

Humidification

- Gas





Series GFH Gas Fired Humidifiers with Revolutionary Ionic Bed Technology



Note: Painted steel tank cover shown above is optional.

Performance Features

- Uses natural gas or propane for economical operation
- Category I/III gas fired appliance
- Energy cost savings in comparison to electric humidifiers
- Wide range of humidity outputs to cover a variety of applications
- Modulated control of steam output
- Steam output turndown ratio of up to 30:1
- Low NOx infrared burner
- 82% efficiency rating
- Ionic Bed Technology to reduce cleaning and maintenance

What are Ionic Beds?

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, the humidifier tells you to change them. Changing the beds takes only about 15 minutes. Use of the Ionic Beds provides these benefits:

- Reduced cleaning of the tank heat exchanger
- Drain screen stays cleaner longer – allowing for effective tank blowdown
- Humidifier output maintained without building excessive heat exchanger surface temperatures
- Less frequent blowdown required...conserving water and energy
- Eliminates the need for wasteful surface skimmers
- Reduces downtime
- Years of field proven success in thousands of humidifier applications

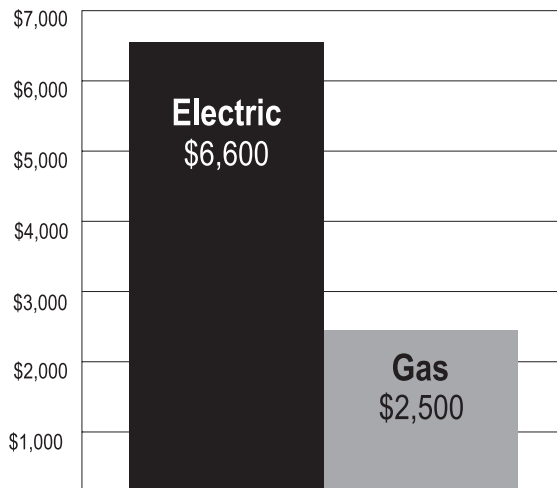
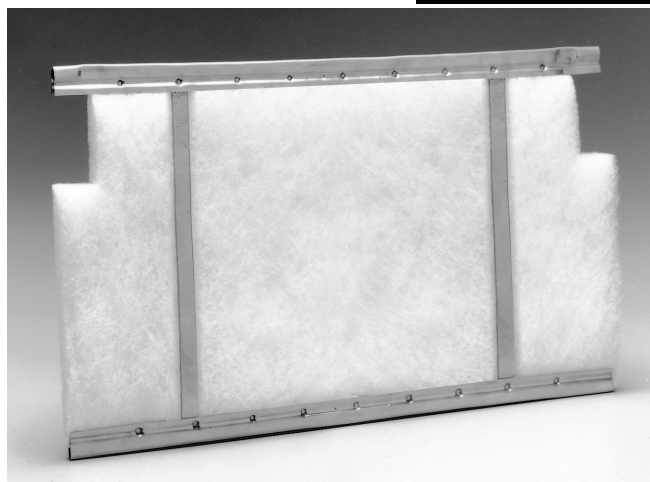


Figure 106-1. Operating Cost

Based on 24 hour per day operation of 155 lb/hr unit in a 10,000 CFM air handler with air side economizer. Electric and gas costs are estimates at \$0.08/kWH and \$0.53/Thermal.

Ionic Bed Technology

These microscopic photos show how the ionic bed fibers (magnified 52.5x) collect solids throughout their service life. A new ionic bed weighs approximately 3/4 pound. When it reaches its capacity, an ionic bed may weigh more than 4 pounds. A light on the control panel indicates when to replace the Gas Fired HumidiClean's ionic beds.



Designs, materials, weights and performance ratings are approximate and subject to change without notice. Visit armstronginternational.com for up-to-date information.

