

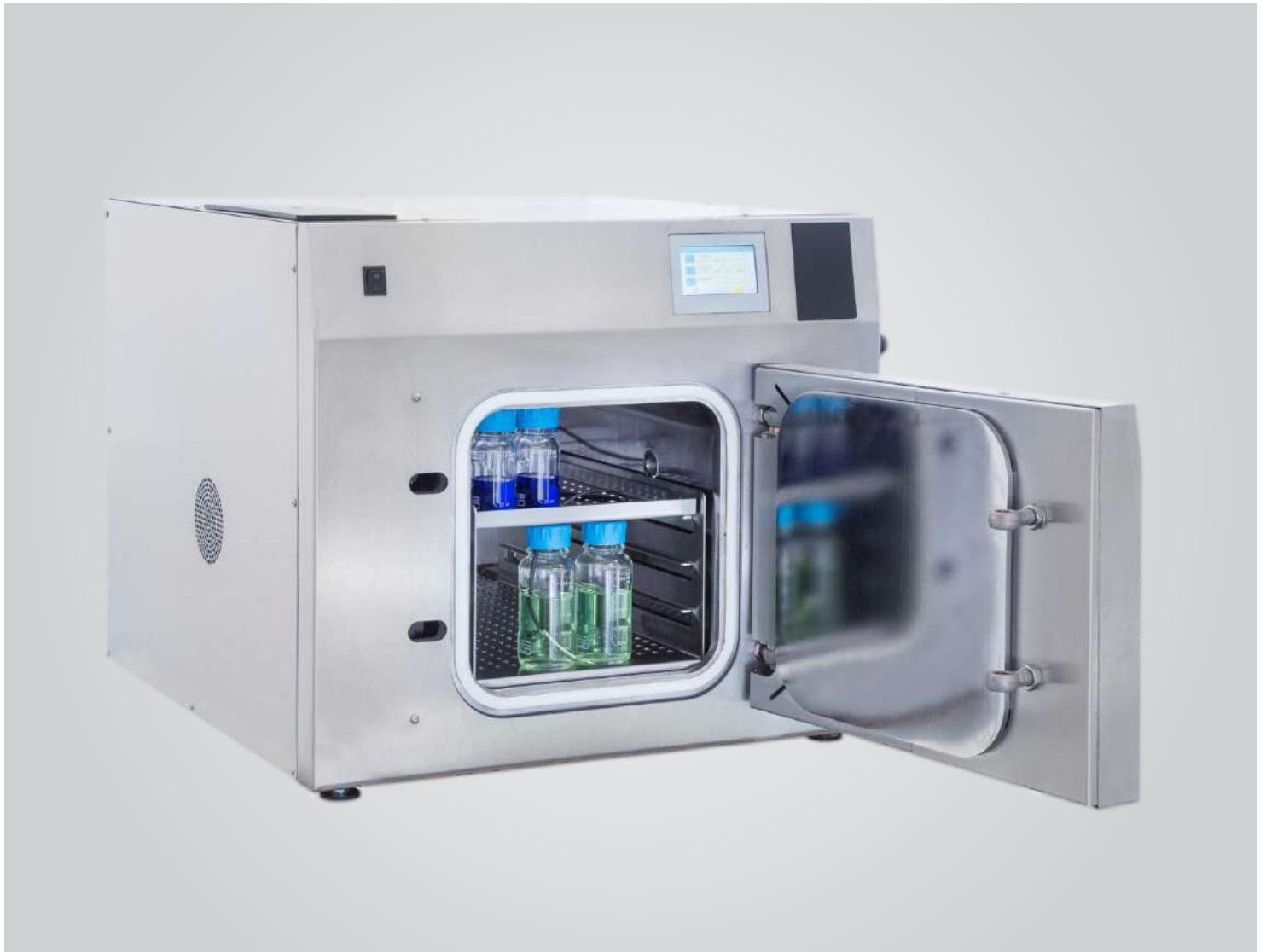


# LABORATORY AUTOCLAVES

25 - 200 Liters

Engineering under high pressure

Made in Germany



**ZIRBUS**  
TECHNOLOGY

# ZIRBUS TECHNOLOGY GMBH

Since its founding in 1984, ZIRBUS technology GmbH, as a German manufacturer, has gained an outstanding reputation on the international market. We manufacture not only freeze dryers but also focus on process technology. A steadily increasing number of customers is putting their trust in Zirbus brand autoclaves and lyophilizers.



