

HMC HIRAYAMA



Sterilizing Safer and Easier
HIRAYAMA offers various autoclaves ranging from the most popular models to economical models



HV series



HVE series

HVA series



HVP series

HVN series

HV series

HVA series

HVE series

HVN series

HVP series



ISO 13485
CERTIFIED

Products shown in this brochure
are manufactured by the company,
ISO 13485 certified.

**STERILIZING
SIMPLY AND WELL**

HIRAYAMA

HIRAYAMA Autoclaves

High reliability and many achievements at medical and laboratory sites

The HV, HVA, HVE, HVN and HVP series autoclaves provide safety, security and user-friendliness with their unique functions including an electro-mechanical lid lock system and deodorizing function that can suppress an unpleasant smell. These autoclaves can be used as a standard model of high pressure steam sterilizer.

An economical model
which is recommended

HVE series

A forced cooling system is equipped.
This model has a capacity of 85 L or 110 L
and has excellent cost performance.

HVA series

A best-selling autoclave model that has
many functions with excellent operability

HV series

An autoclave equipped with
the deodorizing function

HVN series

An autoclave equipped
with the drying function

HVP series

[Unique functions for safety]

Electro-mechanical lid lock system

(HV, HVA, HVE, HVN, HVP)

A lid is locked not by a handle but by a one-touch lever that can be lightly operated. So, the opening / closing of a lid is easy and reliable. In addition, the pressure seal method consisting of an internal pressure type gasket and several lock pins which are inserted from the lid circumference is employed as a safety measure. (Patented)



Dual interlock mechanism

(HV, HVA, HVE, HVN, HVP)

The dual interlock mechanism which locks a lid by detecting the chamber pressure and temperature during sterilization is installed. A lock state is kept even when a cycle is interrupted by power failure or manual stop operation.

※The interlock mechanism keeps working even after a cycle is interrupted or manually stopped.

[Functions that support safe and reliable sterilization]

Forced cooling device

(HVA, HVN)

After finishing the sterilization, the chamber pressure is lowered using a forced cooling device (air cooling). It is possible to shorten time to unloading after sterilization.

Dual sensing system

(HV)

The residual air in the chamber which may cause sterilization failure is dually detected to always maintain the sterilization conditions that are appropriate for the condition of loads.

※After temperature reaches 97°C, the residual air is detected dually when the air removal timer operates and when exhaust is performed for over-pressure.

Deodorizing function

(HVN)






Steam causing an unpleasant smell that hangs in the air during heating or during unloading is reduced. In addition, such smell is suppressed with a deodorization filter.

Selectable exhaust level

(HV, HVE, HVP)

It is possible to perform the automatic fine exhaust by presetting an exhaust amount (%). The exhaust level is adjustable during operation.

[Product Line-up]

Product Name		HICLAVE	Economical HICLAVE	Economical HICLAVE with forced cooling device	HICLAVE with deodorizing function	HICLAVE with drying function
						
Model		HV series	HVE series	HVA series	HVN series	HVP series
		HV-25	HVE-50	HVA-85	HVN-50	HVP-50
		HV-50		HVA-110	HVN-85	
		HV-85				
	HV-110					
Effective Capacity	20 L - 30 L	25ℓ (HV-25)				
	30 L - 50 L	50ℓ (HV-50)	50ℓ (HVE-50)		50ℓ (HVN-50)	50ℓ (HVP-50)
	70 L - 85 L	85ℓ (HV-85)		85ℓ (HVA-85)	85ℓ (HVN-85)	
	100 L - 110 L	110ℓ (HV-110)		110ℓ (HVA-110)		
Lid opening/closing method		Manual				
Lid lock method		Slide lock				
Interlock		Dual interlock				
Air removal method		Gravity displacement				Vacuum displacement
Forced cooling function		YES (option)	NO	YES		NO
Deodorizing function		NO			YES	NO
Selectable mode and memory		4 modes, 4 programs	3 modes, 3 programs			5 modes, 5 programs
Power saving function		Auto power-off				

[User-friendly functions]

Easy to set by selecting a mode

(HV, HVA, HVE, HVN, HVP)

A mode such as a sterilization mode is registered in a micro-computer. Sterilization of agar media, liquid, solid, and etc. is easily carried out only by selecting a mode according to your purpose and pressing the START button. The setting change of temperature and time is also possible.

