Skuttle®

Indoor Air Quality Products

OWNER'S MANUAL AND INSTALLATION INSTRUCTIONS

for Models 55 and 86 Under Duct Whole-House Humidifiers

Includes Safety, Installation, Operating and Maintenance Instructions plus Warranty

CAUTION: Read these instructions thoroughly before beginning installation or maintenance

SAVE THIS MANUAL
FOR FUTURE REFERENCE

Model No. _____

Serial No. _____

Installation Date _____

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CAUTION: To protect your investment, please read the Limited One-Year Product Warranty on page 2.

Thank you for purchasing a Skuttle Under Duct Humidifier. We appreciate your business and are pleased to add your name to our list of valued customers. We sincerely hope you are satisfied with our product and its performance.

Skuttle is the oldest manufacturer of residential humidifiers, having been in business since 1917. In addition to humidifiers, we manufacture air filters, make-up air controls and other IAQ accessories.

As always, quality, performance and customer satisfaction are our highest priorities. The following information will aid you with the periodic maintenance necessary to keep your humidifier operating at peak efficiency.

- When you need parts or service, first try calling the heating and air conditioning dealer who installed your humidifier. This information may be located on the back of this booklet, or the dealer may have placed a reference label on your heating system. (Parts lists can be found on pages 18, 19, 20 and 21.)
- If you cannot locate your original installer, check the Yellow Pages or the Internet (e.g., switchboard.com) under “Heating & Air Conditioning Contractors.”
- If these attempts at finding parts or service fail, call us toll-free at (800) 848-9786. We’ll be glad to assist you.

For further instructions regarding the benefits, operation and maintenance of your new Skuttle humidifier, please read the applicable sections of this manual.

IMPORTANT:
Warranty Validation

The completion and return of the Warranty Registration Card—enclosed separately in your Skuttle humidifier carton—is a condition required for warranty coverage and performance. The warranty described herein is not valid unless the Warranty Card is completed and mailed to Skuttle Mfg. Co. within fifteen (15) days of equipment installation.

Skuttle Limited One-Year Product Warranty

This limited one-year warranty covers the Skuttle product as designated on the return portion of the warranty registration card, excluding wiring, plumbing and installation.

Skuttle Manufacturing Company warrants that this product is free from defects in material and workmanship under normal, non-commercial use and service. Skuttle will remedy any such defects if they appear within 12 months from the date of the original installation as evidenced by receipt of the warranty registration card, subject to the terms and conditions of this limited one-year warranty stated below:

1. THIS LIMITED ONE-YEAR WARRANTY IS GUARANTEED BY SKUTTLE MANUFACTURING COMPANY, 101 MARGARET STREET, MARIETTA, OH 45750, 740-373-9169.
2. This warranty shall extend only to any non-commercial owner who has purchased this residential product other than for purposes of resale.
3. The completion and return of the warranty registration card is a condition precedent to warranty coverage and performance. Warranty is not valid unless this card is completed and mailed to the factory within fifteen (15) days of equipment installation.
4. All components are covered by this limited warranty except expendable items.
5. If within the warranty period this product or any component requires service, it must be performed by a competent heating and/or plumbing contractor (preferably the installing contractor). Skuttle will not pay shipping charges or labor charges to remove or replace such defective parts or components. If the part of component is found by inspection to contain such defective material and/or workmanship, it will be either repaired or exchanged, free of charge, at Skuttle's option, and returned freight collect.
6. In order to obtain the benefits of this limited one-year warranty, the owner must notify the dealer or distributor in writing of any defects within thirty (30) days of the discovery. If after reasonable time you have not received an adequate response from the dealer or distributor, notify in writing, Skuttle Mfg. Co., 101 Margaret St., Marietta, OH 45750. SKUTTLE WILL RECEIVE, FREIGHT PREPAID, ONLY REMOVABLE PARTS OR COMPONENTS OF SUCH DEFECTIVE PRODUCTS.
7. This limited warranty does not apply to any part or component that is: damaged in transit or handling; has been subject to abuse, neglect or accident; has not been installed, operated and serviced according to Skuttle's instructions; has been operated beyond the factory rated capacity; or altered in any such way that its performance is affected. There is no warranty due to neglect, alteration or ordinary wear and tear. Skuttle's liability is limited to replacement of defective parts or components and does not include the payment of the cost of labor charges to remove or replace such defective components or parts.
8. Skuttle will not be responsible for loss of use of any product; loss of time, inconvenience, or any other indirect, incidental or consequential damages with respect to person or property, whether as a result of breach of contract, neglect or otherwise. **SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE LIMITATION OF EXCLUSION IN THE PRECEDING SENTENCE MAY NOT APPLY TO YOU.**
9. THIS WARRANTY GIVES YOU SPECIFIC RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.
10. Any warranty work will be performed within a reasonable time, usually within one-hundred-twenty (120) days after notice of defect and delivery to the Skuttle factory, subject to delays beyond the manufacturer's control.
11. Any warranty by Skuttle of merchantability, fitness or use or any other warranty (express, implied or statutory), representation or guarantee other than what was set forth herein, shall expire at the expiration date of this limited warranty. **SOME STATES DO NOT ALLOW LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE LIMITATION IN THE PRECEDING SENTENCE MAY NOT APPLY TO YOU.**
12. Skuttle reserves the right to make changes in design and material to its products without incurring any obligation to incorporate such changes in the units completed on or prior to the effective date of such change.

How Your Humidifier Works

Your Skuttle Under Duct Humidifier uses the same principle of evaporation that you see in nature: a warm breeze passing over an expanse of water will evaporate the water and raise the relative humidity, just as it does after a summer shower.

Model 55

When you home is drier than your selected humidity setting, the humidistat (your humidifier's sensor and control device) turns on the unit's internal low-voltage solenoid, allowing water to flow across the evaporator pad. As the furnace blower forces warm, dry air across the humidifier's water-soaked pad, some of the water is evaporated. The newly-moistened air is then circulated throughout your home by the heating system.

Model 86

When your home is drier than your selected humidity setting, the humidistat (your humidifier's sensor and control device) turns on the unit's low-voltage drum motor. The motor rotates a polyurethane foam evaporator pad which lifts water out of the water pan and into the dry air stream. The newly-moistened air is then circulated throughout your home by the heating system.

It's important to note that water evaporated from the humidifier leaves behind all the impurities (calcium, iron, lime, bacteria, etc.) that were originally contained in the water. As a result, these impurities are not dispersed throughout your home, which keeps your living environment cleaner and your family safer from harmful contaminants.

Safety Precautions

IMPORTANT: Please read these precautions before installing the Skuttle Under Duct Humidifier. Skuttle Mfg. Co. assumes no responsibility under warranty if the user and/or installer do not follow directions found in this manual.

