



Low Temperature

PLASMA STERILIZER

STERLINK™

STERLINK FPS-15s Plus

STERLINK mini

STERLINK lite

www.plasmapp.com

***plasmapp**

Core Technologies for obtaining SAFE and Bio-compatible surface

Plasma is defined as a quasi-neutral gas having a collective behavior (or simply as the 4th state of matter). The plasma discharge voltage is determined by the Paschen's law in which pressure is a key parameter to determine the discharge.



Under Independently Controllable Pressure

Gentle plasma can be discharged under a vacuum condition without using additional gas.



Unique Vacuum Technology

Plasma is discharged inside the package by using dielectric barrier of the vacuum state.



By Discharging Gentle and Powerful Plasma

The pressure can be spatially controlled to discharge gentle and powerful plasma.



Operated by Validated Reliable Process

Plasma discharge and overall process are validated for obtaining outstanding performance.

Global Networks

It exports technologies in the world and provides customized solutions that meet the local clients' diversified needs through the global network.

FDA

K212200/K212193/K212198

CE

0068

TGA

323926

HC

102958

ANVISA

81046479001

SFDA

MDMA 19090377

MFDS

18-4069/19-4339

TFDA

DHA05603302400

TFDA

KOR 6209038

RZN

No P3H 2022/17932

MDA

GC5817320

MHLW

JET-302AKBZX

MDSAP
MEDICAL DEVICE SINGLE AUDIT PROGRAM

TÜV Rheinland

GMP
GOOD MANUFACTURING PRACTICE

UL US LISTED
LABORATORY EQUIPMENT
E50914

RoHS

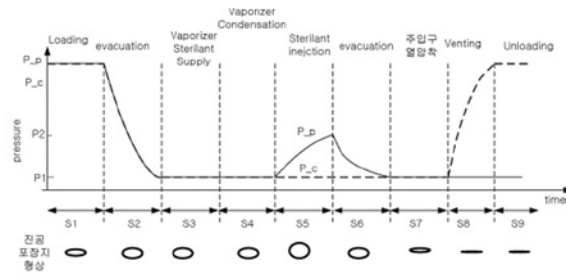
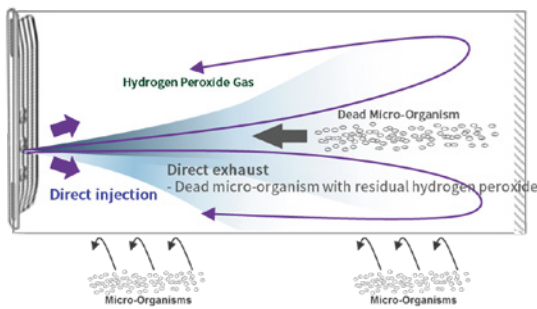
Low temperature plasma sterilizer for wide range of medical devices

The world's first direct injection pouch-type
patented sterilization technology has been applied.
SAL of 10^{-6} is validated to ensure sterilization stability of medical devices.

(SAL: Sterility Assurance Level, 99.9999%)



Novel sterile packaging to enable super-fast 7 min. sterilization cycle



- Direct sterilant injection enhances sterilization efficiency.
- Direct vacuum pumping shortens purification process time.
- Independent pressure control allows unique sterilization cycle including compression process.
- Compression maximizes sterilization efficiency to obtain 7 minutes cycle.
- Impermeable pouch allows direct sterilization with compression process and vacuum sealing after the cycle.
- Vacuum sealing visualizes sterile condition which extends shelf life of sterilized devices and provides advanced infection control solution.