Dissolution mode

(HV)

This is a convenient mode for dissolving the coagulated agar media.

Warming mode

(HV, HVA, HVE)

The sterilized agar media is warmed so that it will not be coagulated.

Memory function

(HV, HVA, HVE, HVN, HVP)

The contents set for each mode are registered, and operation can be started only by pressing the START button.

Programmable auto-start function

(HV)

This is a timer function by which an operation can be started at the set time.

Auto power-off function

(HV, HVA, HVE, HVN, HVP)

This function turns off power automatically when the no signal state lasts for more than 30 minutes to cut the unnecessary electric cost. Touching a button turn on the power supply again.

A best-selling autoclave model that has many functions with excellent operability.

HV HICLAVE series

Model: HV-25/50/85/110

Dual sensing system

The residual air in the chamber which may cause sterilization failure is dually detected to always maintain the sterilization conditions that are appropriate for the condition of loads. *1

Exhaust level is selectable

The automatic fine exhaust can be performed by presetting an exhaust amount (%).

The exhaust level is adjustable during operation.

Dissolution mode

This is a convenient mode for dissolving the coagulated agar media.

Programmable auto-start function

This is a timer function by which an operation can be started at the set time.

Optional devices for a system upgrade (Retrofittable)

A : Forced cooling device (Air cooling)

Used to shorten time to unloading after sterilization

F : Floating sensor

The sterilization timer starts operation after temperature of the material to be sterilized reaches the set temperature.

PorR : Printer or recorder

Used to collect data.

W : Automatic water supply system

Possible to omit troublesome water supply work.

Z : Full featured system

A forced cooling device, floating sensor, printer or recorder and automatic water supply system all are equipped.

Please let us know if you want to change the power supply specification or if you want to use the direct steam supply.



Capacity: 25L, 50L, 85L, 110L

An economical model which is recommended when renewing an old model.

HVE Economical HICLAVE series

Model: HVE-50

Pulse exhaust function

The fine exhaust is performed by automatically adjusting the instantaneous exhaust intervals, according to the chamber pressure.

Warming function

The sterilized agar media is warmed so that it will not be coagulated.



HVE-50

Capacity: 50L

A forced cooling system is equipped. This model has a capacity of 85 L or 110 L and has excellent cost performance.

HVA Economical HICLAVE with forced cooling device series

Model: HVA-85/110

Excellent cost performance

The lid is locked by detecting the chamber pressure and temperature. A forced cooling device is installed as a standard feature. In addition to the sufficient basic performance, this model has high cost performance. There are two models of 85 L and 110 L in capacity.

Forced cooling device

After finishing the sterilization, the chamber pressure is lowered using a forced cooling device (air cooling). It is possible to shorten time to unloading after sterilization.

Warming function

The sterilized agar media is warmed so that it will not be coagulated.



HVA-85

HVA-110

Capacity: 85L, 110L

New Idea !! An autoclave equipped with the deodorizing function that can suppress an unpleasant smell and steam.

HVN HICLAVE with deodorizing function series

Model: HVN-50/85

Deodorizing function

This autoclave is equipped with the deodorizing function. Steam causing an unpleasant smell that hangs in the air during heating or during unloading is reduced.*2 In addition, such smell is suppressed with a deodorization filter.