## Our customers' satisfaction is our top priority...



TOGETHER WITH OUR CUSTOMERS, WE CONTINUALLY DEVELOP NEW SOLUTIONS FOR VARIOUS AREAS OF APPLICATION



WE TAKE ADVANTAGE OF EVERY POSSIBLE OPPORTUNITY FOR IMPROVEMENT



PERFECTION IN SERVICE IS WHAT DRIVES US



EFFICIENT AND RELIABLE TECHNOLOGY



A PERFECT COMBINATION OF SOFTWARE AND HARDWARE



TECHNICALLY PERFECTED AND VALIDATABLE PROCESS ENGINEERING

### CERTIFIED QUALITY

**ASME** certified

**Module H** certified

**EN ISO 9001**

The quality management (QM) system according to DIN EN ISO 9001 implemented and practiced at ZIRBUS technology GmbH provides the framework for our quality- and cost-oriented activities.

In addition, a risk management system is a component of the QM system.

	LabStar 25/40	LabStar 70	LabStar 100/150/200
<p><b>BASIC LAB</b></p> <p>Recommended for the sterilization of simple goods or liquids without dry withdrawal.</p>	<ul style="list-style-type: none"> <li>• Heating elements in chamber</li> <li>• Control system</li> </ul>	<ul style="list-style-type: none"> <li>• Heating elements in chamber</li> <li>• Control system</li> </ul>	<ul style="list-style-type: none"> <li>• Steam generator</li> <li>• Control system</li> </ul>
<p><b>DRY LAB</b></p> <p>Recommended for the sterilization of non-infectious waste bags and goods that require intensive* post-drying.</p>	<ul style="list-style-type: none"> <li>• Heating elements in chamber</li> <li>• Membrane vacuum pump</li> <li>• Control system</li> </ul>	<ul style="list-style-type: none"> <li>• Steam generator</li> <li>• Water ring vacuum pump</li> <li>• Control system</li> </ul>	<ul style="list-style-type: none"> <li>• Steam generator</li> <li>• Water ring vacuum pump</li> <li>• Control system</li> </ul>
<p><b>QUICK LAB · BASIC</b></p> <p>Recommended for the sterilization of large quantities of liquids.</p>	<ul style="list-style-type: none"> <li>• Heating elements in chamber</li> <li>• Water rapid recooling</li> <li>• Control system</li> </ul>	<ul style="list-style-type: none"> <li>• Heating elements in chamber</li> <li>• Water rapid recooling</li> <li>• Circulating air fan</li> <li>• Control system</li> </ul>	<ul style="list-style-type: none"> <li>• Steam generator</li> <li>• Water rapid recooling</li> <li>• Circulating air fan</li> <li>• Control system</li> </ul>
<p><b>QUICK LAB</b></p> <p>Recommended for the sterilisation of non-infectious waste bags, large quantities of liquids and goods that require intensive* post-drying.</p>	<ul style="list-style-type: none"> <li>• Heating elements in chamber</li> <li>• Water rapid recooling</li> <li>• Membrane vacuum pump</li> <li>• Control system</li> </ul>	<ul style="list-style-type: none"> <li>• Steam generator</li> <li>• Water ring vacuum pump</li> <li>• Water rapid recooling</li> <li>• Circulating air fan</li> <li>• Control system</li> </ul>	<ul style="list-style-type: none"> <li>• Steam generator</li> <li>• Water ring vacuum pump</li> <li>• Water rapid recooling</li> <li>• Circulating air fan</li> <li>• Control system</li> </ul>
