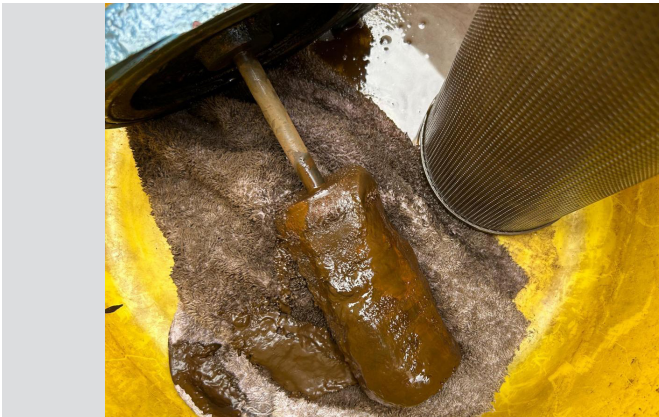


# Keep your chiller running smoothly with **WATER TREATMENT**

One of the most important aspects of cooling systems, and one that is often overlooked, is the quality of water running through your chilled water system.



## Why water quality matters

- 1 PREVENTS** Scale Build-Up: Avoid blockages and maintain efficient heat transfer. Scale over time can cause irreversible damage to components such as heat exchangers and pipework.
- 2 STOPS** Corrosion: Protect your system from leaks, blockages, reduced heat transfer and harmful contaminants released into the system. Corrosion not only affects the performance, but the quality of your end product or process.
- 3 CONTROLS** Bacteria: Prevent rapid component failure and system contamination.

## Key benefits

- |  |   |   |   |
|--|---|---|---|
| <b>1. Boost Efficiency:</b><br>Keep your system running at peak performance. | <b>2. Extend Lifespan:</b><br>Reduce wear and tear, minimising repairs. | <b>3. Save Costs:</b><br>Lower energy bills & maintenance expenses. | <b>4. Ensure Quality &amp; Reliability:</b><br>Consistent quality & performance with less downtime. |
|--|---|---|---|

## ICS Water Treatment Programme

We offer a comprehensive service utilising an in-house water treatment specialist and independent laboratories.

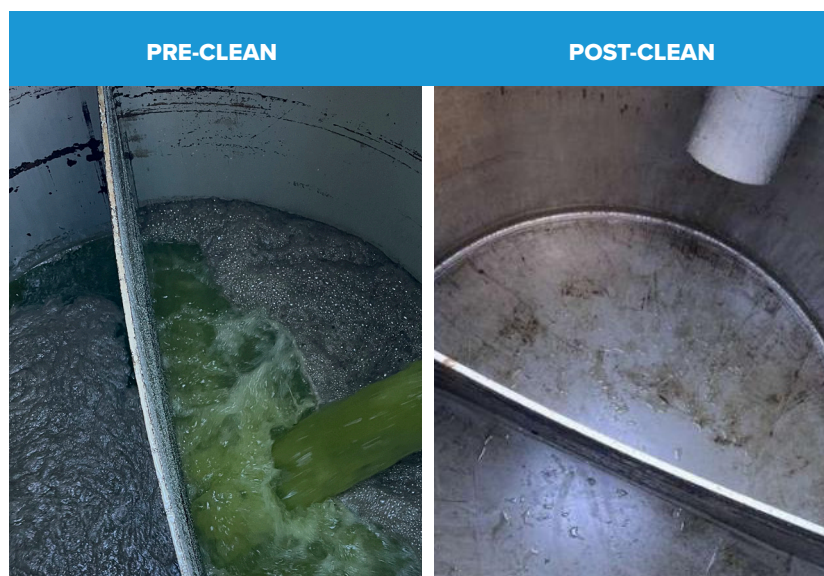
Our water treatment programme consists of:-

- 01** Taking a water sample or arranging for our team to take a sample for you by calling us on 0800 840 4210\*.
- 02** Our in-house water treatment specialist will then have the sample processed and analysed to provide you with a report on the findings.
- 03** The report will identify a clear plan for remedial work for your approval, carried out by one of our 70+ service engineers across the country.

\*Water sampling included in certain ICS Service Contracts

Typical remedial work could include:

1. Glycol, inhibitor and/or biocide dosing to maintain safe pH levels, inhibit scale, bacteria and corrosion.
2. Full or partial system flush.
3. Tank drainage, cleaning and refilling.
4. Side stream filtration installation.
5. Routine checks & chemical dosing to maintain water quality.



## Your report at a glance...



Closed System Test Reference Number:		230250 (1)	
Test within Parameters		No	
System Performance		Fail	
Sample Taken	04/06/2024	Sample Processed	08/07/2024
Customer			
Unit			

\*See system rating guide on page 2.

**Analysis summary in detail:**  
 The molybdate level is low, this can lead to corrosion and scale deposition within the chiller and process plant.  
 The nitrite level is low, this can lead to corrosion within the chiller and process plant.  
 The glycol level is low, this can lead to freezing, poor heat exchange and increased bacteria loading.

**Recommendations:**  
 Dose Glycol to achieve 25% solution to optimize system protection  
 Dose suitable scale & corrosion inhibitor to optimize system protection  
 Implement a routine water treatment monitoring program

Plan View of Sample

Profile View of Sample

Did it pass or fail?

Clear implications given

Clear recommendations given

What your sample looked like\*

**\*Just because it looks clean, doesn't mean it is clean...**




Table 1: Chemical analysis of the water sample

Parameter	Target Parameter	Analysis Results	Area(s) of concern
pH	7.0 – 8.5	7.5	N/A
Conductivity	<4000 µs	791	N/A
Total Alkalinity	<1500 ppm	1040	N/A
Chloride	<250 ppm	50	N/A
Total Hardness	<400 ppm	140	N/A
Copper	<1mg/L		N/A
Total Iron	<15 ppm	0.3	N/A
Molybdate	>100 ppm	250	The molybdate level is high and requires reducing.
Nitrite	600 – 1000	25	The nitrite level is low and requires increasing.

\*These target parameters are generic and may not be applicable to every system. A more in-depth system study may be required.

Table 2 Microbial and physical condition of the water sample

Parameter	Target	Result	Area(s) of concern
ATP (bacteria)	<400 RLU	0	The bacteria level is satisfactory.
Suspended Solids	slight/low	High	The suspended solids level is high and requires reducing.
Appearance	Clear	Good	

Table 3 Glycol level analysis

Parameter	Target	Result	Area(s) of concern
RI % volume	>25%	14.6	The glycol level is low and requires increasing.

\*\*Analysis results shown in red identify a result which is outside of acceptable specifications.

Pass – Satisfactory control  
 Moderate – System has some issues and requires prompt action.  
 Fail – Definite problems, immediate attention necessary and potential for system damage.

Sample analysed and report prepared by: \_\_\_\_\_

Detailed chemical analysis

Detailed physical analysis

Glycol readings

Glossary on page 3 & 4 (glycol)

Implement a regular water treatment programme to keep your chiller system running smoothly and efficiently. Protect your investment and enjoy long-term savings!