



Chemical free disinfection for food processing



MDS / SDS Series

An Alternative Sanitation Solution Designed for the Food Processing Industry

Clean · Safe · BioSure



▲ Approved terminal sanitizer status following a testing process that was managed by
Campden BRI

▲ Permitted under **Soil Association (UK)** standards of use
for direct contact on organic produce



DESIGNED FOR FOOD PROCESSING A REVOLUTION IN FOOD PROCESS HYGIENE

BioSure Professional MDS is approved as a self-contained, terminal disinfection ozone sanitation system and has passed the following tests:

- ▲ BS EN 1279:2009 (Bactericidal Test)
- ▲ BS EN 1650:1997 (Fungicidal Test)
- ▲ TES-S-004 (Sensory / Taste Test)

HARSH CHEMICALS ARE NOT YOUR ONLY SOLUTION TO FOOD SAFETY AND SANITATION

BioSure Professional's MDS / SDS solution means



Green & organic

- Completely environmentally friendly disinfectant that leaves only water and oxygen behind and absolutely no harmful byproducts
- BioSure series is permitted under (UK) Soils Association standards of use for organic produce



Economical

- Effective cold water disinfection reducing the need for hot water usage
- No residue to rinse off so you can sanitize and rinse in one step to save water
- Reduces the amount of wastewater and wastewater is cleaner
- Shorter disinfection and rinse process saves time that can increase productivity



Fast path to build up a HACCP food processing

- Effective solution for disinfecting the entire water source for your food processing thereby eliminating one major risk of infectious diseases in the water source



