Low Temperature Plasma H_2O_2 Gas Sterilizer

Spec. sheet

RENO-S130

131.4L

RENOSEM
Expert in Infection Control

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Low Temperature Plasma H_2O_2 Gas Sterilizer

About us

Since the establishment in 2007, RENOSEM is constantly optimizing our specialized sterilization process technology by operating independent R&D laboratory. With many years of experience in developing and producing 6 models of our RENO Series Low Temperature Plasma H_2O_2 Gas Sterilizer, we have been supplying our world-class sterilization and disinfection solution to more than 50 countries across Europe, Africa, Latin America, and Asia including Japan and China. As one of the global leaders in infection control industry, we create highly qualified infection prevention products with differentiated technology. We strive to provide customers convenience and protect customers against worldwide infection.

Market trend

Recently, a number of Minimally Invasive Surgery (MIS) has rapidly increased and therefore usage of endoscopes has increased. Also, medical devices which are sensitive to heat and humidity may not acceptable to be sterilized in EO gas and steam sterilizers and therefore the demand for low temperature sterilizers are increasing.

As mixed chemicals mainly used in EO gas sterilizers e.g. CO_2, CFC, HCFC may be harmful to human body and have risks to destroy the Ozone layer, many countries have established related regulations.

Our sterilizing agent, RENO-SA, has a low concentration (50%) of Hydrogen Peroxide and it will later break down into Water vapor (H_2O) and Oxygen (O_2) which are harmless to environmental resource and human body.

Plasma Technology

DBD plasma

When a gas state of Hydrogen Peroxide turns into the Plasma state, the sterilization power becomes stronger with Plasma reaction energy and chemical reaction of hydrogen peroxide.

Corona plasma

Corona Plasma generator located on the vacuum line of chamber eliminates the residual Hydrogen Peroxide after the sterilization process by breaking chemical bond of Hydrogen Peroxide.

RENO Series Line-Up

We have 6 models of Low Temperature Plasma H_2O_2 Gas Sterilizer with different functions and sizes. The smaller sized models are usually installed in local clinics and bigger sized models are widely used in general hospitals.

RENO-S20

This model is most likely used in dental or eye clinics.

RENO-S30

Widely used in places where need quick rotation of medical devices such as Emergency and operation rooms in local hospitals.

RENO-D50

It has double chambers so that it can divide the items into two different sections and it is easier to manage the rotation of sterilization cycles. It is mainly used in regional or specialized hospitals.

RENO-S90

This is the most recently developed sterilizer model from Renosem. Therefore, it has the most up-to-date systems e.g. auto disposal system for sterilizing agent. It can be used in operation room or CSSD in general hospitals.

RENO-S130

It is often used in operation room or CSSD in general hospitals. It has numerous global sales records in many other countries which prove its quality and durability.

RENO-S130D

It has double automatic sliding doors that can separate the clean area and dirty area. It is mostly used in general hospitals whereruns or has a plan to run a CSSD with separated sections.

RENO-S130

RENO-S130 is often used in operation room or CSSD in general hospitals. It has numerous global sales records in more than 35 countries which proves its high quality and great durability. This model provides convenient management and efficient sterilization power.

Cycle Time

Non-Lumen Cycle : 28 minutes

Eco Cycle: 45 minutes

Advanced Cycle : 62 minutes

RENO-S130D has three types of sterilization cycles; **Non-Lumen Cycle, Eco Cycle** and **Advanced Cycle.**

Non-Lumen Cycle is used when only a few of the less contaminant medical devices need to be sterilized in a short time. They also need to be placed in the upper shelf only. Both Eco Cycle and Advanced Cycle can sterilize tubular shaped medical devices.

Please refer to below table which shows the standards of medical devices to be sterilized using ECO cycle & Advanced cycle program.

