Hyper LTS® 150

H_2O_2-based low-temperature plasma sterilizer
for sterilization of heat-sensitive medical devices

MMM. Protecting human health.

Key elements of the technology

User-friendly H_2O_2 technology with low power and energy consumption.

Any residue hydrogen peroxide is decomposed into water and oxygen during the plasma phase. H_2O_2 sterilization provides user safety and is environmentally friendly.

Environmentally friendly

The by-products after sterilization are water and oxygen.
This is environmentally friendly and guarantees user friendliness and safety.

Low temperature sterilization

The process temperature stays below 60° C (between 55 and 60 C° during the holding time) and the cycle times are less than 1 hour (EASY, CLASSIC, COMPLEX). This gentle method causes less heat stress to the materials of the medical device.

Safety

The H_2O_2 plasma sterilizer is user-friendly as the main sterilizing agent is very safe. Thanks to a redundant safety system consisting of a plasma in-activation phase during each half cycle, and a catalytic converter installed at the outlet of the vacuum pump, any residual H_2O_2 is effectively broken down into non-toxic residues (water and oxygen).
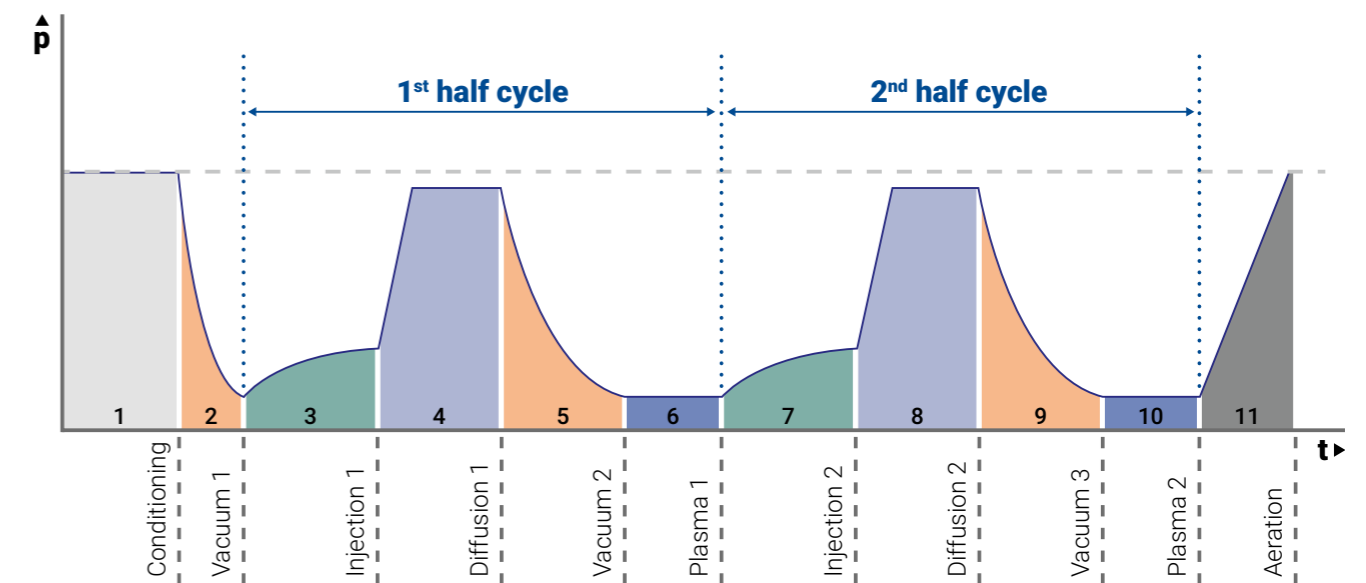
Cycle time

The fast cycle times increase the turnover of instruments. This has a positive impact on the profitability of the healthcare facility, because it reduces the required inventory of expensive instruments.