Lower carbon footprint approach

- Reduce energy consumption, reduce chemical usage and cleaner wastewater

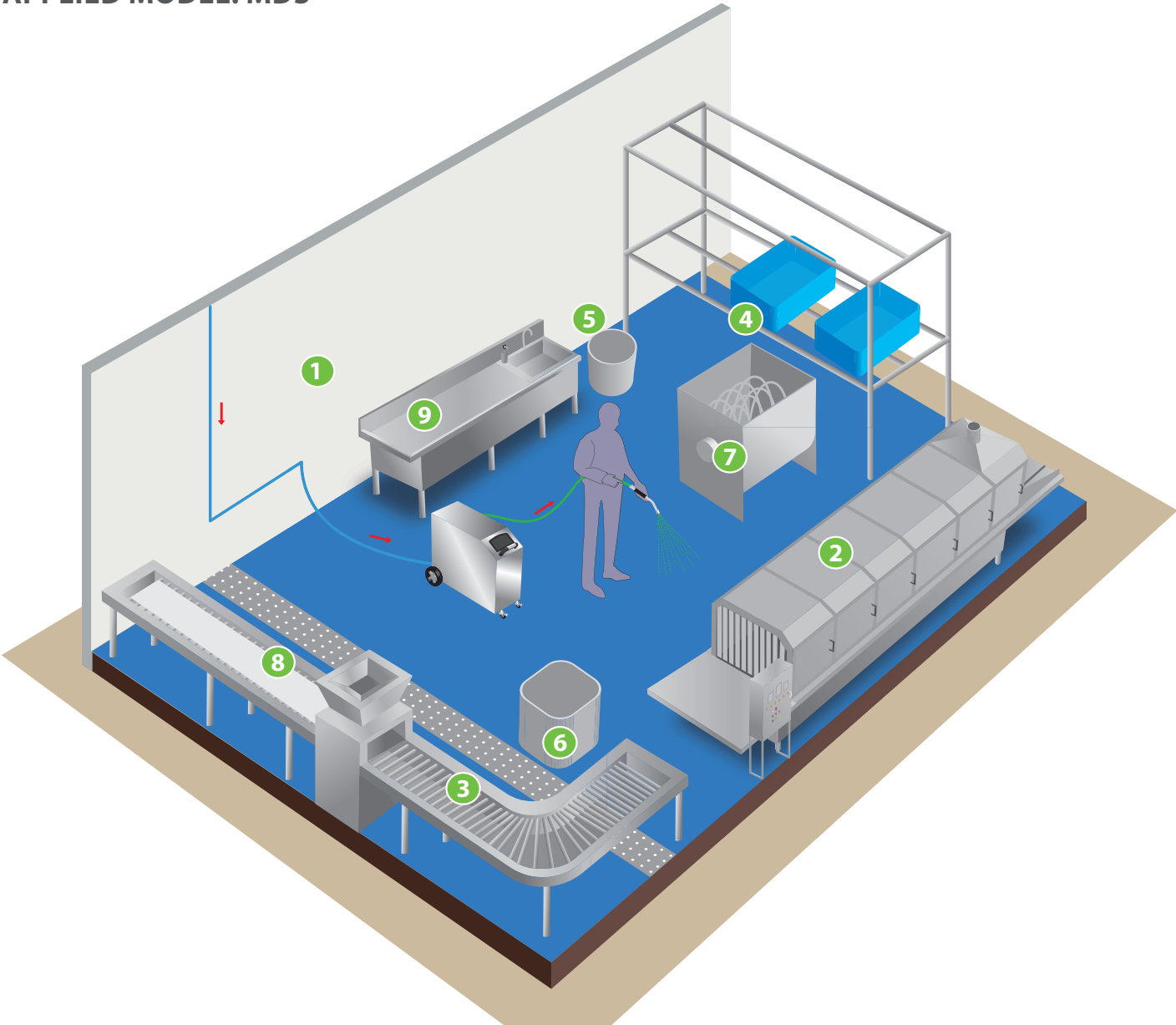


MDS FOR MOBILE APPLICATIONS

Terminal Sanitization

Application for All Food Contact Surfaces

APPLIED MODEL: MDS



APPLICATION POINTS

- 1

Plant floors and walls
- 2

Processing equipment
- 3

Transfer lines
- 4

Trays
- 5

Bins
- 6

Tanks
- 7

Blenders
- 8

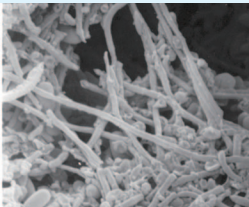
Conveyors
- 9

Wet-table equipment

PRACTICAL APPLICATIONS



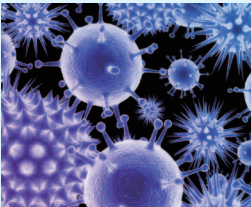
Ozone affects microbial membranes and denatures metabolic enzymes. Ozone-enriched water kills microbes effectively and is an effective biocide against:



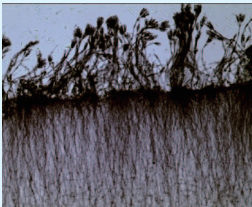
Biofilm



Bacteria



Viruses



Fungi



Protozoa
(including cysts)

INCREASE SANITATION AND REDUCE OR ELIMINATE

Chlorine
Quaternary ammonia

Ozone’s relative sanitizing strength
1ppm ozone = 50ppm chlorine
1ppm ozone = 200ppm quat

Safety concerns

Ozone reverts back to oxygen.
Residual-free, rinse-free.

Final rinse

Terminal surface sanitizer

BENEFITS

- Reduce chemical sanitation cost
- Ozone disinfects more powerfully than most chemical disinfectants
- Micro-organisms cannot build up an ozone tolerance
- Ozone used properly will not endanger the environment
- High environmental profile as ozone leaves no chemicals or residual by-products to spoil product quality
- Ozone is not harmful to the environment unlike chlorine
- Ozone is safer than chlorine or sulphur dioxide
- Ozone is generated "on-site" and does not have to be purchased, transported or stored

SDS FOR STATIONARY APPLICATIONS

Terminal Sanitization Application with System Integration

Ozone systems are retrofits that can be added to existing high volume commercial tray washing machines with recirculation practice.

