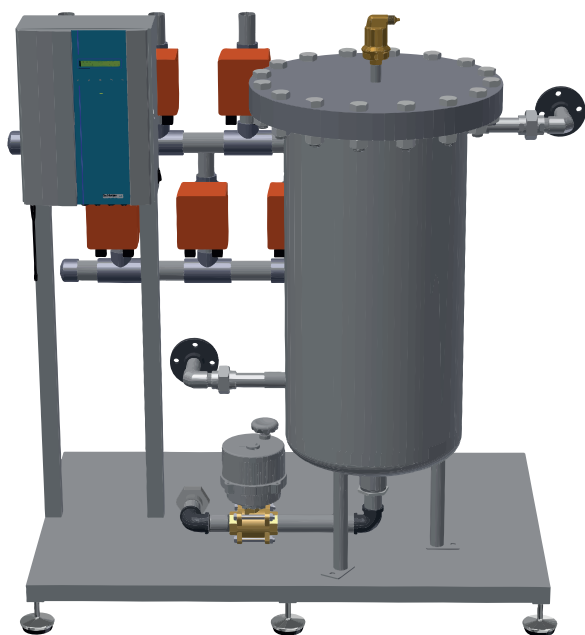


CatoCool for cooling towers

Green water treatment system



Module solution

The system consists of four elements each providing their individual features, but still adapted to each other to optimize the effect of several elements working together. The four elements are Softening, Filtration, Corrosion Protection and Bacteria Control which in combination provide optimum protection and efficient operation of the cooling system. The system is customized and constructed with the elements required for the exact purpose.

Softening

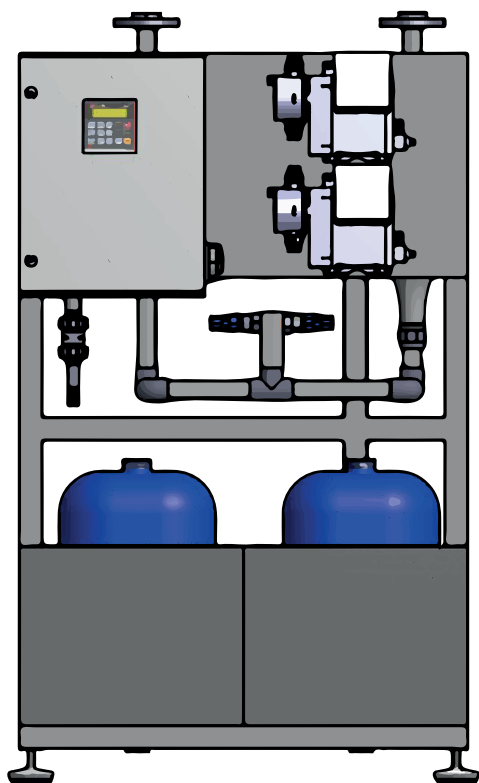
By using softened water as make-up water, scaling in the cooling system can be avoided. The prevention of scale deposits also reduces the formation of legionella bacteria in the system. The need for drainage of the water is minimized with softened water. Thereby, the solution is both economic and environment friendly.

Filtration

Our side-stream filtration protects equipment and ensures continuous efficiency of the cooling water system. The filter is an independent disc filter. The pump will circulate the cooling water through the disc filter modules which will prevent filth from entering the cooling channels. Backwash procedures will start automatically. Safety features and alarm relays ensure continuous operation of the filter. Conductivity control for monitoring and maintaining the cooling water conductivity is optional.

Corrosion Protection

As inhibitor we use aluminium cathodically dissolved as aluminate. The Catholysis module is mounted in a side stream of the cooling circuit. The aluminate will form a protective layer on all surfaces in contact with water. The presence of aluminium as aluminate in the circulating cooling water will minimize surface corrosion in the system. Aluminate works as flocculation and will in this way work together with the filter. This is done by the aluminate collecting the particles into flocks that can easily be removed in the side stream filter. Guldager's corrosion protection is free of chemicals.



Bacteria Control

For prevention of bacteria in the cooling system, we install a chlorinator. Chlorine dioxide is dosed in very small amounts to the cold water according to the water consumption. Chlorine dioxide penetrates and break down the biofilm and eliminates the bacteria which flourish in the biofilm. By controlling the dosing it is ensured that the chlorine dioxide, which is produced simultaneously with the consumption, is consumed. The costs by using chlorine dioxide compared to other chemicals are very low. We can use a relatively simple consumable like chlorine dioxide because we use aluminum as corrosion inhibitor.

CatoCool - in technical terms

In CatoCool Guldager apply well proven technologies and processes, which alone or in combination contribute to a complete water treatment system. Which has not only proven to be very cost efficient but also an environment friendly solution.

The softened water reduces the calcium and magnesium hardness in the make-up water for the cooling tower. Thereby preventing scale deposits. The total content of salt will not be completely reduced, and a regular drainage from the cooling water system will be necessary to avoid corrosion and unwanted deposits. The UniCool is delivered as a skid mounted plug & play solution.

CatoCool - a comprehensive solution

The CatoCool cooling water solution is not only a comprehensive end-to-end solution in a technical and environmental perspective.

The concept is very cost effective and provide investment security for as long as the system operates or for a specific period of time.

CatoCool - a well-proven system

The CatoCool concept is thoroughly tested throughout 20 years. Actually, some of the elements used in CatoCool were developed in 1946. Since then, Guldager has worked with unique processes within corrosion protection such as electrolysis and Catolysis.

Service and Support

Guldager install efficient plants for water treatment. And just as important, we guarantee that the plant will be in operation 24/7.

Service, support and maintenance will be conducted either by Guldager or by local partners.