



INTEGRATED CIRCUITS
ELECTRONIC INDUSTRIES

Aerobic Digester

ICF-WWT-ADT-001

2025

1.Overview

The ICF-WWT-ADT-001 is designed to demonstrate and analyze the principles of aerobic digestion in wastewater treatment. It enables users to monitor key parameters involved in the biological degradation of organic matter by aerobic microorganisms.

This bench-scale unit features a 1.5-liter reactor vessel equipped with an internal tubular plastic membrane that separates sludge from the treated effluent. Wastewater is introduced into the system using a peristaltic pump, ensuring precise flow control.

A thermostatic bath heats water up to 60°C, which is circulated through a coil inside the reactor, maintaining an optimal temperature range for microbial activity. To support bacterial growth, a compressor supplies air into the reactor via a diffusion plate, ensuring an oxygen-rich environment.

For real-time monitoring, the unit is equipped with dissolved oxygen (DO) and pH probes with digital meters. A gas sampling port is integrated into the reactor lid, allowing for collection and analysis of gases generated during the digestion process.

This unit is ideal for educational and research purposes, providing a hands-on platform for understanding biological wastewater treatment under aerobic conditions.



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2.Specification

- A 1.5l bench-mounted aerobic digester, complete with peristaltic feed pump air, compressor, and temperature control system.
- Dissolved oxygen and pH probes and meters are included.
- designed to operate safely and reproducibly for periods of several days.
- Feed pump: 24V DC, peristaltic, 0-30rpm corresponding to 0-40 l/day.
- Air compressor: 120-240V, 0-3.0 l/min (STP).
- Reactor vessel: 1-5l max capacity.
- pH meter range: 0.00-14.00.
- Dissolved oxygen meter range: 0-100% saturation.
- Dissolved oxygen meter resolution: 2%.