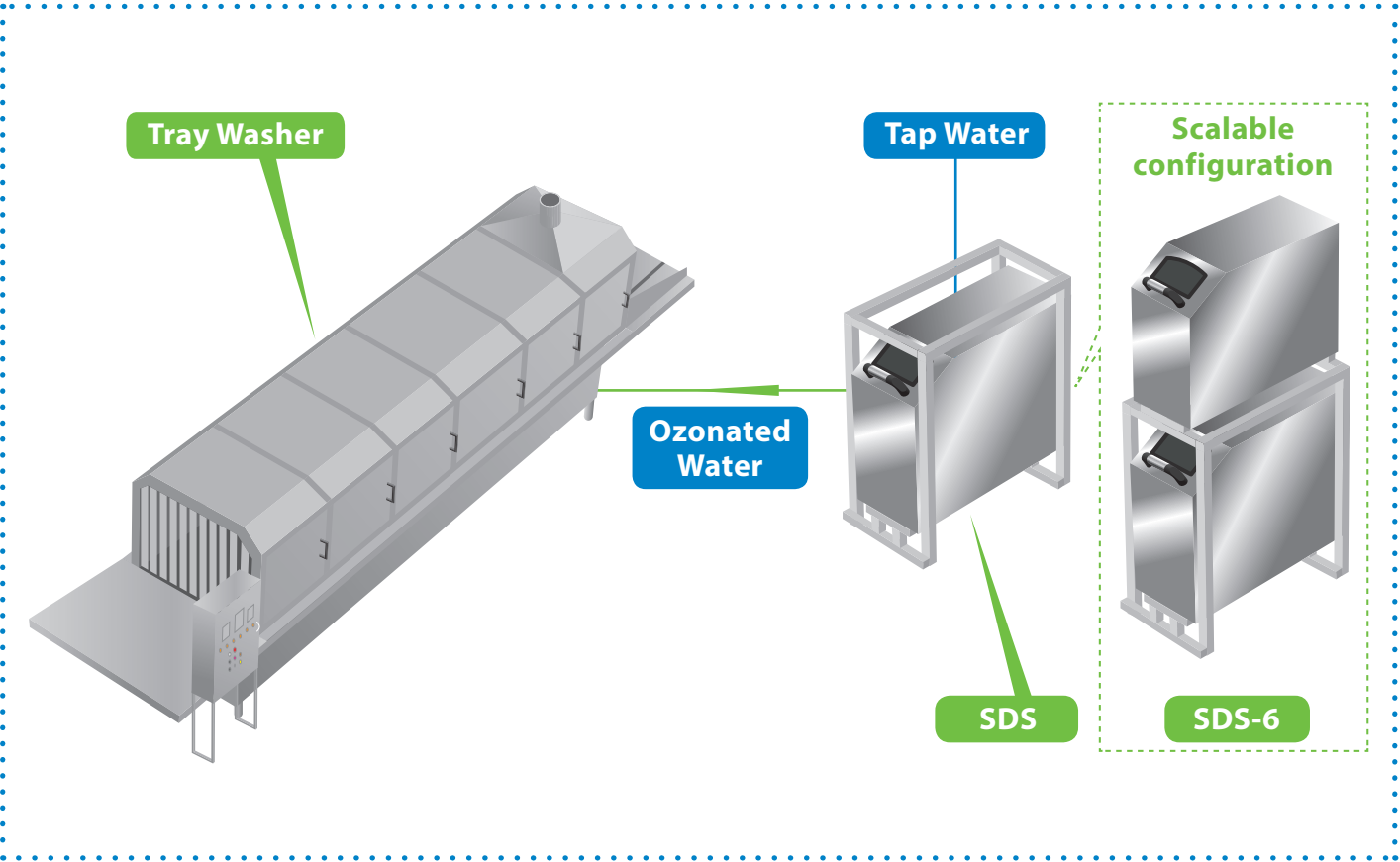


On-site tray washing machine

BENEFITS

- ▲ Reduced water consumption due to eliminated cycles
- ▲ Reduced energy consumption due to elimination of hot water for sanitation
- ▲ Reduced operating costs due to the removal of chemicals in the final rinse
- ▲ Leaves no chemical residues
- ▲ The above means huge cost savings with a rapid pay back time

EASY INTERGRATION



Direct Food Contact Sanitation



Integrated into any aqueous operation, dissolved ozone can be used for direct contact sanitation on fruits, vegetables, raw and ready-to-eat (RTE) meat and poultry, fish, shrimp, other seafood and eggs. **Ozone is an FDA, USDA and USDA Organic approved antimicrobial food additive, so it can be simultaneously applied at any time during processing on the product.**

Ozone is a broad spectrum disinfectant that is 3,000 times faster than chlorine. Ozonated water can effectively eliminate all known food and human pathogens, including E. coli, Listeria, Salmonella, Staphylococcus, Campylobacter, Pseudomonas, Aspergillus, Brettanomyces, Trichophyton, Bacillus, Adenovirus, and Norovirus.