1. Do not install a humidifier where the heating temperatures will exceed 180°F (82°C). Excessively high temperatures will damage your humidifier, possibly resulting in humidifier overflow and water damage to the home.

2. Do not install a humidifier where the surrounding temperature may be 32°F (0°C) or colder. Freezing water will damage the humidifier and burst the supply pipe, resulting in damage to the home.

3. Do not cut or drill into any air conditioning or electrical accessories during installation of the humidifier.

   DANGER: Blindness can occur if refrigerant comes in contact with your eyes; electrocution is possible if you touch a live electrical wire.

4. When the humidifier is in a finished basement or any area where water damage could occur, be sure to connect the overflow assembly to an adequately sized drain.

5. For above-ceiling installation, always install a drain pan plumbed to a suitable drain.

6. Although you may prefer a humidity level which is in the “high” range —particularly when colder outdoor temperatures create drier indoor conditions—it’s possible that you cannot maintain this setting in your home. For example, upper levels of humidity cannot be maintained in homes which do not have reasonably well insulated walls, windows and doors. In a poorly insulated home, these areas may accumulate condensation, eventually resulting in damage to the home.

   See “How to Operate Your Humidifier” (page 16) and “FAQs about IAQ” (page 24).

7. The installation, wiring and plumbing of your humidifier must comply with local codes, ordinances and regulations.

How Your Skuttle Under Duct Humidifier Must Be Installed

> **WARNING: For warranty validation, this humidifier must be installed by a licensed HVAC contractor.**

Tools and Materials Needed

The following tools and materials are necessary for proper installation of your humidifier:

1. Safety goggles
2. Tin snips or aviation snips
3. Electric drill or hand drill
4. 3/8" (0.95 cm) and 7/64" (0.28 cm) drill bits
5. Pliers
6. Screwdriver (medium-sized flat point)
7. Pencil or grease pencil
8. Level
9. Hammer
10. Small adjustable wrench
11. Center punch
12. Knife
13. Straight edge yardstick
14. 1/4" (0.64 cm) copper water line

Some installations will require the following, additional materials:

15. Two conductor, low-voltage wire
16. 1/2" (1.27 cm) I.D. vinyl tubing for **Model 55** drain
17. 1/2" (1.27 cm) I.D. vinyl tubing for **Model 86** overflow

Selecting an Appropriate Location

Before installing the humidifier, familiarize yourself with the heating system. Review the typical installations shown in Figures 1-4 for **Model 55** (pages 6 & 7), and in Figures 5-8 for **Model 86** (pages 7 & 8).

> **CAUTION:** When installing the humidifier, always make sure the air will be flowing across the unit's mounting hinges before it enters the evaporative media.

