

PRODUCT CATALOG

SKUTTLE HIGH-EFFICIENCY IAQ PRODUCTS

- TECHNICAL INFORMATION •
- REFERENCE GUIDE •



Skuttle[®]
Indoor Air Quality Products





Davis Powers, President and CEO

Thank you for choosing Skuttle!

As the third generation of my family to manage Skuttle Indoor Air Quality Products, I am pleased that you have chosen to sell our products.

I am also the first generation to get really excited when new technology is introduced. It does not matter if the technology is HVAC-related or a new app for my home computer.

Our engineering team is actively developing new product technologies that will be revealed as we go forward, while always looking for opportunities to apply proven technology to our tried and true products.



Hi-tech or lo-tech — we deliver high performance.

Proud of Our Past, Confident in Our Future

In 1917... In a small shop in Detroit, Michigan, John L. Skuttle began to pioneer plumbed, central-system humidification for residential applications.

Skuttle Manufacturing Company's first product was an automatic fill valve to monitor water flow into coal furnace humidifiers. Through-out the 1920s and early 30s, Mr. Skuttle continued to invent humidification and plumbing related products — many of them for in-home use.

In 1935, Skuttle Manufacturing was purchased by Milton Powers, chief engineer of Timken Furnace Company. Although Mr. Powers remained in his position with Timken, Skuttle began to grow significantly under his leadership and the onsite supervision of general managers. Product innovation and a commitment to finding a niche within a rapidly expanding HVAC industry helped make Skuttle a familiar, trusted name among wholesalers, contractors and homeowners alike.

In the decades that followed, Skuttle would produce such popular residential IAQ products as the Model 600 Plate Humidifier (a former industry standard), the Models 45, 90 and 190 Drum Humidifiers, Model 60-Series Steam Humidifiers, and Model 2000-Series Flow-Thru Humidifiers — all industry leaders today.

In the 1950s, Skuttle moved its operations from Detroit to Milford, Michigan, then to Marietta, Ohio, in 1977. In the mid-90s, to clarify its position in the marketplace, Skuttle Manufacturing Company began doing business as Skuttle Indoor Air Quality Products.

Today, under the capable leadership of President and CEO Davis Powers, Skuttle continues to set industry standards for humidifiers, air cleaners and make-up air controls for residential applications.

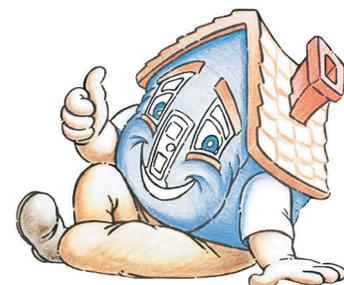
As it was in 1917, so it is today... Skuttle stakes its reputation on outstanding quality, performance and customer service.

Sincerely,

Davis Powers, CEO



Follow Skuttle IAQ Products



PRODUCT CATALOG

SKUTTLE HIGH-EFFICIENCY IAQ PRODUCTS TECHNICAL INFORMATION REFERENCE GUIDE



Skuttle IAQ Products

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HEATING, AIRCONDITIONING & REFRIGERATION DISTRIBUTORS INTERNATIONAL



Humidification 101: Why Humidify?

Many homeowners realize that they live in a “sick house” in winter months.

Family members suffer from dry, itchy skin, parched throats and annoying coughs. Furniture creaks, floors moan, the piano starts slipping out of tune and static electricity zaps the pets. 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.

Humidity and Relative Humidity

All air contains moisture, called humidity. It is invisible, except when the air’s saturation point is reached and the moisture condenses. Then, we see humidity as steam, fog, rain, or water droplets. The term relative humidity [RH] refers to the percentage of water vapor present in the air at a given temperature. For example, at 50 percent RH, the air is holding half of the moisture it’s capable of holding. The air’s capacity to hold water decreases as the temperature goes down, and increases as the temperature goes up.

How Temperature Affects Humidity

You’ve seen this first phenomenon when water droplets form on the outside of a glass of icewater on a hot, humid day. The droplets do not come from the water inside

the glass. Rather, the cold surface of the glass cools the surrounding air and lowers its capacity to hold water vapor. The excess moisture condenses on the outside of the glass. Furnaces often create the opposite effect in your customers’ homes. On a crisp winter day, the weatherman may report that the outside temperature is 30°F with 90 percent humidity. When the air infiltrates a home and is heated to 72°F, it expands to four or five times its previous size. While the amount of moisture remains the same, the amount of humidity relative to the air volume [the RH] is reduced from 90 percent to approximately 19 percent. That’s why homes are noticeably drier in winter, which damages woodwork and valuable possessions, and leaves residents feeling uncomfortable and, in some instances, unhealthy. **See [The Impact of Relative Humidity on Air Quality](#), on page 25.**

Skuttle Offers Whole-House Solutions

Working efficiently with all sorts of residential heating systems, Skuttle whole-house humidifiers help protect homes’ structures, contents, and occupants by maintaining indoor relative humidity at a safer, healthier, more comfortable 30-45 percent. In fact, Skuttle is the oldest residential humidifier manufacturer, having been in business since 1917. Today, Skuttle makes humidifiers to fit more floor plans, heating systems, and water types than any other producer. Visit Skuttle Indoor Air Quality Products online at www.goskuttle.com, call toll-free 888-SKUTTLE [758-8853], or email customerservice@skuttle.com.

Notes About This Catalog

Ratings and calculations are in compliance with ARI Formula 610:

- Ceiling Height 8 feet
- Bonnet Temperature 120°F
- Return Air 75°F, 30% RH
- Total Static Pressure 0.20 inch

Photos are sized for space allotted and may not be to scale.

Due to Skuttle’s ongoing research, design specifications and components are subject to change without notice.

House Ratings Defined

Tight House

Insulated walls and ceilings; vapor barriers; weather stripping on doors and windows; snug doors, windows and fireplace damper. One-half air change per hour.

Average House

Insulated walls and ceilings; vapor barriers; loose doors, windows and fireplace damper. One air change per hour.

Loose House

No insulation, storm doors, storm windows, weather stripping or vapor barriers. Two air changes per hour.

For performance, low maintenance and durability,

Skuttle **flow-thru humidifiers** provide several options. Choose from this popular group of cost-efficient units that come with a manually adjustable humidistat control.

Give us a call for a competitive analysis!



Models 2000 By-Pass Flow-Thru



Product Features

1. Compact width fits plenums as narrow as 10" and can be modified to fit 8" plenums
2. Low profile makes units ideal where space is limited
3. Shut-off damper reduces airflow in summer allowing air conditioner to run more efficiently and economically
4. Reversible side panels permit left or right side bypass installation
5. Superior patented wicking and water distribution system accommodates non-level plenums
6. Frameless evaporator pad avoids breakage common to brands with plastic frames
7. Internal solenoid resists damage from bumping
8. Stainless steel orifice won't break and cleans easily
9. Thermoplastic cabinet resists rust, corrosion and warpage
10. Barbed drain fitting prevents hose from slipping
11. Energy-efficient technology uses minimal water and electricity
12. Output capacity of 14 gallons per day at 120°F

In The Package

1. Humidifier, evaporator pad, mounting hardware
2. Skuttle manual humidistat (right)
3. Homeowner's manual
4. Mounting template with instructions
5. Self-piercing saddle valve
6. Transformer
7. Plenum collar



Specifications

Dimensions	13-1/2"H x 12-1/2"W x 9-5/8"D
Plenum Opening	10"H x 9"W
Bypass Opening	6" dia. (tubing not supplied)
Solenoid	24 VAC
Water Supply Tubing	1/4" OD copper (not supplied)
Water Drain Tubing	1/2" ID (not supplied)
Evaporator Pad	11-1/2"H x 9-7/8"W x 1-9/16"D
Pad Replacement No.	A04-1725-052

IMPORTANT!



