

**Honeywell**

# HE360A,B Powered Flow-Through Humidifier

INSTALLATION GUIDE/OWNER'S MANUAL



69-1176-04

*HE360A,B POWERED FLOW-THROUGH HUMIDIFIER*

## WELCOME

To the comfortable world of humidified air. When you use your Honeywell humidifier, notice that your skin is not as dry, and that your scratchy throat and irritated nasal passages that aggravate allergies and asthma are steadily improving.

You have also taken the first step in reducing the *zapping* you create when you walk on your carpet and then touch your TV, computer, metal door knob or your pet. Your furniture and woodwork are also benefitting from the difference that humidified air makes.

Congratulations! You have just made a great investment in improving the comfort of your home.

## APPLICATION

This kit contains your new Honeywell HE360 Humidifier, H8908 Humidistat and all the accessories required for installation.








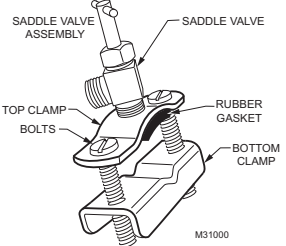
### How Your Humidifier Works

Your Honeywell humidifier uses the principle that vapor (evaporated water) is created when warm air blows over a water-soaked area. As the vapor circulates, the relative humidity rises.

Your humidity control monitors the relative humidity and activates the humidifier accordingly. The humidifier has a water supply that dispenses water evenly over a humidifier pad. The warm dry air, from the furnace, passes over the humidifier pad and picks up the moist air to circulate it throughout your home.

Humidified air feels warmer and more comfortable so you may be able to lower your thermostat heating setpoint, which saves money on your heating fuel bills. The end result is that your humidifier gives you a comfortable environment that is also energy efficient.

**Installation Accessories (Available in Installation Kit 32005847-00)**  
**Table 1. Required Accessories**

Quantity	Accessory	Illustration
20 ft (6.2m)	18 gauge, two-strand thermostat wire	<p>THERMOSTAT WIRE</p>  <p>M31006</p>
20 ft (6.2m)	1/4 in. (6.35 mm) OD feed water tubing	<p>PLASTIC TUBING</p>  <p>M31007</p>
10 ft (3.1m)	1/2 in (12.7 mm) ID drain tubing	
1 bag	<p>Connecting and mounting hardware:</p> <ul style="list-style-type: none"> <li>Wire nuts (4)</li> <li>No. 8 sheet metal screws (18)</li> <li>Drain tube clamp</li> <li>Feed tube mounting clamps (6)</li> <li>Brass inserts (2)</li> <li>Plastic compression rings (2)</li> </ul>	<p>WIRENUT    PLASTIC RING    CLAMP</p>  <p>M31009    M31012    M31020</p> <p>DRAIN TUBE CLAMP    #8 SHEET METAL SCREW</p>  <p>M31014    BRASS INSERT    M31015</p>  <p>M31011</p>
1	Sail switch	<p>SAIL SWITCH</p>  <p>M31008</p>
1	H8908 Humidistat	<p>H8909 HUMIDISTAT</p>  <p>M31010</p>
1 bag	<p>Saddle Valve Assembly:</p> <ul style="list-style-type: none"> <li>Saddle valve and top clamp (1)</li> <li>Threaded bottom clamp (1)</li> <li>Bolts (2)</li> <li>Rubber gasket (1)</li> <li>Eyelet (1) not shown</li> <li>Plastic bushing (1) not shown</li> </ul>	 <p>M31000</p>

## Required Tools

Tools required for installation include:

- Tin snips.
- Screwdriver.
- Adjustable or open-end wrench.
- Battery-powered Drill, punch or awl.
- Level.
- Work Gloves (preferably cut-resistant).
- Safety Glasses.

# INSTALLATION

## 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.

## Installing the Humidifier

### **⚠ WARNING**

**Hazardous Voltage**

**Can cause personal injury or equipment damage.**

Do not cut or drill into any air conditioning or electrical accessory.