Typical Installations for Model 55

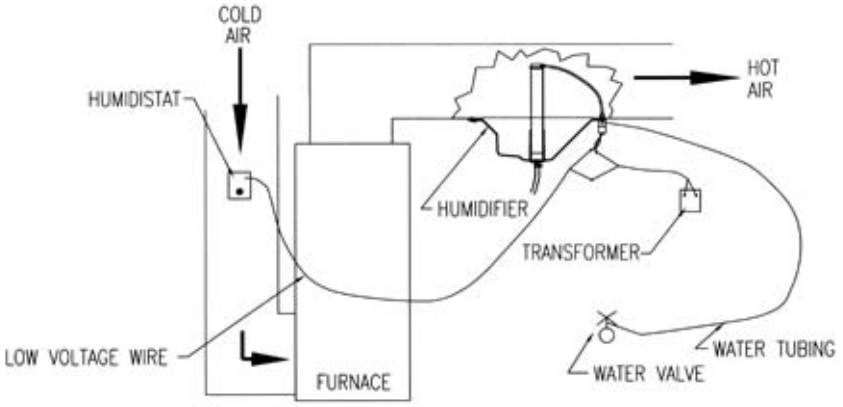


FIGURE 1: Highboy Furnace ▲

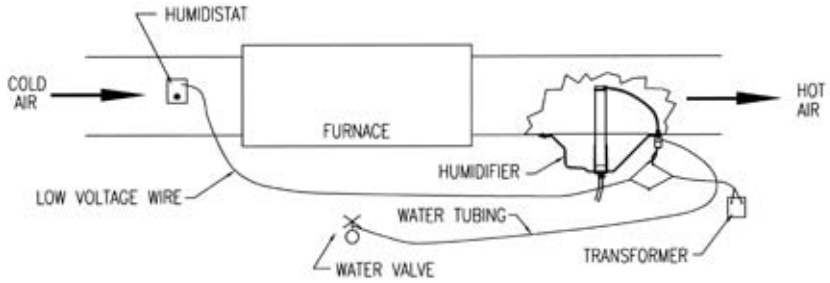


FIGURE 2: Horizontal Furnace ▲

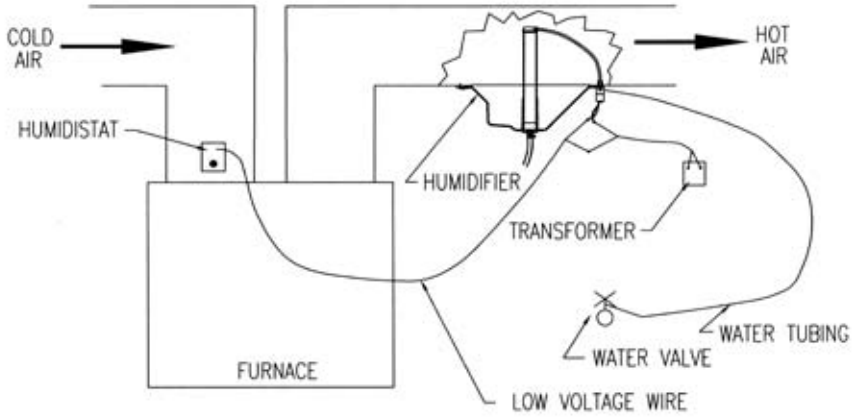


FIGURE 3: Lowboy Furnace ▲

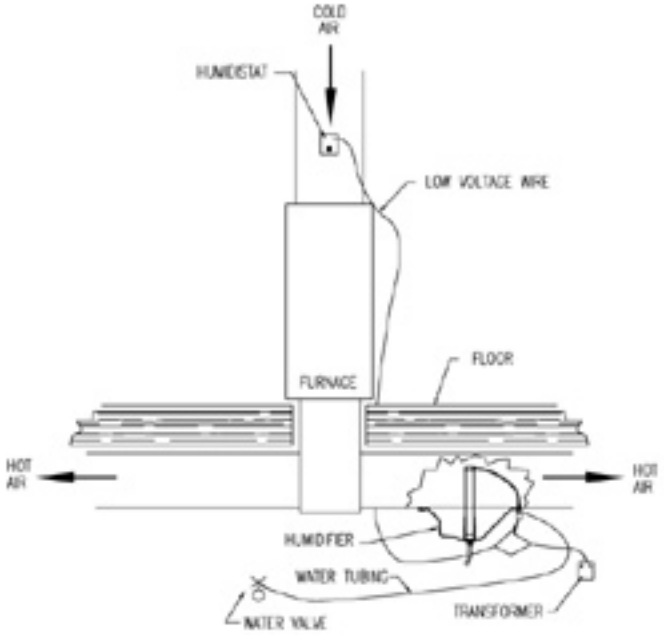


FIGURE 4: Counter-Flow Furnace ▲

Typical Installations for Model 86

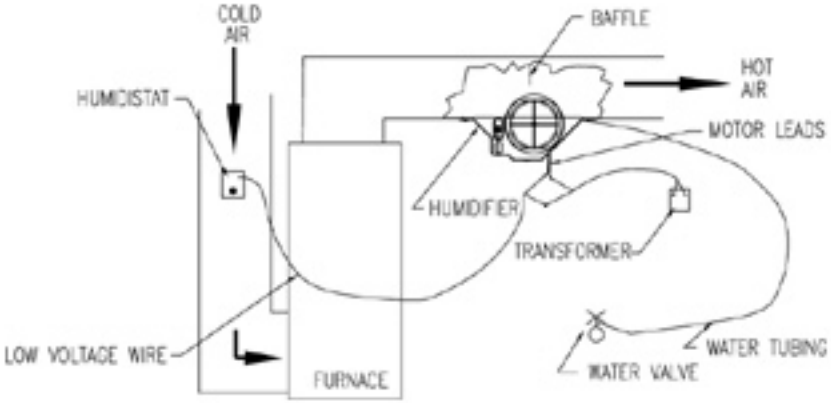


FIGURE 5: Highboy Furnace ▲

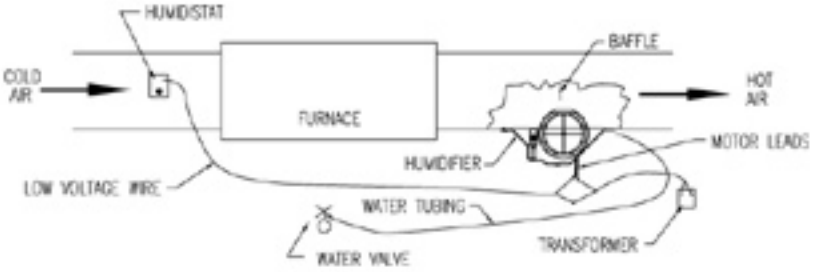


FIGURE 6: Horizontal Furnace ▲

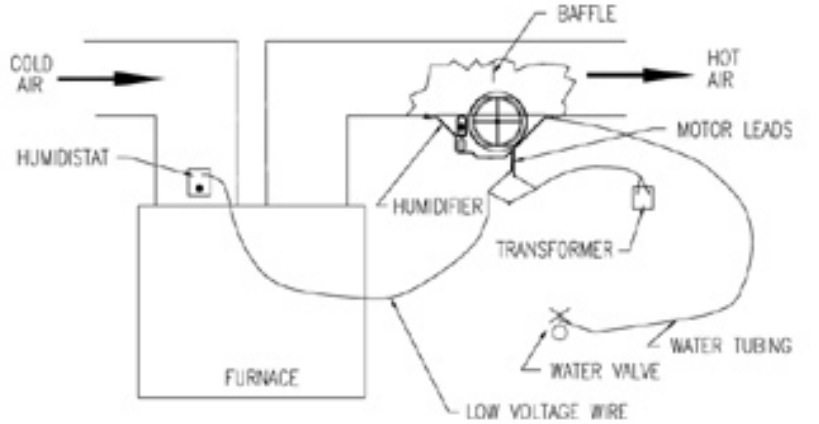
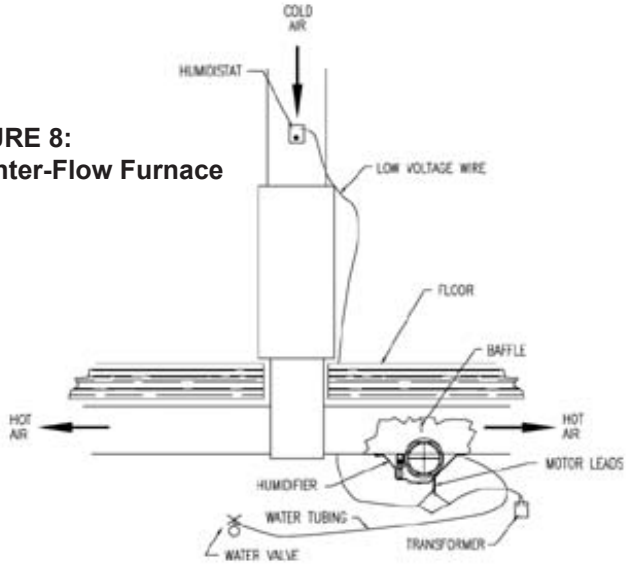


FIGURE 7: Lowboy Furnace ▲

FIGURE 8:
Counter-Flow Furnace



Referring to the appropriate Figure, choose a location on the horizontal part of the duct that is at least 12 inches wide and, if possible, 2 or more feet from the furnace. This distance allows air turbulence to subside slightly before entering the humidifier. When such distance is not obtainable, additional ductwork baffling may be needed to permit adequate humidification.

In the same vicinity, you will also need to locate a cold water pipe and a 120-volt power source for the humidifier transformer that is within 5 feet of the humidifier. (If the distance is greater, you will need additional wire.)

It is acceptable to wire into the blower circuit, providing the blower is not multi-speed (see CAUTION, below). The **Model 55** flow-thru humidifier must be electrically wired to operate only during blower motor operation in order to eliminate wasting water while the heater is not running. However, we suggest that you wire the **Model 86** drum-type humidifier to operate independently from the furnace's blower. This allows the unit to operate throughout the full blower cycle, thereby eliminating the lag time involved in starting the humidifier.

> **CAUTION:** If the heating system contains a multi-speed blower motor, it is necessary to isolate the humidifier transformer. This will prevent premature burnout of the transformer, caused by the inductive current produced by the motor during high-speed operation. This can be accomplished in various ways, such as using a pressure sensor or fan sail switch to detect blower operation, and using an independent electrical circuit to power the humidifier transformer.
>
> **CAUTION:** You must comply with all local codes, ordinances and regulations pertaining to plumbing and electrical wiring.

