

# Ultrasonic Humidifiers for Air Handlers and Ductwork



***HUMIDIFIRST***®  
ULTRASONIC HUMIDIFIERS

*Leading the Way in Ultrasonic Technology*

# Steam Size Droplets at $\frac{1}{13}$ <sup>th</sup> the Cost

## Why are Steam Size Droplets Important?

Ultrasonic humidifiers create consistently small, steam size water droplets - about 1 micron in diameter - that allow for quick evaporation. But unlike steam technology, ultrasonic mist is instantly produced so there is no waiting for boiling of water, and it is a *cool mist* so heat energy is not added to the surrounding space. Other techniques, like spray nozzle systems, produce large water droplets that make it difficult to achieve quick and complete evaporation.

In addition, both spray nozzle and steam humidifiers lack ultrasonic's ability to be proportionally controlled. Ultrasonic's unique ability to instantly turn on and off humidity production allows the humidifier to pulsate power so that output is reduced following the demand curve of the building. This avoids large swings of humidity change, and gives ultrasonics the ability to accurately and consistently control humidity levels.

## Why is Ultrasonic the Economical Humidifier?

The initial cost of an ultrasonic humidifier is higher than steam systems, but the cost of ultrasonic operation is 1/13th that of steam systems. This minimal electricity usage of ultrasonics allows for paybacks of the purchase price within 2-3 years. An economical operation, combined with the tightest possible humidity control on the market, make **Humidifirst**<sup>®</sup> ultrasonic humidifiers the right choice.

### Energy Savings Example Using 100#/Hr. System

If your annual operating hours are	2000 Hours	4000 Hours
Then the annual power consumed is:		
• For steam canister or infrared humidifiers .....	\$5,648	\$11,296
• For a <b>Humidifirst</b> <sup>®</sup> ultrasonic humidifier .....	\$391	\$781
Your annual savings using <b>Humidifirst</b> <sup>®</sup> is .....	<b>\$5,257</b>	<b>\$10,515</b>

## Health Benefits of Ultrasonic Humidifiers?

High speed ultrasonic transducers combined with deionized water produce a very fine, pure mist. No dissolved solids are introduced into the airstream so customers experience the comfortable pleasure of moist air without scaling or dust production from water contaminants.

Moreover, an optional drain valve allows water to drain from the humidifier pan when the unit sits idle.

# Humidifirst<sup>®</sup> DT Series Humidifiers



The DT Series ultrasonic humidifiers from **Humidifirst<sup>®</sup>** are designed for use with air handling units, and, because of their compact size, they can be placed within the ventilation ductwork. Their unique discharge nozzles are reversible, allowing left or right sided access through existing ductwork. The DT Series is made entirely of high grade stainless steel. All **Humidifirst<sup>®</sup>** humidifiers are 100% American made, ensuring that these humidifiers are designed for the needs of American customers.

The DT Series ultrasonic humidifier modules are available in nominal 10, 20, 40, 60 and 80#/hr sizes. Multiple modules can be combined to achieve desired capacity.

Humidifiers Model	Capacity #/Hr.	Power Consumption	Weight (Pounds)	Dimensions WxDxH (Inches)
DT-10	10.6	240VA	15lbs.	15.0 x 9.0 x 9.75
DT-20	21.1	495VA	19.5lbs.	23.0 x 9.0 x 9.75
DT-40	39.6	960VA	29.5lbs.	36.5 x 9.0 x 9.75
DT-60	60	1440VA	46lbs.	38.5 x 15.5 x 9.75
DT-80	80	1860VA	56lbs.	49.0 x 15.5 x 9.75

## Easy Maintenance

There are no pans to scrub, infrared bulbs to change, or steam canisters to replace. Humidifirst<sup>®</sup> ultrasonic humidifiers are made out of high-grade stainless steel. Using pure deionized water will eliminate contaminants from entering the humidifier. Transducers will last approximately 10,000 hrs.



# HC - 300 Microprocessor



The Humidifirst HC-300 is a state-of-the-art, user-friendly microprocessor. It has an easy to read 40-character LCD display and the modem interface is standard. The 6" by 3 1/2" - 16 button panel will allow you to:

- Proportionally control the operation of Humidifirst ultrasonic humidifiers
- Monitor the humidification system for alarms (modem capability is standard)
- Monitor and display the air speed in the ductwork/ air handler
- Automatically drain the humidifier modules when they are not in use
- Program automatic setback of humidity set-point when outdoor temperatures reach a predetermined set-point (prevents icing of windows)
- Monitor the quality of the water entering the humidifier module
- Limit the maximum output capacity of the humidifiers
- Display the actual relative humidity at the humidity sensor
- Display the actual relative humidity at the humidity high limit sensor
- Display the cumulative operating hours of the humidifiers
- Display the actual temperature of the air at the humidification system
- Change the password

## ALARM MONITORING AND CAPABILITIES

The following points can be monitored and notification can be provided. Where "optional" appears, those items must be purchased with the initial system. When any alarm is active a "common alarm" relay closure is provided for remote monitoring.

- Humidity too high
- Humidity too low
- Air temperature too high (optional)
- Air temperature too low (optional)
- Air speed too slow (only occurs if the humidifier is operating). A set of contacts will be provided for remote annunciation (optional)
- Water dirty - call for service (first stage) (optional)
- Water too dirty - dust will form - turn humidifier (s) off (second stage) (optional)
- Humidity sensor failure
- High limit humidity sensor failure (optional)
- Water quality sensor failure (optional)
- Air speed sensor failure (optional)
- When ambient temperature setback occurs (optional)
- Water leak detected (optional)

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