READ AND SAVE THESE INSTRUCTIONS

Skuttle®
Indoor Air Quality Products

Model 60-Series High-Capacity Steam Humidifiers
(Models 60-1, F60-1, 60-2 and F60-2)

- ☑ **Warranty**
- ☑ **Installation Instructions**
- ☑ **Operating and Maintenance Instructions**

CONTRACTOR: Read these instructions before installing or servicing humidifier.

HOMEOWNER: Save this manual for future reference.

Model No. _____

Mfg. Date (see label on unit) _____

Installation Date: _____

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Thank you for purchasing a Skuttle whole-house Steam Humidifier. We appreciate your business and consider you a valued customer. 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 Steam Humidifier a valuable enhancement to your home's HVAC system. In addition to humidifiers, we manufacture air filters, make-up air controls and indoor air quality (IAQ) accessories to improve the comfort and healthfulness of your home.

As always, quality, performance and customer satisfaction are our highest priorities. The information contained in this manual will aid you and your HVAC contractor with the installation and 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 under "Heating & Air Conditioning Contractors".

- If these attempts 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 steam 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 is not valid unless the Warranty Card is completed and mailed to Skuttle Manufacturing Company within 15 days of equipment installation.

Skuttle® Limited One-Year Product Warranty

This limited one-year warranty covers this 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 GRANTED BY SKUTTLE MANUFACTURING COMPANY, 101 Margaret Street, Marietta, OH 45750.
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 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 either be 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, the owner has not received an adequate response from the dealer or distributor, he/she should notify in writing: Skuttle Manufacturing Company, 101 Margaret Street, Marietta, Ohio 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 has been 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 by 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 THE OWNER 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 for 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 OF 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.

How to Install a Skuttle Model 60-Series Steam Humidifier

NOTES: This humidifier must be installed by a qualified professional contractor. Failure to comply with this requirement may nullify the warranty.

Read all instructions before beginning installation of the humidifier. Skuttle Manufacturing Company assumes no responsibility under warranty if the contractor and user do not follow these printed instructions.

FOR INSTALLATION OF THE HUMIDISTAT, PLEASE SEE SEPARATE INSTRUCTIONS ENCLOSED IN THE HUMIDIFIER CARTON.

Safety Precautions

1. Do not install a humidifier where the surrounding temperatures may exceed 200°F.

   CAUTION: Excessive heat will damage the humidifier, possibly causing an overflow condition and water damage to the home.

2. Do not install a humidifier where the surrounding temperature may be 32°F or colder (e.g., attics, garages, etc.).

   CAUTION: 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 humidifier installation.

   DANGER: Electrocution is possible if you come in contact with a live electrical wire; blindness can occur if Freon contacts your eyes.

4. When the humidifier is installed in a finished basement or any area where water damage could occur, be sure to connect the humidifier's overflow provision to a suitable drain.

5. For above-ceiling installations, install an additional drain pan plumbed to a suitable drain.

6. Installation, wiring and plumbing of the humidifier must comply with local codes, ordinances and regulations.

Tools and Materials Needed

1. Safety goggles
2. Tin snips or aviation snips
3. Electric drill
4. 3/8" and 7/64" drill bits
5. Pliers
6. Screwdriver (medium flat point and Phillips #1)
7. Level
8. Hammer
9. Small adjustable wrench
10. Center punch
11. Knife
12. Wire and hardware to connect Fan Control
13. Additional relay or fan sail switch as described under “Wiring the Air Mover”

For some installations:

14. Duct tape
15. 1/4" copper water line
16. Tubing and fittings for the overflow connection
17. 2 conductor low-voltage wire

Selecting a Location

1. For most installations, mount the humidifier under the horizontal warm air supply duct. As an alternative, the unit can be mounted on a vertical plenum using a fabricated transition for support. (See "Mounting the Humidifier", pgs. 10-17.)

   NOTE: The Skuttle Steam Humidifier is not intended for installation in or on the return air duct or plenum. (Although some contractors may install the humidifier under return air ducts or on plenums without complications, it is not our practice or recommendation for such application.)

2. Select a location where the humidifier can be plugged in without the use of an extension cord. (See "Connecting to a Power Source", pg. 18.)

