

Powered Flow-Through Humidifier

PRODUCT DATA



SPECIFICATIONS

IMPORTANT

The specifications given in this publication do not include normal manufacturing tolerances. Therefore, this unit may not exactly match the listed specifications. Also, this product is tested and calibrated under closely controlled conditions and some minor differences in performance can be expected if those conditions are changed.

Models Available:

Includes humidifier, antimicrobial humidifier pad, mounting template, self-piercing saddle valve and Convertible Humidity Control.

Capacity:

At 120 °F (49 °C) plenum temperature and 0.20 static pressure drop across supply and return: 18 gallons per day (gpd), 68 liters per day (lpd).

Humidified Area:

House Description	Air Changes Per Hour	Area (Up To)	
		Sq ft.	Sq m.
Loose	Two	1,900	175
Average	One	2,700	248
Tight	One-half	4,200	386

Electrical Ratings:

120 Vac, 60 Hz, 0.7A.

Humidifier Pad Dimensions (height x width x depth):

13 in. x 10 in. x 1-1/2 in. (330 mm x 254 mm x 38 mm).

Plenum Opening Dimensions (height x width):

14-1/16 in. x 13-1/2 in. (357 mm x 343 mm).

Drain Connection:

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

Dimensions:

Refer to Fig. 1.

APPLICATION

The Powered Flow-through Humidifiers use the warm air furnace blower to provide humidification for the whole house.

FEATURES/BENEFITS

- Antimicrobial coating on pad prevents the surface growth and migration of bacteria, mold, fungus and algae on the humidifier pad.
- Bold look with blue and white styling.
- Capable of humidifying up to 4200 sq ft (390 sq m).
- Includes water distribution tray for optimal efficiency and water usage.
- Narrower footprint than popular compatible model while maintaining a common humidifier pad and comparable humidification performance.
- Interior components designed for quick maintenance and service.
- Humidifier includes a convertible humidity control that mounts on the wall or duct for more flexibility.
- Continuous flushing reduces the frequency of maintenance in a hard water installation.



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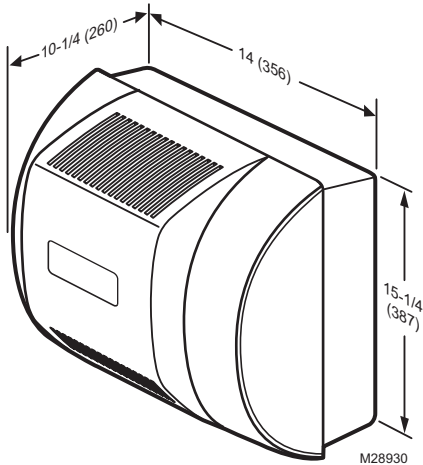


Fig. 1. Humidifier dimensions in in. (mm).

Approvals:

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

Standards:

Air Conditioning and Refrigeration Institute Tested: Standard 610.

Accessories:

HC26E Humidifier Antimicrobial Pad.

INSTALLATION

When Installing this Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

CAUTION

Personal Injury or Equipment Hazard. Improper drilling can cause equipment damage or personal injury.

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

CAUTION

Property or Equipment Hazard.

Can cause property or equipment damage.

- Locate the humidifier where the ambient temperature is between 32°F (0°C) and 160°F (71°C).
- Do not install 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 125 psi.

Location and Mounting

IMPORTANT

Mount the humidifier at least 3 in. (76 mm) above the furnace jacket to allow adequate space for the drain line. Check that there is adequate space above the humidifier to remove and install the humidifier cover. Do not install on a furnace jacket.

1. Determine the best location for the humidifier and draw a level line on the plenum. See Fig. 2 and 3.

IMPORTANT

Be sure the template is level before marking to assure optimal product performance.

2. Tape the template in position and trace around the template.
3. Remove the template and carefully cut the rectangular opening.
4. Loosen the thumbscrew on the bottom of the humidifier and remove the cover.
5. Remove the humidifier pad assembly by grasping the top of the tray and pulling the assembly out of the housing. See Fig. 4.
6. Position the securing clips as shown in Fig. 5. Do not completely seat them.

