



Complete Lab Solutions



**Committed to quality for
laboratory applications**



Reliable and safe Sterilization, Disinfection and Cleaning Systems for Laboratory and Research Facilities.

Research institutes and laboratories work with highly sensitive material that requires to be handled with extreme caution and responsibility. Reliability and safety are of paramount concern for these applications. Machinfabrik, with a wide range of experience in this field, is familiar with the demands posed by these applications and has been providing state of the art solutions for such laboratories, pharmaceutical companies, biotech companies and research institutes for over 30 years.

Critical process requirements

The diversity of products and applications requires customized solutions which need to be critically adjusted for every task. Machinfabrik provides suitable solutions and processes for every area of application. We optimize the processes corresponding to each individual application.

Safeguarding the people and the environment.

There are a wide range of materials in a laboratory and hence hygiene standards have to be extremely high. Optimal sterilization and cleaning process are therefore a prerequisite for safety of operation of a laboratory. Suitable methods have to be used to validate these processes in terms of the desired efficacy, because perfect sterilization and cleaning results can only be achieved by precisely matching each process to the material.



Reliable partner

At Machinfabrik we offer state of the art technology due to constant interaction with all our customers to critically understand their needs. Our team of specialists and engineers are working round the clock to continuously improve our product and service to meet ever evolving challenges.

Focus on operational efficiency.

As a result of our comprehensive service network our customers benefit from quick response times, immediate supply of spare parts, competent support for equipment and process qualification and validation. Our primary goal has always been the reliability of our processes / equipment and safety of our customers.



«« excellence »»
 High quality design combined with smart construction results in sophisticated solutions for efficient and economic operation. »»

Steam Sterilizer

Take control of your most demanding applications.

Knowledge and experience obtained in realization of individual projects to customers all over the world together with technical innovation has positively influenced the development and construction of all our equipments. Machinfabrik's Laboratory Steam Sterilizers have been designed to provide repeatable performance and accountability for a wide range of applications in modern laboratories which includes :-

Applications

- ☑ Liquid sterilization.
- ☑ Glass and tips sterilization.
- ☑ Instrument sterilization.
- ☑ Agar preparation.
- ☑ Biohazard and waste sterilization.
- ☑ Customized sterilization cycles.

Safe Construction

All Machinfabrik's Steam Sterilizers are built with the highest quality non-corrosive stainless steel using inert gas welding techniques for a long life cycle. The doors have fully automatic operation to guarantee optimal level of operator safety.

The piping and valve package has a sanitary design with special emphasis on drain ability and hygiene. Good engineering practices followed provide you comprehensive protection for the pressure vessel including ASME / PED compliance.



Clean Steam Generation Technology

All our Laboratory Steam Sterilizers can be provided with built in Steam Generators to provide you dry and saturated clean steam. Steam Generators are designed using innovative green technology to minimize both power and water consumption. Optionally, systems can also be designed with external pure steam.

Improved Air Removal

The Steam Sterilizer's vacuum pump efficiently removes residual air prior to sterilization, enabling effective penetration of steam. The post-vacuum drying phase, at the end of the sterilization cycle, ensures complete drying of porous loads and hollow instruments. This guarantees that even the most difficult loads will easily reach targeted sterility assurance levels.



Steam Sterilizers come in different chamber sizes with a flexible set of options and customization possibilities.

