

# MST-H

The steam sterilizer for maximum capacity

## Developed for the safe sterilization of medical devices

The MST-H steam sterilizer enables workflow optimization by maximizing throughput and contributes to the economical use of resources.

The 9–18 StU capacity of the MST-H series enables the sterilization of large load quantities in short batch times.

With a wide range of auxiliaries, the sterilizer is able to flexibly adapt to the needs of the CSSD.

MST-H-series sterilizers are available in three versions:

- Standard version: Loading height 350 mm with Belimed loading systems
- Hupfer version: Prepared for loading with Hupfer logistics system components
- Ground Loader (GR) version: Device can be loaded at ground level and placed in a shallow pit in the ground





The chamber of the steam sterilizer was developed in Switzerland and comes with a 15-year guarantee.

## Measurable quality and reliable processes

The chambers of Belimed sterilizers are manufactured exclusively in Switzerland and undergo stringent quality testing. They comply with all relevant standards and guidelines for pressure vessels. In this way, we guarantee the highest level of safety and quality.

### No compromises in materials and workmanship

The requirements of our customers and the applicable medical device guidelines serve as our benchmark for safety and quality. The materials and components from leading manufacturers, combined with state-of-the-art production technologies, comply with the highest quality standards and ensure a long service life for the installations.

### Safe, reliable and durable

MST-H sterilizers are designed for intensive use. The clever chamber design in combination with a stable door system ensures consistently high reliability and a long service life of the installations.

The high-quality stainless steel piping throughout the device is extremely durable, resistant and very mechanically stable. To underscore our quality standards, all of our chambers have a 15-year guarantee.

### Quality guarantees compliance with standards

Our sterilizers comply with all of the standards for medical devices. They comply with EN 285 and production takes place under the control of the EN ISO 13485 certified quality management system. This allows the operator to validate the sterilization process in accordance with EN ISO 17665-1.

## Economical use of resources, efficient operation

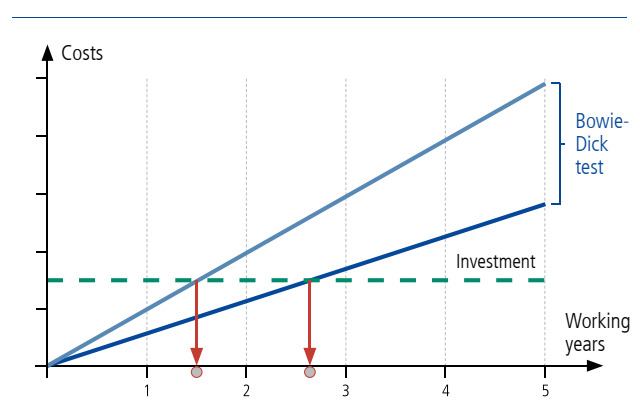
### Water-saving process technology

Thanks to Belimed process technology, the MST-H sterilizer achieves maximum efficiency. The innovative technology significantly reduces water consumption. Water consumption can be reduced by approximately a further 95% through optional connection to the building's cooling circuit. An additional reduction in consumption is achieved with the water-saving system of the integrated and extremely low-noise water-ring vacuum pump combined with the ejector installed as standard.

### Efficient and safe handling with an integrated Bowie-Dick test

Our electronic Bowie-Dick test system can optionally be integrated into the sterilizer. This eliminates the need to carry out the Bowie-Dick test manually using alternative electronic test systems or chemical indicators.

The test process can be activated automatically and run fully independently before the start. This makes the daily test routine easier and saves working time before routine operations begin.



Return of Investment integrated Bowie-Dick test

### Durable door seal

The full-silicone door seal, guided in a milled precision sealing frame made of chromium-nickel steel, has a significantly longer service life than comparable devices. Maintaining the seal is quick and easy.

## Ease of operation and high quality of work

### Convenient and transparent user guidance

The clear menu navigation and illuminated 10" color display provide even more user comfort. Actuating the respective touch function keys – simple touching is sufficient – is confirmed by an acoustic signal.

### Time saving due to automatic switch-on and switch-off

Thanks to the automatic startup, the heating and the daily test routine for the sterilizer take place before the start of routine operation. This reduces working hours for the operating personnel and increases the total throughput of goods to be sterilized.

Shutdown of the sterilizer at the end of the shift saves valuable energy and can be fully automated. Combined with automatic unloading, the last batch can also run without any operating personnel.

