

HE120, HE160 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 HE120 or HE160 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)	3/8 in (9.5 mm) ID overflow tubing
1 bag	Connecting and mounting hardware: Wire nuts (4) No. 8 sheet metal screws (18) Overflow tube clamps (2 sizes) Feed tube mounting clamps (6) Brass inserts (2) Plastic compression rings (2)
1	Plug-in transformer
1	Overflow fitting
1	Plastic compression nut

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 humidifier is designed 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 drain or overflow line.
 - Mount humidifier in a conditioned space to prevent freezing.

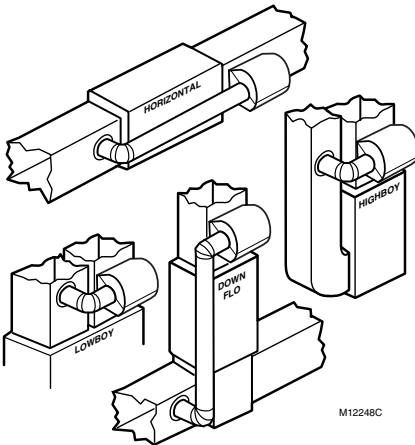


Fig. 1. Typical humidifier installation locations.

Selecting Water Supply Location

- Use either hard or soft water in the humidifier and either hot or cold water.
- 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 float valve.

Locating Closest Floor Drain (If Available)

- Select location with access to a floor drain (if available); floor drain is optional for safety overflow.
- Make sure that the 10 ft (3.1m) of overflow tubing is adequate to reach from the humidifier overflow connection to the floor drain.

Selecting Location for Humidistat

Select a location for the humidistat on the return plenum or on the wall in the living space.

NOTE: Mounting on the return plenum is the easiest installation for the control circuit wiring.

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.)

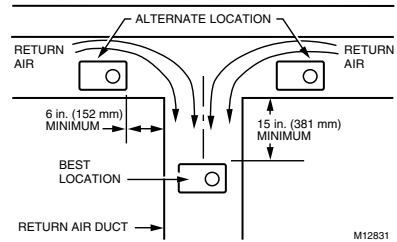


Fig. 2. Selecting duct location for humidistat.

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 motor 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 handing 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 disk or drum assembly. See Fig. 4 or 5.

NOTE: Sidecaps are interchangeable for either left or right bypass installation. See device installation instructions.

NOTE: For HE120, go to step 7. For HE160, go to step 13.

7. Position the HE120 Humidifier base in the opening, mark the five screw holes, and pre-drill the screw holes.
8. Insert the three 3/4 in. (19 mm) sheet metal screws into the top holes.
9. Hang the humidifier over the screws and secure with the two remaining 1/2 in (13 mm) screws.
10. Inside the humidifier housing, where the bypass tube connects, snap the bearing bracket into place with the U-shape of the bracket pointing up.
11. Snap the motor plate into place on the opposite side of the humidifier housing.

NOTE: Be sure the motor coupling is positioned toward the top,

12. Place the lead wires through the hole in the bottom of the motor cover and snap the cover into place.

NOTE: For HE120, go to Connecting Plumbing section. For HE160, go to step 13.

13. Hold the hanger bracket against the duct/plenum so the bottom of the hanger bracket is about 1/2 in. (13 mm) from the top edge of the duct/plenum opening. Ensure that it is level and mark the three mounting bolt locations (Fig. 3A).
14. Drill three 3/16 in. (5 mm) holes in the duct/plenum (Fig. 3B).
15. Mount the hanger bracket on the inside of the duct/plenum using the 3/16 in. (5 mm) machine screws and nuts provided (Fig. 3C).

NOTE: Hanger can be lowered up to 3/4 in. (19 mm) to accommodate larger pre-existing holes.

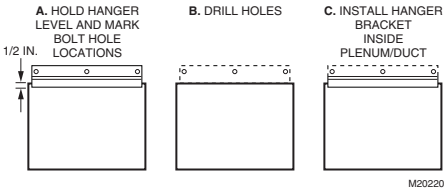


Fig. 3. Mounting HE160 on plenum.

16. Hang the basin from the mounting hanger and secure with the sheet metal screws provided.
17. Insert the screws into the pilot holes and through to the back of the bracket.
18. Snap the motor plate and inlet into the basin. Be sure the tabs fit into the corresponding basin slots.
19. Install the drain and cap at the bottom of the basin, with the cap on the outside of the humidifier housing. Hand-tighten until the drain does not turn; do not overtighten.

