



Systemc Laboratory Autoclaves

Systemc H-Series. Horizontal floor-standing autoclaves.

Systemc H-Series 2D. Pass-through autoclaves.

Systemc
the autoclave company

Performance and competence.

Experience counts

We only make two things. Laboratory autoclaves and devices for the improved sterilization and handling of culture media. Always with the goal of making laboratory work safer, easier, more accurate, reproducible and validatable, and consequently more economical. With over 20 years of experience and continuous intensive cooperation with experts and users, we know how to provide optimal solutions for even the most complex sterilization tasks.

We have the knowledge and experience to produce the best results!

Our expertise and know-how are available for you worldwide through specialized and specially selected partners.



The power of innovation. For better sterilization.

Systemec laboratory autoclaves

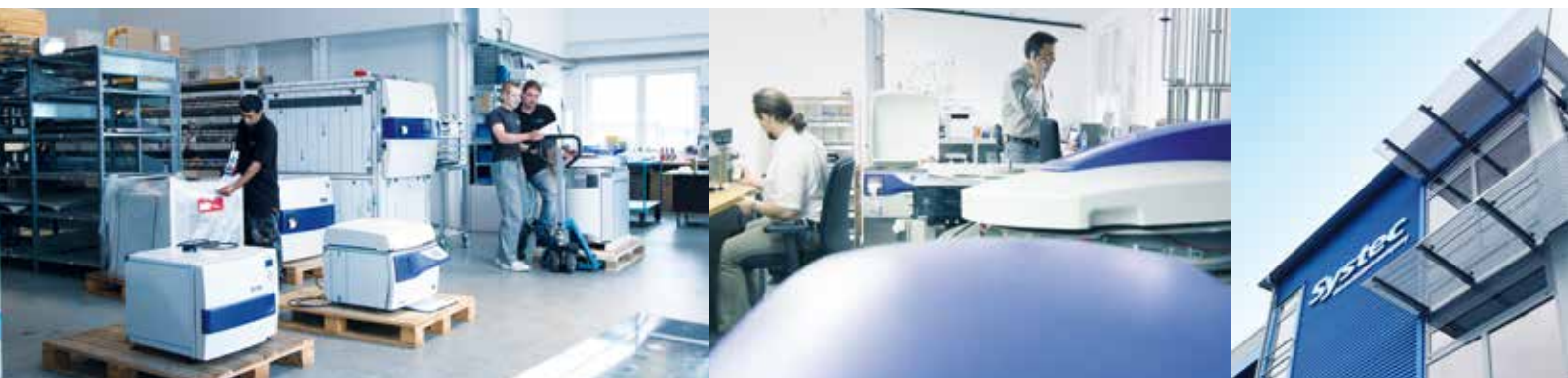
Specially developed for laboratory sterilization applications, Systemec autoclaves make processes safer, easier, accurate, reproducible and validatable.

Systemec autoclaves can be used in all laboratory applications, even in demanding sterilization processes: the sterilization of liquids (such as nutrient and culture media), solids (such as instruments, pipettes, glassware), waste (destructive sterilization of liquid waste in bottles, or solid waste in destruction bags) and biological hazards in safety laboratories.



Contents

- Systemec H-Series. Horizontal floor-standing autoclaves. 04
- Systemec H-Series 2D. Pass-through autoclaves. 06
- Performance characteristics
Systemec H-Series and H-Series 2D 08
- Design and Engineering 10
- Control and Documentation 13
- Processes and Applications 16
- Loading 22
- Custom Developments 23
- Qualification and Validation 24
- Sales and Service 25
- Overview 27



Systec H-Series. Horizontal floor-standing autoclaves.

HX

Autoclaves of the performance category HX can be used for all laboratory applications, even for sophisticated sterilization processes. All additional optional accessories can be fitted to obtain validatable processes.

In spite of the high loading capacity, these autoclaves are compact and have a comparatively low weight.



16 models
65 to 1580 l
chamber
capacity

Dimensions and performance

Systec	HX-65	HX-90	HX-100	HX-150	HX-200
Chamber dimensions Ø x depth (mm)	400 x 500	400 x 700	500 x 500	500 x 750	500 x 1000
Chamber volume (l) total/nominal	70/65	95/90	113/100	162/150	211/200
External dimensions (mm)					
Height	1465	1465	1565	1565	1565
Width	690	690	790	790	790
Depth	805	1005	925	1175	1425
Heating capacity (kW)	9.0	9.0	9.0	9.0	9.0
Net weight (kg)	125	145	250	300	350

Systec	HX-210	HX-320	HX-430	HX-540	HX-650
Chamber dimensions Ø x depth (mm)	740 x 500	740 x 750	740 x 1000	740 x 1250	740 x 1500
Chamber volume (l) total/nominal	280/210	385/320	495/430	602/540	710/650
External dimensions (mm)					
Height	1715	1715	1715	1715	1715
Width	930	930	930	930	930
Depth	1035	1285	1535	1785	2035
Heating capacity (kW)	18.0	18.0	18.0	18.0	18.0
Net weight (kg)	450	480	530	600	660

Systec	HX-580	HX-780	HX-980	HX-1180	HX-1380	HX-1580
Chamber dimensions Ø x depth (mm)	1000 x 750	1000 x 1000	1000 x 1250	1000 x 1500	1000 x 1750	1000 x 2000
Chamber volume (l) total/nominal	746/580	942/780	1138/980	1335/1180	1531/1380	1727/1580
External dimensions (mm)						
Height	1875	1875	1875	1875	1875	1875
Width	1255	1255	1255	1255	1255	1255
Depth	1440	1690	1940	2190	2440	2690
Heating capacity (kW)	36.0	36.0	36.0	36.0	36.0	36.0
Net weight (kg)	810	850	920	990	1050	1110

Electrical connections for the Systec HX-65 to HX-200: 380 – 400 V, 50/60 Hz, 16 A.

Electrical connections for the Systec HX-210 to HX-650: 380 – 400 V, 50/60 Hz, 32 A.

Electrical connections for the Systec HX-580 to HX-1580: 380 – 400 V, 50/60 Hz, 63 A.

Different voltage available upon request.

Systec H-Series 2D. Pass-through autoclaves.

HX

Triple safety aspects

- One door only can be opened at a time. If one door is open, the other is automatically locked.
- If the autoclave is switched off or if no current is available (e.g. power failure), both doors remain locked.
- If the door at the non-sterile side is opened, a sterilization program has to be performed before the door at the sterile side can be opened.

