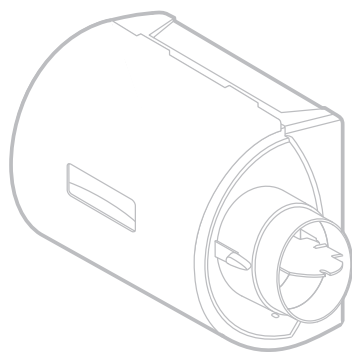




# HE105, HE205 Whole Home Bypass Humidifier

## INSTALLATION INSTRUCTIONS



### APPLICATION

This kit contains your new HE105 or HE205 Humidifier, H8908 Humidistat and all the accessories required for installation.

### How Your Humidifier Works

Your 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.

### Need Help?

For assistance with this product please visit <http://honeywellhome.com> or call Customer Care toll-free at 1-800-468-1502.

### 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 in the box:

- Humidifier
- H8908 Humidistat
- Plug-in transformer

#### Canadian “C” models also include:

- 6 in. dia. bypass ducting (24 in.)
- 18 gauge thermostat wire (20 ft.)
- 1/4 in. (6.35 mm) OD feed water tubing (20 ft.)
- 1/2 in. (12.7 mm) ID drain tubing (10 ft.)
- Saddle valve

#### Required Tools

Tools required for installation include:

- Tin snip
- Screwdriver
- Pliers
- Adjustable or open-end wrench
- Drill
- Level
- 3/4 in. (19 mm) sheet metal drill bit

### SPECIFICATIONS

Model specific specifications are shown in Table 1.

**Operating Ambient Temperature:** 41 to 113 °F (5 to 45 °C)

**Power Supply:** 24 VAC / 60 Hz.

**Power Consumption:** 7 Watts with 24 Vrms

**Water Pressure:** 40 to 120 psi.

**Orifice Output:** .02 in. (0.5 mm)

**Flow Rate at Nozzle:** 4.7 GPH (18 L/hr.) under 120 psi

Table 1. Specifications.

Model	Size length × width × depth	Duct Opening H × W	Pad Size	Evaporation Output
HE105	15.16 × 16.57 × 9.47 in. (385 × 421 × 240 mm)	9.43 × 9.28 in. (240 × 236 mm)	10 × 9.5 × 1.5 in. (254 × 241 × 38.1 mm)	12 GPD
HE205	18.30 × 17.11 × 9.59 in. (465 × 434 × 243 mm)	12.63 × 9.68 in. (321 × 246 mm)	13.125 × 10 × 1.5 in. (333 × 254 × 38.1 mm)	17 GPD



## Safety Definitions

These safety terms identify information you must read prior to installing or operating the humidifier.

### **WARNING**

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

### **CAUTION**

Indicates a hazardous situation which, if not avoided, could cause bodily injury or property damage.

## Safety Precautions

Make sure you read and understand the following safety hazards before installing, using, or working with the 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.

### **WARNING**

**Hazardous Voltage**  
Can cause personal injury or equipment damage.  
Do not cut or drill into any air conditioning or electrical accessory.

### **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.

### **CAUTION**

**Temperature and Static Pressure Hazard.**  
Can cause property or equipment damage.  
Locate humidifier where ambient temperature is between 41 and 113 °F (5 to 45 °C).  
Do not install humidifier where freezing temperatures could occur.  
Be sure supply plenum static pressure is no greater than 0.4 in. wc and water pressure is no greater than 120 psi.

