



# Aeration Industries<sup>®</sup> International

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## Process Systems



### Tri-Oval<sup>®</sup> System

*The Tri-Oval<sup>™</sup> System provides complete high-rate activated sludge treatment solutions for municipal/ industrial wastewater treatment facilities. The key to the system is the energy-efficient TRITON process aerator/mixer combined with optimized oxidation oval designs at depths up to 33 ft (10m).*

- Full biological nutrient removal (BOD, TSS, Nitrogen, Phosphorus).
- Simple, trouble-free operation with easy process control.
- Reduced power consumption – low cost of ownership.
- Minimal heat loss, improved winter performance, no aerosols or splashing, reduced odors.
- Simple structural design, minimal land requirements, quiet operation, and total reliability.



### Argos<sup>®</sup> Sequencing Batch Reactor (SBR)

*Our SBR offers the same design benefits of traditional SBR systems plus a cutting edge decanter and advanced aeration/mixing equipment, resulting in greater capital savings and process flexibility.*

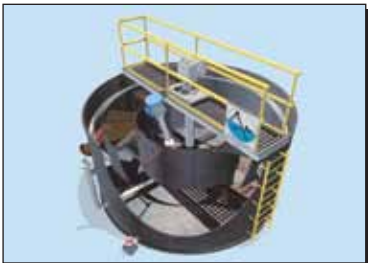
- Triton aerator/mixer on slide pole assemblies eliminates operational difficulties and capital expense of diffuser networks including diffusers/piping infrastructure, blowers, and blower buildings.
- Using Triton units, reactors can be operated in aeration/mixing mode or mixing only mode by cycling the Triton blower for nitrification/denitrification cycles.
- Gear-driven four-sided SS decanter with solids exclusion weir insures a high quality effluent.
- Multi-reactor Batch and Single Reactor Continuous flow designs available.



### AIRE-O<sub>2</sub> Bio-film<sup>®</sup> Fixed Film Media System

*Here is a new cost effective upgrade solution for wastewater treatment facilities to increase plant capacity and treatment performance. The submerged proprietary geo-textile media process is paired with Aire-O<sub>2</sub> Triton<sup>®</sup> aerator/mixers to provide year-round nitrification.*

- Process is self-regulating and requires no maintenance. No new construction required.
- Increase Solids Retention Time (SRT) and reduces effects of I/I washouts.
- Media can also be added to enhance BOD removal.
- Decreases F/M ratio, allowing for higher influent loadings.



### AIRE-O<sub>2</sub> Microfloat Dispersed Air Flotation System

*This system is designed for the physical/chemical pretreatment of wastewater, removing up to 95% of fats, oils and grease at a lower cost than traditional DAF systems.*

- Greatly reduces surcharges paid by industries discharging to local municipalities.
- Saves energy and dramatically reduces maintenance. No chemicals required.
- Complete custom designed systems with skimmer and tankage or retrofits available.
- Eliminates the need for recycle pumps, compressors, and attendant piping.



### AIRE-O<sub>2</sub><sup>®</sup> Combined Technologies (ACT<sup>®</sup>)

*The key elements of the ACT<sup>®</sup> system include our proprietary process knowledge combined with the AIRE-O<sub>2</sub> TRITON<sup>®</sup> process aerator/mixer and the AIRE-O<sub>2</sub> TURBO<sup>®</sup> surface vertical aerators or diffused air systems.*

- Horizontal mixing maximizes the efficiency of vertical aeration.
- Optimizes performance efficiencies of the treatment technologies.
- Keeps solids in suspension, improving treatment efficiencies. Eliminates dead spots.
- Energy efficient. Ideal for retrofits and/or upgrades.



### Lagoon Conversion Technologies

*Custom-engineered to upgrade an existing wastewater treatment lagoon system allowing compliance with today's stringent wastewater NPDES discharge requirements. Unlimited primary, secondary, and tertiary treatment options as well as complete lagoon upgrades.*

- Cost-efficient alternative to new construction.
- Convert a lagoon into an activated sludge system.
- Customized to meet the stringent demand for BOD, TSS, nitrogen and phosphorous removal.



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## Equipment



### AIRE-O<sub>2</sub><sup>®</sup> TRITON<sup>®</sup> Process Aerator/Mixer

*The patented TRITON process aerator improves oxygen transfer and mixing and offers the process benefit of biological nutrient removal (BNR) in a single unit.*

- Reduced energy consumption results in dramatic electrical savings!
- Dual-function control of nitrification and denitrification in separate on/off modes.
- Maximizes fine bubble oxygen dispersion and mixing with power props.
- Up to Five Year Warranty, depending on application.

*Available in 5 to 75 Hp (3.75 to 55.9 kW) sizes in worldwide voltage, phase, and Hz combinations.*



### AIRE-O<sub>2</sub><sup>®</sup> Aspirator Aerator

*The AIRE-O<sub>2</sub><sup>®</sup> aerator is a horizontal aspirator aerator that offers easy installation and minimal maintenance. Serving the industry since 1974, this "workhorse" has distinguished itself in performance and reliability.*

- Total oxygen dispersion. Whole basin circulation prevents short-circuiting.
- Meets EPA definition for fine bubble size (2.0 mm). Float or bridge mounting available.
- Three (3) year warranty.

*Available in 2 to 100 Hp (1.5 to 75 kW) sizes in worldwide voltage, phase and Hz combinations.*



### AIRE-O<sub>2</sub><sup>®</sup> 275 Aspirator Aerator

*The 275 Aerator offers a dependable and affordable option for the economy minded customer.*

- Re-engineered with the highest quality materials.
- Maintains the performance integrity of our classic AIRE-O<sub>2</sub><sup>®</sup> aerator.
- Heavy-duty industrial motor, stainless steel housing/power drive. Float or bridge mounting.

*Available in 2 to 7.5 Hp (1.5 to 5.5 kW) sizes in worldwide voltage, phase, and Hz combinations.*



### AIRE-O<sub>2</sub><sup>®</sup> Turbo<sup>®</sup> Surface Aerator

*Our patented AIRE-O<sub>2</sub><sup>®</sup> Turbo<sup>®</sup> is a low trajectory, high performance surface aerator with an Archimedean impeller that discharges water outward in a uniform pattern insuring maximum oxygen transfer.*

- Reduced operating costs. Lower trajectory reduces aerosols.
- High flowing/pumping rate, and high oxygen transfer rates.

*Available in 5 to 150 Hp (3.75 to 111.85 kW) sizes in worldwide voltage, phase and Hz options.*



### AIRE-O<sub>2</sub><sup>®</sup> Mixer

*The AIRE-O<sub>2</sub><sup>®</sup> Mixer is a slow-speed, variable angle mixer that utilizes a large anti-fouling propeller designed for any wastewater treatment application.*

- No flock shear. Made of high-grade materials for corrosive environments.
- Low power consumption results in energy savings.
- Surface-mounted, fast and easy installation for any application retrofits.

*Available in multiple Hp (kW) sizes in worldwide voltage, phase, and Hz combinations.*



### AIRE-O<sub>2</sub><sup>®</sup> Series II Aspirator Aerator

*The AIRE-O<sub>2</sub><sup>®</sup> Series II aerator is made from highly engineered quality composite material that withstands harsh environments and resists ultraviolet rays. Ideal for aquaculture applications.*

- Non-contaminating in ponds. Rust-free, resists corrosion or abrasion.
- Strong, durable and lightweight. Adjustable shaft for shallow or deep ponds.
- One (1) year warranty.

*Available in 2 and 3 Hp (1.5 to 2.25 kW) sizes in worldwide voltage, phase, and Hz combinations.*