

## Spartan Environmental Technologies

Spartan supplies ozone generators, ozone water treatment systems and ozone advanced oxidation processes for a wide variety of applications and industries. We supply packaged skid mounted systems, containerized solutions and systems custom engineered for specific client requirements.

### SPARTOX™ A Series Ozone Water Treatment Systems

SPARTOX A ozone water treatment systems are self-contained, fully integrated and automated skid mounted units that produce ozone and mix it with water. These ozone systems are easy to install, operate and maintain. It is highly reliable because of both active and passive protection systems built into the design. The standard SPARTOX A system comes with the following equipment:



Front

- ❖ Air Cooled Ozone Generator
- ❖ Ambient Ozone Monitor with Smart Sensor
- ❖ Oxygen Concentrator (PSA Type)
- ❖ Venturi based Ozone Injection System
- ❖ Booster Pump/Motor Starter
- ❖ Triple Guard™ Back Flow Protection
- ❖ UL Rated Control Panel with PLC/Touch Screen HMI

All of the equipment comes integrated and mounted on a stainless steel skid with a small foot print. Ozone gas concentrations of 5-10% are achievable. Smaller systems have on board oxygen supply that make the system self-sufficient, no need for compressed air. The ozone water injection system is designed to achieve 90% plus ozone transfer efficiency.

The generator is protected by Spartan's Triple Guard™ back flow protection system. Back flow of water into the ozone generator will severely damage the equipment. Simple check valves are not sufficient protection. The Triple Guard system employs check valves, a liquid trap, differential pressure measurement and solenoid valve to prevent back flow from reaching the ozone generator (see system P&ID below). The system has both manual and automatic controls, the latter feature supported by the on-board PLC.

The SPARTOX A comes standard with safety systems such as an ambient ozone monitor that senses elevated ozone levels in the air around the unit and shuts down the system, if those levels are too high. The PLC will shut down the system in case of a failure of any key components to prevent further damage to the system. All relays and instruments are protected by fuses. The control panel is built to NEC and ANSI codes and UL rated, CSA rating is an optional. The system requires only a single electrical connection and water connections for water in and out of the system. The P&ID for the SPARTOX A is shown below.

