

Typical Application at Saigon Water Corporation (SAWACO)



Overview

The water supply system operated by Saigon Water Corporation (SAWACO) plays a vital role in ensuring safe, clean water for millions of residents across Ho Chi Minh City. Most raw water is sourced from the Dong Nai River, the Saigon River, and nearby domestic areas. In this context, SAWACO's laboratories are essential to controlling water quality from source to the distribution network, ensuring every parameter is closely monitored in line with current standards.

SAWACO LABORATORIES – THE FOUNDATION OF QUALITY CONTROL

Laboratories across the SAWACO system are developed with a modern approach, featuring standardized analytical procedures and a highly experienced team of technicians. Using advanced analytical instruments improves result accuracy while also ensuring consistency among plants throughout the system. The laboratory is not only where routine testing is carried out, but also a hub that supports operational decision-making. Continuous analytical data helps detect shifts in source-water conditions early, enabling plants to proactively adjust treatment processes. With the goal of a standardized, modern, and unified lab model, SAWACO is steadily strengthening its quality-control capabilities by investing in advanced analytical technologies such as TOC (Total Organic Carbon).

Challenge

Fluctuations in total organic carbon (TOC) in raw water are one of the major challenges for water treatment plants: TOC levels vary by season, watershed, and discharge sources, making it difficult to keep influent water quality consistently under control. Without effective monitoring, TOC can directly impact treatment performance and the quality of finished drinking water.

Compliance requirements under QCVN 08:2023/BTNMT for source water and QCVN 01-1:2024/BYT* for supplied water call for fast, accurate, and reliable analytical solutions. (*QCVN 01-1:2024/BYT currently uses the Permanganate Index to monitor organic levels in treated drinking water; TOC is used as a correlated measurement.)



Solution

This solution is designed to strengthen SAWACO's laboratory capabilities in managing organic pollution by:

Standardizing TOC analysis methods across all member companies to ensure consistent, reliable data. At the same time, it helps plants proactively monitor raw water quality and ensure finished water meets all current regulatory requirements.

HACH SOLUTIONS FOR A MODERN LABORATORY

HACH provides a Total Organic Carbon (TOC) analysis solution featuring the QbD1200 Plus—purpose-built for laboratories in the water utility sector. The instrument delivers high accuracy, strong repeatability, and straightforward operation, making it well-suited for both central labs and member plants.

The system includes an integrated autosampler to automate the analysis workflow, reduce errors from manual handling, and boost productivity. Standardizing deployment across the entire network helps SAWACO establish a modern laboratory platform that meets the needs of centralized quality management.





QbD1200 Plus TOC Analyzer and Automatic Sampler (64 positions)

SOLUTION CONFIGURATION

The proposed TOC laboratory solution includes the following items:

- 01 x QbD1200 Plus TOC Analyzer A high-precision total organic carbon analyzer, well-suited for laboratory applications in the potable water sector
- 01 x Automatic Sampler (Autosampler)
Automates sampling and analysis to boost throughput and minimize handling errors
- Consumables kit (Spare parts) for 01 year Ensures continuous operation and maintains stable analytical performance



Benefits and Value Delivered

HACH's TOC analysis solution helps SAWACO water plants proactively manage organic contamination using fast, accurate, and reliable data. This enables laboratories to detect changes in raw-water quality early and support plants in promptly adjusting treatment processes.

The QbD1200 Plus stands out for its high-precision measurements at low concentration ranges, making it especially well-suited for TOC control in treated water. This helps ensure finished-water quality meets regulatory standards and increases confidence in analytical results.

Integrating an autosampler enables automated, back-to-back analysis of multiple samples, boosting throughput and reducing manual handling. At the same time, the instrument is easy to operate and maintain, helping optimize operating costs and ensure reliable, stable performance for the laboratory.

The solution also standardizes data across plants within the SAWACO system, improving management efficiency and strengthening consistency in water quality control. In addition, applying modern analytical technology enhances the image of a standards-compliant laboratory, supporting a sustainable and professional water-supply model.



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