



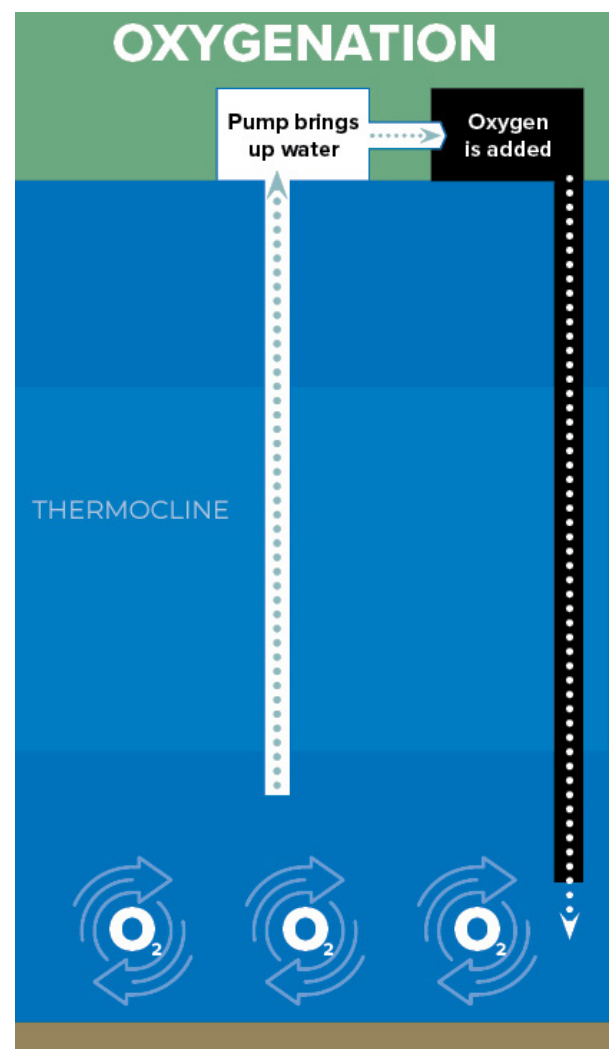
# Oxygenation Saturation Technology (OST)

Oxygenation Saturation Technology (OST) is an innovative technology designed to provide high levels of dissolved oxygen (DO) to a lake, canal, and lagoon. This approach allows us to be more targeted and precise in delivering the necessary oxygen like never before. We can now maintain 8-15 mg/L DO during the heat of summer and directly over the sediments providing exceptional water quality.

## FEATURES

Vertex OST has been designed to deliver the full capacity of oxygen generated at the lowest possible electrical cost.

- ◆ **Water Pump:** Serves to withdraw water from the lake. Rugged outdoor-rated self-priming centrifugal pump with salt and strong chemical resistance. Discrete product, maintenance-free, and long-lasting.
- ◆ **Oxygen Generator:** Used to inject oxygen into the water. A medical grade Pressure Swing Adsorption (PSA) oxygen generator with a high-quality Vertex air compressor. Quiet operation that delivers a minimum of 95% oxygen purity. Preventative maintenance is performed by licensed dealers every two years.
- ◆ **Oxygen Dissolution Chamber (ODC):** Engineered to dissolve a minimum of 90% of oxygen or any gas generated into solution. 100% maintenance-free High-Density Polypropylene (HDPE) chamber.
- ◆ **Energy Dissipating Header (EDH):** Designed to eliminate sediment resuspension, preserve thermal stratification, and prevent clogging of equipment.
- ◆ **Bubble Capturing System (BCS):** As oxygen is supersaturated into water in the oxygen dissolution chamber, unwanted nitrogen gas comes out. This system captures excess nitrogen and degasses it off to the atmosphere, ensuring no nitrogen bubbles at discharge.



# OST Benefits and Significance

- 1 OST maintains oxygen levels above 8 mg/L directly over lake sediments during the heat of summer which is not possible with other technologies in the industry.
- 2 Allows us to drive the oxic/anoxic sediment boundary further down into the sediments providing exceptional water quality.
- 3 Impactfully, it reduces accumulated muck at an impressive rate.
- 4 First turn-key hypolimnetic oxygenation system in the market that preserves a lake's natural mixing pattern.
- 5 Completely eliminates problems associated with sediment resuspension.
- 6 The technology provides the first ever ice-preserving oxygenation system.
- 7 Works in shallow lake areas and those covered in filamentous algae.
- 8 An affordable low energy solution for wastewater applications. Can be sized to meet any BOD/COD requirements. This technology can tie directly into a wastewater lift station or effluent reclaimed water pipe.
- 9 Allows for easy insertion of chemicals to the discharge line for additional water quality enhancement.
- 10 An effective method to restore oxygen in saltwater environments.
- 11 A cost effective solution in capital, operational, maintenance, electrical costs, and deliverables are best in class.

## METHODS OF ADDING OXYGEN TO WATER

