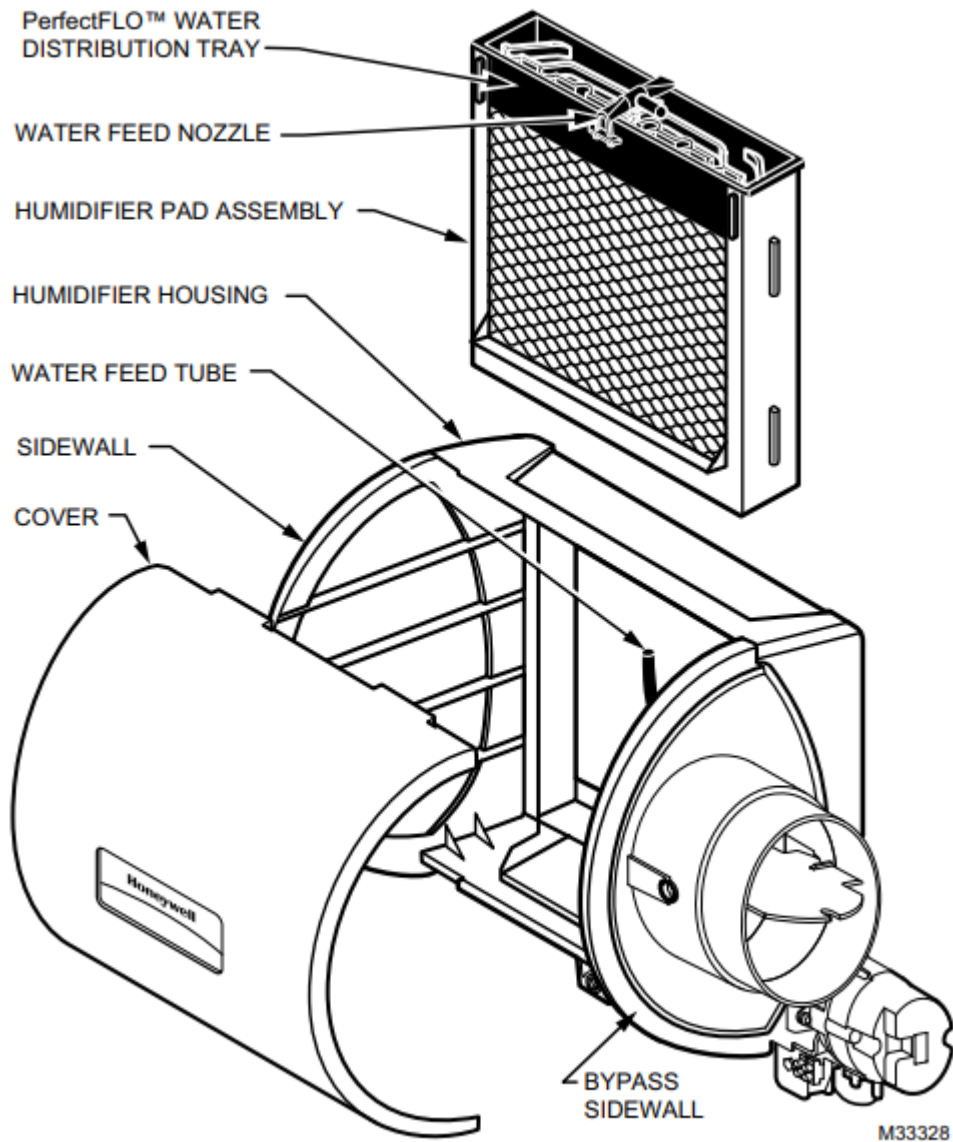
**IMPORTANT** Never oil any part of the humidifier.

**Once per year, depending on water quality** (either at the beginning or the end of the humidification season)

1. Disconnect the power by unplugging the transformer from the outlet and turn off the humidifier's water supply by turning the handle to the right (clockwise) until the water stops flowing and/or there is resistance.
2. Remove the humidifier cover. See Fig. 18 on page 17.



3. Remove the humidifier pad assembly from the humidifier by grasping the top of the tray and pulling it toward you.
4. Pull one side of the humidifier pad assembly frame toward you and remove the tray from the frame.
5. Gently pinch the water nozzle prongs (a pair of prongs is located on each side of the PerfectFLO™ water distribution tray) inward until you can lift the water nozzle off the tray.
6. Slide the humidifier pad out of the frame and discard the pad. Honeywell recommends replacing the humidifier pad on an annual basis. However, if your home has hard water, the pad may need to be replaced more frequently.
7. Carefully remove any mineral deposits from the tray and frame. Be sure the frame drain hole has nothing blocking it.
8. Disconnect the drain hose from the drain fitting on the bottom of the humidifier housing.
9. Clean the drain fitting, if necessary.
10. Bend the drain hose to loosen any mineral deposits.
11. Flush the drain hose with pressurized water (a running tap) to clean the hose.
12. Reattach the drain hose to the drain fitting.
13. Slide a new Honeywell humidifier pad back into the frame.
14. Snap the water nozzle back on the tray.
15. Reattach the tray to the frame.
16. Place the humidifier pad assembly in the humidifier housing and press until the assembly is completely seated. Be careful not to pinch or kink the water feed tube.
17. Replace the humidifier cover.
18. Verify the humidifier operation by following the steps in the Checking Your Humidifier for Correct Operation section.



