

HE220, HE260 Humidifier Installation Kit

INSTALLATION INSTRUCTIONS

WELCOME

To the comfortable world of humidified air. When you use your Honeywell humidifier, you 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 installation kit contains all the parts necessary to install your new Honeywell HE220 or HE260 Humidifier.

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.

Required Accessories (Included)

Table 1. Required Accessories.

Quantity	Accessory
6 ft (1.85M)	Bypass ducting including: 6 in. (155 mm) diameter flexible duct Starter collar Summer shut-off damper Duct tape
20 ft (6.2m)	18 gauge, two-strand thermostat wire
20 ft (6.2m)	1/4 in. (6.35 mm) OD feed water tubing
10 ft (3.1m)	1/2 in (12.7 mm) ID drain tubing
1 bag	Connecting and mounting hardware: Wire nuts (4) No. 8 sheet metal screws (18) Drain tube clamps (2 sizes) Feed tube mounting clamps (6) Brass inserts (2) Plastic compression rings (2)
1	Plug-in transformer
1	Sail switch

Required Tools

Tools required for installation include:

- Tin snip.
- Screwdriver.
- Adjustable or open-end wrench.
- Drill, punch or awl.
- Level.



Determining Best Location for Humidifier

- Select a location for the humidifier on the supply (warm air stream) or the return plenum. See Fig. 1.
- Select a location for the bypass on the opposite plenum. The sidewalls of the humidifier are interchangeable to allow bypass duct mounting on either side of the humidifier.
- Select a location that cannot damage the air conditioner A-coil during installation.
- Select a location where the 6 ft (1.86m) of 6 in. (155 mm) duct provided is adequate to connect the humidifier to the bypass.
 - Do not locate the humidifier or bypass on a furnace body.
 - Allow adequate clearance in front of and above the humidifier so you can easily remove the cover to perform routine maintenance.
 - Mount humidifier at least 3 in. (78 mm) above the furnace body to allow adequate space for the solenoid valve and drain line.
 - Mount humidifier in a conditioned space to prevent freezing.

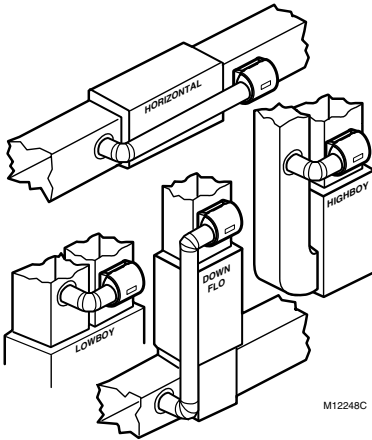


Fig. 1. Typical humidifier installation locations.

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.)

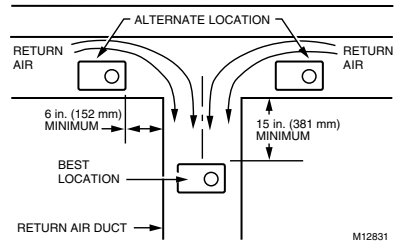


Fig. 2. Selecting duct location for humidistat.

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 20 ft (6.2m) of thermostat wire is adequate to reach from the humidifier solenoid, to the sail switch, to the humidistat, to the plug-in transformer in the outlet.

INSTALLING 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 in the Humidifier Installation Instructions.
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. 3.

NOTE: Sidewalls are interchangeable for either left or right bypass installation. To change direction, remove the screws holding each sidewall, reverse sidewall locations, and reinstall the screws.

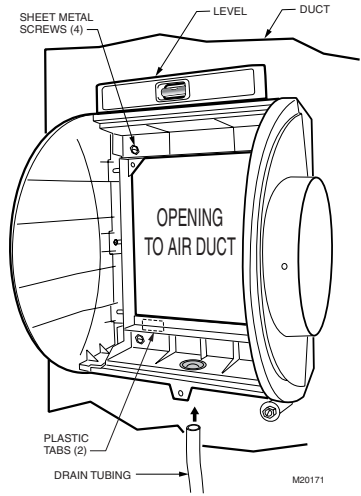


Fig. 4. Installing humidifier on duct.

9. Use the 6 in. (155 mm) starter collar as a template to mark the opening for the bypass.
10. Carefully cut the opening for a 6 in. (155 mm) starter collar. See Fig. 5. Use a drill, punch or awl to start the cut in the middle of the circle. Cut in an outward spiral to assist in controlling the cut.

