

HE220A,B and HE260A,B Bypass Flow-Through Humidifier

PRODUCT DATA



APPLICATION

The HE220A,B and HE260A,B Bypass Flow-through Humidifiers use the warm air furnace blower to provide humidification for the whole house. The humidifiers work with virtually any Honeywell humidity control, but use the Honeywell Perfect Climate Comfort Center™ control for optimal performance.

FEATURES/BENEFITS

- Capable of humidifying a large area.
- Proven technology used for high performance humidification and enhanced comfort.
- Preassembled for quicker installation.
- Small footprint, light weight and reversible components allow easy mounting on either warm air supply or return air duct of any forced air furnace.
- Interior components designed for quick maintenance and service.
- Includes easy-to-use humidity control which mounts on the wall or duct for more installation flexibility.
- Perfect Climate Comfort Center™ control can be installed to replace both the thermostat and humidity control for improved aesthetics and convenience.
- Continuous flushing reduces the frequency of maintenance in a hard water installation.

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SPECIFICATIONS

Capacity:

At 120°F (49°C) plenum temperature and 0.20 static pressure drop across supply and return:
 HE220A,B: 12 gallons per day (gpd) or 46 liters per day (lpd).
 HE260A,B: 17 gallons per day (gpd) or 65 liters per day (lpd).

Humidified Area:

See Table 1.

Electrical Ratings:

24 Vac, 60 Hz, 0.5A.

Humidifier Pad Dimensions:

See Table 2.

Plenum Opening Dimensions (Height x Width):

See Table 3.

Summer Shut-off Damper Dimensions (Height x Width):

See Table 4.

Bypass Duct Opening (Diameter):

6 in. (152 mm).

Drain Connection:

1/2 in. (13 mm) I.D. plastic hose connected directly to drain fitting on unit.

Dimensions:

Refer to Fig. 1 and 2.

Table 1. Size Of Area That Can Be Humidified.

House Description	Air Changes Per Hour	HE220 Area (Up To)		HE260 Area (Up To)	
		Sq ft	Sq m	Sq ft	Sq m
Loose	Two	750	70	1,000	93
Average	One	1,500	140	2,000	186
Tight	One-half	3,000	280	4,000	372

Table 2. Dimensions Of Humidifier Pads In In. (mm).

Model	Height	Width	Depth
HE220	9-13/16 (249)	9-1/2 (241)	1-1/2 (38)
HE260	13 (330)	10 (254)	1-1/2 (38)

Table 3. Dimensions Of Plenum Opening In In. (mm).

Model	Height	Width
HE220	9-7/16 (241)	9-5/16 (238)
HE260	12-5/8 (321)	9-3/4 (248)

Table 4. Dimensions Of Summer Shut-off Damper In In. (mm).

Model	Height	Width
HE220	9-3/16 (234)	8-7/8 (226)
HE260	12-3/8 (314)	9-5/16 (236)

ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number.

If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:

1. Your local Home and Building Control Sales Office (check white pages of your phone directory).
2. Home and Building Control Customer Logistics
 Honeywell Inc., 1985 Douglas Drive North
 Minneapolis, Minnesota 55422-4386

In Canada—Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Scarborough, Ontario M1V 4Z9.

International Sales and Service Offices in all principal cities of the world. Manufacturing in Australia, Canada, Finland, France, Germany, Japan, Mexico, Netherlands, Spain, Taiwan, United Kingdom, U.S.A.

