

Engineering solution for Parker Domnick Hunter's water treatment problem, UK

Pharmaceuticals | Case Study

The Client

Parker Domnick Hunter manufactures filtration, separation and purification products for a wide range of industries and applications. They require a large volume of high purity water and water quality is critical to maintaining high manufacturing quality standards.

Parker Domnick Hunter's filters go into a variety of pharmaceutical and food and beverage systems, so water of pharmaceutical quality is of paramount importance for flushing and testing finished filters. And with their large production schedule, this means that high purity water is required 24/7.



Key Figures

- New water purification plant for increased capacity
- New plant to fit into limited space available.
- Minimal disruption to production

The Client's Needs

Increased production had pushed Parker Domnick Hunter's pharmaceutical grade water usage up to around 18,000 litres an hour, and their old water purification plant was no longer able to keep up with the demand. It was time for a replacement.

The plant room concerned is of limited space and finding a plant of sufficient capacity that could be installed in the area available proved difficult. The new plant would also need to be installed within the constraints of the raised platform floor and be fully accessible for service and maintenance. Space constraints would also be an issue for the removal and disposal of the current plant, so all the work would need to be meticulously and innovatively planned and executed, to ensure minimal shut down and loss of production.

The Solution

Veolia Water Technologies's market leading ORION™ packaged pharmaceutical water system would have been ideal, but at 6000 litres an hour, the standard unit was too small to meet Parker Domnick Hunter's demands. Veolia Water Technologies's engineers set about designing a bespoke plant based on the ORION™ process technology.



Process Description

Veolia Water Technologies's new plant had to fit through the plant room doors, so the plant was designed on easily manoeuvrable, skid mounted modules that could be assembled inside the plant room. This enabled the skids to also fit around the constraints of the plant room floor.

The specially designed plant was built and assembled at Veolia Water Technologies's factory in Stoke-on-Trent and wet tested. After factory acceptance testing and full validation the plant was broken down into its component skids and transported to site. It was then rebuilt in its final position in the plant room and re-commissioned, with all documentation supplied.

To minimise production downtime Veolia Water Technologies's team of engineers carried out most of the work including installing all the necessary tanks, vessels and distribution loops while production was still being supplied by the old plant. When production did need to be halted, these were done in 5 short phased out of hours shutdowns. This meant that all the engineering work needed to be planned to a strict schedule to ensure quick and smooth change over.



Results

Veolia Water Technologies also decommissioned the old plant, including the safe disposal of chemicals, ion exchange resins and similar waste materials. Thoughtful engineering again provide invaluable to Parker Domnick Hunter's when the reverse osmosis section of their old plant was retained and connected up to recover the waste water from production and re-used as feed to the new plant, reducing mains water consumption by about 50% and saving money.

Veolia Water Technologies's water has a long history of engineering bespoke designs and a flexible approach to "specials". It's this experience that provided Parker Domnick Hunter with a unique and cost effective solution to their water treatment challenge, with minimum loss and a bonus of wastewater recovery.

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