Skuttle A50 Relay
See page 22

When installing a Model 2000 on a system with a multi-speed blower motor or operating voltage other than 120 volts AC, it is strongly recommended that the unit be wired with a Skuttle A50 Relay to prevent transformer failure.

Moisture Output Capacity

TEMP (Warm Air Duct)	LBS/HR	GALS/DAY
120° F	4.87	14.0
110° F	4.35	12.5
100° F	4.00	11.5

Home/Humidifier Sizing Range

HOME SIZE	TIGHT HOUSE	LOOSE HOUSE
SQ FT	3,333	1,522
CU FT	26,667	12,174

High-Capacity Humidifier for Warm Air Heating Systems

Typical Installations

- Down-Flow
- Up-Flow
- Horizontal

Models 2001 By-Pass Flow-Thru



In The Package

1. Humidifier, evaporator pad, mounting hardware
2. Model 2001 with Skuttle manual humidistat (right)
3. Homeowner's manual
4. Mounting template with instructions
5. Self-piercing saddle valve
6. Transformer
7. Plenum collar



IMPORTANT!



Skuttle A50 Relay
See page 23

When installing a Model 2001 on a system with a multi-speed blower motor or operating voltage other than 120 volts AC, it is strongly recommended that the unit be wired with a Skuttle A50 Relay to prevent transformer failure.

Product Features

1. Compact width fits plenums as narrow as 14"
2. Low profile makes units ideal where space is limited
3. Shut-off damper reduces airflow in summer allowing air conditioner to run more efficiently and economically
4. Reversible side panels permit left or right side bypass installation
5. Superior patented wicking and water distribution system accommodates non-level plenums
6. Frameless evaporator pad avoids breakage common to brands with plastic frames
7. Internal solenoid resists damage from bumping
8. Stainless steel orifice won't break and cleans easily
9. Thermoplastic cabinet resists rust, corrosion and warpage
10. Barbed drain fitting prevents hose from slipping
11. Energy-efficient technology uses minimal water and electricity
12. Output capacity of 18 gallons per day at 120°F

Specifications

Dimensions	18-5/8"H x 13-3/4"W x 9-5/8"D
Plenum Opening	16-5/8"H x 10-5/8"W
Bypass Opening	6" dia. (tubing not supplied)
Solenoid	24 VAC
Water Supply Tubing	1/4" OD copper (not supplied)
Water Drain Tubing	1/2" ID (not supplied)
Evaporator Pad	16-5/8"H x 9-7/8"W x 1-9/16"D
Pad Replacement No.	A04-1725-051

Moisture Output Capacity

TEMP (Warm Air Duct)	LBS/HR	GALS/DAY
120° F	6.26	18.0
110° F	5.74	16.5
100° F	5.22	15.0

Home/Humidifier Sizing Range

HOME SIZE	TIGHT HOUSE	LOOSE HOUSE
SQ FT	4,286	1,957
CU FT	34,286	15,652

Typical Installations

- Down-Flow
- Up-Flow
- Horizontal

High-Capacity Humidifier for Warm Air Heating Systems

Models 2002 Flow-Thru with Fan



Product Features

1. Problem-solving application — ideal for installations where the return air plenum is not easily accessible
2. Compact width fits plenums as narrow as 14"
3. Low profile makes units ideal where space is limited
4. Superior patented wicking and water distribution system accommodates non-level plenums
5. Frameless evaporator pad avoids breakage common to brands with plastic frames
6. Internal solenoid resists damage from bumping
7. Stainless steel orifice won't break and cleans easily
8. Thermoplastic cabinet resists rust, corrosion and warpage
9. Barbed drain fitting prevents hose from slipping
10. Energy-efficient technology uses minimal water and electricity
11. Output capacity of 19 gallons per day at 120°F

Specifications

Dimensions	18-5/8"H x 13-3/4"W x 9-5/8"D
Plenum Opening	16-5/8" high x 13-1/8" wide
Fan Motor	115 VAC, .7 Amps
Solenoid	24 VAC
Water Supply Tubing	1/4" OD Copper [not supplied]
Water Drain Tubing	1/2" ID [not supplied]
Evaporator Pad	16-5/8"H x 9-7/8"W x 1-9/16"D
Pad Replacement No.	A04-1725-051

In the Package

1. Humidifier, evaporator pad, mounting hardware
2. Mounting template/installation instructions
3. Self-piercing saddle valve
4. Model 2002 includes a Skuttle manual humidistat (right)



IMPORTANT!



Skuttle A50 Relay
See page 23

When installing Model 2002 on a system with a multi-speed blower motor or operating voltage other than 120 volts AC, it is strongly recommended that the unit be wired with a Skuttle A50 Relay to prevent transformer failure.

U.S. Patent Nos. 5,851,444 and 5,932,148

Moisture Output Capacity

TEMP (Warm Air Duct)	LBS/HR	GALS/DAY
120°F	6.61	19.0
110°F	6.05	17.4
100°F	5.49	15.8

Home/Humidifier Sizing Range

HOME SIZE	TIGHT HOUSE	LOOSE HOUSE
SQ FT	4,524	2,065
CU FT	36,190	16,522

Typical Installation

- Up-Flow

High-Capacity Humidifier for Warm Air Heating Systems

Since they operate independently,

and are not dependent on furnace cycles, steam humidifiers are ideal when proper indoor humidity must be maintained at a near-constant level. Top of the line Skuttle **high-capacity steam humidifiers** are designed for a variety of applications, including lower-temperature high-efficiency heating systems (with or without heat pumps) and 90+ furnaces with cooler plenum temperatures.



Models 60-1 and 60-2 Steam

Features, Enhancements and Benefits

- Corrosion-resistant, low-water cutoff switch and built-in overflow protection provide peace of mind
- Energy efficient technology uses minimal water
- A longer, reconfigured heating element, which decreases watt density and reduces premature burnout
- An extended, two-year warranty on the heating element
- A safety control shutoff to prevent the humidifier from operating if the furnace blower fails
- A mounting bracket that serves as a fixed template and creates a drawer-like frame on the ductwork for easy installation and service
- A 3/8" barbed, brass overflow fitting for fast, secure tubing installation
- A 316 stainless steel float to provide improved corrosion resistance
- Thermal fan interlock control allows unit to provide humidity independent of the furnace's heating cycle – ideal when stabilized humidity is critical
- Single-piece service drain petcock makes cleaning easy
- 60-1 output capacity of 13 gallons per day at 120°F
- 60-2 output capacity of 17 gallons per day at 120°F
- Availability of an automatic flushing timer [standard with Models F60-1 and F60-2], which flushes the humidifier every two hours

IMPORTANT!

- In hard water areas, addition of a Skuttle Automatic Flushing Timer [included on Models F60-1 and F60-2] is recommended.