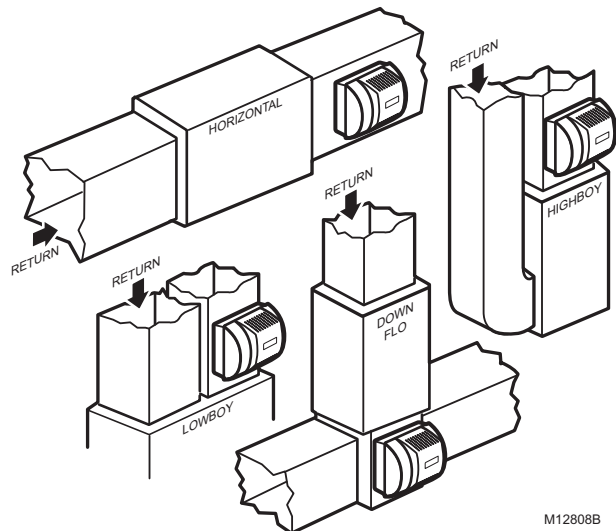


Fig. 2. Typical humidifier installation locations.

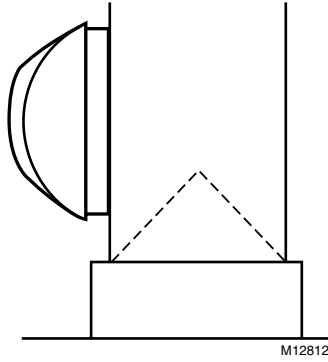


Fig. 3. Humidifier location in relation to air conditioning coils.

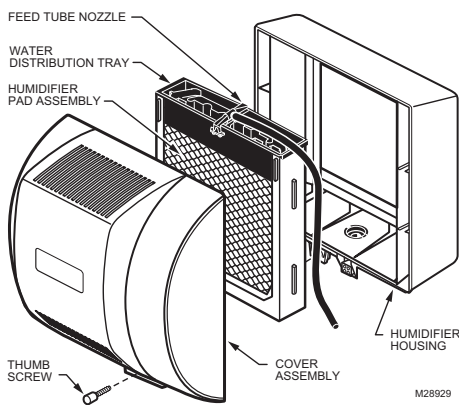


Fig. 4. Humidifier components.

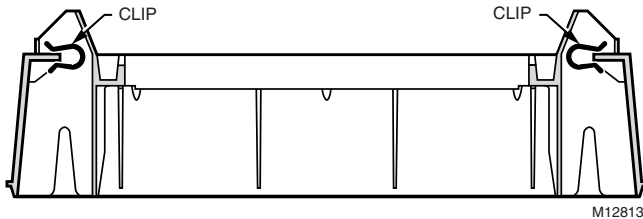


Fig. 5. Position securing clips.

7. Position the humidifier housing in the hole (be sure it is level), so the locking tabs are in place on the upper and lower sheet metal edges of the hole.
8. Push in the securing clips until completely seated.
9. Drill holes and install the three sheet metal screws at the top of the humidifier housing. Secure the housing with the three remaining screws at the bottom of the housing.
10. Reinstall the humidifier pad assembly in the humidifier housing.

IMPORTANT

For proper operation, be sure the mark on the end of the humidifier pad is facing up. Check that the water feed tube is placed in the guide slots of the humidifier housing.

11. Hook the top of the cover to the housing and secure with the thumbscrew located at the bottom of the cover.

WIRING HUMIDIFIER

⚠ WARNING

Serious Personal Injury or Equipment Hazard. Moving parts can cause electrical shock and injury.

- Disconnect power supply before installation or servicing.
- This device contains a moving fan blade; do not operate the humidifier without the cover securely attached.

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

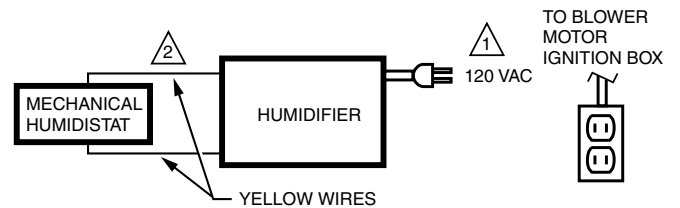
For Convertible Humidity Control Wiring Connections:

IMPORTANT

- Select models of fan centers include humidifier taps so the current sensing relay or sail switch is not needed.
- If not using a current sensing relay or sail switch, the 120V humidifier plug must be energized during blower motor cycles for proper operation.