### **CAUTION**

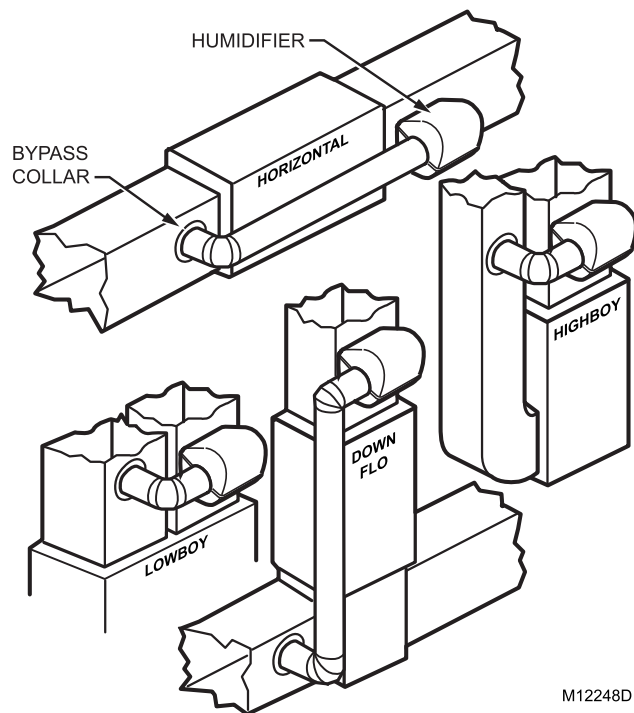
**Sharp Edges Installation Hazard.**  
Can cause personal injury.  
Wear gloves and safety glasses.

### **IMPORTANT**

*Read and save these instructions.*

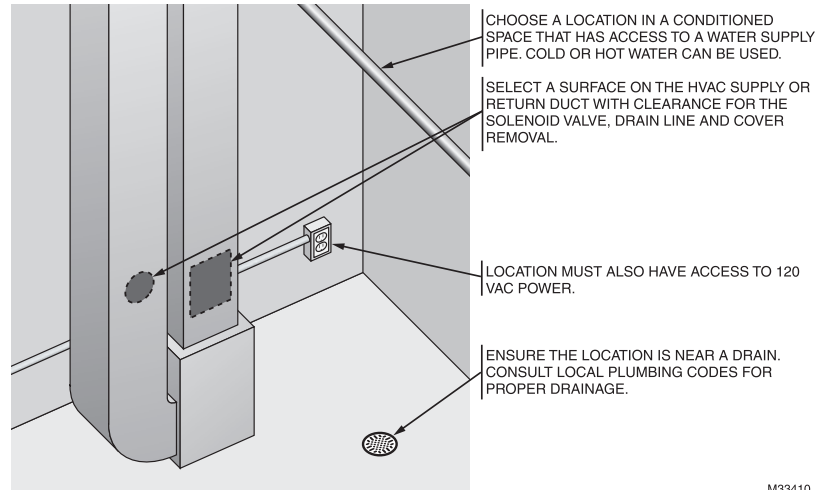
## Determining Best Location for Humidifier

- 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.**



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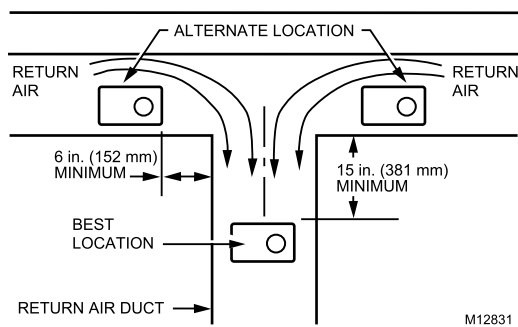
Fig. 2. Typical humidifier installation locations.

### 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.
- Make sure that the thermostat wire is adequate to reach from the humidifier to the humidistat, and also from the humidifier to the transformer. See “Wiring” on page 5 for more information.

**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.)



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Fig. 3. Selecting duct location for humidistat.