Specifications

Dimensions 6-7/8"H 11-7/8"W 12-1/2"D
 Duct Opening 10-1/2" x 8"

Heating Element Specifications

60-1 Internal Heat Source 1.5 kw, 120V, 12.5 amps
 incoloy sheathed element

60-2 Internal Heat Source 2.0 kw, 240V, 8.3 amps
 incoloy sheathed element



In the Package

1. Humidifier
2. Installation/operating/maintenance instructions
3. Mounting bracket
4. Safety control shutoff
5. Skuttle manual humidistat humidifier control (right)



Home/Humidifier Sizing Range

MODEL	TIGHT HOUSE	LOOSE HOUSE
60-1 @13 GPD	3,095 sf / 24,762 cf	1,413 sf / 11,304 cf
60-2 @17 GPD	4,048 sf / 32,381 cf	1,848 sf / 14,783 cf

60-1 Moisture Output Capacity

Pounds per Hour 4.5
 Gallons per Hour 0.54
 Gallons per Day [GPD] 13.0

60-2 Moisture Output Capacity

Pounds per Hour 5.9
 Gallons per Hour 0.71
 Gallons per Day [GPD] 17.0

Typical Installations

- Duct Edge Mount
- External Side Mount
- Duct Center Mount

High-Capacity Humidifier for Warm Air Furnaces and High-Efficiency Heating Systems

Models F60-1 and F60-2 Steam

Features, Enhancements and Benefits

- Includes a Skuttle automatic flushing timer which flushes the humidifier every two hours
- Corrosion-resistant, low-water cutoff switch and built-in overflow protection provide peace of mind
- Energy efficient technology uses minimal water
- A longer, reconfigured heating element, which decreases watt density and reduces premature burnout
- An extended, two-year warranty on the heating element
- A safety control shutoff to prevent the humidifier from operating if the furnace blower fails
- A mounting bracket that serves as a fixed template and creates a drawer-like frame on the ductwork for easy installation and service
- A 3/8" barbed, brass overflow fitting for fast, secure tubing installation
- A 316 stainless steel float to provide improved corrosion resistance
- Thermal fan interlock control allows unit to provide humidity independent of the furnace's heating cycle – ideal when stabilized humidity is critical.
- F60-1 output capacity of 13 gallons per day at 120°F
- F60-2 output capacity of 17 gallons per day at 120°F



In the Package

1. Humidifier
2. Installation/operating/maintenance instructions
3. Mounting bracket
4. Safety control shutoff
5. Skuttle manual humidistat humidifier control (below right)
6. Skuttle automatic flushing timer (below left)
7. Chlorine removal filter

Specifications

Dimensions	6-7/8"H 11-7/8"W 12-1/2"D
Duct Opening	10-1/2" x 8"

Heating Element Specifications

F60-1 Internal Heat Source	1.5 kw, 120V, 12.5 amps incoloy sheathed element
F60-2 Internal Heat Source	2.0 kw, 240V, 8.3 amps incoloy sheathed element

Typical Installations

- Duct Edge Mount
- External Side Mount
- Duct Center Mount



Home/Humidifier Sizing Range

MODEL	TIGHT HOUSE	LOOSE HOUSE
60-1 @ 13 GPD	3,095 sf / 24,762 cf	1,413 sf / 11,304 cf
60-2 @ 17 GPD	4,048 sf / 32,381 cf	1,848 sf / 14,783 cf

F60-1 Moisture Output Capacity

Pounds per Hour	4.5
Gallons per Hour	0.54
Gallons per Day [GPD]	13.0

F60-2 Moisture Output Capacity

Pounds per Hour	5.9
Gallons per Hour	0.71
Gallons per Day [GPD]	17.0

High-Capacity Humidifier for Warm Air Furnaces and High-Efficiency Heating Systems

Model 60-BC1 Freestanding Steam

Features and Benefits

- Self-contained fan allows unit to humidify air without furnace heat
- Free-standing design permits flexible placement or mounting
- Single-piece service drain petcock makes cleaning easier
- Corrosion-resistant, low-water cutoff switch and built-in overflow protection provide peace of mind
- Energy efficient technology uses minimal water
- Output capacity of 13 gallons per day at 120°F

In the Package

1. Humidifier
2. Skuttle manual humidistat (right)
3. Owner's manual
4. Self-piercing saddle valve



IMPORTANT!

In hard water areas, the addition of a Skuttle Flushing Timer is recommended. The Flushing Timer helps keep the unit clean and assures that the unit contains fresh water at all times. See page 22.

Moisture Output Capacity

Pounds per Hour	4.50
Gallons per Hour	0.54
Gallons per Day [GPD]	13.00

Specifications

Dimensions	19"H x 13"W x 18-1/2"D
Duct Opening	12" x 12"
Blower CFM	60
Internal Heat Source	1.7 kw, 120V, 14.0 amps incoloy sheathed element

Home/Humidifier Sizing Chart

HOME SIZE	TIGHT HOUSE	LOOSE HOUSE
SQ FT	3,095	1,413
CU FT	24,762	11,304



High-Capacity Humidifier for use in situations where no ductwork is available

Excellent for use in homes with wine cellars, humidors and musical instruments

Conservationist homeowners

using forced air heating systems may be well-served with a Skuttle **by-pass drum humidifier** plus a programmable automatic flushing timer. With routine maintenance, your customers will conserve natural resources and cash, as they enjoy the benefits of efficient humidification. Just remember, when it comes to green, you can't beat Skuttle Drums!



Model 45 By-Pass Drum



Moisture Output Capacity

Pounds per Hour	3.48
Gallons per Hour	0.42
Gallons per Day [GPD]	10.00

Specifications

Dimensions	8-1/2”H x 9-1/2”W x 9-1/2”D
Plenum Opening	5-1/2”H x 7-1/4”W
Bypass Opening/Tubing	5” diameter
Drum Motor	24 VAC, 3 watt, 1 RPM, bidirectional
Evaporator Pad	6-1/4” OD [4-7/8” ID] x 7”W
Pad Replacement No.	A04-1725-033

Home/Humidifier Sizing Chart

HOME SIZE	TIGHT HOUSE	LOOSE HOUSE
SQ FT	2,381	1,087
CU FT	19,048	8,696

Features and Benefits

- Reversible components permit versatile installation
- Interior components remove easily for cleaning or replacement
- Durable, corrosion-resistant, stainless steel cabinet helps ensure long life
- Energy efficient technology uses minimal water and electricity
- Environmentally safe – scientifically proven not to contaminate household air
- Output capacity of 10 gallons per day at 120°F

In the Package

1. Humidifier and evaporator pad
2. Skuttle manual humidistat
3. Self-piercing saddle valve
4. By-pass tubing
5. Plenum collar
6. 24 volt transformer
7. Summer shutoff damper
8. Mounting template
9. Mounting hardware
10. Installation instructions/ owner’s manual



IMPORTANT!

In hard water areas, the addition of a Skuttle Flushing Timer is recommended. The Flushing Timer helps keep the unit clean and assures that the unit contains fresh water at all times. See page 22.