1. Wire the current sensing relay or sail switch.
2. Connect only the two yellow wires to the humidity control (red wire connections are not used for mechanical humidity control). See the typical wiring diagrams in Fig. 6 through 8.

For additional mounting and wiring information, refer to the humidity control installation instructions.

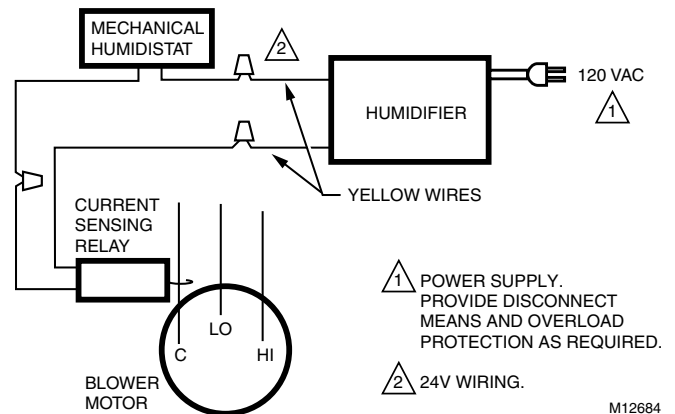


1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

2 24V WIRING.

M12686

Fig. 6. Typical wiring diagram for humidifier using fan control to cycle blower motor fan and humidifier simultaneously.



1 POWER SUPPLY. PROVIDE DISCONNECT MEANS AND OVERLOAD PROTECTION AS REQUIRED.

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Fig. 7. Typical wiring diagram of current sensing relay with humidifier.

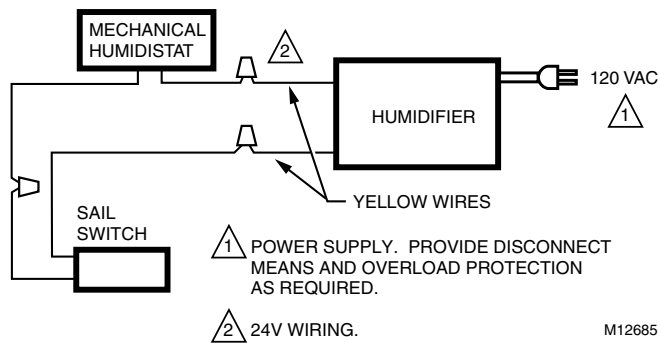


Fig. 8. Typical wiring diagram of sail switch with humidifier.

Plumbing 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.

CAUTION

Equipment Hazard.
Improper installation can cause equipment damage.

Do not use any line connected to an air conditioner.

IMPORTANT

- The saddle valve is not designed to regulate water flow; the valve is either open or closed.
- Be sure to install the saddle valve handle pointing toward the ceiling to prevent debris from clogging the solenoid in-line filter.

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.
 - a. Place the brass compression nut over the copper tubing.
 - b. Slide the brass ferrule over the tubing.

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

- c. Insert the tubing into the solenoid valve fitting and support the valve while tightening the compression nut.
3. Connect a 1/2 in. hose to the humidifier drain fitting and run it to a suitable drain.

NOTE: Slope the hose downward for correct drainage.

CHECKING INSTALLATION

1. Open the saddle valve.

NOTE: The furnace blower must be operating for the humidifier to work.

2. Set the thermostat setpoint 10 °F (12 °C) above the room temperature.
3. Set the humidity control to a high humidity setting, or place the humidity control in the test position.
4. Observe the water running out of the drain line to be sure the humidifier is working correctly.
5. Check for leaks.
6. Reset the thermostat and humidity control to comfortable settings.

OPERATING HUMIDIFIER

The humidifier is controlled by the Convertible Humidity Control. The convertible humidity control 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 to reduce the moisture condensation on your windows. The table below can also be used to adjust the humidity control to the recommended setting.

NOTE: As outside temperature drops, the recommended humidity control 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. If this condition persists for more than a few hours, set the humidistat to the lowest setting to turn off the humidifier. If the condition does not improve, ventilate the house to remove the moisture.