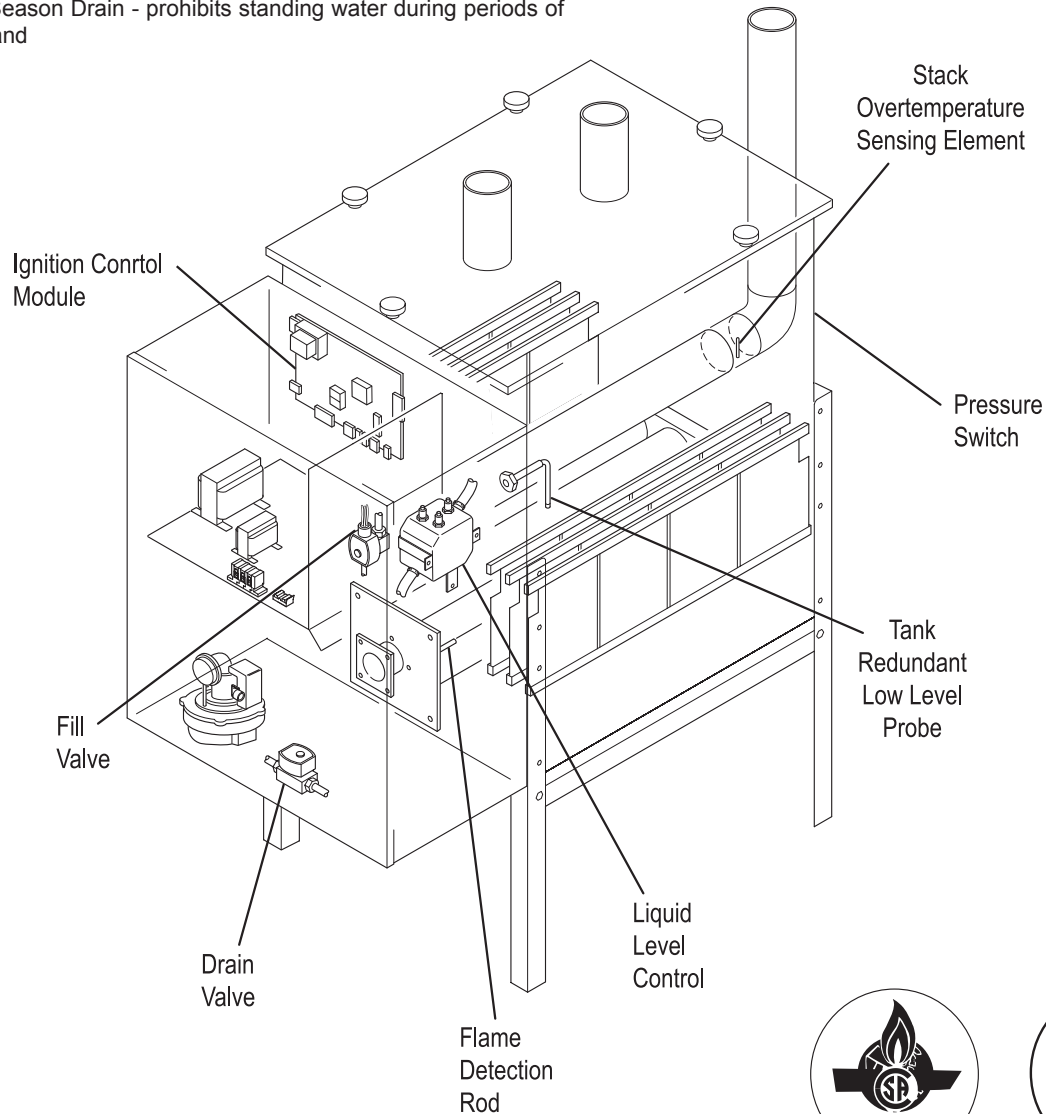
How Armstrong's Gas Fired HumidiClean Works

Upon a call for humidity, the pre-combustion safety check confirms that the duct pressure switch, duct high limit humidistat, and liquid level control circuits are satisfied. The microprocessor then signals the blower to turn on and air movement is sensed by the humidifier's blower pressure switch. The unit then signals the ignition control module to perform a

purge cycle. The hot surface igniter comes on and, after it comes up to temperature, the gas valve opens and gas ignition occurs. The flame detection rod senses the presence of the flame and combustion is underway. The humidifier accepts a 0-10 Vdc control signal and provides proportional output in response.

Safety Features

- Pressure Switch - senses air movement in the blower and back pressure on the unit
- Ignition Control Module - monitors combustion of the unit
- Flame Detection Rod - senses flame during combustion
- Liquid Level Control - prevents a low water condition
- Tank Low Level Probe - redundancy to avoid low water condition
- Stack Over-temperature Sensing – prevents overheating
- Tank Insulation - prohibits access to hot tank surface
- End of Season Drain - prohibits standing water during periods of no demand



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