SOLVING A SPACE PROBLEM AT DERRIFORD HOSPITAL

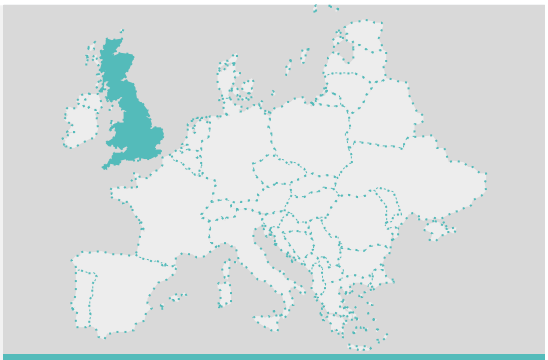
CASE STUDY | Science & Healthcare

| The client's needs

Derriford Hospital's busy laboratory provides a wide range of analytical and testing services including haematology, immunology, biochemistry and molecular biology. The laboratory's state-of-the-art analytical equipment is dependent on a constant supply of high purity water. The lab requires up to 300 litres per hour of bacteria free water meeting CLSI (Clinical and Laboratory Standards Institute) Type II clinical laboratory reagent water (CLRW) quality standards. This means resistivity >10MΩ.cm, TOC <50ppb and bacteria <10cfu/ml.

The laboratory had an existing water purification system which was becoming unreliable and needed to be replaced. The difficulty being that, because of the need for 24 hour laboratory services, the purified water supply could not be interrupted during the replacement work. Space was a further key issue, with only a small cupboard at the end of the laboratory available to house the system.

Veolia's standard MedicaPro range, which combines a range of treatment technologies including reverse osmosis, ultraviolet disinfection and continuous electrodeionisation, was the obvious choice to meet the Type II water quality standards. Although Veolia's product range includes a single treatment unit capable of delivering the required flow rate, the restricted space was insufficient to accommodate it.



Plymouth, UK

| The client

Derriford Hospital, part of Plymouth Hospitals NHS Trust, is a large teaching hospital which serves Plymouth and nearby areas of Devon and Cornwall. It also provides tertiary cardiothoracic surgery, neurosurgery and renal transplant surgery for the whole of the South West Peninsula.

The 900 bed hospital was officially opened in 1981, with more than 48,000 patients being treated each week. It is one of only five hospitals with an attached MOD hospital unit to cater to service personnel.

Key Figures

- 300 L/h CLSI Type II water
- Restricted installation space
- Three parallel streams

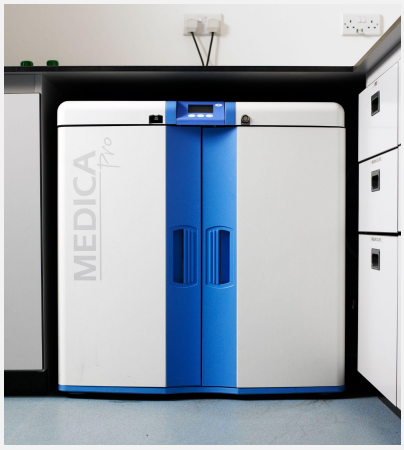
| The solution

Space was an issue with this system, with consideration needed for regular service and maintenance as well as daily operation. Veolia's Engineering team resolved this by installing a compact frame which housed three smaller MedicaPro 120 units operating in parallel, each feeding a 300 litre capacity tank. Veolia designed and manufactured a bespoke frame for all the equipment which included a sliding base for each Medica to allow it to be pulled out of the cupboard for servicing.

| Results

Water is pumped from each tank to the points of use via a 0.2µm cartridge filter to ensure microbiological purity. Although the cupboard was small in area, the three Medica systems fitted side by side and with sufficient height it allowed the tanks to be installed above them. That left just enough room for three pumps and associated filters to be installed one above the other. The end result was than innovative solution that fitted in a cupboard measuring approx 1m x 2.5m.

Lead Biomedical Scientist, Tony Cambridge was pleased with the result. "The units are very user friendly and Veolia's frame design makes access to them easy."



> ***The units are very user friendly and Veolia's frame design makes access to them easy.***
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> ***Tony Cambridge**, Lead Biomedical Scientist*

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