AQUACYCL TECHNICAL FAQ

AQUACYCL

Company Overview

Where is Aquacycl headquartered?

Aquacycl is based in Escondido, California (Greater San Diego area), with international operations expanding rapidly. Our European hub in the Netherlands was established in 2023 to support regional deployment and compliance with EU wastewater regulations. Learn more about our company here.

How long has Aquacycl been operating?

Aquacycl has been commercially operating since November 2016 and backed by more than 20 years of technology development. Aquacycl technology has been continuously operating in field trials since 2016 and Aquacycl BETT and SulfideFix have been operating under commercial contract with indusrial clients since 2022.

Technology & System Performance

How does the BETT® system compare to anaerobic or aerobic systems?

The BETT® (BioElectrochemical Treatment Technology) system is designed to handle extremely high-BOD wastewater (150,000+ mg/L BOD) significantly beyond the capacity of conventional anaerobic systems.

- **BOD Concentration:** 1,000-150,000 mg-BOD/L
- **Max TSS Concentration:** 5,000 ppm
- **Max FOG Concentration:** 300 ppm
- **BOD Removal:** 80-95%
  dependent on starting concentrations and flow rate
- **COD Removal Rate:** 70-90%
- **HRT:** 6-20 hours
- **Energy Consumption:** 0.2-0.4 kWh/kg-BOD removed
- **Footprint:** 40 ft (L) x 8 ft (W) x 9 ft (H)

Treatment Strategy	COD removed (kg/day)	Biomass produced (kg/day)	% Biomass / COD treated (% sludge)	Sludge generated (m^3/day)	Energy conumed (kWh/kg-COD)	Power consumed (kWh/d)
Activated Sludge	2,600	1,040	40.0%	13.0	1.3-2.0	2,093-3,220
Anaerobic Digestion	2,600	260	10.0%	3.0	0.4-0.7	644-1,127
BETT®	2,600	2	0.07%	0.02	0.02-0.04	60-120

What are the validated applications for the BETT® system?

BETT® can treat wastewater with a wide range of pollutants, from chemicals, to biofuels, to organic and inorganic materials. Proven 12-24 month ROI in F&B applications.

Our validated applications include:

- **Food & Beverage:** bottling, distillery, brewery, confectionery
- **Chemicals:** hydrocarbon remediation, diesel, gasoline
- **Pharmaceutical:** supplements, medications
- **Agricultural**: swine manure management

How does SulfideFix operate?

SulfideFix utilizes our patented Micro-Aeration technology to remove H2S from wastewater tanks. The system requires no chemicals, produces minimal byproducts, and requires minimal energy to operate, unlike other H2S removal technologies.

- **H2S Removal:** 60-90% in gas phase depending on HRT 60-99% in liquid phase
- **HRT:** 6-18 hours
- **Energy Consumption:** 0.7-4 kWh/kg-H2S removed
- **Operating Temp:** 41 - 122 °F (5 - 50 °C)

What are the validated applications for SulfideFix?

The system can be installed in any enclosed (soft or hard capped) wastewater tanks and is effective with any wastewater type that contains carbon and sulfur pollutants.

Our validated applications include:

- **Food & Beverage**
- **Chemicals**
- **Pharmaceutical**
- **Agricultural**
- **Pulp & Paper**
- **Municipal**

Design & Integration

Can these systems be integrated into existing treatment and facility infrastructure?

Yes. All our systems are built to retrofit into existing facilities and wastewater tanks. The BETT® system can be installed as pre- or post-treatment to any existing system (including aerobic or anaerobic treatment systems). BETT® units can also be designed into greenfield projects as the primary and secondary treatment steps.

SulfideFix units are custom built to retrofit into any new or existing wastewater tank. Aquacycl manages design, build, and operations for one-year post-installation.

How are your systems designed?

Since the systems are modular and scalable, we are able to customize a solution to meet your unique client needs. Treatment volumes can be increased by adding multiple units (inside or outside a containerized footprint). System configurations are determined by site assessments that may include influent characterization and a review of effluent requirements, existing site infrastructure, and application utility needs.

A 40-ft BETT® system requires a minimum of 6-month lead time for design, build, and commissioning. A SulfideFix unit requires a minimum 2-month lead time depending on the level of tank customization needed.

Performance & Monitoring

How are these systems monitored and controlled?

Our systems are integrated with real-time remote monitoring and control with alerting protocols for off-spec influent or process variability. Engineers and end-users have access to a cloud-based dashboard with real-time performance summaries. Aquacycl's operations team provides 24/7 remote support and onsite support as needed for regular maintenance and emergency response.

How do we provide a performance guarantee for your clients?

Aquacycl provides a performance guarantee through contractual scope of work that is agreed upon with your client and backed by real-time system monitoring, proactive operations and data transparency.

Still have more questions?

Reach out to your Aquacycl sales representative or contact us here and we will be happy to answer any more questions.