

Chemical



SAMCO

Separation from the ordinary

PROJECT BRIEF

Major Photographic Film Facility Installs Ultrapure Water System for Higher-Purity Water and a More Efficient Solution

PROJECT OVERVIEW

At a leading photographic film company in Southeast US, a state-of-the-art ultrapure water (UPW) system was designed to decontaminate the client's city water to meet high-quality standards of the chemical industry.

OBJECTIVE

To purify the client's city water to 18+ meg-ohm/cm, ultrapure water < 5 ppb silica.

SCOPE OF SERVICE

The client worked with SAMCO to quickly develop an effective solution that comprised treatability studies, detailed design/engineering, controls integration, system fabrication, field installation, programmable logic controllers (PLC), commission and startup, one-year system operation, and ongoing maintenance and support.

CHALLENGES

- Ultra-high-purity water requirements
- High bacteria levels
- Presence of silica and organic compounds
- Minimal operator availability

SOLUTION

To help the client purify their city water per the chemical industry's standards, SAMCO designed a reverse osmosis/mixed-bed deionizer (RO-DI) system that reduces DI regeneration by a factor of thirty and effectively removes bacteria, silica, and organic compounds. The system was designed to maximize ROI with a two-year payback, and triplex independent train configurations generated 50% redundancy and rapid uptime. A prepackaged system was utilized to implement a fast-track solution, which included acid/caustic feed and neutralization support systems and clean-in-place functionality enabling quick and easy membrane maintenance (saving the client both time and cost). Due to limited operator availability, the system included PLC controllers featuring remote telemetry capabilities, automating the monitoring of flow, temperature, pressure, resistivity, and pH.

TECHNOLOGY

Project deliverables and equipment included:

- State-of-the-art RO-DI UPW system
- Multimedia and activated carbon filters
- Acid/caustic feed and neutralization system
- Clean-in-place membranes
- PLC controls with remote telemetry

OVERVIEW

Industry
Chemical

Location
Southeast US

Objective
Purify city water to meet photographic film and chemical industry standards

Solution
630 GPM Triplex
Ultrapure Water System

Need help bringing your water to industry compliance standards? Is water purity an issue? Contact us today at SamcoTech.com • askengineers@samcotech.com • (716) 743 9000