

Microelectronics



SAMCO

Separation from the ordinary

PROJECT BRIEF

High-Definition Display Manufacturing Facility Installs State-of-the-Art Duplex Ultrapure Water System with Wastewater Recycling Capability

PROJECT OVERVIEW

At a leading high-definition display device manufacturing facility in New York, SAMCO worked with the client to create an ultrapure water system designed to purify the client's city water to meet high-quality standards of the microelectronics industry and recycle wastewater for reuse.

OBJECTIVE

Purify the client's city water to 0.5+ meg-ohm/cm high-purity water.

SCOPE OF SERVICE

An effective solution comprised detailed design/engineering; controls integration; system fabrication; field installation support; commission, startup, and training; and ongoing maintenance and system support.

CHALLENGES

- Wastewater recycle/reuse capability
- Critical application requiring 99% uptime
- Fast-track project, concept to completion

SOLUTION

The client installed SAMCO's reverse osmosis (RO) system for superior removal of total distributed solids (TDS), silica, and organic compounds, incorporating pretreatment with antiscalant and sodium bisulfate feeds (in lieu of a softener) and activated carbon for higher product quality and lower cost. The system maximized ROI with a two-year payback (eliminating the need to purchase water from another firm), and a duplex independent train configuration generated 100% redundancy and 99% uptime. A prepackaged system implemented a fast-track, turnkey solution, which included clean-in-place functionality enabling quick and easy membrane maintenance and resulting in significant time and cost savings. To compensate for limited operator availability, PLC controls—featuring remote telemetry capabilities—were installed to automate flow, temperature, pressure, resistivity, and pH monitoring.

TECHNOLOGY

Project deliverables and equipment included:

- RO system and holding tank
- Antiscalant/bisulfate feeds
- Bag pre-filters and UV sterilizer
- Distribution pumps
- Stainless steel RO pressure vessels and cartridge filters
- PLC controls with remote telemetry

OVERVIEW

Industry

Microelectronics

Location

New York, US

Objective

Purify city water to meet microelectronics industry standards

Solution

300 GPM Duplex Ultrapure RO Water System with Distribution Loop

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