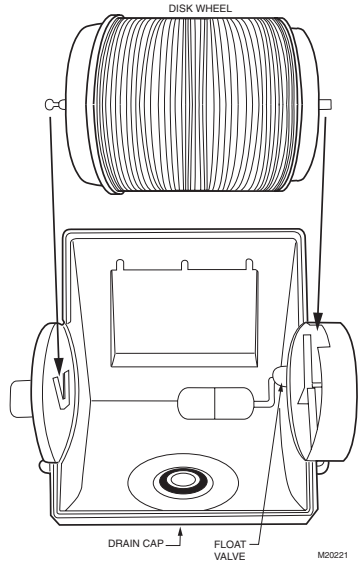


Fig. 4. Disassembling disk humidifier.

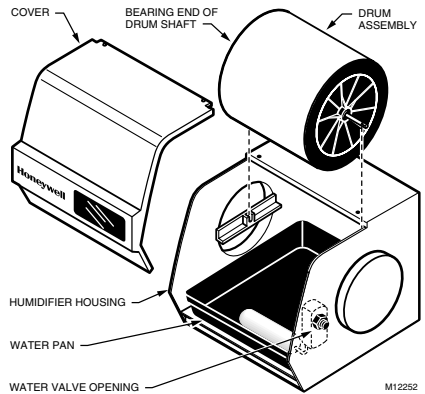


Fig. 5. Disassembling drum humidifier

CONNECTING PLUMBING

1. Install the float into the slot in the side of the basin. Hand-tighten the nut.

NOTE: For HE120, attach the float on the same side as the motor; install the plug in the opposite slot.

2. Shut off the water. (Either hot or cold water and either hard or softened water can be used in the humidifier.)

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.

3. Use the self-piercing saddle valve (included) to tap into the water supply line at the location selected. See Fig. 6. 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.

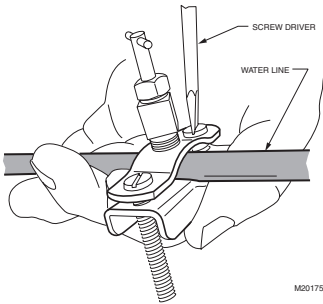


Fig. 6. Installing saddle valve.

4. Use 1/4 in. (6 mm) OD tubing and connect saddle valve to float valve (see Fig. 7).

NOTE: For HE120, use plastic compression nut for float connection.

- a. Place compression nut over tubing.

NOTE: For HE160, use brass expander insert for float connection.

- b. Install brass insert into end of tubing.

NOTE: A compression ring is required only at the tub end connected to the saddle valve.

- 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 float 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.

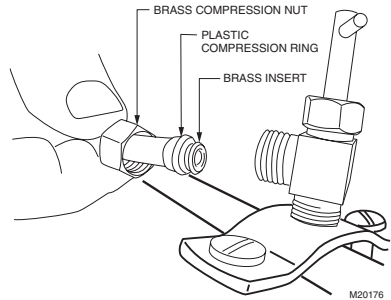


Fig. 7. Installing feed tubing.

5. Connect a 3/8 in. (10 mm) overflow tube to the humidifier overflow fitting and run to the floor drain or bucket if floor drain is not available.
 - a. Insert overflow fitting. (HE160 fitting is provided in the kit. HE120 fitting is provided with humidifier; position it in hole opposite of float.)

NOTE: Be sure to install water pan with overflow positioned over fitting.

- b. Slide the overflow clamp over the tubing.
- c. Push the tubing over the overflow fitting on the humidifier.
- d. Hand-tighten the clamp around the tubing to secure the overflow tubing.
- e. Fasten the overflow 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 or bucket.

Adjusting HE160 Water Level (Fig. 8)

1. Test fit the disk assembly in the humidifier.
2. Turn on the water supply and check for leaks.
3. Adjust the float assembly so the water height just covers the disks; verify that the water is within the range of the textured bands inside the basin.
4. Adjust the float, as necessary.
5. Secure the float adjustment nut with a 9/16 in. (15 mm) wrench.
6. Remove the disk and drain the water before beginning the bypass installation.