Humidifier for Warm Air Heating Systems

Model 90 By-Pass Drum



Moisture Output Capacity

Pounds per Hour	5.91
Gallons per Hour	0.71
Gallons per Day [GPD]	17.00

Specifications

Dimensions	10-3/4"H x 10-3/4"W x 10-5/8"D
Plenum Opening	7"H x 8-1/2"W
Bypass Opening/ Tubing	6" diameter
Drum Motor	24 VAC, 3 watt, 1 RPM, bidirectional
Evaporator Pad	8-7/16"OD [6-11/16"ID] x 7-7/8"W
Pad Replacement No.	A04-1725-034

Home/Humidifier Sizing Chart

HOME SIZE	TIGHT HOUSE	LOOSE HOUSE
SQ FT	4,048	1,848
CU FT	32,381	14,783

Humidifier for Warm Air Heating Systems

Features and Benefits

- Reversible components permit versatile installation
- Interior components remove easily for cleaning or replacement
- Durable, corrosion-resistant, stainless steel cabinet helps ensure long life
- Energy efficient technology uses minimal water and electricity
- Environmentally safe – scientifically proven not to contaminate household air
- Output capacity of 17 gallons per day at 120°F

In the Package

1. Humidifier and evaporator pad
2. Skuttle manual humidistat
3. Self-piercing saddle valve
4. By-pass tubing
5. Plenum collar
6. 24 volt transformer
7. Summer shutoff damper
8. Mounting template
9. Mounting hardware
10. Installation instructions/owner's manual



IMPORTANT!

In hard water areas, the addition of a Skuttle Flushing Timer is recommended. The Flushing Timer helps keep the unit clean and assures that the unit contains fresh water at all times. See page 22.

Model 190 By-Pass Drum



Moisture Output Capacity

Pounds per Hour	5.91
Gallons per Hour	0.71
Gallons per Day [GPD]	17.00

Specifications

Dimensions	10-15/16"H x 10-3/4"W x 11-11/16"D
Plenum Opening	6-5/8"H x 8-1/2"W
Bypass Opening/ Tubing	6" diameter
Drum Motor	24 VAC, 3 watt, 1 RPM, bidirectional
Evaporator Pad	8-7/16"OD [6-11/16"ID] x 7-7/8"W
Pad Replacement	A04-1725-034

Home/Humidifier Sizing Chart

HOME SIZE	TIGHT HOUSE	LOOSE HOUSE
SQ FT	4,048	1,848
CU FT	32,381	14,783

Humidifier for Warm Air Heating Systems

Features and Benefits

- Unique snap-lock fittings and reversible components permit versatile installation
- Interior components remove easily for cleaning or replacement
- Durable, thermoplastic cabinet resists rust, corrosion, and warpage
- Energy efficient technology uses minimal water and electricity
- Environmentally safe – scientifically proven not to contaminate household air
- Output capacity of 17 gallons per day at 120°F

In the Package

1. Humidifier and evaporator pad
2. Skuttle manual humidistat
3. Self-piercing saddle valve
4. By-pass tubing
5. Plenum collar
6. 24 volt transformer
7. Summer shutoff damper
8. Mounting template
9. Mounting hardware
10. Installation instructions/owner's manual



IMPORTANT!

In hard water areas, the addition of a Skuttle Flushing Timer is recommended. The Flushing Timer helps keep the unit clean and assures that the unit contains fresh water at all times. See page 22.

Value-conscious consumers in search

of practical humidification solutions for a 90+ furnace will be well-pleased with one of our **under duct humidifiers**. Extremely efficient and easy to install, under duct units will save your customer money and will do the job when the budget will not cover the luxury of a steam unit.



Model 55UD Under Duct Flow-Thru



Specifications

Dimensions/Reservoir	6-3/8”H x 15-1/4”W x 19-1/2”D
Extension into Duct	7-5/8”
Extension below Duct	6-3/8”
Duct Opening	12 x 16”
Minimum Duct Width	12”
Solenoid	24VAC
Evaporator Pad	12 3/4”H x 10-7/8”W x 1-5/8”D
Pad Replacement No.	A04-1725-045

Moisture Output Capacity

TEMP (Warm Air Duct)	LBS/HR	GALS/DAY
120°F	6.95	20.0
110°F	6.54	18.8
100°F	5.22	15.0

Home/Humidifier Sizing Chart

HOME SIZE	TIGHT HOUSE	LOOSE HOUSE
SQ FT	4,762	2,174
CU FT	38,095	17,391

Features and Benefits

- Mountable on horizontal ducts as small as 12” wide and 8” high
- Easy to maintain – unique mounting frame allows easy removal from duct for cleaning and servicing
- Durable, corrosion-resistant thermoplastic cabinet helps ensure long life
- Energy efficient technology uses minimal electricity
- Environmentally safe – scientifically proven not to contaminate household air
- Output capacity of 20 gallons per day at 120°F

In the Package

1. Humidifier and evaporator pad
2. Skuttle manual humidistat
3. Self-piercing saddle valve
4. 24 volt transformer
5. Mounting hardware
6. Installation instructions/ owner’s manual

IMPORTANT!

For any system using a multi-speed blower motor, addition of an A 50 Interface Relay [page 22] is recommended.

Humidifier for Warm Air Furnaces and High-Efficiency Heating Systems

Model 86UD Under Duct Drum



Features and Benefits

- Mountable on horizontal ducts as small as 12" wide and 8" high
- Easy to maintain – unique mounting frame allows easy removal from duct for cleaning and servicing
- Durable, corrosion-resistant thermoplastic cabinet helps ensure long life
- Energy efficient technology uses minimal water and electricity
- Environmentally safe – scientifically proven not to contaminate household air
- Output capacity of 17 gallons per day at 120°F

Specifications

Dimensions	6-3/8"H x 15-1/4"W x 19-1/2"D
Extension into Duct	3-1/4"
Extension below Duct	6-3/8"
Duct Opening	12" x 16"
Minimum Duct Width	12"
Solenoid	24VAC, 3 watt, 1 RPM, bi-directional
Evaporator Pad	8-3/16"OD [6-11/16" ID] x 9"W
Evaporator Pad Replacement No.	A04-1725-050

In the Package

1. Humidifier and evaporator pad
2. Skuttle manual humidistat
3. Self-piercing saddle valve
4. 24 volt transformer
5. Mounting hardware
6. Installation instructions/ owner's manual

Moisture Output Capacity

TEMP (Warm Air Duct)	LBS/HR	GALS/DAY
120°F	5.91	18.5
110°F	5.46	15.7
100°F	4.69	13.5

Home/Humidifier Sizing Chart

HOME SIZE	TIGHT HOUSE	LOOSE HOUSE
Total Sq. Ft.	4,048	1,848
Total Cu. Ft.	32,381	14,783

IMPORTANT!



For any system using a multi-speed blower motor, addition of an **A 50 Interface Relay** (page 23) is recommended.



IMPORTANT!

In hard water areas, the addition of a **Skuttle Flushing Timer** is recommended. The Flushing Timer helps keep the unit clean and assures that the unit contains fresh water at all times. See page 22.

Humidifier for Warm Air Furnaces and High-Efficiency Heating Systems

Model 592 Spray Humidifier



FOR USE IN SPECIALIZED APPLICATIONS ONLY!

