



Enhancing Cooling Water Treatment System with NextStep® Pumps

A leader in industrial water treatment, has developed an advanced cooling water treatment program designed to maintain system integrity under both routine and high-stress conditions. This program requires precise chemical dosing and robust equipment capable of handling aggressive fluids. NextStep® pumps provide the ideal solution, offering unmatched reliability, control, and compatibility across all stages of the treatment process.

System Overview: Four Critical Treatment Stages

1. Metals Removal

This initial phase targets the elimination of problematic metals and suspended solids using a high-charge polymer. The treatment effectively controls iron, aluminum, calcium phosphate, zinc, and other particulates, even during system upsets.

- Maintains calcium levels below 500 ppm and aluminum under 0.5 ppm.
- Utilizes highly corrosive fluids, necessitating pumps with superior chemical resistance.
- **NextStep® Advantage:** Engineered for durability and compatibility with aggressive chemistries, ensuring safe and consistent operation.

2. Corrosion & Scale Inhibition (Metal Piping)

To extend the lifespan of cooling tube bundles, this stage employs a proprietary blend of zinc, PSO (Phosphinosuccinic Oligomer), orthophosphate, and phosphonates. These agents inhibit both anodic and cathodic corrosion while preventing scale formation.

- Chemical formulations are incompatible with most metals, requiring non-metallic pumping solutions.
- **NextStep® Advantage:** Delivers precise dosing in closed-loop systems, ensuring optimal protection and performance.

3. Corrosion Inhibition (Copper Piping)

Copper and copper alloy systems are safeguarded using an organic film-forming inhibitor, effective even in environments with elevated chlorine and bromine concentrations.

- Supports broader system treatments in recirculating configurations.
- Requires continuous, accurate dosing to maintain protective film integrity.
- **NextStep® Advantage:** Capable of low-flow, high-pressure delivery with exceptional precision, ensuring consistent corrosion protection.

4. Dispersants & Detergents

This final stage prepares condenser tubes for biocide application by removing organic and inorganic deposits. A blend of nonionic surfactants prevents particle agglomeration and enhances biocide efficacy.

- Compatible with both oxidizing and non-oxidizing biocides.
- **NextStep® Advantage:** Industry-leading turndown ratio enables fine-tuned chemical delivery, reducing waste and maximizing treatment effectiveness.

Why Choose NextStep® Pumps?

NextStep® pumps are purpose-built for demanding chemical environments, offering:

- **Smooth, accurate chemical dosing**
- **Advanced control options for flexible integration**
- **Exceptional turndown ratio for precise flow management**
- **Only stepper pump capable of pressures up to 360psi**
- **Rapid delivery and strong value proposition**

These capabilities make NextStep® the preferred choice for supporting high-performance cooling water treatment systems.



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