Installing the Mounting Frame

1. At the selected location, hold the humidifier mounting frame (see Figure 9 on page 10) on the bottom side of the duct so that the long sides of the frame are parallel to the length of the duct, and the frame's hinged end is toward the heating unit, so that the air flow is in the direction indicated.

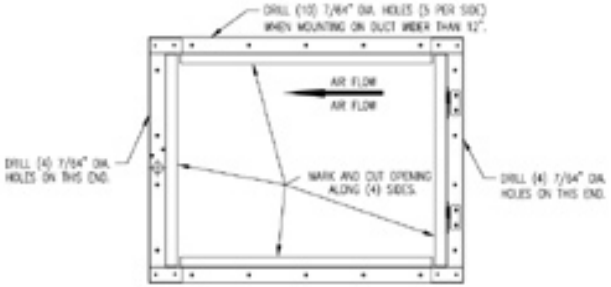


FIGURE 9: Humidifier Frame

2. Mark and drill two or three of the mounting holes 7/64" (0.28 cm) in diameter, and temporarily attach the mounting frame with #8 sheet metal screws. Mark the remaining holes and center the opening, as shown in Figures 10 (**Model 55**) and 11 (**Model 86**), below.

   DANGER: Do not cut or drill into air conditioning or electrical accessories during installation. Blindness can occur if refrigerant comes in contact with your eyes; electrocution is possible if you touch a live electrical circuit.

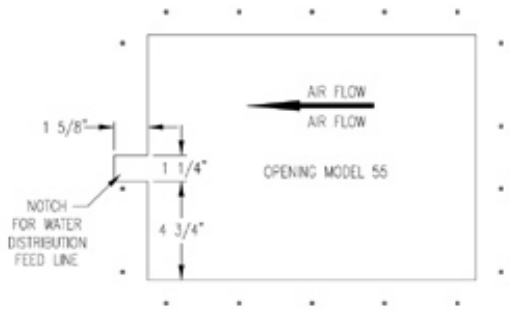


FIGURE 10: Model 55 Opening

FIGURE 11: Model 86 Opening

3. Remove the frame and drill the remaining mounting holes 7/64" (0.28 cm) in diameter. Drill a 3/8" (0.95 cm) diameter hole within the center section, and cut and remove the rectangular section as previously marked.

   NOTE: When mounting **Model 55**, an additional notch is required as shown in Figure 10 (page 10). Measure and mark as indicated, and cut out this section.

4. Using #8 sheet metal screws, attach the mounting frame to the duct, as shown in Figures 9, 10 and 11 (page 10). **Make sure the air flows in the direction indicated.**

Installing the Humidifier Pan (Model 55)

1. Attach the humidifier housing (i.e., the pan) to the mounting frame by inserting hinge pins into the mated hinge halves.

2. Place the evaporator pad between the two guide rails in the bottom of the pan, then place the pad frame/drip tray assembly over the evaporator pad, with the rubber grommet facing you. Insert the rubber water tube into the rubber grommet, as shown in Figure 12, below.

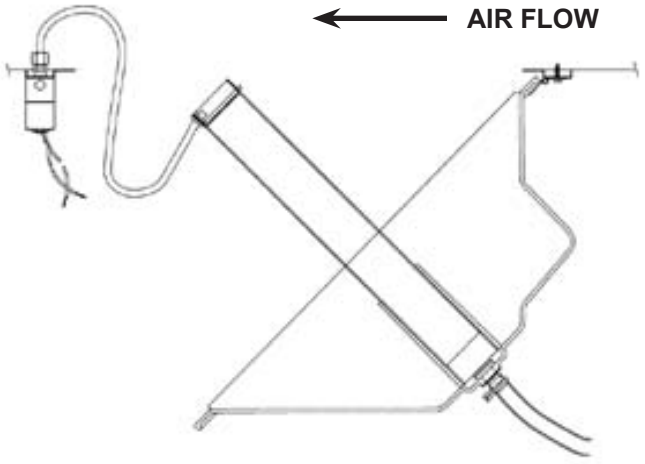


FIGURE 12: Insertion of Model 55 Evaporator Pad and Water Tube

3. Raise the unit into a closed position and securely fasten in place, as shown in Figure 13 (page 12).

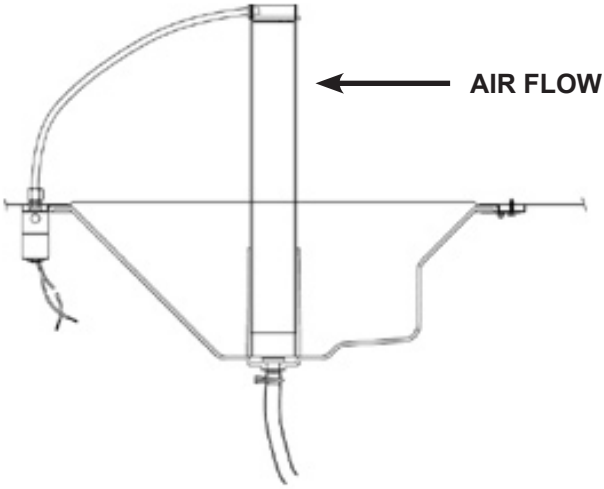


FIGURE 13: Final Positioning of Model 55

Installing the Humidifier Pan (Model 86)

1. To install the drum assembly, insert the drum shaft through the evaporator pad and drum ends, then into the round bearing in the side of the pan, as shown in Figure 14, below. (You'll need to apply some force to deflect the retaining spring on the outside of the pan.) Insert the drum shaft into the slotted opening in the motor coupling.

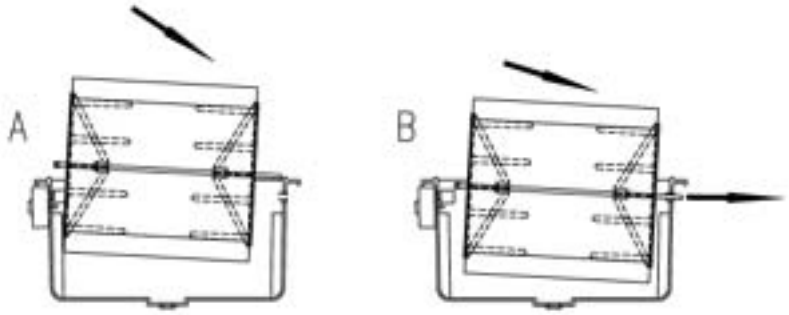
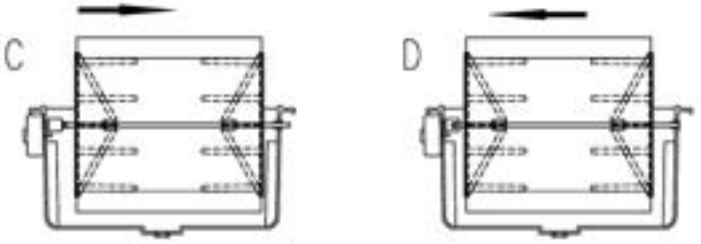


FIGURE 14: Insertion of Model 86 Drum Assembly



2. Install the baffle in the inside of the ductwork, as shown in Figure 15, below. Reaching through the hole previously cut in the bottom of the duct, mark two holes on the top inside of the duct by holding the baffle in place about 6" (15.24 cm) from the side of the opening, then drill two holes 7/64" (0.28 cm) in diameter through the top inside of the duct and attach with two #8 sheet metal screws.

