

HE160A By-Pass Disk Humidifier

PRODUCT DATA/OWNER'S GUIDE



FEATURES/BENEFITS

- Lower maintenance than most popular drum models.
- Can be installed in a furnace room without a drain.
- Capable of humidifying a large area.
- Small footprint, light weight, and reversible components allow easy mounting on either air duct of any forced air furnace.
- Minimal quantity of water and electricity needed for operation is a homeowner cost-savings.
- Interior components designed for easy cleanup.
- Includes easy-to-use humidity control that mounts on the wall or duct for added installation flexibility.
- Perfect Climate Comfort Center™ control can be installed to replace both the thermostat and the humidity control for improved aesthetics and convenience.

APPLICATION

The HE160A By-Pass Disk Humidifier uses the warm air furnace blower to provide humidification for the whole house. The HE160A works with virtually any Honeywell humidity control, but uses the Honeywell Humidicalc™ or Perfect Climate Comfort Center™ control for optimal performance.

Note to Installer:

Please leave this Product Data with the homeowner to provide Operation and Maintenance information.

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SPECIFICATIONS

Capacity:

At 120°F (49°C) plenum temperature and 0.20 static pressure drop across supply and return:
14 gallons per day (gpd) or 53 liters per day (lpd).

Humidified Area:

For sizing guidelines, refer to Table 1.

Table 1. Humidified Area Sizes.

House Construction Description	Air Changes per hour	Maximum House Size	
		Sq ft	Sq m
Loose	Two	1050	95
Average	One	1750	158
Tight	One-half	2350	212

Drum Motor:

24 Vac, 60 Hz, 3W, 4 rpm, synchronous.

Plenum opening Dimensions (Height x Width):

7-13/16 in. x 6.0 in. (198 mm x 152 mm).

By-Pass Duct Opening (Diameter):

6 in. (152 mm).

Dimensions:

See Fig. 1.

Testing Standard:

Air Conditioning and Refrigeration Institute: Standard 610.

Models:

HE160A Tradeline® By-Pass Disk Humidifier package includes:
Mounting template and hardware.
Self-piercing saddle valve.
24 Vac transformer and wire.
H8908B Humidity Control.

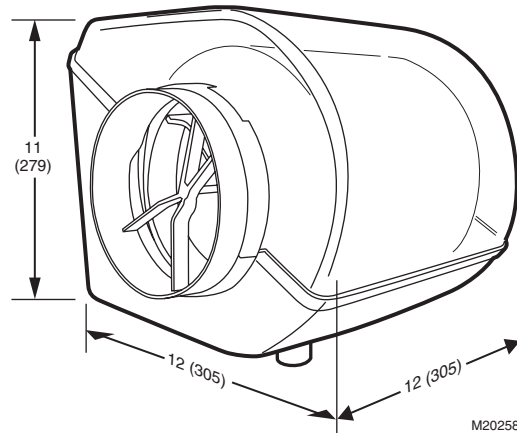


Fig. 1. HE160A dimensions in in. (mm).

Accessories:

- H1008A Automatic Humidity Control with HumidiCalc+™ Software (software calculates dewpoint to prevent moisture condensation).
- 50-8578 HumidiCalc™ Humidifier Sizing Software (software calculates required humidifier capacity for application).
- PC8900 Perfect Climate Comfort Center™ Control.

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:

1. Your local Home and Building Control Sales Office (check white pages of your phone directory).
2. Home and Building Control Customer Relations
Honeywell, 1885 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.

INSTALLATION

⚠ WARNING

Electrocution and Chemical Hazard.

Can cause death or blindness.

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

⚠ CAUTION

Freezing Water Hazard.

Can result in water damage to property.

Locate the humidifier where the ambient temperature is between 32°F and 180°F (0°C and 82°C).

IMPORTANT

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

1. Determine the best location for the humidifier (see Fig. 2) and draw a level line on the duct. See Fig. 3 for humidifier components.

NOTE: Install HE160A on return side air duct. Installing on supply side can result in up to 50% decreased performance.

2. Tape the mounting template (last page of this document) in position and trace around it.
3. Remove the template and carefully cut the rectangular opening.

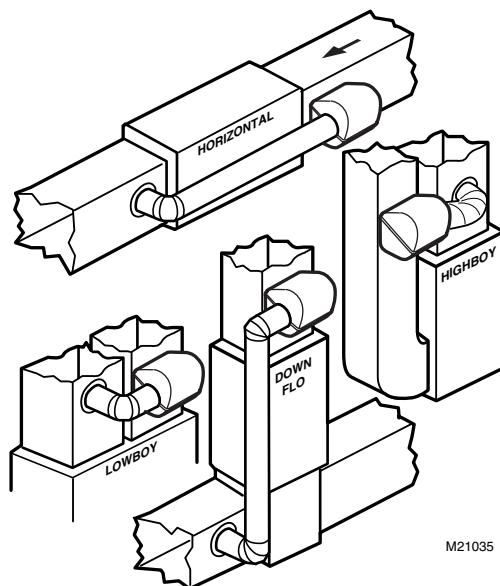


Fig. 2. Typical humidifier installation locations.