<p><b>QUICK LAB · ADVANCED</b></p> <p>Recommended for the sterilization of non-infectious waste bags, large quantities of liquids and goods requiring intensive* post-drying - this also applies to liquids in closed containers.</p>	<p>- not available -</p>	<ul style="list-style-type: none"> <li>• Steam generator</li> <li>• Water ring vacuum pump</li> <li>• Water rapid recooling</li> <li>• Circulating air fan</li> <li>• Steam-air mixture Process</li> <li>• Control system</li> </ul>	<ul style="list-style-type: none"> <li>• Steam generator</li> <li>• Water ring vacuum pump</li> <li>• Water rapid recooling</li> <li>• Circulating air fan</li> <li>• Steam-air mixture Process</li> <li>• Control system</li> </ul>
<p><b>SAFE LAB</b></p> <p>Recommended for use in the S2 laboratory for the sterilization of infectious waste bags and goods that require intensive* post-drying.</p>	<ul style="list-style-type: none"> <li>• Heating elements in chamber</li> <li>• Membrane vacuum pump</li> <li>• Exhaust air filter with Condensate inactivation</li> <li>• Control system</li> </ul>	<ul style="list-style-type: none"> <li>• Steam generator</li> <li>• Water ring vacuum pump</li> <li>• Exhaust air filter with Condensate inactivation</li> <li>• Control system</li> </ul>	<ul style="list-style-type: none"> <li>• Steam generator</li> <li>• Water ring vacuum pump</li> <li>• Exhaust air filter with Condensate inactivation</li> <li>• Control system</li> </ul>
<p><b>COMPLETE LAB</b></p> <p>Fully equipped laboratory autoclave for operation in S2 laboratories. Recommended for the sterilization of infectious waste bags, large quantities of liquids and goods requiring intensive* post-drying.</p>	<ul style="list-style-type: none"> <li>• Heating elements in chamber</li> <li>• Membrane vacuum pump</li> <li>• Exhaust air filter with Condensate inactivation</li> <li>• Water rapid recooling</li> <li>• Control system</li> </ul>	<ul style="list-style-type: none"> <li>• Steam generator</li> <li>• Water ring vacuum pump</li> <li>• Exhaust air filter with Condensate inactivation</li> <li>• Water rapid recooling</li> <li>• Circulating air fan</li> <li>• Control system</li> </ul>	<ul style="list-style-type: none"> <li>• Steam generator</li> <li>• Water ring vacuum pump</li> <li>• Exhaust air filter with Condensate inactivation</li> <li>• Water rapid recooling</li> <li>• Circulating air fan</li> <li>• Control system</li> </ul>