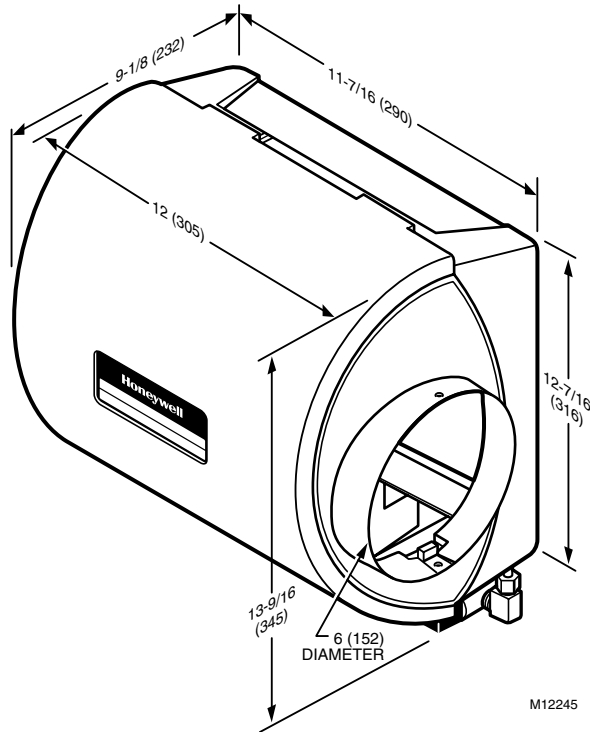


Fig. 1. Dimensions of HE220A,B in in. (mm).

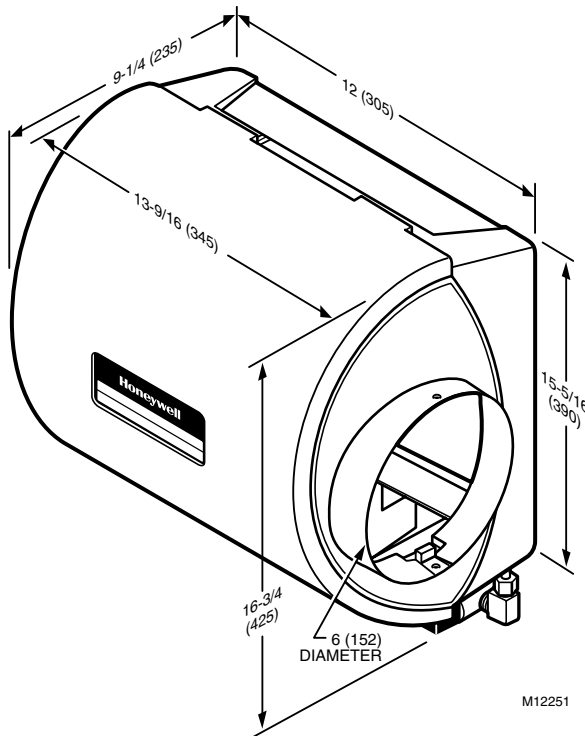


Fig. 2. Dimensions of HE260A,B in in. (mm).

Approvals:

Underwriters Laboratories Inc. Listing: 56 BL.
Canadian Underwriters Laboratories Inc. Listing: 56 BL.

Standard:

Air Conditioning and Refrigeration Institute Tested:
Standard 610.

Models:

HE220A TRADELINE® and HE260A TRADELINE®
Bypass Flow-through Humidifier package includes
humidifier pad, mounting template, self-piercing saddle
valve, 24 Vac transformer, H908A Convertible Humidity
Control.

HE220B TRADELINE® and HE260B TRADELINE®
Bypass Flow-through Humidifier package includes
humidifier pad, mounting template, self-piercing saddle
valve, 24 Vac transformer, H1008A Automatic Humidity
Control with HumidiCalc™ Software.

Accessories:

Current Sensor Relay, part no. 32001754-001.

C7089H Outdoor Temperature Sensor.

H908A Convertible Humidity Control.

H1008A Automatic Humidity Control with HumidiCalc+™
Software (software calculates dewpoint to prevent
moisture condensation).

HC22A Humidifier Pad (HE220A,B only).

HE26A Humidifier Pad (HE 260A,B only).

HumidiCalc+™ Humidifier Sizing Software (software
calculates required humidifier capacity for application).

PC8900 Perfect Climate Comfort Center™ Control.

S688 Sail Switch.

INSTALLATION**⚠ WARNING****Hazardous Voltage.**

Can cause personal injury or equipment damage.

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

⚠ CAUTION**Freezing Water, Flooding or
Static Pressure Hazard.**

**Can cause water damage to home or permanent
equipment damage.**

- The humidifier must be located where the ambient
temperature is above 32°F and below 160°F (0°C
and 71°C).
- Be sure supply plenum static pressure is no
greater than 0.3 in. w.c. and water pressure is no
greater than 125 psi.