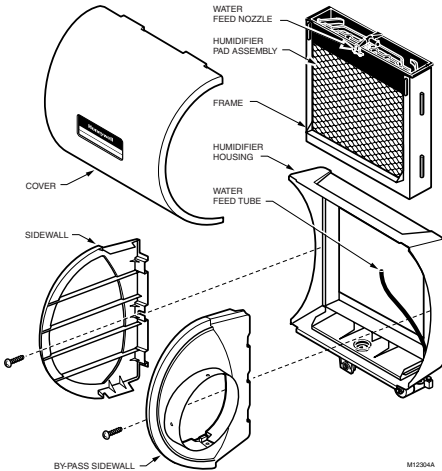


Fig. 3. Disassembling humidifier.

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. 4.
8. Secure the humidifier housing to the opening at the top and bottom using sheet metal screws.

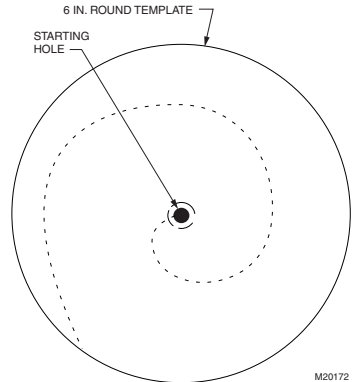


Fig. 5. Cutting bypass opening.

11. Assemble the summer shutoff damper into the starter collar. Verify that the damper rotates freely between the open and closed positions. Make sure handle will be accessible. Mark the damper closed position as summer and the open position as winter. See Fig. 6.

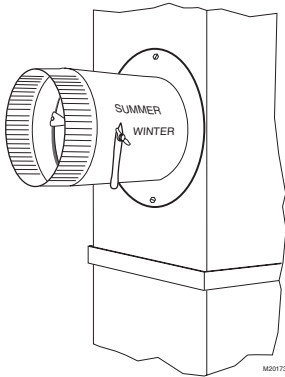


Fig. 6. Installing the starter collar.

12. Remove liner to expose foam adhesive. Position starter collar over opening.
13. Using sheet metal screws, connect starter collar to the duct and bypass duct from humidifier to starter collar. Be sure to secure the collar to the duct with sheet metal screws. See Fig. 7.

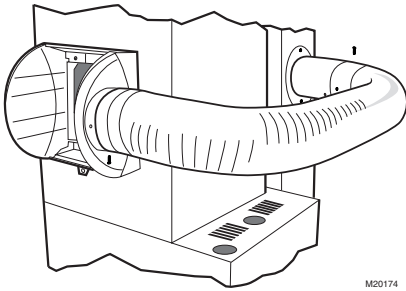


Fig. 7. Connecting bypass ducting.

IMPORTANT

To avoid sagging and stress on humidifier, add support if ducting is longer than 4 ft (1.25m).

14. Seal the duct connections with duct tape.
15. 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.

16. Hinge the cover in place and secure with the thumbscrew located at the bottom of the cover.

CONNECTING 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. 8. If tapping into galvanized pipe, drain line and pre-drill 3/16 in. tap for 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.

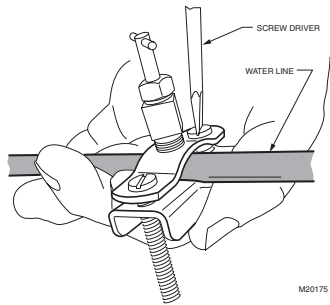


Fig. 8. Installing saddle valve.

3. Use 1/4 in. (6 mm) OD tubing and connect saddle valve to inlet side of the solenoid valve (see Fig. 9).
 - a. Place brass compression nut over 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 saddle valve fitting.
- f. Secure tubing with clamps provided.

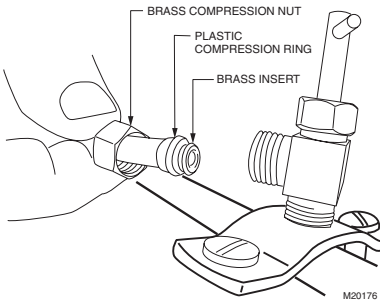


Fig. 9. Installing feed tubing.

4. Connect a 1/2 in. (13 mm) drain tube to the humidifier drain fitting and run to the floor drain (see Fig. 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 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.

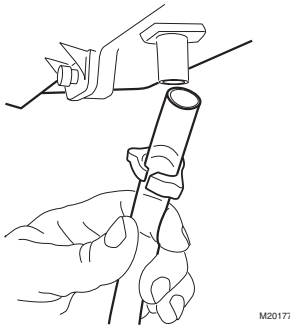


Fig. 10. Installing drain tubing.

