How Armstrong Reduces Humidifier Maintenance
Using Ionic Bed Technology

Ionic Beds Stop Solids
Ionic beds consist of a fibrous medium that attracts solids from the water as its temperature rises, minimizing the buildup of solids on the heat exchanger and inner tank walls. Once the ionic beds have absorbed their capacity of solids, an indicator on the humidifier’s control panel signals it’s time to replace the ionic beds. Changing the beds takes only about 15 minutes. Use of the ionic beds:

- Reduces cleaning of the tank exchanger or heating elements
- Keeps the drain screen cleaner longer – allowing effective tank blowdown
- Helps maintain humidifier output without building excessive heat exchanger surface temperatures
- Requires less frequent blowdown, conserving water and energy
- Eliminates the need for wasteful surface skimmers that must be checked weekly for possible plugging
- Reduces downtime
- Has years of field-proven success in thousands of humidifier applications

Better than in your Humidifiers
These photos show how the ionic bed fibers (magnified 52.5x) collect solids throughout their service life. A new ionic bed weighs between 1/3 and 1/2 pound, depending on the humidifier type. When it reaches its capacity, an ionic bed may weigh more than 2½ pounds.
**Atomization Humidification**

Armstrong – Cool Fog System

The Cool Fog System offers an energy efficient, environmentally sound, and economical way of controlling the injection of compressed air and water into an air-handling system to provide humidification and evaporative cooling. The use of compressed air produces the highest energy water particle which results in the highest evaporation efficiency. With optional “variable-differential” control, turndown of over 100:1 can be achieved yielding unaltered controllability.

**Electric Humidification**

**Steam Humidification**

**Series 1000 Humidifier**

The Series 9000 direct steam injection humidifier provides precisely controlled, trouble-free steam humidification. These units distribute steam and give you precise control to accurately maintain the required level of relative humidity. Available in a range of sizes to meet various capacity requirements, Series 9000 units offer uniform vapor distribution and rapid, complete absorption. They maintain quiet operation and require minimal maintenance.

**Series 1000 All Stainless Steel Humidifier**

A steam separator type humidifier for use in sensitive environments where pure demineralized, deionized or distilled water is used to generate clean steam. Designed for applications where all steam and condensate piping is stainless steel, the Armstrong Series 1000 delivers precisely controlled, trouble-free steam humidification. Stainless steel construction prevents problems caused by corrosion and subsequent carry-over of corrosion by-products.

**Quality HumidiClean**

HumidiClean humidifiers.

The HumidiClean is the Armstrong humidifier with the unique ability to accept steam from atmospheric steam-generating humidifiers. The SJDT uses a portion of the steam to “jacket” the entire length of the steam-generating tube, keeping the dispersion tube hot, even during periods of low demand. This “jacketing” effect improves the quality of steam discharge and reduces the chance of steam piping or droplets in your air-handling system. The SJDT will accept steam from • EHU • Gas-Fired • Steam-To-Steam • HumidiClean.

**Specialized Steam Dispersion Methods**

**Gas-Fired Humidification**

Gas-Fired HumidiClean™ with Ionic Bed Technology™

Operating costs are reduced with the GFX Series Gas-Fired HumidClean humidifier from Armstrong. HumidiClean’s innovative ionic Bed Technology reduces operating costs even more by reducing the labor and downtime associated with cleaning humidifiers. The GFX Series uses natural gas or propane for economical operation. And the HumidiClean is designed for ease of use. It’s adaptable to various water qualities, and service life cycle and tank drainage are fully adjustable. The GFX Series is CSA-certified and CSA-approved.

**Electric Humidification**

**Steam Humidifiers**

- Electric Steam Humidifiers
- **HumidiClean** with Ionic Beds
  - **EHU-600 & EHU-700**
- **ManiPack**
- **HumidiPackPlus**

**Specialized Steam Dispersion Methods**

**Gas-Fired Humidifiers**

- **Gas Fired HumidiClean** with Ionic Beds

**Humid-A-Ware Software**

This innovative software allows users to create a fully functional vapor-handling system to provide the highest level of performance.
Gas-Fired Humid-iClean™ with Ionic Bed Technology™
Operating costs are reduced with the GFH Series Gas-Fired Humid-iClean humidifier from Armstrong. Humid-iClean’s innovative Ionic Bed Technology reduces operating costs even more by reducing the labor and downtime associated with cleaning humidifiers. The GFH Series uses natural gas or propane for economical operation. And the Humid-iClean is designed for ease of use; it’s adaptable to various water qualities, and service life cycle and tank drainage are field-adjustable. The GFH Series is CSA-certified and CGA-approved.

Specialized Steam Dispersion Methods

EHF Fan Package
The EHF Fan Package is used when the atmospheric steam can not be delivered in to the duct / AHU. This unit is mounted in the space that is to be humidified and fed by one of Armstrong’s many atmospheric steam generators.

Steam Jacketed Dispersion Tube (SJDT)
The Armstrong SJDT is an all stainless steel dispersion tube with the unique ability to accept steam from atmospheric steam-generating humidifiers. The SJDT uses a portion of the steam to “jacket” the entire length of the tube, keeping the dispersion tube hot, even during periods of low demand. This “jacketing” effect improves the quality of steam discharge and reduces the chance for spitting or dripping in your air handling system. The SJDT will accept steam from: • EHU • Gas-Fired • Steam-to-Steam • Humid-iClean

A prefabricated steam humidifier system, the Armstrong Humid-iPack® comes ready for insertion into the duct. For use on pressurized steam, the system includes a steam control valve, strainer, steam trap and header drain trap. The Humid-iPack accepts steam, separates entrained moisture from it and admits it into a duct or air handler airstream via the dispersion tube. Humid-iPackPlus® combines a shortened non-wetting distance with steam-jacketed “active” tubes. The result is a dry, uniform discharge of steam for nearly any application with a steam source from a pressurized central supply.

Humid-A-Ware™ Software
For detailed information on customizing humidification schedules and calculating non-wetting distances and humidification loads, refer to Armstrong’s Humid-A-Ware™ humidification sizing and selection software. It can be downloaded from Armstrong’s web site.

armstronginternational.com
For nearly 100 years in the steam business, Armstrong has been devoted to building stronger bonds through the sharing of information and ideas. That’s why Knowledge Not Shared Is Energy Wasted® is our motto, promise and pledge to you. And it’s why we founded Armstrong Steam University®. Use this site for quick research on steam, answers to steam system questions and comprehensive online steam system education.
Humidification
• Steam • Gas
• Electric
• Atomization

Armstrong provides intelligent system solutions that improve utility performance, lower energy consumption, and reduce environmental emissions while providing an "enjoyable experience."

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