Specifications

Dimensions	4-1/2"H x 6-1/2"W x 3"D
Plenum Opening	4: high x 5: wide
Extension into Plenum	2-3/8" past mounting surface
Solenoid Valve	24 volt, 6 watt, brass construction
Standard Nozzle Size	0.50 GPH

Features and Benefits

- Designed for fossil fuel furnaces
- Easily converted for installations with heat pumps, electric furnaces and hydro heating systems
- Water hardness must be 7 grains or less
- Water pressure must be 40 PSI or greater
- There must be 6 feet of straight, unimpeded ductwork after the spray nozzle
- There must be no dead air space in the ductwork within 6 feet of the spray nozzle, where unevaporated water can collect
- Durable, stainless steel atomizing nozzles allow customized humidification and are easy to replace
- Inline water filter provides dependable, long-term operation
- Copper catch basin collects afterflow
- Green light indicates when unit is operating
- Installs on ductwork as small as 12" x 12"

In the Package

1. Humidifier
2. Skuttle manual humidistat
3. Self-piercing saddle valve
4. 24 volt transformer
5. Mounting hardware
6. Installation instructions/ owner's manual
7. Conversion instructions for low temperature heating

IMPORTANT!



Installation of an **A 50 Interface Relay** (page 23) is recommended to ensure blower operation during humidifier cycle.

Spray Nozzle Selection Chart

Part No.	Nozzle Size	40 PSI		60 PSI		80 PSI		100 PSI		120 PSI	
		GPH	GPD	GPH	GPD	GPH	GPD	GPH	GPD	GPH	GPD
1106-017	0.37	0.37	8.88	0.46	11.04	0.53	12.72	0.59	14.16	0.65	15.60
1106-018*	0.50	0.50	12.00	0.61	14.64	0.71	17.04	0.79	18.96	0.86	20.64
1106-019	0.75	0.75	18.00	0.92	22.08	1.05	25.20	1.18	28.32	1.30	31.20

* Standard Equipment GPH = Gallons per Hour GPD = Gallons per Day

Humidifier for Warm Air Furnaces

Skuttle High-Capacity Air Cleaners

Features and Benefits

- High efficiency, high-capacity filtration with minimal airflow resistance for longer furnace life
- Four standard sizes (opposite page)
- Two filtration options (opposite page)
- A sturdy, 20-gauge, zinc-coated steel cabinet backed by a 10-year warranty
- A tough, stylish thermoplastic door to dress up any installation
- A reminder dial to tell homeowners when it's time to check the media for possible replacement
- Pre-punched access and drill holes in the frame for faster, easier installation

Air Cleaners Provide Protection

The smallest contaminants of a single micron or less 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, depth-loading filter, which traps far more particulates over a longer period than standard, surface-loading filter designs.

The results are cleaner indoor air, longer filter life, a cleaner HVAC system, longer furnace life, significant cost savings over time and a healthier living environment.

High-Efficiency air cleaners provide tremendous in-home benefits for a nominal cost, no additional energy cost and very little effort.

Among the most cost-efficient air cleaners on the market, Skuttle's High-Efficiency Air Cleaners are designed to provide peak, whole-house air filtration, helping to make homes cleaner, healthier and safer.

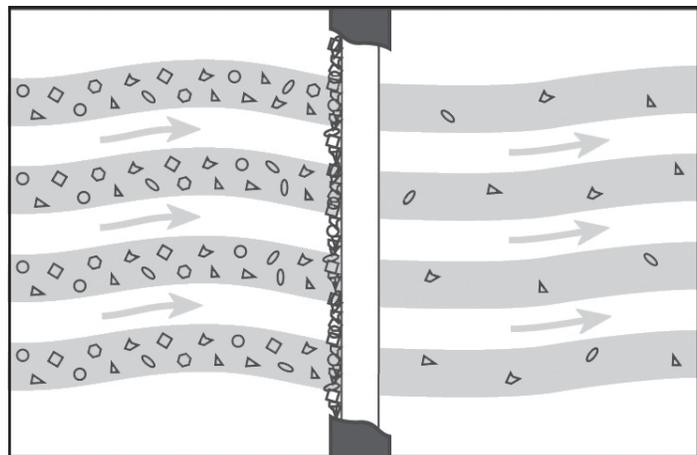
Choose Skuttle High-Efficiency Air Cleaners

Here are a few of the benefits provided by efficient, effective whole-house filtration:

- Cleaner Indoor Air
- Cleaner HVAC System
- Extended Furnace Life
- Longer Filter Life
- Healthier Living
- Significant Cost Savings

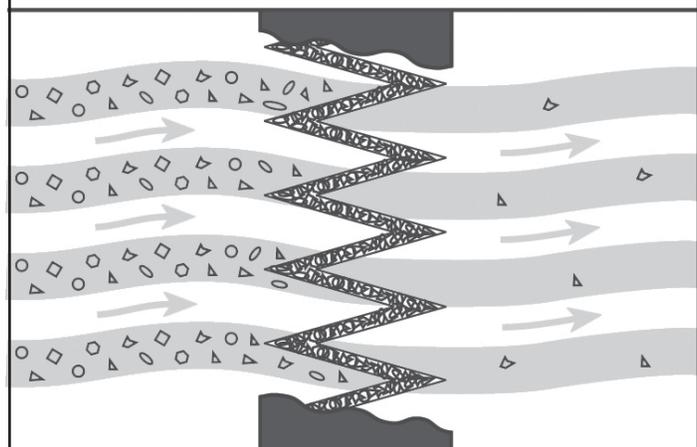


Skuttle High-Efficiency Air Cleaners are available in four sizes and two filtration options.



Standard flat surface-loading filter found in many homes (above). ↑

Skuttle's superior depth-loading filter design captures more airborne particles and lasts longer than many common filter media (below). ↓



Skuttle's MERV 11 filter media captures in-home contaminants as small as ONE MICRON.

Filtration Options: MERV 8 and MERV 11

MERV 8 High Efficiency Air Cleaner Specifications

MODEL	STD PKG	UNIT SIZE ••• PKG INCLUDES	SHP WT
DB-20-16	1	20" x 16" x 5" • Includes MERV 8 Media	17 LBS
DB-20-20	1	20" x 20" x 5" • Includes MERV 8 Media	17 LBS
DB-25-16	1	25" x 16" x 5" • Includes MERV 8 Media	17 LBS
DB-25-20	1	25" x 20" x 5" • Includes MERV 8 Media	19 LBS

MERV 8 High Efficiency Air Cleaner Media Specifications

MODEL	STD PKG	UNIT SIZE ••• MEDIA SIZE	SHP WT*
448-1	3	25" x 16" x 5" • 24-1/4" x 15-3/4" x 4-7/8"	8 LBS
448-2	3	25" x 20" x 5" • 24-1/4" x 19-3/4" x 4-7/8"	10 LBS
448-3	3	20" x 20" x 5" • 20-3/4" x 19-3/4" x 4-7/8"	9 LBS
448-4	3	20" x 16" x 5" • 20-3/4" x 15-3/4" x 4-7/8"	8 LBS

MERV 11 High Efficiency Air Cleaner Specifications

MODEL	STD PKG	UNIT SIZE ••• PKG INCLUDES	SHP WT
DB-1120-16	1	20" x 16" x 5" • Includes MERV 11 Media	17 LBS
DB-1120-20	1	20" x 20" x 5" • Includes MERV 11 Media	17 LBS
DB-1125-16	1	25" x 16" x 5" • Includes MERV 11 Media	17 LBS
DB-1125-20	1	25" x 20" x 5" • Includes MERV 11 Media	19 LBS