Sterilization process

The sterilization process consists of two half cycles. A plasma phase at the end of each half cycle safely and effectively frees the goods and chamber from any remaining residues of hydrogen peroxide. The Sterility Assurance Level (SAL) of 10^{-6} is achieved.

Application in hospitals

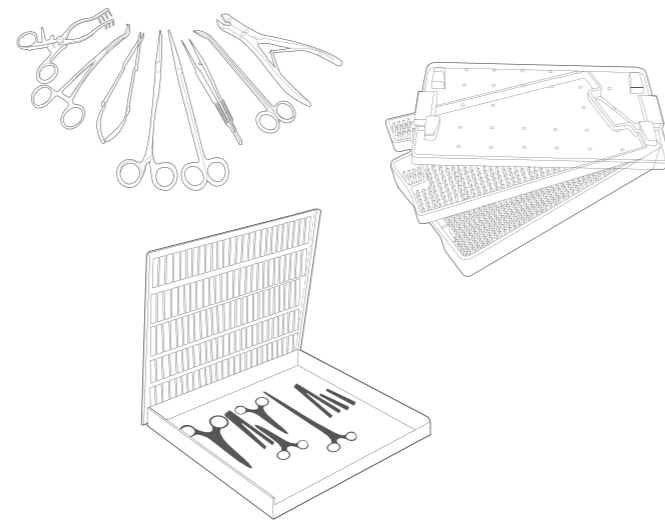The sterilization process of the Hyper LTS® 150 is compatible with a wide range of instruments and materials:

Compatible materials

I Aluminum	I Neoprene	I Polystyrene	I Silicone
I Delrin	I Noryl-Nylon	I Polyetherimide	I Stainless steel
I EVA	I PMMA	I PVC	I Teflon
I Glass	I Polycarbonate	I Polyurethane	I Titanium
I Kraton	I Polyethylene	I Polyphenylsulfone	

General instruments
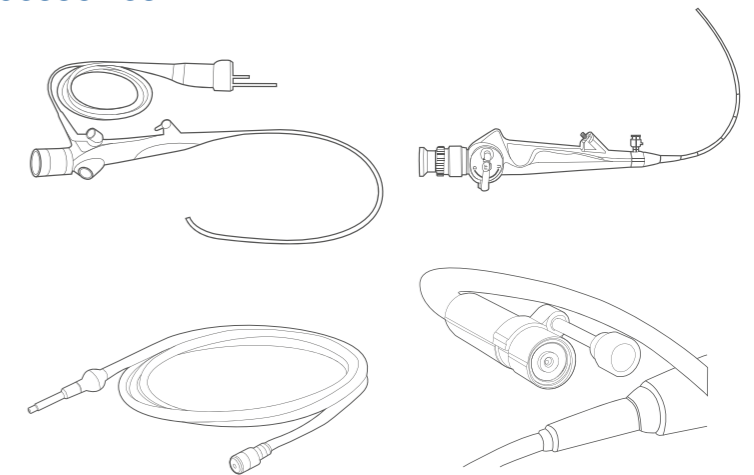
I Scissors, scalpels, saws
I Tweezers, clamps
I Retractors, surgical hooks
I Knives, blades
I Batteries
I Sterile containers
I Instrument trays

EASY program
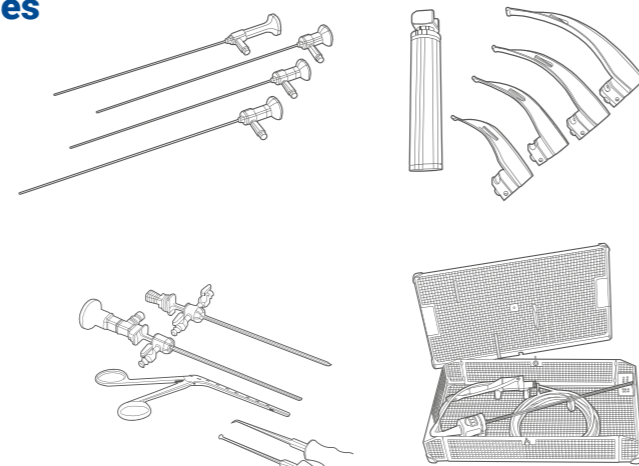Duration: 35 - 40 min

Flexible endoscopes and accessories

I Bronchoscopes
I Hysteroscopes
I Cystoscopes
I Ureteroscopes
I Cameras
I Light cables

