



SmartAerator™ TORNADO®

Intelligent. Reliable. Simple. Aeration Optimized for You.



Complete Energy Saving Aeration Solution for Municipal and Industrial Wastewater Treatment

Energy Challenges in Aeration

Aeration is a critical part of the wastewater treatment process and one of its biggest energy consumers. Municipal wastewater fluctuates with human time schedules. The oxygen demand seen by wastewater treatment plants varies consistently and frequently. Traditional aeration systems are designed to run at the same output

level 24/7, regardless of peaks and spikes in flow, and regardless of oxygen demand. Industrial wastewater treatment is often a less variable process, but depending on shift and weekend schedules, can include significant opportunities for reducing the waste of energy through excess aeration.

Solution

The **SmartAerator™ Tornado®** is a system of controls, sensors and variable frequency drives which respond to real-time measurements of plant performance. By constantly sampling oxygen levels and other process parameters, the *SmartAerator* regulates aeration intensity to closely match the wastewater load requirements. In addition, the *SmartAerator* can learn to predict the future operating conditions based on historical data. The *SmartAerator* adapts to

spikes and peaks while tracking with average loads throughout daily/annual diurnal cycles. This eliminates over-aerating and conserves power, saving significant energy costs.

The *SmartAerator* comes equipped with an HMI dashboard for tracking and reporting aeration quality, system performance and equipment status. Remote mobile maintenance and SCADA connectivity options are also available.

Savings

The *SmartAerator* provides up to 50% annual energy savings for wastewater treatment facilities. Ideal projects are those that require large horsepower aerators and projects with multiple aerators where energy savings would be significant. The anticipated payback period for a typical *SmartAerator* installation is about two years for projects with several, high-horsepower

Tornados working on site. The *SmartAerator* Tornado system eliminates over-aerating and extends the life of the equipment. The *SmartAerator* Tornado provides the best energy savings without sacrificing oxygenation or mixing performance during all parts of the daily diurnal cycle, throughout the year.

Rebates and Financing Incentives

With energy savings a high priority, customers can use this product to take advantage of financing incentives and cash rebates from their electrical utilities and co-ops.

