

INTRODUCTION



For decades, steam has been a critical component of the cleaning industry thanks to its effectiveness and natural sanitation ability. Current trends in the food industry are towards chemical-free, organic foods. One approach to chemical-free cleaning is “dry” steam cleaning. Dry steam is produced by a jet of superheated, vaporized water that immediately evaporates, leaving behind little to no wastewater production.

Total Sanitation

The “superheated steam” produced by the Optima Steamer™ sanitizes and eliminates hazardous food-borne bacteria. Most of pathogens are known to be eliminated at 75°C. The Optima Steamer™ is able to produce constant hot dry steam ranging from 100~135°C at the nozzle tip, ensuring total sanitation of unwanted microorganisms. Optima Steamer™ is an efficient, nontoxic cleaner that leaves no chemical residue and is very good for getting inside the carcass in areas where chemical treatments may not penetrate.

Benefits

- Faster Cleaning with Steam-Disinfect Steps
- Save Water and Chemical Consumption
- Little to No Wastewater
- Non-Toxic, Chemical-Free and Residue-Free
- Clean and Sanitize Hard-to-Reach Areas
- Decontaminate Biofilm-Forming Bacteria
- Minimal Downtime
- Portable, Versatile, Little Maintenance
- Deodorize and sterilize surfaces
- Easily remove compound from cracks and crevices



Why CHOOSE the Optima Steamer™?



Faster cleaning frees up capacity, and the additional capacity can result in millions of dollars of additional revenue opportunity as well as savings through reduced labor.



Overall reduction in water and chemicals in the cleaning cycle means less waste into the waste water treatment facility or down the sewer.



Dry steam is an efficient, nontoxic cleaning system that leaves no chemical residue.



If your preparation area is older, with scratches, dents and visible cracks allowing food particles trapped and bacteria to multiply, steam cleaning might get the area “clean enough”

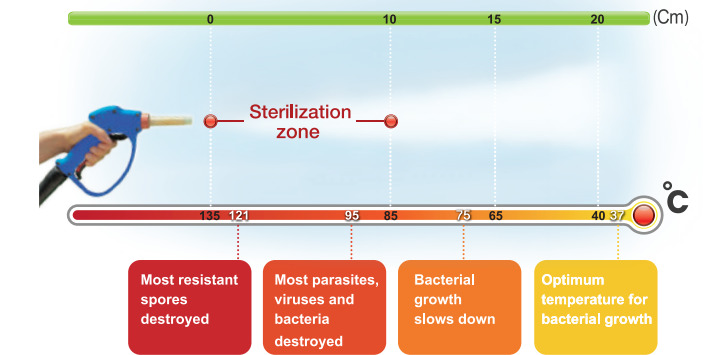
Food-contact surfaces such as conveyor belts and dead spaces that are hard to clean may harbor biofilms. Optima Steamer™ has the ability to rapidly sanitize and eliminate hazardous food-borne bacteria.



Optima Steamer™ has the ability to rapidly remove soil throughout the production operation without major interruption or extensive cleanup.

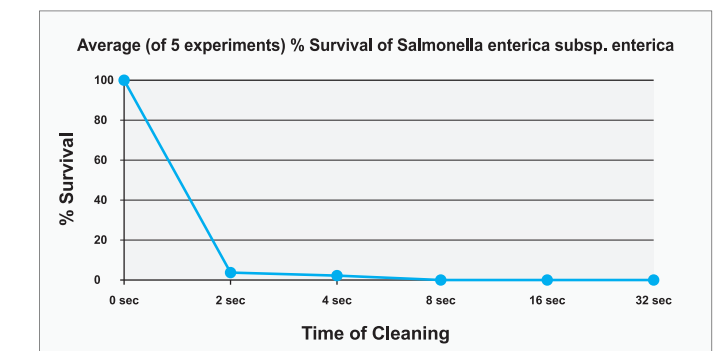
Optima Steamer™ Help you achieve maximum antimicrobial efficacy

• Steam Sanitation



Bacterial cells in biofilms may be as much as 500 times more resistant to sanitizing chemicals than free-flowing or suspended cells. Applying heat to products to reduce and eliminate pathogens is a tried-and-true processing technique in the food processing industry. The jet of superheated steam will kill any microorganisms with which it comes into contact.

• Test performed : Microbicidal efficacy of Optima Steamer™ Cleaner



The results of the study demonstrate that the Optima Steamer™ significantly reduced food particles such that they could no longer be seen, and reduced the pathogens studied here from stainless steel after an 8 second cleaning. These studies suggest that controlled use of a dry steam is an effective method to significantly decreasing food pathogens from stainless steel.