3. Select a location that will not allow steam to condense on the system air mover, electrical components, etc.

4. Mount the unit on rigid metal ductwork, never on duct board or internally-insulated duct.

   CAUTION: For all installation configurations, the mounting area must be strong enough to support the humidifier's weight when it is full of water (approximately 18 lbs.), and to hold the humidifier in a level position for safe, reliable operation. Otherwise, additional duct reinforcement will be necessary.

   NOTE: If the installation includes exposed insulated-type materials, a section of the ductwork must be removed and replaced with rigid metal duct extending at least 6 feet downstream from the humidifier.

5. Mount the unit at least 4-to-6 feet after the plenum transition. Avoid sudden turns or transitions in the ductwork in the immediate area downstream from the humidifier.

Mounting the Humidifier

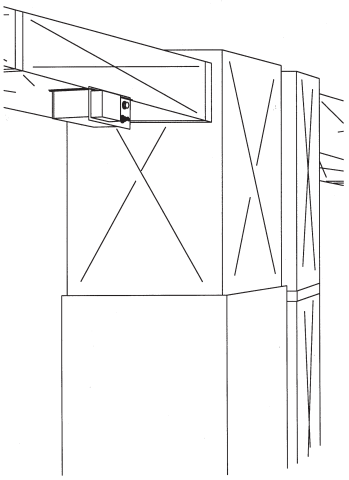


Figure 1 - Duct Edge Mount

Option A: Duct Edge Mount

Option A is the preferred method of mounting because it requires the least amount of duct reinforcement to support the humidifier and keep it level. A duct width of at least 10 inches is necessary. Wider ducts may need to be reinforced in order to hold the humidifier level.

DANGER: Wear safety glasses when cutting or drilling. Do not cut into any air conditioning or electrical accessories during installation. **Electrocution is possible if you come in contact with a live electrical wire; blindness can occur if Freon contacts your eyes.**

To install:

1. Fold the humidifier mounting template along the line marked “FOLD LINE”. Attach the template so the top/front is located on the side of the duct, and the remainder of the template is on the bottom of the duct.

2. Drill three (3) holes marked “A” with a 7/64" drill bit. Drill a hole in the center of the shaded area of the template and remove the shaded area using tin snips.

   CAUTION: Follow the dotted line carefully.

3. Remove the template.

4. Cut two (2) pieces of S-Cleat 8" long and one (1) piece 10-1/2" long.

5. Place the 8" long S-Cleats on the narrow sides of the opening in the duct, with the slots protruding down and out. Place the 10-1/2" long S-Cleat on the longer side, closest to the center of the duct, in the same way as the shorter S-Cleats.

6. Attach the L-shaped bracket with six (6) holes to the top/front of the humidifier, so that the vertical wall is toward the reservoir.

7. Adjust the water level. (See #8 in “How To Maintain a Skuttle Steam Humidifier”, pg. 25.)

8. Slide the flanges of the reservoir into the S-Cleats until the mounting bracket comes in contact with the side of the duct.

9. Secure the humidifier to the duct with the screws provided.

Option B: External Side Mount

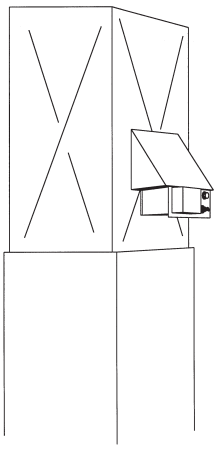


Figure 2 - External Side Mount

Option B requires a transition to be made and usually needs duct reinforcement to hold the humidifier securely in place (see Figure 2).

NOTE: For this configuration, the humidifier is mounted on the outside of the plenum, rather than the inside, so as not to restrict airflow.

DANGER: Wear safety glasses when cutting or drilling. Do not cut into any air conditioning or electrical accessories during installation. **Electrocution is possible if you come in contact with a live electrical wire; blindness can occur if Freon contacts your eyes.**

To install:

1. Construct a transition and attach it to the plenum.

2. Attach the humidifier mounting template to the location selected at the base of the transition.

3. Drill two (2) holes marked “B” with a 7/64" drill bit. Drill a hole in the center of the shaded area of the template and remove the shaded area using snips.

   CAUTION: Follow the dotted line carefully.

