Capture H2O Model: HYDRA
HIGH EFFICIENCY WATER PRE-TREATMENT SYSTEM

This System consists of Modular Fiberglass Ion Exchange Media Tanks, Alternating Regeneration, Metered Usage Controls, and an Actuated Control Valve nest and Allen Bradley PLC for direct brine injection with adjustable regeneration brine dosage controls. The system is specifically designed to treat higher hardness and TDS wastewater for reuse in cooling towers, while reducing salt usage requirements by 30-50% and reducing regeneration waste volume by up to 80%. Each Ion Exchange Media Tank can handle peak cooling tower evaporation loads up to 150 GPM. Depending on the peak cooling tower evaporation load, two (up to 150 GPM), three (up to 300 GPM), or four (up to 450 GPM) tanks will be required.

This HES model provides built in regeneration performance analysis (RPA), with remote monitoring and alarms for regenerate strength (elution study), water pressure, water usage, and outlet hardness to permit proactive correction of upsets to ensure performance and reliability. The PLC also has the ability to control alternating booster pumps, a brine pump, and manually control the valve nest.

SYSTEM SPECIFICATIONS:

Resin Exchange Tanks	2 to 4	**Exchange Tank**	48”D x 72”H
Valve Size	3.0 inches	**Service Flow**	Up to 450 GPM
Design Salt Use	4 Lbs/ft3	**PLC Controller**	Allen Bradley
Salt Efficiency	4500 GR/LB	**Exchange Tank Oper Wt**	4500 pounds
Hardness Removal	900 KGR/unit	**Water Pressure**	60-90 psi
Actuated Valves	6 per Unit +2 per System	**Elec. Requirements**	120VAC 60Hz 1Phase 20AMP

**A salt silo or bulk brine maker may be labor and cost efficient for this model

SYSTEM RELIABILITY AND PERFORMANCE ADVANTAGES:

- HES pre-treatment systems are specifically designed to maintain cooling tower water total hardness residuals at less than 30 mg/L with higher cycles of concentration required for the Capture H_2O High Cycle technology to optimize water use reduction and water chemistry performance.

- Redundant (two unit) or Demand Recall (3+ units) exchange controls, proprietary design and operation methods used by Capture H_2O ensure continuous soft water and low hardness leakage when treating wastewater sources with high levels of hardness and TDS.

- HES design removes deposit forming hardness to very low levels with highly efficient salt use rates, while also providing capacity to handle peak variations in water hardness.

- Implementation of Capture H_2O technology will provide utility savings, reduce maintenance, simplify treatment control and improve corrosion, scale and biofouling protection.

- HES equipment systems are serviced by licensed WCTI distributors who oversee the patented water chemistry, so equipment performance and technical support are assured.