

# **The Maelstrom Oxidizer - Astonishing Aeration System<sup>1</sup>**

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The Maelstrom Oxidizer (MO), although invented in the 90's, has been insignificantly marketed and utilized until recently. In the fall of 2015, the patent and rights were purchased and Somerset Environmental Solutions (SES) was formed. This remarkable technology supplies oxygen to raw water in the most effective way possible at the lowest cost and smallest footprint of any other technology available. Most water treatment specialists understand the benefits of adding oxygen to raw water, but because the MO can super-saturate water with oxygen in an incredibly short period of time, many things can be accomplished over and above the norm. Chemical used to cause heavy metals to precipitate can be dramatically reduced or eliminated and some other interesting findings have occurred. This paper illustrates some case study work done to show actual field results and unexpected findings. The MO has proven successful in its effect on pH, Fe, Mn, Al, CO<sub>2</sub> removal and phosphate and ammonia reduction. The MO often increases Dissolved Oxygen dramatically in a very short period of time, usually less than one minute. The MO uses relatively low horsepower and is exceptionally efficient. Efficiency can be rated in pounds of oxygen transferred per horsepower hour. An efficient (standard) aerator is rated at 3 pounds per horsepower hour. The Maelstrom Oxidizer has efficiency in excess of 22 pounds per horsepower hour. Operating costs are ten times less than conventional aerators and is easier to maintain – there are no moving parts except for the blower. The Maelstrom Oxidizer is the most cost effective apparatus for transfer of oxygen into liquids to oxidize and precipitate metals, convert sulfite to sulfate or to outgas carbon dioxide.

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