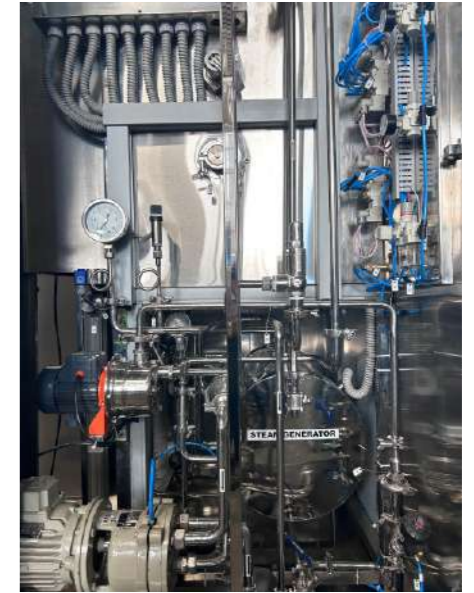
Flexible Loading Options

The Steam Sterilizers are equipped with a range of loading assemblies with special emphasis on space utilization and operator ergonomics. Loading Trays / Carriages with Floor Trolleys can be provided for easy loading and unloading.

Advanced Control System

All Steam Sterilizers are equipped with a user-friendly control system for repeatable, high performance.

- 7" color, touch screen display for superior process visualization.
- Multiple access levels with username and password for high security.
- Built in memory for 100 cycle storage.
- Integrated F_0 calculator for monitoring and if necessary, controlling sterilization cycles.
- Multiple recipe selection for highest flexibility to suit every load configuration.
- Comprehensive process documentation via in-built data printer.



Optionally, a software is available for data storage in non-editable format for generating both graphical and alpha-numeric reports. Systems with 21CFR Part 11 compliance can also be provided.



Chamber Size	Volume (L)	External Size	Heater Load
600(W) x 600(H) x 900(D)	324	1850 (W) x 2375 (H) x 1500 (D) mm	18 KW
750(W) x 750(H) x 900(D)	506	2350 (W) x 2550 (H) x 1600 (D) mm	24 KW
750(W) x 750(H) x 1200(D)	675	2000 (W) x 2550 (H) x 1900 (D) mm	30 KW

Biosafety and Waste Treatment Facilities

Machinfabrik provides sterilization solutions for the treatment of bio-hazardous materials. The sterilizers can be customized to meet the specific requirements of laboratories classified as BSL3/4 where harmful pathogens that leave the sterilizer prior to disposal must be fully sterilized. The bio hazardous waste sterilization cycle will efficiently process any load without risk to the environment.

During the air removal phase, the exhaust passes through the secondary sterilization treatment that sterilizes the effluent. During the heating and sterilization phases all effluent is not allowed to exit the chamber until the sterilization phase is fully complete.



Glassware Washer

Safe and efficient cleaning of laboratory devices.

Every Machinfabrik's Glassware Washer is designed to delivery the highest level of performance for decontamination control, ensure sanitary processes, promote best practises and guarantee reliable outcomes critical to the product, personnel and the environment. Thanks to years of experience in laboratory cleaning, Machinfabrik has developed a system with a spacious chamber and a wide range of standard and customised racks to enhance processing throughputs, reduce cycle time and minimise energy consumption. Careful designed standard programs can be customised with on-site parameters to match your exact processing needs.

Applications

- Glassware
- Pipettes
- Scoops
- Volumetric Flasks
- Cylinders
- Beakers
- Carboys & Bottles
- Vessels

Top Quality

All machines and accessories are made of high quality materials and components for best results. Carefully selected stainless steel and non-contaminating polymers are used with focus on self cleaning and full drainage after every processing step. Automatic sliding doors with glass view panels are provided for safe operation.

Space saving

The systems are carefully planned to ensure maximum output to space ratio. A chamber volume of 300L is fitted in a space of 1meter to ensure easy installation.



Flexible Loading Configuration

An effective cleaning cycle is the result of the perfect combination of all the hardware and cleaning programs. To achieve this, the correct positioning of the components inside the cleaning chamber is a pre-requisite.

To guarantee this, Machinfabrik has taken the utmost care to design racks and inserts to correctly position each component to ensure uniform and efficient exposure to the cleaning action. In addition, customised racks can be developed for your individual needs.



Our design focuses on quality, flexibility and economics to deliver a Washer with outstanding features.

