

# Ozone Water Treatment



H2O Engineering, Inc. has over 50 years of combined ozone experience. This comprehensive knowledge is an advantage to our customers in determining the appropriate treatment strategy based on needs specific to each application. Not only are we proficient in equipment sizing/design, integration with existing equipment, system optimization, operation and maintenance, H2O also specializes in a variety of automation strategies which include data logging, remote telemetry, and closed loop controls. We can also assist our customers in avoiding some common pitfalls related to ozone compatible materials and site specific environmental influences.

Ozone is suitable in any application that requires not only a powerful oxidant, but also minimal harmful byproducts. It is one of the strongest oxidants utilized for a multitude of applications such as drinking water, wastewater, and industrial water treatment.

## ADVANTAGES OF OZONE

- Powerful oxidant
- Environmentally friendly alternative to chlorine
- Precipitates iron, manganese, and hydrogen sulfide allowing these contaminants to be filterable
- Able to meet current and future regulatory standards as legislation becomes more stringent

Because of its high oxidation potential, ozone is a viable disinfectant for killing bacteria, and inactivating viruses and protozoa. In addition to destructing organic compounds, ozone can also break down harmful viruses and destroy many pharmaceuticals found in wastewater.



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## DESIGN CONSIDERATIONS

- Safety and environmental impact
- Equipment integration and interlocking
- Control parameters
- Materials of construction
- Gas/Liquid delivery strategy
- PSA, VSA, or Dry Air fed
- Equipment installation
- Alarm notification
- Remote control
- Data acquisition
- Operational costs
- Maintenance requirements
- Transportation logistics
- System performance monitoring
- Reliability and uptime optimization

## SELF-CONTAINED

Self-Contained Ozone Systems are available for a wide range of applications. Considering system size, site specific requirements and/or restrictions, as well as installation logistics and project objectives helps in determining the ideal equipment containment selections. H2O Engineering offers stationary systems such as cabinet, skid, and cargo container mounted in addition to trailer mounted systems for portability needs. This flexibility allows us to incorporate various system elements as needed, such as environmental controls, equipment noise mitigation, and equipment security.

## LARGE - SCALE

Large generators, producing over 50 pounds per day of ozone, are suitable for use in applications such as community drinking water systems, publicly owned treatment works, and industrial waste or process water treatment. Typically, large scale systems are contained in dedicated buildings at the facility and final equipment construction is performed on site. However, many of these systems are available in prefabricated designs which are prepackaged for ease of transportation. A contained design also facilitates equipment installation by minimizing procedural and safety ramifications often related to performing construction at site, as well as reducing schedule collaboration and coordination.