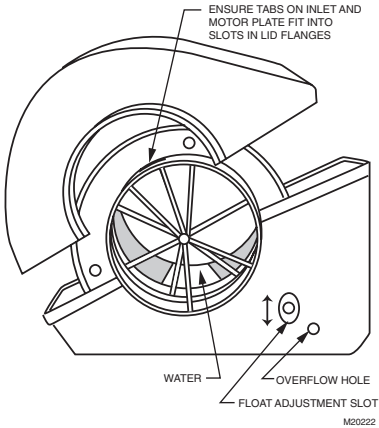


Fig. 8. Adjusting HE160 water level.

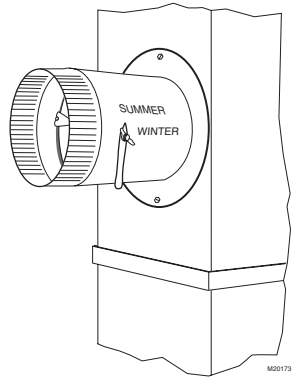


Fig. 10. Installing starter collar.

INSTALLING BYPASS

1. Use inside of the 6 in. (155 mm) starter collar as a template to mark the opening for the bypass.
2. Carefully cut the 6 in. (155 mm) opening for the starter collar. See Fig. 9. 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.

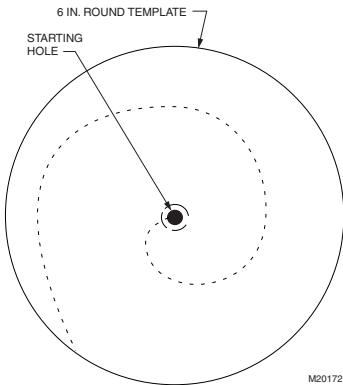


Fig. 9. Cutting bypass opening.

3. 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. 10.

4. Remove liner to expose foam adhesive. Position starter collar over opening.
5. 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. 11.

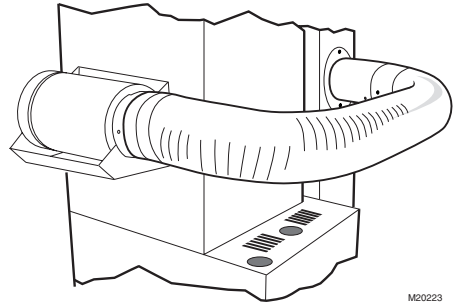


Fig. 11. Connecting bypass ducting.

IMPORTANT

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

6. Seal the duct connections with duct tape.
7. Reinstall the humidifier drum or disk assembly in the humidifier housing.
8. Install the humidifier lid.

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.
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. 12.

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

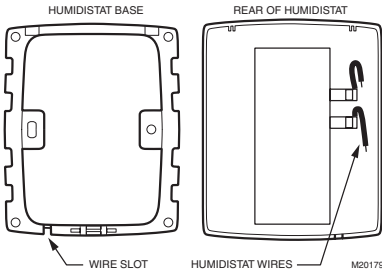


Fig. 12. Humidistat base and rear view.

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 motor, humidistat and transformer. See Fig. 13.

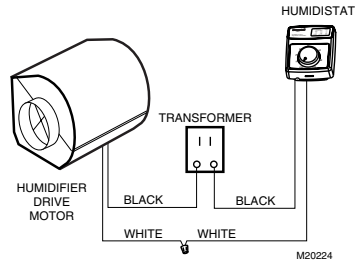


Fig. 13. Wiring the controls.

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

NOTE: Transformer and humidistat can be wired in any order.

3. At the humidifier, connect the black and white conductors to the two motor leads.
4. At the transformer, connect both black conductors to the two transformer terminals. Use a wire nut to connect the white conductors.
5. At the humidistat, connect the black and white conductors to the two humidistat terminals.

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.
- Overflow line slopes continuously down and ends at floor drain or bucket.

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

1. Turn on the power and the water supply.

NOTE: For HE160, see Adjusting Water Level section.

2. Verify that basin fills and float shuts off before water enters overflow tubing.
3. Turn the H8908 Humidity Control to On.
4. Make sure that drum or disk turns.
5. Check for leaks.
6. Reset the 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 basin.	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.
	Plumbing	Verify plumbing connections. Check for kinks.
	Saddle valve	Verify that needle pierced water line and then back out needle to open valve.
	Float valve	Remove cover and verify that float is moving freely.
Air leakage	Check duct joints	Seal with duct tape.
Water flowing into overflow	Device level	Level device.
	Float valve	Check for free movement of float arm. Adjust water level of float.

Honeywell

Home and Building Control

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