Demanding Robustness

Ozone water treatment priorities

When it comes to ozone water treatment systems, many operators understandably prioritise effectiveness but with uptime and long-term performance critical to plant success, its time to shine the spotlight on other factors. Here, our global product manager of WEDECO® ozone products at Xylem, discusses the importance of robustness when it comes to technology selection and meeting project efficiency objectives.

For modern water treatment plants, fulfilling capabilities within strict budgets can be immensely challenging. The need for effective systems that operate with minimal costs and maintenance burden has never been higher.

When it comes to treatment technology, reliability is therefore king. The ability to consistently meet performance and safety metrics with minimal servicing and oversight can provide extensive cost and energy savings over a system's lifetime. And the quality that achieves this? Robustness.

Ozone water treatment

Ozone water treatment is a well-established process that has been around for more than 130 years. It offers a number of important strengths over other treatment types and simultaneously addresses multiple water quality issues through oxidation, disinfection, and decomposition. With no requirement for consumables, a short contact time, and environmentally safe operation, ozone water treatment is increasingly seen as an optimum solution.

Today, state-of-the-art ozone systems have been designed to be incredibly robust. The ozone units require no conventional fusing and are virtually maintenance-free. It's just the system's associated instrumentation and supporting components that will require an annual instrument calibration, biannual filter replacement, and a destruct catalyst change every three to five years, depending on operation. Even the electrodes which sit at the heart of the systems, are now extremely robust and therefore reliable.



Effizon evo 3G Electrode

Now Available With

- Evotide Ozone Systems
- PDOevo^{PLUS} Ozone Systems



Evotide Ozone System



PDOevo^{PLUS} Ozone System

3G electrode technology

An example of this is our ground-breaking Effizon® evo 3G electrode, which has been engineered for the demands of modern water treatment. From municipal wastewater facilities to industrial applications, it has been designed for robust and long-lasting performance and offers up to 11 per cent more energy-efficient ozone production.

These electrodes can produce ozone from oxygen or air using a unique double-discharge gap technology, up to very high concentrations of 20 per cent (by weight). Built using high-grade and inert materials, the electrodes are highly resistant to corrosion and typically do not require regular replacement or cleaning.

Warmer temperatures are no problem for systems using Effizon evo 3G electrodes, which can operate efficiently, even at very high water cooling temperatures (35°C/95°F). They also have variable frequency drive, constant operation voltage, and enable power control from 0.1 to 100 per cent for precise deployment.

Additionally, Intelligent Electrode Protection (IEP) prevents premature replacement of failed electrodes. The innovative use of stainless steel mesh, supported by a glass dielectric tube replaces the need for traditional safety mechanisms such as fuses or coatings, meaning Effizon evo 3G systems with IEP are not prone to false defect detection. The risk of system shut down from ageing fuses or damage from atmosphere changes is eliminated. Importantly, this protection means the system is highly reliable and operates continuously, avoiding costly downtime.

Each aspect of the Effizon evo 3G electrode has been carefully designed to be incredibly robust. There are few core components, all of which have been expertly selected and quality controlled to ensure robustness in operation under specific conditions within the ozone system.

The carefully selected laboratory grade materials are corrosion resistant for longevity and the use of glass means there's no risk of deformation of material over time or under physical stress. The core design is trusted and proven, having been in place since 2011. Today, it's been enhanced for higher performance. It's no surprise then, that the electrodes have a 10-year warranty.

Prioritising robustness

With reliability, sustainability, uptime, and long-term performance top priorities for operators, it's vital not to overlook the importance of robustness when it comes to technology selection. Modern ozone systems are one of the most capable water treatment assets available today, particularly when equipped with the latest electrode technology, such as Effizon evo 3G. Designed with robustness as a priority to deliver exceptional functionality and low maintenance requirements. These ozone systems are a powerful and industry-leading solution.

Get In Touch

Contact your local sales representative to learn more about the long-term operational and performance benefits of Effizon evo 3G electrode technology.

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