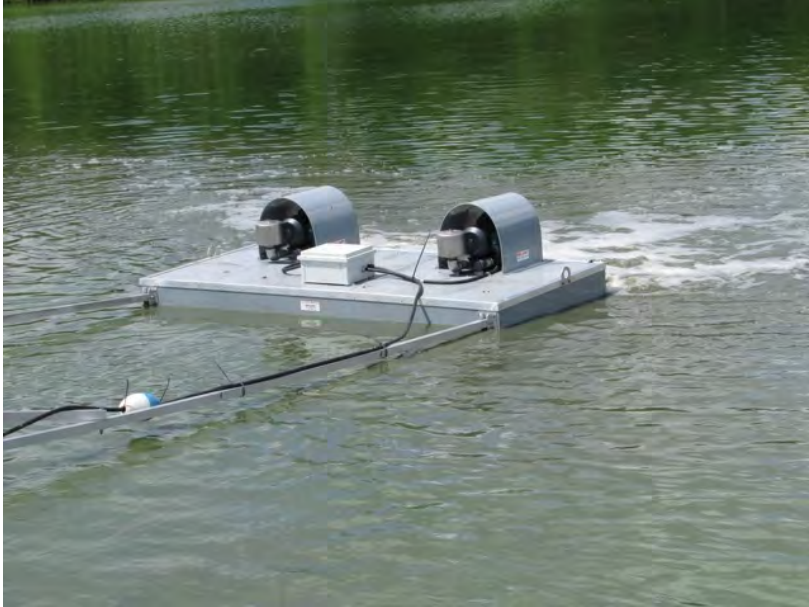


LAGOON MASTER™

Sludge Activating Aerator



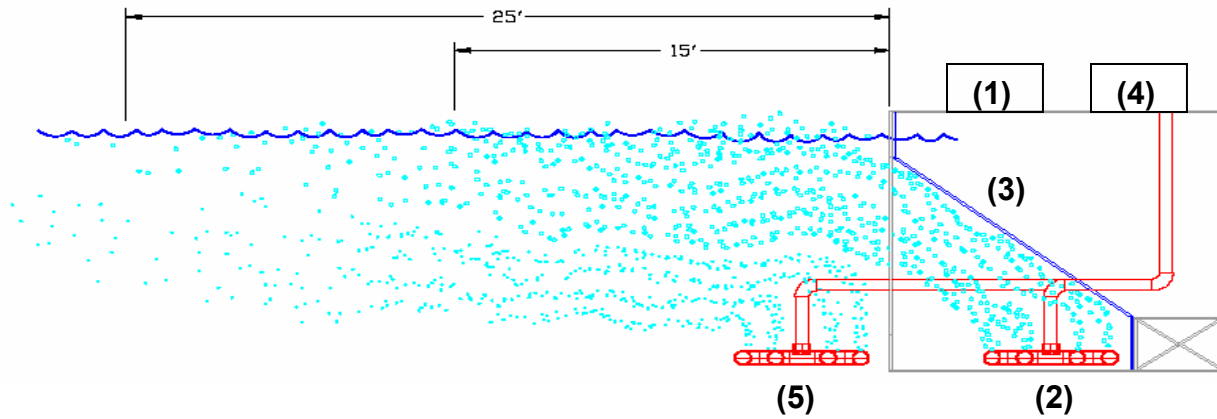
- Utilizes only 4 HP (3kW) of energy per 1 to 4 acres of water
- Moves water along the bottom to slightly lift the sludge and activate it
- Eliminates sludge gas and provides the microbes with oxygen for sludge degradation
- Provides up to 15 lbs (7kg) of DO to the sludge and water column
- Improves water quality
- Reduces maintenance costs

The Reliable **LAGOON MASTER** Water-Moving and Sludge Activating Aeration System is not just an aerator, but it continuously, and slowly, moves water along the bottom of a lagoon/pond delivering large amounts of dissolved oxygen (DO) using a minimum of energy. When compared to standard paddlewheel, vortex, hose diffusion, spray (fountain), or aspirating aerators, the **LAGOON MASTER** is more efficient, less costly to operate, and requires less maintenance.

The **LAGOON MASTER** is a two-phase system which utilizes two 2 HP (1.5 kW) regenerative blowers. Phase 1, using one of the blowers, is the water moving phase, continuously pushing water along the bottom within 1 to 4 acres (.4-1.6 hectares) (depending upon water depth) of a pond or lagoon. Phase 2 is a second 2 HP (1.5 kW) blower that provides DO at a rate that exceeds other surface or diffused air aeration systems designed for shallow water ponds or lagoons.

The use of this new, proven, aeration technology will (1) provide better overall water quality through continual oxidation and the elimination of odors, (2) eliminate the zero-oxygen dead-zone on the lagoon/pond bottom, (3) provide constantly moving water to assist in organic sludge breakdown, and (4) provide dissolved oxygen at a controlled rate in order to save energy and oxidize waste gases. One 8' (2.4 meter) **LAGOON MASTER** will move over 9 million gallons (34,100 cu meters) of water in a 24 hour period.

HOW DOES THE *LAGOON MASTER* WORK?