Super-fast sterilization cycle



Low temperature reducing maintenance cost of expensive device (Operating temperature < 55°C)



26 FDA certificates including CE



Reliable sterilization performance (SAL: 10⁻⁶ with compliance ISO 14937)



Innovative technologies with patents and research paper



Review of Scientific Instruments

Forced convective heating for low-temperature sterilization

Choi W, Kim S, Jeon J. *Review of Scientific Instruments* 92, 064902 (2021), <https://doi.org/10.1063/1.5005032>
 Submitted 28 February 2021, Accepted 23 May 2021, Published Online 14 June 2021
 Bong Won Lee, Hyeon Dong Jeon, Taekyoung Cho, et al.

ARTICLES YOU MAY BE INTERESTED IN:

- A millifiber scanning Lavalin microscope in ultra-high vacuum with atomic demagnification and operation
Review of Scientific Instruments 92, 064907 (2021), <https://doi.org/10.1063/1.5005032>
- The calorimetric measurement of insulating materials up to 3000 °C with a needle probe
Review of Scientific Instruments 92, 064908 (2021), <https://doi.org/10.1063/1.5005039>
- Optical element-mounted magneto-optical fiber-loss driver extreme ultraviolet light source
Review of Scientific Instruments 92, 064909 (2021), <https://doi.org/10.1063/1.5005040>

MFL Magneto-Fiber-Loss

MFL and NOD Magneto-Fiber-Loss and Non-Optical Driver

Single-Molecule Spectroscopy

AIP American Institute of Physics

Forced convective heating for low-temperature sterilization

Publication expected in 2021 (AIP) - <https://doi.org/10.1063/1.50048688>

Review of Scientific Instruments 92, 064902 (2021) conducted by Dr. Youbong Lim, Dr. Wonho Choe, Dr. Seung Hun Lee, Dr. Jun Young Kim and Dr. Hyun Jeong Jeon

Conclusions

A novel sterile pouch using an impermeable film is presented to improve the heating process, and the experimental and numerical investigations are performed to find that the convective heat transfer coefficient for the forced convective heating is increased more than five times when compared to the natural convective heating. By virtue of the impermeability, the sterilization process is also improved to obtain an overall sterilization cycle completed within 7.5 min, and it is interpreted in terms of the pouch compression.

Sterilization Performance

STERLINK™ verifies sterilization performance through the following lumen tests

Single-channel lumen claims for STERLINK™

- ø 0.7 x 500 mm Stainless steel
- ø 2.0 x 1,500 mm Stainless steel
- ø 1.0 x 2,000 mm PTFE

