



Skuttle®

Indoor Air Quality Products

Installation Instructions

**for Models 2000, 2100,
2001 and 2101**

**High-Capacity Bypass
Flow-Thru Humidifiers
with Side Entry**

Inside Front Cover

Contractor: Read these
instructions before installing or
servicing humidifier.



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Contractor Assistance:

Phone: 888-SKUTTLE (758-8853)

Email: techservice@skuttle.com

Web: www.goskuttle.com

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Warnings and Cautions



WARNING: This high-capacity flow-thru humidifier must be installed by a qualified heating and air conditioning contractor. Failure to comply could result in serious injury from electrical shock, damage humidifier or heating appliance, and/or void all warranties.

ADDITIONAL WARNINGS:

1. **Disconnect electrical power** to the furnace before starting installation to avoid serious injury or electrocution.
2. **Use care when cutting plenum openings and handling ductwork.** Sharp edges may cause serious injury.
3. **Do not cut or drill any air conditioning or electrical accessories** during humidifier installation. (See "Placement" diagrams, page 1.) Electrocution is possible if you come in contact with a live electrical wire; blindness can occur if refrigerant contacts your eyes.

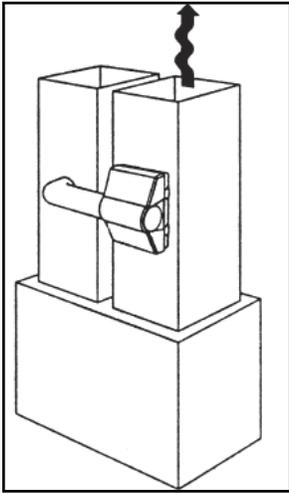
CAUTIONS:

1. Do not install the unit where freezing temperatures could occur, or where temperatures could exceed 180°F (82.22°C).
2. Do not install the unit on a furnace jacket.

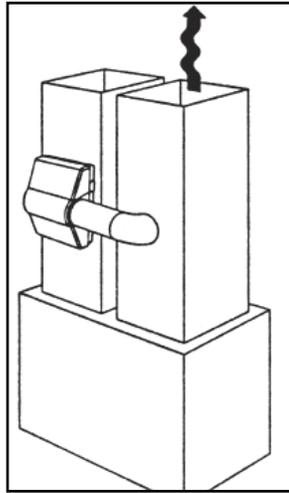
3. Do not install the unit on a plenum face where the blanked-off ends of the cooling coil restrict air movement through the humidifier.
4. Do not set humidity higher than recommended. Condensation damage may result.
5. Do not set humidity up to recommended levels if there is condensation on the inside windows of any living space. Condensation damage may result.
6. Do not install the unit on any plenum where static pressure exceeds 0.4 in. (1.02 cm) W.C.
7. Do not install the unit where water pressure exceeds 125 psi (861.85 kPa). Leakage may result. Follow relevant codes regarding pressure reduction.
8. Be sure that the installation, wiring and plumbing on the humidifier comply with local codes, ordinances and regulations.

Humidifier Placement

Mounting Options



Option A: Mount the humidifier on the warm air plenum. Connect the unit to the cold air return using 6 in. (15.24 cm) round duct. **OR...**

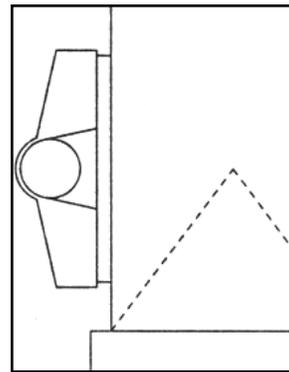


Option B: Mount the humidifier to the cold air return. Connect the unit to the warm air return using 6 in. (15.24 cm) round duct.

Explanation of A and B Options

Mounting the humidifier on the warm air supply or the cold air return plenum does not alter humidifier performance. In either location, air will flow from the warm air to the cold air side due to the positive and negative pressures of the heating system.