Rack Docking System

The machine is provided with special docking connectors to establish a tight connection between the machine and the wash racks. This is essential to guarantee perfect transfer of the water to the racks to ensure desired internal and external cleaning / drying.

Effective Thermal Disinfection

All Glassware Washers are provided with a wash programs with aggressive thermal disinfection option up to 93°C to ensure destruction of biological decontamination.

High Flow Cleaning

Each machine is equipped with a carefully sized washing pump and top and bottom Rotary Spray Arms to deliver high-flow and low-pressure wash and rinse programs.

Chemical Dozing

The machine is provided with two chemical dozing pumps to automatically inject measured quantity of cleaning solutions in the wash chamber for best results.

Efficient Drying

The system is provided with a powerful blower that takes the room air via a pre-filter and HEPA filter to efficiently dry not only the components being processed but also the machine, piping and all accessories.

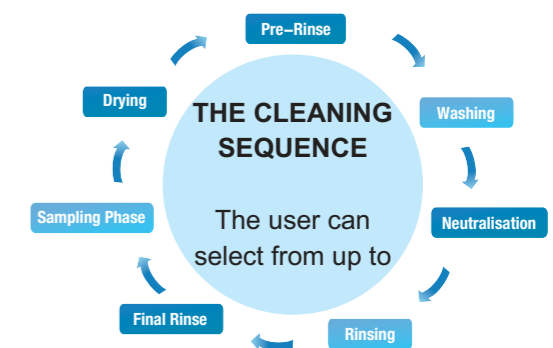


One Touch Automatic Operation

The Glassware Washer is controlled by a PLC with a colour, touch screen and intuitive operator panel on the front end for easy and flexible operation.

Data integrity and traceability

All critical process data like program number, date / time, stage names, temperatures, alarms, etc are displayed on the colour terminal and is also printed via a thermal printer provided on the machine. Data integrity and traceability is also guaranteed if archiving option is selected.



MODEL GW300			
	(W)	(H)	(D)
Chamber Size	600 mm	650 mm	800 mm
External Size	1000 mm	1875 mm	1140 mm
Operating Space	1000 mm+600 mm	1875 mm+500 mm	600 mm+1140 mm+800 mm

Vertical Autoclave

More capacity on small footprint.

The Vertical Autoclave designed by Machinfabrik is specially developed for laboratory sterilization application with special focus on safety, reliability, accuracy and validation compliance. This machine can not only be used for all laboratory application but also for demanding sterilization applications.

The design of the Vertical Autoclave ensures high chamber volume with minimum foot print. With a critical emphasis on operation and process safety all function are fully automatic and all models are provided with a versatile batch recorder.

Machinfabrik's vertical are state of the art both in their electrical and mechanical components to enable you to meet requirements of today and tomorrow.

Applications

- ☑ Sterilization of liquids and culture media.
- ☑ Solids like instruments and glassware.
- ☑ Destructive sterilization of liquid waste in bottles.
- ☑ Destructive sterilization of solid waste in bags.
- ☑ Biological hazard in safety laboratories.

Pressure Vessel

The chamber is manufactured from stainless steel for best corrosion resistance. All welding is inert argon gas with x-ray inspection. Chambers have a maximum operating temperature of 134°C and protected by over pressure safety device.



Automatic Doors

All Vertical Autoclaves are provided with swing type doors sealed automatically by a dynamic door seal. Door safety features guarantee maximum operator safety.

Steam Generator

Machinfabrik's Vertical Autoclave are provided with an independent Steam generator. This design ensures dry and saturated steam for best sterilization results. Also the readily available steam guarantees shorter heating times.



Easy to use, quick to customise and adaptable to your process.

Dual Sensors

For effective sterilization and accurate process control the Vertical Autoclave is equipped with a temperature sensor in the drain and a pressure sensor in the chamber.

User Friendly Control

The system is controlled via a PLC which is pre-programmed for performing the required sterilization programs. A color, touch screen operator panel allow users to set parameters, run programs & visualize the operation.