MERV 11 High Efficiency Air Cleaner Media Specifications

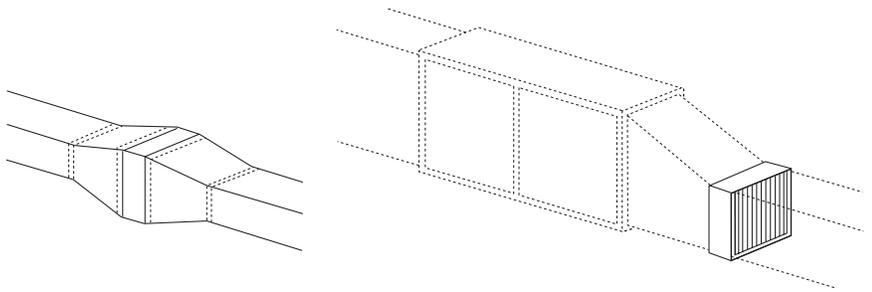
MODEL	STD PKG	UNIT SIZE ••• MEDIA SIZE	SHP WT*
448-5	3	25" x 16" x 5" • 24-1/4" x 15-3/4" x 4-7/8"	8 LBS
448-6	3	25" x 20" x 5" • 24-1/4" x 19-3/4" x 4-7/8"	10 LBS
448-7	3	20" x 20" x 5" • 20-3/4" x 19-3/4" x 4-7/8"	9 LBS
448-8	3	20" x 16" x 5" • 20-3/4" x 15-3/4" x 4-7/8"	8 LBS

*Oversize Package

Skuttle High-Efficiency Air Cleaners

can be installed in a variety of situations, including (clockwise from top left):

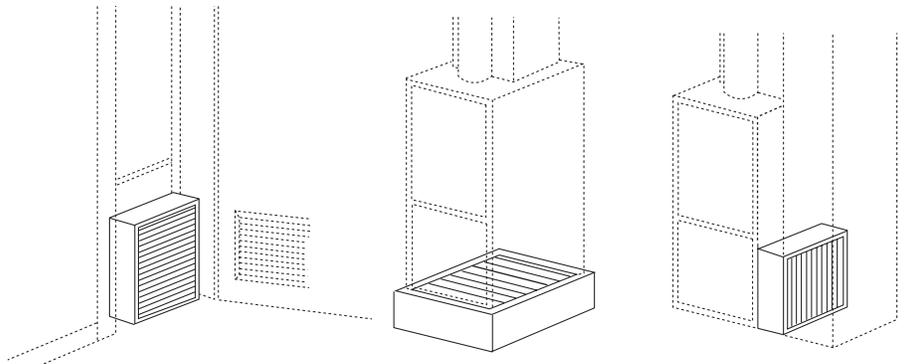
- Inline Installation
- Horizontal Installation
- Side Installation
- Up-Flow Installation
- Closet Installation



Skuttle High-Efficiency Air Cleaners

must be installed in an area of the duct that precedes the blower compartment and, if possible, in front of the cooling coils.

The filter cartridge must occasionally be replaced, requiring at least 21 to 24 -1/2 inches of clearance, depending on the model.



Make-Up Air Control Model 216

Features and Benefits

- 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 air for combustion
- 100 percent self-adjusting; uses no electricity
- Durable, corrosion-resistant, stainless steel construction ensures long life
- Appropriate for all warm-air heating systems

In the Package

1. Inlet hood
2. Mounting hardware
3. Mounting template
4. Installation instructions
5. Allen wrench for adjustment

Specifications

Fresh Air Intake [Model 216-1] 6" diameter
Fresh Air Intake [Model 216-2] 4" diameter

Fresh air supply with 6" air intake:

- @ .05 static pressure 74 cubic ft./min.*
- @ .10 static pressure 104 cubic ft./min.*

* expressed in inches of water column

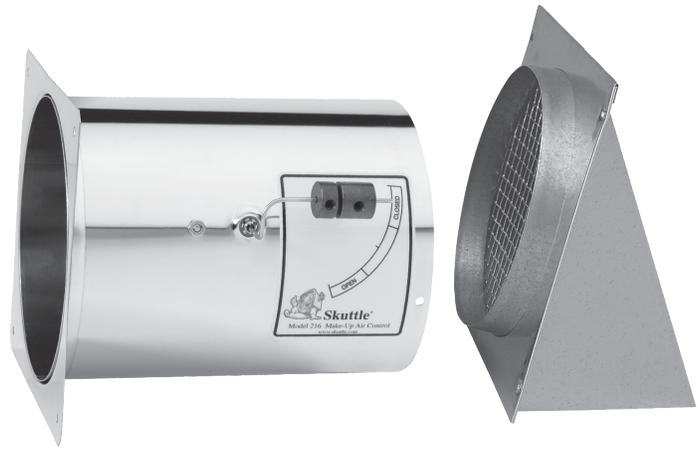
NOTE

Model 216-2 comes with a 4" intake hood and a 6" to 4" reducer.

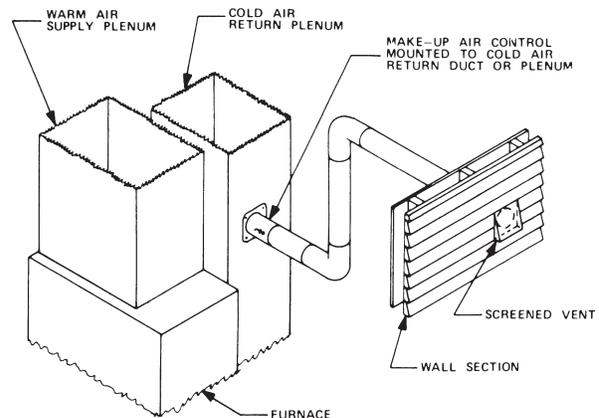
Here's how it works...

The Skuttle Model 216 Self-Adjusting Make-Up Air Control is installed on the return air plenum of the furnace. Six-inch insulated flex duct connects the Make-Up Air Control to a screened, fresh air inlet mounted on the outside of the home.

When the furnace blower operates, the damper in the Make-Up Air Control opens, automatically pulling the outside air into the furnace. The air is cleaned by the filter, heated or cooled, and circulated through the duct system. As a result, a slight pressure builds up in the home, preventing unwanted air infiltration around windows and doors.



Self-adjusting make-up air control for conventional forced air heating systems up to 250,000 BTUs.



Recommended for Year Round Filtered Fresh Air

Make-Up Air/Diffuser: Model D-28-6

Features and Benefits

- Works in any home as a fresh air supply
- Reduces drafts caused by negative pressure
- Aids in reducing indoor air pollution by replacing exhausted air
- Traps cold air entering the home
- Provides combustion air when other methods do not supply sufficient air

Specifications

Fresh Air Inlet 6" diameter

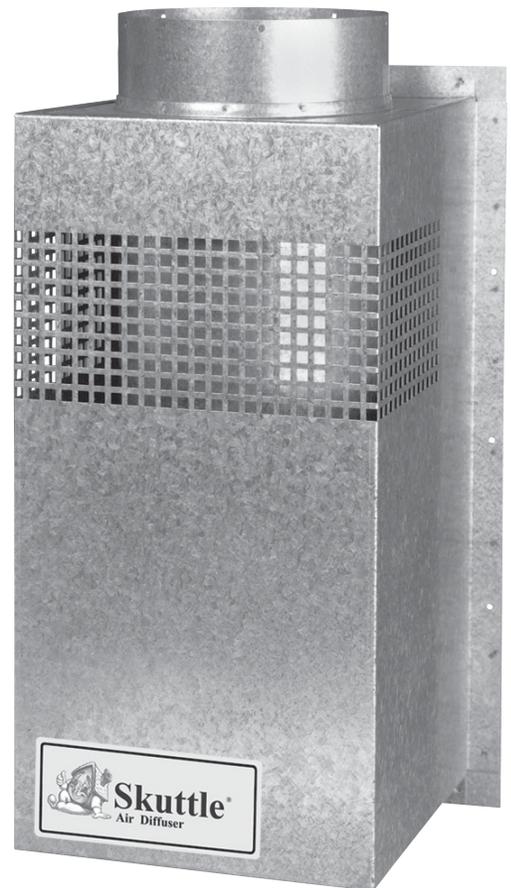
Includes 6" screened outside hood

Here's how it works...

