

# CASE STUDY: Large Private Arizona Facility



Debris shown in chiller strainers



Plugged up mesh strainers from closed loop system



Close up of the rust and and debris in the chiller

## TREATMENT OF HIGHLY CORRODED CHILLED & HOT WATER CLOSED LOOPS

| EasyWater Rep:       | Mechanical Products SouthWest                                                                                                                                      |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Location:            | Phoenix, Arizona                                                                                                                                                   |
| Scope of Work:       | Closed Loop Treatment                                                                                                                                              |
| EasyWater Equipment: | <ul> <li>(1) Series C - Model CLG-1000 Component System<br/>for Chilled Water</li> <li>(1) Series C - Model CLG-1000 Component System<br/>for Hot Water</li> </ul> |

## $\approx$ **PROBLEM**

A large private facility in Phoenix, AZ, needed help on their closed loop chilled and hot water systems with extremely high corrosion rates. The systems were only 2 years old.

The problems were discovered when they started plugging 30 mesh strainers in their closed loops. A 60 mesh y-strainer was also installed, which became a maintenance nightmare because it plugged twice a day. They began looking for a treatment system that would minimize corrosion and stop producing the black metal debris. They also needed a filtration system that would filter to less than 1 micron and clean the systems.

The closed loop systems ran without water treatment for about 9 months. The top two pictures on the left are the strainers in the chiller that were pulled in May of 2022. In an attempt to solve the problem, they ran detergent through the system which resulted in additional rust and debris plugging the strainers.

Lab reports confirmed that they had corrosion issues caused by dissolved oxygen as well as high iron content deposits in their closed loop chilled and hot water systems.

### The (3) main problems in closed loops

- 1) Corrosion caused by dissolved oxygen
- 2) Sediment and sub-micron metal particles in the water
- 3) Insulating High Iron content deposits

These systems were experiencing all of these problems.

## $\approx$ SOLUTION



EasyWater Series C - Model CLG-1000 Component System In February 2023, EasyWater shipped (2) Series C - Model CLG-1000 Component Systems. These systems are made up of 3 main components:

#### 1) Dissolved Oxygen Removal Media:

- Eliminates the need for chemical in all closed loops
- Greatly outperforms chemical treatment
- Results in extremely low corrosion rates
- Eliminates the bacterial food source caused by chemical
- Minimizes the threat of aerobic bacteria growth, which requires oxygen to live
- Eliminates the need for pH adjusting chemicals

#### 2) No-Salt Conditioner:

- Helps remove existing deposits while keeping new deposits from forming
- Breaks down the cell wall of bacteria
- Causes flocculation of particles, increasing filtration effectiveness.

#### 3) SedimentShield Sub-Micron Filtration:

- Filtering to sub-micron levels is highly effective, as filtration tests show that the very fine metal or magnetite particles in most closed loops are below 1 micron in size
- Sub-micron filtration helps filter bacteria from the closed loop water
- Removing sediment to such fine levels helps minimize erosion of pump seals and impellers

## $\approx$ **RESULTS**

The 2024 quarterly June inspection found both the chilled and hot water closed loops to be free of metal particles and sediment.

The systems were running perfectly and the 60 mesh y-strainers were free of deposits and debris. Weekly maintenance was no longer required to maintain the closed loops. As described in the testimonial to the right, the EasyWater Series C Systems are producing great results!

We are extremely grateful for our client's trust in MPSW, and to EasyWater for providing a lasting solution to this problem job. Despite some healthy skepticism during the proposal phase, the Series C Systems began working immediately and impressed the Owner, Engineer, and Contractor with its effectiveness. The quality of the water produced was truly remarkable. At MPSW we take great pride in only partnering with the best manufacturing partners in their respective fields and EasyWater delivered on this expectation in spades. **55** 

-Jessica Wozniak, Sales Manager at MPSW



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