



**FAN-ASSISTED, HIGH PRESSURE  
HUMIDIFICATION SYSTEM**

**INSTALLATION and OPERATION  
MANUAL**

The **AMCO HIGH PRESSURE ATOMIZER SYSTEM** is a state-of-the-art high-pressure pump-fed humidity/cooling system using the best in top quality nozzles, pumps, stainless steel tubing and fittings, digital controls and sensors to achieve and maintain your desired level of humidity or cooling for your industrial application.

## WATER

The condition of your water is one of the items critical to your system's performance. Good filtration and water softening are two key areas to be observed. In some instances, due to high mineral content, a Reverse Osmosis water treatment unit is employed to give optimum water quality.

While operating the system, the *inlet operating pressure must never exceed 75 PSI*. The inlet water pressure through the two-stage filter unit **must be able to maintain a minimum of 20 PSI**. Make certain the incoming supply is able to maintain this pressure the entire time the pump unit is running. *If there is adequate incoming pressure and the gauge on the inlet water fails to maintain at least 20 PSI, the filter elements must then be changed due to clogging*. If the elements are not changed to allow proper passage of water to the pump, it can cause cavitation on the pump which will lead to premature wear on, and failure of, the pump.

**All lines are to be flushed with water to rid them of metal particles and any impurities before operating the system.**

## PUMP UNIT

Pump Units are available with various flow capacities. All systems are custom sized with the right pump for the needed gallons per minute (GPM) on your system. Standard voltage is 115 VAC.

Typical operating pressure for the pump station is 1000 PSI. Do not operate the system at a higher pressure than this. Also, when operating at lower pressures, you will notice heavier droplets that will cause wetting-down of the surrounding surfaces much sooner.

Maintenance on the pump unit's components should always be kept current.

1. Change pump crankcase oil initially after 50 hours of service and then every 500 hours thereafter. Use CAT oil #6100.
2. Change the High and Low Pressure Seals every 4500 hours or every 12-18 months.
3. Change the Valves in the pump manifold(s) every 2 years.
4. After 24 hours of continuous use, tighten motor belts(s) and periodically check for looseness or vibration.

## NOZZLES

When installing the spray nozzles on the lines, the nozzle/wand assemblies are to be installed finger-tight plus 1/4 turn to "snug" them tight. The wand assembly seals on an o-ring seat. If the wand assemblies are screwed in too tightly, the o-ring seat will compress and restrict the flow of water through the assembly. This will result in poor water passage through the nozzle orifice and improper spray patterns. It will also cause poor atomization which results in heavy water droplets and wetting down of surrounding equipment and products.

Cleaning of the nozzles is best accomplished by using an ultrasonic parts bath/cleaner. **American Moistening Company** is distributor for **BRANSON ULTRASONICS**. Please call us for pricing on the BRANSON units.

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*Be sure to fill out the WARRANTY card on the pump and send it in.*

## INSTALLATION

### ***Pump Station***

The pump station can be mounted to the base of a fan unit, bolted to a metal stand or freestanding on the floor.

### ***Nozzle Manifold***

The nozzle manifold, which is custom-sized for your order, can be attached to the face of the fan housing with the use of plastic "zip-tie" straps or by using metal clamps. If using any type of metal clamp, the metal clamp should have a rubber washer or grommet to eliminate vibration noises.

### ***Water Filter***

The water filter unit comes with a mounting bracket attached. The unit should be fastened to a wall or post within 3 feet of the pump station. The included hose should be connected from the water filter to the inlet of the pump station. The customer/user should supply the filter unit with at least a 3/4" hose or line. *Do not use any hose assembly or pipe that will rust. And, do not join any pipe or hose together using dissimilar metals. Using dissimilar metals causes corrosion that will clog the nozzle tips.*

### ***High Pressure Hose***

There will be one or more high-pressure hose assemblies included with the pump station, depending on the number of manifolds with the system. The high-pressure hose should be connected between the outlet(s) on the back of the pump station and the inlets of each fan unit's spray manifold assembly. There is a manual on/off valve at the inlet of each manifold assembly.



## OPERATION

Turning the switch on the face of the unit's cabinet to the "ON" position will activate the pump station. ***\*\*Be certain there is adequate water supply to the system.\*\**** As soon as the unit starts, it will immediately pressurize to 1000 PSI (Or, whatever the regulator is set for. 1000 PSI is recommended.). Unless connected to some type of controller, the pump station can be operated independently of the fan.

## WARNING

If the system is not used for more than thirty (30) days it should be drained of all water. Before system is restarted, each line is to be flushed with water and purged of any particles, blockages or impurities in the system.

It is the customer's responsibility to provide some means of security or manned personnel to monitor this system in the event that controls or system failure would result in the loss of or damage to persons, product or property.