IMPORTANT

*To assure optimal product performance, be sure the
template is level before marking location.*

1. Determine the best location for the humidifier and draw
a level line on the plenum. See Fig. 3.

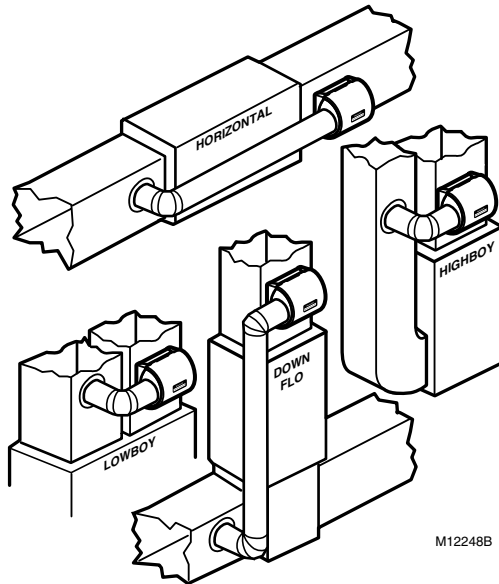


Fig. 3. Typical humidifier installation locations.

IMPORTANT

Mount the humidifier at least 3 in. (76 mm) above the furnace jacket to allow adequate space for the solenoid valve and drain line. Check that there is adequate space above the humidifier to remove and install the humidifier cover.

2. Tape the template in position and trace around the template.
3. Remove the template and carefully cut the rectangular opening.
4. Disassemble the humidifier; remove the cover and take out the humidifier pad assembly. See Fig. 4.

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

5. Position the humidifier housing in the opening (be sure it is level), so the locking tabs are in place on the lower sheet metal edge of the opening.
6. Secure the humidifier housing to the opening at the top and bottom using sheet metal screws.
7. Locate the other plenum and cut an opening for a 6 in. (152 mm) collar.
8. Install the 6 in. (152 mm) collar.

NOTE: Be sure to install a duct damper for summer shutoff on systems with air conditioning.

9. Install a 6 in. (152 mm) diameter duct from the collar to the humidifier.

NOTE: Some installations require a 90° elbow attachment to the collar.

10. Seal the duct connections with duct tape.

NOTE: To avoid sagging and stress on the humidifier, add support when ducting is longer than 4 ft (120 cm).

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

NOTE: Be sure the water feed tube is not pinched or kinked.

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

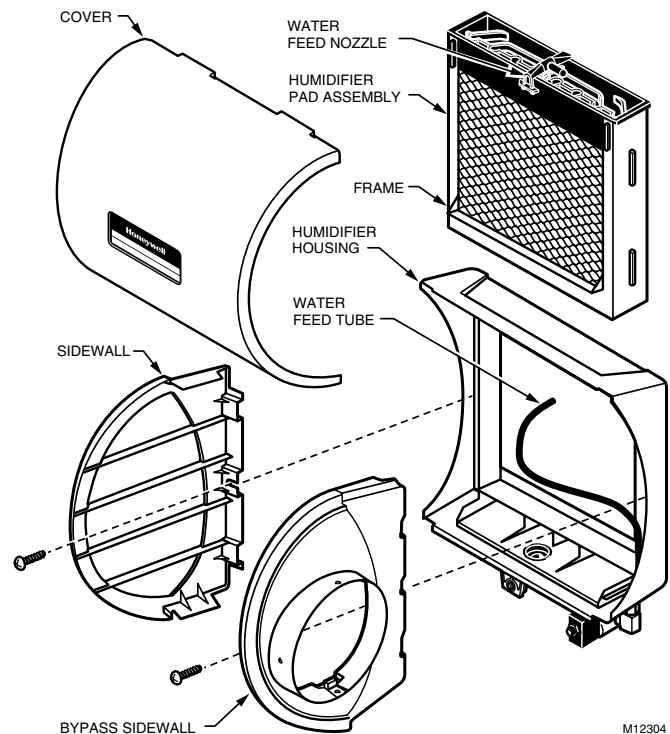


Fig. 4. Humidifier components.

WIRING THE HUMIDIFIER



CAUTION

Hazardous Voltage.

Can cause personal injury or equipment damage.

- Disconnect the power supply before installing or servicing.
- On multispeed blower applications, do not wire the high voltage side of the transformer to the same power source that services the furnace blower. Premature transformer burnout may occur.

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

1. Mount the transformer in a convenient location.
2. Connect wires to the 120V side of the transformer.
3. Wire the humidifier solenoid valve, current sensing relay, or sail switch, humidity control and transformer. Refer to the humidity control installation instructions for mounting and wiring information.

NOTE: Select models of fan centers include humidifier taps so the current sensing relay or sail switch is not needed.

PLUMBING THE SADDLE VALVE

Hot or cold water, either hard or softened, can be used in the humidifier.

1. Use the self-piercing saddle valve (included) to tap into the water supply line at an appropriate location.

IMPORTANT

- The saddle valve is not designed to regulate water flow. The valve is either open or closed.
- To prevent debris from clogging the solenoid inline filter, be sure to install the saddle valve handle pointing toward the ceiling.

NOTE: Lightly clean the copper tubing ends with fine sandpaper before making any connections.

2. Use 1/4 in. O.D. copper tubing and connect the saddle valve to the inlet side of the solenoid valve.



CAUTION

Hazardous Voltage.
Can cause personal injury or equipment damage.
Do not use any line connected to an air conditioner.

- a. Place the brass compression nut over the copper tubing.

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

- b. Slide the brass ferrule over the tubing.
- c. Insert the tubing into the solenoid valve fitting and support the valve while tightening the compression nut.

3. Connect a 1/2 in. (13 mm) drain tube to the humidifier drain fitting and run to a suitable drain.

NOTE: Slope the drain tube downward for correct drainage.

CHECKING THE INSTALLATION

Use the following procedure to check out the humidifier installation:

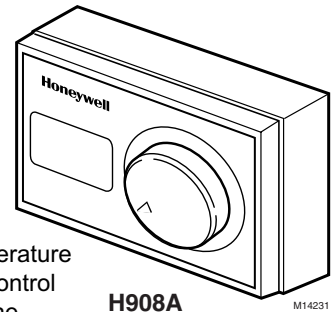
1. Open the saddle valve.
2. Set the thermostat setpoint to 10°F (6°C) above the room temperature.

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

3. Set the Convertible Humidity Control to a high setting, or place the H1008A Automatic Humidity Control in the Test position.
4. Observe the water running out of the drain line to be sure the humidifier is working.
5. Check for leaks.
6. Reset the thermostat and Convertible Humidity Control to a comfortable setting, or the Automatic Humidity Control to the desired frost factor setting, for automatic operation.

OPERATING THE HUMIDIFIER

The HE220A and HE260A Humidifiers are controlled by the Convertible Humidity Control that is installed either on an interior wall in the living area or on the return air duct. Choose the humidity control setting using the combination relative humidity/outdoor temperature setting scale on the humidity control dial. Match the dial setting to the outdoor temperature for optimizing the humidity level while reducing the moisture condensation on inside windows. Table 5 can also be used to adjust the humidity control to the recommended setting.



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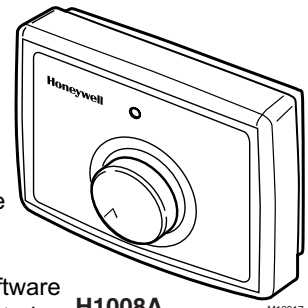
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NOTE: As the outside temperature drops, the recommended setting is lowered to accommodate the effects of dewpoint. These settings should reduce the accumulation of moisture and ice on the windows and in other areas of the house.

Some indoor activities such as cooking, showering and clothes drying can cause excessive levels of humidity and start the accumulation of moisture on the windows.

NOTE: If this condition persists 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.