The locking system can be adapted to customers' wishes. Doors and control panel are made of heat-insulating plastic, the housing completely of stainless steel and the stainless steel edges specially processed for smooth junctions with walls. Operation, however, can be carried out from both sides, the position (open or closed) of the opposite door being indicated on the display.

For use under the most stringent clean room and safety conditions

- For biological safety laboratories. Fitting as a sterilization and pass-through lock for protecting the external environment.
- For clean rooms in laboratories and production facilities as a sterilization and pass-through lock separating sterile and non-sterile areas.

13 models
90 to 1580 l
chamber
capacity



Dimensions and performance

Systec	HX-90 2D	HX-150 2D	HX-200 2D
Chamber dimensions Ø x depth (mm)	400 x 750	500 x 750	500 x 1000
Chamber volume (l) total/nominal	101/90	160/150	209/200
Heating capacity (kW)	9.0	9.0	9.0
Net weight (kg)	250	250	350

Please see dimensions on separate drawing.

Systec	HX-320 2D	HX-430 2D	HX-540 2D	HX-650 2D
Chamber dimensions Ø x depth in mm	740 x 750	740 x 1000	740 x 1250	740 x 1500
Chamber volume (l) total/nominal	370/320	480/430	590/540	700/650
Heating capacity (kW)	18.0	18.0	18.0	18.0
Net weight (kg)	520	570	640	700

Please see dimensions on separate drawing.

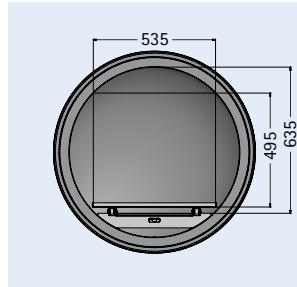
Systec	HX-580 2D	HX-780 2D	HX-980 2D	HX-1180 2D	HX-1380 2D	HX-1580 2D
Chamber dimensions Ø x depth (mm)	1000 x 750	1000 x 1000	1000 x 1250	1000 x 1500	1000 x 1750	1000 x 2000
Chamber volume (l) total/nominal	706/580	902/780	1098/980	1295/1180	1491/1380	1687/1580
Heating capacity (kW)	36.0	36.0	36.0	36.0	36.0	36.0
Net weight (kg)	810	850	920	990	1050	1110

Please see dimensions on separate drawing.

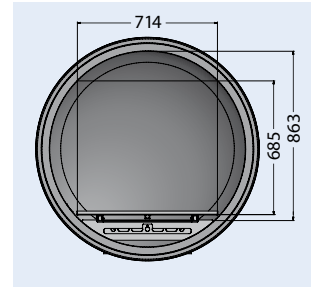
Electrical connections for the Systec HX-90 2D to HX-200 2D: 380–400 V, 50/60 Hz, 16 A.
 Electrical connections for the Systec HX-320 2D to HX-650 2D: 380–400 V, 50/60 Hz, 32 A.
 Electrical connections for the Systec HX-580 2D to HX-1580 2D: 380–400 V, 50/60 Hz, 63 A.
 Different voltage available upon request.

Systemc H-Series, Systemc H-Series 2D.

Available with two chamber diameter: 740 mm and 1000 mm.
 1000 mm diameter chamber provides the usable chamber dimension of a 6x6 square chamber autoclave.



Diameter 740 mm



Diameter 1000 mm



Technical standard feature.

HX

Standard Features	
Integrated, separate steam generator	■
Housing, support frame and pressure vessel made of corrosion-resistant stainless steel	■
Temperature and pressure range 140 °C, 4 bar	■
Touch-Screen control	■
Number of sterilization programs	up to 100
Code-secured access rights for changing parameters and further safety-relevant intervention	■
Internal memory for storing up to 500 sterilization cycles	■
Timer for starting programs	■
Autofill: automatic demineralized water feed for steam generation	■
Flexible PT-100 temperature sensor	■
Additional temperature sensor in condense exhaust	■
Temperature holding function for liquids after program finish	■
Special program for Durham tubes	■
Calculation of F0 value	■
Special program for waste sterilization with pulsed heat-up for more efficient air exhaust	■
Water-cooled steam exhaust, thermostatically controlled	■
Programmable automatic door-opening on completion of program	■
RS-232 and RS-485 interfaces for external data transmission (network-compatible)	■
Available options	
Extension of temperature and pressure ranges to 150 °C/5 bar (from chamber volume 65 liters to 650 liters)	□
Options for process optimization	
Rapid cooling for efficient and safe cooling of liquids	□
Vacuum system for validatable sterilization of solids and waste materials in disposal bags	□
Superdry for drying solids (only in combination with optional vacuum system)	□
Exhaust filtration (including condensate inactivation) for safe sterilization of hazardous biological substances	□
Options for documentation	
Integrated printer for batch documentation	□
Systec ADS documentation software package for comprehensive documentation	□
Documentation SD: data storage on SD card for up to 10,000 sterilization cycles and transmission of data to a PC	□
Systec ADS CFR documentation software package with conformity to FDA 21 CFR Part 11	□
AuditTrail: unalterable and traceable documentation acc. to FDA 21 CFR Part 11	□

- Systec autoclaves are delivered ready for subsequent installation of all options.
 - Further options and special programs as well as baskets and inserts, transport and loading systems on request.

■ = Standard
 □ = Optional

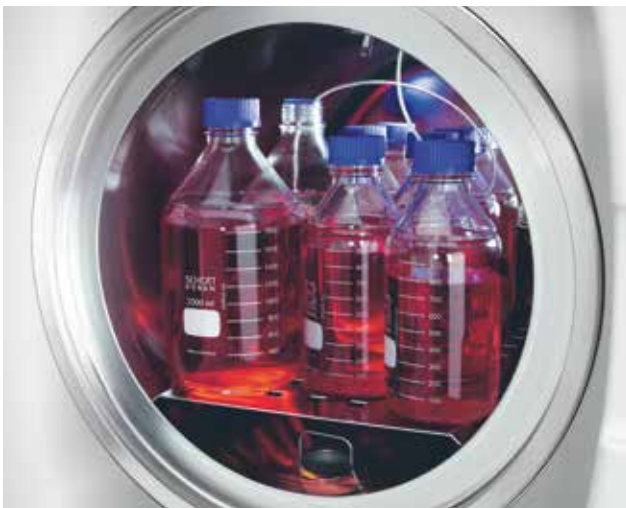
Standard functions in all models

- Temperature- and pressure-dependent door locking in line with international standards and regulations
- Redundant process control; temperature and pressure are continuously monitored and controlled during the entire sterilization cycle
- Rapid heat-up via optimized heat transfer to the liquid media
- Flexible PT-100 temperature sensor for temperature measurement in a reference vessel:
 - Guarantees attainment of the desired sterilization temperature in the liquid media
 - Guarantees cooling of the liquid media to a temperature that is safe for removal

Design – pure innovation.

