

Mist Pac Ultrasonic Humidifiers

MP-5



- MP-15
- MP-20
- MP-30
- MP-40



HUMIDIFIRST®
ULTRASONIC HUMIDIFIERS

Leading the Way in 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. In addition, both spray nozzle and steam humidifiers lack ultrasonic's ability to be proportionally controlled. Proportional control of ultrasonic's unique ability to instantly turn on and turn 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?

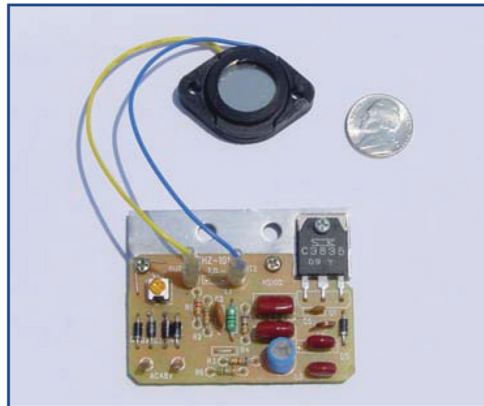
The initial cost of an ultrasonic humidifier can be higher than steam systems, but the cost of ultrasonic operation is 1/13th that of the steam systems. This minimal electricity usage of ultrasonics allows for typical paybacks of the purchase price within 2-3 years. An economical operation, combined 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:

- Boeing Co.
- Frito-Lay, Inc.
- Fidelity Investments
- AT&T
- Argonne National Laboratory
- Dow Chemical Co.
- Raytheon
- Hewlett-Packard
- Del Monte Fresh
- Proctor & Gamble
- Lockheed Martin
- E.I. DuPont

Humidifirst® Mist Pac Series Packaged Humidifiers

The Mist Pac ultrasonic humidifiers from **Humidifirst®** are designed for stand alone use. Each unit is built to achieve simplicity of installation and maintenance. The Mist Pac Series uses standard 120V power and the MP-5, MP-15, MP-20, MP-30 have quick-connect fittings for water and electricity. The humidistat is prewired to the control panel. Optional **ULTRA-PULSE™** and **HC-301 MICRO-PROCESSORS** offer pulsating output for tighter RH control.



Humidifirst® Ultrasonic Type MP Technical Data

Humidifier Module	Capacity (#/hr) (nominal)	Power Consumption	Weight (lbs.)	Dimensions L x D x H (in.)
MP-5	5	140 Watts	10 lbs.	9.0" x 12.9" x 12.5"
MP-15	15	420 Watts	29 lbs.	18.5" x 16.0" x 13.0"
MP-20	20	490 Watts	34 lbs.	21.5" x 16.0" x 13.0"
MP-30	30	700 Watts	42 lbs.	29.0" x 16.0" x 13.0"
MP-40	40	1050 Watts	60 lbs.	37.3" x 18.2" x 14.9"

Easy Maintenance

There are no pans to scrub, infrared bulbs to change, or steam canisters to replace. **Humidifirst® Mist Pac** ultrasonic humidifiers are made out of high grade stainless steel or durable plastic. Using pure deionized water will eliminate contaminants from entering the humidifier. Transducers will last approximately 10,000 hours.

Humidifirst® Mist Pac Series Packaged Ultrasonic Humidifiers



Humidifirst® offers a choice of humidity controllers, ranging from a mechanical on/off humidistat to a state-of-the-art microprocessor with proportional control.

"Mist Pac" Series Features/Benefits

Humidifirst® "Mist Pac" Humidifier	Other Manufacturers	Humidifirst® Benefits
<ul style="list-style-type: none"> • Plug'n Go. MP-5, 15, 20, 30 are the only humidifiers that do 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 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 thousands of dollars 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 more accurate control of relative humidity.

HUMIDIFIRST®
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