4. Remove the template.

5. Cut two (2) pieces of S-Cleat 8" long and one (1) piece 10-1/2" long.

6. Place the 8" long S-Cleats on the narrow sides of the opening in the duct, with the slots protruding down and out. Place the 10-1/2" long S-Cleat on the longer side, closest to the center of the duct, in the same way as the shorter S-Cleats.

7. Attach the L-shaped bracket with six (6) holes to the top/front of the humidifier, so that the vertical wall is toward the reservoir.

8. Adjust the water level. (See #8 in "How To Maintain a Skuttle Steam Humidifier", pg. 25.)

9. Slide the flanges of the reservoir into the S-Cleats until the mounting bracket comes in contact with the side of the duct.

Option C: Duct Center Mount

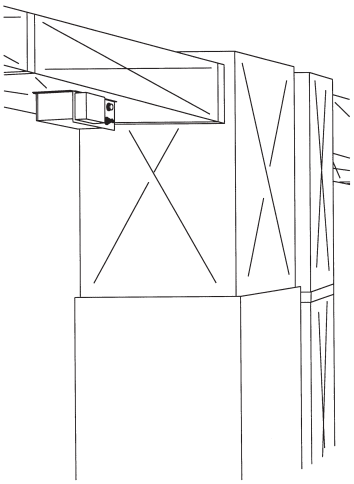


Figure 3 – Duct Center Mount

Option C requires duct reinforcement to hold the humidifier securely in place (see Figure 3).

DANGER: Wear safety glasses when cutting or drilling. Do not cut into any air conditioning or electrical accessories during installation. **Electrocution is possible if you come in contact with a live electrical wire; blindness can occur if Freon contacts your eyes.**

To install:

1. Attach the humidifier mounting template to the selected location on the bottom of the duct.

2. Drill two (2) holes marked “B” with a 7/64" drill bit. Drill a hole in the center of the shaded area of the template and remove the shaded area using tin snips.

   CAUTION: Follow the dotted line carefully.

3. Remove the template.

4. Cut two (2) pieces of S-Cleat 8" long and one (1) piece 10-1/2" long.

5. Place the 8" long S-Cleats on the narrow sides of the opening in the duct, with the slots protruding down and out. Place the 10-1/2" long S-Cleat on the longer side, closest to the center of the duct, in the same way as the shorter S-Cleats.

6. Adjust the water level. (See #8 in “How To Maintain a Skuttle Steam Humidifier”, pg. 25.)

7. Slide the flanges of the reservoir into the S-Cleats until the mounting bracket comes in contact with the side of the duct.

8. Secure the humidifier to the plenum with the screws provided.

Option D: Internal Side Mount

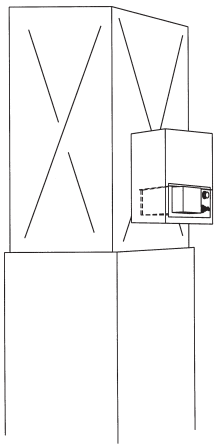


Figure 4 - Internal Side Mount

Option D requires a transition to be made and usually needs duct reinforcement to hold the humidifier securely in place (see Figure 4).

DANGER: Wear safety glasses when cutting or drilling. Do not cut into any air conditioning or electrical accessories during installation. **Electrocution is possible if you come in contact with a live electrical wire; blindness can occur if Freon contacts your eyes.**

To install:

1. Construct a transition and attach it to to the plenum.

2. Attach the humidifier mounting template to the location selected on the side of the transition.

3. Use a 7/64" drill bit to drill eleven (11) holes, as indicated on the template. Drill a hole in the center of the shaded area of the template and remove the area between the solid bold line using tin snips.

   CAUTION: Follow the dotted line carefully.

4. Remove the template.

5. Attach the L-shaped bracket with six (6) holes to the top/front of the humidifier, so that the vertical wall is toward the reservoir.

6. Adjust the water level. (See #8 in “How To Maintain a Skuttle Steam Humidifier”, pg. 25.)

7. Slide the humidifier into the hole, making sure all wires and connections are outside the duct.

8. Align the holes and secure the humidifier to the transition.

Connecting to a Power Source

When selecting a location for mounting the humidifier, make sure that electrical connections can be made without the use of an extension cord.