RENO-S130	Cycle time	Lumen	Length	Qty.	Maximum weight
Eco cycle	45 minutes	SUS Ø1	200 mm	10 ea	8 kg including Lumens and extra Load
		Teflon Ø1	400 mm	10 ea	
		Flexible endoscope Teflon Ø1	900 mm	2 ea	
		Flexible endoscope Teflon Ø1	900 mm (with Camera)	1 set	
Advanced cycle	62 minutes	SUS Ø0.7	500 mm	10 ea	12 kg including Lumens and extra Load
		Teflon Ø1	1,000 mm	10 ea	
		Teflon Ø2	1,500 mm (One-side closed)	2 ea	
		Teflon Ø1	1,000 mm (Without load)	20 ea	

Above lumen devices and non-lumen devices can be combined within maximum weight.
Lumen devices can be sterilized with **RENO series** in shorter time.

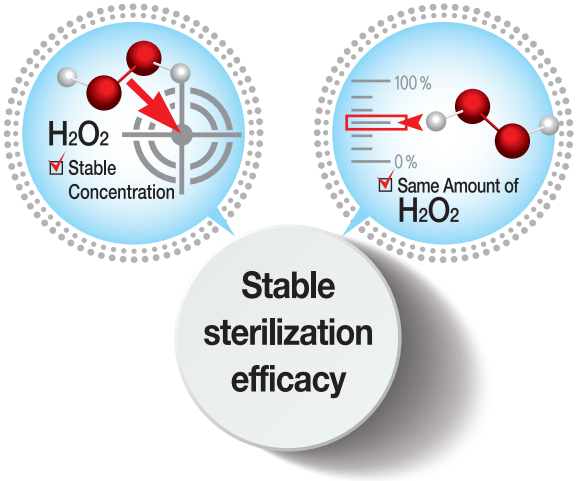
Strengths

Single-use Cassette type sterilizing agents

We have an accurate injection system to put the same volume and concentration of Hydrogen peroxide to each cassette to maintain the stable sterilization power.

1. Amount of H_2O_2 (10ml)
   – Same amount of Hydrogen Peroxide is injected into each cassette.

2. Concentration of H_2O_2 (50%)
   – The concentration of Hydrogen Peroxide should always be the same for stable sterilization.



To maintain the same amount and concentration of Hydrogen Peroxide is very important to provide the stable sterilization power. For this reason, we use single-use cassette type sterilizing agents for RENO series.

Large Usable Chamber Volume

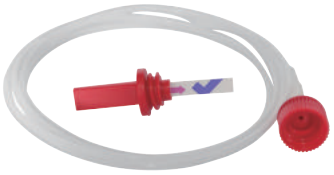
As the plasma generators for RENO-S130 are located separately from the chamber, it makes a bigger space for load and it eliminates the risks of having errors when the items are in contact with the chamber wall.

Bigger usable volume means more items can be sterilized with less operation. This can save your time and running costs for consumables.

Chamber Volume for RENO-S130	
Total Volume	131.4L
Usable Volume	120L

Test Kit

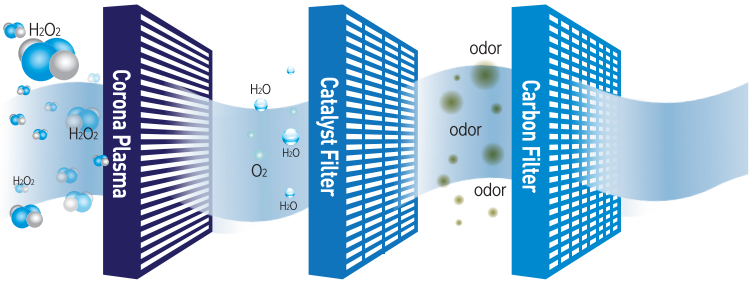
To test the sterilization capability, the most simple and reliable way is to use a test kit which has similar shape and size of medical devices. We use this test kit under conditions where Hydrogen Peroxide and plasma are hard to reach.



