

UNIQUE “NO-MIST” ULTRASONIC HUMIDIFIERS



HUMIDIFIRST®
ULTRASONIC HUMIDIFIERS
ENERGY SAVING ULTRASONIC TECHNOLOGY

Steam Size Droplets at $\frac{1}{13}^{\text{th}}$ 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 technologies, like spray nozzle systems, produce large water droplets that make it difficult to achieve quick and complete evaporation.

Why is Ultrasonic the economical humidifier

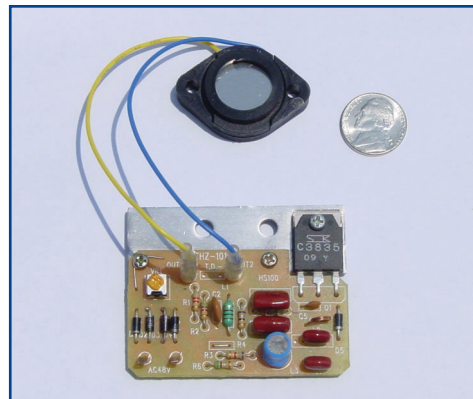
The initial cost of an ultrasonic humidifier is higher than steam systems, but the cost of ultrasonic operation is 1/13th that of the steam systems. This minimal electricity usage of ultrasonics allows for typical paybacks of the purchase price within 2-3 years. An economical operation, combined with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

Principles of ultrasonic humidification

The ultrasonic transducer is a piezo-electric crystal, immersed in water where it converts high-frequency electronic signals into a high-frequency mechanical oscillation.

The water tries to follow the high-frequency oscillating movement of the crystal (1.65 MHz) but cannot. As a result, a momentary vacuum is created on the negative oscillation of the crystal wherein the water cavitates into vapor. Then, on the positive oscillation, high pressure waves force the cavitated water through the surface of the water as a very fine mist (about 1 micron), which is easily absorbed into the air flow.

Humidifirst® ultrasonic humidifiers harness this ultrasonic technology to provide tight humidity control with remarkable energy savings.



Humidifirst® Customers Include:

- Fidelity Investments
- Boeing Co.
- Frito-Lay, Inc.
- Tyco Corp.
- 3M, Inc.
- Argonne National Laboratory
- Intel
- Raytheon Polar Services
- Hewlett-Packard
- E.I. DuPont
- Proctor & Gamble
- Jet Propulsion Laboratory

Humidifirst® Mist-Free Series Packaged Humidifiers

Humidifirst's® Patented **Mist-Free** (MF) humidifiers are uniquely that... mist free! Perfect for humidification needs where visible mist is objectionable, such as small hospital equipment rooms, computer rooms, office areas and low ceiling printing rooms.

The **Mist-Free** series ultrasonic humidifiers are available in 9 and 19 #/hr capacities.



Humidifirst® Ultrasonic Type MP Technical Data

Humidifier Module	Capacity (#/hr) (nominal)	Power Consumption	Weight (lbs.)	Dimensions L x D x H (in.)
MF-10	9	360 Watts	130 lbs.	23.0" x 18.0" x 84.0"
MF-20	19	660 Watts	225 lbs.	36.0" x 25.0" x 84.0"

Easy Maintenance

There are no pans to scrub, infrared bulbs to change, or steam canisters to replace. **Humidifirst®** ultrasonic humidifiers are made out of high-grade stainless steel and aluminum finished with powder coating. Using pure deionized water will eliminate contaminants from entering the humidifier. Transducers will last approximately 15,000 hours.

Humidifirst® Mist-Free Series Packaged Ultrasonic Humidifiers

Humidifirst® provides a factory mounted, state-of-the-art solid state Humidistat with an accuracy of 2%. Contacts can be provided for remote on/off control.

"Mist-Free" Series Features/Benefits		
Humidifirst® "Mist-Free" Humidifier	Other Manufactures	Humidifirst® Benefits
<ul style="list-style-type: none"> • Plug'n Go. Only humidifier that does not require hard power and control wiring. 	<ul style="list-style-type: none"> • Require hard power and control-wiring. 	<ul style="list-style-type: none"> • Reduces price of humidifier and installation.
<ul style="list-style-type: none"> • Quick connect/disconnect fitting for both power and water. 	<ul style="list-style-type: none"> • Hard piped and hard wired. 	<ul style="list-style-type: none"> • Easier and faster to service.
<ul style="list-style-type: none"> • Easy access to all parts. 	<ul style="list-style-type: none"> • Difficult, tight access to parts. 	<ul style="list-style-type: none"> • Easy to service. Reduced maintenance cost.
<ul style="list-style-type: none"> • No flush cycle. 	<ul style="list-style-type: none"> • Steam canisters require hard pipe drains for boiling water flush cycles. 	<ul style="list-style-type: none"> • Reduced installation cost.
<ul style="list-style-type: none"> • Uses energy efficient ultrasonic transducers to produce a pure mist. 	<ul style="list-style-type: none"> • Many use steam boilers or electric calrods that are high electricity consumers. 	<ul style="list-style-type: none"> • Can save the user over \$1,200 per year in operating costs.
<ul style="list-style-type: none"> • Instant on and instant off humidification. The transducers start humidifying the air immediately. 	<ul style="list-style-type: none"> • Many require time for the water to boil before a mist is provided. They may require a shutdown period while dirt is flushed. 	<ul style="list-style-type: none"> • Humidifirst® provides faster and more accurate control of relative humidity.

HUMIDIFIRST®
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