COMPLEX program
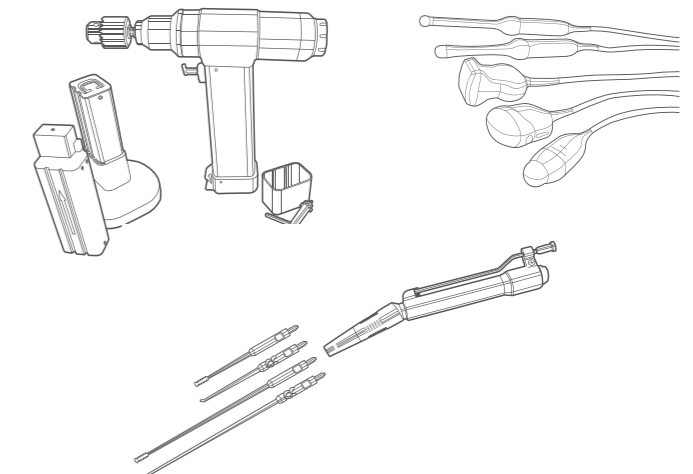Duration: 60 min

Rigid endoscopes and accessories

I Laryngoscopes
I Arthroscopes
I Laparoscopes
I Surgical telescopes
I Laparoscopic instrument sets
I Robotic instruments
I Cannulas
I Trocar tubes

CLASSIC program
Duration: 50 min

Electrical devices

I Ultrasonic hand tools
I Power drills
I Ultrasonic probes
I Transducers

EASY program
Duration: 40 min

Subject to future extensions in instruments and materials.

Hyper LTS® 150

H₂O₂ based low temperature plasma sterilizer

The high quality Hyper LTS® 150 is especially designed to sterilize sensitive or heat sensitive medical devices. It offers unique technologies at a high safety level and meets the highest requirements. With intuitive controls and a user-friendly interface, the Hyper LTS® 150 is easy to use and operate.

Highlights

I Hands free open/close automatic sliding doors
I Rapid and effective warmup system
I Convenient and safe sterilization agent
I 7" touch screen on the loading and unloading side

Standard equipment

I Automatic sliding doors (single or double door units)
I Opening/closing of the door using hands-free foot switch
I Rapid warmup system
I 3 standard cycles (EASY, CLASSIC and COMPLEX)
I Uniform temperature distribution in the chamber thanks to chamber and door heating with electric heating mats and integrated fan
I Convenient and safe sterilizing agent for 15 cycles
I 7" touch screen on the loading and unloading side
I Industrial PLC control system with MMM smart HMI
I Interface for RUMED360® software applications
I Plug and play
I USB history memory
I Built-in thermal printer
I Login function
I Monitoring system
I 2 special sterile goods baskets

Standard cycles

EASY
Sterilization of medical devices with simple geometries (scissors, scalpels, etc.). No lumens or hollow parts.

CLASSIC
Sterilization of rigid lumens (e.g. laparoscopes) with a maximum length of 600 mm and a minimum inner diameter of 1 mm and flexible lumens (e.g. bronchoscopes) with a maximum length of 1000 mm and a minimum inner diameter of 1 mm.

COMPLEX
Sterilization of rigid lumens with a maximum length of 1000 mm and a minimum inner diameter of 1 mm and flexible lumens with a maximum length of 2000 mm and a minimum inner diameter of 1 mm.

Sterilizing chamber with 150 l volume

Automatic door opening

The three-color LED lighting indicates the current machine status, visible from a distance.

