



Skuttle[®]

Indoor Air Quality Products

OWNER'S MANUAL

**for Models 45, 90 and 190
Whole-House Drum Humidifiers**

**Includes Safety, Operating
and Maintenance Instructions,
plus Warranty**

**CAUTION: Read these instructions
thoroughly before servicing humidifier.**

Save this manual for future reference.

Model No.: _____

Serial No.: _____

Installation Date: _____

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Thank you for purchasing a Skuttle whole-house Drum 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. Our longevity and dedication to our customers has resulted in products that are unsurpassed in quality and ease of operation. Features such as automatic controls, high-quality materials and superior workmanship make this Skuttle Drum Humidifier a valuable enhancement to your home's HVAC system. In addition to humidifiers, we manufacture air filters, make-up air controls and IAQ accessories.

As always, quality, performance and customer satisfaction are our highest priorities. The following information will aid you and your HVAC contractor with the periodic maintenance necessary to keep your humidifier operating at peak efficiency. If, at some point, you need parts or service, follow these simple procedures:

- 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.
- If you cannot locate your original installer, check the Yellow Pages or the Internet (e.g., Switchboard.com) under "Heating and Air Conditioning Contractors".
- If these attempts at finding parts or service fail, email Skuttle Indoor Air Quality Products at customerservice@skuttle.com, or call us toll-free at (800) 848-9786. We'll be glad to assist you.

For further information regarding the benefits, operation and maintenance of your new Skuttle Drum Humidifier, refer to 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 required for warranty coverage.

The warranty described herein (see page 9) is not valid unless the Warranty Card is completed and mailed to Skuttle Manufacturing Company within 15 days of equipment installation.

How Your Humidifier Works

Your Skuttle Drum 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 (RH), just as it does after a summer shower.

Inside your humidifier, a polyurethane foam evaporator pad lifts water from the water pan into the warm air stream. The pad's multiple holes and connecting strands significantly increase the area from which the water can evaporate. This ample source of moisture and the warm air in your heating system are what make the humidifier effective.

It's important to note that water evaporated from the humidifier leaves behind all the impurities (calcium, iron, lime, bacteria, etc.) that are 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.

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.

As you can see by the chart below, recommended humidistat settings increase as the outdoor temperature rises. This is to guard against condensation. (See "FAQs about IAQ", page 6.)

<u>Outdoor Temperature</u>	<u>Humidity Setting</u>
-20°F	Low
-10°F	Low
0°F	Med
+10°F	Med
+20°F	High
Over 20°F	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 Check Your Humidifier for Proper Operation

For pre-season startup, or to check your humidifier for proper operation (for example, after it has been serviced), follow this four-step procedure:

1. Turn on the water at the valve which leads directly to the humidifier.
2. Make sure the water level is set at 1-3/8 inches. Turn the valve adjustment screw clockwise (↻) to lower the water level; turn it counterclockwise (↺) to raise the water level.
3. Turn the humidistat to its highest setting and observe the humidifier evaporator pad. If it does not rotate, turn your furnace on by setting the thermostat higher until the furnace blower comes on. This should cause the humidifier evaporator pad to rotate.

NOTE: Wiring the unit to operate independently of or in conjunction with the furnace blower is up to the discretion of the installer. On installations where the unit is closely sized (i.e., the cubic footage of the home is at or near the humidifier's peak volume capacity), independent operation allows the unit to operate throughout the full blower cycle, thereby eliminating the lag time involved in starting the humidifier.

4. **IMPORTANT:** Reset the thermostat and humidistat to their correct positions for automatic operation.

How Water Hardness Affects Scheduled Maintenance

Your humidifier will accumulate minerals, such as calcium and lime, after operating for a short period—a sure sign that the humidifier is producing humidity. The amount of accumulation depends on the hardness of the water in your area, which means that cleaning frequency will vary from region to region. You can recognize that cleaning is necessary when the pores in the evaporator pad begin to become plugged with mineral deposits.

At a minimum, your humidifier will need to be cleaned at the end of every humidifying season (i.e., the months when you heat your home). Depending on the hardness of your water, mid-season cleaning may also be necessary.

In areas with particularly hard water, installation of a Skuttle Automatic Flushing Timer (see page 5) will increase the intervals between cleanings.

WARNING: Excessive buildup of minerals is detrimental to the internal parts of your humidifier, as well as to the evaporative process.

NOTE: Under normal heating system conditions, the evaporative pad should last one-to-two heating seasons before replacement is necessary. **Prolonged exposure to UV germicidal lamps will shorten the pad's lifespan.**

How to Maintain Your Humidifier

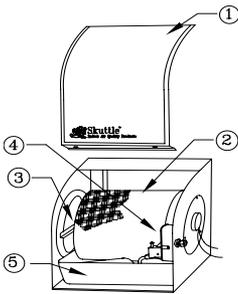
At the end of each humidification season (i.e., in the spring), clean the humidifier thoroughly, and turn off the water and electrical power to the unit until the following humidification season.