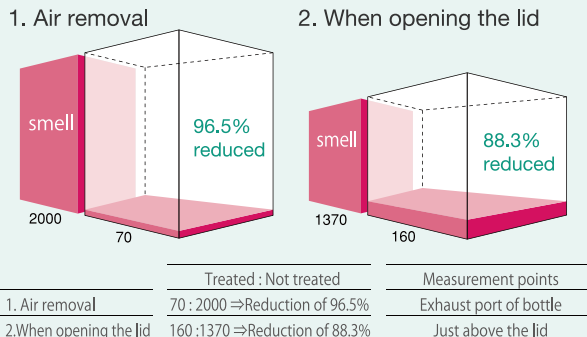
Comfortable working environment

It is uncomfortable that steam causing an unpleasant smell adheres to the skin and clothes when the lid is opened after sterilization. HVN series can reduce steam, and suppress an unpleasant smell with a deodorization filter so that the comfortable working environment will be obtained.



Excellent deodorization efficiency

An unpleasant smell is measured at the generation points. As a result, the excellent deodorization efficiency has been confirmed. (Data obtained from the in-house test for HVN-50.)



Forced cooling device

After finishing the sterilization, the chamber pressure is lowered using a forced cooling device (air cooling). It is possible to shorten time to unloading after sterilization.



Capacity: 50L, 85L

Full-automatic sterilization to drying by high-efficiency vacuum pump.

HVP HICLAVE with drying function series

Model: HVP-50

Drying efficiency is increased

The autoclave incorporates high-efficiency vacuum pump so as to increase drying efficiency further. Moreover, the additional drying stage which can be set up easily with the operation panel is also provided.

Dressing drums can be loaded

Up to 3 dressing drums can be loaded.
Size : ϕ 270x H220 per drum



Capacity: 50L

Following important features are equipped with all HICLAVE series.

Electro-mechanical lid lock system

It is possible to open and close the lid easily and securely with an one-touch lever. Safety measures by the pressure seal method is applied. (Patented)

Dual interlock mechanism

The lid is locked by detecting the chamber pressure and temperature during sterilization. A lock state is maintained even when a cycle is interrupted by power failure or manual operation. *3

Memory function

The contents set for each mode are registered, and an operation can be started only by pressing the START button.

Auto power-off function


This function turns off power automatically when the no signal state lasts for more than 30 minutes.

*1 After temperature reaches 97°C, the residual air is detected dually when the air removal timer operates and when exhaust is performed for over-pressure.






*2 A smell of materials to be sterilized is not removed. And there is a case that a smell slightly remains depending on the kind of materials.

*3 This interlock mechanism keeps working even after a cycle is interrupted or manually stopped.

Standard and Specifications

	HICLAVE			
Model	HV-25	HV-50	HV-85	HV-110
Outside dimension (W x D x H mm)	485 × 470 × 956	547 × 532 × 1046	667 × 652 × 1011	667 × 652 × 1191
Inside dimension (Φ x D mm) Effective capacity	240 × 550 (25 ℓ)	300 × 710 (50 ℓ)	420 × 615 (85 ℓ)	420 × 795 (110 ℓ)
Nominal volume	28 ℓ	54.2 ℓ	98.8 ℓ	123.7 ℓ
Net weight (approx.)	41kg	57kg	71kg	81kg
Power supply	120/220/230/240 VAC , Single-phase			
Pressure vessel category	Simple pressure vessel	Small sized pressure vessel		
Chamber material	Stainless steel (SUS 304)			
Sterilization temperature range	105-126°C variable	105-135°C variable		
Sterilization timer	1 - 250 minutes, a remaining time is displayed.			
Dissolution temperature range	60 - 100°C, variable			
Dissolution timer	1 - 60 minutes, a remaining time is displayed.			
Warming temperature range	45 - 60°C, variable			
Warming timer	20 hours (fixed)			
Programmable auto-start timer	From 1 minute later to 1 week later. a start time is set.			
Deodorization timer	—			
Selectable mode	Liquid sterilization (warming), Liquid sterilization, Solid sterilization, Dissolution / 4 programs			
Exhaust control	The opening degree of exhaust valve can be set in the LIQUID mode. (0 - 100%)			
Cooling fan	Option			
Exhaust bottle (when filled with water)	Built-in exhaust bottle, capacity : 3.4 L			
Working pressure of safety valve	0.186MPa	0.255MPa		
Thermometer	5 ~ 123°C	5 ~ 137°C		
Pressure gauge	0 ~ 0.4MPa			
Safety devices and alarms	Pressure safety valve, Earth leakage breaker, Low water cut off device ALARMS: Low water heating, Temperature sensor wire disconnection, Over-temperature, Over-cool, Over-pressure, Abnormality in lid open/close lever lock			
Supplied accessories	Stainless steel round wire baskets , Bottom plate, Drainage hose, Exhaust bottle, Exhaust hose, Drain bottle, Caster stoppers			
• Wire Basket	2 pcs	3 pcs	2 pcs	2 pcs
Shape of power supply connection part	 Ring terminal			