Humidity produced by a bypass flow-thru humidifier is dispersed as a pure vapor (i.e., a gas), not as a liquid. The moisture will remain in the air, even when reheated. The humidity can only be depleted by escaping to the outside or by condensing on a cold surface. Because all surfaces in the furnace/humidifier system are warm, condensation is unlikely.

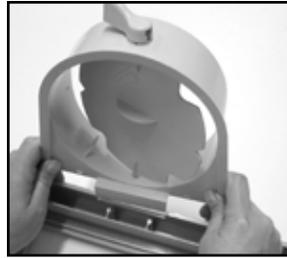


Placement: Skuttle 2000- and 2100-Series Flow-Thru Humidifiers should be installed as shown in relation to the AC coils.

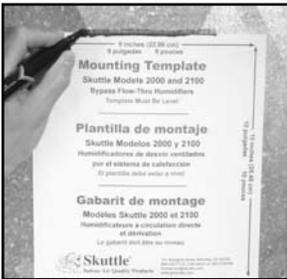
Step-by-Step Installation Instructions



1. Locate the 2000/2100 or 2001/2101 mounting template in the humidifier carton. Tape the template lengthwise onto the furnace plenum, **making sure it is level.**



6. To convert the humidifier from right-to-left-side discharge, apply pressure to the inside of the side panel using both hands. Lift. Exchange the two side pieces. Reinstall using moderate pressure.



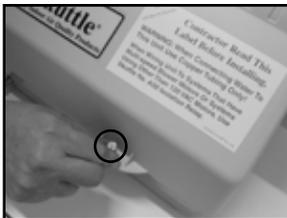
2. Trace around the template.* Remove the template. Accurately cut the plenum opening.

*Models 2000 and 2100 cutout size is 9 in. (22.86 cm) wide by 10 in. (25.40 cm) long.

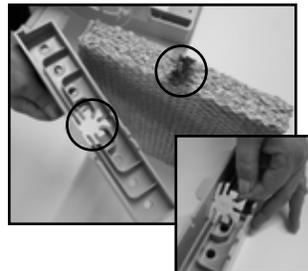


7. Place the mounting frame into the plenum opening so that the frame hooks over the bottom of the opening. Screw the frame to the plenum.

Models 2001 and 2101 cutout size is 10-5/8 in. (26.99 cm) wide by 16-5/8 in. (42.23 cm) wide.



3. Disengage the humidifier cover from the mounting frame by rotating the thumb screw at the bottom counterclockwise (□).



8. Stand the evaporator pad upright with the index mark on top. Make sure the wick is seated securely in the drip tray.



4. Tilt and lift the cover off the frame.



9. Place the drip tray on top of the pad. Reinstall the evaporator pad and drip tray.



5. Pull out the drip tray and evaporator pad assembly by grasping the top lip and tipping out.

NOTE: Photos shown here and on the following pages are of the Skuttle 2000/2100 Flow-Thru Humidifier. The 2001/2101 unit is somewhat larger, however, installation procedures for all four models are identical unless otherwise noted.



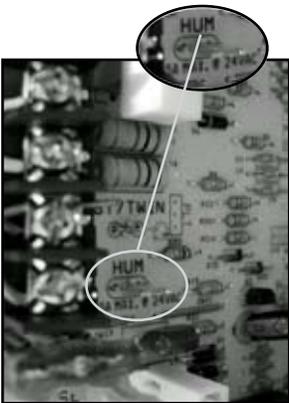
10. Reattach the cover assembly by hooking it at the top of the mounting frame, then securing it with the thumb screw at the bottom.



11. Install the 6 in. (15.24 cm) starting collar on the opposite plenum. Slip on a 90° elbow and measure the length of 6 in.

(15.24 cm) round duct required to make the connection. Screw the 6 in. (15.24 cm) duct to the discharge collar.

12. TO WIRE MODEL 2100 OR 2101 AND THE COMPUSTAT...refer to the Safety and Installation Instructions that come with the CompuSTAT automatic humidifier control.



13. TO WIRE MODEL 2000 OR 2001 AND THE HUMIDISTAT... shut off the furnace power. If the furnace is relatively new, check to see if there is an electronic control board with humidifier control terminals (sometimes marked HUM). You

may also consult the furnace installation manual or wiring diagram. **If humidifier terminals are present, proceed to No. 13A.**

If humidifier terminals are not present, answer the following questions:

- Is the blower motor powered with a supply greater than 120 volts?