CAUTION: The electrical receptacle must be rated at the correct voltage and amperage, or hazardous conditions could result.

- **Models 60-1 and F60-1** require a receptacle rated at 120 VAC, 15 amperes (NEMA configurations 5-15R).
- **Models 60-2 and F60-2** require a receptacle rated at 240 VAC, 15 amperes (NEMA configurations 6-15R).

All wiring must comply with local codes and ordinances.

Wiring the Air Mover

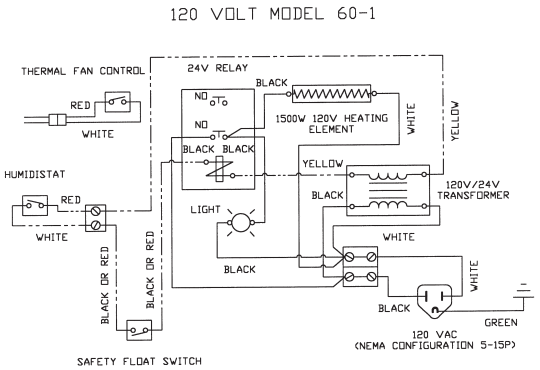


Figure 5 - Wiring diagram for Model 60-1 and F60-1 (120 volt) Steam Humidifiers.

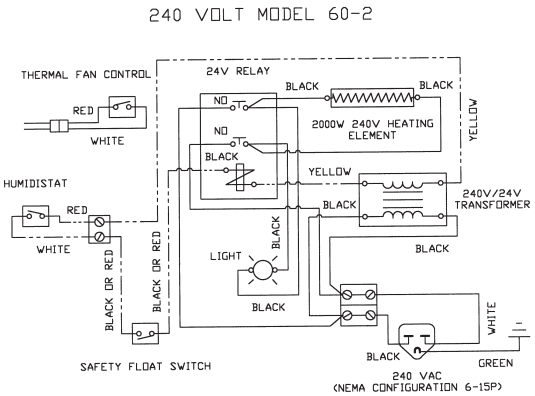


Figure 6 - Wiring diagram for Model 60-2 and F60-2 (240 volt) Steam Humidifier.

Due to the high-capacity design of Skuttle Steam Humidifiers, it is necessary that the furnace air mover be wired to function in cooperation with the humidifier's operation (see Figures 7, 8A and 8B, pgs. 20 & 21). To achieve synchronization and prevent condensation inside the duct-work, Skuttle has incorporated a thermostatic sensor for low-voltage applications into the design. The sensor/switch, attached to the humidifier wall, is a sealed unit, preset to turn on when the humidifier's water temperature reaches 170°F, and to turn off when it falls below 120°F.

NOTE: Even if the heating and cooling system's fan switch is left in the "ON" position, it cannot be assumed that the homeowner will allow constant operation of the fan motor. Therefore, **it is necessary to install a fan sail switch or a Skuttle A50 relay,** mounted in the system supply duct and wired into the low-voltage humidistat circuit. This prohibits the humidifier from operating if the furnace fan fails to function or if it is manually turned off.

CAUTIONS: Be careful not to activate, deactivate or alter the normal functions of the home's heating and cooling system, except to coordinate the systems' air moving operation with the humidifier.

If these precautions are not heeded, hazardous conditions could result, causing serious damage to the heating and cooling system, and to the home.

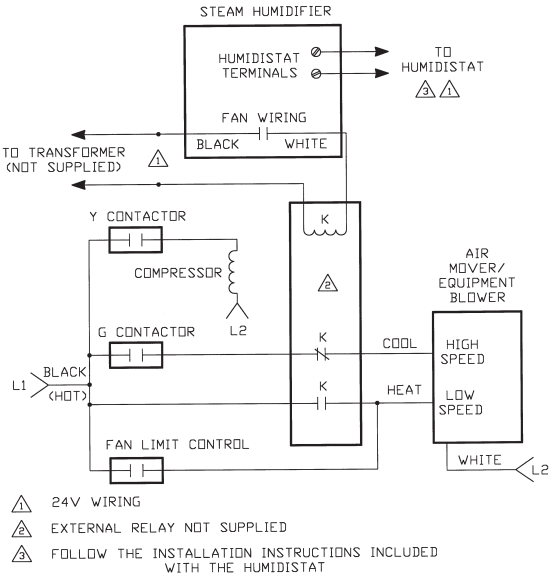


Figure 7 - Typical wiring for a humidifier in a dual-speed air mover application **with air conditioning.**

