Laboratory, pilot, and R&D capabilities

Xylem's wastewater treatment innovation lab



Reaction tanks

World leaders in wastewater treatment

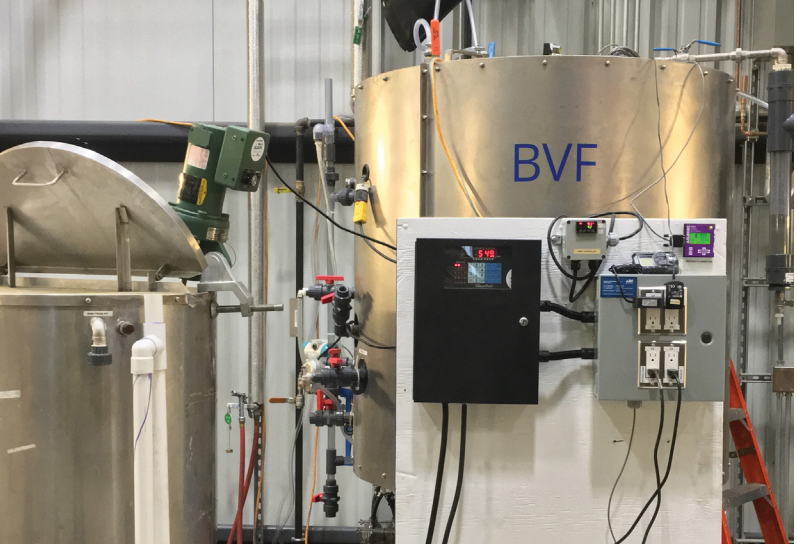
Xylem is committed to continual innovation so we can offer our customers the most advanced and efficient wastewater treatment solutions. We have the capacity to conduct a complete range of wastewater testing—everything from basic wastewater characterization to bench- and pilot-scale studies. By investing in cleantech research and development equipment, Xylem can remain a world leader in wastewater treatment.

Benefits of wastewater characterization and pilot testing

- Demonstrates and verifies process performance
- Offers in-depth information for detailed design of a full-scale treatment process
- Reveals any potential difficulties with the process that might otherwise go undetected until a full-scale system is installed
- Facilitates design and process optimization
- Provides operational training







Wastewater sample analysis

Our in-house capabilities allow us to perform routine wastewater characterization analyses. Samples are commonly shipped to our laboratory from around the world. Xylem's knowledgeable team can assist with information on sample collection, sample preservation techniques, and shipping details. This ensures the samples are delivered quickly and in optimal condition.

Pilot studies

Xylem maintains a set of skid-mounted pilot units for most of our technology offerings. These pilot systems can be shipped to your facility or they can be leased at our laboratory and industrial processors can ship their wastewater to us. Pilot units are typically leased on a three-, six-, or month-to-month basis.

Pilot studies are carefully tailored to each client's unique situation. Our process specialists assist with set-up and commissioning, as well as provide detailed operating instructions. During the study, we remain in close contact with the pilot plant operators to offer guidance and feedback. A comprehensive report is provided at the conclusion of the study.

Treatability studies

Using state-of-the-art pulse-flow respirometry equipment, Xylem's laboratory is capable of conducting a variety of tests that are highly useful for understanding the potential of anaerobic and aerobic treatment processes.

Treatability: Evaluate the expected Chemical Oxygen Demand (COD) removal, biogas yield, and methane production potential for a particular wastewater sample.

Toxicity: Determine whether specific chemicals or unknown wastewater samples are amenable to aerobic or anaerobic processes.

Activity: Measure the activity of biomass (e.g. proposed reactor seed sludge) in terms of methane production.

Project delivery



Xylem is a world-leading wastewater treatment and waste-to-energy technology solution provider with over 35 years of experience treating industrial processing wastewater and organic waste. We understand the complex challenges and strive to engineer unique solutions for the industry. Sustainability is the foundation of our design and construction processes, and innovative clean tech research and development is the building block of our many successful projects around the world.

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