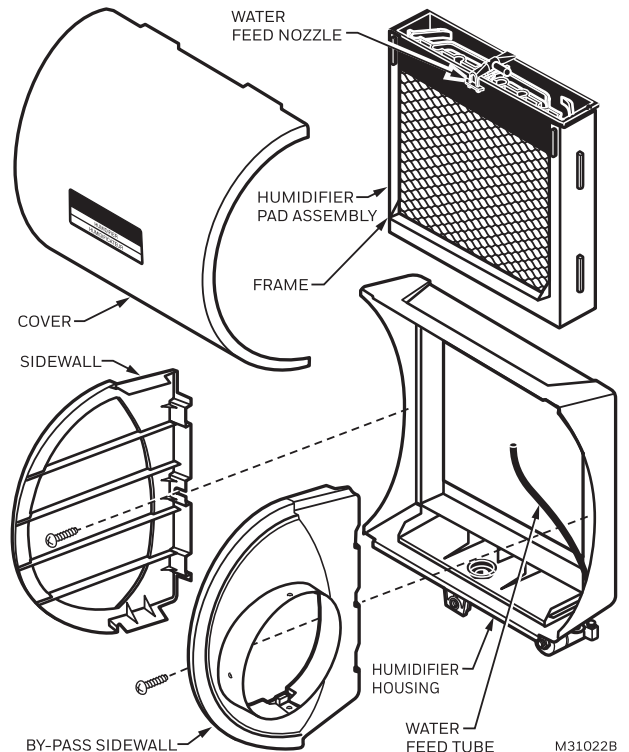
## INSTALLATION

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**

Be sure the mounting template is level before marking. Use of a small level is recommended.

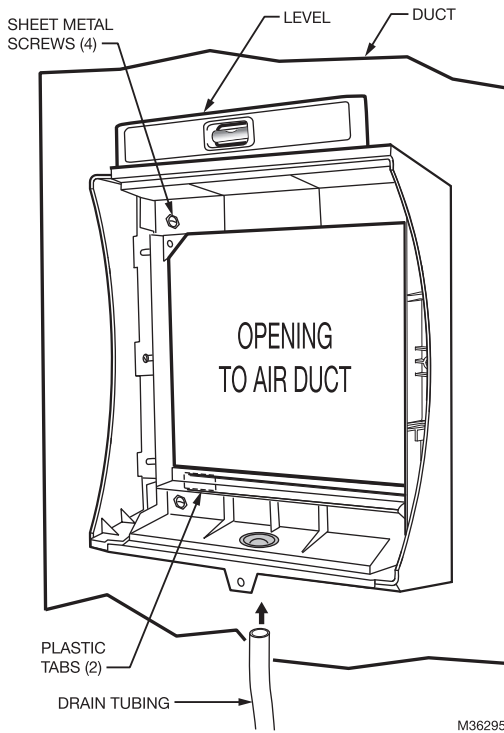
3. Locate the template (form number 33-00210, included in the box). For the HE105 model, cut out the template along the dotted line. For the HE205 model, use the entire sheet as a template.
4. Tape the template in position and trace around the template.
5. Remove the template and carefully cut the rectangular opening using tin snips.
6. Disassemble the humidifier; remove the cover and take out the humidifier pad assembly. See Fig. 4.



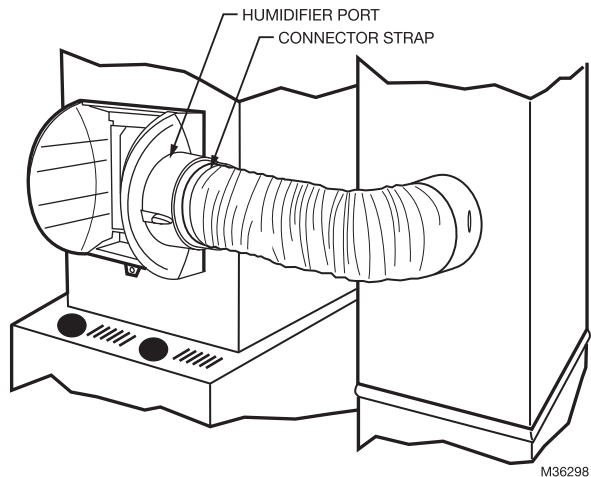
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Fig. 4. Disassembling humidifier.

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. 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 bypass ducting. Be sure to open the bypass flap for use and close it when the humidifier is not used. See Fig. 6.



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



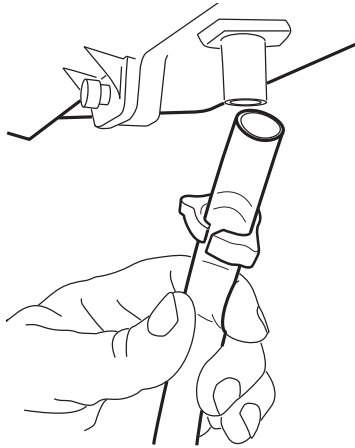
**Fig. 6. Connecting bypass ducting.**

## Connecting the Plumbing

1. Hot or cold water, either hard or softened, can be used in the humidifier. Cut the water line so it reaches from the humidifier to the main water supply tap.
2. Turn off water supply and tap into a water line.
  - Consult local codes for proper plumbing.
  - Use an approved saddle valve or a T-fitting and manual shutoff valve to tap into the water line.
  - Refer to the literature included with the valve you chose and the local plumbing codes. Use proper technique for the valve.
  - Connect the other end of the humidifier water line to the water valve.
  - Use 1/4 in. O.D. copper tubing and connect to inlet side of solenoid valve via a compression fitting or Quick Connect fitting.
  - Place brass compression nut over copper tubing.