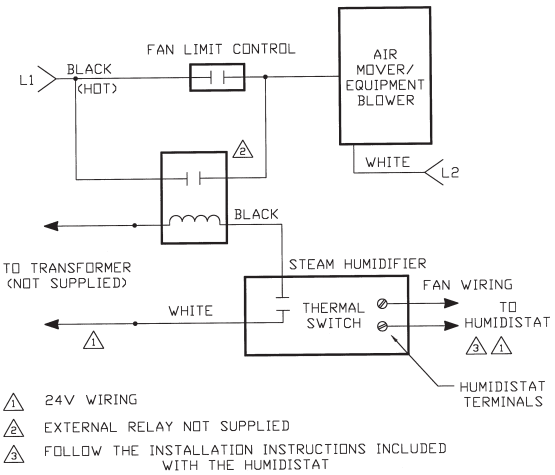


Figure 8A - Typical wiring for a humidifier in a single-speed air mover application **without air conditioning** (switching through an external relay).

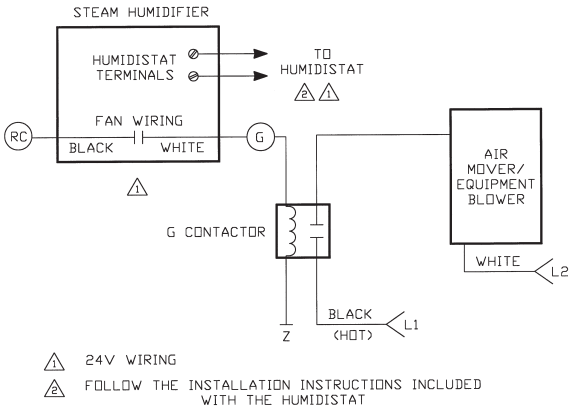


Figure 8B - Typical wiring for a humidifier in a single-speed air mover application **without air conditioning** (switching through a G contactor).

Wiring the Fan Switch

For heat pump installations, because of the near-continuous operation of the system air mover, we suggest that installation of a fan sail switch or Skuttle A50 relay be the only additional wiring you perform.

The switch or relay needs to be wired in series with the low-voltage humidity control circuit in order to allow operation of the humidifier during fan operation only (see “NOTE” immediately following this paragraph). In most cases, the humidifier will operate in conjunction with the system air mover to adequately humidify the home.

NOTE: Due to the wiring complexity and multiple variations of heat pumps, it is impossible to provide appropriate diagrams. If you plan for the humidifier to control air mover operation, **it is the responsibility of the installing contractor to design a safe control circuit** by following diagrams provided with the equipment.

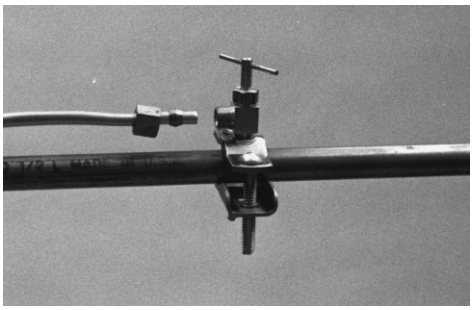
Plumbing and Setting the Water Level

NOTE: Use a copper tubing only to plumb this humidifier.

1. Select the nearest cold water pipe and install the saddle connector and needle valve (provided) by following the instructions supplied with the valve.

   WARNING: Do not use any line connected to an air conditioner.

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



3. Uncoil the copper tubing and connect one end to the saddle valve. Use the compression fittings found in the self-piercing saddle valve parts bag.
   - Place the brass compression nut over the tubing, then slide the brass ferrule over the tubing.
   - Fully insert the tubing into the saddle valve fitting and tighten the compression nut. (Do not over-tighten; moderate tightness should prevent leaking.)
   - Thoroughly flush the supply tubing after attaching it to the saddle valve. This will clear the line of debris which could block water flow at the float valve.

