



## Cooling Water Management

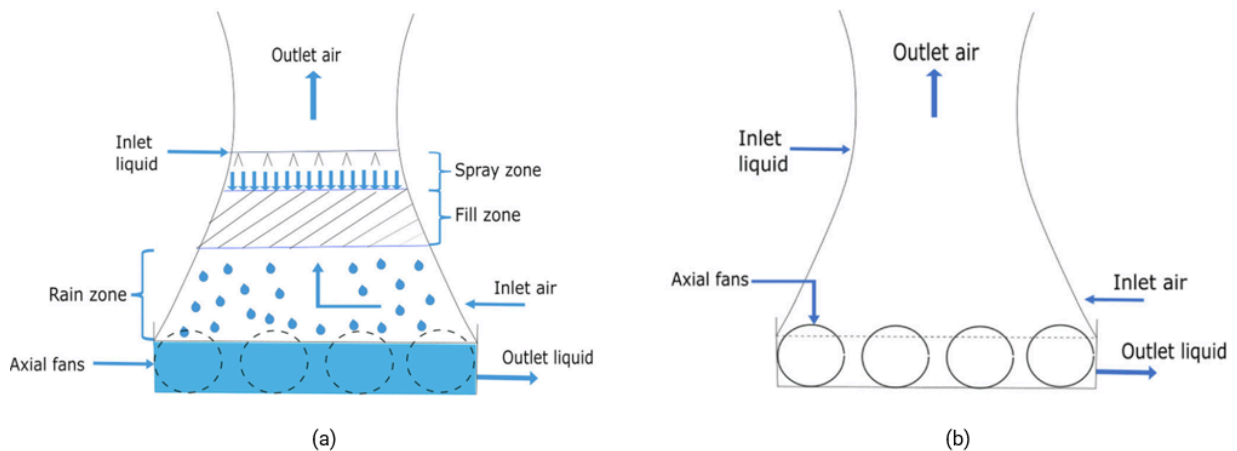
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<b>Product Category</b>	<ul style="list-style-type: none"> <li>● Cooling Water Chemical Program</li> <li>● Cooling Water Management</li> </ul>
<b>Application</b>	<ul style="list-style-type: none"> <li>● Cooling Water Management</li> </ul>
<b>Key Function(s)</b>	<ul style="list-style-type: none"> <li>● Improve current cooling water management</li> <li>● Optimize chemical program suitable for current situation</li> <li>● Extend and digitalize cooling management process</li> </ul>

The cooling system may consist of a cooling tower, evaporative condenser or other cooling element, the re-circulating pipework, the heat exchanger, pumps and ancillary items such as supply tanks and pre-treatment equipment. All of these items should be subject to the management and control system.



Interior (a) and exterior (b) of a hybrid draft cooling tower.

Stellar Unity can provide customers with the cooling tower management program, started from evaluating current program and estimating possible cost and identifying key areas of improvements. On routine basis, our qualified and experienced service engineers can visit the site to carry out the necessary analysis on your cooling water systems and feed water. Our engineers will check all chemical dosing systems and perform calibrations to ensure accuracy of dosing is not compromised.

For more information of product



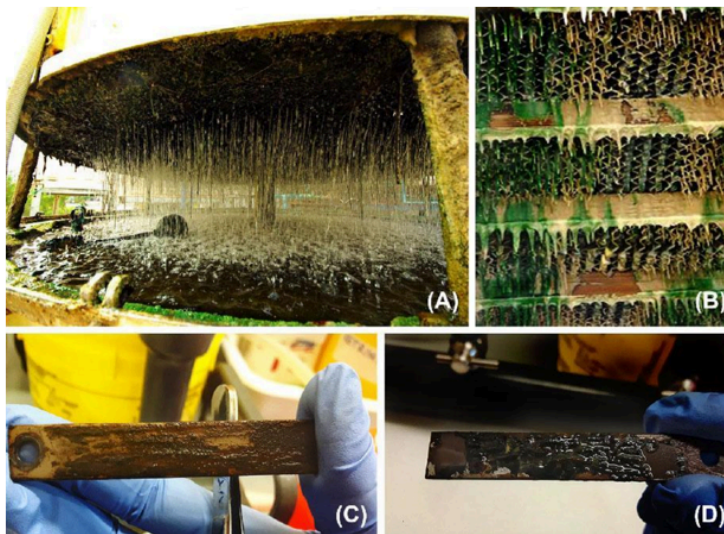
Website : [www.s-unity.com](http://www.s-unity.com)

Our hands-on approach means that repairs can often be carried out on site during the service visit. Detailed reports are left in our onsite log book filed in the appropriate place. We pride ourselves on our communication and personable approach to our customers.