\* only in connection with water ring pump depending to option



**LARGE LOADING CAPACITY WITH A SMALL FOOT-PRINT THANKS TO A SQUARE CHAMBER**



**CAN BE LOADED WITH UP TO FOUR 5000-ML SCHOTT BOTTLES**



**MADE COMPLETELY OF STAINLESS STEEL**



**SUITABLE FOR ANY LABORATORY TABLE UNTIL 600 MM**

Labstar	25	40	70
Dimensions in mm (WxHxD)	450 x 525 x 640	532 x 605 x 698	700 x 644 x 820
Chamber volume in liters	25	40	65
Effective space in mm (WxHxD)	(Ø) 300 x (D) 360	295 x 295 x 460	310 x 310 x 680



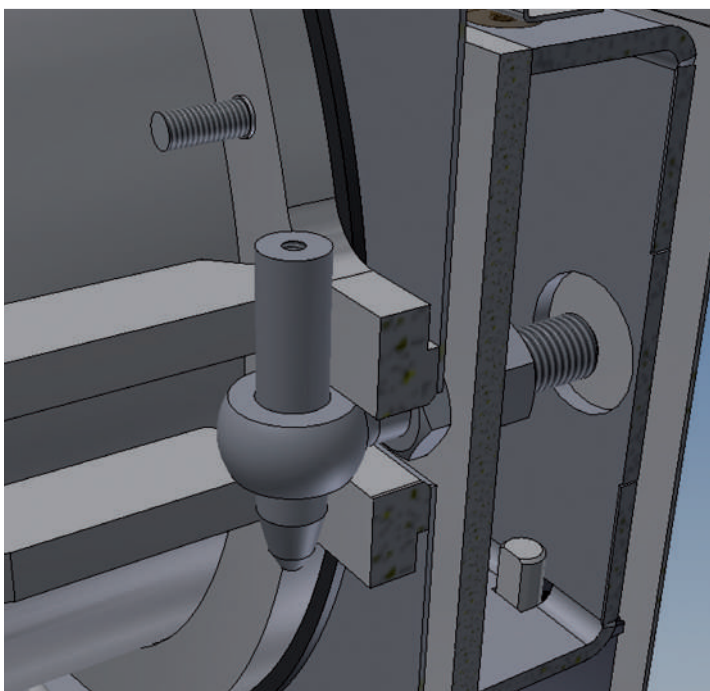


## Compact device with square, space-saving chamber

- ▶ Constructed for optimal loading capacity with many standard bottles (Schott for example) and Erlenmeyer flasks.
- ▶ Significantly higher loading capacity compared to a round chamber device. 40 liters „square“ = ~ 75 liters „round“.

## Integrated printer for batch documentation

- ▶ At the end of the program, the printout will take place of the entire batch record on thermal paper including all important program parameters.
- ▶ 10 years of readable paper.
- ▶ Printer can be activated or deactivated for each program.



## Completely secure and simple sealing system

- ▶ The door-locking mechanism closes the sterilization chamber in combination with a low-maintenance, door seal.
- ▶ The door seal can be changed easily and without tools.
- ▶ A thermal lock at 80°C in the liquid program



**LOW LOADING HEIGHT**



**EQUIPPED WITH MAINTENANCE ROLLERS AS A STANDARD FEATURE**



**CLOSED FLOOR PLAN WITH AQUASTOP**



**LID CLIP ABSOLUTELY SECURE WITH INFLATABLE SEAL AND TIGHTNESS CONTROL**

## VERTICAL AUTOCLAVE LOADING CAPACITY (in pieces)

ERLENMEYER FLASKS		250 ml	500 ml	1000 ml	2000 ml	5000 ml
SCHOTT medium bottles						
LVSA 40/60		42 / 28	26 / 16	18 / 10	8 / 6	2 / 1
LVSA 40/75		63 / 42	39 / 24	27 / 15	8 / 6	2 / 1
LVSA 50/60		74 / 46	46 / 30	32 / 18	16 / 10	8 / 3
LVSA 50/70		111 / 69	69 / 45	48 / 27	16 / 10	8 / 6
LVSA-Series		40/60	40/75	50/60	50/70	
External diameter in mm (WxHxD)		550 x 1010 x 853	550 x 1160 x 850	750 x 1060 x 948	750 x 1160 x 948	
Chamber volume in liters		80	96	133	153	
Effective space in mm (Ø x H)		400 x 620	400 x 770	500 x 680	500 x 780	

## Easy-to-use color touchscreen

- ▶ All autoclaves are equipped with an ergonomic and easy-to-use color touchscreen.
- ▶ 12 programs with preset standard parameters for solids, liquids, solid waste and liquid waste.
- ▶ The parameters can be adjusted, they are password protected.
- ▶ Four user levels available.



## For back-friendly loading and unloading of the sterilization chamber

- ▶ Lifting and pivoting mechanism with electric drive. Lifting capacity 30 kg.
- ▶ The pivoting arm can be used to place the sterile materials next to the autoclave.
- ▶ Rotates 360°. Can be mounted on the left or right side of one device; when using two systems, one pivoting arm can be used for both.



## Fast and water-saving cooling of liquid media

- ▶ We provide cooling where it is needed. In the chamber, through an internal heat exchanger.
- ▶ The rapid water recooling system with magnetically air-circulating fan ensures fast and water-saving cooling of liquid media in open and closed containers to a safe removal temperature, without loss of medium.





