

Call: 1-831-724-1377

Wastewater Aeration

All wastewater treatment systems have one thing in common...they need oxygen, and LOTS of it. The good news is that there has been a breakthrough in aeration technology resulting in an affordable, highly effective aerator. The technology is ClearBlu Environmental's Microbubble Aeration System and it holds the promise of being the most efficient aerator on the market.



Does your waste treatment system need a boost in performance? Do you need low-cost help in meeting regulatory requirements for wastewater discharge? Do you need an affordable back-up system to keep your operations underway when your main facility is down for repair?

The Microbubble Turbine Technology is your answer. It generates an unbelievable barrage of entrained oxygen molecules and then injects them into your treatment stream or lagoon. The unit is quiet, light weight, and virtually maintenance free. Plus, it can be easily moved from place to place as needed within your treatment system.

There are many different types of wastewater treatment systems in use today. One of the most common is an aerated lagoon. Here, artificial aeration is used to inject air (oxygen) into the wastewater to biotreat the pollutants. Along with oxygen and organic matter (pollutants) all treatment systems need microbes to complete the digestion process. Microbes can either be air-breathing (aerobes) or non-air-breathing (anaerobes.) Aerobes tend to be more highly efficient and produce lower odors as compared to anaerobes. The benefit of injecting air beneath the surface is to allow aerobes to live and process waste directly in the water. Aerators fall into several different categories as follows:

- Floating Surface Aerators
- Submerged Aerators
- Fixed-in-Place Surface Aerators
- Compressed Air Diffusers



Turbine Technology is a hybrid aerator in that it can float on the surface or else be attached to a wall. Regardless of how it is installed, it always releases air beneath the surface of the water. Using a rotating disc that operates on the principle of precession, it discharges a plume of oxygenated water in both a downward and a 360-degree lateral direction. Compared to other subsurface aerators, the Turbine produces very little surface frothing. The reason is that the particle size of the entrained air is sufficiently small that a greater percentage of the air (oxygen) is held in suspension beneath the surface. The suspension of such small particle sizes of oxygen is critical to the efficiency of any treatment system because it permits a more rapid explosion in the subsurface growth of aerobic microbes.

In a clear water demonstration of turbine it appears that a white cloud is forming beneath the water. This visual image is a testimony to the high percentage of small oxygen bubbles being created and held in suspension.



Microbubble Turbine Technology is a self-aspirating aerator. This means that it draws air by suction from the atmosphere. It does not need high-dollar canister oxygen or a compressed air system to generate and inject oxygen into the body of water. Also, due to its design, it is virtually impossible for the turbine to clog.

Turbine Technology can be installed in many different locations within a treatment system. For example, it can be placed in the last basin of a stabilization system for final treatment before the wastewater is discharged into the environment. In the alternative, it can be placed in the first basin to jump-start the aeration process.

Each turbine is operated by a low horsepower electric motor. The power requirements of the motor can be sized to meet the electrical requirements of your treatment system, from 220 volts and up.