

## Confirm Microbial Elimination with Reliable Ozone Measurement



**Ozone is being increasingly used in the sanitization of pharma water systems. The new pureO<sub>3</sub>® sensor provides fast, dependable measurements plus the lower operating cost benefits of Intelligent Sensor Management (ISM®).**

### **A natural and powerful oxidizer**

Dissolved ozone, a naturally occurring form of oxygen, is one of the most aggressive oxidizers used to manage and control biological contamination in Pharmaceutical and Life Science water systems. Ozone is an effective oxidant that quickly destroys biofilm and aqueous microbial contamination with low, easy-to-control dosages and minimal contact time. The molecule's very short half-life is typically accelerated with exposure to UV light (at 254 nm wavelength) leaving no residual chemicals or traces of ozone after sanitization, and meeting the "no added substances" regulation.

### **Control of biological contamination is mandatory**

Microbiological monitoring and control is required for regulated waters globally. Purified Water (PW) and Water For Injection systems operators diffuse ozone gas into their water loops at the precise quantities needed to sanitize the system to protect against contamination. Once sanitization is complete, the remaining ozone gas is destroyed using UV light. Monitoring and control are required to limit the total ozone gas levels needed for sanitization (100 – 150 ppb) and also to confirm that all ozone gas is removed from the water system after sanitization and prior to release. Ozone monitoring and analysis manages this process precisely and provides an audit trail to ensure compliance to global regulations.

### **Stable and repeatable ozone determination**

METTLER TOLEDO Thornton's new and robust pureO<sub>3</sub> sensor with Intelligent Sensor Management

offers a fast responding ozone measurement that is stable and repeatable for determining ozone oxidation levels to ensure complete sanitization. The same pureO<sub>3</sub> sensor also measures trace levels of dissolved ozone to confirm that all ozone is destroyed after sanitization and prior to water distribution and use.

#### Lower operating costs

ISM is a unique feature to METTLER TOLEDO. ISM technology provides precalibrated sensors for Plug and Measure fast, error-free start-up, and greater process reliability with advanced sensor diagnostics. In addition, ISM offers predictive diagnostics for longer uptime and more efficient routine maintenance which can be scheduled in advance, eliminating unexpected measurement point downtime. ISM's features decrease operational costs and simplify sensor handling while allowing operators to make more informed decisions about process conditions.

When coupled with an innovative transmitter from METTLER TOLEDO such as the multi-parameter, multi-channel M800, the pureO<sub>3</sub> measurement solution conveniently provides state-of-the-art dissolved ozone monitoring and control to optimize plant performance and compliance.

#### pureO<sub>3</sub> Ozone Sensor

- High accuracy at very low ppb ozone concentrations
- Reinforced silicone membrane for exceptional durability and repeatability
- Fast response: 30 seconds for 90%
- Plug and Measure start up
- Advanced predictive diagnostics with ISM

#### Durable and cost effective solution

Dissolved ozone is an attractive option for sanitizing Pharmaceutical and Life Science water systems, because it is easily infused and controlled while reaching all parts of a water system. Ozone eliminates potentially dangerous handling of chemical oxidants or the expense that heat or steam sanitization alternatives require, and it is easy to remove, leaving no residual compounds prior to use. The METTLER TOLEDO pureO<sub>3</sub> sensor with ISM provides a durable and cost effective solution to monitor and control dissolved ozone sanitization effectively and efficiently.

For more information: [www.mt.com/pureO3](http://www.mt.com/pureO3)

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Subject to Technical Changes

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