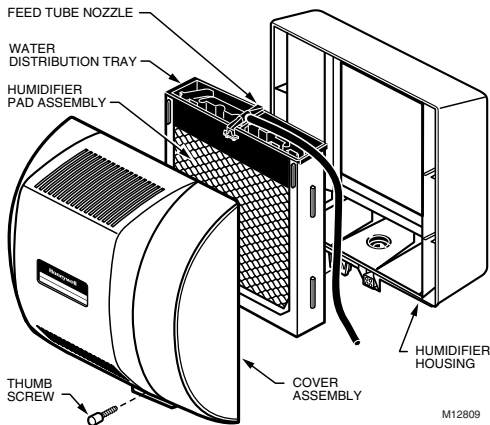
### **⚠ CAUTION**

**Sharp Edges Installation Hazard.**

**Can cause personal injury.**

Wear gloves and safety glasses.

1. Turn off power to the air handling system at the circuit breaker.
2. Draw a level line on the plenum in the location chosen for the humidifier. (Leveling assures optimal humidifier performance.)
3. **Locate the template (form number 69-1651 included in the box).**
4. **Tape the template in position and trace around the template.**
5. **Remove the template and carefully cut the rectangular opening.**
6. Disassemble the humidifier; remove the cover and take out the humidifier pad assembly. See Fig. 1.



**Fig. 1. Disassembling humidifier.**

- Select a location that cannot damage the air conditioner A-coil during installation.
- Do not locate the humidifier on the furnace body.
- Allow adequate clearance in front of and above the humidifier so you can easily remove the cover to perform routine maintenance.
  - Mount the humidifier at least 3 in. (78 mm) above the furnace body to allow adequate space for the solenoid valve and drain line.
  - Mount the humidifier in a conditioned space to prevent freezing.

### Selecting Water Supply Location

- Use either hard or soft water in the humidifier and either hot or cold water. The water flow rate, with the humidifier running, is 3.5 gal/hr (13 liters/hr) to flush the pad and provide moisture for evaporation.
- Make sure that the 20 ft (6.2m) of feed water tubing provided is adequate to connect the water supply (saddle valve) with the humidifier solenoid valve.

### Locating Closest Floor Drain

- Select location with access to a floor drain to provide drainage for air conditioner condensation and humidifier drainage.
- If you do not have a drain available, we recommend that you install the Honeywell Whole House Drum or Disk Humidifier. Make sure that the 10 ft (3.1m) of drain tubing is adequate to reach from the humidifier drain connection to the floor drain.

### Selecting Location for Sail Switch

- Select a location for the sail switch in the cold air return duct where the sail is in the direct path of an unrestricted air stream.
  - Sail switch detects when furnace fan is operating.
- Select a location where the air duct is at least 12 in. (305 mm) deep and 8 in. (203 mm) wide to allow operation of the sail without affecting the smooth flow of air in the duct.
  - Airflow at the location can be vertical (up or down) or horizontal.

### **IMPORTANT**

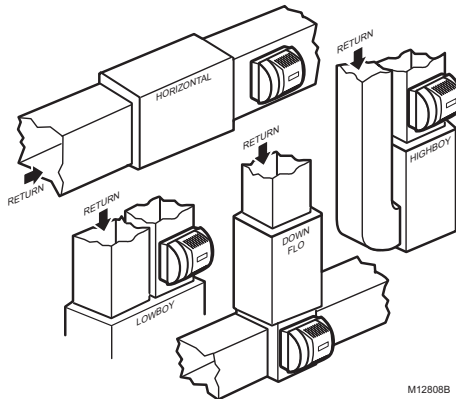
*Mounting the S688 in warm air supply duct can reduce the sail life.*

- Mount the switch at least 6 in. (152 mm) upstream from an elbow or junction, and at least 15 in. (381 mm) downstream from an elbow or junction.
- Locate the switch on the opposite side of the duct from the air entrance. (See Fig. 1-3 in S688 Installation Instructions.)

### 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.

For return duct mounting, the humidistat should be mounted upstream from the humidifier or bypass so that 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 2.)



**Fig. 2. Selecting duct location for humidistat.**

### Locating Closest 120V Electrical Outlet

- Select location with access to an outlet. If not available, contact an electrician to have one installed.
- Make sure that the humidifier cord is adequate to reach from the humidifier to the outlet.
- Make sure that the 20 ft (6.2m) of thermostat wire is adequate to reach from the humidifier solenoid, to the sail switch, to the humidistat.

### Installing the Humidifier

#### **⚠ WARNING**

**Hazardous Voltage**

**Can cause personal injury or equipment damage.**

Do not cut or drill into any air conditioning or electrical accessory.

