AEROSEPTECH

Wastewater Treatment Systems Inc.

AEROSEPTECH HYBRID BIOREACTOR

The AHB is a continuous 24-hour onsite wastewater destruction system that uses 5 distinct technologies to process and clean the most difficult wastewater.

The AHB is the most advanced wastewater system available. It has been specifically designed for residential and small commercial applications.

The AHB combines technologies that will reduce residential wastewater to a clear effluent safe for garden irrigation and re-introduction to the watershed. The combined technologies eliminate the pumping of dead biomass (sludge).

The AHB wastewater system has been designed to exceed NSF standard 40, class 1 wastewater effluent requirements.

The AHB wastewater system is microprocessor controlled with built in alarm circuitry for equipment failure and high water alarm. The AHB can be monitored from a central control facility via the internet.

Phase 1 A fixed sludge macerator is located in the first chamber and is mounted at the bottom of a directional cone that insures that all incoming waste passes through the macerator. The macerators time controlled operation breaks down the large sludge mass into a fine slurry of suspended solids using case hardened stainless steel blades and 1,250,000 cuts per minute. This process increases the solids surface area 1000 fold for rapid digestion by the bacterial community

Phase 2 The Anaerobic chamber is a biological process designed to eliminate the build up of dead biomass through the introduction of a scientifically designed blend of natural class 1 bacteria specifically chosen for their ability to metabolize waste solids, fats, oils, grease, protein, starch, detergent, cellulose, lipids and other organic wastes, turning them into carbon dioxide and water.

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Phase 3 A time controlled water pump sends a high pressure stream of water across the bottom of the Anaerobic chamber once per hour to continuously stir up any small sludge particles that have settled on the bottom. This function keeps these particles in suspension for continual consumption by the anaerobic bacteria.

Phase 4 The 3rd or Aeration chamber is the grey-water input location, which is designed to complete the destruction process with natural bacteria. Air is pumped through a fixed pipe to fine bubble diffusers located on the bottom of the chamber. The EPDM diffuser membrane contains over 6,200 precision-formed openings that perform maximum Oxygen transfer efficiency, resulting in higher dissolved Oxygen levels. Aerobic bacteria, in combination with the dissolved Oxygen will digest small suspended organic waste, soaps, phosphates and protein. The treated wastewater is then forced through hydraulic displacement to the clarifier chamber.

Phase 5 The Clarifying chamber will allow any leftover suspended waste particles to settle to the bottom and return to the Aerobic chamber for further digestion. The clear liquid in this chamber then flows into the pump out chamber.

Phase 6 The pump out chamber contains high and low level switching sensors that turn on and off the distribution pump and (optional) Ultraviolet disinfection unit. The UV unit kills all bacteria, mold virus, algae and protozoa, assuring the safe discharge of the treated wastewater.

Phase 7 A customer specified Irrigation distribution system either through sprinkler heads or an underground dripper or distribution system is optional and is priced accordingly.

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