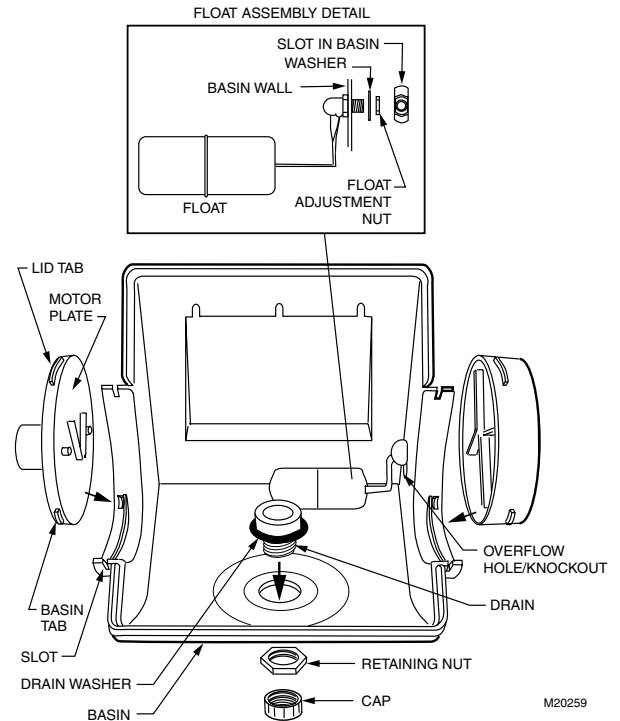


Fig. 3. Humidifier components.

4. 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 hole locations (Fig. 4A).
5. Drill three 3/16 in. (5 mm) holes in the duct/plenum (Fig. 4B).
6. Mount the hanger bracket on the inside of the plenum/duct using the 3/16 in. (5 mm) machine screws and nuts provided (Fig. 4C).

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

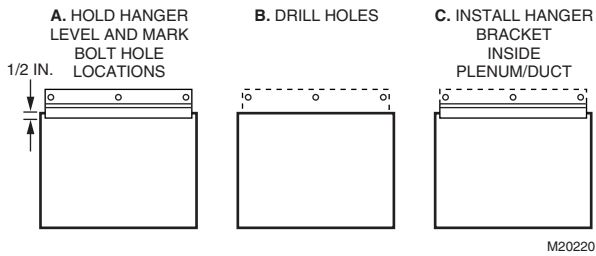


Fig. 4. Mounting HE160 on plenum.

7. Hang the basin from the mounting hanger and secure with the sheet metal screws provided.
8. Insert the screws into the pilot holes and through to the back of the bracket.
9. Snap the motor plate and inlet into the basin. Be sure the tabs fit into the corresponding basin slots.
10. 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.

Connecting Plumbing

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

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.

4. Connect the water supply line to the float. Use the expander with plastic supply line or a metal compression sleeve with copper supply line.
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.

Adjusting Water Level (Fig. 5)

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 9/15 in. (15 mm) wrench.
6. Remove the disk and drain the water before beginning the bypass installation.
7. Install bypass.

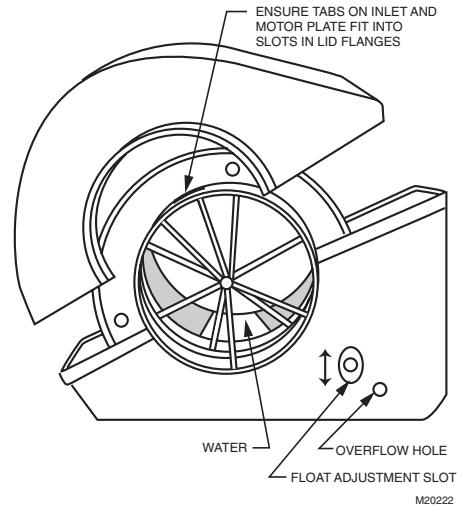


Fig. 5. Adjusting HE160 water level.

NOTE: Be sure to install a duct damper for summer shutoff if there is air conditioning.