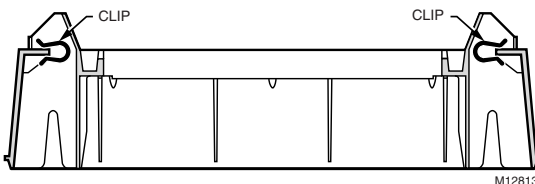
#### **⚠ CAUTION**

**Sharp Edges Installation Hazard.**

**Can cause personal injury.**

Wear gloves and safety glasses.

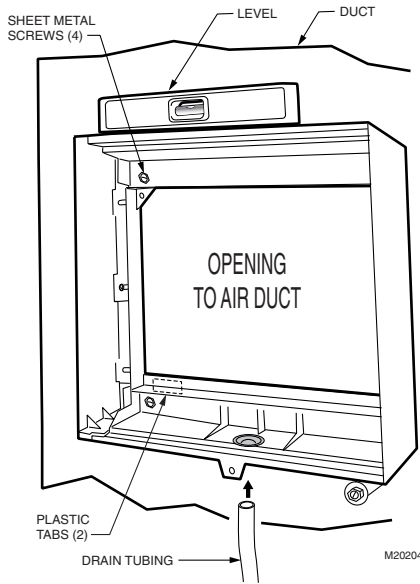
1. Position the securing clips as shown in Fig. 3.



**Fig. 3. Position securing clips.**



2. 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. 4.
3. Push in securing clips until completely seated.
4. Drill holes and install the three sheet metal screws on the top of the humidifier housing. Secure the housing with the three remaining screws.



**Fig. 4. Installing humidifier on duct.**

5. Reinstall the humidifier pad assembly in the humidifier housing.

**IMPORTANT**

*Be sure to reconnect the water feed tube and ensure that the tube is not pinched or kinked.*

6. 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.

1. Shut off the water.



### CAUTION

**Chemical Hazard.**

**Can cause personal injury or equipment damage.**

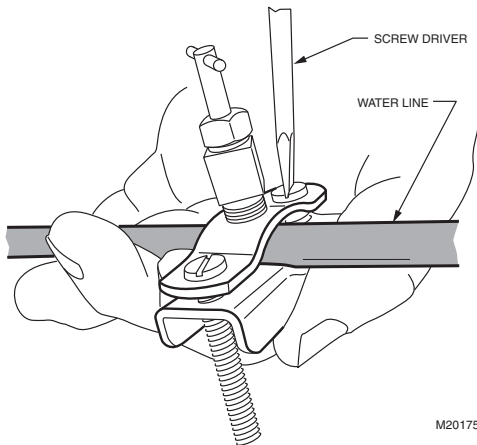
Do not use any line connected to an air conditioner.

Do not use gas line.

2. Use the self-piercing saddle valve (included) to tap into the water supply line at the location selected. See Fig. 5. If tapping into galvanized pipe, drain line and pre-drill 3/17 in. tap for saddle valve. 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.*



**Fig. 5. Installing the saddle valve.**

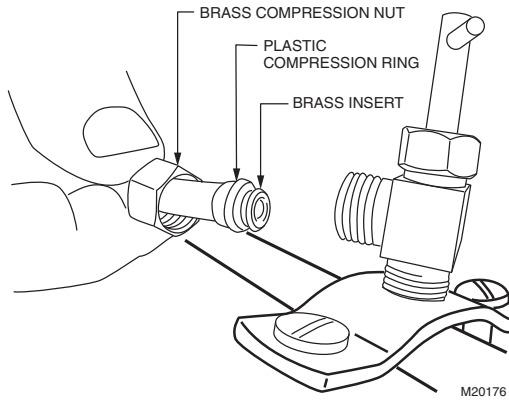
3. Use 1/4 in. (6 mm) OD tubing and connect the saddle valve to the inlet side of the solenoid valve on the humidifier (see Fig. 6).
  - a. Place the brass compression nut over the tubing.
  - b. Install brass insert into end of tubing.
  - c. Slide the plastic compression ring over the tubing. (Discard copper compression ring provided with valve.)

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

- d. Insert the tubing into the solenoid valve fitting and support the valve while tightening the compression nut.

NOTE: Do not over-tighten the compression nut. Moderate tightness prevents leaking.