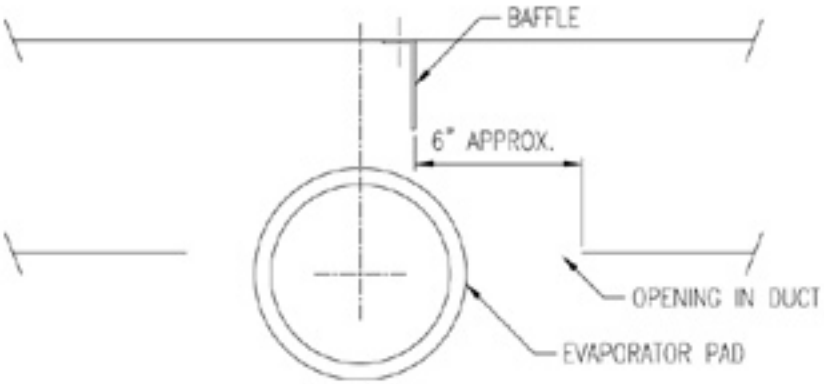


FIGURE 15: Installation of Baffle in Duct

3. Follow these steps to properly plumb the **Model 86** humidifier:

   A. At the cold water pipe you located earlier, install the saddle connector and needle valve by following the instructions included in the valve package. (This is a self-piercing unit when installed on copper pipe.) To reduce the chance of minerals and other contaminants from obstructing water flow, mount the valve so that water will come from the top or side of the pipe.

      WARNING: Use extreme caution to avoid selecting an air conditioning line.

      NOTE: Either hard or soft water may be used. Soft water will require more maintenance (see page 17), but cleaning will be easier.

   B. Follow these important plumbing tips:

      1) Lightly clean the tubing ends with fine sandpaper before making any connections.

      2) Fully insert the tubing into the valve fittings and tighten the compression nut. Do not over-tighten. Moderate tightness should prevent leaking. (Use the brass fittings provided.)

C. After attaching the tubing to the saddle valve, thoroughly flush the supply tubing to clear the line of debris, which could block water flow at the float valve.

D. Route the tubing to the humidifier float valve.

CAUTION: Be sure to keep the tubing off of hot surfaces and away from sharp edges.

E. Connect the waterline.

1) For **Model 55**, connect the waterline as shown in Figure 16, below.

NOTE: Pay close attention to the proper orientation of parts for assembly and disassembly. This will assist you when cleaning the orifice fitting and evaporator pad.

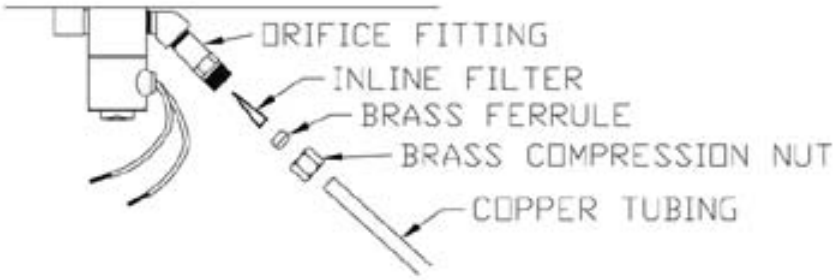


FIGURE 16: Waterline Connection for Model 55

2) For **Model 86**, connect the waterline by following the instructions for copper tubing, found in the parts bag.

F. Check the tubing for leaks. Stop leaks by further tightening the fittings.

4. Prior to mounting the pan on the duct, set the pan on a flat surface to check and adjust the water level to approximately 2" (5.08 cm), as shown in Figure 17 (page 15.).

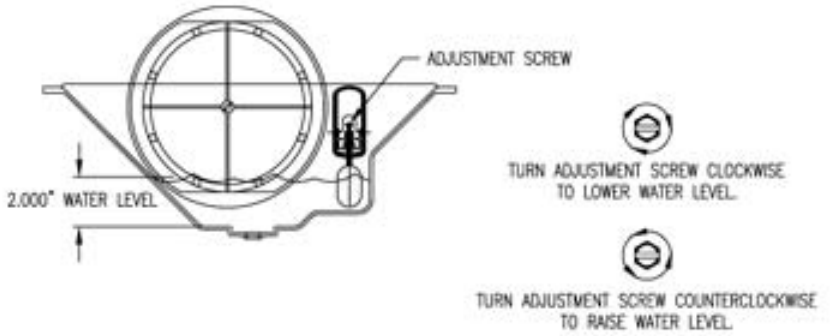


FIGURE 17: Water Level Adjustment for Model 86

5. Attach the humidifier housing (i.e., the pan) to the mounting frame by inserting the hinge pins in the mated hinge halves.

6. Raise the unit into its closed position and securely fasten it in place.

7. Test the humidifier for proper operation by activating the furnace blower.

Installing the Drain Tubing

Models 55 and 86

Attach vinyl drain tubing (1/2" [1.27 cm] I.D., not supplied) with a clamp. Run the tubing in a continuously downward direction to an adequate drain. Make sure there is nothing to inhibit the flow of water.

> **CAUTION:** Do not allow drain tubing to touch any heated surfaces or sharp edges.
>
> **NOTE:** See separate instructions for installing the humidistat and transformer.

How to Operate Your Humidifier

Your humidifier's output is controlled by a humidistat which monitors the relative humidity in your home, and activates or deactivates the humidifier accordingly. It is installed either on the cold air return of your HVAC system or on an interior wall of your home.

Refer to the chart below for recommended humidistat settings. Notice that the settings increase as the outdoor temperature rises. This is to guard against condensation. (See FAQs on page 24.)

