



REVERSE OSMOSIS SYSTEM DESIGN/BUILD

A client in the pharmaceutical industry uses reverse osmosis (RO) water as a primary ingredient in a number of their products. They wanted to expand their capacity by adding two new points of use (POU's) to their production area, but this would require additional RO water generation that their existing equipment could not supply. So, they requested a complete, turnkey design/build project by PTS to select and install a RO water generation system and design and install a distribution system to the existing and new POU's.

The client needed the system installed within four months, so PTS began right away by sizing, selecting, and ordering a RO water generation skid that would meet the needs of the client and arrive in time. We then designed the distribution piping loop and a PLC control enclosure to control the new loop. This RO water must meet industry standards for cleanliness, so the generation and distribution systems for the water must also meet industry standards such as ASME BPE for Bioprocessing Equipment. Our system was designed with advanced cleanliness and monitoring equipment such as conductivity meters, UV sterilization units, total organic carbon (TOC) monitor, and all 6LV stainless steel welded piping with sanitary fittings. Our controls package was designed to maintain proper levels in all storage tanks and proper pressure and flow in the loop to meet water velocity requirements for cleanliness. Our design also included an automatic dosing system with a Coriolis flow meter and pneumatic fill valve controlled by our PLC to be highly accurate for dosing.

By structuring this project as a design/build, our broadly trained team of mechanical and electrical engineers were able to design a system to meet the customer's needs and have it ready to install within a tight schedule. We took a challenging project out of the client's hands so they could focus on running their business and delivered them a successful project.

PROJECT PROFILE

AUTOMATION CHEMICAL & PROCESS PLANT ENGINEERING



