

Vertical autoclaves classic line HV-Series

HMC
EUROPE

For you and your lab!

Tireless, durable and ingeniously simple

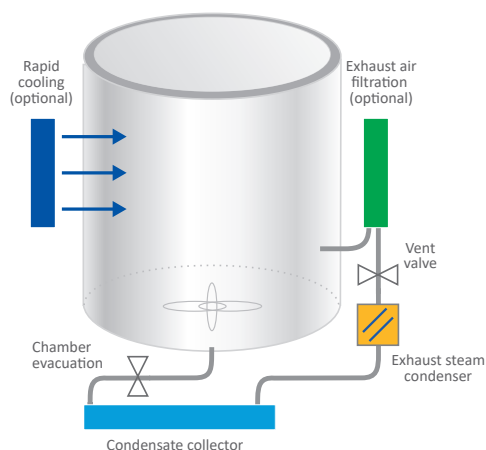
Features at first glance:

- > Certified according to the Pressure Equipment Directive 2014/68/EU
- > Available in 4 sizes with 25, 50, 85 and 110 liters of effective usable volume
- > Simple, reliable and with a long service life, your perfect choice for standard tasks
- > Optionally available with flexible temperature sensor for the sterilization of liquids
- > Electrical, mechanical and constructional factors guarantee the highest level of quality and user protection



The HV family
Classic autoclaves

Tireless devices for standard tasks



Are you looking for...

... an intuitive operation and long service life of your device?



Our solutions for you:

- > Simple operation through a **bright display with program and progress indicators**, fully automatic microprocessor control. The lid can be opened and closed with one finger. Radially locking bolts are moved **without applying any force**. The weight of the lid is completely balanced by a torsion spring for effortless opening and closing. The **passive chamber seal** operates with virtually no wear. The lid gasket is not subjected to any mechanical friction and can be replaced easily if required. Bottom plate for the **deposition of baskets and cans**. Any condensate draining off the lid is collected and fed into the exhaust steam condenser. The standard exhaust steam condenser cools and condenses the exhaust steam. Odour nuisance and overheating of plastic waste water pipes are reduced. **Device and floor stay dry**. For all devices up to 110 liters only a **single-phase power supply** (230/240 V; 50/60 Hz) is required.

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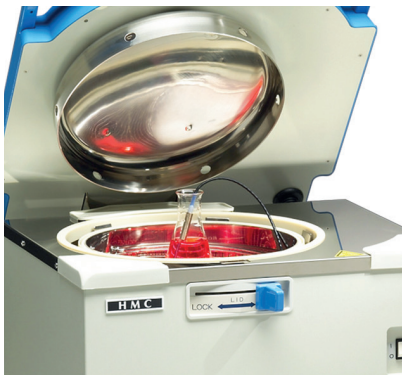
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Are you looking for...

... low life-cycle-costs as well as high energy efficiency because the protection of the environment is important to you?

... a maximum of user protection?



... a variety of programs which meet your requirements?

... a simple way of cleaning your laboratory even below the autoclave?

Our solutions for you:

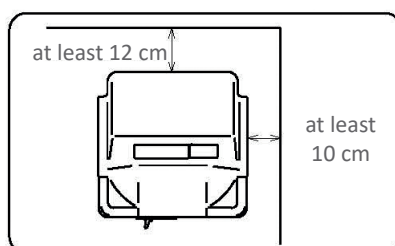
- > **Japanese steel** is used to manufacture high-tech chambers with reduced mass. This does not only provide a consistently high quality and long service life of the autoclaves, it also **ensures energy efficiency with short heating and cooling phases**. You will save time and money on electricity and repairs; **No electronics in the lid** - impervious to steam and heat; **Electrical heating with maximum efficiency**, directly in the feed water; **Dual sensor system (temperature and pressure)** for a controlled excess of pressure during the heating phase which reduces the batch time.
- > **Electrical, mechanical and constructional factors** guarantee the highest level of quality and user protection: **electric and mechanical manometer** for alternating validation; **Safety valve (Made in Germany)**; Integrated **residual current circuit breaker**; **Certified according to 2014/68/EU by TÜV Rheinland (CE0035)**.
- > **Optional thermolock / flexible temperature sensor** for the sterilization of liquids. The thermolock prevents injuries to the operating personnel due to boiling delay. The lid can only be opened once the media temperature has dropped below the reference value after pressure equalization. Unintentional opening of the lid under pressure is not possible.
- > **Exhaust air filter optionally available for safe, emission-free sterilization in a S2 laboratory**: During the heating phase, the steam displaces unsterilized residual air from the chamber and passes it through a filter system. In this way the surrounding air is prevented from being contaminated. Of course, there is an in-line sterilization of the exhaust air filter, which means the filter is sterilized during every cycle. Any condensate which accumulates flows back into the chamber and gets sterilized.
- > **Timer function and 3 program groups** with a max. of 6 programs including dissolution program. **Adaptions for customized programs are always possible**.
- > **No installation to a feed water supply required**, casters for mobile use, **easy to clean plastic surface with rounded edges** in contact areas (no burns or injuries).

It is your choice - different autoclaving programs of the HV-Series



- > Sterilization of solids: with fast release of steam
- > Sterilization of liquids: with variable natural cooling
- > Sterilization of liquids: with optional rapid cooling for thermolabile materials
- > Sterilization of liquids: with subsequent warming cycle
- > Pressure cooker program: prepares Agar and keeps it ready for processing (100 °C)
- > Sterilization of Agar is possible with the sterilization program for liquids
- > Timer-controlled program: loading the autoclave in the evening - sterile and ready for punctual removal in the morning
- > Automatic standby operation: saves energy
- > **Adaptions for customized programs are always possible**

Instructions for installation



Please place the unit at least 10 cm from the side and at least 12 cm from the wall at the rear.
Please note that the unit should not be installed in places where the room temperature is below 5°C or above 35°C.

Please find loading options and baskets/cans on the following pages - for more comfort during sterilization!

Technical data and accessories of the HV-Series

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Vertical autoclaves HV-Series	Unit	HV 25 L	HV 50 L	HV 85 L	HV 110 L
Art-Nr.		20000	20001	20002	20003
Chamber volume	liters	28	54.2	98.8	123.7
Effective usable volume	liters	25	50	85	110
Chamber dimensions (Ø x H)	mm	240 x 550	300 x 710	420 x 615	420 x 795
External dimensions (W x D x H)	mm	480 x 460 x 950	540 x 530 x 1040	660 x 650 x 1000	660 x 650 x 1180
Loading height	mm	830	910	870	1050
Required space (W x D x H)	mm	495 x 750 x 1250	560 x 810 x 1400	680 x 930 x 1450	680 x 930 x 1650
Electrical power	kW	1.5	2.0	3.0	4.0
Weight	kg	41	57	71	81
Power Supply	V	AC 230 V/240 V - 50/60 Hz - 1 phase			
Allowed operating temperature	° C	130	139	133	127
Selectable operat. temperature	° C	105 - 126	105 - 135	105 - 128	105 - 123
Warming temperature	° C	45 - 60 (Special program for preparing Agar: 60 - 100)			
Max. operating pressure	bar	1.4	2.2	1.6	1.2
Timer function		variable, 1 minute to 7 days			
Sterilization time	min.	variable, 1 to 250 minutes			
Locking system		Quick lock with one-lever operation			
Certification		according to 2014/68/EU, CE 0035			
Vessel material		SUS304 (high-grade stainless steel)			
Integrated steam generator		No	No	No	No
Vacuum		No	No	No	No
Safety systems		Electro-magnetic safety lock, safety valve, low-water interrupt, overpressure protection switch, overheating protection switch, circuit breaker, fault indicator (visual and audible)			
Documentation		Integrated printer/USB (optional)/Software			