Batch Recorder

All machines are provided with an on-board printer for detailed batch record. A F_0 calculator also automatically computes & prints the lethality value for every cycle.



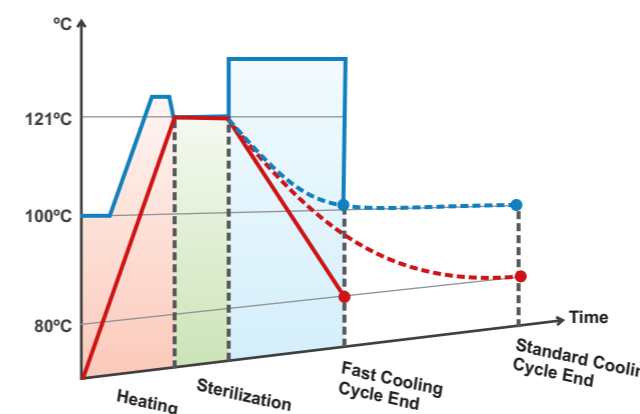
Flexible Options

Gravity Displacement Program

This program is designed for sterilization of liquids in containers where slow cooling is required to prevent sudden drop in pressure.

Pre-vacuum with Active Drying

Optionally, a vacuum pump can be provided which ensures mechanical air removal so essential for effective sterilization of porous and tightly packed loads. Furthermore, the low pressure in the chamber, post sterilization, caused by vacuum helps to reduce boiling temperature forcing moisture to evaporate rapidly. The vapor is then removed from the chamber by vacuum resulting in a dry load.

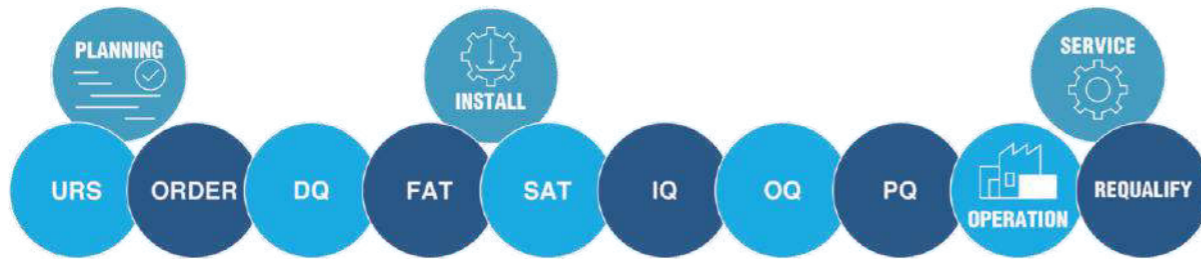


Chamber Size	Volume (L)	External Size	Heater Load
400 Ø x 600 mm	75	1010 (W) x 1166 (H) x 882 (D) mm	6 KW
500 Ø x 600 mm	125	1110 (W) x 1166 (H) x 985 (D) mm	12 KW
600 Ø x 700 mm	200	1200 (W) x 1265 (H) x 1085 (D) mm	12 KW



Supporting you every step of the way.

Securing the right level of cleaning & sterilization demands planning & expertise. To leverage on your space and resources, we help you with facility layout and planning. We guarantee that putting your equipment into operation will be seamless and consistent with the best laboratory practices. Our service support also includes factory acceptance tests, regular on call service and maintenance contracts for maximum machine uptime.



Commitment you can trust.

A long term relationship is built on trust and we are committed to serving your needs. Our team of experts are trained to provide you preventive and reactive maintenance to give you control and high reliability so that you can focus on your research. With us as your partner you are better equipped to ensure your laboratory meets the needs of regulatory agencies and accrediting organizations.




- Spare parts
- Calibration services
- Upgrade packages
- Operator training
- Validation services



Delighting customers for 35 years.





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Dimensions and Technical Specifications are subject to change without notice for development / improvement of the products.

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