4. Prior to mounting, adjust the humidifier's water level by following these instructions:
   - Set the humidifier reservoir on a level surface.
   - Attach the water line and allow the unit to fill until the float valve shuts off the incoming flow of water. (The water should be 2-3/8" deep, plus or minus 1/8". If it is not, further adjustment will be necessary.)

CAUTION: To prevent valve seat damage, never adjust the humidifier's water level without supporting the float arm. Make adjustments in small increments.

- To raise the water level, push down in the center of the float arm (see Figure 9, below).
- To lower the water level, hold the float on the bottom of the reservoir with one hand and pull up on the center of the float arm with the other hand (see Figure 10, below).

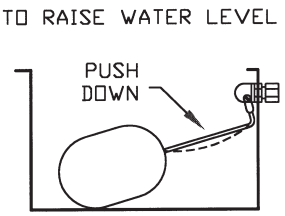


Figure 9: Raising the Water Level

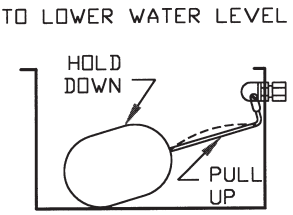


Figure 10: Lowering the Water Level

5. If the water level is too high, remove enough water from the reservoir to allow the float valve to automatically fill and shut off the water. This will verify that your final adjustment is correct.

6. Mount the humidifier according to one of the options shown on pages 10-17.

7. Route the tubing to the humidifier float valve, keeping the tubing away from sharp edges.

8. Connect the remaining end of the tubing to the humidifier float valve.

9. Open the saddle valve so that the water flows slowly and gently into the water pan.

10. Check the two compression fittings – one at the saddle valve, the other at the float valve. Stop any leakage by tightening the fitting.

11. Connect the humidifier's overflow provision to a suitable waste drain.
    - A standard garden hose or a 3/8" N.P.T. male fitting (not supplied) can be attached to the overflow fitting.
    - Provide support at many points along the hose to prevent kinks – particularly near any heat source.

12. Turn the water to the humidifier on. The float valve should shut the water off at 2-3/8".

13. Make sure the humidifier is plugged into a powered outlet.

14. Adjust the humidistat according to instructions provided with the humidistat.

    NOTE: See “How To Maintain the Skuttle Steam Humidifier” (next section) for additional information.

How To Maintain a Skuttle Steam Humidifier

Because the Skuttle steam humidifier is designed to emit mineral-free moisture into the air, the unit should be cleaned and serviced every two-to-four months. Harder water, colder weather and/or higher humidistat settings will increase the frequency of cleaning and service.

NOTE: Some 60-series models are equipped with a Skuttle Automatic Flushing Timer (see page 35), which can reduce maintenance significantly. However, it is still wise for the homeowner to check the humidifier for mineral buildup every two months or so during the humidification season.

To perform routine maintenance tasks, follow these instructions:

WARNING: Do not touch the humidifier when the operation indicator light is on. Always unplug the unit and allow it to cool prior to service or inspection.

1. Unplug the humidifier and fan control; disconnect the humidistat wires from the external screw terminals.

2. Turn off the water supply and disconnect the supply tubing at the float valve. Disconnect the overflow hose at the humidifier.

3. Allow water in the humidifier to cool before continuing.

   DANGER: Scalding is possible if water in the humidifier reservoir has not been allowed to cool.

4. Turn the petcock (drain fitting) counterclockwise (↺) and drain water from the humidifier into a bucket.

5. Remove the humidifier from its mounting.

6. Flush loose minerals from the reservoir with water, then gently rub minerals off the float, heater, reservoir walls and safety float switch. If mineral deposits have been allowed to build up, steel wool or other scouring pads may be used.

7. Inspect the valve arm and float for mineral buildup and deterioration.

   CAUTION: If deterioration is noted, replacement will be necessary.

8. Reset the water level. (See Steps 4 & 5 of “Plumbing and Setting the Water Level”).

9. Remount the humidifier and make all electrical and plumbing reconnections. Check for leaks or overflow. Set the humidistat as directed in the humidistat instructions.

   CAUTION: Never oil any part of the humidifier.

   NOTE: At the end of each humidification season (approximately the same period as the heating season), the humidifier should be **thoroughly cleaned** and the water and electricity turned off until the next humidifying season.

