GERMANY ENG

Hydrogen Peroxide Low Temperature Plasma Sterilizer

Background

According to ***Hospital Infection Control & Technical Standards For Disinfection*** and ***Technical Standards for Disinfection*** by the Chinese Ministry of Health, medical instruments, utensils and articles that enter into human tissues must achieve sterile level. In daily work in hospitals, configuration and using of sterilization equipment is the assurance of the quality of medical instruments and medical safety. Nowadays, most hospitals adopt traditional sterilization: Dry Heat, Radiation, EO Sterilization, Formaldehyde, and Chemical Disinfectant Dip In (like Glutaraldehyde, Chlorine Dioxide or Hydrogen Peroxide). With the rapid development of medical science and technology, new technology, minimally invasive surgery and endoscope-assisted surgery are widely carried out, correspondingly demand for washing & sterilization of instruments increases. Traditional sterilization methods have its disadvantages such as environment pollution, long cycle time, high temperature that damages instruments. Limitations of above traditional sterilization methods lead to the emergence and development of hydrogen peroxide low temperature plasma sterilization.

STER-E200

STER-E100

STER-E150

STER-E50

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Compatible Articles

The sterilizer is compatible with heat and humidity sensitive instruments. And also can be applied to sterilize repeatedly used surgical instruments, endoscopes and other high precision medical instruments.

- Mental: stainless steel, aluminum, titanium and most other metals.
- Nonmetal: glass, plastic (plastic: poly-acetyl, ethenyl, styrene polymers, Polycarbonate, ethylene resin, poly methyl methacrylate, non-woven fabrics, polyurethane, PVC), etc.

Incompatible Instruments

Articles containing chemicals that will have chemical reaction with hydrogen peroxide

- Hygroscopic material/articles
- Liquid/Powder
- Not completely dried articles

Simulation Test Instruments

Model	PTFE Lumen	Stainless Steel Lumen
STER-E100 **STER-E50**	Diameter ≧1mm, length ≦2000mm PTFE tubule with open ends (excluding flexible endoscope)	Diameter ≧1mm, length ≦500mm stainless steel lumen with open ends
STER-E200	Diameter ≧1mm, length ≦1000mm PTFE tubule with open ends (excluding flexible endoscope)	Diameter ≧1mm, length ≦300mm stainless steel lumen with open ends

- Biological Indicator: Bacillus Stearothermophilis
- Sterilization Effectiveness: 10^{-6} SAL, international standard

STER-E20 bench top

Shortest cycle time is 21 minutes. Fast cycle time and less room consumption is its advantage. It is recommended to be installed in operation room or CSSD for fast sterilization of small numbers of surgical devices. 1 set of standard endoscopy or sterilization package is allowed for 1 cycle.

Work Method	Short time loading, continuous running
Power Supply	3N ~ 380V ~ 220V
No. of Cycles/Cassette	Standard Cycle: 6 Short Cycle: 12
Sterilization Temp.	35 ~ 55℃
Chamber Shape	Rectangular
Dimensions	700 (L)X970(W)X750(H)
No. of Doors	Single/Double
No. of Trays	Two (4 Levels)
Bearing of Tray	15Kg



STER-E100

Shortest cycle time is 31 minutes. 2 or 3 sets of standard endoscopies or sterilization packages are allowed for 1 cycle.

Work Method	Short time loading, continuous running
Power Supply	3N ~ 380V
No. of Cycles/Cassette	Standard Cycle: 6 Short Cycle: 12
Sterilization Temp.	35 ~ 55℃
Chamber Shape	Rectangular
Dimensions	Single 800 (L)X1050(W)X1730(H)
	Double 800 (L)X1100(W)X1730(H)
No. of Doors	Single/Double
No. of Trays	Two (4 Levels)
Bearing of Tray	15Kg



STER-E150

Shortest cycle time is 25 minutes. 3 to 4 sets of standard endoscopies or sterilization packages are allowed for 1 cycle.

Work Method	Short time loading, continuous running
Power Supply	3N ~ 380V
No. of Cycles/Cassette	Standard Cycle: 6　Short Cycle: 12
Sterilization Temp.	35 ~ 55℃
Chamber Shape	Rectangular
Dimensions	Single　860 (L)X1050(W)X1790(H)
	Double　860 (L)X1100 W)X1790(H)
No. of Doors	Single/Double
No. of Trays	Two (4 Levels)
Bearing of Tray	15Kg

STER-E200

Shortest cycle time is 45 minutes. 4 to 6 sets of standard endoscopies or sterilization packages are allowed for 1 cycle.

