

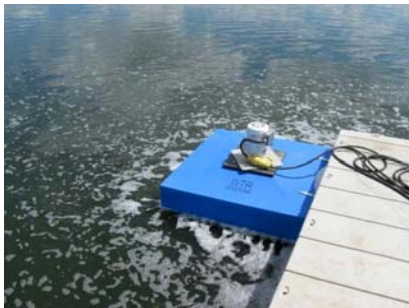
Ultrafine Bubble Aerator Reference Sheet

Most aeration equipment in use today utilizes compressed air systems. They introduce bubbles of air into the water by forcing the compressed air through a fine pore diffuser. Experimental results with these systems have shown that the minimum bubble sizes generated are greater than 3 to 4 millimeters in diameter. Bubbles of this size quickly rise to the surface and are lost. They do not remain in the water long enough to transfer an appreciable amount of oxygen.

The ClearBlu UFB Aerator, instead of using the compressed air/fine pore system, uses a patented process, Fine Bubble Diffusion, to create bubbles in a partial vacuum. The small bubbles created in this process average 0.025 mm in diameter. The small size of the bubble and the low-pressure gas it holds create a small buoyancy force (The phenomenon which makes bubbles rise in a liquid). This buoyancy force is so small that it is less than the surrounding surface tension of the water. The bubble, in fact, does not rise to the surface, but remains suspended in the fluid. This makes all of the oxygen in the bubble available to be dissolved in the liquid as needed. In addition, the Brownian Effect drives the bubbles to the bottom of tanks or ponds creating a top to bottom aerobic condition.

Models

FBD Specifications				
Model	M12	M8	M6	M2
Air Tube Diameter (Inches)	12	8	6	2
Hp	2	1	1/2	1/8
Cubic Feet/Day (Air)	30,000	7,000	5,000	300
Lb. Oxygen/Day	600	130	90	6
Approximate Flow (Gal/Day) @ 300 PPM BOD5	180,000	18,000	12,000	1,000



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