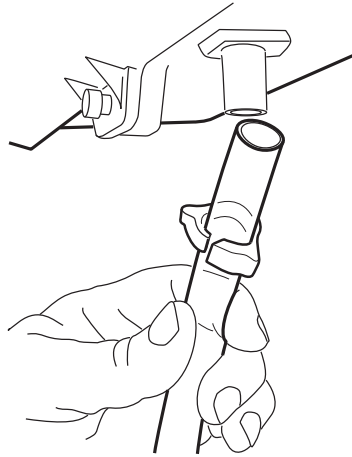
- e. Repeat steps a. through d. for solenoid valve fitting.
- f. Secure tubing with clamps provided.



**Fig. 6. Installing feed tubing.**

4. Connect a 1/2 in. (13 mm) drain tube to the humidifier drain fitting and run to the floor drain (see Fig. 7).
  - 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 the humidifier drain.
  - d. Fasten the drain tubing (can use duct tape) along the route to prevent movement and ensure downward slope for correct drainage.

NOTE: Cut tubing to correct length so the tubing terminates at the drain.



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**Fig. 7. Installing the drain tubing.**

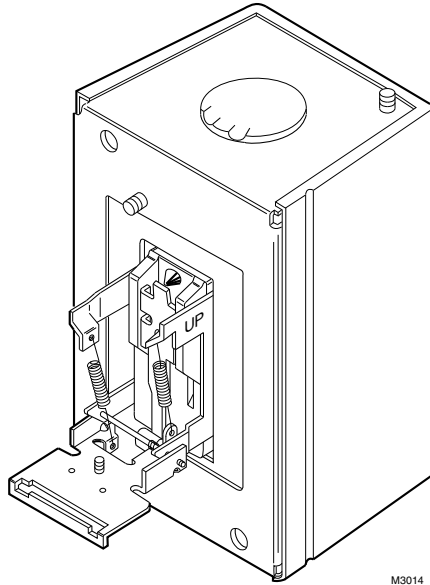
## **Installing the Sail Switch**

### **Adapting Switch to Air Flow Direction**

The S688A Sail Switch has two counterbalancing springs in place as shown in Fig 8. These springs offset the effect of gravity for air flow direction.

**IMPORTANT:**

*Do not use the sail switch with both springs attached. Be sure to select air flow direction and remove spring(s) not required for installation.*



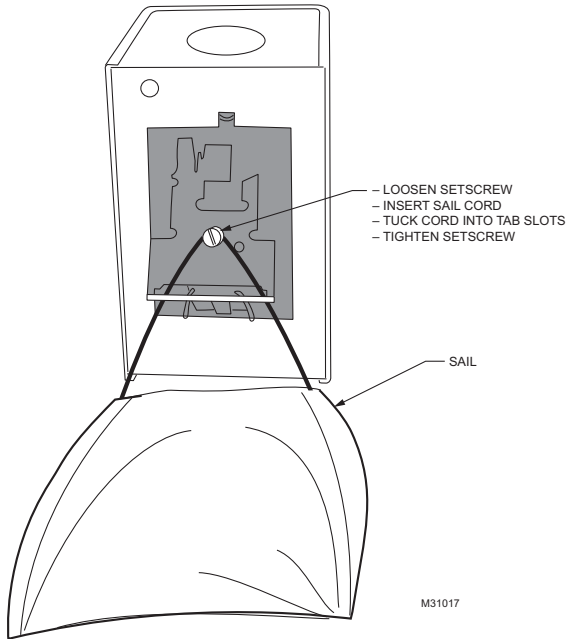
**Fig. 8. Adapting sail switch to air flow direction or mounting position.**

- **Vertical *downward* air flow:** Leave the spring in place that is attached to the bracket marked Down. Remove the spring that is attached to the bracket marked Up.
- **Vertical *upward* air flow:** Leave the spring in place that is attached to the bracket marked Up. Remove the spring that is attached to the bracket marked Down.
- **Horizontal air flow:** Remove both springs.