OPERATION

The humidifier uses the principle that vapor (evaporated water) is created when warm dry 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, collects moisture, and circulates it through the house.

Since humidified air feels warmer and more comfortable, the homeowner may decide to lower the thermostat setpoint, thus saving money on heating bills. The end result is that the humidifier provides a more comfortable environment that is also energy efficient.

Table 1. Recommended Humidity Control Settings.

Outside Temperature	Recommended Setting	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	+20°F (-7°C)	40

MAINTENANCE

A regular maintenance program prolongs the life of the humidifier and provides a more comfortable environment. Frequency of cleanings depends on water conditions.

Either hard or soft water can be used in the humidifier, but hard water mineral deposits are more difficult to clean than soft water deposits.

Use the following procedure to clean the humidifier.



CAUTION

Personal Injury or Equipment Hazard.
Power Supply can cause electrical shock or equipment damage.

Disconnect power supply before performing humidifier maintenance.

IMPORTANT

Never oil any part of the humidifier.

Every 1 To 3 Months (Depending on Water Quality)

1. Disconnect the power and turn off the humidifier water supply.
2. Remove the humidifier cover. See Fig. 9.

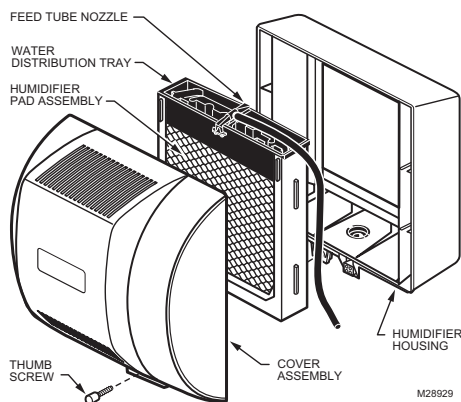


Fig. 9. Location of humidifier parts.

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 HC26E Antimicrobial Pad.
9. Disconnect the drain hose from the drain fitting on the bottom of the humidifier housing.
10. Clean the drain fitting, if necessary.
11. Bend the drain hose to loosen any mineral deposits.
12. Flush the drain hose with pressurized water (a running tap) to clean the hose.
13. Reattach the drain hose to the drain fitting.
14. Slide the humidifier pad back into the frame.

IMPORTANT

To maintain the antimicrobial properties of the humidifier, use only an HC26E Antimicrobial Pad. Be sure the marked side of the antimicrobial humidifier pad is facing up for proper performance.

15. Reattach the tray to the frame.
16. Snap the water nozzle back on the tray.
17. Place the antimicrobial humidifier pad assembly in the humidifier housing and press until the assembly is seated.
18. Be sure the water feed tube is placed in the guide slots of the humidifier housing.
19. Replace the humidifier cover.
20. Verify the humidifier operation by following the steps in the Checkout Procedure section.

End of Humidification Season

The humidifier needs to be cleaned and shut off at the end of the heating season. Follow steps 1 through 19 from the Every 1 To 3 Months section.

IMPORTANT

Be sure the humidifier power is off.

Beginning of Humidification Season

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

Vacation

Turn off the humidifier water supply and the humidity control while on vacation. When you return, 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 steps to check the humidifier operation.

1. Turn on the humidifier power and water supply.
2. Turn the humidity control to its highest setting and set the thermostat to 10 °F (12 °C) above the room temperature.

3. Observe that water is flowing out of the drain hose.

NOTE: The furnace blower must be operating for the humidifier to work.

4. Reset the thermostat and humidity control to a comfortable setting for automatic operation.

TROUBLESHOOTING

Refer to Table 2 for troubleshooting procedures.

Table 2. Troubleshooting Procedures.

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 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).	<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.	<ul style="list-style-type: none"> • Turn off humidity control and water until condensation is completely evaporated.
	Heavy condensation on windows.	<ul style="list-style-type: none"> • 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. 10 and Table 3 when ordering replacement parts.

Table 3. List of Replacement Parts.

