



PROJECT BRIEF

Sulfuric Acid Plant Supports Plant Expansion With SAMCO Ultra-High Purity Reverse Osmosis System and Ion Exchange Polishing

PROJECT OVERVIEW

A sulfuric acid plant in the Northeast required ultra-high purity water to feed its new product line in an effort to expand production, and they turned to SAMCO for an effective solution.

OBJECTIVE

Demineralize and purify plant supply water to extremely pure levels for use in production.

- 18+ megaohm-cm
- Extremely low ppt concentration of metals

SCOPE OF SERVICE

SAMCO delivered a detailed process, mechanical and electrical design and engineering, controls integration, system fabrication, installation, commissioning, startup, and training.

CHALLENGES

- Ultra-high purity water per stringent requirements in the semiconductor industry
- Sub micron particle removal

SOLUTION

SAMCO worked with the client to devise a multifaceted solution designed to achieve the desired ultra-high purity water needed for plant expansion and production for a new product line at a sulfuric acid plant in the Northeast. Utilizing different forms of filtration, a double pass brackish water reverse osmosis system, UV sterilizer, and ion exchange technology for polishing, SAMCO helped the client treat their production feedwater per the necessary requirements, with extremely low total dissolved solids (TDS) and minimal parts per trillion (PPT) of metals. To compensate for limited operator availability, SAMCO installed programmable logic controllers (PLC) to automate flow, temperature, pressure, and resistivity monitoring.

TECHNOLOGY

Project deliverables and equipment included:

- Multimedia, carbon, and cartridge filters
- Ultrafiltration
- High pressure pumps
- Double pass brackish RO system
- UV sterilizer
- Chemical storage and metering equipment
- Portable exchange DI polishing
- TOC destruct system
- High-purity piping
- PLC Controls

OVERVIEW

Industry
Chemical

Location
Northeastern US

Objective
Achieve ultra-high purity water for acid manufacturing in the semiconductor industry

Solution
10 GPM Double Pass RO With Ion Exchange Polishing