1. Mount the template (provided with the sail switch) at the desired location.

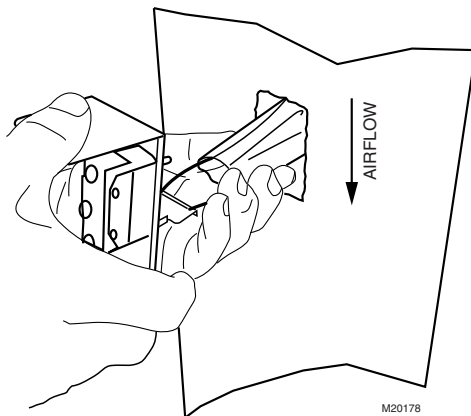
NOTE: Be sure the arrow (indicating air flow) points in the correct direction.

- a. For horizontal mounting, *level* the long dimension shown on the template.
- b. For vertical mounting, *plumb* the long dimension.
2. Cut the hole (indicated on the template) in the ductwork.
3. Center punch the screw holes indicated and drill out with a 1/8 in. (13 mm) drill.
4. Attach the sail to the switch as shown in Fig 9.



**Fig. 9. Attaching sail to switch.**

5. Press together the sides of the wire loop. Insert the sail into the duct. (When in the Off position, the sail should point into the direction of airflow as shown in Fig.10.)



**Fig. 10. Inserting sail switch in direction of airflow.**

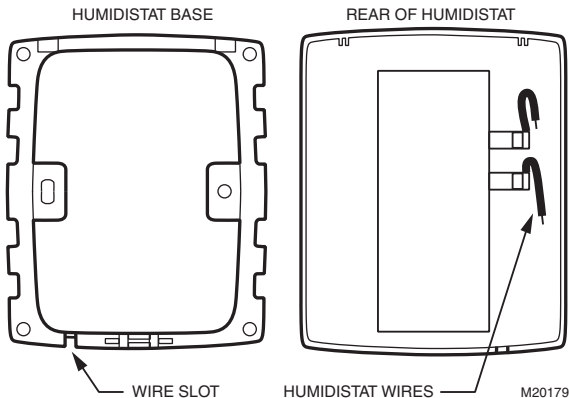
6. Secure the switch by using the sheet metal screws provided.
7. After wiring, snap on the cover.

## Installing the Humidistat

### Installing on Mounting Duct

1. Apply the template to the duct location chosen for the humidistat. Make sure the template is level before drilling the holes.
2. Refer to the template (provided with the H8908 Humidistat Installation Instructions) to drill the control assembly opening and mounting holes for the H8908.
3. Remove the H8908 case from the base.
4. Position the foam gasket on the H8908 base.
5. Position the base on the duct with the arrow up.
6. Secure the base to the duct using the four 1 in. (25 mm) mounting screws provided with humidistat.
7. Connect the low-voltage wires to the leads and replace the H8908 case. See Fig. 11.

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



**Fig. 11. Humidistat base and rear view.**

## WIRING



### CAUTION

**Hazardous Voltage.**

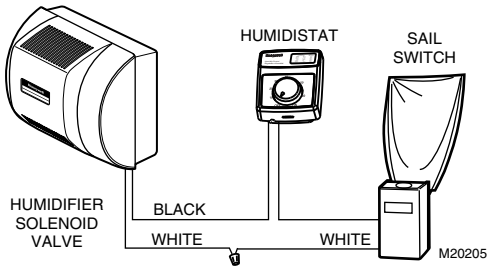
**Can cause personal injury or equipment damage.**

Disconnect power supply before installing or servicing equipment.

### IMPORTANT

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

Wire the humidifier solenoid valve, sail switch, humidistat and transformer. See Fig. 12.



**Fig. 12. Wiring the controls.**

1. Run the two-strand thermostat wire from the humidifier to the humidistat, and from the humidistat to the sail switch.
2. Cut lengths of thermostat wire to reach between components, leaving adequate wire at both ends for connections.

NOTE: Humidistat and sail switch can be wired in any order.

3. At the humidifier, connect the black and white conductors to the two yellow humidifier wires. (The red wires from the humidifier are not used.)
4. At the humidistat, connect both black conductors to the two humidistat terminals. Use a wire nut to connect together the two white conductors.
5. At the sail switch, connect the black and white conductors to the Com and NO sail switch terminals (NC terminal is not used).



# 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 PerfectFlow™ water distribution tray.

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

1. Turn on the power and the water supply
2. Turn the H8908 Humidistat to On and turn on the heat by setting the thermostat to 10°F (6°C) above room temperature.

