

## ULTRAPURE WATER TREATMENT

# RO System for Fiber Optics Manufacturing

Industry:	Microelectronics
System:	10 gpm Makeup & 25 gpm Distribution High Purity Water System
Location:	New York
Goals:	2.5+ micromhos-cm High Purity Water

### Project Overview:

SAMCO's state-of-the-art High Purity Water System, installed at a photonics/optical devices R&D and manufacturing facility, utilizes Pre-filter, Reverse Osmosis System (RO), Nitrogen Blanketed Storage Tank, Distribution Pumps, UV Sterilizer & 0.2 Micron Cartridge Filters to purify city water to high purity levels. A future polishing Ion Exchange System add-on capability is also included in the distribution loop. It is designed to meet water quality standards for Microelectronics industry.

### Critical Issues:

2.5+ micromhos-cm quality high purity water  
Fast-track project, concept to completion

Critical application needing high uptime  
Minimize operator attention

### Vision for Solution:

- RO for consistent high quality water with superior removal of TDS, silica & organic compounds and UV sterilizer & 0.2 micron cartridge filter for bacteria removal
- Pretreatment w/ Antiscalant & Sodium Bisulfite feeds in lieu of softener & activated carbon for higher product quality & lower cost
- Duplex pre-filters, post filters, process pumps for redundancy & high uptime
- Utilize our standard products & pre-packaged system design for fast-track project delivery and performance guarantee
- PLC controlled system for minimum operator attention

### Project Scope:

Detailed Design/Engineering  
Controls Integration

System Fabrication  
Commission/Startup/Training

### Equipment Description:

Antiscalant/Bisulfite Feeds  
Reverse Osmosis (RO)  
Nitrogen Blanketing System  
UV Sterilizer  
RO Cleaning Skid  
PLC Controls

Cartridge Pre-Filters  
RO Storage Tank  
Distribution Pumps  
0.2 Micron Cartridge Filters  
Point-of-use Lab DI Units



### Special Features:

- PLC controlled system enables automation for minimal operator attention
- Process monitoring include flow, temperature, pressure, level, resistivity
- Automatic valves for heat exchanger rinse, RO fast forward flush, RO product divert/rinse
- Stainless steel RO pressure vessels and cartridge filters
- Clean-in-place system enables easy cleaning of membranes, for time and costs saving