State-of-the-art engineering

Systec autoclaves are state-of-the-art, both in their mechanical and electrical components; ensuring a new quality of laboratory sterilization processes. The enhanced components enable the lab to meet appropriate requirements for today and the future.



All-round quality

The pressure vessel is made of corrosion-resistant stainless steel 1.4571 (V4A) AISI 316 Ti and is thus easy to clean. An approved safety valve for excess pressure is included. The autoclave support framework and housing are also made of stainless steel. The highly efficient, high-quality Hanno-Tect insulation material releases no particles; Systec autoclaves can thus be used under clean-room conditions.

Dual sensors as standard

Temperature and pressure are controlled via an electronic pressure sensor, as well as a flexible temperature sensor in the chamber or in a reference vessel (with liquids). Systec HX autoclaves also have an additional temperature sensor in the floor drain.

Systec autoclaves are fitted with the following connections at the rear:

	HX
Demineralized water inlet for steam generation	<input checked="" type="checkbox"/>
Compressed air (standard in models from 210l)	<input type="checkbox"/>
Cooling water	<input checked="" type="checkbox"/>
Common outlet	<input checked="" type="checkbox"/>
RS-232/RS-485 interfaces	<input checked="" type="checkbox"/>
Flexible cord with CEE plug	<input checked="" type="checkbox"/>

= Standard
 = Optional

All according to norms and regulations

Equipped for the future! Systec H-Series autoclaves are the first to be designed for higher temperatures and pressures. The pressure vessel is designed for operations at 150 °C and 5 bar. Optional temperature and pressure range extension accessories adapt all control and safety components to the higher temperature and pressure. This option can be retrofitted.

Available for Systec H-Series autoclaves 65 to 650 liter.

Systec autoclaves comply with the following standards:

Pressure vessel:

- 2014/68/EU Pressure Equipment Directive
- ASME Boiler & Pressure Vessel Code, Section VIII, Division 1
- China Stamp

Other guidelines:

- 2014/35/EU Low Voltage Directive
- 2014/30/EU on Electromagnetic Compatibility
- 2006/42/EC Machinery Directive

All autoclaves are CE marked.

We will be happy to provide a complete list of standards and summary of regulations on request.

Safety and convenience

HX

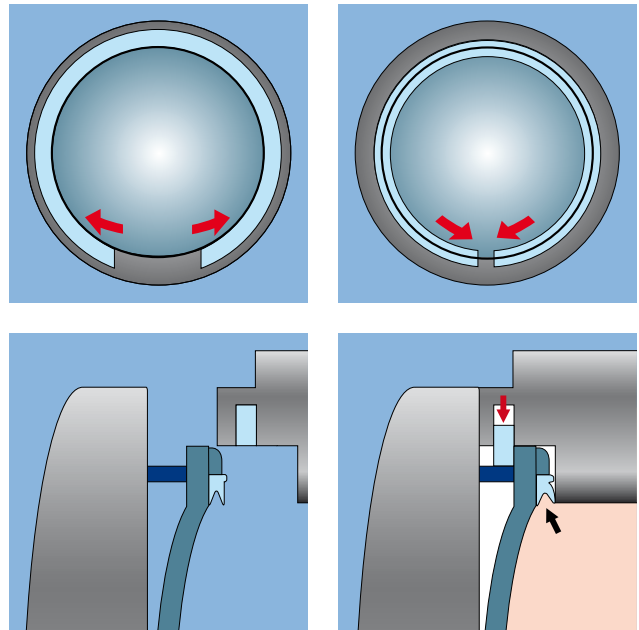
Novel automatic door-opening system

Easy but safe – on closing, the door is automatically locked by a circumferential ring system. A special lip seal made of heat-resistant silicone provides reliable tightness; the more the steam pressure increases, the tighter the seal becomes – without the need for additional compressed air or other media!

The door-locking system is temperature-dependent according to pressure vessel regulation DIN EN (IEC) 61010-2-040. The door remains locked as long as there is excess pressure in the chamber. The door and other parts of the pressure vessel and housing are made of stainless steel. The attractively designed front cover, which also incorporates the control panel, display and parts of the control processing system, is made of heat-resistant, insulating plastic. There is no risk of the operator coming into contact with hot components.

Automatic door-opening

The autoclave door functions automatically – either by pressing a button or automatically at the end of a program. A simple system but most useful in practice. Residual steam is exhausted automatically without intermission. Residual heat is used to dry the items being sterilized during the final short phase in the autoclave. Automatic door-opening is restricted to an angle of approx. 15°; this avoids possible contamination from the outside. This is especially useful when sterilized items have to remain in the autoclave for cooling and drying. Subsequently, for removing the sterilized items, the door can be completely opened manually.



Door open, circumferential locking ring in the "ready" position.

Door closed, circumferential locking ring in locking position. The internal steam pressure presses the lip seal between door and chamber.



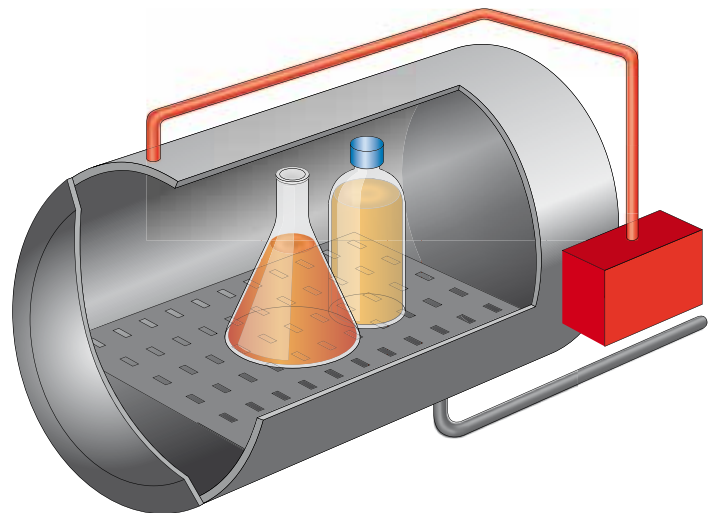
Design – pure innovation.

