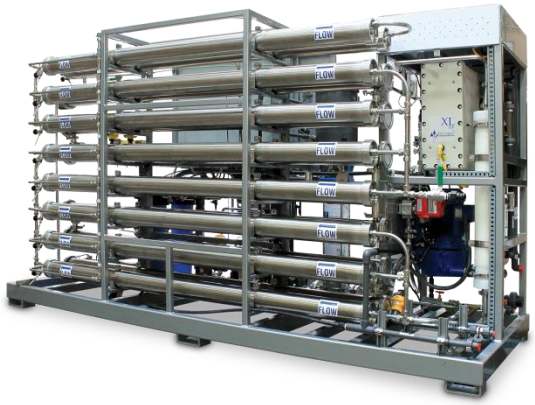
Customer Success Story

Location: Brazil



AMI USP system produces ultrapure water for pharmaceutical manufacturing company

Ultra-pure water that meets stringent US Pharmacopeia (USP) standards is critical for the safety, efficacy, and regulatory compliance of pharmaceutical products.

Challenge

The client is a premier global pharmaceutical company that manufactures prescription medicines, vaccines, biologics, and animal health products.

With operations around the world, the client required a dependable water purification system for critical pharmaceutical manufacturing processes.

They needed a system that would consistently deliver ultra-pure water meeting stringent USP standards.

The system would need to remove impurities from city water and produce pharmaceutical-grade water. Additionally, the system had to be reliable, easy to operate, and comply with industry regulations.

Applied Membranes was selected for this project.

Solution

Applied Membranes engineered, built, and commissioned a state-of-the-art **RO-EDI USP** system to produce ultrapure water for pharmaceutical application. The AMI USP system is thoughtfully designed with stainless steel piping and connections and sanitary fittings. The RO system produces **150 GPM (34 m3/h)** and the EDI system produces **12 GPM (3 m3/h)**.

The RO system includes pretreatment skid with carbon filter, antiscalant, and ultraviolet (UV) systems. Product water from the AMI RO system is treated with Electrodeionization (EDI) system to achieve ultrapure water quality. The deionized ultrapure water is fed through 0.2 Micron absolute filters to remove any remaining particulates and microorganisms. Final product water meets USP standards before being stored in high-purity water tanks.

Applied Membranes factory tested the system thoroughly to ensure proper operation and smooth startup process. A separate portable cleaning skid was provided for period membrane cleaning.

Key Components:

- Carbon filter
- Antiscalant
- UV disinfection
- Programmable Logic Controller (PLC)
- Clean-in-place system

Results

AMI USP water system delivers exceptional performance and reliability, meeting stringent quality requirements.

USP grade product water: The final product generated by the AMI USP system measures 12 Meg ohms/cm at 12 gallons per minute when tested with city water (600 ppm) as feed, meeting client requirements for critical pharmaceutical manufacturing operations.

Compliance: AMI system complies with industry regulations and standards for pharmaceutical water quality.

Ease of operation: AMI skid-mounted system integrated seamlessly into client's facility. The semi-automatic AMI control system simplifies operation and monitoring, reducing the need for manual intervention.

Reliability: Applied Membranes performed startup, training, and demonstration of the system for the client. AMI system continues to demonstrate consistent and reliable performance over time.

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