OPTIMA STEAMER™ SE



The Food-Grade, Stainless Steel Electric Steamer



Got a Smart Phone?
Scan here to view
Optima Steamer™
videos on
our Youtube channel.

The Optima Steamer™ SE offers a variety of cleaning solutions for industrial facilities, food processing plants, winery and brewery processing facilities. It is specifically designed to provide complete sanitary solutions for applications including sanitizing meat slicers, cutting tables and blades, cleaning conveyor belts (mesh, metal, etc), sanitizing pathogens, biofilms and food-borne bacteria from hygienically challenged surfaces.



Optima Steamer™ helps you achieve maximum antimicrobial efficacy



Clean and Sanitize Hard-to-Reach Areas

If your preparation area is old with scratches and visible cracks allowing food particles trapped and bacteria to multiply, steam cleaning might get the area "clean enough"



Total Sanitation

Food-contact surfaces such as conveyor belts and dead spaces, as well as areas that are hard to clean, may harbor biofilms. Optima has the ability to rapidly sanitize and eliminate hazardous food-borne bacteria.



Lean Sanitation

Optima Steamer™ has the ability to rapidly remove soil and provide a sanitized surface throughout the production operation, without major interruption or extensive cleanup



Chemical-free Cleaning

Eliminate difficult-to-remove animal fat and dried substances from surfaces. No toxin is released during operation and is very good for getting inside the carcass in areas where chemical treatments may not penetrate



Optima Steamer™ SE

Cleaning Applications:

- Food & Beverage equipment and production lines
- Meat slicers, Cutting tables and Baldes
- Manufacturing/CNC cleaning
- Sanitize pathogens, biofilms and food-borne bacteria from hygienically challenged places
- Winery and Brewery
- Packaging and Bagging equipment
- Park and recreational equipment

Product Specifications

Model Name	SE 18K	SE 27K	SE 42K
Heat Source	Electronic Heaters		
Operating Voltage	3-phase 208 ~ 600V	3-phase 380 ~ 600V	3-phase 380 ~ 600V
Wattage Requirements	18.2kW	27.2kW	42.2kW
Boiler Temp	174°C / 345°F		
Spraying Temp	120°C / 248°F		
Steam Pressure	8.5 bar / 124 psi (Max 9.5 bar / 138 psi)		
Max Flow Rate	900 cc/min	1,200 cc/min	1,200 cc/min
Preheating Time	6~7 minutes		
Water Tank Capacity	72ℓ		
Boiler Material	Stainless Steel 304 (Food Grade)		
Pipes Material	Stainless Steel 304/316, Brass, Copper, Teflon		
Body Material	Stainless Steel 304 (Food Grade)		
Unit Dimensions	52 x 84 x 87 cm		
Net Weights	89 kgs	98 kgs	121kg
Available Colors	Red, Green, Blue, Yellow		
Included Hoses / Guns	2 hoses, 2 guns	2 hoses, 2 guns	2 hoses, 2 guns

Accessories:

Included Items:



Recommended Items:



78-21, Sandan 7-ro, Jeonggwan-myeon, Gijang-gun, Busan, South Korea

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Optima EST [5K],[12K],[18K],[27K]

Optima EST Steamer



Quick Reference Guide

Electric-Powered	
Indoor/Outdoor Use	
Poly Propylene Material	
Automatic Water-Filling System	

The Optima Steamer™ ES T offers a variety of industrial cleaning solutions for industrial facilities, automotive service centers, food production plants, winery and brewery processing facilities. Using the latest in steam technology, the Optima can quickly and effectively remove dirt, stains, grease, odors and other contaminants from a variety of surfaces without chemicals and generating waste-water run-off.



Benefits:

- Quickly and easily remove dirt, grease and stains
- Reduce water and chemical consumption
- Clean hard-to-reach nooks and crannies
- Deodorize and sterilize surfaces
- No waste water run-off and overspray
- Easy to maintain and operate
- All day use

Cleaning Applications:

- Car Wash, Auto Body & Automotive Repair
- Bakery, Snack, Biscuits, Noodles, Chocolates Production Lines
- Winery & Brewery
- Packaging Equipment and Machinery
- Bagging Equipment, Meat Slicers, Cutting Tables and Blades
- Sanitize Pathogens, Biofilms, Coli-forms, Aerobic, Anaerobic and Food-borne Bacteria and more



Optima EST Steamer

Features:

Efficient Steam Production System

The Optima EST is equipped with a coil-heated, electric steam generator that is designed to produce steam in around 10 minutes and automatically turns on and off to maintain operating pressure. The steam vessel's stainless steel supports a long life span

Multiple Safety Features

Safety features include a LED illuminated control panel with corresponding alarm, automatic shut-off, pressure sensors, mechanical pressure release valve, thermostat control, water tank level sensors, boiler water level sensors, multiple check valves and a dry-run prevention setting on the water pump. Built in accordance with UL, CSA and CE

Product Specifications:

Model Name	EST05K	EST12K	EST18K	EST27K
Working Pressure	7 ~ 8.5 bar/ 101 ~ 123 psi (Max. 9.5 bar/ 138psi)			
Spraying Temperature	< 135°C (Boiler 178°C)			
Rated Electric Power	5.2KW	12.2KW	18.2KW	27.2KW
Preheating Time	21 minutes	9 minutes	7 minutes	6 minutes
Water Tank Capacity	40 liter			
Water consumption	300 ~ 1200 cc/min			
Power Requirements	200V ~ 240V, 50/60 Hz (Single Phase)		200V ~ 480V, 50/60 Hz (3 Phase)	
Net Weight	74kg			83kg
Product Dimensions	109(L) X 70(W) X 90(H) cm			
Color				
※ Customization and private labeling available depending on minimum order quantity				

Accessories:

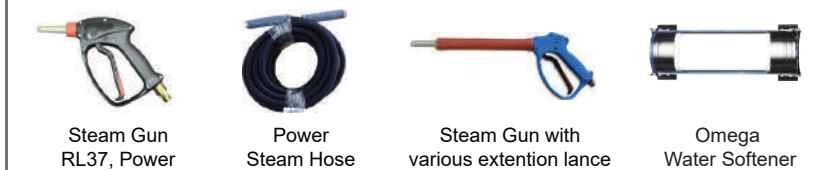
For EST[18K,27K] Standard :



For EST[5K,12K] Standard :

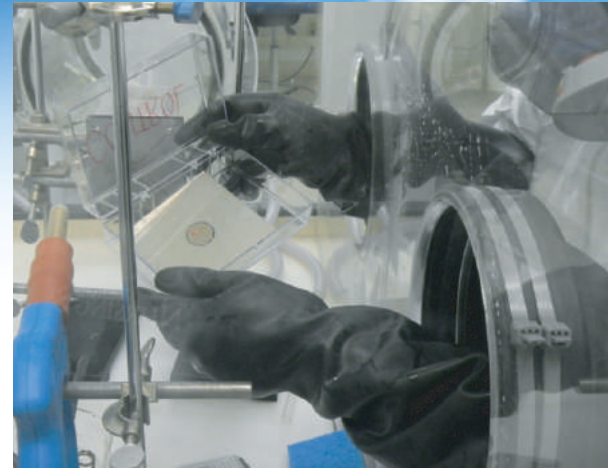


Optional :



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Pathogen Testing

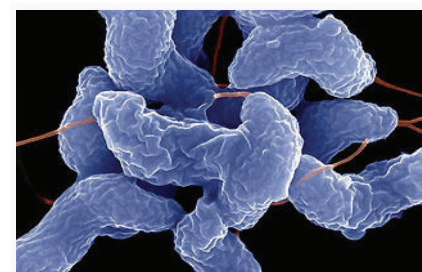


Pathogen Testing

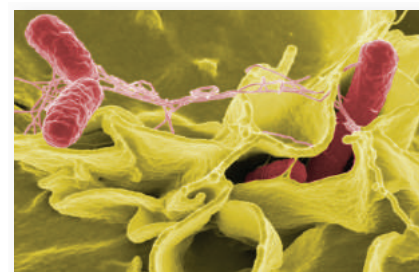
The vapor-steam produced by the Optima Steamer™ sanitizes and eliminates hazardous foodborne bacteria. With no chemicals and no wastewater run-off, dry vapor-steam is the most efficient cleaning solution for food and beverage facilities. The Optima Steamer™ was recently put to the test against the most common dangerous pathogens and the results truly display its sanitizing power.

