



## Water Treatment System for Ultrapure Water Production

**Customer:** Sullivan & Nicolaides Pathology

**Location:** 22 locations across NSW & QLD, Australia

**Case Study ID:** CS-46

**Date:** January 2018

### Overview

Dowdens Pumping & Water Treatment's Brisbane branch has built a strong relationship with Sullivan Nicolaides Pathology (SNP) after more than 25 years of providing high purity water treatment systems and solutions for 22 of their Commercial Testing Pathology laboratories, from as far north as Cairns, south to Coffs Harbour and everywhere in between. The majority of Dowdens Pumping & Water Treatment's high purity water treatment systems are used primarily in Sullivan Nicolaides blood testing machines.

### The Problem

Mains water can contain many substances that, if left untreated, can react with the reagents used in controlled laboratory tests, causing positive or negative interference, which leads to unreliable test

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results. Cations such as sodium, calcium, magnesium or iron; anions such as bicarbonate, chloride and sulphate; and other inorganic ions are commonly found in mains water.

Several other contaminants - such as pyrogens, nucleases, alkaline phosphatase and endotoxins, may be present. As they are not harmful for human consumption, they are not thoroughly regulated or tested in South-East Queensland municipalities potable water treatment and distribution. These contaminants are detrimental to experimental / laboratory processes that require precision, high sensitivity and precise instrumental operation.



## Our Solution

Water purification depends on local (and even site-specific) variations in the make-up of the town and tap water quality, which can differ significantly from place to place. For this reason, Dowdens Engineers have designed every SNP high purity water treatment system individually, with local and site-specific feed water characteristics in mind. The most recent system was installed at SNP's Central Laboratory located in Bowen Hills, QLD.

After careful analysis of the town water being delivered directly to SNP's Bowen Hills Laboratory, a turn-key 'looped' treatment system was designed, manufactured and incorporated into SNP's existing Building Maintenance System (BMS).

This 'looped' high purity water treatment system delivers 56,000L of 18 MΩ/cm UPW per day, providing not only the capacity required for SNP's entire Bowen Hills Central Laboratory but also delivering sufficient redundancy so that during times of service/maintenance, the lab and testing machines are never without sufficient UPW to remain operational.

## Key Components

- Duplex Carbon Filters with automatic Valves
- Duplex Water Softeners with automatic Valves
- Duplex Matten 'L Series' Reverse Osmosis Systems

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- Duplex 10" Deionisers
- 4x Deioniser Polishing 'Loop' Systems
- 4x 1,000L Treated Water 'Loop' Tanks

## Project Design Philosophy

Dowdens Pumping & Water Treatment's design philosophy for this project was:

- Cost-Effectiveness
- Current Best Practice
- Ease of Installation
- Simple & Effective System Operation
- System Reliability
- Reduced Ongoing Maintenance Requirements



## Brands used in this project



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