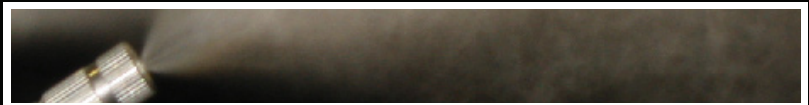




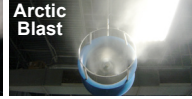
# AIR and WATER SYSTEMS

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## INDUSTRIAL HUMIDIFICATION • PLANT COOLING



## WATER PRETREATMENT SYSTEMS FOR INDUSTRIAL HUMIDIFICATION SYSTEMS

### INDUSTRIAL WATER SOFTENING: “Ion Exchange” for eliminating water hardness due to the presence of dissolved calcium carbonate.



- Dual Alternating Tanks
- 15 gpm/60,000 grains
- Continuous Service

**Operation:**  
*Ion Exchange of sodium or potassium ions for calcium ions decreasing water hardness; includes backwash, regeneration, and rinse cycles.*



**Performance Specifications:** 15 lbs salt/regeneration/90 min cycle; 100 psi op. pressure; media is Cation Ex Resin 2 ft/tank; brine tank capacity: 200 lbs salt; Fleck 9000 control valve w/ flow meter.

**Plumbing/Electrical/Dimensions:** 3/4" Inlet/outlet water; 1/2" drain; 3/8" brine connection; 120v/1/60; Weight: 150 lbs (dry); Brine tank: 18" x 30"; Twin Tanks: 12" dia x 52" h; overall: 65" h.

### REVERSE OSMOSIS (RO) SYSTEMS for 98% PURE WATER 150 - 10,500 gal/day (gpd) • Filtering Total Dissolved Solids (TDS).



**Operation:** feed water is supplied to a semi-penetrable membrane which filters suspended and dissolved solids to concentrate discharge and provides permeate water up to 98% pure water.

**Additional Equipment:** Carbon filter w/ auto backwash to remove chlorine to prevent RO membrane degradation; Softening to pretreat for removing calcium carbonate preserving membranes against hardness buildup; water storage tanks w/ Recirculation loop & level controls; Re-pressurization/Distribution Pump; & Ultraviolet Disinfection to prevent biological buildup in tank.

**Water Treatment in all Humidification Projects** centers on the cost benefit and degree of risk associated with the quality of water used and its operational affect on consistent long term operational effectiveness and potential parts replacement due to degradation from water chemistry components – *principally water hardness*. Air and Water Systems uses Ceramic Insert Nozzles on all High pressure systems in order that water issues are greatly lessened. Air and Water Systems Compressed Air atomizers are self cleaning against buildup on the tip of the atomizer. However, we recommend using our industrial softening system in all municipal and well water supplies to safeguard all equipment against the internal affects of water hardness over time. The use of an RO system for 98% pure water is dependent upon each project's specific circumstances and operational goals.