

# THE POWER OF INNOVATION

## STERILIZING IN THE LABORATORY

Easier, faster and safer with Systec

### PRODUCT BROCHURE



ISO 9001  
ISO14001

## PERFORMANCE & RELIABILITY

**For your sterilization tasks.  
Easier, precise, more reproducible & validatable.**

**Made-to-measure for any laboratory application.  
Modular designed autoclaves.**



Our aim is always to make steam sterilization in the laboratory safer, easier and more precise, reproducible and validatable. With over 25 years experience and constant cooperation with experts in practice, we know how to tackle and provide optimal solutions for even the most complex sterilization tasks. We have the knowledge and experience to produce the results! Our expertise and know-how are available for you worldwide through specialized partners.

### Product expertise

- Development
- Design
- Production of serial products
- Production of specialty 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

We manufacture our horizontal bench-top autoclaves, horizontal floor-standing autoclaves and vertical floor-standing autoclaves in different performance categories as sterilization tasks in laboratories are highly variable.

VX

DX

HX

For all laboratory applications even those with sophisticated sterilization tasks and availability of all options for process optimization to achieve validatable sterilization processes.

VE

DE

For elementary laboratory applications with limited availability of options for process optimization.

**Sterilization made easier, precise, more reproducible and validatable with Systec laboratory autoclaves.**



FOR BETTER STERILIZATION.

Vertical floor-standing autoclaves Systec V-Series

- Highest requirements with regard to safe, accurate, reproducible and validatable sterilization processes
- Sterilization temperatures up to 140 °C, steam pressure up to 4 bar absolute pressure (optional 150 °C/5 bar absolute pressure for 65 to 150 liters)
- Fully automatic, micro-processor controlled
- Up to 25 sterilization programs for different sterilization applications

Systec V-Series

8 sizes, 40 to 150 liters chamber capacity

VX

VE

2 model ranges with different performance characteristics



Systec V-40



Systec V-55



Systec V-65



Systec V-75



Systec V-95



Systec V-100



Systec V-120



Systec V-150

OPTIONAL:  
OPERATION VIA  
TOUCH-DISPLAY  
FOR ALL VX MODELS  
FROM 65 LITERS

8 models  
40 to 150 l  
chamber  
capacity

# FOR BETTER STERILIZATION.

6 models  
45 to 200 l  
chamber capacity



## Horizontal bench-top autoclaves Systec D-Series

- Highest requirements with regard to safe, accurate, reproducible and validatable sterilization processes
- Sterilization temperatures up to 140 °C, steam pressure up to 4 bar absolute pressure (optional 150 °C/5 bar absolute pressure for 65 to 150 liters)
- Fully automatic, micro-processor controlled
- Up to 25 sterilization programs for different sterilization applications, self-programmable

### Systec D-Series

6 sizes, 45 to 200 liters chamber capacity

**DX** **DE** 2 model ranges with different performance characteristics



Systec D-45



Systec D-65



Systec D-90



Systec D-100



Systec D-150



Systec D-200

# FOR BETTER STERILIZATION.



Shorter and more efficient process times  
by the combination of new features.

NEW  
GENERATION



16 models  
65 to 1580 l  
chamber  
capacity

SYSTEC CONNECT\*



ALL INFORMATION  
ABOUT YOUR  
SYSTEC AUTOCLAVES  
AT A GLANCE!

## Horizontal floor-standing autoclaves Systec H-Series

- Highest requirements with regard to safe, accurate, reproducible and validatable sterilization processes
- Sterilization temperatures up to 140 °C, steam pressure up to 4 bar absolute pressure (optional up to 150 °C/5 bar absolute pressure)
- Fully automatic, micro-processor controlled
- Internal memory capacity for storing up to 10 years of data backups
- Up to 100 sterilization programs for different sterilization applications, self-programmable

Systec H-Series  
16 sizes, 65 to 1580 liters  
chamber capacity



OPTIONAL:  
Stainless steel casing

HX



\*optional

FOR BETTER STERILIZATION.



Shorter and more efficient process times  
by the combination of new features.

NEW  
GENERATION



13 models  
90 to 1580 l  
chamber capacity

SYSTEC CONNECT\*



ALL INFORMATION  
ABOUT YOUR  
SYSTEC AUTOCLAVES  
AT A GLANCE!

Horizontal pass-through autoclaves  
Systec H-Series 2D

- Highest requirements with regard to safe, accurate, reproducible and validatable sterilization processes
- For gas-tight installation in partition walls of biological safety laboratories or clean rooms
- Sterilization temperatures up to 140 °C, steam pressure up to 4 bar absolute pressure (optional up to 150 °C/5 bar absolute pressure)
- Fully automatic, micro-processor controlled
- Internal memory capacity for storing up to 10 years of data backups
- Up to 100 sterilization programs for different sterilization applications, self-programmable

Systec H-Series 2D  
13 sizes, 90 to 1580 liters  
chamber capacity

HX



OPTIONAL:  
Stainless steel casing



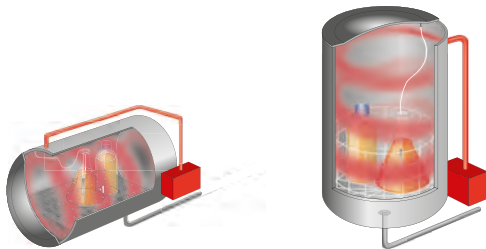
\*optional



# STERILIZATION OF LIQUIDS.

## Heating up

- The actual sterilization time of e.g. 15 to 20 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 100 °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 D-Series/H-Series

Systec V-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.
- 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.
- 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.