The Honeywell HE220B and HE260B Humidifiers are controlled by the Honeywell H1008A Automatic Humidity Control with HumidiCalc+™ Software. The automatic humidity control is mounted in the return air duct where it can be exposed to the air stream of the return air. The HumidiCalc+™ Software inside the automatic humidity control



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is designed to automatically adjust the humidity level based on indoor temperature and humidity, inferred or measured outdoor temperature, and the setting of the frost factor dial. The frost factor allows for variations in furnace size, window insulation and average daily climate temperature.

The Automatic Humidity Control with HumidiCalc+™ Software requires an initial adjustment period. Set the frost factor dial on 5 and use Table 6 to adjust the frost factor—only one setting at a time—increasing the dial setting for more humidity, or reducing the setting if moisture develops on inside windows. For more precise humidity adjustment, set the frost factor between dial settings. Allow two days for the humidity level to subside before making further adjustments. Once the proper setting has been found, no further adjustment is needed. HumidiCalc+™ Software takes over and makes any future adjustments caused by varying outdoor temperatures, thus reducing moisture build-up on windows while maintaining the optimal humidity level.

Table 5. Recommended Convertible Humidity Control Settings.

At Outside Temperature	Recommended Setting	At Outside Temperature	Recommended Setting
-20°F (-29°C)	15	+10°F (-12°C)	30
-10°F (-23°C)	20	+20°F (-7°C)	35
0°F (-18°C)	25	Above 20°F (-7°C)	40

Table 6. Recommended Frost Factor Settings.

Humidity Level	Recommended Adjustment
Insufficient humidity	Increase the frost factor dial by one setting.
Condensation on windows	Decrease the frost factor dial by one setting.

OPERATION

The HE220A,B and HE260A,B Humidifiers use 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.

The humidity control monitors the relative humidity and activates the humidifier accordingly. The humidifier has a water supply that disburses water over a humidifier pad. The warm dry air from the furnace passes over the humidifier pad and collects moisture and then circulates it through the house.

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

MAINTENANCE

A regular maintenance program prolongs the life of the humidifier and provides a more comfortable environment. Either hard or soft water can be used in the humidifier. Frequency of cleaning depends on the condition of the water.

CAUTION

Voltage Hazard.
Can cause electrical shock and equipment damage.
Disconnect power supply before installing or servicing.

IMPORTANT

Never oil any part of the humidifier.

Every 1 to 3 Months (Depending on Water Quality)

Use the following procedure to clean the humidifier:

1. Disconnect the power and turn off the humidifier water supply.
2. Remove the humidifier cover. See Fig. 5.

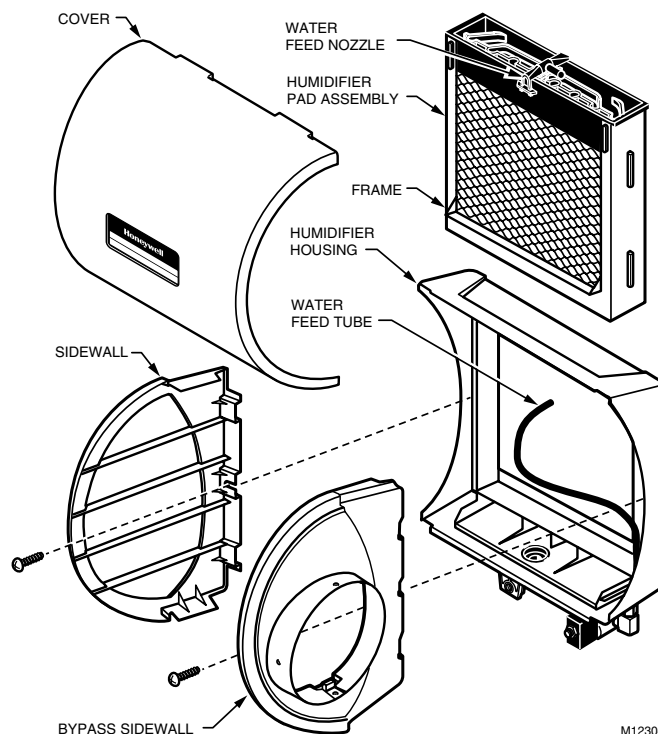


Fig. 5. Location of humidifier parts.