   WARNING: Do not leave water in the humidifier over the warm-weather months.

Trouble Shooting

PROBLEM	EVIDENCE	SOLUTIONS(S)
Low Humidity	Low water level (less than 2-3/8" deep)	• See *Plumbing and Setting Water Level,* steps 4 & 5
	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
	Humidifier heater is not operating	• Make sure the humidifier is plugged in • Set the humidistat higher • Check for blown circuit breaker • Check all external wiring connections • Check for low water level • Check the humidistat switch for continuity • Call a professional HVAC contractor
	Rapid air changes (drafts)	• Keep doors and windows closed (cold, dry air is an added load on the humidifier) • Close fireplace damper when not in use • Keep exhaust fan running time to a minimum • Seal around doors and windows
High Humidity	Condensation on walls	• Turn humidistat off • Turn water to humidifier off until condensation is evaporated
	Heavy condensation on windows	• Turn humidistat down enough to eliminate condensation (this may be a temporary condition caused by moisture from bathing, mopping, cooking, etc.)
Humidifier Overflows	High water level	• Inspect valve seat for defects • Inspect valve nozzle for cracks or erosion • Readjust water level (see *Plumbing and Setting Water Level* • Make sure humidifier is level

Table 1

CONTRACTOR

Replacement Parts

Contractors: Parts may be ordered through your preferred heating or plumbing distributor. When ordering, refer to the parts list below to give the following information:

- Humidifier Model Number • Part Name • Part Number
- Humidifier Manufacturing Date (see label on side near drains)

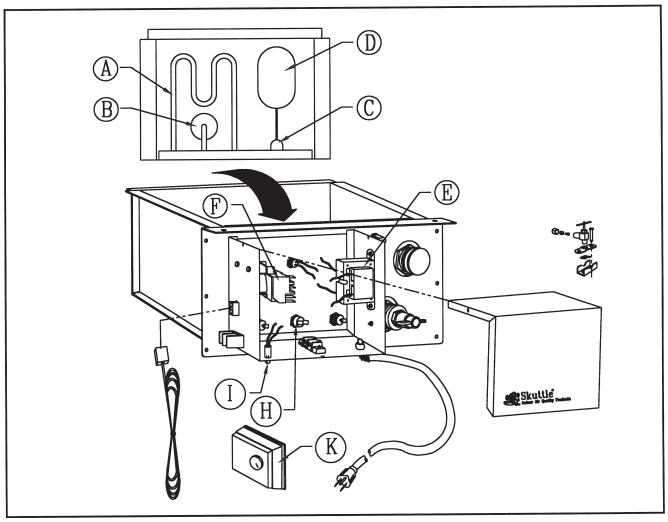


Figure 11 - Parts Diagram of Models 60-1, F60-1, 60-2 and F60-2

MODELS 60-1 AND F60-1		
ITEM	PART NAME	PART NO.
A	Heating Element 1500W 120 Volt (incl. mounting hardware)	000-0430-055
B	Safety Float	000-0814-132
C	Water Supply Float Valve	000-1731-012
D	Stainless Steel Float	A00-1309-012
E	Transformer 120 Volt to 24 Volt	000-0814-133
F	Humidifier Control Relay	000-0431-031
G	6-pc. Gasket Set (includes hose cap washer)	A00-0693-020
H	Thermal Fan Control Switch	000-0431-030
I	Operation Indicator Light	000-0814-139
J	S-Cleat “Mounting Strips” (set of 3 pcs.)	A00-1707-078
K	Humidistat Assembly	SK0-0055-001 or SEH-7100-000

Table 2

MODELS 60-2 AND F60-2		
ITEM	PART NAME	PART NO.
A	Heating Element 2000W 240 Volt (incl. mounting hardware)	000-0430-056
B	Safety Float	000-0814-132
C	Water Supply Float Valve	000-1731-012
D	Stainless Steel Float	A00-1309-012
E	Transformer 240 Volt to 24 Volt	000-0814-133
F	Humidifier Control Relay	000-0431-031
G	6-pc. Gasket Set (includes hose cap washer)	A00-0693-020
H	Thermal Fan Control Switch	000-0431-030
I	Operation Indicator Light	000-0814-139
J	S-Cleat “Mounting Strips” (set of 3 pcs.)	A00-1707-078
K	Humidistat Assembly	SK0-0055-001 or SEH-7100-000

Table 3

NOTE: Due to Skuttle Indoor Air Quality Products’ ongoing research and development program, specifications are subject to change without notice.

