

Benchtop units with round sterilizing chamber - maximum utilization of laboratory workspace

Universal basic versions for the microbiological standard laboratory for

- Liquids, culture media
- Solids such as instruments, glassware and devices
- Waste

Safe and future-proof

- Modules available for **fast cooling, prevacuum** and **drying** and for **exhaust-air filtration** with condensate sterilization
- Direct and independent batch documentation
- Newly developed fitting blocks without dead spaces ensure sterilization quality and eliminate problem zones when sterilizing waste
- Abundant supply of accessories

One sterilizer with many advantages

- No cheap compromises: Processes, measurements, fittings, stainless steel finishing and batch documentation compliant with DIN and industry standards
- Fast closure - easy opening thanks to our Fingertip Quick Lock with space-saving swing door

VARIOKLAV STEAM STERILIZERS 75 T AND 135 T

The VARIOKLAV 75 T and 135 T steam sterilizers with their ultra-flat steam generators in their double wall combine the advantages of a double-walled device - **low energy consumption, permanently ready for use, effective deaeration and drying by built-in jacket heater** - with those of a single-wall device - **fast cooling**.

The chamber is free of furnishings, after sterilization free of feed water and therefore easy to clean.

The basic version features four sterilizing programs, two for liquids and one each for solids and for waste. Up to 16 programs can be stored by the control unit, depending on the modules and options installed.

Up to eight pressure changes combined with effective steam flushing drive out the residual air from solids and waste, allowing faster heating by pulsating steam.

And after your purchase?

Benefit from fast batch processing, low operating cost thanks to efficient steam management and our close-knit service and consulting network.



Benchtop units with a usable volume of 135 litres

Safe and easy operation

- Direct selection of your three most important programs
- Extensive loading capacity of 75 and 135 l despite narrow design
- **Convenient loading and unloading**
- Impressive loading depth of 600 and 700 mm
- Four height-adjustable loading levels, suitable for flasks of different sizes
- No feed water or condensate in the chamber, a great advantage during loading and unloading
- No heating elements in the chamber, no burning of agar
- Wide drip ledge under door collects condensate, can be removed for cleaning

Advantages

- Space-saving swing doors instead of slide doors - no base required
- Automatic spent-steam condensation
- Innovative thermolock pursuant to TRB 402* for liquids
- **Versatile control unit**, simple for operators and flexible for lab management

* German standard for pressure vessels

Control unit: Sterilizing parameter ranges	
Sterilizing temperature:	98 - 134 °C (target value)
Sterilizing time:	1 - 999 minutes
Removal temperature:	40 - 95 °C (thermolock)
Key-operated switch:	For program configurations
Timer:	Start of sterilizing cycle by date and time
Removal pressure:	105 - 120 kPa
Customized settings can be configured by manufacturer's customer service:	
Temp. increase beyond target:	Up to +8 K in steam gener. during heating phase
Pressure changes:	0 - 8, adjustable
For more information see Technical Specifications datasheet	

Basic version

All Type 75 and 135 sterilizers - whether benchtop or free-standing unit - share the same features in the basic version, are easy to install thanks to the joint connection and ready to go within minutes.

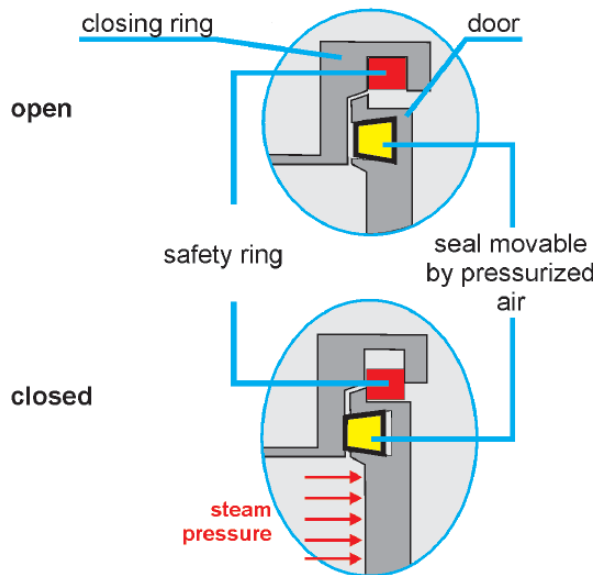
- Double protection: The integrated compressor and external pressurized-air connector supply quick lock, lid seal and pneumatic valve and remove condensate.
- Drain valve in the chamber floor eliminates dead spaces and thereby non-sterilizing zones, ensures a sterile condensate and prevents the spread of pathogens.

