

AIRLIFT CIRCULATING FLOATING - CARRIER BED (ACFB)

A Compact Wastewater Treatment System (Poseidon)

The Poseidon is a packaged wastewater treatment system ideal for decentralized treatment of wastewater within homes and residential communities. The system uses biological processes, without the use of chemicals, to ensure a safe and sustainable wastewater treatment process. Featuring a compact and modular system, the Poseidon can be ordered and designed for specific sites.

Key applications include:

- Individual homes
- Commercial buildings
- Residential colonies
- Small to medium-sized hotels

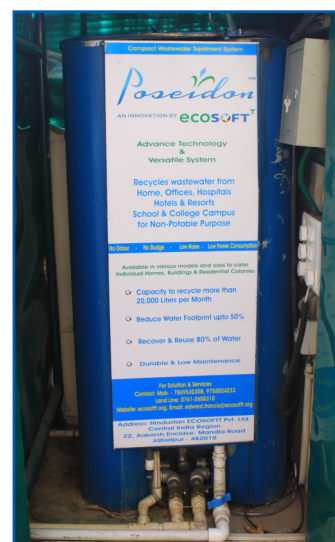
The treated wastewater can be safely reused for a range of non-potable purposes like landscaping and general cleaning.

System Features and Benefits

- Low operation and maintenance cost
- Minimum operator intervention
- Compact system that can be installed in buildings and homes
- Short on-site installation time
- No sludge, noise and odors
- No addition of chemicals
- Modular system that is expandable with tank additions
- Allows for instrument monitoring, with data acquisition and control



A single Poseidon unit is sufficient for up to 8 users



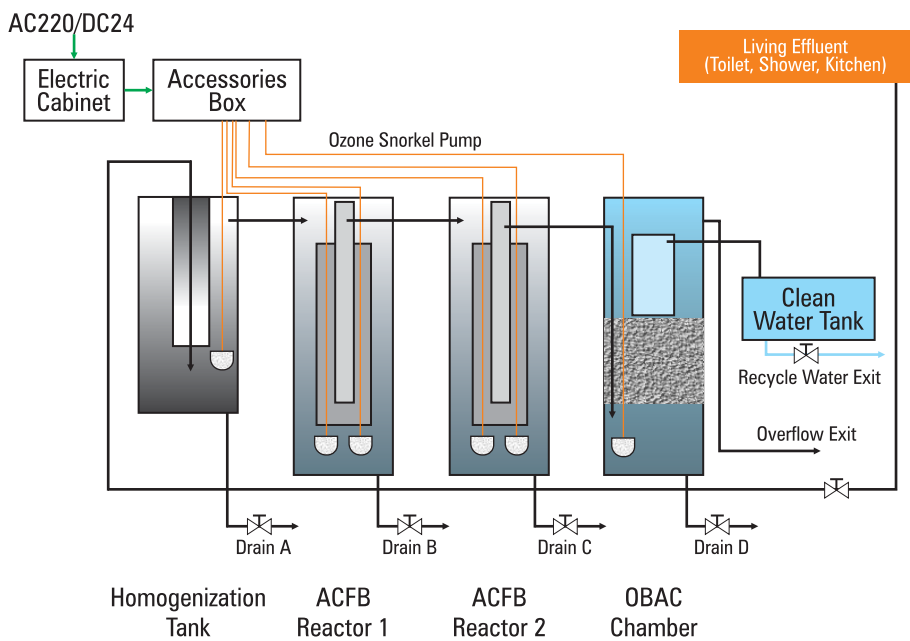
Poseidon for Water Smart Home



Poseidon for Water Smart Community

Overall System Flow

- 1. Homogenization Tank: Breaks down large organic particles
- 2. ACBR Reactor 1: Removes BOD, nitrogen and phosphorus
- 3. ACFB Reactor 2: Further removal of BOD, nitrogen and phosphorus
- 4. OBAC Chamber: Ozone disinfection and activated carbon filter



ACFB - Airlift Circulating Floating-Carrier Bed
OBAC - Ozone Biological Activated Carbon

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ACFB Reactor

Using a combination of aerobic, anoxic, and anaerobic processes, the Airlift Circulating Floating-Carrier Bed (ACFB) reactor in the Poseidon achieves high rates of nitrogen and phosphorus removal in a single treatment unit. This reduces the hydraulic retention time of wastewater in the system, thereby allowing a highly compact wastewater treatment system.

Poseidon Effluent Quality

Parameters	Effluent Quality*
BOD ₅	< 5 mg/L
Total Suspended Solids	< 10 mg/L
Total Nitrogen	< 1 mg/L
Fecal Coliforms	< 10 CFU/100 mL

*Values are based on wastewater from residential areas.

