

Evoqua Provides Pure Water For COVID-19 Test Vials

Vial-Fill Facility selects reverse osmosis, ultraviolet sterilizer and more for 1M vials per day demand

Challenge

A life-sciences company in the US Midwest received a government contract to provide 1 million Covid-19 testing vials per day as an integral part of the COVID-19 swab testing effort. A new facility had to be up and running within 3 months. This included the design, ordering, component manufacturing, and installation of supporting utilities, construction of clean rooms, manufacturing lines, and a critical high purity water system. Evoqua had two weeks to provide an approved design of the water system and 4 weeks to have all the components on site ready for installation.

Background

The life-sciences company manufactures, among many things, vials and medical test kits. They received a request early in the COVID pandemic to increase their output to 1M test kits per day to support COVID-19 testing. The test kits included vials with pure water combined with a stabilizing solution to retain the integrity of the testing sample. The pure water in each vial would be provided by Evoqua.

Solution

With a very short design time Evoqua proposed, and ultimately provided to the customer a complete and fully-tested pure water system that included: IQ/OQ validation documentation for reverse osmosis, deionization, a triplex softener system, three activated carbon filters, makeup mixed-bed service exchange deionization units, two rental distribution mixed bed service exchange deionization units, a distribution bacteria reduction ultraviolet sterilizer, distribution final filters, TOC monitoring and a centralized digital control system. The system was designed to generate 12gpm water makeup with a 60gpm distribution loop and a water quality output of > 10 megohm.

Meeting a national emergency became a top priority for everyone involved. Evoqua was able to place several of these components ahead of other scheduled systems within its manufacturing schedule, and other components supplied by partners were pushed quickly through the supply chain. Among these components were the Grundfos pumps that were critical to the high purity water applications and the chemical feed portion of the system. This system specified two CRNE pumps with VFD as well as a chemical feed pump for acid injection. Grundfos understood the national interest concerning this project and worked closely to ensure an improved shipping date.

Results

A bare warehouse was turned into a fully operational, clean-room, vial-fill facility able to produce 1M COVID-19 test kits per day. Every component in the facility was critical, but Evoqua's water system was essential since the quality of the water would contribute to the accurate result of every tested sample. Evoqua provided a thoughtful, accurate design and components that were fully tested inside an intensely short timeframe, during the height of the global pandemic.

One million COVID-19 test vials are now produced each day and within each vial is high purity water by Evoqua which contributes to the accuracy of the test, and literally touches every person who takes it.

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High purity water is essential to this unique, nationally

distributed COVID-19 vial-fill project. Consistent high purity

distributed COVID-19 test kit project. Consistent high purity water is a main ingredient in each of the test vials which helps maintain the integrity of the biological sample. I'm proud of the team that made a tremendous effort to get this system into place, and proud that we will touch the lives of a million people a day in such an important and impactful way. "

ROD MCNELLY, SENIOR VICE PRESIDENT & GENERAL MANAGER, EVOQUA WATER TECHNOLOGIES

CUSTOMER

Pharmaceutical Company, Midwest, USA

CHALLENGE

A complex system to provide pure water had to be scoped and delivered within 2 months

KEY TO SUCCESS

The system had to be tested and proven prior to installation, and supplier had to have ability to quickly specify and source the components

SOLUTION

A system composed of reverse osmosis, deionization and more to provide pure water for COVID-19 test vials

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Reverse Osmosis (RO) Systems / Nanofiltration Systems

Service Deionization (SDI)

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 Pharmaceutical

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Laboratory Water Purification

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Vantage® M41RS (Select)

Vantage® M41 RS Reverse Osmosis (RO) units are pre-engineered and pre-assembled units

designed for a variety of industrial and commercial applications. RO membranes typically remove 90-99.9% of suspended and dissolved solids and can remove bacteria and viruses.

M41 units are single pass RO systems.

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FEATURED



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Service Deionization (SDI) Systems

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