Standards

The Hyper LTS® 150 meets the requirements of DIN EN ISO 14937, DIN EN 61326-1, DIN EN 61010-1, DIN EN 61010-2-040, DIN EN 62304, DIN EN 62366-1.

Technical data

Type	Doors	Power consumption kW	Usable chamber dimensions in mm (H x W x D)	Usable chamber volume	Outside dimensions in mm (H x W x D)
Hyper LTS® 150-1	1	3,6*	450 x 450 x 760	150 liters	1,612** x 700 x 891
Hyper LTS® 150-2	2	3,6*	450 x 450 x 760	150 liters	1,612** x 700 x 925

Technical data subject to change without notice.   * Power consumption incl. plasma generator. ** Height including transport rollers. Loading height: 950mm. Weight: 350kg.

Control system

The industrial PLC control system offers modern control technology with immense resources. The MMM-specific control systems are also used in MMM steam sterilizers and washer/disinfectors for safe and user-friendly operation.

l 7" (16:9) touch screen on the loading and unloading side
l Ergonomic location of the touch screen, easy access from the right and left machine side
l Manual cycle continuation or program stop via touchscreen, password protected
l User-friendly MMM Smart HMI
l Validated standard cycles (EASY, CLASSIC, COMPLEX)
l User identification for batch documentation
l Big display of remaining process time
l 3-color LED chamber door light with status indication
l Built-in Unicode-capable thermal printer
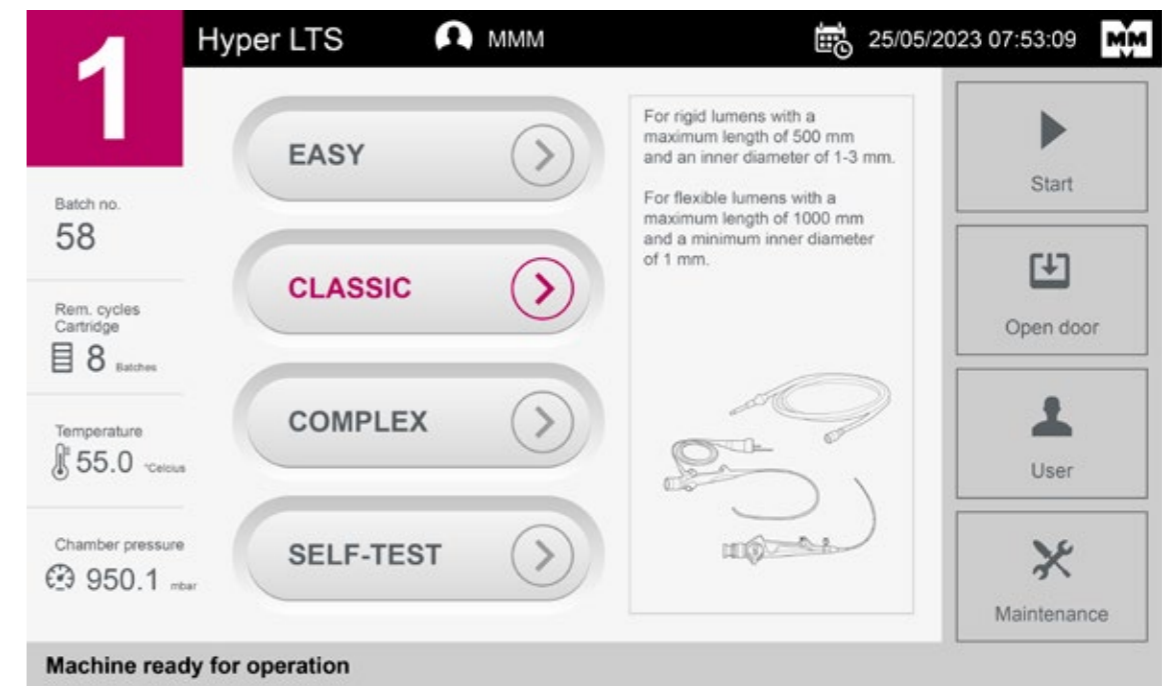l Interface to tracking and tracing systems via RUMED360®