BENEFITS

- ▲ Extend product shelf life
- ▲ Boost product color, improve appearance
- ▲ Remove pesticides and odors to improve quality
- ▲ Reduce product spoilage
- ▲ No additive labeling required
- ▲ No flavor alterations
- ▲ No harsh chemicals
- ▲ No allergic reactions
- ▲ No bacteria resistance
- ▲ Safe for operator and user
- ▲ No storage and mixing error risks

THE BEST FOR YOU

Food Safety and Sanitation Concerns	BioSure Professional Ozone Solution
Need for safe and effective disinfection in Food Processing	<ul style="list-style-type: none">- Powerful, safe, effective disinfection- Approved under USDA Organic Rule- FDA approved for direct contact with food- Over 40 patents worldwide- Numerous health and safety certifications
Ineffectiveness and drawbacks of chemical disinfectants	<ul style="list-style-type: none">- Effective antimicrobial against E. coli 0157:H7, Salmonella, and all known bacteria, viruses, yeast, molds, and mildew- Kills a broader spectrum of bacteria 10-5000 times faster than chlorine
Need for an environmentally friendly disinfection solution to professionals	<ul style="list-style-type: none">- Environmentally friendly- Reverts back to oxygen
Demand for cost effective complete disinfection system	<ul style="list-style-type: none">- Cost effective- Water is the only input required- Saves energy and no risks and hazard liabilities like heat disinfection- Eliminates chemicals usage, transport and storage- No rinsing needed
Chemical disinfectants leave harmful residues and by-products	<ul style="list-style-type: none">- Leaves no odor, residues, or by-products- pH neutral, does not alter the taste of food
Removal of pesticides and chemicals is critical in food processing	<ul style="list-style-type: none">- Decomposes pesticides and chemicals
Microorganisms can build up a tolerance to chlorine based Disinfectants	<ul style="list-style-type: none">- Oxidizes bacterial cell wall and destroys bacterial cell. Microorganisms cannot build up a tolerance

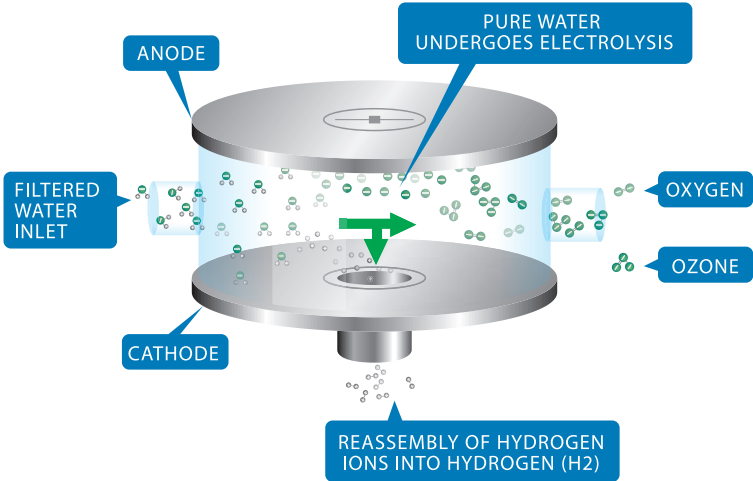
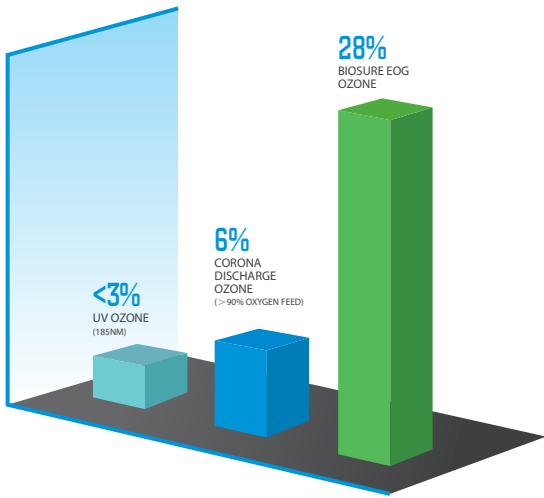
IT IS YOUR TIME TO CHANGE

	Growing evidence that the use of chlorine by industry can harm vertebrates, including humans, has prompted proposals to ban or greatly limit chlorine on both sides of the Atlantic.
	Plant operators are paying heavy charges and surcharges for discharging wastewater containing chemical residuals into public sewage and wastewater water treatment systems.
	Ozone is an environmentally friendly disinfectant that leaves no residual or by-products after the disinfecting process, and thus requires no final rinse, which favors the desire of water saving.
	Ozone is a safe sanitizer with no need for chemical storage, handling, or related safety issues. The use of ozone may eliminate the need of some hot water cycles, reducing the amount of water used, and the energy costs associated with hot water.