STERLINK – inside diameter 1mm and a length up to 2,000mm

Competitor A
length up to 500mm

Competitor B
length up to 1,000mm

Plasmapp
STERLINK™



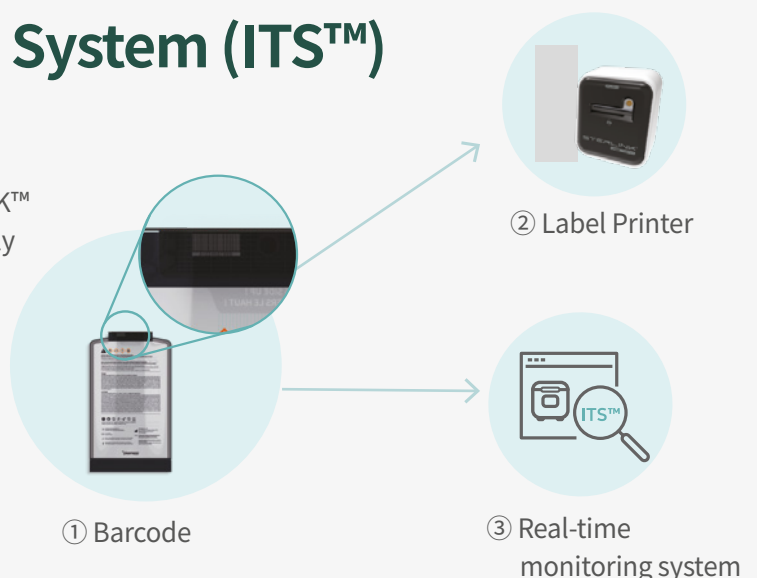
Comparison Chart

Sterilizer	Temperature	Cycle Time	Sterilant	Feature
Autoclave	Up to 134°C	60 min + 1 hour cooldown	Hot steam	<ul style="list-style-type: none"> • Cloth sterilization • Long cycle time • Risk of burn • Damage of medical instruments
E.O. Gas	Up to 60°C	Over 120 min + 12 hour ventilation	E.O. gas	<ul style="list-style-type: none"> • Highly dangerous toxic gas • Long cycle time
Plasma Sterilizer	Up to 60°C	70 min	H ₂ O ₂	<ul style="list-style-type: none"> • High cost • Large volume • Additional ventilation • Very low efficiency
STERLINK™	Up to 60°C	Pouch Mode : 7min Pouch Plus Mode : 14 min Chamber Mode : 36 min	H ₂ O ₂ direct injection	<ul style="list-style-type: none"> • Fast sterilization cycle • Economic cost • Compact size • Ergonomic design • Easy maintenance • ITS™ system • Eco-friendly • Safeness of heat sensitive instrument

Instrument Tracking System (ITS™)

Equipment tracking using barcode

- Real-time monitoring to check the STERLINK™
- Provide the latest software updates remotely



* STERLINK™ lite does not support ITS™

Easy & Simple Operation

1 Medical Equipment Packaging

Pouch Mode

STERPACK™ sealing and mounting cassette
(Recommend to use dedicated tray)

Chamber Mode

Dedicated Tyvek® pouch sealing and mounting STERLOAD™

⚠ Please remove moisture on the product.
Do not put moisture absorbing materials in a sterilizer.
(cloth, gauze, paper, liquid, powder, autoclave pouch, etc.)



2 Start Sterilization

Press the “**Sterilize**” button after loading the chamber.

⚠ FPS-15s Plus and mini sterilants are prohibited from being reused.
Please be careful not to use expired sterilants.
If the instrument door is not closed properly during a sterile cycle, the cycle will be cancelled.
Please remove moisture on the product.



3 Sterilization Complete

Press the “**Confirm**” button to return to the ready status.

⚠ Always wear gloves to protect users when handling a loaded medical device
after a process has been cancelled or failed.



STERPACK™ for FPS-15s Plus & mini



1ℓ

Vacuum Pouch



4ℓ

Vacuum Pouch



Maintain sterilization
for about 6 months



STERLINK™ FPS-15s Plus



Chamber size



1ℓ / 4ℓ Pouch mode



14ℓ Chamber mode



STERPACK™
STERPACK™ Plus



STERLOAD™
FPS-15s Plus

Specification

STERLINK™ FPS-15s Plus			
Size (W x D x H)	433 x 614 x 437 mm	Vacuum Pump	Pump built-in type
Chamber (W x D x H)	265 x 410 x 125 mm (14 ℓ)	Weight	67kg
Diagonal Length (Chamber)	47cm	Sterilant Cassette	1 Cycle

Mode	Cycle time	Capacity	Sterilant
Pouch Mode	STERPACK™: 7 min	1 ℓ	H ₂ O ₂ 58%—59.5% (0.1 ml/cell)
Pouch Plus Mode	STERPACK™ Plus: 14 min	4 ℓ	H ₂ O ₂ 58%—59.5% (0.3 ml/cell)
Chamber Mode	STERLOAD™: 36 min	14 ℓ	H ₂ O ₂ 58%—59.5% (0.9 ml/cell)

* STERPACK™, STERPACK™ Plus and STERLOAD™ are global certified sterilants

STERLINK™ mini



Chamber size



1ℓ Pouch mode



7ℓ Chamber mode



STERPACK™



STERLOAD™ mini

Specification

STERLINK™ mini			
Size (W x D x H)	275 x 440 x 330 mm	Vacuum Pump	Pump stand-alone type
Chamber (W x D x H)	190 x 330 x 100 mm (7 ℓ)	Weight	20kg (Pump module : 21kg)
Diagonal Length (Chamber)	36cm	Sterilant Cassette	1 Cycle