Maintenance Record

Date	Humidifier Cleaned (✔)	Humidifier Repaired (✔)	Part(s) Replaced	Other

Table 4

How Your Humidifier Works

Your Skuttle Steam Humidifier supplies moist air to your home much the same way as outdoor air is humidified. On a warm summer day, the sun's heat evaporates water from puddles, streams, rivers, oceans, etc., turning it into vapor. The amount of water vapor *(humidity)* that rises into the air is determined by the amount of time the water is exposed to the heat source.

If you were to look inside your humidifier's reservoir, you would see an immersed, tubular heater and two floats. When your home is too dry, the humidistat (humidity control device) installed with your system activates the humidifier heater. A built-in thermostat senses the water temperature and, when the water is warm enough, turns on a relay to activate the blower on your furnace. The blower, independent of your home's heating system, disperses humidified air throughout the house. In other words, the heat necessary for evaporation is supplied by the humidifier itself, rather than by your furnace.

Once the selected level of humidity is reached, the humidifier heater turns off automatically. However, the furnace blower continues to replenish the moisture in your home until the water in the humidifier's reservoir is cooled and ceases to produce steam. All this takes place without disruption to your heating system's normal operation. When the indoor humidity drops below the desired level, the process begins again.

As water is evaporated from the humidifier reservoir and replaced by fresh water, the larger of the two float valves prevents overflow by shutting off the water at the designated level. The smaller float acts as an additional safety device, automatically shutting off the humidifier heater if, for any reason, the water level drops below the heating element.

Because water evaporated from the humidifier leaves behind all its impurities (calcium, iron, lime, bacteria, etc.), the resulting humidification doesn't pollute your indoor air. Instead, your home is freer from these contaminants, creating a healthier, more comfortable environment for you and your family.

How To Extend the Life of Your Humidifier

Mineral buildup on the humidifier's heating element is harmful to the unit. Therefore, routine maintenance is vital to the effectiveness and longevity of your humidifier.

The normal service interval will vary from one-to-three months (i.e., one or two cleanings during a typical humidification season, plus a thorough cleaning at the end of the season). The hardness of your water, your humidistat setting, weather conditions, home construction and the number of occupants in the home all affect the amount of time between cleanings.

NOTES: Due to the complexity of your Skuttle Steam Humidifier, we strongly recommend that you make arrangements with your preferred HVAC or plumbing contractor to clean and service the unit at regular intervals.

Some 60-series models (F60-1 and F60-2) **are equipped with a Skuttle Automatic Flushing Timer, which can reduce maintenance significantly** (see page 35). Nevertheless, it is wise to check humidifier for mineral buildup every two months or so during the humidification season, and to contact an HVAC dealer if necessary.)

Do not leave water in the humidifier over the warm-weather months.

If the home is left unattended for an extended period of time (e.g., when you are on vacation), turn the humidistat and the water supply to the humidifier off.

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 the Sahara 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, refer to the humidistat instructions contained in your humidifier carton.

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, floor coverings, plaster and houseplants 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 our website at www.skuttle.com.

Skuttle® Automatic Flushing Timer
Flushes Drum and Reservoir Type Humidifiers Every 12 Hours

The Skuttle Flushing Timer . . .

- Automatically flushes the humidifier water pan with fresh, clean water twice daily
- Reduces buildup of minerals and dissolved solids in evaporative media and reservoirs; helps maintain the efficiency of your humidifier
- Reduces or eliminates servicing during the humidification season
- Uses minimal electricity, and uses 80 percent less water than conventional flow-thru humidifiers
- Is approved by Underwriters Laboratories
- Installs easily (by an HVAC contractor) – usually within 20 minutes

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 infiltration to provide year-round 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
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
- 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
- Have an easy-lock door for an extra-tight seal and fast, easy filter cartridge replacement
- 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-50 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 a 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 the 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:

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

Part No. 000-0756-232
SK-003--0102
HBP Rev 10/02

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in the USA