ADVANCED HIGH PURITY WATER GENERATION

Innovative Technology in Compact, Modular Configurations for Treatment of Boiler Feed Water Make-Up and Water Production for Gas Turbine Applications

WHY HIGH PURITY WATER?

Boiler Feed Water Make-Up Applications
The removal of suspended solids, dissolved gases, dissolved solids, and other constituents from boiler feed water is critical to preserve boiler equipment integrity, minimize corrosion, and extend boiler operating life. High purity water also reduces the number of blowdowns, where applicable, leading to increased plant uptime.

Gas Turbine Water Applications
Use of high purity water in gas turbine applications extends operating life, minimizes shutdowns and improves turbine efficiency. The applications include direct injection into the compressor to gain efficiency, boost power output, and reduce NOx formation, as well as use as wash water for compressor internals.

WHY WATER STANDARD?

| Superior Technology | Filtration, desalination, degassing, and deionization equipment | Lowers life cycle costs
|                    |                                                                  | Minimizes operator intervention |
| Experienced OEM    | High quality design and construction                             | Optimizes performance
|                    |                                                                  | Meets reliability and HSE goals |
| Solutions Based Approach | Customized packages suitable for unique site and project needs | Reduces integration cost
|                              |                                                                  | Mitigates operational risk |
CASE STUDY

Water Standard designed, fabricated, and delivered 2 x 100% ultrapure water generation units for integration into an offshore steam power module in the Gulf of Mexico.

Each unit was designed to produce:

• < 7 ppb dissolved O$_2$, < 0.5 ppm dissolved CO$_2$, and < 5 ppb SiO$_2$
• < 0.1 µS/cm specific conductivity

The solution included:

• Water Standard Absolute Cartridge Filters
• Custom Reverse Osmosis (RO)
• Water Standard Membrane Deaeration (MDA®)
• Continuous Electrodeionization (CEDI)

Given the harsh offshore environment, the design featured:

• Custom purge panel for the CEDI to meet Class 1 Div. 2 area classification
• 40 year design life
• Stainless steel construction
• Small footprint to meet space constraints
• MDA® to minimize chemical dosing
• Fully automated On-skid Programmable Logic Control (PLC)

Water Standard Scope of Supply

Water Standard Ultrapure Water Generation Skid Size 12’L x 7’W x 8’H