**Fig. 18. Cleaning your humidifier.**

**End of Humidification Season**

- Clean the humidifier and shut it off at the end of the heating season.
- Turn the water off at the saddle valve by turning the handle to the right (clockwise) until the water stops flowing and/or there is resistance.
- Unplug the humidifier at the wall outlet
- Turn the damper blade to the "summer" position.

**IMPORTANT**

Be sure the humidifier power is off.

**Replacement Humidifier Pads**



Honeywell recommends replacing the humidifier pad on an annual basis. However, if your home has hard water, the pad may need to be replaced more frequently because of the buildup of minerals diminishing its ability to operate normally. If there is access to a water softener, it is recommended to use softened water.

**Table 3. Replacement pad part numbers.**

<b>Humidifier Model</b>	<b>Replacement Pad</b>
HE240	HC22P
HE280	HC26P

**Vacation**

- When leaving on vacation, turn off the humidifier water supply and your humidistat.
- When you return, turn on the humidifier water supply and reset your humidistat.

**Start of the Humidification Season**

Use the following steps to bring the humidifier back to normal (winter) operation:

1. Turn damper blade to "winter" position.
2. Plug the humidifier transformer back into wall outlet and turn water supply to the humidifier back on by turning the handle on the saddle valve to the left (counter clockwise) until there is resistance.
3. Turn the humidistat to its highest setting and set the thermostat to 10 °F (6 °C) above the room temperature.
4. Observe that water is flowing out of the drain hose. NOTE: The furnace blower must be running to activate the humidifier.
5. Reset the thermostat and humidistat to a comfortable setting for automatic operation. (35% relative humidity is recommended.)



## TROUBLESHOOTING YOUR HUMIDIFIER

Problem	What to look for	What to do
Water leakage	Leaking joints.	Shut off water and tighten connections.
	Brass tubing inserts	Verify that brass tubing inserts are used.
	Saddle valve leaking.	Verify rubber pad is installed on saddle valve.
No water to drain.	Electrical	Verify control circuit wiring. Check all connections.
	Humidistat	Turn humidistat up and down and listen for contact to click.
	Humidifier power	Verify that outlet has power.
	Solenoid	After verifying other wiring components, turn on furnace fan, turn humidistat up and down, and listen for solenoid to click.
	Plumbing	Verify plumbing connections. Check for kinks.
	Saddle valve	Verify that needle pierces water line and then backs out needle to open valve.
	Humidifier	Remove cover and verify that water flows into distribution tray.
	Drain tubing	Verify no obstructions.
Air leakage	Check duct joints	Seal with foil tape.

Low humidity	Furnace blower not operating.	<ul style="list-style-type: none"> <li>• Reset circuit breaker or check for blown fuse.</li> <li>• Check that the furnace power is on.</li> <li>• Check all external wiring connections.</li> <li>• Check the humidity control setting.</li> <li>• Verify that pressure switch tubing isn't pinched or obstructed.</li> <li>• Call a professional heating contractor.</li> </ul>
	Rapid air changes. Drafts (cold air is dry and is an added load to the humidifier).	<ul style="list-style-type: none"> <li>• Keep doors and windows closed.</li> <li>• Close fireplace damper when not in use.</li> <li>• Keep exhaust fan running time to a minimum.</li> <li>• Seal around doors and windows.</li> </ul>
	Damper in "summer" position	<ul style="list-style-type: none"> <li>• Set damper blade to "winter" position to allow humidification.</li> </ul>
High humidity	Condensation on walls.	<ul style="list-style-type: none"> <li>• Turn off humidity control and water until condensation is completely evaporated.</li> </ul>
	Heavy condensation on windows.	<ul style="list-style-type: none"> <li>• Turn humidity control down low enough to eliminate condensation caused by moisture from bathing, mopping, cooking, etc. If moisture persists, more ventilation is needed.</li> </ul>

## LIMITED ONE-YEAR WARRANTY

Honeywell warrants this product, excluding humidifier pad, to be free from defects in the workmanship or materials, under normal use and service, for a period of one (1) year from the date of purchase by the consumer. If, at any time during the warranty period, the product is defective or malfunctions, Honeywell shall repair or replace it (at Honeywell's option) within a reasonable period of time.

If the product is defective, return it, with a bill of sale or other dated proof of purchase, to the retailer where you purchased it.

This warranty does not cover removal or reinstallation costs. This warranty shall not apply if it is shown by Honeywell that the defect or malfunction was caused by damage which occurred while the product was in the possession of a consumer.

Honeywell's sole responsibility shall be to repair or replace the product within the terms stated above. HONEYWELL SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE OF ANY KIND, INCLUDING ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING, DIRECTLY OR INDIRECTLY, FROM ANY BREACH OF ANY WARRANTY, EXPRESS OR IMPLIED, OR ANY OTHER FAILURE OF THIS PRODUCT. Some states do not allow the exclusion or limitation of incidental or consequential damages, so this limitation may not apply to you.

THIS WARRANTY IS THE ONLY EXPRESS WARRANTY HONEYWELL MAKES ON THIS PRODUCT. THE DURATION OF ANY IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IS HEREBY LIMITED TO THE ONE YEAR DURATION OF THIS WARRANTY. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state. If you have any questions concerning this warranty, please write to Honeywell Customer Care, 1985 Douglas Drive, Minneapolis, MN55422.

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