Work Method	Short time loading, continuous running
Power Supply	3N ~ 380V
No. of Cycles/Cassette	Standard Cycle: 3　Short Cycle: 6
Sterilization Temp.	35 ~ 55℃
Chamber Shape	Rectangular
Dimensions	1000 (L)X1100(W)X1790(H)
No. of Doors	Single/Double
No. of Trays	Two (4 Levels)
Bearing of Tray	20Kg

Advantages >>

A Fast Fashion Sterilizer

Shortest 17 minutes cycle. Shorter cycle time requires less instruments to meet the supply demand. Therefore, cycle time is extremely important. With shorter cycle time, the plasma sterilizer saves cost for extra instruments and enables fastest turnover of important instruments.

- Fast sterilization meets the requirements of OT and CSSD for emergency sterile instruments demand
- Easier management of instruments in OT and CSSD
- Improve utilization and efficiency of OT
- Improve cooperation level among OR, CSSD and other clinical surgical departments

A Safe and Green Sterilizer

LAOKEN Plasma Sterilizer is in full compliance with medical device safety standards. Sterilant is hydrogen peroxide and byproducts are only water and oxygen which are completely safe to both human beings and the environment.

Sterilization cycle is strictly controlled below 60℃ in a dry condition, avoiding damages caused by temperature and humidity changes. Dynamic laminar flow oil and gas separation technology, together with special air absorbing device ensuring exhausted air is clean and safe.

A Low Cost Sterilizer

In the long run, comparing with other sterilization technology (such as steam, EO, formaldehyde, etc.), LAOKEN Plasma Sterilizer has lower cost cycles that sterilize precision instruments in a very gentle fashion, prolonging the lifespan of them while saving hospitals' purchasing cost. In the meantime, cost of the sterilizer and consumables are much lower than similar products, which saves a lot of daily expenses.

An Easy Sterilizer

Intelligent sterilization control system allows one key sterilization and displays cycle progress & countdown, which is convenient for relative work arrangement in hospitals.

A Powerful Sterilizer

Sterilization Assurance Level means the probability of a single unit being non-sterile after it has been subjected to sterilization process. LAOKEN Plasma Sterilizer can achieve 10^{-6} SAL.

LAOKEN Plasma Sterilizer is certified by ISO9001, ISO13485, ISO19437, CE and TAG of Australia. Sterilization officially is also proved by China's Ministry of Heath, CDC and China Academy of Military Sciences.

A Simple Installation Sterilizer

Installation doesn't need room analysis, drainage system, ventilation system, detoxification devices, safety management, regulation measures, personal protective devices and training. Our experienced engineers will provide professional service for installation.

Consumables

Best material & competitive price consumables such as Biological Indicator (BI), Chemical Indicator (CI), Hydrogen Peroxide Cassette, Non-woven Fabric, Instrument Tray, Packages, etc.

Cassette

Fixed volume and concentration of hydrogen peroxide is sealed in every capsule. A Short Cycle consumes one capsule. The injection system and transformation procedure ensure the concentration and volume of hydrogen peroxide injected in sterilization chamber is exactly the same for every cycle. In this way, the sterilization cycle is repeatable and guaranteed. Moreover, cassette is easy for storage and operation, and also safe for staff when replacing cassette.

Biological Indicator

- Simple Incubation and doesn’ t need sterile environment
- Special chemical ink for easy observation of color changes
- Chemical indicator is easy to be torn off for long term storage
- In accordance with related pharmacopoeia, laws and regulations

Chemical Indication Tape

- Used to fix non-woiven fabrics when packing
- Chemical indicator on tape to indicate whether the package is sterilized

Chemical Indication Sticker

(Two-layer sticker can be separated and wrote with packing information)

- Used to fix non-woiven fabrics when packing
- Chemical indicator on tape to indicate whether the package is sterilized
- Stickers are separated and doesn’ t need cutting
- Stickers can be removed and stored after sterilization