* Direct steam supply is available for HV-25/50/85/110.

Economical HICLAVE	Economical HICLAVE with forced cooling device		HICLAVE with deodorizing function		HICLAVE with drying function	
HVE-50	HVA-85	HVA-110	HVN-50	HVN-85	HVP-50	
547 × 532 × 1046	667 × 652 × 1011	667 × 652 × 1191	547 × 567 × 1046	669 × 687 × 1011	540 × 630 × 1040	
300 × 710 (50 ℓ)	420 × 615 (85 ℓ)	420 × 795 (110 ℓ)	300 × 710 (50 ℓ)	420 × 615 (85 ℓ)	300 × 710 (50 ℓ)	
54.2 ℓ	98.8 ℓ	123.7 ℓ	54.2 ℓ	98.8 ℓ	54.2 ℓ	
57kg	78kg	85kg	73kg	88kg	80kg	
120/220/230/240 VAC , Single-phase						
Small sized pressure vessel						
Stainless steel (SUS 304)						
105-135°C variable						
1 - 250 minutes, a remaining time is displayed						
—						
—						
45 - 80°C, variable			—			
20 hours (fixed)			—			
—						
—			1 - 90 minutes, a remaining time is displayed		—	
Liquid sterilization (warming), Liquid sterilization, Solid sterilization/ 3 programs			Waste sterilization, Liquid sterilization (forced cooling), Liquid sterilization (natural cooling) / 3 programs		linen sterilization (drying), Liquid sterilization, Solid sterilization/ 5 programs	
Pulse exhaust setting (P0-P2),With fine exhaust valve			—		Pulse exhaust setting (P0-P2)	
—	A cooling fan operates in all cooling stages except when the P0 (natural cooling) is set.		A cooling fan operates in the waste sterilization and liquid sterilization (forced cooling) stages.		—	
Built-in exhaust bottle, capacity : 3.4 L						
0.255MPa						
5 ~ 137°C						
0 ~ 0.4MPa						
Pressure safety valve, Earth leakage breaker, Low water cut off device,vacuum pump circuit breaker(HVP-50 only) ALARMS: Low water heating, Temperature sensor wire disconnection, Over-temperature, Over-cool, Over-pressure, Abnormality in lid open/close lever lock						
Stainless steel round wire baskets,Bottom plate, Drainage hose, Exhaust bottle(except HVP-50), Exhaust hose(except HVP-50), Drain bottle(except HVP-50), Caster stoppers						
3 pcs	2 pcs		2 pcs	2 pcs	2 pcs	Option
						
Ring terminal	Ring terminal		Ring terminal	Ring terminal		Ring terminal

Note

- ※The D of the outside dimension does not include the lid opening/closing slide lever.
- ※It is possible to connect the wires directly to a breaker. However, when connecting to a power receptacle, prepare a suitable power supply plug.
- ※If equipment is used in a place which is 800 m or higher than sea level (under low pressure condition in mountainous areas) or if a Durham tube of 6 mm or less is used, the specification change is necessary with ROM replacement. Please ask us for details.