Baskets and Cans Loading capacities	Basket HV 25 with w/o bowl (H. 50 mm)	Basket HV 25 high w. bowl (H. 100 mm)	Basket HV 50 with w/o bowl (H. 50 mm)	Basket HV 50 high w. bowl (H. 120 mm)	Basket HV 85 with w/o bowl (H. 50 mm)
Art-Nr.	50006 50027	50058	50007 50028	50057	50008 50029
Ext. dimensions (Ø x H), mm	235 x 255	235 x 435	288 x 222	288 x 608	405 x 295
Int. dimensions (Ø x H), mm	210 x 250	208 x 422	270 x 220	270 x 597	382 x 278
HV 25 (Baskets per device)	2	1	-	-	-
HV 50 (Baskets per device)	-	-	3	1	-
HV 85 (Baskets per device)	-	-	-	-	2

Baskets and Cans Loading capacities	Basket HV 85/110 high w. bowl (H. 100 mm)	Basket HV 110 with w/o bowl (H. 50 mm)	Can HV 25 closed	Can HV 50 closed	Can HV 85 closed w. a single row of holes	Can HV 110 closed w. a double row of holes
Art-Nr.	50061	50009 50030	50010	50011	50012A 50012	50060 50013
Ext. dimensions (Ø x H), mm	404 x 610	405 x 388	232 x 262	288 x 222	410 x 289	410 x 378
Int. dimensions (Ø x H), mm	386 x 600	382 x 373	225 x 260	280 x 220	388 x 288	388 x 377
HV 25 (Baskets per device)	-	-	2	-	-	-
HV 50 (Baskets per device)	-	-	-	3	-	-
HV 85 (Baskets per device)	1	-	-	-	2	-
HV 110 (Baskets per device)	1	2	-	-	-	2

Overview of all configuration options			
Type	Art-Nr.	Type	Art-Nr.
Exhaust air filtration (for safety level S2 & higher)	50004	Lifting device for HV 85 and HV 110	50032
Automatic feed water	50017	Air cooling (rapid cooling)	50002
Integrated printer	50003	USB port	60205
Flexible temperature sensor / thermocouple	50001	Sego® Process documentation	on request
GLP Set (printer and exhaust air filter)	50021		

All data on loading capacities in the tables are non-binding guidance for you to help you find your perfect accessory.

Configuration options of the HV-Series in detail

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Exhaust air filtration

Art-Nr. 50004:

For sterilizing the exhaust air of infectious materials. The air displaced during the deaeration phase (heating) must be filtered sterile. The High Flow BioX filter has a retention rate of 0.01 µm, is housed in a separate stainless steel housing and is sterilized with each batch (in-line sterilization). This allows a safe filter change.

Automatic feed water

Art-Nr. 50017:

It checks the feed water level before starting the program and refills the unit automatically if necessary (from storage tank or deionised water pipe).

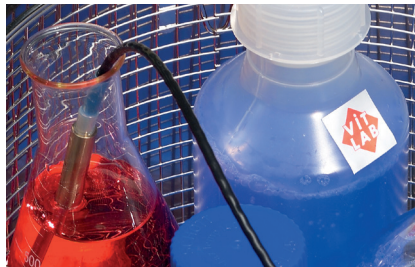
Integrated printer



Art-Nr. 50003:

For simple and reliable documentation, alternatively available with USB port (No. 60205).

Flexible temperature sensor



Art-Nr. 50001:

For a precise sterilization time triggering via the media temperature; Thermolock according to TRB 402 and DIN 61010-2 with opening temperatures of 95 °C (open pots), 90 °C (closed plastic pots), 80 °C (pressure-tight sealed glass bottles).

Air cooling

Art-Nr. 50002:

For a fast recooling of liquids and media, with powerful fans, up to 40 % time saving compared to self-cooling, no water connection and no support pressure (with filtered compressed air) required! Ideal for frequent sterilisation.

USB port

Art-Nr. 60205:

For an easy connection of a USB cable to the autoclave housing for transferring data to the PC.

Sego® Process documentation

Art-Nr. on request:

For paperless, automatic documentation of all sterilization parameters (temperature, time and pressure), data output as graphic and chart as a PDF file with digital signature.

Loading baskets & cans



Art-Nr. depending on device see table:

Made of electropolished stainless steel in various designs and sizes.