PROUDLY POWERED BY EOG

BioSure’s patented Electrolytic Ozone Generation (EOG) process is the world’s leading technology in ozone generation, with water as source to perform the highest result of purity. With a sophisticated process control to an electrolysis reaction that takes place inside the generator, water is broken down, forming H₂, O₂ and O₃. The process separates H₂ and directs it to the drain. Hence the gases collected through the reaction include only O₂ and O₃, with the specific weight percent concentration of O₃ of up to 28% and without associated hazardous substance. This technology produces the highest purity and concentration of ozone on demand.



BioSure's Electrolytic Ozone Generation (EOG) Technology



BioSure is a world-leading supplier of professional ozone products in terminal disinfection for the food industry and direct food contact sanitation applications. We take our commitment to quality seriously and strive to continually improve our products in order to ensure we are providing the highest quality of food safety with ozone solutions available.

BENEFITS

- ▲ Electrolytic Ozone Generation (EOG) technology incorporated
- ▲ NOx-free ozone generation performance *1
- ▲ Highest purity available
- ▲ Only tap water & electricity are required
- ▲ No air dryer or oxygen concentrator
- ▲ Full time performance monitoring
- ▲ Safe to operate
- ▲ Low power consumption
- ▲ Not affected by air quality and humidity
- ▲ Patented ATS (Anytime System) for immediate dissolved ozone
- ▲ Low variability to environmental factors

*1 Nitrous Oxide (NOx) is a known carcinogen which reacts with moisture and other compounds to produce nitric acid and other toxic by-products.
* visit www.biosureozone.com for more technical information



Healthy & Sustainable Lifestyles



Laundry Ozonation Equipment for Energy Savings and Disinfection



Food Safety & Sanitation



Infection Control



Technology Integration



Ozone Solution for Ultra-pure Water and Water Treatment.

SPECIFICATIONS

Model No.		MDS	SDS	SDS-6
Ozonated Water Output				
Flow Rate *1		400 - 3000 L/hr (105-800GPH)		
Concentration *1, *2, *3		6.0 - 0.7 ppm	6.0 - 0.7 ppm	12.0 - 1.4 ppm
Output Pressure		≤ 0.3 kg/cm ² (≤ 4.4 psi)		
Input Requirements				
Power Supply		<input type="checkbox"/> 100~120V, 60/50 Hz <input type="checkbox"/> 200~240V, 60/50 Hz		
Input Water	Quality	Municipal Water Source *3		
	Temperature	5 - 30 °C (41 - 86 °F)		
	Pressure	2.0 - 7.0 kg/cm ² (29.0 - 101.5 psi)		
	Pipe Diameter	3/4"		
Design Parameters				
Generator	Model No.	EA600 III	EA600 III	EA600 III
	Quantity	6 pcs	6 pcs	12 pcs
Size	Depth (D)	1000 mm (39.4 in)	1000 mm (39.4 in)	1000 mm (39.4 in)
	Width (W)	420 mm (16.5 in)	600 mm (23.6 in)	600 mm (23.6 in)
	Height (H)	900 mm (35.4 in)	1100 mm (43.3 in)	2000 mm (78.7 in)
Net Weight		105kg (231.5 lb)	130kg (286.6 lb)	200kg (440.9 lb)
Operating Environment	Room Temp.	5-35°C (41-95 °F)		
	Room Conditions	Well Ventilated Environment*4		
Power Consumption		950 W	950 W	1470 W
Material Casing		Stainless Steel (SUS304)		
Installation		Mobile	Stationary	Stationary
Note: *1. Output flowrate results are based on input water pressure given at 3 kg/cm ² (43.5 psi). *2. Ambient room temperature: 20°C (68 °F).Using cool water 15°C (59 °F) or below will attain best results. *3. Recommend pH between 6 - 8 with a standard water hardness less than 120 ppm with water electrical conductivity: ≤ 500 us/cm. However, most standard municipal water quality is adequate. *4. Minimum air change rate of 5 - 10/hr is adequate.				



MDS



SDS



SDS-6

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