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3. Remove the humidifier pad assembly from the humidifier by grasping 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 catches inward until the water nozzle can be lifted off the tray.
6. Slide the humidifier pad out of the frame.
7. Carefully scrape any mineral deposits from the tray and frame. Be sure the frame drain hole has nothing blocking it.
8. Check the humidifier pad and if excessive mineral deposits are present, replace with a new pad.

9. Disconnect the tube from the drain fitting on the bottom of the humidifier housing.
10. Clean the drain fitting, if necessary.
11. Bend the drain tube to loosen any mineral deposits.
12. Flush the drain tube with pressurized water (a running tap) to clean the tube.
13. Reattach the drain tube to the drain fitting.
14. Slide the humidifier pad back into the frame.

IMPORTANT

Be sure the marked side of the humidifier pad is facing up for proper performance.

15. Snap the water nozzle back on the tray.
16. Reattach the tray to the frame.
17. 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.
18. Replace the humidifier cover.
19. Verify the humidifier operation by following the steps in the Checkout Procedure section.

End of Humidification Season

At the end of the heating season, follow steps 1 through 18 from the Every 1 To 3 Months section to clean the humidifier and shut it off.

IMPORTANT

Be sure the humidifier power is off.

Beginning of Humidification Season

Refer to the Checkout Procedure section to complete the humidifier startup.

Vacation

When leaving on vacation, turn off the humidifier water supply and the humidity control. When returning from vacation, turn on the humidifier water supply and reset the humidity control to restart the humidifier.

CHECKOUT PROCEDURE

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

1. Turn on the humidifier power and water supply.
2. Turn the Convertible Humidity Control to the highest setting, or place the H1008A Automatic Humidity Control in the Test position 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 on for the humidifier to operate.

4. Reset the thermostat and Convertible Humidity Control to a comfortable setting, or the H1008A Automatic Humidity Control to the desired frost factor setting, for automatic operation.

TROUBLESHOOTING

Refer to Table 7 for troubleshooting procedures.

Table 7. Troubleshooting Procedures.

Problem	What To Look For	What To Do
Low humidity	Furnace blower not operating	• Reset circuit breaker or check for blown fuse. • Check that the furnace power is on. • Check all external wiring connections. • Check the humidity control setting. • Call a professional heating contractor.
	Rapid air changes. Drafts (cold air is dry and is an added load to the humidifier).	• Keep doors and windows closed. • Close fireplace damper when not in use. • Keep exhaust fan running time to a minimum. • Seal around doors and windows.
High humidity	Condensation on walls.	• Turn humidity control and water off until condensation is completely evaporated.
	Heavy condensation on windows.	• Turn humidity control down low enough to eliminate condensation caused by moisture from bathing, mopping, cooking, etc. If moisture persists, more ventilation is needed.

REPLACEMENT PARTS

Refer to Fig. 6 and Table 8 when ordering replacement parts.