Outdoor Temperature	Recommended Setting	Outdoor 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

Your humidifier may be equipped with a humidistat that has different relative humidity settings than those shown above. If so, use the following recommended settings:

Outdoor Temperature	Humidity Setting
-20°F (-29°C)	Low
-10°F (-23°C)	Low
0°F (-18°C)	Med
+10°F (-12°C)	Med
+20°F (-7°C)	High
Above 20°F (-7°C)	High

An unusually high frequency or prolonged period of indoor activities such as showering, cooking, clothes drying, etc., may cause indoor humidity to rise to an excessive level, causing condensation to accumulate on windows. If this condition lasts for more than a few hours, turn your humidifier off until normal indoor activity resumes. If the condition persists, you should ventilate your home to remove excess moisture.

How to Maintain Your Humidifier

> **DANGER: To avoid electrical shock or burn, turn off the power supplying this equipment before servicing.**

To maintain high evaporating efficiency of your **Model 55** or **Model 86** humidifier, replace the evaporator pad at least once a year (e.g., at the end of each heating/humidifying season). In hard water areas, cleaning may be required every three-to-four weeks; in soft water areas, cleaning may be required every four-to-eight weeks.

At the end of each humidification season (i.e., in the spring), clean the humidifier thoroughly, and turn off the water and electrical power to the unit until the following season.

> **CAUTION: Do not leave water in the humidifier pan over the non-humidifying months!**

For standard maintenance of **Model 55**, follow these instructions:

1. Shut off the water supply.
2. Lift out the distribution tray and evaporator pad assembly by reversing the procedure found in #2 under “Installing the Humidifier Pan (Model 55)”, page 11.
3. Wash all plastic and metal parts (except electrical parts) in humidifier cleaner or a 50/50 solution of vinegar and water. Rinse all parts thoroughly with fresh water.
4. Wipe loose sediment from the water tray.

   > **CAUTION:** Make sure no particles are allowed to plug the drain hole.

5. Replace the evaporator pad.

   > **NOTE:** Annual replacement of the evaporator pad is recommended. Severe clogging of the pores may require replacing the pad more frequently.

6. Restore the humidifier to automatic operation mode by following the final assembly instructions for **Model 55** on page 11.

For standard maintenance of **Model 86**, follow these instructions:

1. Shut off the water supply and drain the unit by removing the threaded plug in the bottom of the humidifier.

2. Remove the drum and disassemble the unit by reversing the final assembly instructions for **Model 86** on page 12.

3. Remove the evaporator pad from the drum by squeezing the finger prongs on the clip, holding the drum end in place and pulling. (See Figure 19, page 20.)

4. Clean all non-electrical parts with humidifier cleaner or a 50/50 solution of vinegar and water. Rinse all parts thoroughly with fresh water before putting the unit back into operation.

5. Discard the water in the water pan and remove mineral deposits from the bottom of the pan. Clean mineral deposits from around the water valve. When reversing or replacing the rubber valve seat, be sure the rubber is facing the valve jet opening. Turn the adjustment screw clockwise (↻) to lower, or turn it counterclockwise (↺) to increase the water level.

Model 55 Parts List

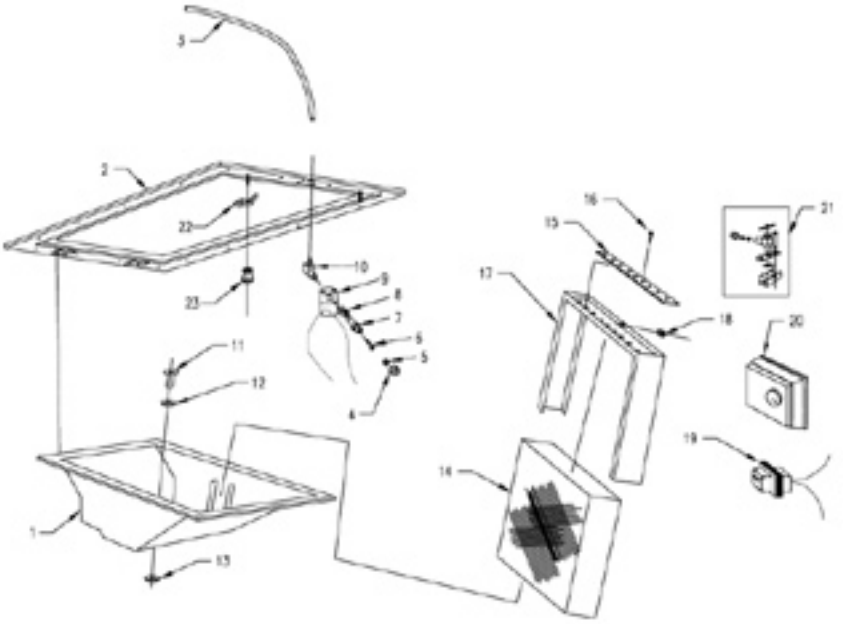


FIGURE 18: Model 55 Parts

Key No.	Part No.	Description (Name)	Qty.
1	A00-0602-049	Water Pan Assembly	1
2	A00-1707-086	Mounting Frame Assembly	1
3	000-1106-030	Orifice Fitting with Filter (Key #4), Compression Nut & Ferrule	1
4	000-1319-051	In-line Filter	1
5	A01-0814-148	24 Volt Solenoid (Universal Kit)	1
6	A04-1725-045	Replacement Media with Wick	1
7	000-1317-086	Wick	1
8	A00-1128-005	Saddle Valve	1
9	000-0814-008	Transformer (24V, 10VA, 120V Primary)	1
10	SK0-0055-001	Humidistat Assembly	1
11	A00-1715-025	Pad Frame with Wick & Grommet	1
Not Shown	K00-0055-000	Small Parts Kit with Wick, Grommet, Latches, Drain Fitting, Washer, Nut & Water Feed Tube	1

Parts may be ordered through your nearest heating or plumbing dealer. When ordering, refer to the parts list above to give the following information:

Model Number, Serial Number (if known),

Part Number and Part Name.

NOTE: Due to Skuttle Indoor Air Quality Product's on-going research and development program, specifications are subject to change without notice. Parts may vary in appearance from illustrations.