Steam generation by steam generator

A separate steam generator is incorporated in the housing.

This has numerous advantages:

- No heating elements and no reservoir for dirty water in the chamber.
- In conjunction with the stand-by pre-heating function, only 10 min. heating time to 121 °C with an empty chamber is required.
- Improved air removal by suppressing the air to the bottom with its natural gravitation.
- Accuracy better than ± 0.3 K with empty chamber.
- Quicker cooling as neither the hot water in the chamber nor the separate steam generator need to be cooled.
- After cooling, steam is immediately available for the next sterilization run.



Systec H-Series

Condensation of steam instead of removal

Exhaust steam is condensed automatically via a PT-100-regulated cooling system. This prevents odors and protects waste water piping that may be made of plastic.

Everything under control.

Operation by Touch-Screen technology

Operation is easy and rapid via a large (5.7 inch), highly visible touch screen interface. This innovation offers additional options and increased flexibility when working with the autoclave.

For example, process data can be displayed numerically or graphically. 7 programs are pre-defined but can be expanded (up to 100) as required by the user.

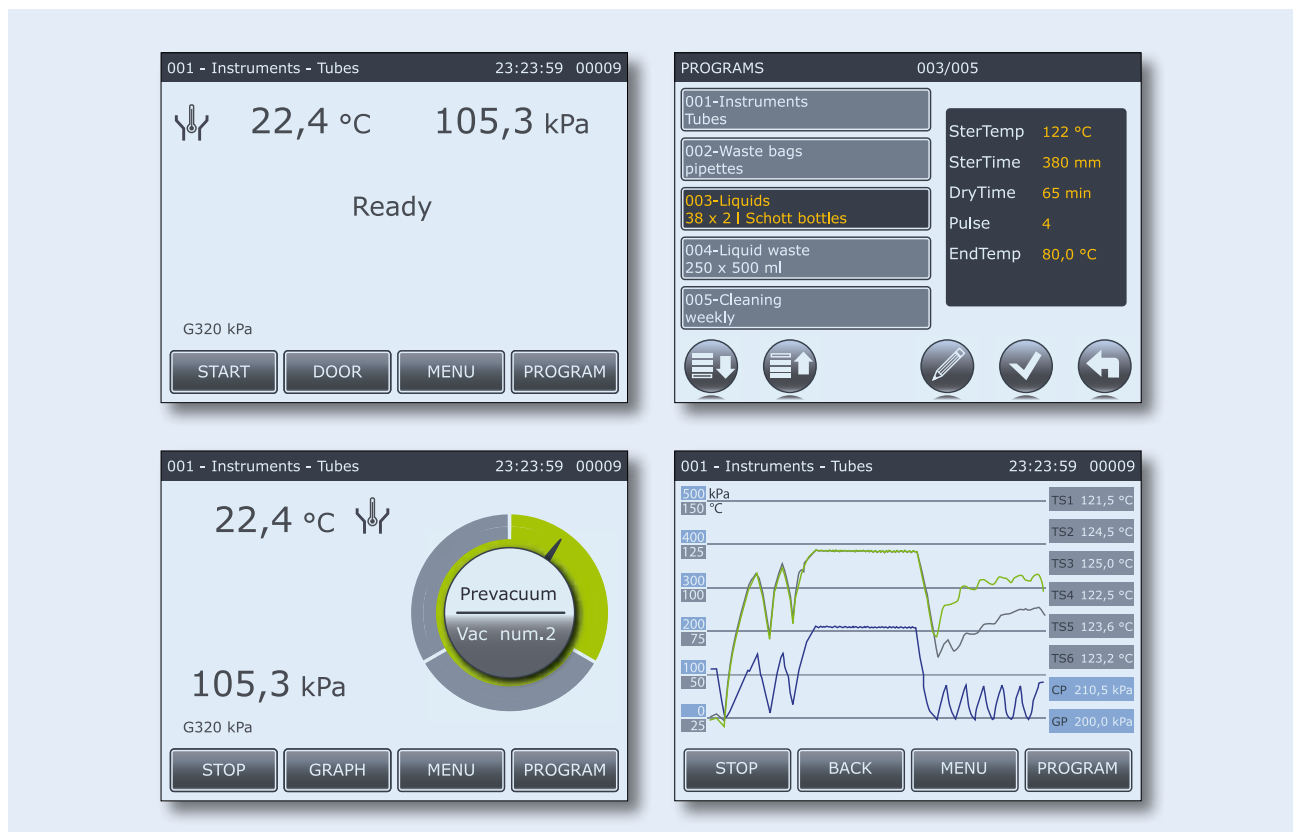
To initiate a new program, the user is guided through the process by menu dialog. Every new program is automatically allocated a permanent, unalterable name and can also be given an individual designation by the user. All process parameters can be individually altered.

Pre-defined programs

- 1 Solids
- 2 Waste bags
- 3 Liquid waste
- 4 Liquids
- 5 Cleaning
- 6 Vacuum test*
- 7 Bowie-Dick test*

These can be expanded to 100 sterilization programs.

*Only in combination with a vacuum device.



Everything under control.

Options for documentation

Printer

Optional integrated printer for documentation of program type, batch number, date/time, temperature/pressure progress and sterilization phase.



Systemec ADS documentation software package

Via RS-232 and RS-485 interface for direct connection to a PC or for connecting to an Ethernet network via converters. Special software for Windows for documentation of all process flow data such as pressure, temperature, time, and sterilization phase including relevant diagrams. The Systemec ADS documentation software processes documented data both graphically and numerically.



Options for documentation

SD card for batch documentation*

Extensive documentation on up to 10,000 sterilization cycles* via an (optional) integrated card slot and a 1024 MB SD memory card (included). All the recorded data is available, via the SD memory card, for processing with the Systec ADS documentation software package.

* only in conjunction with optional Systec ADS software.



Systec ADS CFR documentation software package with conformity to FDA 21 CFR Part 11

Optional documentation for Systec HX and HX 2D models (starting from 65-litre chamber volume). Download of the process flow and audit trail data from the autoclave. This solution ensures documentation according to the provisions of the FDA 21 CFR Part 11.

The Systec ADS CFR documentation software with conformity to FDA 21 CFR Part 11 processes the documented data, both graphically and numerically.



