



ISO 9001 CERTIFIED

Steam sterilizer AUTOCLAVE

Laboratory use

Standard
CLG series

With vacuum pump~drying

CLG-DVP
series

100~140°C, 54ℓ **CLG-32L & -LDVP** models

100~137°C, 85ℓ **CLG-40M & -MDVP** models

100~137°C, 105ℓ **CLG-40L & -LDVP** models



CLG-32L



CLG-40MDVP

Conversation style operation on LCD screen
With multi-functions and more safety !

More reliable sterilization and safety

★ Lid Interlock

By the central lock lever, you can easily lock the lid with fingertip. The lid is interlocked reliably during operation and cooling down to the safe temperature.

★ Upward Opening Lid

The lid is lightened up and down by the automatic hinge.

★ Electro Mechanical Lock

This function brings more safety to operator by locking the lid at the power failure or in the power OFF, to prevent operator from contamination by contacting un-sterilized objects carelessly. Locking is released only on standby state in the power ON.

★ LCD Display of Conversation style

LCD screen shows set data of temperature, pressure, program and error messages at all stages of the operation process. Also, magnified data of operation temperature and time can be shown by flip-key on the display. Operation is easy conversation style by the key. Usual operation 15 (16... DVP) programs are memorized by pattern and data.

★ Precise Combined Control by Temperature and Pressure for Saturated Steam

Pulse air purging is repeated until achieving saturated steam when pressure is high compared with temperature.

Also, another air exhaust system controlled only by temperature-time can be selected for simple objects. This enables to shorten the sterilization total time compared with by pulse air purging.

★ Front loading Exhaust Bottle (for CLG models)

The exhaust bottle is provided on the front for easy loading and checking.

★ Cooling Fan as standard

The rapid cooling fan is provided for all models. The autoclave can be performed in shorter time to safe temperature below 80°C.

★ Warming & Dissolving of Culture Medium

Warming after sterilization, and dissolving cold hardened culture medium.

★ Start-Timer by Calender

You can set operation start by month, day, hour and minute. The sterilized objects can be taken out at your work-start.

★ Temperature Sensor Entry Port as standard

One additional sensor port is provided as standard on the inner lid.

★ Pre-Vacuum(-DVP models)

The triple pulse, pre-vacuum phase by the powerful vacuum pump with a spinning water ring, removes forcibly all the remained air from the chamber and objects, allowing good penetration of saturated steam into the objects, thus ensuring fully effective sterilization.

★ Vacuum Drying(-DVP models)

After sterilization, the objects with wet by steam can be dried clearly and cleanly by the vacuum pump and drying heater through 0.2μm micro pre-filter.



MAKER OPTION

(only at your order...unable to be equipped later)

Automatic Water Supply with Pre-heating

In stead of troublesome check and manual supply of water before operation, proper quantity of water is automatically supplied from city water faucet. And to shorten the heating-up time after start, water in the chamber is always kept near boiling condition.

Exhaust Air Filter...0.2 μ m PTFE membrane filter in SUS304 housing

For safety of operators and the environment, this ensures sterilization with safe air exhaust free from high infectious pathogenes. (This does not apply to -DVP models.)

Recorder

For GMP, a hybrid recorder can record 2~5 points of temperatures and 1 pressure in the chamber by temperature sensors and pressure sensor.



Recorder

DEALER OPTION

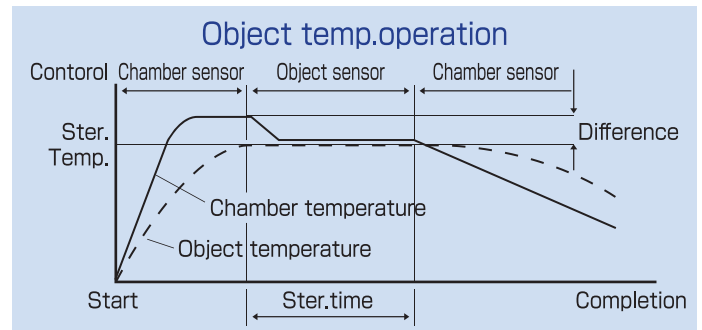
(able to be equipped later)

Object Temperature Sensor

An object temperature sensor placed in the cold spot of objects gives better sterilization. The timer starts only after the temperature measured by this sensor reaches the set temperature.

