Customer Success Story

Location: United States

Applied Membranes designs and builds custom mirror image double-pass RO + EDI systems for research lab.

Custom systems are important solutions for our clients. Applied Membranes has a proven track record of building systems for specialty applications.

Challenge

The client, a cutting-edge scientific research facility at a renowned university, is on a mission to upgrade and expand their existing ultra-pure water treatment system.

The client requires a highly specialized, custom-designed engineered water treatment system tailored to meet their boiler and research laboratory applications with 100% redundancy.

The systems need to be extremely compact to fit within the small available space while ensuring proper accessibility for future maintenance requirements.

Source water is city water, softened and dechlorinated with approximately 320 PPM TDS, 560 µS/cm conductivity.

Solution

After comprehensive analysis, Applied Membranes designed and developed an advanced state-of-the-art ultra-pure water treatment solution that aligned with the client's specifications and objectives.

Applied Membranes built two (2) custom **double-pass mirror image** Reverse Osmosis + Electrodeionization (RO + EDI) systems for the client's application.

The systems were designed with a creative back-to-back space-saving configuration, enabling 2x100% systems to fit within a small footprint.

The permeate flow from each double-pass RO system is **55 GPM (13 m3/h).** Some permeate is used as boiler feed, and some is directed to the EDI units. Each EDI unit produces **35 GPM (8 m3/h)** ultrapure water.

The systems were completely assembled and wet-tested at Applied Membranes USA facility to ensure seamless functionality at the client location.

Key Features:

- Ultra-Compact customized design
- Mobile Clean-in-place system
- Programmable Logic Controller (PLC) with remote monitoring

Results

Applied Membranes custom-designed and built 2 x 100% double pass RO + EDI systems to meet the needs of the client's research applications.

Custom-engineered: The systems were thoughtfully designed to fit in the allocated space and provide high-quality water on a continuous basis for the university's research efforts.

Quality: AMI system achieves consistent high recovery (75% Double Pass RO; 90-95% EDI; 99% after recycles).

Reliable: The client expressed satisfaction with the customized solution, in particular the seamless integration and perfect fit of AMI systems.

This project highlights Applied Membranes' ability to deliver customized water treatment solutions for a variety of applications, including cutting-edge research labs developing critical future technologies.

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