21 CFR part 11

AuditTrail

AuditTrail allows you to set up and administer the users of the autoclave. You can specify which user can perform which actions on five different authorization levels. In addition, the access rights for the stored sterilization programs can be specified individually. The user must log in with a username and password before each action. All the actions carried out (e.g. the changing of parameters, or the starting or stopping of sterilization programs) are documented and can be traced back to the user responsible, and can also be identified by a timestamp (date and time). All the data generated by the user's actions or by the documentation of a sterilization cycle are protected against manipulation and marked with the electronic signature of the respective user.



Sterilization of liquids.

Heating up

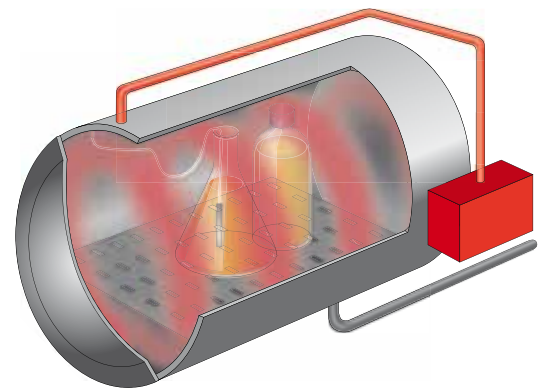
The actual sterilization time of e.g. 15 minutes at 121 °C is only a fraction of the total time involved for an autoclave procedure. Especially in the case of sterilizing liquids, the heating up and cooling down phases are considerably longer.

The conventional procedure

In previously used conventional systems, even if the intended sterilization temperature has been reached within the autoclave, the liquids to be sterilized are often only at about 60-90°C; the temperature equilibrium time between chamber and liquids normally takes much longer.

Up to 50% shorter heat-up times as standard

Due to the combined temperature and pressure regulation, the chamber pressure is increased during the heat-up phase. The result: more rapid temperature equilibrium in the liquids and a shorter heat-up time.



Systec H-Series

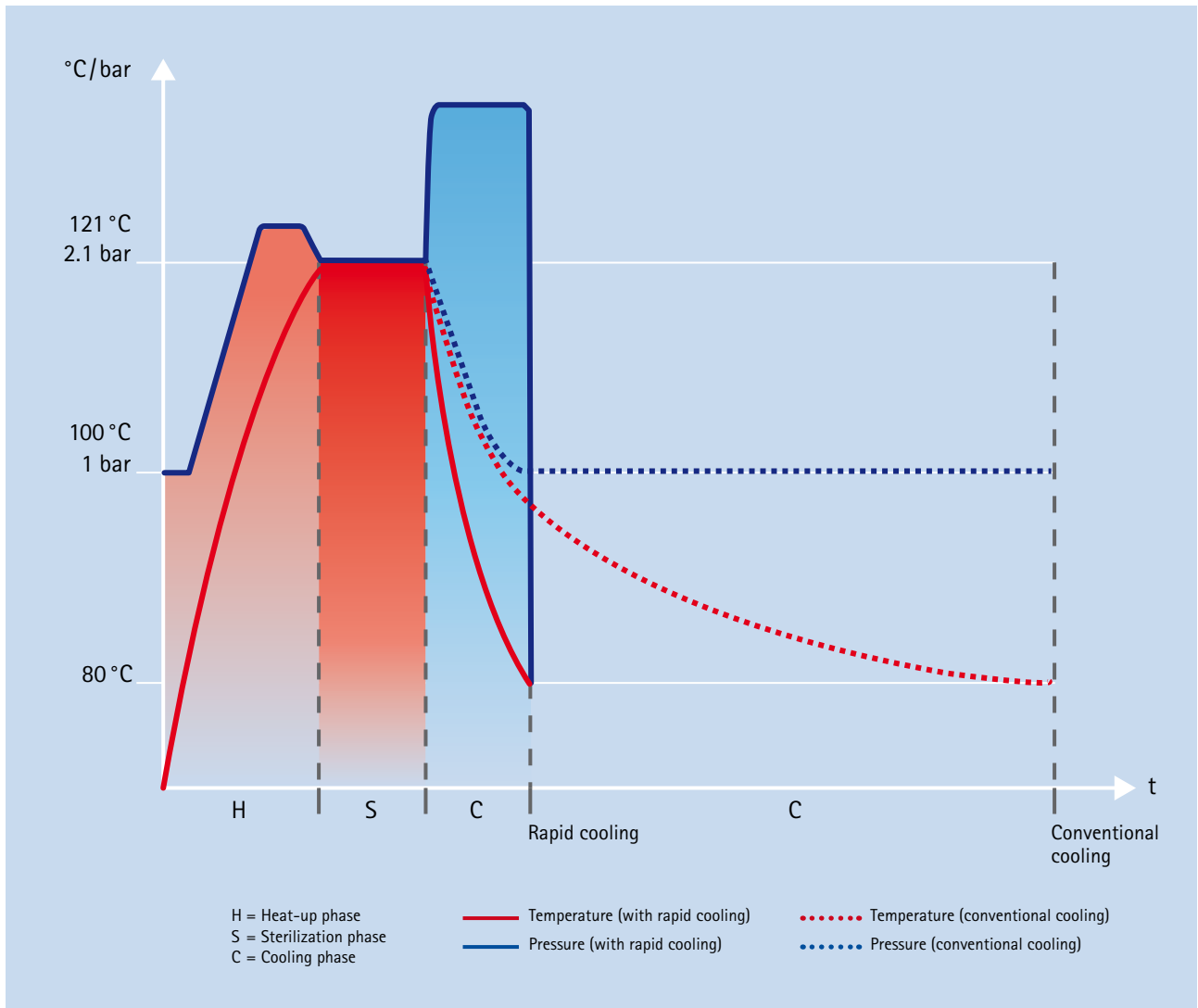
Cooling

The cooling process for liquids is also very slow; this is because, without active rapid cooling, the heat can only be reduced to below 100 °C by dissipating the heat via the chamber insulation by radiation (see diagram: conventional cooling).

New system- and process technology now make it possible to substantially reduce the overall time required for the sterilization process. This means that several hours of time can be saved! It also means that the media is not exposed to heat unnecessarily long time (see diagram: rapid cooling).

Systec offers many functions for its autoclaves guaranteeing safe liquid sterilization processes at higher productivity. Many of these functions are standard or available as options depending on the model range selected.

Overview Conventional cooling / Rapid cooling



The times given in the diagrams are dependent on the number and size of the items to be sterilized.

Sterilization of liquids.

