

Cooling Water Treatment System

Background



Cooling Tower Water Treatment is a major economic issue for industry. Large sums of money is spent on trying to maintain water chemistry so that Heat Exchange equipment, will perform to design specifications. This requires the removal of scaling elements such as Calcium and Selenium as well as biologic organisms that diminish heat exchange performance as well as cause equipment failure.

Water consumption in evaporative cooling towers is very high as well. Not only in the loss due to evaporation, but also the need to periodically exchange water that concentrated total solids (dissolved and suspended).

Solution

ShockWater Cooling Tower Water Treatment is the ultimate solution for the improvement in water chemistry for these technical needs. ShockWater's proprietary (US Patent Pending) Multi Phase Reactor (MPR) is an integration of multiple Advanced Oxidation (AO) reaction techniques to remove total solids (dissolved and suspended) from the water, while maintaining pH at optimal level.

The AO process removes over 99.7% of the Calcium and Selenium and over 90% of the other metallic ions (sodium, iron, sulfur, etc.) in the cooling water. The AO process oxidizes the dissolved solids and makes them insoluble and readily filtered out. Additionally, the process conditions will wet oxidize Volatile Organic Compounds (VOCs), converting into products of combustion (water and Carbon Dioxide). Biological matter is destructed, and the residual solids are reduced in particle size and wet oxidized the same as VOCs. The AO process also generates Chlorine Dioxide from residual chlorides. Chlorine Dioxide in concentrations of 0.8 ppm is a powerful anti-microbial agent, preventing biofilms, algae, and other biologic activity.

ShockWater Cooling Tower Water Treatment systems have proven to be highly robust in service. One cold storage facility installed 8 units in 2013. Since that time, the only service and

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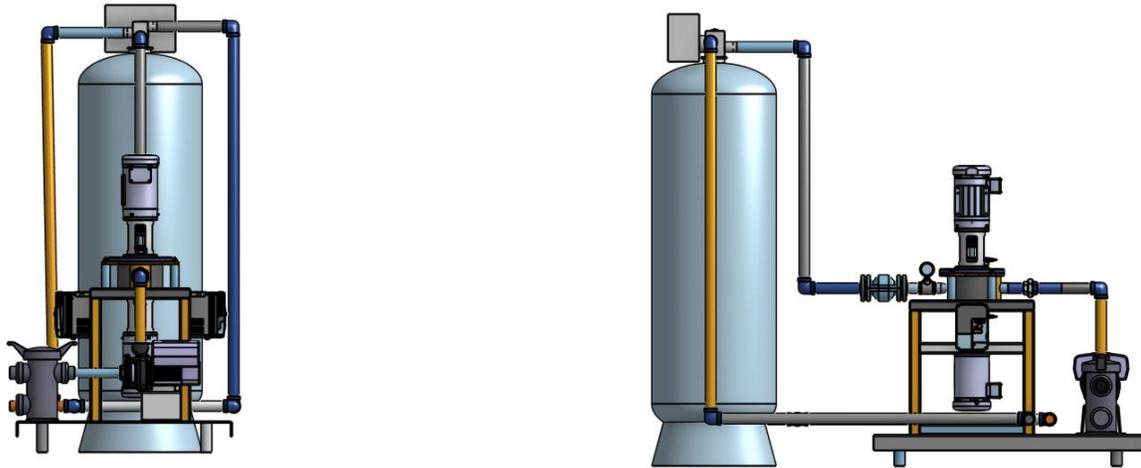
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maintenance has been the replacement of 1 shaft seal. The ShockWater Cooling Tower Treatment system is in its third generation of performance improvements.

Equipment and Specifications



- Flow Rate 30 gpm
- MPR Reactor – Dual Rotor with 3 HP motors and VFD controllers.
- Feed Pump – Grundfos CME 10-1 with integrated VFD
- Hayward Cartridge Strainer
- Stainless Steel Skid 48" x 54"
- 24" x 72" Media Filter with ShockWater proprietary media and Fleck Valve for automated backwashing.

Price

30 GPM Cooling Water Treatment System - € 40.000 plus € 2,000/month service (60 months).

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