Also, by this sensor equipment, unlocking temperature of the lid interlock can be changed in the range 80 $^{\circ}$ C~98 $^{\circ}$ C. This realizes both of sterilization-reliability and reduction of sterilization total time simultaneously.

When this sensor is not used, it can be put in the holder of inner lid as photo of left page.



Printer

It prints the set data, 2 temperatures of the control sensor and the object sensor, and pressure, in every 1 minute (variable).

※Printer and RS-232C cannot be equipped at the same time.

```
#####
DATE          07/17/ 17
WORK NO.      A001
PROGRAM NO.   3
HEATING       NORMAL
STERILIZE TEMP. 121DEG. C
STERILIZE TIME 0h 20m
WARMING TEMPERATURE 50DEG. C
WARMING TIME  5h 30m
STERILIZE-EXHAUST

#####
TIME  STEP  ERROR
TEMP1 TEMP2  PRESSURE
DEG. C DEG. C  MPa
10:56:23 HEATING
23.8  32.7  0.000
```



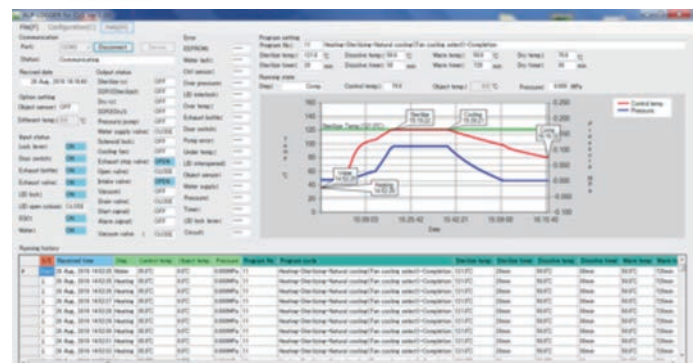
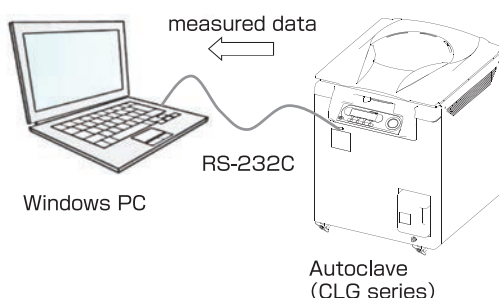
Printer

Serial Communication Port RS-232C and Data Logging System — ALP-LOGGER —

By RS-232C interface and support soft“ALP-LOGGER”, data of temperature-time, chamber pressure, operation process and abnormal warning are transmitted to PC to back up daily sterilization management. Straged data can be put out as temperature - time graph or can be processed by Microsoft Excel®. A wiring cable between RS-232C and USB is provided as accessory.



RS-232C



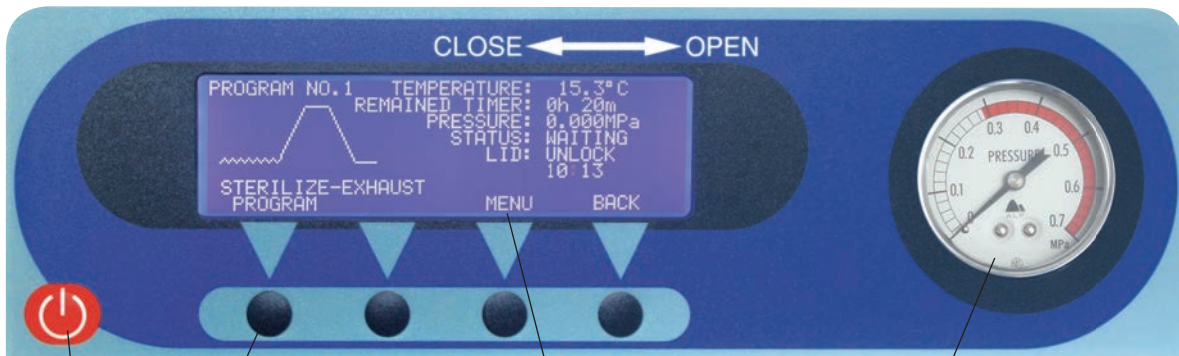
OPERATION PANEL

Easy friendly LCD screen

The LCD display provides all data of setting and operation.