Unique Fingertip Quick Lock*

Never before has opening and closing a swing door been so simple and convenient. When a button is pressed, the safety ring locks the door. It is tensed pneumatically, circumferentially encloses the door and places itself immovably inside the closing ring. A **movable seal** closes the sterilizer chamber, making it pressure and vacuum-tight.

* Design patent

Fingertip Quick Lock:



Safety

- The steam pressure on the lid is transferred with maximum safety to innumerable many points on the closing ring - not just to two positions as with clip locks
- Two pressure sensors check for complete pressure release before the lid can be opened
- Silicone seal movable by pressurized air:
 - uniform closing pressure, reliable seal
 - wedge-shaped profiles automatically retract the seal when the pressure is gone
 - **long life**



START / STOP key on the control panel opens and closes the swing door

BENCHTOP UNITS - A NEW MILESTONE



Media temperature controlled timing

Product temperature is attained more quickly through controlled temperature increments. No overheating of media, timer-controlled sterilizing times, includes flexible liquid sensor.

Back wall of chamber as steam generator

This **ultra-flat steam generator** rapidly generates steam - a new milestone in steam sterilizer technology. This gives the sterilizers an unusually compact design.

Advantages

- Steam generation and chamber are separated - stores heat and feed water, preheats the sterilizing chamber, collects and separates condensate and permits the drying of solids
- No contamination of feed waters by drop condensates, waste, or culture media, leaving the sterile supplies free of deposits by impure steam
- **Minimum water volumes** in the steam generator make economic use of heating energy and reduce the amount of water used for fast cooling
- Water level control by exploiting the differences in heat conductivity between water and steam - no maintenance

Universal feed water connector

- Optionally suction from non-pressurized reservoir or feeding via demineralized water feed
- Integrated pump equalizes all **pressure variations** in external supply lines
- Automatic level control in steam generator before, during and after the process ensures that the system is permanently ready for use



Benchtop unit 75 T

Options

Separate steam generator control

A comprehensive program package for chamber and steam generation that controls both pressure chambers **separately** offers extra versatility. Shortens batch processing times by up to 30 %.

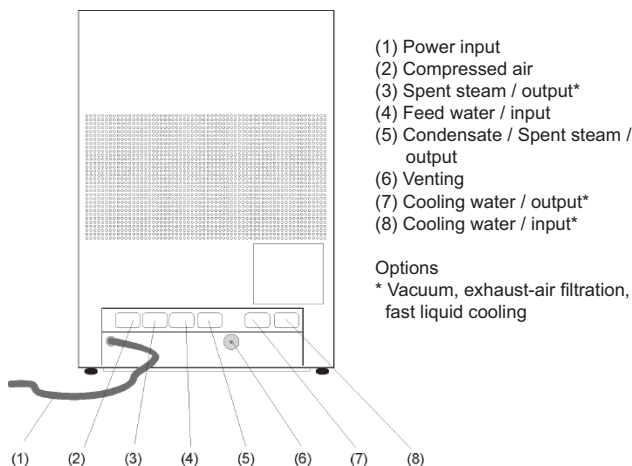
Aquastop at sterilizer water intake avoids water damage and turns water supply lines off even in standby mode.