The automatic operation of the device can be customized flexibly to operator needs and optimally adapted to the workflow in central sterile services departments (CSSDs).

### Hygienic design for perfect cleaning

The seamless stainless steel surface, combined with glass and high-quality HI-MACS® material, fulfills the highest hygiene requirements and facilitates efficient cleaning.

### Process status visible from a distance

Important information, e.g. time remaining, readiness for loading and unloading, or warning messages, are displayed via the patented process status display.



## Auxiliaries

- Automatic loading and unloading systems
- Batch carts
- Cooling circuit
- Cold water switch-over
- Side panel
- Base tub
- Barcode scanner
- Sound insulation
- Batch documentation printer on the unloading side
- Transport carts (only for MST-H 10.02)
- Liquid cycle program (only for MST-H 10.02)
- Integrated Bowie-Dick test (only for DGRL-version)
- External vacuum pump (only for DGRL-version)
- Different power supplies (only for DGRL-version)
- Air detector (only for DGRL-version)
- Third party inspection CN (only for DGRL-version)
- Installation panels (only for GR version)

### Basic version

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The different versions and extensive range of auxiliaries mean that the entire process chain and degree of automation of the sterilizer can be adapted to your individual needs and optimized for your process flows.

#### Automatic loading and unloading for optimized workflow

Automated elements for loading and unloading, as well as queuing sections, allow the sterilizer to be used continuously.

When using two half-batch carts (for 12 StU and 18 StU devices), a shorter automated element can be used in combination with a transfer cart, which also saves valuable space.

#### Compatible with the Hupfer KÄNGURUH-SYSTEM®

By connecting the sterilizer to the Hupfer kangaroo system, we enable the continuous use of the Hupfer logistics system inside and outside a CSSD without having to manually reload the sterilized goods onto other loading carts for sterilization.

This option is available for MST-H chamber sizes with a capacity of 9, 12 and 18 StU and in conjunction with Hupfer racks for 6 or 9 StU.

### Ground Loader (GR) version

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MST-H with Ground Loader (GR) version for floor-level loading.

#### Efficient loading with the Ground Loader (GR) version

This device version is intended for cases where the operator has or is aiming for a sterile goods cycle in which the sterilized goods are to be transported without reloading.

After packaging, the cleaned and disinfected items to be sterilized are loaded onto Belimed loading carts of 8+4, 10+5 and 12+6 StU + ½ StU, moved into the sterilizer at floor level and, after sterilization, unloaded at floor level on the unloading side.

The sterile goods are then transported to the destination within or outside the CSSD without being reloaded onto the Belimed transfer carts.



MST-H 9618, with automation element 969 placed in front of it, supplemented with queuing section 969 and transfer cart 969.



MST-H with GR version 9618, with automation element GR-969 placed in front of it, with two 969 batch carts



## Transparency and comprehensive documentation

### SmartHub for a fully digital CSSD

SmartHub from Belimed is our overall approach for a completely digital CSSD. All relevant process and device data from the connected Belimed devices are recorded in real time, stored in SmartHub and published in the form of a structured and clearly displayed batch report. The required data is also made available to the connected instrument management system. All device data is converted into information and valuable insights in the SmartHub Orbit web application. This gives CSSD managers full control and simplifies workflows.

### Quick and easy: batch documentation with integrated printer

The standard integrated printer can also be used to create batch documentation for the connected devices, which means that the basic requirements of the operator's documentation obligation are met.

### Compatible with any instrument tracking system (ITS)

SmartHub enables the connection with the higher-level instrument tracking system. The batch data stored in the SmartHub is transferred via suitable interfaces and further processed there for this purpose. It is compatible with the most common sterile good and instrument management systems.



**SmartHub**

Powered by Belimed



## Programs and dimensions

The type-tested standard programs allow the sterilization of instruments, textiles and porous goods. We give particular importance to the safe handling of the goods, short batch times and optimal drying with the lowest consumption of energy and resources.

### Standard programs

- Instruments, heavy instruments, textiles, Special, Rapid 134 °C
- Rubber 121 °C
- Liquid Cycle with sensor (Option) 121 °C
- Gravity (ASME only) 132 °C

### Heat-up and test programs

- Heating up and Vacuum test
- Vacuum test
- Bowie-Dick test
- Integrated Bowie-Dick test

When using the early start function, the heating program and the test programs are configured and started according to customer requirements.