### Standard functions in all models:

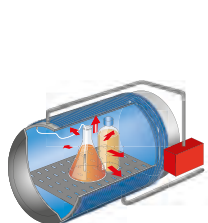
- Temperature- and pressure-dependent door locking in line with international standards and regulations.
- Redundant process control; temperature and pressure are continuously monitored and controlled during the entire sterilization cycle.
- Rapid heat-up via optimized heat transfer to the liquid media.
- 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.

## QUICK-COOLING OPTIONS FOR STERILIZATION OF LIQUIDS..

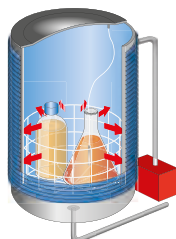


VX VE DX DE HX

- **Water Cooling** with support pressure provide a coil wrapped around the outside of the sterilization vessel. During the cooling phase, cool water circulates through the coils, reducing cool down time. Support pressure prevents liquids from boiling over during the cooling process, eliminating evaporative loss of sterilized liquids. **Reduction of cooling time up to 60 %.**

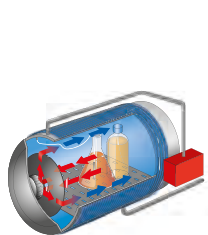


Systec D-Series/H-Series

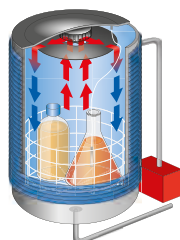


Systec V-Series

- **Radialventilator:** for air circulation and accelerated heat removal from the sterilizer chamber. Combined with cooling coils and support pressure, the radial ventilator creates a more rapid exchange of heat from the chamber by utilizing an internal fan to circulate air. **Reduction of cooling time up to 70 %.**



Systec D-Series/H-Series



Systec V-Series

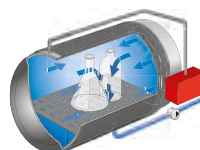
- **Ultracooler** is an additional heat exchanger behind the radial ventilator. **Reduction of cooling time up to 90 %.**

## STERILIZATION OF SOLIDS AND WASTE IN DISPOSAL BAGS.

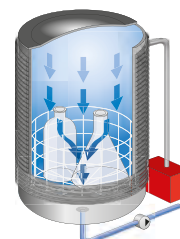


VX DX HX

- **Vacuum system** removes the air highly effectively from solids, tubing, porous materials, fabrics and disposal bags; in this way, the steam is able to penetrate completely. The process includes a fractionated pre-vacuum phase in combination with the standard steam generator.



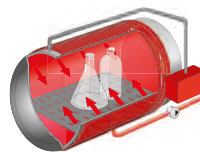
Systec D-Series/H-Series



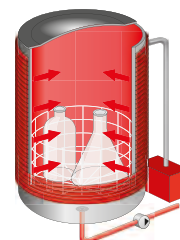
Systec V-Series

For porous materials, solids and waste bags

- **Superdry** 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.



Systec D-Series/H-Series



Systec V-Series

For solids and fabrics

- **Exhaust air filtration system** for the sterilization of hazardous biological substances. The filter is automatically sterilized during each sterilization process, monitored by a PT-100 temperature sensor. Through air exhaust filtration and condensate inactivation, it is ensured that no microorganisms can escape.

For waste bags



FOR BETTER MEDIA PREPARATION AND STERILIZATION.

Systec Mediaprep media preparators

- Gentle preparation, rapid cooling
- Continuous mixing
- Sterilization temperature up to 136 °C
- Steam pressure up to 3,5 bar absolute pressure

Systec Mediaprep

7 sizes, 10 to 120 liters chamber capacity

7 models  
10 to 120 l  
chamber  
capacity



Systec  
Mediaprep-10



Systec  
Mediaprep-20



Systec  
Mediaprep-30



Systec  
Mediaprep-45



Systec  
Mediaprep-65



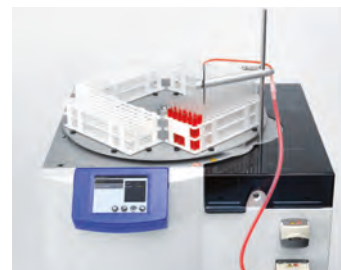
Systec  
Mediaprep-90



Systec  
Mediaprep-120

## FOR AUTOMATED POURING AND STACKING OF CULTURE MEDIA.

### Systec Mediafill plate pourer and tube filler



- For precise, automated and unattended pouring of culture media into Petri dishes, bi-plates, tri-plates and test tubes
- Touch display for easy and intuitive programming
- Even surfaces, no holes or gaps, easy to clean
- Three stacker carousel heights for up to 220, 440 and 660 Petri dishes





Systec GmbH & Co. KG  
Konrad-Adenauer-Straße 15  
35440 Linden, Germany  
T +49 6403 670 70 0  
F +49 6403 670 70 222  
info@systec-lab.de  
www.systec-lab.de



Subsidiary Switzerland:  
Systec Schweiz GmbH  
Gewerbestrasse 8  
CH-6330 Cham, Switzerland  
T +41 41 781 52 80  
F +41 41 781 52 79  
info@systec-lab.ch  
www.systec-lab.ch



Subsidiary China:  
Systec (Shanghai) trading Co., Ltd  
D1-201, No.6000 Shenzhuan Rd,  
Songjiang 201619  
Shanghai, China  
T +86 21 6019 0256  
info@systec-lab.com.cn  
www.systec-lab.com.cn

Scan to visit our website:

