



HIGH-PURITY WATER FOR CRITICAL MEDICAL ANALYSIS

THE CONTEXT LABORATORY PROJECT

Client name : Ministry of Health and Social Services – Optilab

Sector of activity : Medical diagnostics & testing

Facility type : Medical testing center

Location : Saint-Bruno facility

Project date : Spring 2025

Ensuring High-Quality Water Without Interruption

For its Optilab facility in Saint-Bruno, the provincial entity required two new water treatment systems capable of producing Type 1 quality water complying with Quebec Public Health Laboratory (LSPQ) standards, essential for accurate medical testing. The system's setup, which was fully redundant, was to ensure continuous operation of the lab in case of city water issues and/or loop maintenance work.

The two purification trains needed to be identical and operate in parallel to ensure a continuous supply of purified water. In the event of a component failure or maintenance on one line, the redundant system had to handle 100% of purified water requirements without interrupting laboratory operations.

Two Treatment Systems Designed and Installed by Puribec

Puribec designed two treatment systems to continuously produce water meeting the laboratory's targeted standards and daily consumption volume. The team collaborated closely with the client to implement a solution adapted to high medical analysis requirements.



Puribec provided a turnkey solution combining design, equipment, and installation for the necessary water purification technologies, such as:

- Kinetico CP softeners to significantly reduce water hardness and supply soft water for moderate to high volume usage;
- Carbon filtration with Kinetico Hydrus systems to significantly reduce chlorine and chloramines;
- Sirius reverse osmosis systems, manufactured by Puribec, reducing total dissolved solids by over 95%;
- Storage tanks and distribution pumps;
- Polishing resin cylinders;
- Microfiltration and UV sterilization station ensuring Type 1 LSPQ water quality.

Puribec also supplied and installed specialized plumbing distribution loops to route treated water from treatment outputs to points of use. This complimentary yet rare expertise ensures continuity between the treatment system and the laboratory's pure water network while centralizing project execution with a single supplier.

Results of a Solution Designed for Continuity

With nearly 50 years of experience in water purification, Puribec combines system design, equipment manufacturing, installation, and specialized plumbing. For Optilab, this expertise enabled the implementation of a comprehensive solution meeting two key imperatives: water quality precision and operational continuity.

- Production of Type 1 quality water adapted to medical analysis standards.

- Two parallel treatment installations ensuring an uninterrupted supply of purified water.
- Zero scheduled downtime: If a component on system A becomes unavailable, system B can support 100% of treated water needs, and vice-versa.
- Over 95% reduction in total dissolved solids via Sirius reverse osmosis systems.
- PureRince purified water membrane rinsing promoting extended service life for reverse osmosis membranes.
- Up to 70% lower salt consumption by non-electric Kinetico softeners using counter-current regeneration, contributing to a reduced environmental footprint.
- Turnkey solution comprising treatment lines and specialized plumbing to points of use.



Do you need to ensure consistent water quality for your operations?

Contact our water treatment system experts to obtain a turnkey solution tailored to your facilities and operational requirements at puribectechnologies.com