Model	Capacity		Chamber volume (Liters)	Options: Regional availability		Loading height (mm)		Chamber dimensions H x W x D (mm)	System dimensions H x W x D (mm)		
	MST-H	GR		1 door	2 doors	MST-H	GR		H x W	D (1 door)	D (2 doors)
	StU*	StU* + ½ StU*									
MST-H 9-6-9	9	–	761	–	Global excl. U.S.	350	–	1,080 x 660 x 1,058	1,970 x 1,700	–	1,374
MST-H (GR) 9-6-12**	12	8+4	1,006	U.S. only	Global	350	0	1,080 x 660 x 1,398	1,970 x 1,700	1.694	1.714
MST-H (GR) 9-6-15**	15	10+5	1,228	U.S. only	Global	350	0	1,080 x 660 x 1,706	1,970 x 1,700	2,002	2,022
MST-H (GR) 9-6-18**	18	12+6	1,449	U.S. only	Global	350	0	1,080 x 660 x 2,014	1,970 x 1,700	2,310	2,330

\*StU = sterilization unit = 300 x 300 x 600 mm | ½ StU = sterilization unit = 150 x 300 x 600 mm

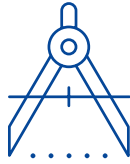
\*\*Optionally available in the Ground Loader (GR) version

### Pit dimensions for Ground Loader (GR) version

Basic model	Length (mm)	Width (mm)	Depth (mm)	Automated element for loading and unloading side	Length (mm)	Width (mm)	Depth (mm)
MST-H Option GR 9-6-12	1,699	1,750	160	MST-H Option GR 9-6-12	830	750	160
MST-H Option GR 9-6-15	2,007			MST-H Option GR 9-6-15			
MST-H Option GR 9-6-18	2,315			MST-H Option GR 9-6-18			

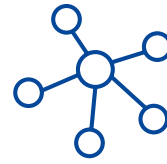
# Belimed supplies systematic solutions

As Engineers of Confidence, we offer a perfectly tailored approach in the areas of planning, technology and service.



### Belimed Blueprint

The planning and design team develops tailor-made solutions for various needs, goals and space requirements – from needs analysis to the final installation plan.



### Belimed Connect

Our networking options guarantee complete documentation of mechanical cleaning, disinfection and sterilization.



### Belimed Prevent™

We take care of the preventive maintenance for your devices and offer various service packages that include different combinations of services.



### Belimed Academy

We are happy to pass on our many years of experience, which is why we carry out appropriate training for our customers and partners.



### Matching auxiliaries

With optional equipment for enhancing the standard devices and our extensive range of auxiliaries, we offer a high level of flexibility when it comes to implementing your projects.



### Complete solutions

As a provider of complete solutions for CSSDs, Belimed also supplies high-quality auxiliaries in addition to cleaning and sterilization devices. These range from work tables for pre-cleaning and preparation to fully equipped packaging areas and sterile goods storage systems.

# Overview of the MST-H

The MST-H range of steam sterilizers allows maximum throughput to the load to be sterilized thanks to their large capacity.

## High flexibility and maximum throughput

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- Capacity of 9 to 18 StU
- Standard preset sterilization and test programs, as well as other customizable programs
- Optimal adaptation to customer needs due to a wide variety of options

## Simple, time-saving handling

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- Convenient, simple operation
- Automatic start function allows test programs to be run through before work is started
- Integrated electronic Bowie-Dick test reduces personnel, time and documentation complexity, as well as consumables
- Patented LED process status display provides an overview of the current process status at all times
- Efficient maintenance due to the large service area

## Economical use of resources

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- Water-saving system integrated as standard for the water-ring vacuum pump ensures low fresh water consumption
- Water consumption can be reduced by 95% through optional connection to the building's cooling circuit

## Fully flexible equipment

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- Integrated steam generator (electrically or steam-heated)
- Externally installed vacuum pump system
- Optimized loading and unloading with the Ground Loader (GR) version
- Increased capacity with automated loading and unloading systems
- Compatible with Hupfer KÄNGURUH-SYSTEM®
- One- and two-door batch cart return elements, optionally with queuing section
- Ergonomic transfer carts

## Seamless connectivity

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- Complete documentation of process data
- Digitally networkable via SmartHub
- Connection to dashboards for a clear display of current process steps on external monitors

Visit us at [belimed.com](https://belimed.com)



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