

ULTRAPURE WATER TREATMENT

RO Upgrade to High Efficiency RO (HERO™)

Industry: Semiconductor Disk Drive Manufacture
System: 76 GPM HERO™ RO System
Location: San Jose, CA
Goals: Save water and improve quality

Project Overview:

The customer was under pressure from the city to lower water waste and consumption. Their production was impacted because the city did not want them to use more water. Their existing double pass RO that was running at 65% recovery. HERO™ (High Efficiency Reverse Osmosis), which is a licensed (US Patent Number 5,925,255 & 6,537,456) technology was employed by SAMCO to meet the customers needs. This allowed the customer to modify their RO to operate at 95% recovery saving over 28,000 gallons of water a day from going down the drain. In addition, they saw a marked improvement in ionic purity and organic removal. All of this needed to be done without using excess space.

Critical Issues:

Increase capacity and save water
Use existing system as basis with very tight space constraints
Lower Conductivity
Critical uptime to maintain production

Vision for Solution:

- ◆ 95% efficiency vs. 65% seen on existing system.
- ◆ Very tight foot print.
- ◆ System needed to meet all local codes and regulations.
- ◆ Because high purity DI polishing followed the RO, the additional benefits of HERO™ to provide better quality, better ion rejection and better organics rejection were desired.
- ◆ HERO™ RO technology to allow for higher production capacity with lower reject.



Project Scope:

Feasibility Study
Modification Component Fabrication
Field Installation
Detailed Design/Engineering
Controls Integration
Commissioning/Start-up



Equipment Description:

8" Diameter RO system upgrade
Electrical Modifications
Instrumentation Modifications
Addition of Chemical Feed & Control Systems

Special Features:

- ◆ White paper description of the systems and savings agreed to with client as this is a high profile installation.
- ◆ Award given by local municipality due to water savings realized.