Exposed Hydrogen Peroxide Concentration

Occupational Safety and Health Administration (OSHA) in the United States restricts the maximum concentration of exposed Hydrogen peroxide to be less than 1 ppm (TWA) in 8 hours. We applied 3 steps of filtering system to meet their requirements and it is approved with test reports from the 3rd party.

< Filtering System >



Corona Plasma
To break down H_2O_2 into water vapor and oxygen

Catalyst Filter
New appliance to eliminate H_2O_2 odors

Carbon Filter
To remove any residual chemicals

Features

Easy interface

Easy-to-use, color-coded touch screen: It is easy to select sterilization cycle that users want.

Built-in Thermal printer

It is possible to print out the cycle performance record after cycle completing for analyzing the results of sterilization

Single-use Cassette type sterilizing agents

Easy-to-use, single-use cassette type.

Data Storage

Sterilization cycle results can be stored in SD card. It can help users to record the history of sterilization cycles.

Mobility

There are moving wheels underneath the machine to make it easy to install or change the location.

R&D Center

In R&D center, our researchers incubate *Geobacillus stearothermophilus bacterial spore* and conduct the test following qualified protocols. As we can conduct the tests in our own facility before shipping out, it assures the quality of our products.

Below is a list of sterilization test that we conduct in our laboratory;

- Lumen test
- Mated surface challenge SUS & plastic
- Surface sterilization
- Bacteriostasis test
- Simulated use test
- Material compatibility
- Dose response test
- Cytotoxicity test
- Hemolysis test
- In-use test
- Human factors validation

For actual medical instruments that have been used in hospitals., we can provide following sterilization protocols and test reports;

- Medical device protocol development
- Medical device compatibility report

SPECIFICATION

TOTAL CYCLE TIME

Non-Lumen Cycle	About 28min.
Eco Cycle	About 45min.
Advanced Cycle	About 62min.

PROCESSING TEMPERATURE

	Below 55℃

DIMENSIONS & WEIGHT

Dimensions	1,547(H)x778(W)x1,120(D)mm
Weight	440Kg

STERILIZATION CHAMBER

Configuration	Rectangular
Total Volume	131.4L, 400(H)x450(W)x730(D)mm
Shelf	Removable Two-tired Shelf
Material	Stainless Steel

DOOR

Door Type	Single Door
Door Control	Manual

STERILANT

Liquid Chemical Agent	Hydrogen Peroxide
Concentration & Usage	10ml (50%), 1 Cycle / Cassette

CONNECTION

Electricity	230V~,Single Phase, 50/60Hz or 200V Single Phase, 50/60Hz
Power Consumption	3 KVA

PROGRAM

Control	Micro Processor
Self-Test Mode	Automatic
Printer Outputs	Built-in Thermal Printer
Data Storage	Memory Card

DISPLAY

Screen	Wide Touch Screen
Alarm	Audible & Visable Alarm

MOBILITY

Mobile wheels or Cart	Built-in 4 locking wheels

AIRINLET BACTERIA RETENTION FILTER

HEFA Filter	99.97% Efficiency at 0.3 micron($0.3x10^{-6}$)

REGULATORY APPROVALS

	CE / ISO 13485 / ISO 9001

OPERATIONAL ENVIRONMENT

Temperature	15~40℃
Humidity	5℃~30℃/ below 80%, 31℃~40℃/ below 50%

Certifications

This model complies with international standards such as ISO 13485, ISO 9001, etc for production and quality assurance. It has CE certification and registered in more than 50 countries including Japan, China, Australia and Russia.

FAST RESPONSE

We, Renosem, provide you with 24 HR Immediate Response service.

Fast
Response

RENOSEM
Expert in Infection Control
RENOSEM CO., Ltd
Unit 103-806, Seokcheon-ro 397, Bucheon, Gyeonggi, Korea 14449
Tel : +82 32 222 0100
E-mail : sales@renosem.com
www.renosem.com