Cooling

Systec supplies autoclaves guaranteeing precise sterilization processes, safe handling and increased productivity. Numerous cooling functions are available for liquid sterilization.

Various optional rapid cooling systems enable the cooling times for liquids to be significantly reduced. This conserves culture media and makes for efficient utilization of the autoclave.

In addition to conventional cooling by regulated steam exhaust down to 100 °C and subsequent very slow self-cooling down to 80 °C, optional cooling systems for rapid cooling are available.

- Cooling with ambient air ventilation
- Mantle cooling with cooling water
- Mantle cooling with cooling water and support pressure
- Radial ventilator for air circulation and accelerated heat removal from the chamber
- Ultracooler
- Spray cooling with recirculated and re-cooled sterile water and support pressure

Mantle cooling with cooling water and support pressure

Permanently under control

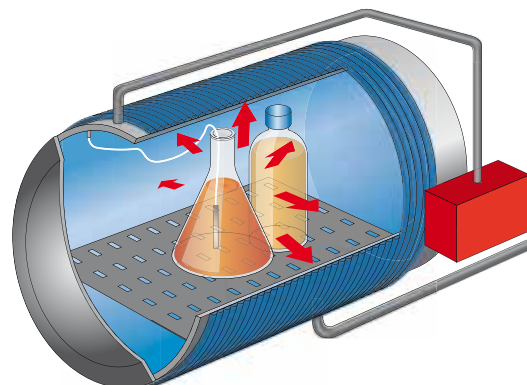
During the entire sterilization process a flexible PT-100 temperature sensor monitors the temperature in a reference vessel. It is thus guaranteed that the sterilization period begins only once the sterilization temperature has been attained in the liquid to be sterilized.

The cooling temperature is also constantly monitored. In accordance with relevant standards to prevent delayed boiling, the lid can only be opened once the temperature of the liquid has been reduced to at least 80 °C.

The use of support pressure in the form of sterile-filtered compressed air during the cooling phase reliably prevents the culture medium from boiling.

Advantages

- No loss of liquid due to boiling of the culture media
- Improved productivity from reduced cycle times and the full utilization of the filling volume in each bottle
- Prevention of delayed and over-boiling
- Prevention of the risk of bottles bursting during or after sterilization
- Prevention of re-contamination by the use of hermetically sealed bottles during sterilization
- Reduction of cooling time by up to 60%

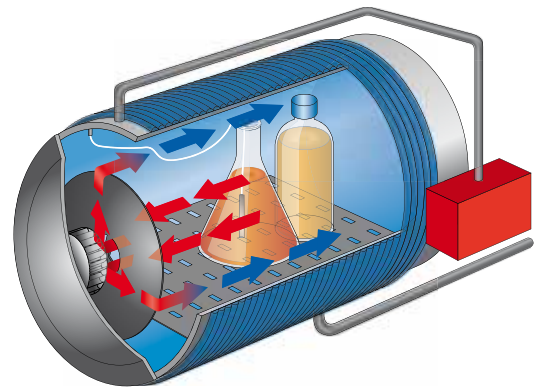


Systec H-Series

Radial Ventilator

In conjunction with optional mantle cooling with cooling water and support pressure, the radial ventilator ensures accelerated removal of heat from the sterilization items to the cooled chamber mantle. The radial ventilator is located in the lid of the chamber (no reduction of chamber depth!) and is driven by a magnetic motor fitted outside under the cover.

- The radial ventilator is placed in the door of the sterilization chamber so that the usable space in the autoclave is not reduced!
- Ventilation performance 250 m³/h
- Reduction of cooling time by up to 70%



Systemec H-Series

Ultracooler

In conjunction with optional mantle cooling with cooling water, support pressure and radial ventilator, it is possible to significantly reduce the recooling time and the entire sterilization process by integrating of the additional ultracooler heat exchanger.

- The ultracooler is also placed in the door of the sterilization chamber near the radial ventilator so that the usable space in the autoclave is not reduced. This way, the entire interior space can be used for full loading!
- Reduction of cooling time by up to 90%
- Depending on the load, cooling times between 15 and 60 minutes can be achieved

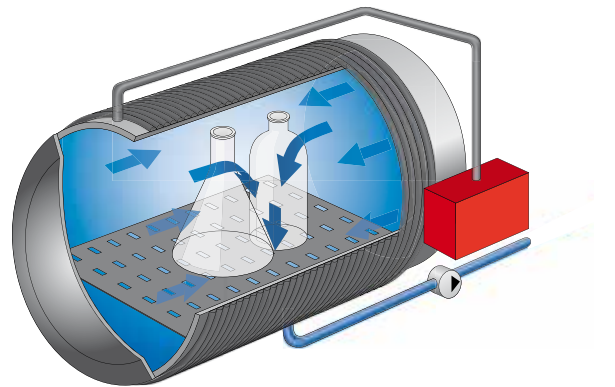


Sterilization of solids and waste in disposal bags.

Vacuum system

Typical solids are pipette tips (in boxes), empty glassware and waste in bags as well as porous materials such as filters or fabrics. For this type of sterilization, it is important to remove all air from the products to be sterilized to ensure precise, reproducible and validatable sterilization.

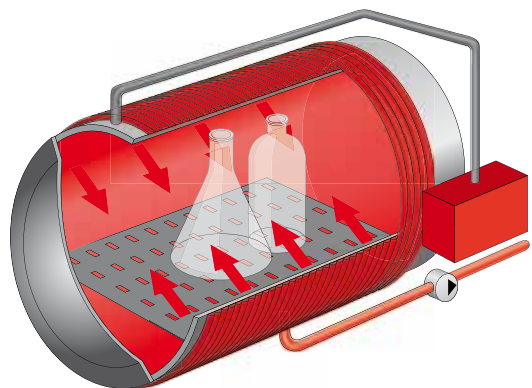
The vacuum device effectively removes the air from solids, tubing, porous materials, fabrics and disposal bags, allowing the steam to penetrate completely. The process includes a fractionated pre-vacuum phase in combination with the standard steam generator. This is the only way to achieve validatable sterilization of porous materials, solids, fabrics or waste in bags.



Systemec H-Series

Superdry – for drying solids

This optional accessory increases the drying efficiency for solids and porous materials such as filters and fabrics. Heat energy from the standard steam generator is transferred to the heating coils around the body of the sterilization chamber and is used for drying. Deep-vacuum drying using the optional vacuum device in conjunction with Superdry avoids the necessity for subsequent drying in a separate drying cabinet.