### **IMPORTANT**

*The furnace blower must be on to activate the humidifier.*

3. Make sure that water is flowing out of the drain hose. If water does not flow, see Troubleshooting Your Humidifier section.
4. Check for leaks.
5. Reset the thermostat and H8908 Humidistat to a comfortable setting for automatic 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 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.

### **!** WARNING

**Serious Personal Injury Hazard.**

**Can cause electrical shock and injury from moving parts.**

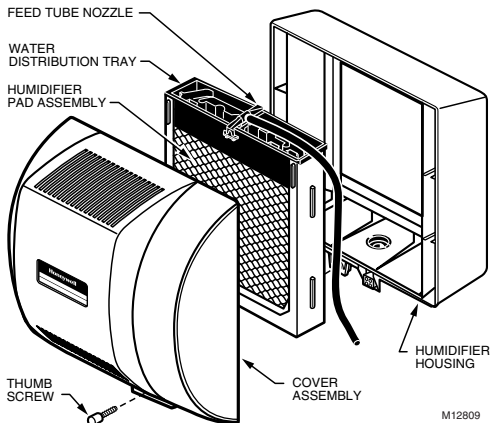
Disconnect power and shut off water supply before removing cover.

### **IMPORTANT**

*Never oil any part of the humidifier.*

### Every 1 to 3 Months (Depending on Water Quality)

1. Disconnect the power and turn off the humidifier water supply.
2. Remove the humidifier cover by unplugging the connector and loosening the thumb screw. Grasp the cover near the bottom and pull toward you. See Fig. 13.
3. Remove the humidifier pad assembly from the humidifier by grasping the top of the tray and pulling it toward you.
4. Lift the tray off the pad.
5. Gently pinch the water nozzle catches inward until you can lift the water nozzle off the tray.
6. Carefully remove any mineral deposits from the tray and frame. Be sure the frame drain hole has nothing blocking it.



**Fig. 13. Cleaning your humidifier.**

7. Disconnect the drain hose from the drain fitting on the bottom of the humidifier housing.
8. Clean the drain fitting, if necessary.
9. Bend the drain hose to loosen any mineral deposits.
10. Flush the drain hose with pressurized water (a running tap) to clean the hose.
11. Reattach the drain hose to the drain fitting.
12. Snap the water nozzle back on the tray.
13. Be sure the marked end of the pad is facing up. Place the tray on the new pad.
14. Place the humidifier pad assembly in the humidifier housing. Be sure the water feed tube is placed in the guide slots.
15. Replace the humidifier cover.
16. Verify the humidifier operation by following the steps in the Checking Your Humidifier for Correct Operation section.

## CHECKING YOUR HUMIDIFIER FOR CORRECT OPERATION

After winter startup or servicing, use the following steps to check your humidifier operation:

1. Turn on the humidifier power and water supply.
2. Turn the humidistat to its highest setting and set the thermostat to 10°F (6°C) above the room temperature.
3. Observe that water is flowing out of the drain hose.

NOTE: The furnace blower must be running to activate the humidifier.

4. Reset the thermostat and humidistat to a comfortable setting for automatic operation.

# TROUBLESHOOTING YOUR HUMIDIFIER

Table 3. Troubleshooting Humidifier

Problem	What to look for	What to do
Water leakage	Leaking joints.	Shut off water. Tighten connections.
	Brass tubing inserts	Verify that brass tubing inserts are used.
	Saddle valve leaking.	Verify rubber gasket is installed on saddle valve.
No water to drain.	<b>Electrical</b>	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.
	Sail switch	Remove sail cover; turn on furnace fan and listen for faint click. Verify that sail can move freely in duct; check sail switch instructions to trim sail, if necessary.
	Solenoid	After verifying other wiring components, turn on furnace fan, turn humidistat up and down, and listen for solenoid to click.
	<b>Plumbing</b>	Verify plumbing connections. Check for kinks.
	Saddle valve	Verify that Saddle Valve needle pierces water line, and has been backed out so that the valve is open.
	Humidifier	Remove cover and verify that water flows into distribution tray.
Drain tubing	Verify no obstructions.	

**Table 3. Troubleshooting Humidifier (Continued)**

<b>Problem</b>	<b>What to look for</b>	<b>What to do</b>
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>• 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>
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, 1885 Douglas Drive, Minneapolis, MN55422. In Canada, write Retail Products ON15-02H, Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Scarborough, Ontario M1V 4Z9.

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