Mode	Cycle time	Capacity	Sterilant
Pouch Mode	STERPACK™: 7 min	1 ℓ	H ₂ O ₂ 58% – 59.5% (0.1 ml/cell)
Advanced Mode	STERLOAD™ mini: 18 min	7 ℓ	H ₂ O ₂ 58% – 59.5% (0.7 ml/cell)


* STERPACK™, STERPACK™ Plus and STERLOAD™ are global certified sterilants

Sterilant & Consumables and Accessories

for Medical Devices Sterilization Performance

Sterilant cassettes

※ 1 cycle use only



STERPACK™
• Size : 135 x 280 mm
• 50 ea / Box

※ 1 cycle use only



STERPACK™ plus
• Size : 250 x 430 mm
• 30 ea / Box



STERLOAD™ lite
• 1ea / Box
• 30 cycles

※ 1 cycle use only



STERLOAD™
• 30ea / Box

※ 1 cycle use only



STERLOAD™ mini
• 30ea / Box

Consumables

※ 1 cycle use only



Tyvek® 100
• Size : 100 x 400 mm
• 120 ea / Box

※ 1 cycle use only



Tyvek® 200
• Size : 200 x 400 mm
• 90 ea / Box

※ 1 cycle use only



Tyvek® 300
• Size : 300 x 400 mm
• 60 ea / Box


※ 1 cycle use only



Sterilization Wrap
• Size : 60 x 60 cm
• 50 ea / Box

※ Tyvek® is a Dupont™ registered trademark.

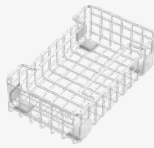
Tray



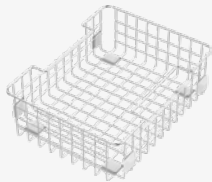
STERPACK™ Tray
• Size : 195 x 80 x 30 mm



STERPACK™ Plus Tray
• Size : 260 x 160 x 50 mm



Chamber Tray (7ℓ)
• Size : 289 x 183 x 90.5 mm



Chamber Tray (14ℓ)
• Size : 327 x 252 x 112 mm

Accessories



STERSEAL™

- Size : 505 x 255 x 145 mm
- Weight : 12 kg
- Temperature : 135°C / 150°C



Cart

- FPS-15s Plus / mini



Label Printer

- Size : 120x 102 x 146 mm
- Weight : 0.5 kg



Label Sticker Roll

- Label size : 52 x 110 mm

※ 1 cycle use only



CI tape

- Width : 20 mm
- Length : 50 m

※ 1 cycle use only



CI strip

- Size : 18 x 105 mm
- 250 ea / Box

※ 1 cycle use only



BI

- Time : 30 min
- 50 ea / Box

Maintenance

※ 1 cycle use only



VC Cartridge

- 1ea
- For the vacuum calibration

※ 1 cycle use only



HEPA Filter

- 1ea
- Every 6 months

※ 1 cycle use only



Ozone Filter

- 1ea
- Every 6 months

※ 1 cycle use only



Chamber Filter

- 1ea
- Every 6 months

※ 1 cycle use only



FPS-15s Plus Deodorizing Filter

- 1ea
- Every 12 months

※ 1 cycle use only



mini Deodorizing Filter

- 1ea
- Every 12 months



Pump Oil (LB100)

- 1ea / 280ml
- Every 12 months



Oil Replacement Kit

- for FPS-15s Plus & mini
- Every 12 months



Filter Replacement Kit

- for FPS-15s Plus & mini
- Every 6 months



FPS-15s Plus Filter Kit

- for FPS-15s Plus
- Every 12 months



mini Filter Kit

- for mini
- Every 12 months