NOTE: Do not over tighten compression nut.

- Moderate tightness prevents leaking.
  - Slide the brass ferrule over the tubing.
  - Insert tubing into solenoid valve fitting and support the valve while tightening the compression nut.
3. Connect a water drain line.
    - Consult and follow local plumbing codes for drain pipe size and flow requirement.
    - The ideal installation is directly to the main floor drain using a rubber drain hose.
- a. Slide a drain clamp over the tubing.
  - b. Push the tubing over the drain nipple on the humidifier.
  - c. Route the drain hose to the floor drain. The hose must have a continuous downward slope.
  - d. Direct the hose outlet into the floor drain. Secure the hose to reduce the risk of water pooling or splashing as it drains from the humidifier. See Fig. 7.



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Fig. 7. Installing the drain tubing.

## WIRING



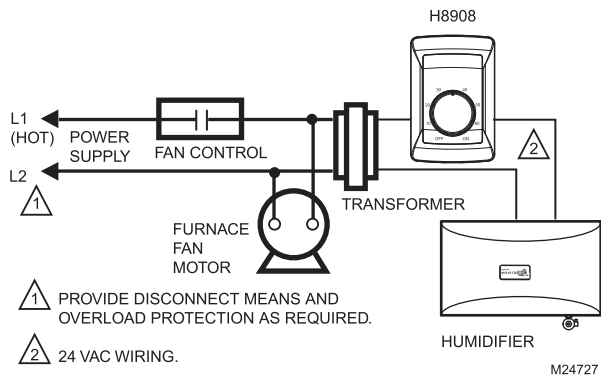
### CAUTION

**Hazardous Voltage.**  
Can cause personal injury or equipment damage.  
Disconnect power supply before installing or servicing equipment.

### IMPORTANT

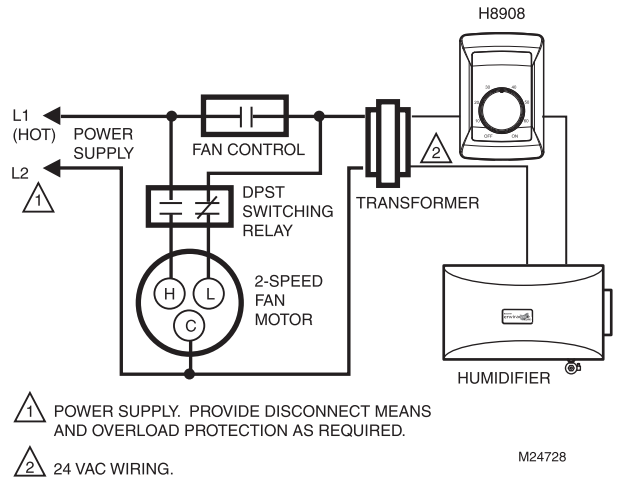
All wiring must comply with applicable local code, ordinances and regulations.

Wire the humidifier, humidistat and transformer. See Fig. 8–11.



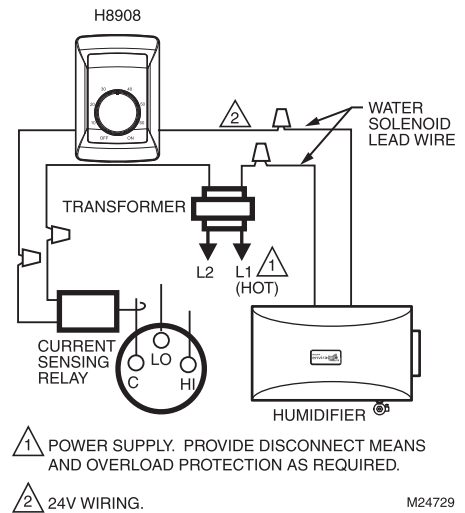
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Fig. 8. Wiring diagram with H8908 (included). Transformer powered when single speed fan is energized.\*