ALL FLOOR-STANDING DEVICES ARE AVAILABLE IN A „PASS-THROUGH“ DESIGN



AVAILABLE AS TABLE AND STAND VERSION

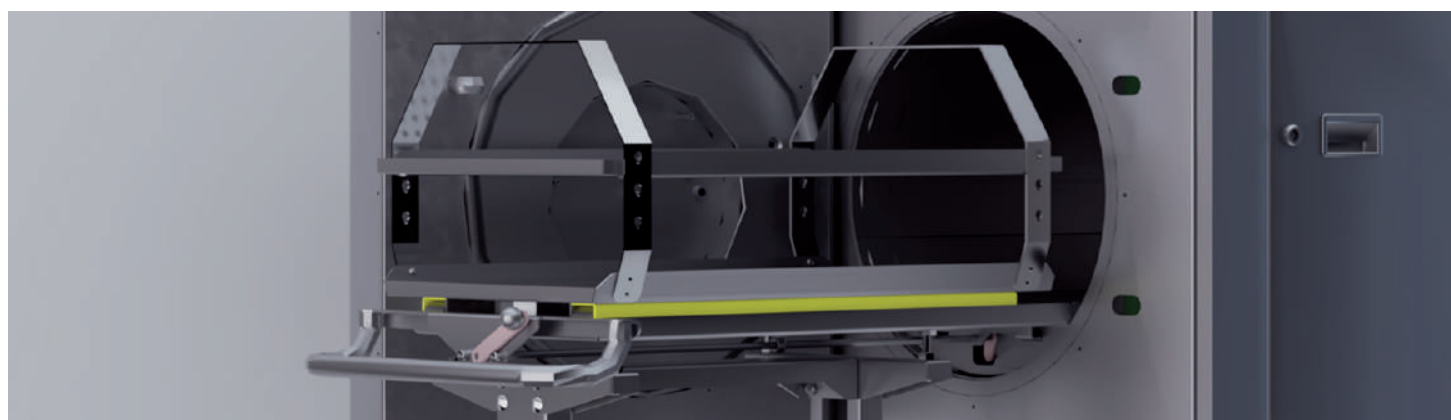


MADE COMPLETELY OF STAINLESS STEEL

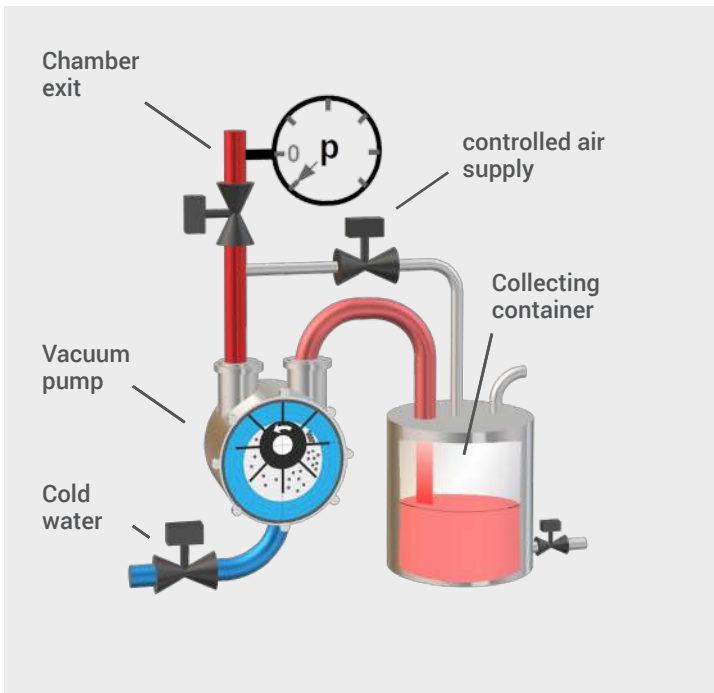


7-INCH TOUCH SCREEN CONTROL FOR INTUITIVE OPERATION

LabStar	100	150	200
Dimensions in mm (WxHxD) incl. Door	750 x 900 x 1000	750 x 900 x 1000	750 x 900 x 1250
Chamber volume in liters	100	150	200
Effective space in mm (Ø x D)	500 x 500	500 x 750	500 x 1000