Recorder (a device for a system upgrade)

1. Recorder

- Interactive type setting
- 6-point (6-point /10 sec)
- Chart width 100 mm
- With a temperature sensor and a sensor adapter



2. Hybrid recorder

- Paperless and touch type recorder (Printing is possible.)
- 8-point (8-point/5 sec)
- Chart width 100 mm
- With a temperature sensor and a sensor adapter

* A hybrid recorder can be used only when it is attached to the equipment, but can not be used externally and independently.

Stainless steel round wire basket

Applicable Model	Inside dimension (mm)
HV-25	Φ210×H255
HV · HVE-50 HVN · HVP-50	Φ270×H220 Φ270×H270
HV · HVA · HVN-85	Φ380×H285
HV · HVA-110	Φ380×H375

* For special size baskets, please ask us.



Stainless steel round bucket

Applicable Model	Inside dimension (mm)
HV · HVE-25	Φ210×H255
HV · HVE-50 HVN · HVP-50	Φ270×H220 Φ270×H270
HV · HVA · HVN-85	Φ390×H285
HV · HVA-110	Φ390×H375

* For special size buckets, please ask us.



Stainless steel round wire basket with bottom plate

Applicable Model	Inside dimension (mm)
HV-25	Φ210×H420
HV · HVE-50	Φ270×H600
HV · HVA-85/110	Φ390×H375

* For special size baskets, please ask us.



Special sterilization bucket for medical waste treatment

- Size: Φ270 x H520 mm (Inside dimension H470)
- Aluminum, with handle



Deodorization filter for HVN

- One filter is attached to HVN-50
- Two filters are attached to HVN-85



Deodorant for autoclaves

This is a deodorant that removes malodor generated during sterilization of culture media. Tablets containing various high-quality decomposing agents quickly decompose and neutralize malodor and clean the working environment.

- Tablets melts quickly. Reliable effect
- The amount used is easy to understand, because it is a tablet.
- Odorless. Check the amount used.
Up to 40 L autoclave-----2-3 tablets
Up to 60 L autoclave-----4 tablets
Up to 100 L autoclave-----6 tablets



• How to use:

1. Put the tablets into a glass container such as a clean test tube.
 2. Pour water so that tablets are submerged in water.
 3. Put it at the bottom of the chamber.
 4. Close the lid and start an operation of autoclave.
- A powerful deodorant decomposes and neutralizes malodor.

Cleaning agent for autoclaves

Dirt such as calcareous scale stuck to the inside of the chamber is raised and removed easily with the strong detergency.

• How to use:

The standard amount used is one cup of detergent (approx.20cc, 1%) in relation to 2 liters of water. Be sure to take out the materials to be sterilized.

1. Supply the specified amount of water to the chamber and pour the cleaning agent that is equivalent to 1 % of supplied water.
2. Set the sterilization temperature to the lowest settable temperature, and set the sterilization time within the range of 5 to 20 minutes according to the dirt-state.
3. Operate an autoclave according to the autoclave Operation Manual.
4. After finishing the operation, drain water from the chamber and wash the inside of the chamber well with water.



Waste disposal bag

A medical waste disposal bag for autoclaving that is used in hospitals and examination centers etc..

- Special structure reinforced film
- Heat resistant temperature 130°C

Type	Size (mm)	Quantity
A	500×700	200
B	620×820	200



Be sure to open the mouth of a bag and pour some water when sterilizing.

Sterilization tape, label, bag

1. Sterilization tape

The sterilization treatment state is easily distinguished with the clear colors. It is ideal for sterilization work and hospital infection prevention.

2. Sterilization label

Attach a label to the material to be sterilized directly and perform the sterilization. As the characters of STERILIZED rise to the surface of a label, it is easy to distinguish between the treated material and the untreated material.

3. Sterilization bag

There are various types of sterilization bags including paper sterilization bags, roll type sterilization bags, one-seal type sterilization bags, and etc.. Most of them are sealed by heat, but, there are another type of bags that are sealed by tape or aluminum plate.



Specifications and appearance are subject to change without notice due to continuous product improvement.

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