PRODUCT DESCRIPTION

Of The

DO_2E Aerator / Mixer

Patented Technology

12/16/12 RM

********* BP approved Technology for Environmental Remediation during Deep Water Horizons Oil Spill 2010**********

DO_2E Aerator / Mixers are high-efficiency all welded, heavy-duty PVC devices that are unique in several ways. DO_2E's patented products are designed to pull water from significant depths for aeration and mixing. By operating with low-pressure (<1.85 P.S.I.) high volume airflow, these devices maximize energy efficiency. Our patented products are scalable and multi voltage.

DO_2E utilizes the latest ***"Green Technology"*** and continues to set the standards in the Aeration industry. DO_2E's products are designed to be as maintenance-free as possible. Constructed from 100% Heavy Duty PVC, allows our units to withstand the harsh environments encountered in virtually every wastewater applications. In most installations, DO_2E's clients have realized maintenance cost reductions up to 95%. Our product line is the most energy efficient, maintenance friendly, and cost effective product introduced to waste water market over the past 30 years.

From a safety standpoint, DO_2E reduces employees' exposure to risks by utilizing two key components; land based blowers and no moving parts. Air supply is provided from a regenerative air blower placed at a remote location on land for easy access. With no electricity in or around the water and no moving parts, DO_2E greatly reduces the worker's exposure to risks associated with standard aeration equipment used today. DO_2E has designed and patented the safest and environmentally friendly aerator / mixer on the market.

A unique feature of the DO_2E Aerator system is its' expandable capability for the delivery of various gaseous materials such as ozone, hybrid ozone with hydroxyl radicals, carbon dioxide, carbon monoxide or other gases required to remediate various issues. This delivery

method allows us to inject directly into the wastewater stream allowing for an effective and cost efficient means in order to address various issues such as hydrogen sulfide before it is released into the atmosphere.

All DO_2E units are designed to handle several different tasks. The primary tasks and functions of the aerators/mixers are to aerate and mix the water column and distribute it from the device. Other tasks may be completed simultaneously including drawing from deep sludge deposits, breaking up sludge deposit solids into smaller particulates, de-stratifying the water column, and aerating and/or depositing solids into designated locales. *"Ozone"* can be added to the units to address both recalcitrant particulates and noxious microorganisms, including a wide variety of pathogens. "Ozone" also causes the destruction of sulfides for enhanced odor-control.

Aerators can be designed to address a variety of environmental issues. This is accomplished by increasing the horsepower of the blowers used, increasing the aeration rate by the manipulation of the bubble mixture, changing the physical size of the aeration module, utilizing the type and viscosity of the material encountered in both the water and air column.

Use of the term "*draw"* has two different meanings. One of these is used to designate where, in the device, the incoming fluid stream enters the device (the airstream enters at this point also, which gives rise to the Venturi effect); and, the other refers to the depth from which bottom deposits are pulled up into the device.

All the DO_2E Aerators draw water into the device by means of the Venturi effect. Water is then expelled through the upper chambers. Our patented aeration tubes are designed to deliver a unique combination of coarse, medium, and fine bubbles which when released at a specific depth, draws the water in through the bottom of the unit. Water is pulled upward being aerated all the while and

redirected into a horizontal flow that is perpendicular to the input of the water column.

A resonance circulation of the water column, allows the devices to increase the unit's *"pull"* from the water column. Depending on the amount of force generated from the initial airstream (which is a multivariate function of power horsepower of the blower), the temperature of the water column, and the viscosity of the water column. The *"reach"* of the aerator can be as deep as 18' from the surface of the water. Depending on varying conditions, it may take different times for *equilibrium* to be reached so that a consistent draw from depth results. By injecting cool ambient air in combination with the air pressure and water pressure released within a confined space, insures that the DO_2E aerator achieves maximum oxygen transfer.

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