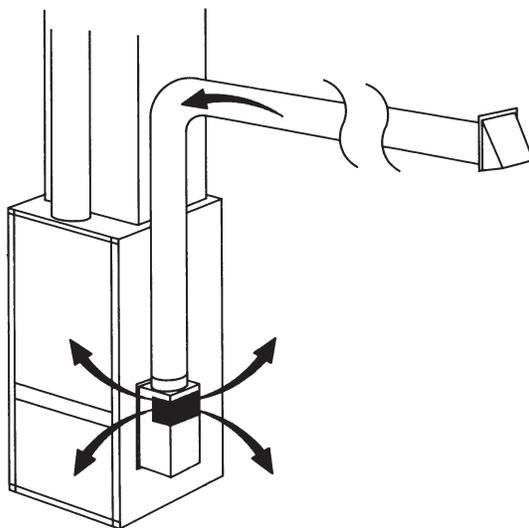
The Skuttle Make-Up Air and Combustion Air Diffuser supplies supplementary combustion air to appliances [furnaces, dryers, etc.] with inadequate combustion air sources.

Generally installed 12 inches from the appliance's combustion air intake, the Diffuser connects to a 6-inch insulated duct, which in turn, connects to a screened, fresh air inlet mounted on the home's exterior.

As the colder, heavier outside air enters the Diffuser, the unit acts as a check valve or cold air trap, automatically diffusing auxiliary combustion air into the area around the appliance.



Make-Up Air and Combustion Air Diffuser



Supplies Combustion Air

Model S-HAFT Automatic Flushing Timer



Flushes Reservoir and Drum Humidifiers Twice Daily

Performance

FLUSH TIME	WATER USED PER FLUSH	WATER USED PER DAY
10-Second Flush	16 Ounces	1.5 Gallons
20-Second Flush	32 Ounces	3.0 Gallons
30-Second Flush	48 Ounces	4.5 Gallons

Above is based on laboratory tests conducted at Skuttle Mfg. Co., completed in August 2005.

NOTE

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

Features and Benefits

- Provides flow-thru technology for steam- and reservoir-type 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 humidifiers
- Quick and easy to install – usually less than 20 minutes
- Adaptable to most makes and models of steam- and reservoir-type humidifiers

In the Package

1. Automatic flushing timer
2. 15 feet of 3/8" ID tubing
3. Mounting hardware
4. Installation instructions
5. Fittings
6. Tubing clamps for installation on Skuttle units and other manufacturers' humidifiers

Specifications

Dimensions 2-13/16"H x 2-13/16"W 2-13/16"D

NOTE

In areas where the domestic water supply contains excessive chlorine, use of a chlorine removal filter such as the Skuttle WF-10 Filter is suggested. This will aid in the reduction of corrosion caused by high chlorine content.

Current-Sensing Relay A50



Features and Benefits

- Activates or controls electrically-activated humidifiers, make-up air controls, air cleaners, zone dampers, and more
- Multispeed blower to coordinate operation of the HVAC accessory with the furnace
- Engineered for safety – protective rubber guard separates current-bearing wire from steel bracket; does not invalidate existing equipment warranty
- Easy to wire and install