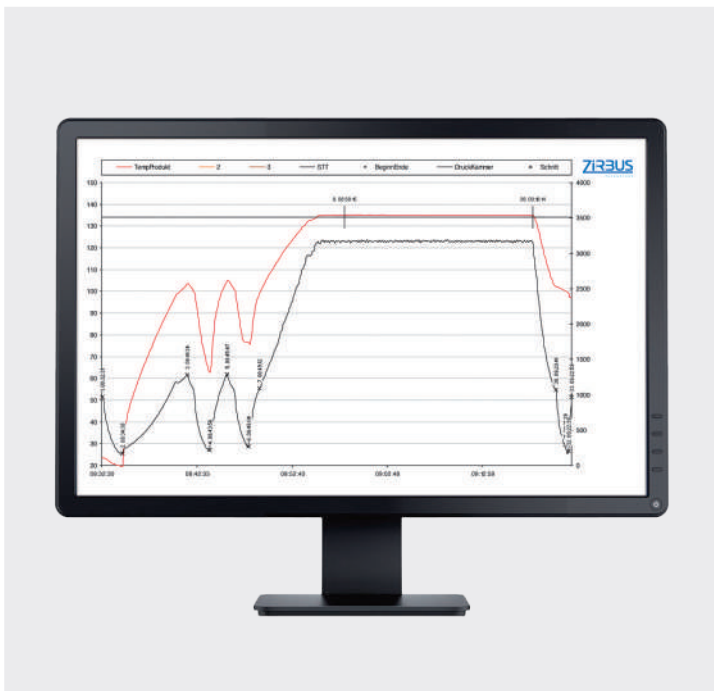
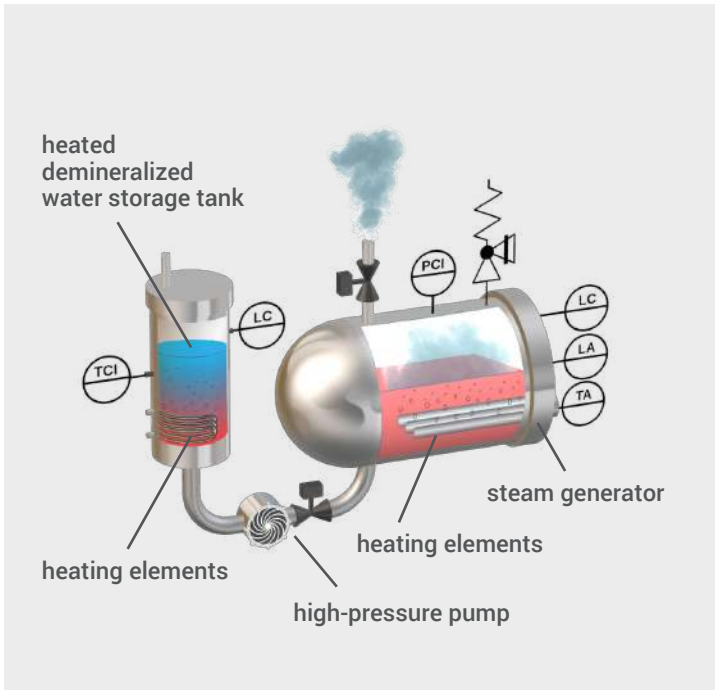


## High-performance vacuum pump

- ▶ Vacuum pump for optimal ventilation of the sterilized materials. This fulfills the basic requirement for safe saturated steam sterilization that can be validated.
- ▶ In addition, solids are dried at the end of the sterilization cycle. This is aided by heating of the jacket.
- ▶ Simple and fractionated vacuum.
- ▶ Low noise operation.

## Steam generator

- ▶ Compact and high-performance, integrated in the autoclave.
- ▶ For avoiding non-condensable gases (NCG) with heated demineralized water tank.
- ▶ The water level control is performed by means of a wear-resistant level sensor
- ▶ Energy efficient, optimally insulated, low heat radiation
- ▶ Optimal ratio of the amount of water and heating power. For optimal steam quality and short heating times.