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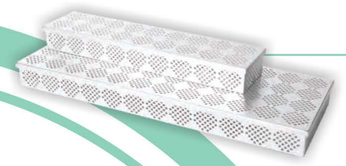
Instrument Tray



Non-woven Fabric

- Used to pack Instrument Tray during packing
- Air permeable, waterproof, flexible, nontoxic

Chemical Indicator

- Made with special ink to indicate sterilization status
- Can write information on it
- Convenient for sterilization record
- Show directly the sterilizer's working status

Packages

- Used to pack instruments for sterilization
- With chemical indicator
- Disposable medical item

Chemical Indication Sticker

(Three-layer sticker can be separated and wrote with packing information)

- Used to fix non-woiven fabrics when packing
- Chemical indicator on tape to indicate whether the package is sterilized
- Stickers are separated and doesn’ t need cutting
- Stickers can be removed and stored after sterilization

Accessories

1 Patented Cassette

Patented H_2O_2 cassette is more convenient, safe and reliable. Independently sealed capsules ensure identical injection volume in every cycle.

2 Save up to 30000 Cycles' Data

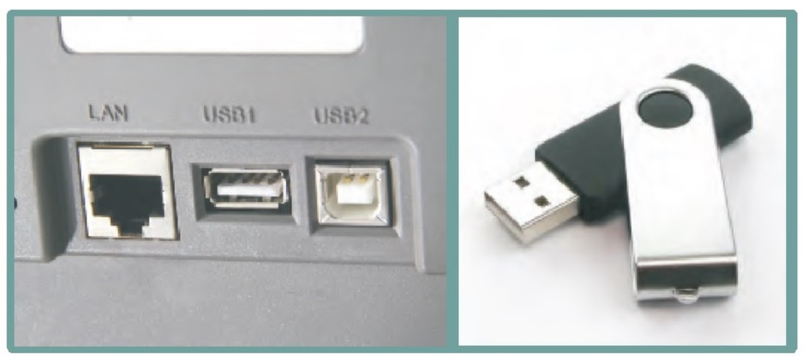
LAOKEN is the first manufacturer in China who comes up with sterilization traceability concept and solution. Cycle records can be checked and printed at any time in up to 6 years.

3 Patented Built-in Incubator

Put processed BI into Built-in Biological Incubator directly after the sterilization. It gives alarm when incubation complete. Incubation records are saved together with respective sterilization cycle records for traceability use.

4 Download Data to USB

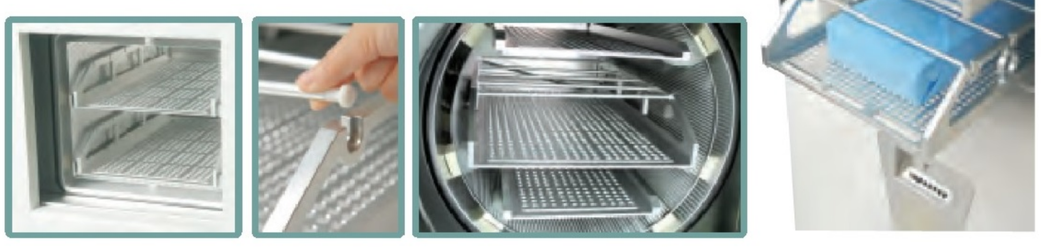
Sterilization records can be transferred to an editable MS EXCEL file and downloaded to USB drive conveniently.



5 Movable Shelves

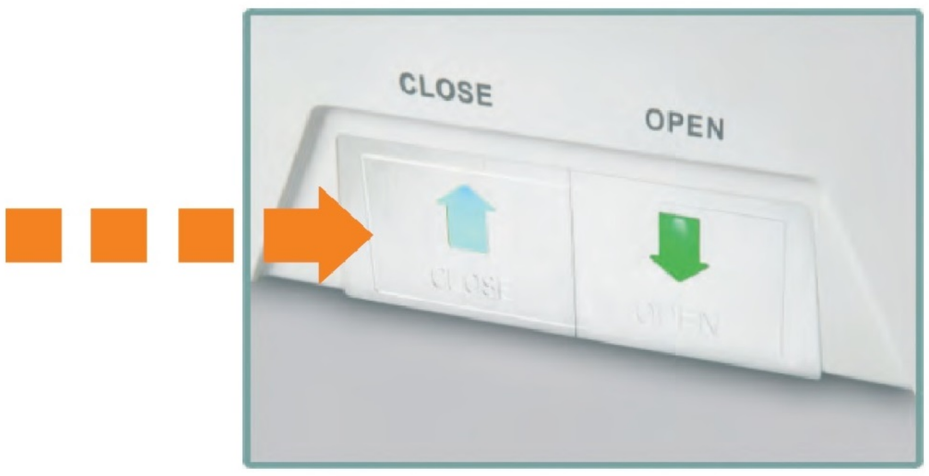
Moveable shelves can be pulled out as easy as pulling a drawer for easy instruments loading and unloading.

