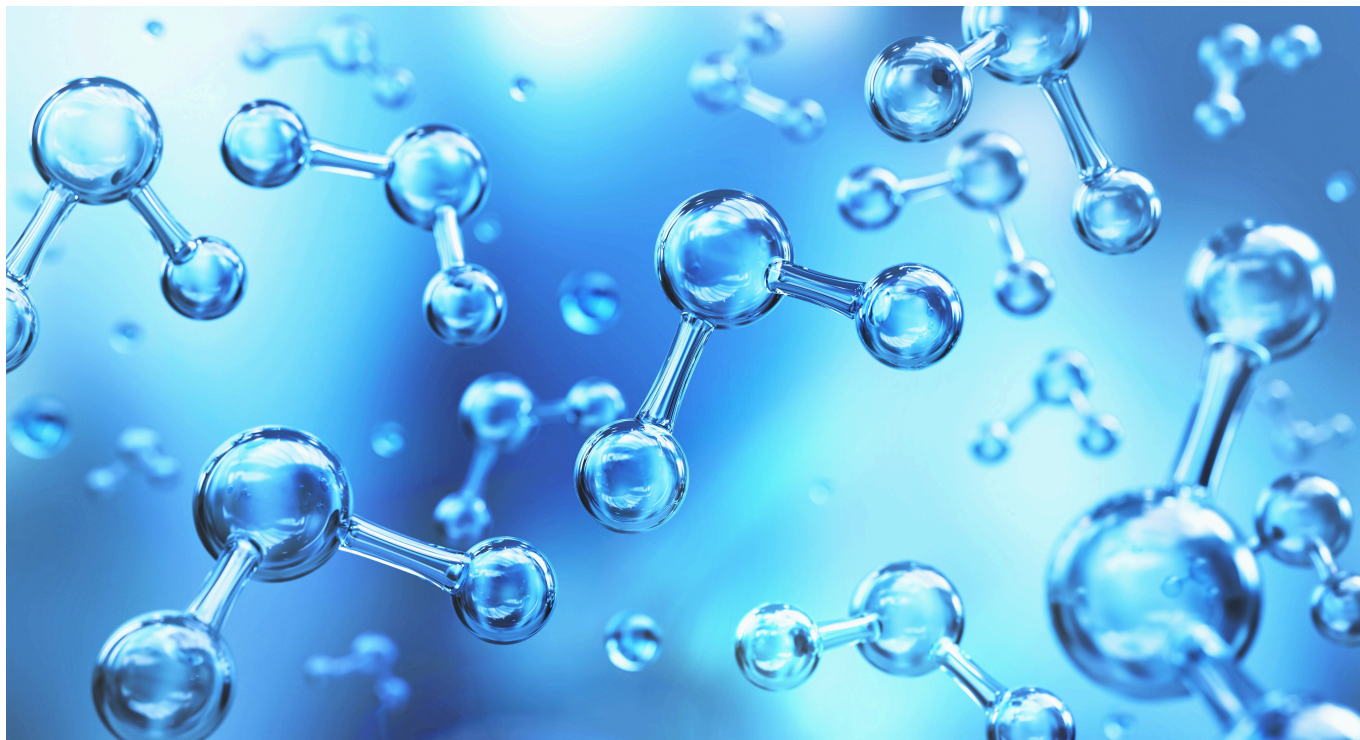


TECH OFFER

Modular Sanitary Device For Electroproduction Of Ozonated Water With Sanitising Properties



KEY INFORMATION

TECHNOLOGY CATEGORY:

Environment, Clean Air & Water - Sanitisation

Environment, Clean Air & Water - Biological & Chemical
Treatment

TECHNOLOGY READINESS LEVEL (TRL): **TRL8**

COUNTRY: **SINGAPORE**

ID NUMBER: **TO174996**

OVERVIEW

With the recent surge in the risk of pathogens and viruses, there has been a strong demand for hygiene-focused products globally. In public health, there is an increasing need to obtain more sterilised water and to create a hygienic environment with sterilised water. Ozone dissolved in water, commonly known as ozonated water, has been used to produce safe drinking water at water purification plants because of ozone's sanitising properties. However, conventional gas dissolution methods have limited their applications because it is difficult to incorporate both safe ozone production and ozone dissolution into water in the same small product.

This technology is a modular sanitary device that is able to electro-produce ozonated water for sanitisation. This device can, on-demand, instantly generate ozonated water via electrolysis. The ability for on-demand generation circumvents the problem where ozonated water loses its sanitising properties over time. Furthermore, this modular device can be easily designed to have variable performance depending on the number of devices connected and the control of current and flow rate. Therefore, the

device can be easily designed to be integrated into existing products (e.g., household water purifiers, etc.). Lastly, this compact device that can efficiently generate sterilising ozone water is expected to address dissolution problems in various systems such as public health, medical treatment, etc.

TECHNOLOGY FEATURES & SPECIFICATIONS

This technology offer is a modular sanitary device for the electroproduction of ozonated water. The technical features and specifications are listed as follows:

- Electroproduction of ozonated water via electrolysis
- Efficiently and continuously generate ozonated water, realising miniaturisation through a unique structure
- Simple design structure (inlet and outlet of water and +/- DC power terminals)
- Constant current requirement
- Safe ozonated water as ozone gas generation is suppressed

POTENTIAL APPLICATIONS

The use of this technology is for industries that need the sanitising properties of ozonated water. The potential applications include but are not limited to:

- Public areas need to be kept clean (hospitals, public toilets, and washrooms)
- Residential use (retrofit to taps for ozonated water to use in washing and sanitisation)
- Food sanitisation (removal of pesticides and waxes from food, extension of food storage through sanitisation, sanitisation in food production processes, etc.)
- Hand sanitisation (can be utilised in places where water hygiene concerns exist)

UNIQUE VALUE PROPOSITION

- On-demand ozonated water for sanitisation
- Modular design that is scalable with variable performance depending on the number of compact devices connected (easily designed for integration into existing products and equipment)
- Instant and stable generation of ozonated water

The technology owner is keen on R&D collaborations with partners who need to generate ozonated water with sanitising properties, such as sanitation, to name a few.