

## **SPARTOX** Ozone Water Treatment System

### **Spartan Environmental Technologies**

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

### **SPARTOX** Ozone Water Treatment Systems



SPARTOX ozone water treatment systems are self contained systems that produce ozone and mix it with water under pressure. SPARTOX is easy to install, operate and maintain. It is highly reliable with the main ozone generator component coming with a three year warranty (ask for details). The standard SPARTOX system comes with the following equipment:

- ❖ Air Cooled Ozone Generator
- ❖ Ambient Ozone Monitor
- ❖ Oxygen Concentrator/Compressor
- ❖ Venturi based Ozone Injection System
- ❖ Booster Pump/Motor Starter
- ❖ Mixing/Contact Vessel
- ❖ Triple Guard™ Back Flow Protection
- ❖ PLC Control

All of the equipment comes integrated and mounted on a skid with a small foot print. Ozone concentrations of 5-10% are achievable with the system based on power settings and gas flow rate. On board oxygen supply makes the unit self sufficient, no need for compressed air. The 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, vacuum switch and solenoid valve to prevent back flow from reaching the ozone generator (see system schematic). The system has both manual and automatic controls, the latter feature supported by a computer (PLC).

The SPARTOX 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 door latch has a shut down interlock to prevent unauthorized personnel from opening unit during operation. 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.



### Optional Equipment

- ❖ Dissolved Ozone Monitor/ORP Monitor with Ozone Generator PID Controller
- ❖ On Skid Degassing
- ❖ Ozone Destruction for Vent Gas
- ❖ UV Ozone Destruct of Dissolved Ozone in the Treated Water

### Base Systems

<b>O<sub>3</sub> Produced (g/h)</b>	30	60
<b>Total Power (kW)</b>	0.9	3.6
<b>Ozone Generator Power (W)</b>	300	450
<b>Oxygen Concentrator Power (W)</b>	200	400
<b>Pump Power (hp)</b>	1	2.5
<b>Skid Weight (lbs)</b>	200	260
<b>Skid Dimensions (in) W x L x H</b>	22 x 48 x 60	32 x 48 x 60

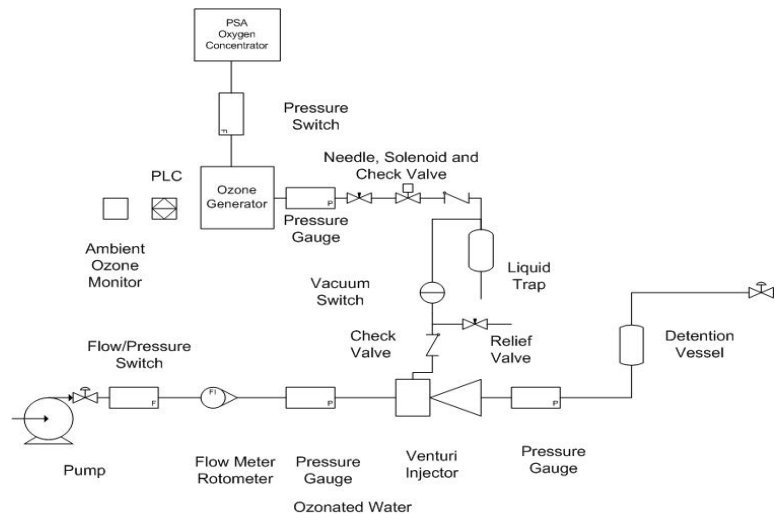
### Engineered Systems

Larger and smaller systems are available upon request. SPARTOX can be integrated with UV or Peroxide for Advanced Oxidation Processes. Contact Spartan for further information.

### Applications

Ozone can be used for both water disinfection and oxidation to remove organic and inorganic (Fe, Mn, H<sub>2</sub>S) contaminants. Applications include:

- ❖ Drinking Water Treatment
- ❖ Bottled Water
- ❖ Cooling Water Treatment
- ❖ Fruit and Vegetable Washing
- ❖ Wastewater Treatment
- ❖ Water Recycling and Reuse



SpartOX A – Automatic Control  
No Degas  
Ozone Water Treatment System  
Spartan Environmental Technologies, LLC