



Biopharmaceutical Portfolio

Reverse Osmosis Deionized Water Loop

About Us

Since 1985, High Purity Systems has provided precision welding, quality piping installation and fabrication solutions to the industrial sector. High Purity Systems delivers value and responsiveness to meet the ever-changing needs of our clients. Expertise includes Class 100 Clean Room orbital welding, onsite piping installations from stainless steel to carbon steel, piping fabrication shipped nationally and custom prototyping.

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The Challenge

A few years ago, an experienced mechanical contractor approached the HPS team about a special piping project. This company needed an experienced piping contractor who could handle the detailed requirements associated with installing a Reverse Osmosis/Deionized (RODI) water system in a life science lab facility.

Having already worked with this mechanical contractor on a previous project to quickly and properly install a similar system at a university, they knew they could trust us with the job.

The Strategy

Life science facilities can demand a lot of water; and this project consisted of a RODI loop and numerous drops on two different levels of two separate buildings. Our team needed to connect the two buildings to form one massive loop supplying all the lab stations. Because of its naturally smooth inner surface finish, limited degradation when exposed to RODI water, and being a cost competitive material and installation process, natural polypropylene was chosen as the loop material.

The HPS site team had to work alongside many different trades in crowded areas to complete the loop. The material specifications did not allow mechanical unions to be used within the piping system, which meant HPS had to perform field welds in difficult aerial positions with a Georg Fischer butt fusion welding machine. The result was a contiguous, leak-free system in the ceilings and walls.

Each plastic fusion weld received a verification label in accordance with FDA documentation requirements for weld tracking and, upon completion, the system was flushed and pressure tested with DI water in compliance with customer specifications.

The Result

This specialty installation is one of the largest RODI systems HPS has tackled to date. A six month job with three more months of additional scope, the finished project was a beautiful and fully functional RODI loop piping system. The owner and the GC were pleased with the result, and the mechanical contractor continues to reach out to us to work on similar projects.