Systemec H-Series

Sterilization of hazardous biological substances.

Permanently monitored – exhaust air filtration with condensate inactivation

For the sterilization of hazardous biological substances, Systec autoclaves can be fitted with an optional air exhaust filtration system.

The autoclavable sterile filter, consisting of a filter cartridge with PTFE membrane of pore size 0.2 µm, is installed in a pressure-proof housing and can be quickly changed at any time. The filter is also automatically sterilized inline during the sterilization process, monitored by the PT-100 temperature sensor.

The condensate is retained inside the pressure vessel during the heating and sterilization phases and thus also sterilized. Through air exhaust filtration and condensate inactivation, it is ensured that no microorganisms can escape before end of the sterilization phase.

This ensures that all gases and liquids representing a hazard if they were to be released into the atmosphere are filtered and sterilized in-line.



Select the right process for your sterilization

As already described, several options are available that are necessary to obtain correct and validatable results and rapid cooling times, especially in the case of liquids. The options available depend on the items to be sterilized. It is therefore important to think carefully about your requirements so that the autoclave can be optimally configured for the necessary tasks.

A validatable sterilization process of biological efficiency can only be obtained if the correct instrument configuration is used. The table below provides help in establishing the desired configuration; however, we recommend obtaining additional advice from our experts.

Procedure:	Ventilation				Cooling		Drying		Other Exhaust air filtration
	Gravitation	Simple pre-vacuum	Pulsed excess pressure	Fractionated pre-vacuum	Conventional cooling with slow pressure release	Rapid cooling system with support pressure	Surface drying without vacuum	Drying with subsequent vacuum + Superdry	
Applications:									
Liquids	+	?	-	-	?	+	?	-	
Unpacked non hollow items	+	+	+	+			?	+	
Porous materials (filters, fabrics)	-	?	?	+			-	+	
Hollow items (pipette tips, empty glassware, tubes and hoses)	-	-	-	+			-	+	
Contaminated waste in destruction bags	-	-	?	+			-	-	+

+ Recommended procedure ? Possibly acceptable - Not possible

System accessories for ease of handling.

Systemec H-Serie, H-Serie 2D

Transport and loading trolley

Large autoclaves in particular can be easily and securely loaded using a special loading trolley. The items to be sterilized can either be placed directly on the sliding platform of the trolley or using a basket. The trolley can be moved and docked to the autoclave and fixed in position. The handle can then be loosened to allow the platform to slide into the autoclave on fixed rails.



Loading shelves

To fully utilize the available space in the chamber, especially when sterilizing small items, the autoclaves can be fitted with loading shelves. The entire shelving system or individual trays can be removed.



Stainless steel quality

All components are made of stainless steel and cleanly welded. The transport trolleys have large rollers, two of them fitted with brakes to ensure smooth running.

Loading baskets and inserts available upon request.



Custom developments for special applications.

Additional features and programs

For example for the food industry for the sterilization of liquids in closed vessels, plastic bottles, bags, cans, blister packs and food packs, e.g.:

- Devices and programs for sterilization in a steam/air mixture
- Devices and programs for sterilization with hot water spraying and spray-cooling

Custom constructions for individual tasks

Development and construction of modified systems such as:

- Autoclaves in dual system
- Autoclaves for environmental simulation with programs for up to 99 days of testing for:
 - Generation of steam and heat
 - Generation of pressure and heat
 - Heating up and cooling down in repetitive mode
 - Heating up and cooling down in ramps

Detailed information on customized design available on request.

Test autoclaves are at your disposal in our test laboratory for the evaluation of your process parameters.



Quality performance.

Product related activities and additional services



Product related activities:

- Development
- Design
- Production of series products
- Production of custom products
- Application and technical advice

Additional services:

- Installation and start-up
- Special technical developments
- Tests and process development
- Individual service on-call
- Contract service
- Qualification and validation
- GMP-compliant documentation
- Consultancy on sterilization processes and special requirements
- Process development

Qualification and validation

Within the scope of our service we offer you qualification and validation work with GMP-compliant documentation:

- DQ – Design Qualification
 - Definition of requirements regarding the autoclave with respect to process technology
- IQ – Installation Qualification
 - The autoclave is manufactured and installed according to the defined DQ requirements
- OQ – Operation Qualification
 - The autoclave to function as specified in DQ
- PQ – Performance Qualification
 - The autoclave sterilizes the product permanently according to pre-defined specifications



Quality Assurance according to ISO 9001

Our Quality Management is such that it complies with the most stringent requirements of testing and documentation.

Each component is subject to exhaustive control and each autoclave is checked and tested for all functions before delivery. A Certificate of Acceptance is provided.



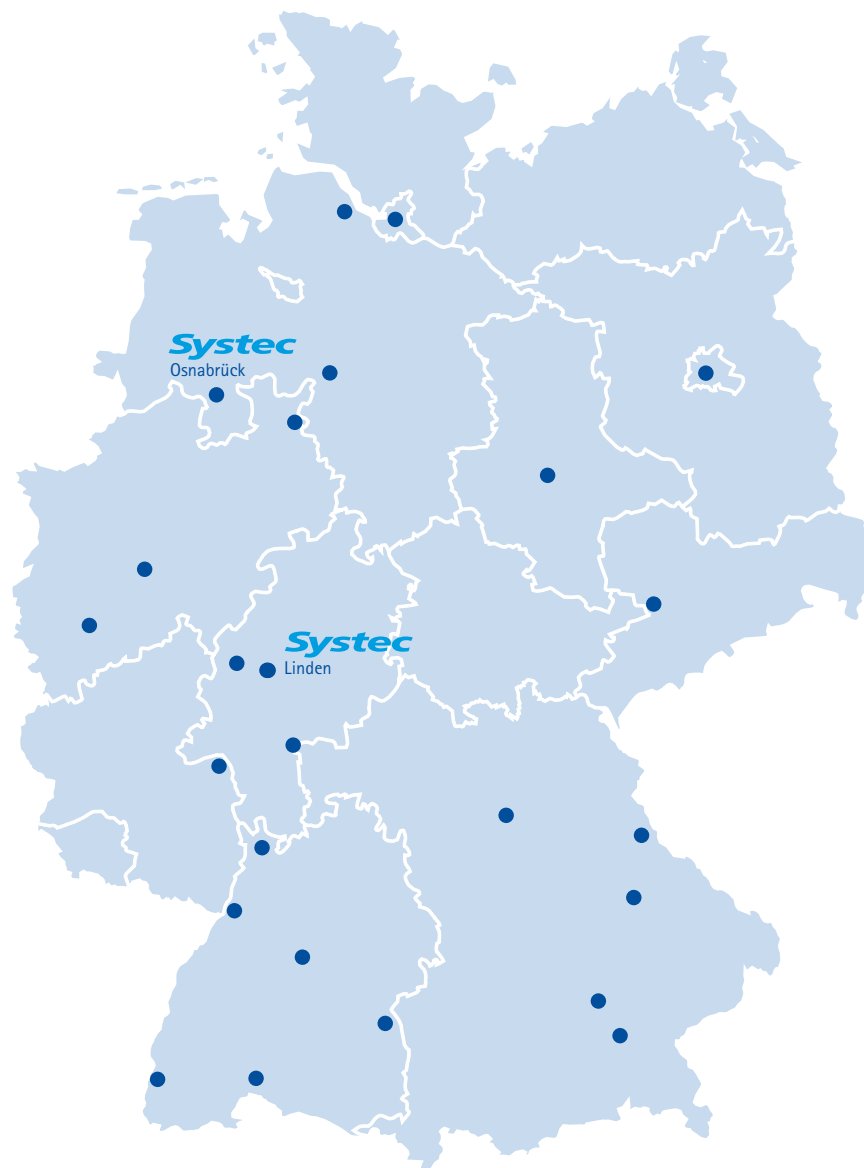
Our environmental management system according to ISO 14001

