

## ULTRAPURE WATER TREATMENT

# Pharmaceutical Membrane System

Industry: Pharmaceuticals

System: 47 gpm Ultra Pure Membrane System

Location: Pennsylvania

Goals: Colloidal Suspended Solids Removal, SDI Reduction, Bacteria Control

### Project Overview:

SAMCO's state-of-the-art Ultra Pure Membrane System at a leading pharmaceutical industry utilizes Ultrafiltration System (UF), and pre-filters city feed water to meet Reverse Osmosis (RO) feed quality. It is designed to meet the highest water purity standards in Pharmaceuticals industry.

### Critical Issues:

RO membranes fouling with colloidal solids & SDI  
Limited space constraints for UPW Upgrade  
Fast-track delivery to meet client specifications

Poor Design on Existing UPW System  
Single source field installation/piping  
Ongoing service/maintenance support

### Vision for Solution:

- ◆ Design an UF System for removal of colloidal solids & SDI to prevent RO membrane fouling
- ◆ Detailed skid mechanical design with membrane housings, instrumentation, piping & valves
- ◆ Incorporate ozone generator in polishing loop for bacteria control
- ◆ Incorporated our standard product designs & fabricated a pre-packaged system for small system foot print and fast-track turnkey project delivery
- ◆ PLC controlled system for minimum operator attention
- ◆ SAMCO's field installation services capabilities and ongoing service/maintenance support services capabilities

### Project Scope:

Detailed Skid Design  
Controls Integration  
Commission/Startup

System Fabrication  
Field Installation  
Ongoing Service

### Equipment Description:

Recirculation Pump  
Ozone Generator  
PLC Controls

UF Membranes w/Housings  
Control Valves

### Special Features:

- ◆ Twelve (12) hollow fiber membranes, arranged in banks of four membranes each for partial operation
- ◆ Auto fast forward flush enables easy cleaning of membranes
- ◆ PLC controlled system enables automation for minimal operator attention
- ◆ Process monitoring include flow, pressure, etc
- ◆ Modular expandability and add-on capability for changing needs
- ◆ Ozone Generator installation on polishing loop for bacteria control
- ◆ Stainless steel orbital welding on polishing loop