OR

- Does the blower motor change speed when the thermostat's system fan switch is activated during the heating mode?

OR

- Does the blower motor change speed when the air conditioning is activated?

If the answer to ANY of the above is YES, skip to No. 13B.

If the answer to ALL of the above questions is NO, skip to No. 13C.

13A. Using a meter, check the terminals for power output during the heating cycle when the blower is running. Determine the output voltage. Some circuit boards have printed indicators. Most are 24 volt AC and only require connecting the humidifier solenoid and the humidistat. (See **Wiring Diagram A, below.** □)

(If, in rare cases, the furnace terminals are 120 volt, connect the transformer to the terminals and wire as shown in Diagram C on page 4. □)

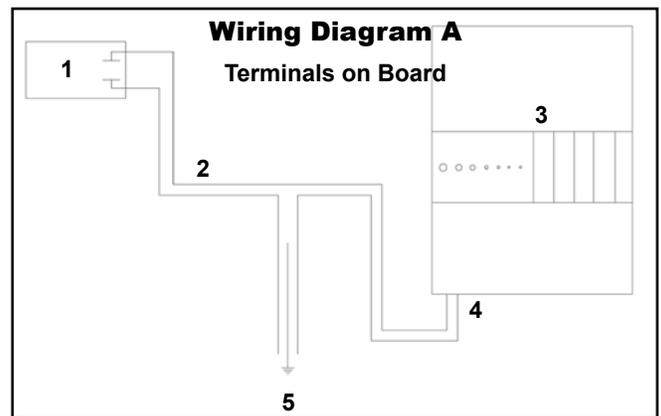


Diagram Key

1. Humidistat
2. 24 Volt AC Humidistat Wiring
3. Humidifier
4. Solenoid
5. 24 Volt (HUM) Terminals on Furnace Board

Step-by-Step Installation Instructions (cont'd.)

13B. For multi-speed blowers or systems not using 120 VAC, use an **A50 Electronic Relay** or other method of coordinating humidifier operation with the system air mover. The



source of power for the humidifier transformer should not be the blower motor wiring, but an independent source. This is to prevent transformer failure, either from feedback from the blower motor during air conditioning, or from voltage greater than the 120 volts required for the transformer. (See **Wiring Diagram B**, below. □)

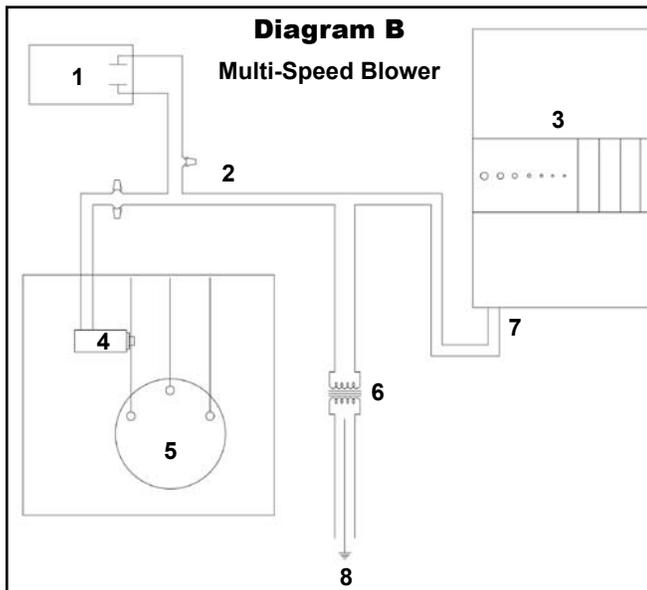


Diagram Key

1. Humidistat
2. 24 Volt AC Humidistat Wiring
3. Humidifier
4. Relay
5. Blower Motor
6. 24 Volt AC Transformer
7. Solenoid
8. 120 Volt AC Supply