In addition, our environmental management system is certified according to DIN EN ISO 14001. We are happy to provide our customers with details of our environmental policy upon request. A Certificate of Acceptance is provided.

Sales and service in Germany.

Systec service stations in Germany

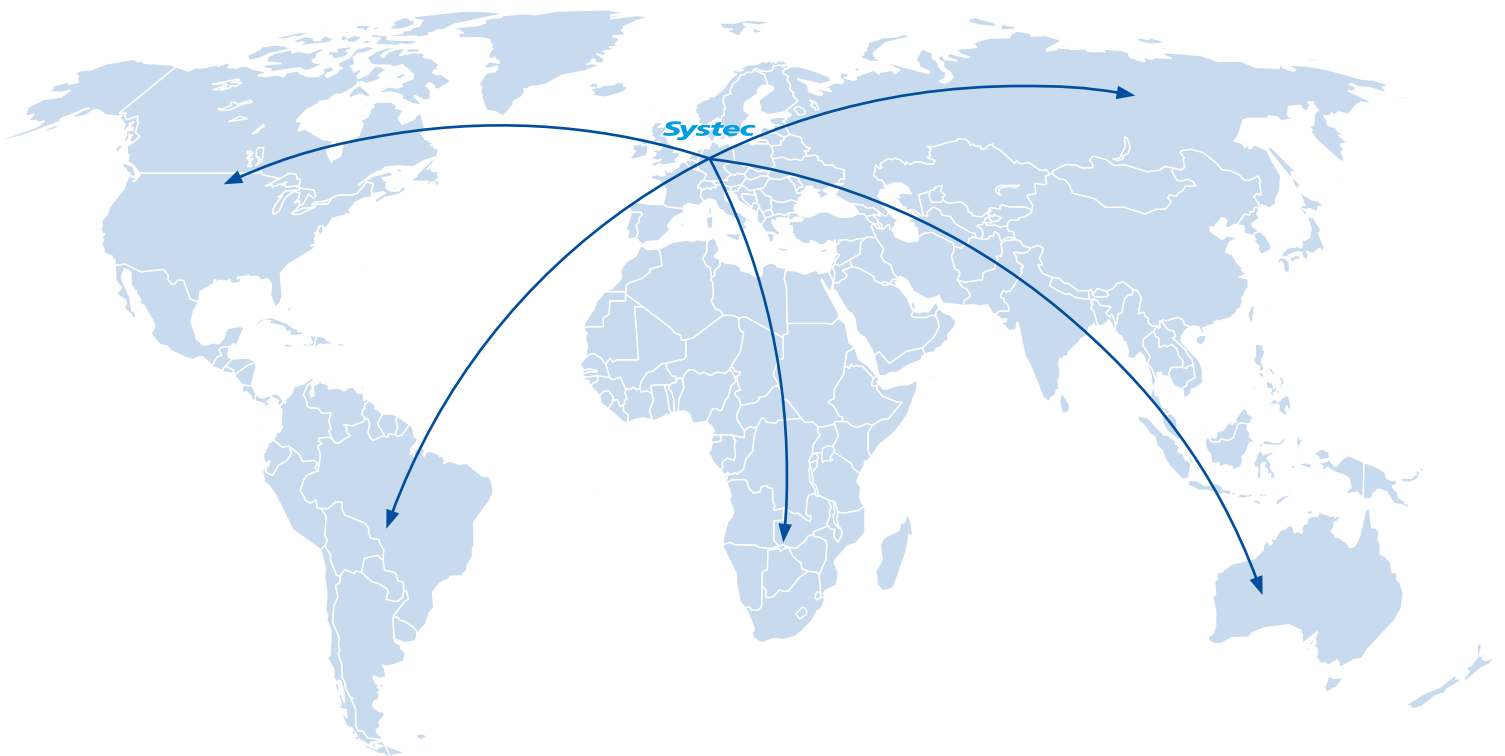
A Systec service technician is always near you and can be contacted at any time through our central service number: +49 6403 67070-0



Sales and service.

Worldwide via trained partners.

Systec laboratory autoclaves and Systec media preparators are performing reliably in numerous countries on every continent. Our qualified partners are available to you for consulting, sales and service.



Complete program.

Autoclaves.

Autoclaves as horizontal or vertical construction. Pass-through autoclaves for wall recessing in safety areas (e.g. biological safety laboratories or clean rooms).

- Vertical floor-standing autoclaves
Systemec V-Series
40 to 150 liters
- Horizontal bench-top autoclaves
Systemec D-Series
23 to 200 liters
- Horizontal floor-standing autoclaves
Systemec H-Series
65 to 1580 liters
- Pass-through autoclaves
Systemec H-Series 2D
90 to 1580 liters

Prepare, sterilize and dispense culture media.

Systems for the preparation and sterilization of microbiological culture media and for the automatic filling of Petri dishes, bi-plates, tri-plates and test tubes.

- Mediapreparators
Systemec Mediaprep
10 to 120 liters
- Plate pourer and tube filler
Systemec Mediafill



Systemec the autoclave company

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