WIRING (FIG.6)

CAUTION

Electrical Shock.
Can shock or burn out equipment.
 Disconnect power supply before installing or servicing. To prevent premature transformer burnout on multispeed blower applications, do not wire high-voltage side of transformer to same power source that services furnace blower.

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

1. Mount the transformer in a convenient location.
2. Connect the wires to the 120V side of the transformer.
3. Wire the drum motor, transformer and humidity control.

NOTE: Disk humidifier can be wired to run with system fan or continuously on a call for humidification.

Refer to the humidity control installation instructions for mounting and wiring information.

OPERATION

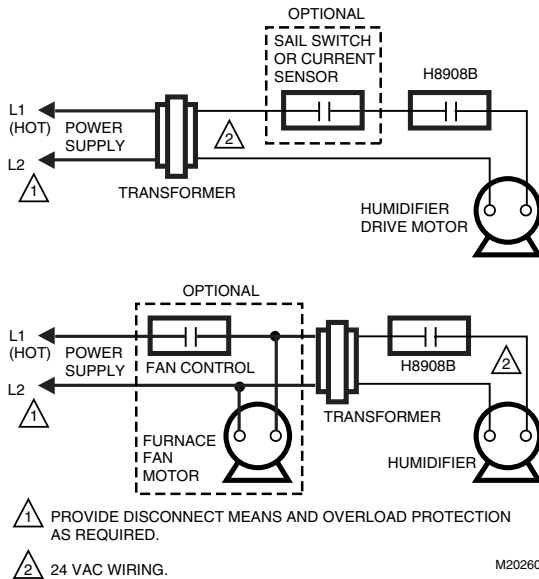
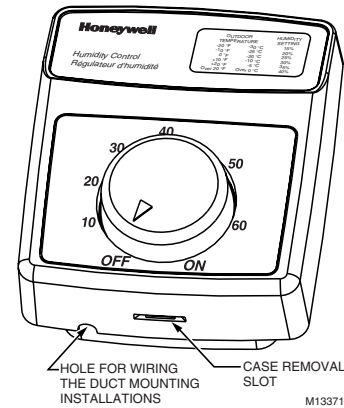


Fig. 6. HE160 wiring diagram.



H8908B Humidity Control

The HE160A Humidifier is controlled by the H8908B Humidity Control installed on either an interior wall in the living area or on the return air duct. Choose the setting using the combination relative humidity/outdoor temperature setting

Table 2. Recommended 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

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.

HE160A Humidifier

The HE160A 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.

The humidity control monitors the relative humidity and activates the humidifier accordingly. The humidifier has a water supply that disburses water over a humidifier disk array. The warm dry air from the furnace passes over the humidifier disk array and picks up the moist air to circulate 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. Frequency of cleaning depends on the condition of the water. You can use either hard or soft water in the humidifier, but hard water mineral deposits can be more difficult to clean than soft water deposits.

Every 1 to 3 Months (Depending on Water Quality)

Under normal conditions, minimal maintenance should be required. But if you live in an area where the mineral content of the water is high (hard water), you may want to drain the sediment as described below and periodically clean any minor sediment deposits from the basin and disk array.

1. Turn off the water.
2. Remove the disk array. See Fig. 7.
3. Agitate the water in a circular motion and drain the sediment and any water from the basin.
4. Replace the disk array and lid.
5. At the end of the humidifying season:
 - a. Drain the sediment as described above and clean the humidifier.
 - b. Turn off the humidifier and turn the shut-off damper to the closed or summer position.

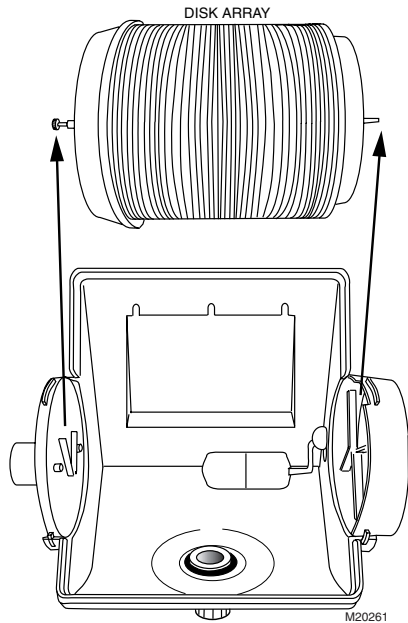


Fig. 7. Removing disk array.

Cleaning Humidifier Sediment Deposits

1. Use vinegar or any cleaner approved for plastic to soak the disk array.
2. After soaking in vinegar or cleaning solution, rinse the disk array. Over time, metal parts can discolor. This is a normal, and does not affect performance.
3. For excessive mineral buildup, lower water drain basin and scoop out minerals. Hardened minerals can be broken off cleanly with minimal effort.

