



# Thermal Disinfection Sterilization System (TDSS) Technology

US Pat. No. 9,757,485, Title: SYSTEM AND METHOD FOR FLUID STERILIZATION

US Pat. No. 10,213,517 Title: SYSTEM FOR FLUID STERILIZATION

And other US and foreign patents

The world is thirsty for a sustainable safe, germ-free fresh water solution. Our TDSS technology is a revolutionary, competitively priced, no waste, continuous flow water and fluid treatment process for eliminating microorganism/biological contaminants (fungi, bacteria, viruses (including COVID-19) from any fresh water source, in an economical and environmentally responsible way.

- **OUTPERFORMS** - The thermal inactivation process significantly outperforms current water treatment systems, including Reverse Osmosis (RO), UV lighting, Ozone and Chlorine and is more effective in eliminating microorganism/biological contaminants.
- **BENEFITS** - Systems can be operated by five methods - electricity (TDSSe), gas (TDSSg), solar concentration (TDSSsc) and solar electric (TDSSse) and waste heat sources. All systems are cost effective, zero waste, continuous flow water treatment with real time capability to vary pressure, temperature and dwell time during operations (no other water treatment system can make this claim). Our systems have no filter/membranes, no chemicals added, and require only minimal maintenance. No consumables are needed. System performance can be monitored/controlled remotely via an app or by smart phones.
- **SAFETY** - Operates at a sterilization assurance level (SAL) of 6 log bacterial spore reduction or better, greatly exceeding established WHO, EPA and state standards, and making the water safe for infants, seniors and others with compromised immune systems. In addition, the technology is fully autonomous with a host of pre-programmed safety features.
- **TASTE** - The distinctive and unique taste of refreshing mineral water is due to the dissolved mineral content, which remains after TDSS treatment, unlike Reverse Osmosis and other water treatment systems that remove minerals.
- **PRODUCTION** - TDSS systems are portable, scalable and customizable. Whether the need is 20 L per day or 150 million L or more. Our TDSSg (gas) uses propane (or any other hydrocarbon fuel) as the heating source. Energy consumption for the Gas model is 0.0017 Liters of fuel used per liter of water sterilized at a cost of ~\$0.0004/liter and the Electric model is 0.023 KWhr per liter of water sterilized at cost of ~\$0.002/liter. Options include Solar Panel & Rechargeable Batteries, Solar Concentration (for areas with 80% sunlight), and waste heat sources.
- **SPECS** - The dimensions are 86cm x 45cm x 45cm with a mass of 25kg and a production of 2000 liters/day at a 6 log bacterial spore reduction SAL.

**OPERATING COSTS** - TDSS Technology is cost competitive. All costs are calculated based on Client's Requested Output/LPD.



TDSSg (Gas Model) 86cm x 45cm x 45cm  
Daily Output – 2,000 L per Day  
Weight – 25 kg



TDSSe (Electric Model) 86cm x 45cm x 45cm  
Daily Output – 2,000 L per Day  
Weight – 25 kg