

ENHANCING LIFE SCIENCES PURIFIED WATER GENERATION WITH CHEMICAL-FREE ELECTROLYTIC OZONATION

CASE STUDY | Healthcare



| Client Needs

A leading global medical device manufacturer required an advanced, sustainable solution to generate purified water at its new facility in Athenry, Co. Galway, Ireland. To support its manufacturing processes while maximising operational efficiency and sustainability, the client sought a system that would:

- Deliver a compact purified water generation system producing up to 1 m³/hr.
- Meet two different water qualities as defined in the client's global water specifications.
- Maximise plant room space through a highly compact design.
- Ensure continuous operation with process redundancy in all treatment stages.
- Reduce installation time on site through pre-assembled, skidded pretreatment and generation.
- Provide fast and efficient sanitisation regimes for generation and storage distribution skids.
- Achieve high recovery rates to minimise wastewater.

| The Solution

Veolia proposed an advanced, skid-mounted Ionpro purified water generation system coupled with Ozonia Membrel electrolytic ozone technology, specifically engineered as a sustainable, high-performance solution for this project.

The Ionpro is a multitechnology purified water generation skid that combines pretreatment, reverse osmosis (RO), degassing, and Continuous Electrodeionisation (CEDI) into a single, compact footprint. Delivered pre-assembled and pre-tested, the skid-mounted design ensures short lead times, quick start-up, and minimal space requirements.

To meet the client's stringent disinfection and sustainability requirements, Veolia integrated the Ozonia Membrel electrolytic ozone system. This innovative technology uses water itself as the input to generate ozone, eliminating the need for external chemicals and preventing any risk of water contamination.



Ireland

| The Client

A global medical device manufacturer establishing a major production facility in Athenry, Co. Galway, Ireland. The site requires high standards of water quality, environmental compliance and operational efficiency for its manufacturing processes.

Key Facts & Figures

Purified Water Generation

Project Type

Ionpro & Ozonia Membrel

Our Solution

Up to 1 m³/day

Flow Rate

Chemical-free Electrolytic Ozonation

Key Feature

| Results

The implemented solution successfully delivers high-purity water while meeting all of the client's stringent design and environmental requirements. The compact, pre-assembled skid design minimised on-site installation time and optimised plant room space. By utilising chemical-free electrolytic ozonation, the system offers a highly sustainable, green disinfection method that eliminates chemical handling and contamination risks, while high recovery rates minimise wastewater.

To ensure long-term operational success and maintain the high standards required for the site, discussions are underway regarding a comprehensive service contract. This agreement will cover ongoing support, preventive maintenance and performance monitoring to guarantee system uptime and consistent water quality.

| Looking Ahead

The successful execution of this project at the Athenry facility establishes a strong foundation for future collaboration between Veolia and the client. The modular, high-efficiency design of the Ionpro and Ozonia systems serves as an ideal blueprint for replication across other global sites, supporting the client's ongoing commitment to sustainability and operational excellence.



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