Model 86 Parts List

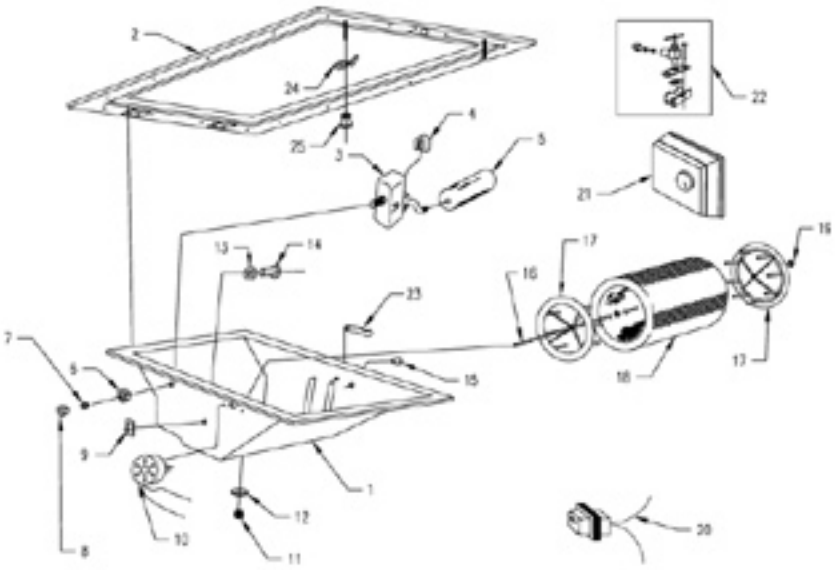


FIGURE 19: Model 86 Parts

NOTE: Due to Skuttle Indoor Air Quality Product's on-going research and development program, specifications are subject to change without notice. Parts may vary in appearance from illustrations.

Key No.	Part No.	Description (Name)	Qty.
1	A00-0602-052	Water Pan Assembly with Bearing & Overflow	1
2	A05-1721-042	24 Volt Drum Motor	1
3	A00-1707-086	Mounting Frame Assembly	1
4	A17-1731-013	Complete Valve & Float Assembly (includes Key #5)	1
5	A00-1708-002	Valve Seat	1
6	A00-1128-005	Saddle Valve	1
7	SK0-0055-001	Humidistat Assembly	1
8	000-0814-008	Transformer (24V, 10VA, 120V Primary)	1
9	A06-1722-019	Complete Drum & Media Assembly	1
10	A04-1725-050	Replacement Media with Clips	1
Not Shown	K00-0086-000	Small Parts Kit with Overflow, Washer, Nut, Bearing & Retainer	1

Parts may be ordered through your nearest heating or plumbing dealer. When ordering, refer to the parts list above to give the following information:

Model Number, Serial Number (if known),

Part Number and Part Name.

Model 55 Trouble Shooting Guide

Problem	Evidence	Solution(s)
Low humidity	No water flow in humidifier	Turn thermostat up to activate heat blower operation then check the following: • Turn water on at saddle valve. • Turn water off and check for obstruction in saddle valve and filter. • Set humidistat higher. • Check for blown circuit breaker. • Check all wiring connections. • Check output voltage of transformer (24 to 29 V.A.C.). • Test solenoid; connect good transformer directly to leads. • Check humidistat for continuity.
	Heavy mineral buildup	Mineral buildup on the pad closes off pores and restricts airflow. • Clean or replace the evaporative pad as indicated in the maintenance instructions.
	Short blower cycles	De-rating the furnace causes it to run longer on less fuel, and causes the humidifier to produce more moisture. • Call your HVAC contractor.
	Drafts	Drafts are caused by rapid air changes in the home. • Keep doors and windows closed. • Close fireplace damper when not in use. • Keep exhaust fan running times to a minimum. • Seal around doors and windows to prevent added cold, dry air from overburdening your humidifier.
High humidity	Heavy condensation on windows	This may be a temporary condition caused by bathing, cooking, mopping, etc. • Turn humidistat down enough to eliminate condensation.
	Condensation on walls	• Turn humidistat and water supply off until condensation is completely evaporated.

Model 86 Trouble Shooting Guide

Problem	Evidence	Solution(s)
Low humidity	Low water level (less than 2" deep in reservoir)	Turn thermostat up to activate heat blower operation, then check the following: • Turn adjustment screw counterclockwise (↺) to raise water level.
	No water in reservoir	• Turn water on at saddle valve. • Turn off water main and check for possible obstruction in saddle valve or float valve.
	Drum not rotating	• Set humidistat higher. • Check for blown circuit breaker. • Turn thermostat up to activate heat and blower operation. • Check all wiring connections. • Check output voltage on transformer (24 to 29 V.A.C.). • Test motor by connecting good transformer to motor leads. (NOTE: Disconnect humidistat from circuit.) • Check humidistat for continuity. • Check to see that the drum shaft is engaged with motor drive coupling. • Clean excessive mineral deposits off drum.
	Heavy mineral buildup	Mineral buildup on the pad closes off pores and restricts airflow. • Clean or replace the evaporative pad as indicated in the maintenance instructions.
	Short blower cycles	De-rating the furnace causes it to run longer on less fuel, and causes the humidifier to produce more moisture. • Call your HVAC contractor.
	Drafts	Drafts are caused by rapid air changes in the home. • Keep doors and windows closed. • Close fireplace damper when not in use. • Keep exhaust fan running times to a minimum. • Seal around doors and windows to prevent added cold, dry air from overburdening your humidifier.
High humidity	Heavy condensation on windows	This may be a temporary condition caused by bathing, cooking, mopping, etc. • Turn humidistat down enough to eliminate condensation.
	Condensation on walls	• Turn humidistat and water supply off until condensation is completely evaporated.
Humidifier overflows	High or overflowing water	• Inspect valve seat for defects. (Valve seat is reversible—reverse or replace.) • Inspect valve nozzle for cracks or erosion. • Make sure humidifier is level.

FAQs about IAQ

(Frequently Asked Questions about Indoor Air Quality)

Why do I need a humidifier?

More and more homeowners are realizing that, during the winter months, they live in a "sick house". Family members suffer from dry, itchy skin, parched throats and annoying coughs. Furniture creaks, floors moan, the piano slips out of tune and static electricity zaps the cat. In general, everyone feels miserable because they're living in an environment that can be drier than a desert!

Proper home humidification reduces static electricity, revitalizes dry skin and soothes scratchy throats. It adds moisture to dry, cracked furniture and wilting houseplants. It protects valuable artwork, antiques and musical instruments. It even saves money on winter heating bills. That's because properly humidified air feels warmer, allowing you to turn your thermostat down a few degrees.

Why should I lower my humidistat setting when the outside temperature drops?

This practice may seem illogical at first. After all, you increase the temperature on your thermostat as the weather becomes colder. Why not do the same with you humidistat?

The answer is that the *relative humidity* (*RH*) must be reduced in extreme cold weather to prevent condensation on windows and interior surfaces. Otherwise, the excess moisture will eventually cause damage to your home. RH refers to the percentage of water vapor in the air at a specific temperature. Because air expands when heated, the relative humidity decreases unless moisture is added. Conversely, air that is cooled contracts, causing relative humidity to increase until it reaches *dew point*—the temperature at which the air becomes saturated and water condenses (just as it does on a glass of ice water on a warm, humid day). For recommended humidistat settings, see page 16.