Software
l Validated software according to DIN EN 62304
l Internal cycle data storage of up to 20,000 cycles
l Automatic archiving when network connection available
l Automatic change-over between summer and winter time
l Standby function
l Display of remaining cycle time

MMM Smart HMI
Modern and intuitive

The Smart HMI human/machine interface is just one part of MMM's concept for simplifying the work performed by operating personnel. All process-relevant information such as the device status, process steps, values, and process graphs are available at a glance on the display.
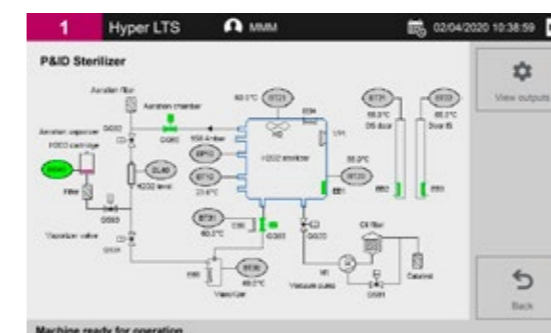

Program selection

l All programs in one view
l Information about cartridge directly retrievable
l Current chamber temperature and chamber pressure
l Password protected

Running sterilization program

P&ID schematic

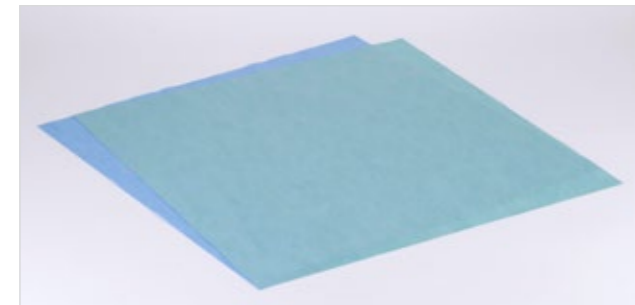Service menu

Consumables/packaging

Sterilizing agent

Used for sterilizing medical devices to achieve a Sterility Assurance Level (SAL) of 10^{-6}.

MMM Hyper LTS® 150 CARTRIDGE

Chemicals	Hydrogen peroxide H_2O_2 (59 %)
Usage	15 cycles/cartridge
Expiration date	12 months from manufacturing date 40 days from installation date
Storage temperature	5 - 30 °C
Filling volume	160 ml
Cartridges/packaging unit	4
Mat.- No.	010576560

Packaging material

Our recommendation **steriCLIN®**

Wrapping material

See-through pouches – PP non-woven and film

See-through pouches – Tyvek® and film

See-through reels – Tyvek® and film

Sterile goods basket

H × B × D 150 x 400 x 600 mm | Mat.- No. 010619365

MMM heat Sealers

SteriPack® 95

The reliable partner at your side

MMM Customer service

With us, you receive more than just repairs. From commissioning and validation right through to maintenance and ongoing support – you can rely on us.

We offer a comprehensive portfolio of services in proven MMM quality and tailor-made solutions according to your needs.

Inspection	Servicing	Repair
Validation, requal-ification and testing	Extensions and updates/upgrades	Energy optimization
Spare parts	Trainings	Software

MMM. Our global branches.

MMM Group

MMM has been operating worldwide as one of the leading system providers in service of health since 1954. With a complete range of products and services relating to all aspects of cleaning, disinfection and sterilization systems for the fields of Healthcare and Life Sciences, MMM has positioned itself as a major driver of quality and innovation in both the German and international markets. Our products are individually adapted to the requirements of our customers all over the world. The high vertical integration of the manufacturing in our plants ensures that we fulfill the most stringent demands for quality in the medical technology industry. More than 1200 employees apply their expertise and dedication to the mission of the MMM Group:
MMM. Protecting human health.

Made in Germany

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