1	Water Distribution Tray	32001630-001
2	Solenoid Valve Assembly (Includes water feed tube)	32001876-001
3	Antimicrobial Humidifier Pad	HC26E1004
4	PWB Assembly	32001676-001
5	Bag Assembly, Saddle Valve	32001616-001
6	Convertible Humidity Control	H8908ASPST
Not Shown	Hardware Kit for Solenoid Assembly (same as Solenoid Valve Assembly without the solenoid valve)	32001752-001

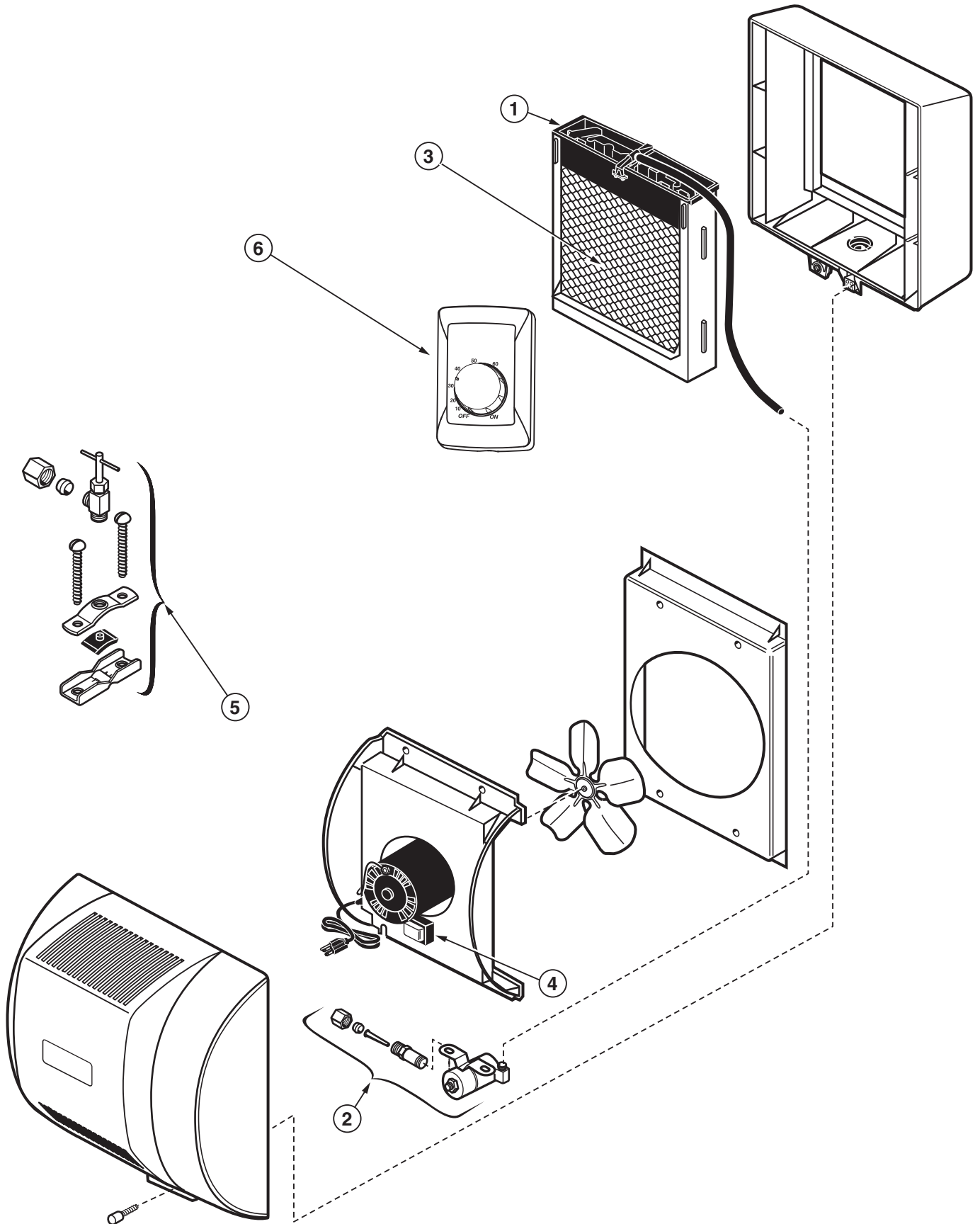


Fig. 10. Key to Replacement Parts.

POWERED FLOW-THROUGH HUMIDIFIER