CHECKOUT

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

1. Turn on humidifier power and turn on water supply.
2. Check the water level in the humidifier water pan. See Adjusting Water Level section.
3. Turn H8908B Humidity Control to the highest setting.
4. Check that the humidifier disk is rotating.
5. Check that shut-off damper is in open or winter position.
6. Reset the Humidity Control to a comfortable setting for automatic operation.

TROUBLESHOOTING

Refer to Table 3 for troubleshooting procedures.

Table 3. Troubleshooting Procedure.

Problem	What to Look For	What to Do
Low Humidity	Furnace blower not operating	<ul style="list-style-type: none"> • Reset circuit breaker or check for blown fuse. • Check that furnace power is on. • Check all external wiring connections. • Check humidity control setting. • Call a professional heating contractor.
	Rapid air changes. Drafts (cold air is dry and is an added load to the humidifier).	<ul style="list-style-type: none"> • 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 off humidity control and water 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

See Fig. 8 and Table 4 when ordering replacement parts.

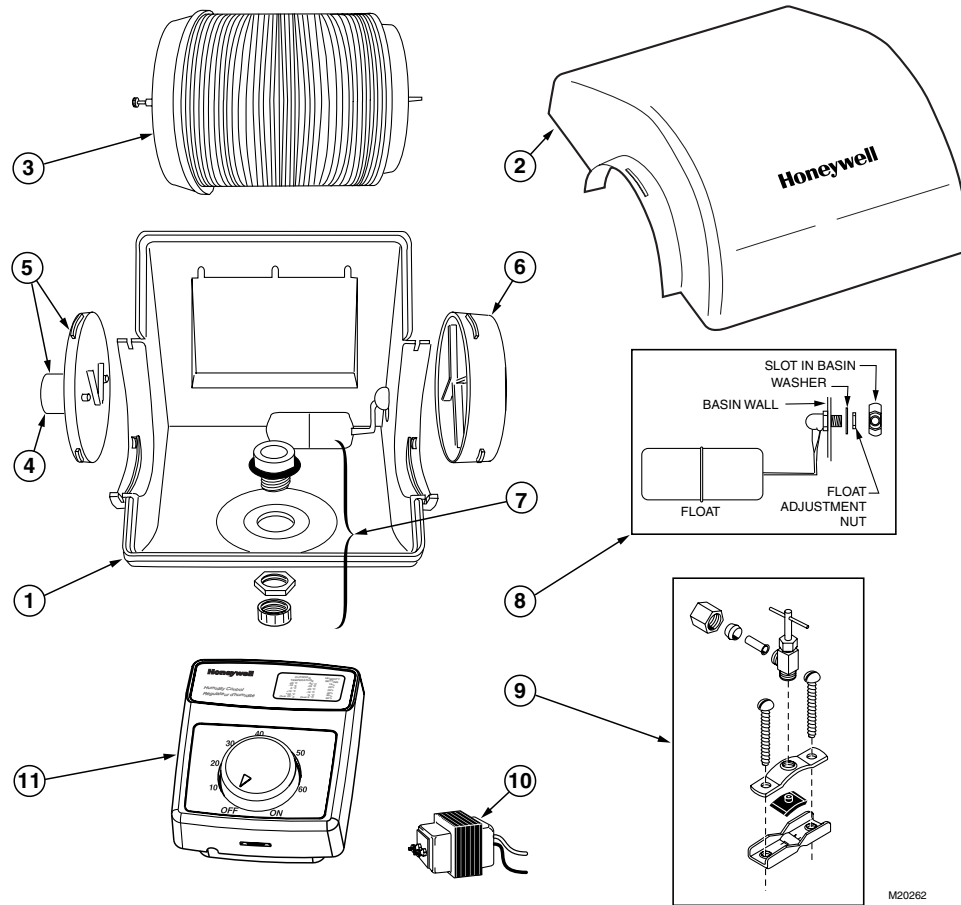


Fig. 8. Illustrated replacement parts list.

Table 4. HE160A Humidifier Replacement Parts (See Fig. 8).

Item No.	Description	Honeywell Part No.
1	Basin	32006134-001
2	Lid	32006135-001
3	Disk Array	32006136-001
4	24V Drive Motor	32006137-001
5	Motor Plate Assembly	32006138-001
6	Air Inlet Plate	32006139-001
7	Drain Assembly with Cap	32006140-001
8	Valve/Float Assembly	32006141-001
9	Saddle Valve Assembly	32001616-001
10	Transformer	32001652-001
11	Humidistat Control	H8908B 1002

HE160A HUMIDIFIER
MOUNTING TEMPLATE

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