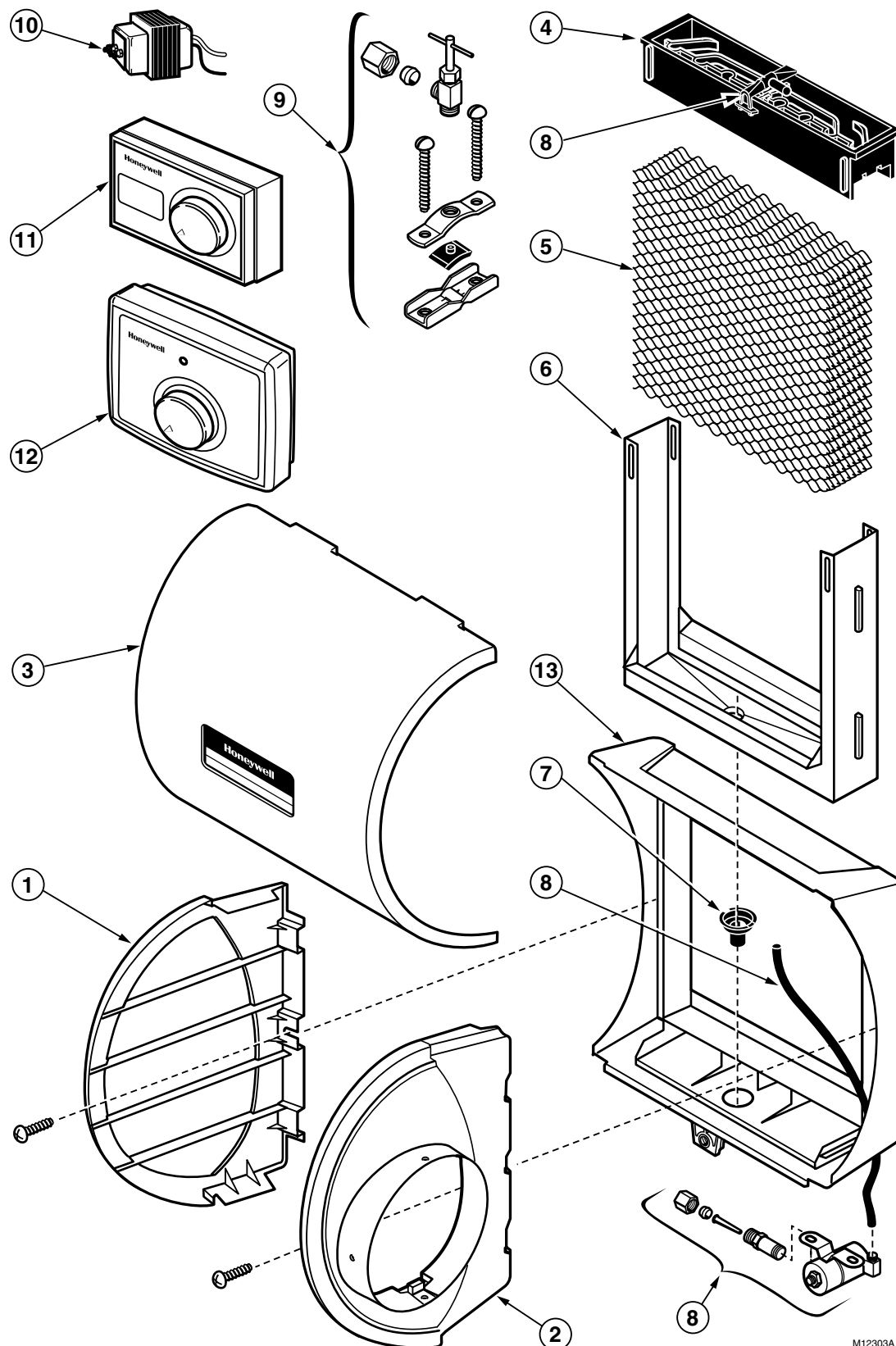


Fig. 6. Exploded view of humidifier parts.

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Table 8. List Of Replacement Parts For HE220A,B, HE260A,B Humidifiers.

Exploded View Number	Description	HE220 Part Number	HE260 Part Number
1	Side wall	32001612-001	32001626-001
2	Bypass side wall	32001613-001	32001627-001
3	Cover Assembly	32001611-001	32001611-002
4	PerfectFlo™ water distribution tray	32001619-001	32001630-001
5	Humidifier pad	HC22A1007	HC26A1008
6	Frame	32001621-001	32001632-001
7	Drain fitting	32001615-001	32001615-001
8	Solenoid valve assembly (includes water feed tube and nozzle)	32001639-002	32001639-002
9	Saddle valve assembly	32001616-001	32001616-001
10	Transformer (10 VA)	32001652-001	32001652-001
11	Convertible Humidity Control	H908A1003	H908A1003
12	Automatic Humidity control with HumidiCalc™+ Software	H1008A1008	H1008A1008
13	Base insert assembly, includes no. 8 above	32001625-001	32001625-002
—	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

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