

Bioreactor

Moving Bed Bioreactor

Bioreactor wash water treatment system is designed to improve wash water quality for recycling back to wash processes or to meet requirements for sewer discharge. Systems are available with 210, 500 and 1050-gallon reaction tanks.

The Bioreactor is designed to optimize the action of Hydro Biodigester product. It employs a moving reaction bed that consist of near neutral buoyancy bio-balls that provide colony locations for the Biodigester bacteria. The system includes a high-volume pump and air injection that agitates the biomass and maintains a well-mixed aerated solution which insures oxygen and food are continuously available to the bacteria. Biodigesters are automatically metered into the tank to maintain high levels of beneficial enzymes and bacteria that are targeted at reducing oil, fuels, alcohol, soap, organic chemical, other bacteria, plant and food wastes in the waste stream.



Standard features:

- 208/230-volt, 1 phase, 60 HZ, 12.5 Amps
- 210-gallon bioreactor tank
- Gravity flow through design
- Pressurized discharge to process (recycle)
- Overflow protection
- Manual sludge drain
- Sump pump discharge

Optional features:

- 220-volt, 1 phase, 50 HZ, 12.5 Amps
- 500 and 1050-gallon bioreactor tank
- Biological odor control and hydrocarbon elimination
- pH controller
- De-foam control
- Service indicator beacon
- Remote operation monitoring

Flow rate:

210 Gallon - GPM (LPM): 25 (94.6)

500 Gallon - GPM (LPM): 50 (189)

1050 Gallon - GPM (LPM): Over 50 GPM (189)

Dimensions - Inches (CM) 33" (83.8) L X 47" (119.4) W X 88" (223.5) H

Weight - LBS (KG) 210-gallon tank standard, 550 (249.5)

1. Specifications are effective 2017. 2. Specifications are subject to change without notice



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Bacteria and enzyme digestion is an essential tool for wash water improvement. It is used by every waste water treatment plant to reduce oil, grease, hydrocarbons, coolants, pesticides, organic wastes, BOD's and COD's. The Hydro Engineering Bioreactor extends this to include control of undesirable bacteria in the waste stream by insuring high colony counts of beneficial bacteria that outperform naturally occurring bacteria.

Biodigester bacteria colonize the biomass where they produce enzymes that reduce the hydrocarbon materials into simple fats or starches and then into sugars (which are food for the bacteria) and expel carbon dioxide and water. The bacteria adapt to their environment by modifying the enzymes they produce to target the specific materials in the waste stream. The high metabolism and reproduction rate of Biodigesters compete well with naturally occurring bacteria to eliminate pathogens and the rotten egg smell associated with naturally occurring bacteria digestion.

Hydro-Biodigesters can function in either an aerobic or anaerobic state and throughout a wide pH and temperature range but optimal performance is achieved in an aerobic state, at a near neutral pH and around 80°F. It is the job of the Bioreactor to maintain the solution condition to optimize the bacteria function. The included air injection 'Rumble Manifold' insures plenty of oxygen to support an aerobic environment.

Flow through design is standard. Process throughput flows over 50 GPM can be achieved, depending on tank size. When fluid enters the Bioreactor reaction tank it displaces fluid in the tank to a downstream process. The Bioreactor can be optionally equipped to control the system inflow and discharge. Other options include; a [pH Controller](#), a [foam control](#) system which prevents foam accumulation that can escape the reaction tank, and a [liquid proportioning](#) system for [Biodigesters](#) to insure adequate cell counts.

The unique, highly efficient Hydrokleen Bioreactor system can be integrated into any Hydro Engineering wastewater processing system.

Our Hydro-Biodigester product is pre-packaged in liquid form.

Contact:

Hydro Engineering Inc.
865 West 2600 South
Salt Lake City, Utah 84119
801.972.1181
800.247.8424

Get a Quote

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