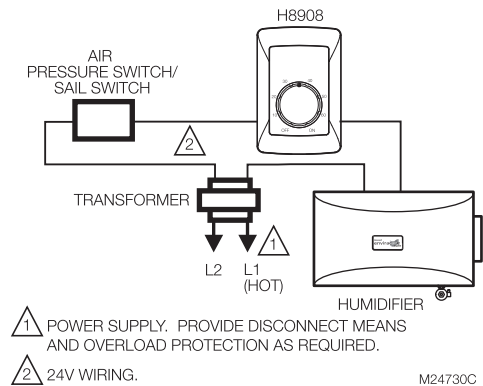
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Fig. 9. Wiring diagram with H8908 (included). Transformer powered when two speed fan is energized.\*



M24730

Fig. 10. Wiring diagram with H8908 (included) and current sensing relay (not included).\*



M24730C

Fig. 11. Wiring diagram with H8908 (included) and sail switch (not included).\*

\* When a thermostat with IAQ control is used instead of a humidistat, it simplifies the wiring circuit. The thermostat U contacts are installed in place of the H8908 and the sail switch or other relay is removed from the circuit.

# TESTING HUMIDIFIER OPERATION

## Checklist

- Humidifier is level.
- Control wiring was reviewed using circuit diagram.
- Humidifier has power.
- Water 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.

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 or T-valve fitting 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 (or other humidity control) 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 6 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.

When Outside Temperature is:	Use This Control Setting:
-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.

### IMPORTANT

*Never oil any part of the 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 or T-valve fitting by turning the handle to the right (clockwise) until the water stops flowing and/or there is resistance.
- Un-power the humidifier.
- Turn the damper blade to the "closed" position.

### Replacement Humidifier Pads

Resideo 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.

Model	Replacement Pad
HE105	HC22
HE205	HC26

## Checkout

1. Open the water supply and bypass duct flap.

**NOTE:** The furnace blower must be on for the humidifier to operate.

2. Set the thermostat setpoint 10°F (6°C) above the room temperature.
3. Set the Humidity Control to a high humidity setting, or place the setting in the test position.