Pathogen	Source	Illnesses	Fatalities	Effectiveness
Staphylococcus aureus	Meats, potatoes, eggs, cream	241,148	378	Eliminated
Campylobacter coli	Poultry, milk	845,024	76	Eliminated
E.coli	Beef, milk, juice, crop produce	96,000	31	Eliminated
Listeria monocytogenes	Milk, cheese, RTE meats	1,600	260	Eliminated
Salmonella	Dairy, poultry, meat, crop produce	1,027,561	378	Eliminated
Norovirus	Uncooked foods, crop produce	5,461,731	149	Study in progress

*statistics obtained from www.cdc.gov and are based on the most recent yearly figure in the U.S.



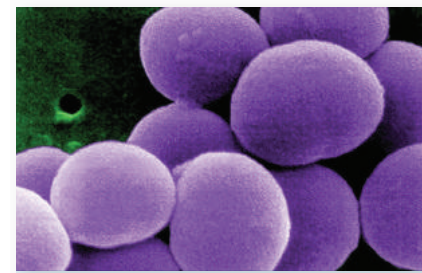
Campylobacter coli



Salmonella



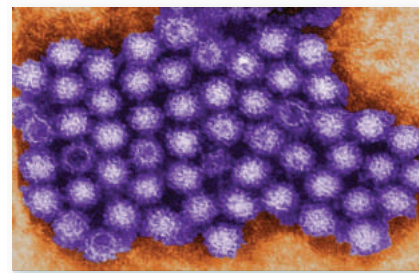
Listeria monocytogenes



Staphylococcus aureus



E.coli



Norovirus

The Procedure

A preliminary study was conducted by a third party laboratory, Lebrun Labs LLC - a GLP contract testing laboratory located in Anaheim, CA. The test was designed to determine if the most common foodborne pathogens in 5 different food-like substances (drinking water, chicken broth, beef broth, milk and blood) can be reduced in number or completely eliminated from common food preparation surfaces.

The microbes were obtained from the American Type Culture Collection (ATCC®) and cultured under standard conditions.

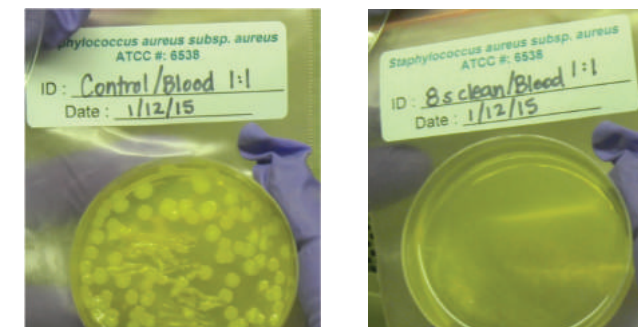
- Known concentrations of microbes added to food-like substances and applied to sterilized stainless steel
- Inoculated stainless steel transferred to biohazard chamber for testing
- Inoculated plates mounted for exposure and steam cleaned for defined exposure times

The Results

The procedures resulted in the complete elimination of Staphylococcus aureus on stainless steel after 8 seconds of cleaning, the complete elimination of Campylobacter coli on stainless steel after 8 seconds of cleaning.

The conclusion is that the Optima Steamer™ eliminates or significantly reduces the most common foodborne pathogens in a variety of food-like substances from food preparation surfaces.

Previously in 2012, Lebrun Labs tested the efficacy of elimination of 2 wine microbes (Brettanomyces dekkera and Zygosaccharomyces bailii) and Escherichia coli from glass, plastic (polystyrene), and stainless steel. It was found that the Optima Steamer™ eliminates the 2 wine spoilage microbes and E. coli from the surfaces of all material tested.



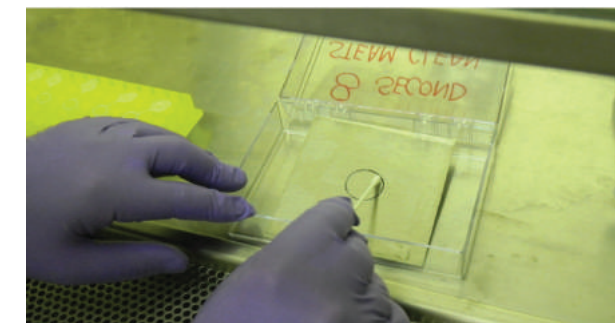
Staphylococcus aureus on stainless steel before and after elimination from 8 seconds of cleaning by the Optima Steamer™



Microbe concentrations mixed in food-like substances set on stainless steel and transferred to biohazard chamber for testing



Inoculated plates mounted for exposure and steam cleaned for defined exposure times



Microbes recovered from control (mock exposure) and steam cleaned stainless steel plates



The Optima Steamer™ sanitizes the most common, dangerous foodborne pathogens eliminating the risks of foodborne illness