13C. If you determine that the system blower motor is a 120 volt, single-speed motor, and that it does not change speed during the cooling mode, wire the transformer into the blower motor wiring. This will coordinate the humidifier and system operations. (See **Wiring Diagram C**, above right. □)

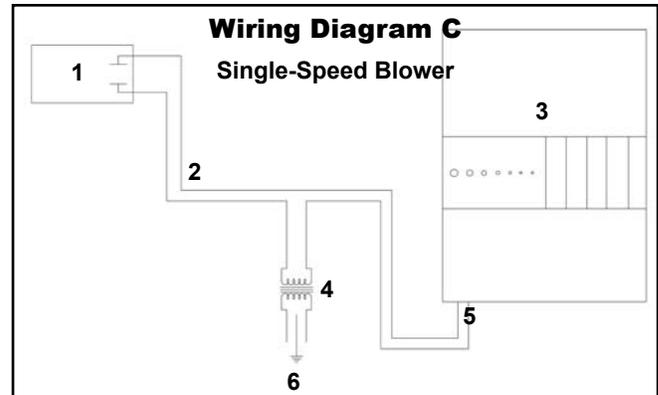


Diagram Key

1. Humidistat
2. 24 Volt AC Humidistat Wiring
3. Humidifier
4. 24 Volt AC Transformer
5. Solenoid
6. 120 Volt AC Supply



14. Tap into the water supply line using the saddle valve provided. Follow the instructions below....

Saddle Tapping Valve Installation Instructions

CAUTIONS (Failure to heed the following

warnings may result in damage to the piercing needle):

- Do not turn the handle on the saddle tapping valve until instructed to do so.
- Do not allow the piercing needle to protrude beyond the rubber gasket until instructed to do so.

To Install the Saddle Valve on Copper Tubing...

A. Assemble the saddle valve on the copper tubing.

- For 3/8 in. (0.95 cm) O.D. tubing, use the bracket with side projections to prevent distortion of the tubing.
- Use the "V" side of the bracket for all larger diameter tubing.

- B. Make sure the brackets are parallel, then tighten the screws evenly and firmly.
 - C. Connect the water line to the saddle valve outlet. Use the brass sleeve for 1/4 in. (0.64 cm) copper tubing.
- NOTE:** A small amount of water will escape from the outlet until the tubing is fully pierced.
- D. To pierce the tubing, turn the saddle valve handle clockwise (☐) until you feel it is firmly seated.
 - E. Turn the handle counterclockwise (☐) to open the valve.

To Install the Saddle Valve on Steel or Brass Pipe...

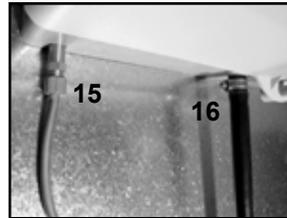
- A. Turn off the water supply and drain the line.
- B. Using a **hand drill**, drill a 3/16 in. (0.48 cm) hole in the pipe.

DANGER: Using an electric drill may cause shock or electrocution.

- C. Turn the saddle valve handle to expose the needle beyond the rubber gasket no more than 3/16 in. (0.48 cm).
- D. Place the body of the saddle valve over the hole so that the needle fits into the hole.

- F. Tighten the bottom clamp evenly, making sure that the brackets are parallel.
- G. Turn the saddle valve handle clockwise (☐) to close the valve.
- H. Turn on the water supply. The saddle tapping valve is now ready for operation.

15. Connect **copper tubing** from the saddle valve to the solenoid valve. (**Do not use plastic tubing.**) Check for leaks.



16. Attach a 1/2 in. (1.27 cm) ID vinyl hose and clamp to carry the flushed water from the unit to the drain. **To avoid damage to the drain fitting, do not use solvent type adhesives when connecting the plastic hose to the humidifier.**



17. Finally, test operation. Check for water leaks. Be sure the humidistat (or Compustat) is operating properly.



Skuttle[®]

Indoor Air Quality Products

101 Margaret Street • Marietta, OH 45750

800-848-9786 • 740-373-9169

customerservice@skuttle.com • www.goskuttle.com