Installing Sail Switch

Adapting Switch to Air Flow Direction

The S688A Sail Switch is provided with two counterbalancing springs in place as shown in Fig 11. 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.

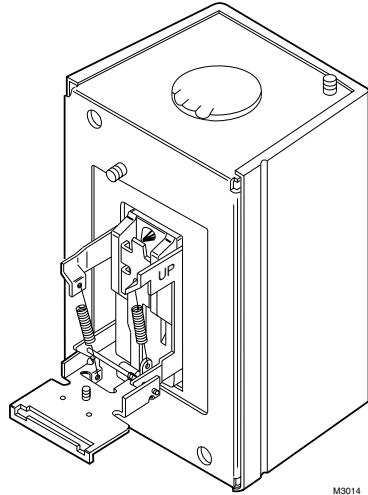


Fig. 11. Adapting sail switch to air flow direction or mounting position.

- **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 12.

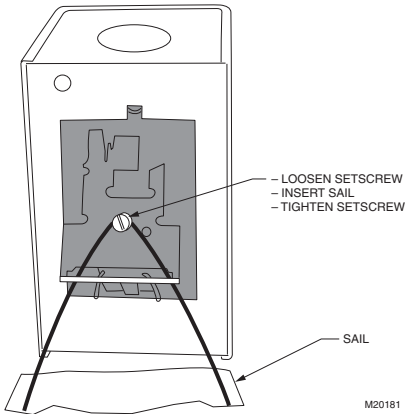


Fig. 12. Attaching sail to switch.

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.13.)

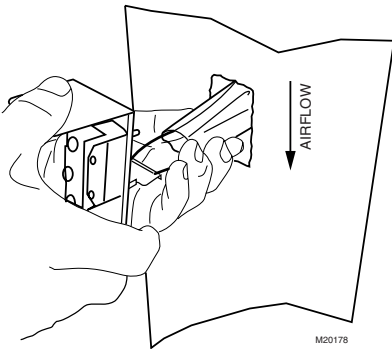


Fig. 13. Inserting sail switch in direction of airflow.

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

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. 14.

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

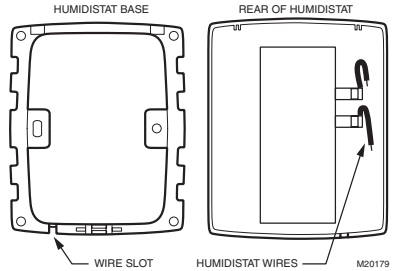


Fig. 14. Humidistat base and rear view.

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. 15

INSTALLING HUMIDISTAT

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 H8909 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.

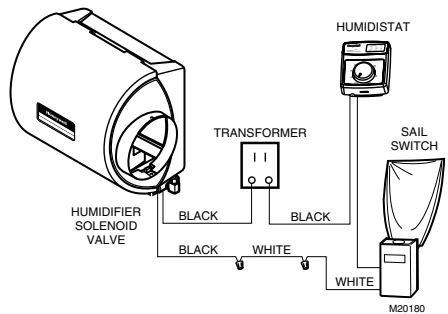


Fig. 15. Wiring the controls.

1. Run the two-strand thermostat wire from the humidifier to the transformer, from the transformer 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: Transformer, humidistat and sail switch can be wired in any order.

3. At the humidifier, connect the black and white conductors to the two black humidifier wires.
4. At the transformer, connect both black conductors to the two transformer terminals. Use a wire nut to connect together the two white conductors.
5. At the humidistat, connect both black conductors to the two humidistat terminals. Use a wire nut to connect together the two white conductors.
6. 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.
- Starter collar is secured with sheet metal screws.
- Summer shut-off damper is open (in winter position).
- Control wiring was reviewed using circuit diagram.
- Transformer 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 Humidity Control 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 in 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 Humidity Control to a comfortable setting for automatic operation.

TROUBLESHOOTING YOUR HUMIDIFIER (TABLE 2)

Table 2. 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 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.
	Transformer	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.
	Plumbing	Verify plumbing connections. Check for kinks.
	Saddle valve	Verify that needle pierced water line and then back 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 duct tape.

Honeywell

Home and Building Control
Honeywell
1985 Douglas Drive North
Golden Valley, MN 55422

Home and Building Control
Honeywell Limited-Honeywell Limitée
35 Dynamic Drive
Scarborough, Ontario
M1V 4Z9