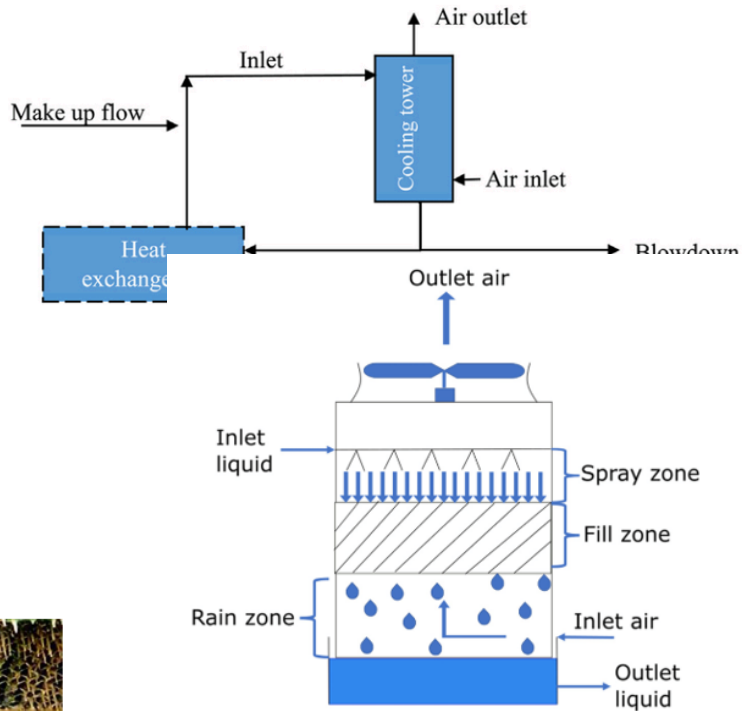
Stellar Unity has studied with customers to apply advanced Water Technologies, providing a complete water treatment management program based on the physical and operating parameters for the cooling system and a thorough analysis of the make-up water should be established.

**There are a number of factors which will influence the effectiveness of any treatment program:**

- Corrosion
- Scale Formation
- Fouling
- Microbiological Activity



Untreated scale, mud, algae



Components of an induced draft cooling tower.

They are interrelated and failure to control any one may lead to all occurring simultaneously, resulting in an environment that encourages the growth of microorganism ingress and possibly Legionella. In setting up an effective monitoring and control system, it should be remembered that corrosion, scale formation and fouling are continuous physical and chemical processes and inhibitors to control such processes should be added on a continuous basis.

We can provide Legionella risk assessments for your cooling towers and evaporative condensers through our qualified Legionella risk assessors. We can also provide auditing and consultancy work.

### Cooling Tower Management Process Timing Overview

Operation manuals should be available for each water system. These manuals should detail, in easily understood terms, operation and maintenance procedures which enable plant operators to carry out their duties safely and effectively.

Where automatic controls are employed, either for chemical addition or to allow system bleed-off, they should be checked over their full operating ranges. In the specific case of conductivity controlled bleed-off, regular calibration of the conductivity cell should be carried out. Standby equipment, such as towers and recirculating pumps, should operate on a rota basis eg. daily on/off, or otherwise isolated and held dry. If there are any standby cooling towers, specific procedures will need to be adopted to bring them into operation safely.

When a biocide is added to a water system, all standby equipment or pipework should be brought into circulation so that the biocide is distributed throughout the entire system.



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Below water analysis is performed and provided for customers.

Parameter	Frequency	
	Make-up Water	Cooling Water
Calcium hardness as mg/L CaCO <sub>3</sub>	Monthly	Monthly
Magnesium hardness as mg/L CaCO <sub>3</sub>	Monthly	Monthly
Total Hardness as mg/L CaCO <sub>3</sub>	Monthly	Monthly
Total alkalinity as mg/L CaCO <sub>3</sub>	Quarterly	Quarterly
Chloride as mg/L Cl	Monthly	Monthly
Sulphate as mg/L SO <sub>4</sub>	Quarterly	Quarterly
Conductivity µs (total dissolved solids)	Monthly	Weekly
Suspended Solids mg/L	Quarterly	Quarterly
Inhibitor(s) level mg/L	-	Monthly
Oxidising biocide mg/L	-	Weekly
Temperature °C	-	Quarterly
pH	Weekly	Weekly
Soluble iron as mg/L Fe	Monthly	Quarterly
Total iron as mg/L Fe	Monthly	Quarterly
Concentration factor	-	Monthly
Microbiological activity	Quarterly	Weekly
Legionella	-	Quarterly

Stellar Unity will employ our trained technical service engineer, consistently demonstrating exceptional problem-solving skills, in-depth product knowledge, outstanding customer service, and a strong ability to resolve complex technical issues efficiently, to the site and oftentimes to go above and beyond to ensure client satisfaction.

Stellar Unity can provide digitalization of the control system is one way that customers may consider investing, to make sure that every day, your specific data is getting recorded and monitored.

For more information of product



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