I just installed a Skuttle humidifier in my house. Why don't I feel any difference?

The period of adjustment can take up to three weeks—the time needed for your furniture, woodwork, carpeting, plaster and house plants to absorb their natural levels of moisture.

Should I run my humidifier during the summer months?

Because, in most areas of the country, summer air is naturally more humid, it's not necessary to humidify your home until colder weather sets in.

> **NOTE:** For additional answers to your questions, visit www.skuttle.com.

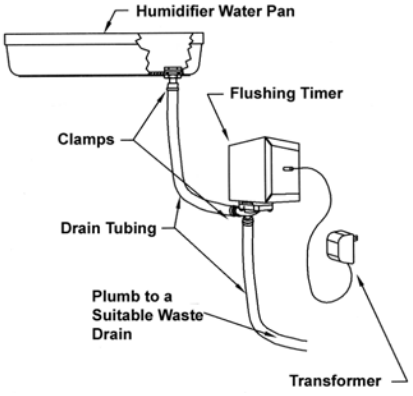
Skuttle Automatic Flushing Timer

Reduces Humidifier Cleaning to Once a Year in Most Areas

Now programmable to 10-, 20- or 30-second flushes per flushing cycle

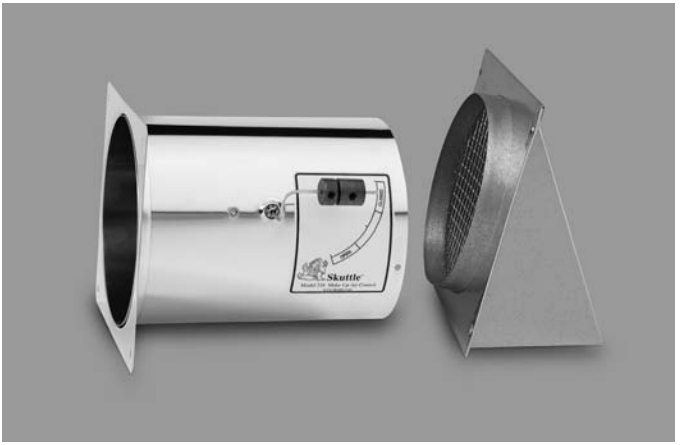
The Skuttle Model S-HAFT Flushing Timer...

- provides flow-thru technology for steam- and reservoir-type humidifiers.
- automatically flushes the humidifier water pan with fresh, clean water every two hours.
- is programmable to 10-, 20- and 30-second flushes per cycle.
- reduces or eliminates servicing during the humidification season.
- uses minimal electricity.
- reduces water usage by up to 98 percent when compared to conventional flow-thru humidifiers.
- is quick and easy to install.
- is adaptable to most makes and models of steam- and reservoir-type humidifiers.



Skuttle Model 216 Make-Up Air Control

Delivers Controlled, Fresh Air; Solves Problems Caused by Negative Indoor Air Pressure



The Skuttle Make-Up Air Control...

- draws outside air into the furnace, where it is filtered, heated or cooled, and circulated through your home's duct system.
- combats interior air pollution created by today's tightly constructed homes.
- reduces drafts and uncontrolled air infiltration to provide months of comfort.
- improves furnace efficiency by providing proper combustion air.
- adjusts automatically; uses no electricity.
- is made from corrosion-resistant, stainless steel to ensure long life.

Skuttle High-Efficiency Air Cleaners

Models DB25-20, DB20-20 and DB25-16
Help Homeowners Breathe Easier

Skuttle Air Cleaners...

- trap most of the in-home, airborne contaminants that are potentially harmful to your health.
- provide high-efficiency, high-capacity filtration with minimal airflow resistance.
- feature deep-pleated filter media to permit extended, high-volume service—up to 12 months.
- have a tough, injection-molded thermoplastic door with a racy S-curve to dress up any installation.
- feature a programmable six-month dial to remind you when it's time to check the media for possible replacement.
- Are housed in sturdy, 20-gauge, zinc-coated steel cabinets (protected by a 10-year warranty) to support up to 500 pounds of HVAC equipment and accessories.
- are available in three sizes to fit virtually any furnace installation.

The Skuttle “Happy House” — Your Assurance of Enhanced IAQ

Healthful indoor air (often called *indoor air quality* or *IAQ*) is significantly cleaner than the air in many of today’s homes. It also contains appropriate levels of moisture and fresh outside air to aid the health and comfort of residents.

Humidification

In cold weather, dry indoor air often makes homes drier than a desert. Acting like a sponge, the parched air absorbs moisture wherever it can find it—furniture, plants, pets...even people. The result is a variety of discomforts and problems, including dry skin, stuffy noses, hacky coughs, sore throats, allergies, damage to furniture and woodwork, wilted plants and static electricity.

Too much or too little humidity in a home promotes an increase in bacteria, viruses, fungi, respiratory ailments and other unhealthy conditions. Skuttle humidifiers restore a home’s relative humidity to a balanced, healthier, more comfortable 30-to-45 percent range. And Skuttle makes humidifiers to fit more furnace systems, floor plans and water types than any other manufacturer.

Filtration

Your body’s respiratory system is designed to filter out airborne particles that are three-to-five microns in diameter. Smaller particles can be inhaled, potentially causing serious health problems. The smallest contaminants (a single micron or less) are dispersed through HVAC ductwork and make up about 99 percent of the particles circulating throughout a typical home.

Skuttle duct-mounted air cleaners capture most of these contaminants in a deep-pleated filter which traps far more particulates over a longer period than standard, flat-filter designs. The results are cleaner indoor air, longer filter life, longer furnace life and a healthier living environment.

Ventilation

A primary cause of “sick house syndrome” is negative air pressure buildup, resulting from a lack of fresh-air exchanges throughout the home. It also may contribute to mold growth.

To help eliminate these problems, Skuttle manufactures two ventilation products:

- The Make-Up Air Diffuser supplies additional combustion air to appliances that have inadequate combustible air sources.
- The Model 216 Make-Up Air Control automatically draws fresh, outside air into the furnace, where it is filtered, heated or cooled, and circulated through your home’s duct system. As a result, a slight pressure builds up in the home, keeping untreated air from seeping in around doors and windows.

No wonder we call a home protected by Skuttle Indoor Air Quality Products a “Happy House”. For more information, call us toll-free at (800) 848-9786, or visit us on the web at www.skuttle.com.

If you have questions about your Skuttle humidifier, or to learn which Skuttle IAQ products are right for your home, contact your local heating and air conditioning contractor:

Or contact:

Skuttle®

Indoor Air Quality Products

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Web: www.skuttle.com

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