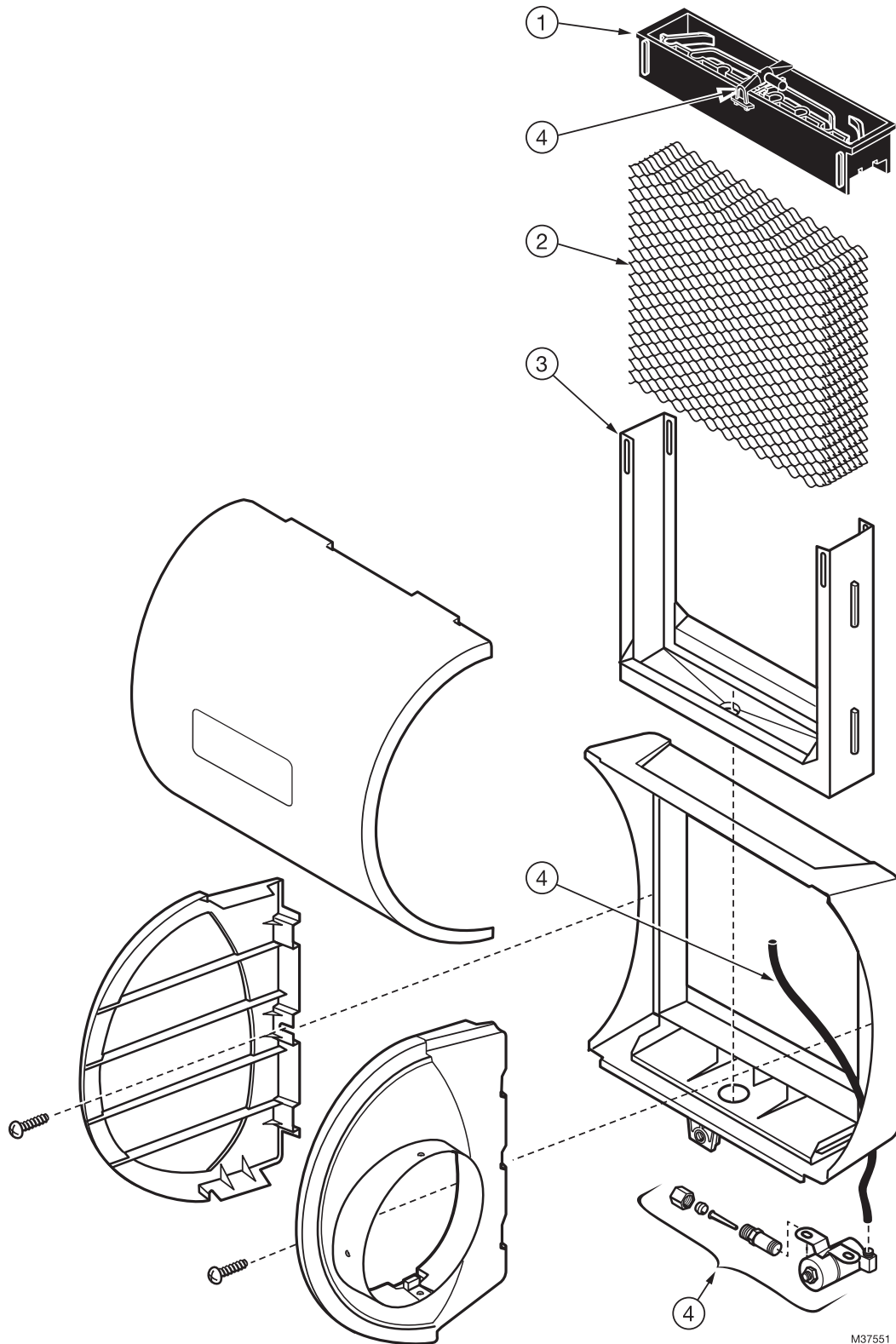
4. Observe the water running out of the drain line to be sure the humidifier is working properly.
5. Check for leaks.
6. Reset the Humidity Control to a comfortable setting, or the Automatic Humidity Control to the desired frost factor setting.

## TROUBLESHOOTING YOUR HUMIDIFIER

<b>Problem</b>	<b>What to look for</b>	<b>What to do</b>
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>• 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 "closed" position	<ul style="list-style-type: none"> <li>• Set damper blade to "open" 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>

## REPLACEMENT PARTS

Refer to Fig. 12 and Table 4 when ordering replacement parts.



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**Fig. 12. Exploded view of humidifier parts.**



**Table 4. List of replacement parts for HE105, HE205.**

<b>Exploded View Number (see Fig. 12)</b>	<b>Description</b>	<b>HE105</b>	<b>HE205</b>
1	PerfectFlo™ water distribution tray	32001619-001/U	32001630-001/U
2	Humidifier Pad Standard	HC22A1007/U	HC26A1008/U
	Humidifier Pad with AgION Coating	HC22E1003/U	HC26E1004/U
3	Frame	32001621-001/U	32001632-001/U
4	Solenoid valve assembly (includes water feed tube and nozzle)	32001639-002/U	32001639-002/U
—	Hardware Kit for Solenoid Assembly (same as solenoid valve assembly without the solenoid valve)	32001752-001	32001752-001
—	Current Sensing Relay	32001754-001	32001754-001

## 5-YEAR LIMITED WARRANTY

Resideo warrants this product, excluding battery, to be free from defects in workmanship or materials, under normal use and service, for a period of five (5) years from the date of first purchase by the original purchaser. If at any time during the warranty period the product is determined to be defective due to workmanship or materials, Resideo shall repair or replace it (at Resideo's option).

If the product is defective,

(i) return it, with a bill of sale or other dated proof of purchase, to the place from which you purchased it; or

(ii) call Resideo Customer Care at 1-800-468-1502. Customer Care will make the determination whether the product should be returned to the following address: Resideo Return Goods, 1985 Douglas Dr. N., Golden Valley, MN 55422, or whether a replacement product can be sent to you.

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

Resideo's sole responsibility shall be to repair or replace the product within the terms stated above. RESIDEO 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.

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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 Resideo Customer Care, 1985 Douglas Dr, Golden Valley, MN 55422 or call 1-800-468-1502.



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