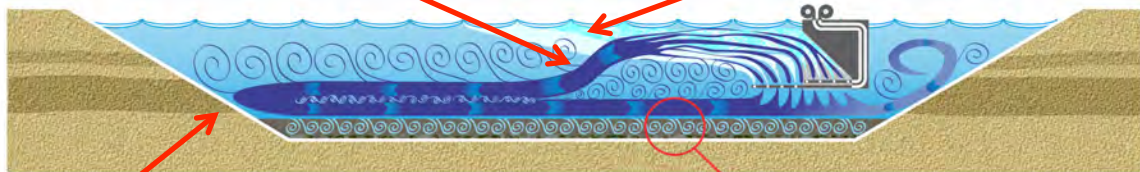


The key, and patented, elements of the *LAGOON MASTER* is its two regenerative blowers, each connected to a set of bubble-forming diffuser grids. The Phase 1 blower (1) runs 24 hours per day and feeds the rear-most diffuser grid (2) which allows large 1-2 cm. bubbles to rise quickly into a 45° baffle (3), pushing water at a velocity capable of moving over 9 million gallons (34,100 cu meters) of water per day. These large bubbles stay on the surface for up to 25' (7.6 meters) in front of the *LAGOON MASTER*. When the Phase 2 blower (4) is initiated, either manually or automatically, it feeds air to the industrial diffuser grid (5) located forward of the base of the *LAGOON MASTER*. The bubbles emitted from the diffusers are approximately .8 mm in diameter. These small bubbles are kept underwater for up to 35' (10.7 meters) due to their inability to rise above the larger, faster and horizontally moving bubbles caused by the primary, coarse bubble diffuser. The 25' to 35' (7.6 to 10.7 meters) of residence time for the small bubbles, at 1 atmosphere of pressure, allows for oxygen diffusion into the water, providing the addition of continuous increases in dissolved oxygen.

HOW THE *LAGOON MASTER*, IS DIFFERENT FROM OTHER SURFACE AERATORS

QUIESCENT WATER FORCES TURBULANT SURFACE FLOWING WATER TO FALL UNTIL IT HITS THE SLUDGE ON THE BOTTOM. THIS TURBULENCE ON THE BOTTOM BEGINS SLUDGE FLUIDIZATION. (Note how the falling flow of water drops through the oxygenated bubble plume and brings dissolved oxygen to the sludge)

FINE BUBBLES, UNABLE TO RISE ABOVE TURBULENCE OF COARSE BUBBLE FLOW, FINALLY BREAKING THE SURFACE



OPPOSITE SHORE TURNS WATER BACK TOWARD THE INTAKE OF THE AERATOR, WHICH PULLS 9 MILLION GALLONS OF WATER THROUGH ITSELF PER DAY. THIS FLOWING WATER COMPLETES THE FLUIDIZATION OF THE SLUDGE





The ***LAGOON MASTER*** out of the water, ready for installation. Weighing less than 1100 pounds (499 kg), it is simple to install because it floats in less than 5 feet (1.5m) of water depth. It can be tethered to the bank or out in the lagoon, whichever is preferred.

In the water, the ***LAGOON MASTER*** provides a low profile. Notice that there is very little white water in front of the unit. An unspoken rule never heard from other aerator manufacturers is that “white water is wasted energy and oxygen.” This lack of white water speaks volumes of the efficiency of this lagoon water moving and aeration system.



For ponds and lagoons that freeze during the winter, the ***LAGOON MASTER*** can be provided with an ‘Ice Option’. This option utilizes a third blower and an extra external manifold that will provide a continuous bubble curtain around the ***LAGOON MASTER*** so that it floats normally, even when it is surrounded by ice.



Maintenance



Blower intake filters are stainless steel and only require cleaning once or twice per year, not replaced.

LAGOON MASTER Lagoon/Pond Aerator

Features

- Only 4 HP (3 kW) at maximum energy use
- No propellers or shafts underwater to foul
- No belts or gearboxes to break or require maintenance
- Non-corrosive materials of construction—Anodized aluminum, HDPE, Stainless Steel

Benefits

- Continuously moves the lagoon/pond water along the bottom, causing vertical mixing, for complete de-stratification, oxidation and odor elimination, algae bloom reduction, and natural sludge digestion.
- Delivers more dissolved oxygen to the water per hour
- Lowers energy costs by up to 80%
- Practically maintenance free for years
- Eliminates trapped nitrogen and ammonia gases, and improves BOD/COD counts

ADVANTAGES OVER OTHER LAGOON AERATION SYSTEMS

- Less energy usage on an annual basis - per area covered.
- Over 9 million gallons (34,100,m3) of water movement in a 24 hour period.
 - Guarantees continual water turnover and de-stratification throughout the lagoon – mixes algae and eliminates blue-green algae stratification.
 - Moves ALL the lagoon's sludge in a slow, non-violent manner – allowing for sludge turnover for continual degradation by the indigenous bacteria.
- No annual motor maintenance—oil changes, belt changes, etc. The only maintenance on a **LAGOON MASTER** is to clean two air intake filters annually.
- The addition of up to 15 pounds (6.8 kg) of dissolved oxygen per hour.

THE LAGOON MASTER LAGOON/POND AERATOR

Finally, a lagoon or pond aerator that is designed for function rather than power.

The **LAGOON MASTER** Water-Moving Aerator provides the ability to re-habilitate waste lagoons by providing a cost effective way to break-down sludge naturally, using minimal energy, and putting aeration throughout the water column – where it is required. Algae blooms are reduced and DO is continuously provided to the bottom sludge to enhance natural organic digestion.

ASK US ABOUT OUR MUNICIPAL/INDUSTRIAL LEASING PROGRAM

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