## „SteriLog“ documentation software

- ▶ A PC can be directly connected to the Ethernet interface. All important process steps can be recorded using software specially optimized for Windows.
- ▶ They are then displayed in the form of a color diagram and value table.

## + STEAM GENERATOR

The steam generator is integrated in the housing, separate from the sterilization chamber, and ensures rapid heating and cooling, in comparison to conventional heating systems.

## + VACUUM PUMP SET

To mechanically remove air and dry in a vacuum. Possible methods include single-stage prevacuum (VOVV), fractionated prevacuum (FRVV), constant or pulsating drying under a vacuum.

## + LIFTING AND PIVOTING MECHANISM

The lifting and pivoting mechanism makes it easier to load and unload vertically loaded autoclaves. Loaded baskets are lifted into and out of the chamber using a crane mounted on the autoclave. The load capacity is 30 kg.

## + PASS-THROUGH MODEL

All horizontal floor-standing autoclaves can be supplied, if desired, as pass-through autoclaves with a gas-tight partition (bioseal). Using an optional display on the unloading side, the autoclave can be fully operated from both sides.

## + EXHAUST AIR FILTRATION

For the sterilization of pathogenic substances in level S2/S3 laboratories, a steam-sterilizable exhaust air filter (retention rate for gases: 0.01 µm), with inline condensate sterilization is stipulated.

## + TRANSPORT/BATCH CARTS

For all horizontal floor-standing autoclaves, transport and batch carts are available for easy loading and unloading of the sterilized material.

## + TOUCH DISPLAY (STERITOUCH CONTROL)

Simple, intuitive operation is made possible through the color touch screen which is installed as a standard feature. Together with user-friendly software, the autoclave can be operated in an easy and quick but also highly variable manner. Exactly what you need for your daily work routine in research.

## + STEAM-AIR MIXTURE METHOD

For the sterilization of securely closed bottles and pressure-sensitive materials, such as blister packaging. Additional support pressure prevents the closed vessels from bursting. Precise temperature control and distribution is achieved using an additional temperature sensor, air deflectors and an air-circulating fan.

## + RAPID WATER RECOOLING SYSTEM WITH AIR-CIRCULATING FAN

For the sterilization of liquids, the recooling time can be shortened by more than 80% with the use of rapid water recooling system, in comparison to self-cooling. This is due to an internal heat exchanger, known as a "fast cooler," through which water flows.

## + ACCESSORIES

We offer stainless steel sterilization baskets, pails and containers which fit our various chamber designs.

## DOCUMENTATION

Available in three versions to fit your needs.



### BATCH PRINTER

Paper-cutter. Generates an informative paper printout with all relevant data at the end of the process.



### STERILOG

BATCH DOCUMENTATION SOFTWARE

Windows-based software automatically reads the process data from the autoclave and processes these data into a graphic and numeric PDF log (direct coupling with an Ethernet interface RJ45).



### USB MEMORY CARD

To record process data on a USB stick at an integrated USB socket of the autoclave. Includes "SteriLog" evaluation software.

## SERVICE

We offer you outstanding service. Our employees regularly take part in training sessions to make high-quality service possible.

## HOTLINE

Our technical hotline will assist you regarding operation and if you are having system- or process-related problems. If you need us, we can get to you within 24 hours.

## REPLACEMENT PARTS

Replacement part deliveries are processed immediately, such that delivery is usually made on the same day.

## CONSULTATION

We can provide you with advice regarding your project and draw on our experience to assist you. Sample sterilizations can also be carried out in our application laboratory.

### OUR SERVICES INCLUDE:

- Delivery, installation and training
- Maintenance and Service
- Calibration with DKD (German Calibration Service)-tested measuring instruments
- Validation according to recognized guidelines
- Qualification DQ / IQ / FDS, SDS, HDS / OQ / PQ according to GMP guidelines
- Customized process development and optimization
- Sterilization and drying on a contract basis in our own application laboratory





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