Shelves can be dismantled and assembled according to different sizes of instruments.



6 Foot-kicking Switch & Finger Switch

Foot-kicking switch and finger switch make loading and unloading easier, faster and more convenient. Operators can open or close chamber door by kicking the switches when their hands are occupied.



Flash Dry Cabinet

Nowadays, most fast sterilization methods require articles to be dried before sterilization. OT in hospitals is normally not equipped with special drying equipment for drying. Instruments can only be dried in CSSD with artificial hot wind, which is very time and effort consuming. To shorten instrument turnaround time, Flash Dry Cabinet is developed for application in OT for fast drying and sterilization.

Applicable Range

Applied to dry surgical instruments in hospitals and health departments (also in scientific research institutes, laboratory and especially idealistic and high efficient equipment for glass instruments, stainless steel instruments, tubule, etc.)

Fast

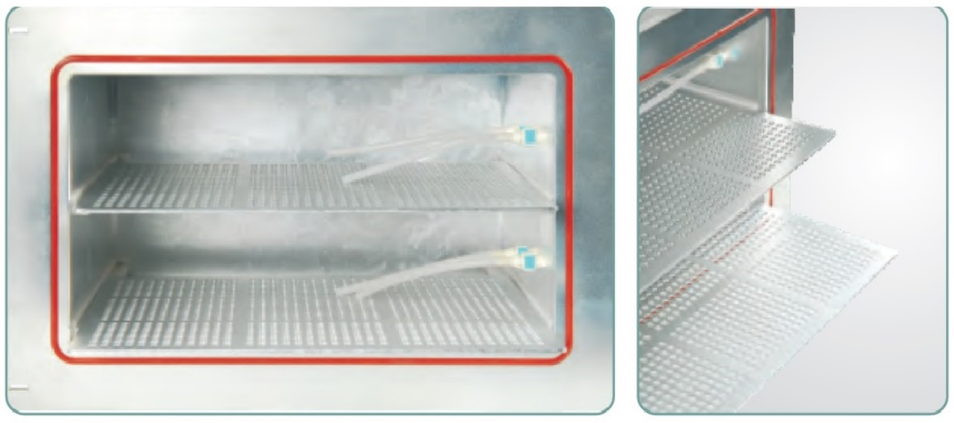
Reach drying efficacy in maximum 50 minutes at the heavy load condition with complicated instruments.

Low Temperature Drying

Constant drying temperature between 50-60°C that will not harm the instruments.

Space Saving/Simple Operation

The Cabinet is small and doesn't consume precious spaces in OT. Together with LAOKEN Plasma Sterilizer, the Cabinet can speed up the turnaround time of precision instruments and achieve the advantages of fast sterilization.



Parameters

Dimensions		550mm × 800mm × 500mm
Power Supply		220 ± 22V 50 HZ
Fuse		8A (∮5*20)
Drying Temp.		50–60℃
Rated Power Input	Keep Temp.	280W
	Normal Drying	1100W
	Lumen Drying	125W

Drying Time

	Flat or Solid Dysmorphism	Solid Cylinder	Lumen	
Metal	20 Mins	15 Mins	Interior diameter≦3mm, Length≦500mm 10 Mins	Interior diameter≦3mm, Length≦1000mm 20 Mins
			Interior diameter≦6mm, Length≦500mm 15 Mins	Interior diameter≦6mm, Length≦1000mm 25 Mins
Not-metal	25 Mins	20 Mins	Interior diameter≦3mm, Length≦500mm 20 Mins	Interior diameter≦3mm, Length≦1000mm 30 Mins
			Interior diameter≦6mm, Length≦500mm 25 Mins	Interior diameter≦6mm, Length≦1000mm 35 Mins