Loading capacity		75 T	135 T
Round laboratory flasks	(500 ml)	21 - 28	52
Round laboratory flasks	(1.000 ml)	14 - 16	21 - 28
Round laboratory flasks	(2.000 ml)	8	14
Square laboratory flasks	(250 ml)	32	100
Square laboratory flasks	(500 ml)	21	52
Square laboratory flasks	(1.000 ml)	15	21 - 28
Erlenmeyer flasks	(1.000 ml)	8 - 9	14 - 15
Solids		≤ 25 kg	≤ 30 kg
Waste		≤ 25 kg	≤ 30 kg



Connectors

All connectors are easy to find and to access. Spent steam, condensate, vacuum and cooling are combined in a joint connection depending on the configuration of the respective device. By mixing tap water with spent steam and condensate, spent steam condensation can be performed inside the joint connection.



Back view: Connectors on benchtop unit

VARIOKLAV Steam Sterilizers		Order No.
Media temperature controlled timing		24415
Separate steam generator control (preheating)		20029
Batch documentation, direct or independent		20061 or 20062
Modules		
Fast liquid cooling	(RM) 20034 (RO) 20041, or (RG) 20042	
Prevacuum, single or fractionated		20026 or 20027
Drying, in vacuum or in sterile air stream		20028, 20029 or 20040
Exhaust-air filtration with condensate sterilization		20068
Operation supply and spent steam removal		
Sterile steam, spent steam condenser, aquastop, e.g.		on request
Additional options		
e.g. cooling with coiled tubing or air, stainless-steel cover, sterile venting, higher sterilizing temperatures, chamber extension/volume enlargement, prion programs, additional sterilizing programs		
		on request
Accessories		
Sterilization baskets, loading trolley, bases, consumables		on request

These innovative VARIOKLAV steam sterilizers represent the current state of the art and guarantee rapid, safe and reproducible sterilization processes. This ensures long-term problem-free routine operations.

1-year warranty against material and manufacturing defects, except for consumables
3-years warranty on electric heating elements
5-years warranty for stainless-steel pressure vessel

Electrolytically polished chamber - long-term assurance of high infection control standards and corrosion protection

Composition of batch times*		Deaeration / Heating	Sterilization	Steam release	Cooling ST	Fast cooling module		
Program steps		Prevacuum	121 / 134 °C		90 °C	RM	RO	RG
Liquids	(min)	15 - 45	20 / 10	-	30 - 110	15 - 60	10 - 45	10 - 50
Solids	(min)	15 - 30	20 / 10	2 - 4	-	-	-	-
Waste	(min)	15 - 30	- / 15	4 - 8	-	-	-	-

* Load: empty and fully loaded Captions: ST= forced cooling RM = jacket cooling RO/RG = with fan

TECHNICAL DATA

		75 T	135 T
External dimensions (WxDxH)	(mm)	540 x 810 x 780	640 x 890 x 880
Internal dimensions (ØxD)	(mm)	400 x 600	500 x 700
Loading height above table top	(mm)	170	170
Usable volume	(Litres)	75	135
Steam generator (water vol./ total vol.)	(Litres)	4,0 / 6,0	5,0 / 8,0
Power requirement / Heat output	(kW)	4,8 / 4,5	7,8 / 7,5
Power / Supply frequency	(V/Hz)	3N ~ 400 / 50*	3N ~ 400 / 50
Quick lock		ring quick lock	ring quick lock
Weight	(kg)	150	180
Material for pressure vessel		1.4571 DIN 17440	1.4571 DIN 17440
Standards		DIN 58951-2	DIN 58951-2
Max. operating temperature	(°C)	138	138
Max. operating pressure / Vacuum	(bar)	2,5 / -1	2,5 / -1
Mark of conformity / Notified body		CE / 0036	CE / 0036
European Pressure Equipment Directive	(category)	II	II
Order No.		24225	24125

*) instead of 4,5 kW ⇒ 3,0 kW for 230 V mains connection

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