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

For standard maintenance, follow these instructions:

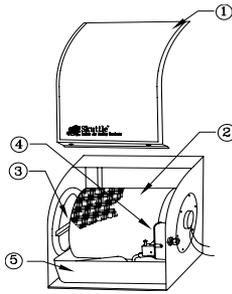
NOTE: The model number of your unit should be handwritten on the cover of this manual.

MODEL 45



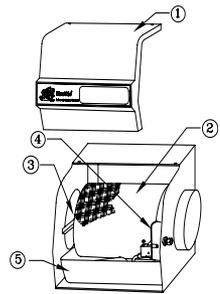
Replacement Pad
No. A04-1725-033

MODEL 90



Replacement Pad
No. A04-1725-034

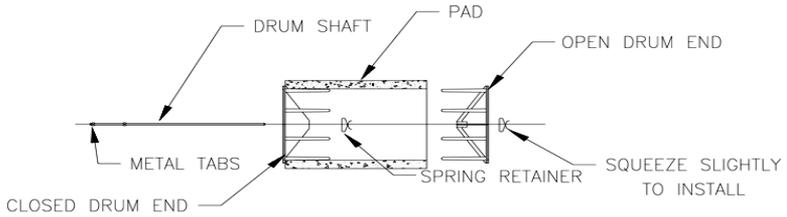
MODEL 190



Replacement Pad
No. A04-1725-034

1. Turn the water off at the valve which leads directly to the humidifier by turning the handle clockwise (↻).
2. **For Models 45 and 90**, remove the humidifier cover (1) by lightly prying down and out on the bottom lip of the cover.
For Model 190, remove the cover (1) by lifting up on the bottom of the cover.
3. Remove the drum assembly (2) by lifting the drum shaft from the bearing (3) and pulling it out of the motor coupling. Next, remove the drum from the unit.
4. Remove the rubber valve seat (4) from the valve by grasping it between your thumb and forefinger and lifting it upward.
5. Raise the float up to remove the water pan (5) for cleaning.

6. See the diagram below for disassembly and reassembly of the drum.



7. Clean all parts in a 50/50 solution of vinegar and water. (For stubborn deposits, soak parts overnight.)
8. For reassembly, reverse Steps 1 through 6. To ensure proper humidifier operation, see "How to Check Your Humidifier for Proper Operation", page 3.

Skuttle® Automatic Flushing Timer

Programmable Flushing of Reservoir and Steam Humidifiers

- Provides flow-thru technology for reservoir and steam humidifiers.
- Automatically flushes the humidifier water pan with fresh, clean water every two hours.
- 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 units.
- Quick and easy to install—usually less than 20 minutes.
- Adaptable to any make or model of reservoir or steam humidifier.



*Factory setting is for 10-second flushing cycle every two hours.

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 your 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 2.

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 houseplants to absorb their natural levels of moisture.

Should I run my humidifier during the summer months?

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

For additional answers to your questions, visit our website at www.skuttle.com.

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

The indoor air quality (IAQ) in many of today’s homes is not nearly as healthful as it should be. Aside from being an agreeable temperature, healthful, comfortable indoor air is virtually free of contaminants, and contains appropriate levels of moisture and fresh air.



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.

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 through a typical home.

Skuttle whole-house air cleaners (page 8) capture most of these contaminants in a deep-pleated filter that traps far more particles 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. Negative air pressure can also 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 windows and doors.

Skuttle® High-Efficiency Air Cleaners

Help Homeowners Breathe Easier

Skuttle Air Cleaners...

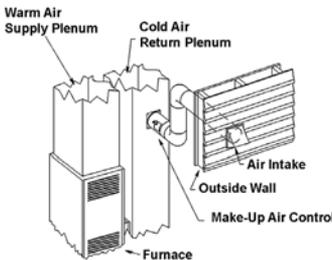


- Trap most of the in-home, airborne contaminants that are potentially harmful to your health.
 - Provide high-efficiency, high-capacity filtration with minimal airflow resistance.
 - Contain deep-pleated filter media to permit extended, high-volume service for six months or longer.
 - Feature a sleek, injection-molded thermoplastic door to dress up any installation.
- 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.

Skuttle® Model 216 Make-Up Air Control

Provides Year-Round, Filtered Fresh Air

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 in filtration to provide year-round comfort.
- Adjusts automatically; uses no electricity.
- Improves furnace efficiency by providing proper combustion air.
- Is made from corrosion-resistant stainless steel to ensure long life.

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 Mfg. Co. (a.k.a. Skuttle Manufacturing Company and Skuttle Indoor Air Quality Products) warrants that this product is free from defects in material and workmanship under normal, noncommercial 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 MFG. CO., 101 MARGARET STREET, MARIETTA, OH 45750.
2. This warranty shall extend only to any noncommercial 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 or labor charges to remove or replace such defective parts or components. If the part or 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, he or she has 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 PARTS.
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 THAT LIMITATION OR 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 the design and material of its products without incurring any obligation to incorporate such changes in the units completed prior to the effective date of such change.

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

101 Margaret Street, Marietta, OH 45750

Phone (800) 848-9786; Fax: (740) 373-9565

Email: customerservice@skuttle.com

Web: www.skuttle.com

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