Specifications

Dimensions 2-3/4"W x 1-5/16"H x 1-1/16"D

Technical 24 Volt circuit; max current load – 1 amp

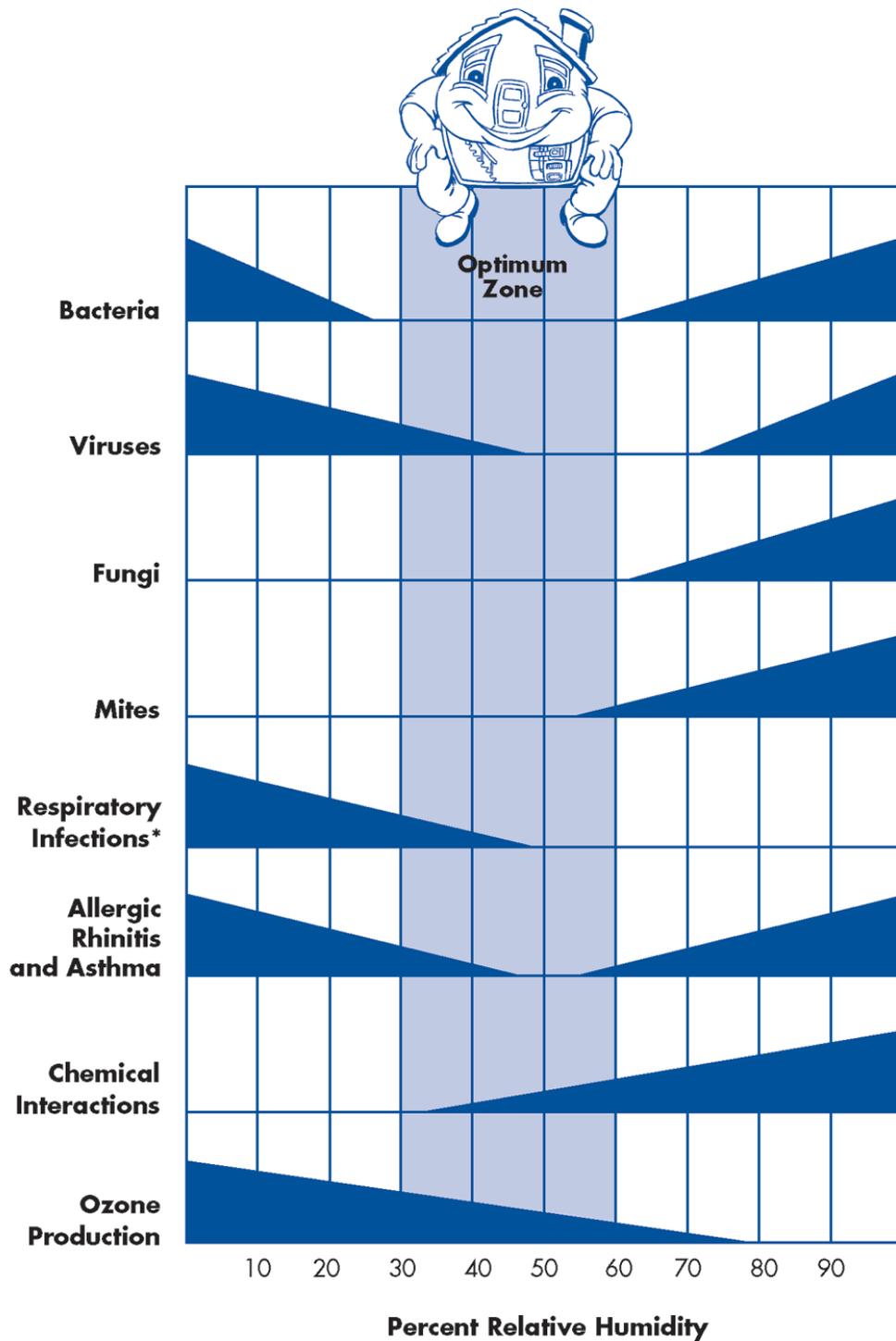
Relative Humidity Conversion Chart



100%	2	3	4	6	7	9	11	14	17	21	26
90%	2	2	4	5	6	8	10	12	15	19	23
80%	2	2	4	5	6	7	9	11	14	17	20
70%	1	2	3	4	5	6	8	10	12	15	18
60%	1	2	3	3	4	5	7	8	10	13	15
50%	1	1	2	3	4	4	6	7	9	10	13
40%	-	1	2	2	3	4	4	6	7	8	10
30%	-	1	1	2	2	3	3	4	5	6	8
20%	-	1	1	1	1	2	2	3	3	4	5
10%	-	-	-	1	1	1	1	1	2	2	3
0%	0	0	0	0	0	0	0	0	0	0	0
	-20	-10	-5	0	+5	+10	+15	+20	+25	+30	+35

This chart helps you determine indoor relative humidity. For example, when the outdoor temperature is 10 degrees above 0 and outdoor relative humidity is 70 percent, a home heated to 72 degrees has an indoor humidity level of only 6 percent—much drier than the 25 percent relative humidity of the Sahara Desert! Skuttle humidifiers can restore a home's relative humidity to a healthier, more comfortable 30-to-50 percent range.

Impact of Relative Humidity on Air Quality



This chart shows how carefully controlled home humidification improves air quality. The narrowing blue wedges indicate reduced effectiveness of the corresponding health-endangering conditions. Bacteria, for example, are least effective in the 25-to-60 percent relative humidity range.

**Insufficient data above 50% relative humidity.*

Chart reprinted with permission of ASHRAE.

Humidifier Sizing for Optimum Performance

As HVAC pros, it is up to us to measure cubic footage accurately, evaluate the customer's heating and ventilation system, and factor in all the variables before making a recommendation for the IAQ perfect fit.

Since many of today's homes feature high or vaulted ceilings, air volume can be increased by 30-to-60 percent over traditional homes with 8-foot ceilings. As a result, selecting a humidifier based on square footage alone (length x width) can be misleading.

To achieve optimal relative humidity, it's best to calculate the home's cubic footage: length x width x average ceiling height.

Using this formula to calculate the total area of a 40 x 50 foot home with 8-foot ceilings, total cubic feet can be determined: $40 \times 50 = 2,000 \times 8 = 16,000$. In this case, humidification for a 2,000 square foot home must be adequate for an area of 16,000 cubic feet.

For a tight home with little or no outside air intake, use this formula to calculate humidification output required:
Cu. Ft. x 6.615 / 7000 = GPD (Gallons per Day).

Using our formula:

$$16,000 \text{ cu. ft.} \times 6.615 = 105,840 / 7,000 = 15.12 \text{ GPD}$$

This formula does not take into account number of occupants, exhaust fans, outside air supplied, use of a fireplace, HRV (heat recovery ventilator) units, etc.

By cross-referencing cubic footage and gallons per day with type of heating unit in the Skuttle Humidifier Capabilities Comparison Chart, humidifiers that should be considered for the home in question are identified by type and model.

To narrow the options further, it is important to estimate where the house falls on the Loose – Tight cubic footage range for the humidifiers selected.

Today's humidifiers cannot be oversized, although they are frequently undersized. The humidistat (included with all Skuttle humidifiers), in conjunction with the humidifier's built-in volume limitations, is designed to prevent excessive humidification. Installing a humidifier (other than steam) that will generate enough humidity while the furnace blower is on will satisfy the cubic-foot requirements of the home.

Skuttle Humidifier Capabilities Comparison Chart

Humidifier Type	Model	Furnace Type	Gals/Day	Cu Ft Range**
Hi-Cap Bypass	Flow-Thru 2000	Warm Air	14	12,174 - 26,667
Hi-Cap Bypass	Flow-Thru 2001	Warm Air	18	15,652 - 34,286
Hi-Cap Fan-Pwr	Flow-Thru 2002	Warm Air	19	16,522 - 36,190
Under Duct	Flow-Thru 55UD	Ht Pump & Hi-Eff	20	17,391 - 38,095
Hi-Cap Steam	60-1	Ht Pump & Hi-Eff	13	11,304 - 24,762
Hi-Cap Steam	F60-1*	Ht Pump & Hi-Eff	13	11,304 - 24,762
Hi-Cap Steam	60-2	Ht Pump & Hi-Eff	17	14,783 - 32,381
Hi-Cap Steam	F60-2*	Ht Pump & Hi-Eff	17	14,783 - 32,381
Hi-Cap Steam	60-BC1	(No ductwork use)	13	11,304 - 24,762
Drum Bypass	45	Warm Air	10	8,696 - 19,048
Drum Bypass	90	Warm Air	17	14,783 - 32,381
Drum Bypass	190	Warm Air	17	14,783 - 32,381
Under Duct	Drum 86-UD	Ht Pump & Hi-Eff	18	14,783 - 32,381
Spray	592	Warm Air	ADJ	ADJ

* Includes Flushing Timer ** Calculations formula in ARI 610 for Loose-Tight Homes

Selecting the Right Humidifier

Know Types and Styles

As manufacturers, we design and build several types and styles of humidifiers so that HVAC pros always have several options to discuss with homeowners. Preferred type and model of humidifier vary by region, by contractor and by homeowner. However, these general descriptions and guidelines will apply almost everywhere.



John Riley, Vice President
Sales and Marketing

Flow Through



For durability, minimal maintenance and performance, cost-efficient flow-thru humidifiers come with a Skuttle manually adjustable humidistat control unit. The addition of a Skuttle Flushing Timer is recommended.

Drum



Bypass drum humidifiers with programmable automatic flushing timers are the conservationist's choice. With routine maintenance, low-cost drum units will help conserve natural resources and money, while delivering efficient whole-house humidification as part of a forced air heating system. A Skuttle Flushing Timer is also recommended.



Under Duct



For the practical, budget-minded consumer with a 90+ furnace, under duct humidifiers will save money. Units are extremely efficient and are easy to install. A Skuttle Flushing Timer is also recommended for the 86UD.

Steam

Steam units are ideal when indoor humidity must be maintained at a near-constant level to protect health, reduce static electricity and/or retain appropriate moisture levels in furniture, woodwork, musical instruments and valuables. High-capacity steam humidifiers are designed for a variety of applications, including lower-temperature high-efficiency heating systems and 90+ furnaces with cooler plenum temperatures.



Recommend An Air Cleaner, Too

As American homeowners become more aware of environmental issues, many are indicating a strong interest in cleaner, healthier indoor air. Skuttle duct-mounted air cleaners capture most in-home contaminants in a longer lasting, deep-pleated filter, resulting in cleaner indoor air, a cleaner HVAC system, longer furnace life, significant cost savings over time, and a healthier living environment.



Marketing Materials!

Ask about our brochures and displays! When you increase customer awareness, YOUR SALES INCREASE TOO!

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