The LCD display shows the present operation process stage by blinking bar.

The fault messages are displayed on the LCD screen.



Power key

Operation key

Key functions

Pressure gauge

Switching by the flip key

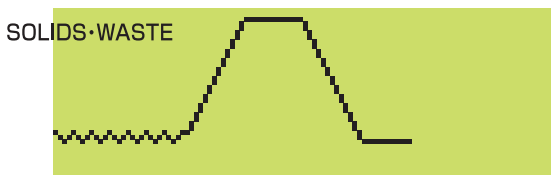
Magnifying display



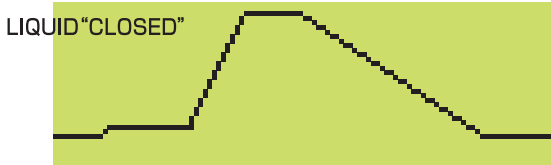
OPERATION PATTERNS

The following display shows pressure on patterns.

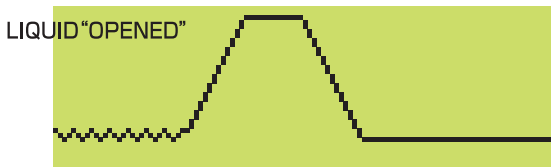
CLG series



Air exhaust(Pulse/Time system) → Heating
→ Sterilization → Exhaust + Fan



Air exhaust → Heating → Steri. → Natural cooling
(Exhaust adjustable) → (Warming selectable)

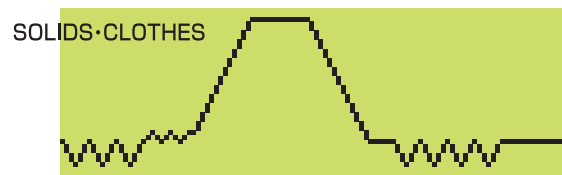


Air exhaust(Pulse/Time system) → Heating →
Sterilization → Exhaust + Fan → (Warming selectable)

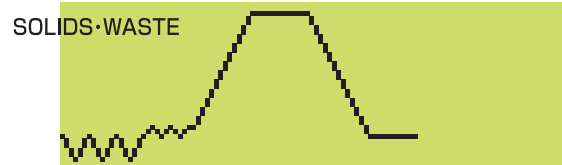


Heating → Warming

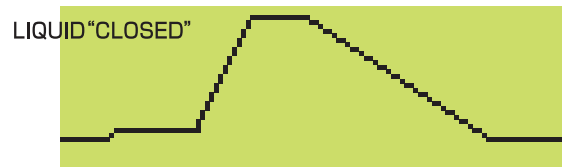
CLG-DVP series



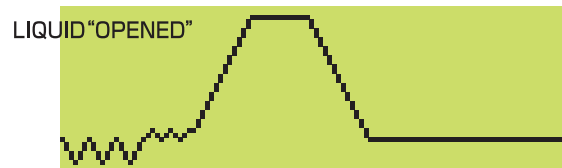
Pre vacuum → Heating → Sterilization → Drain
→ Vacuum drying (Additional drying available)



Pre vacuum → Heating → Sterilization
→ Exhaust + Fan



Air exhaust → Heating → Steri. → Natural cooling
(Exhaust adjustable) → (Warming selectable)

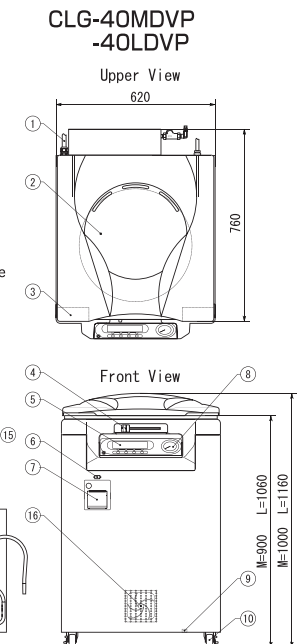
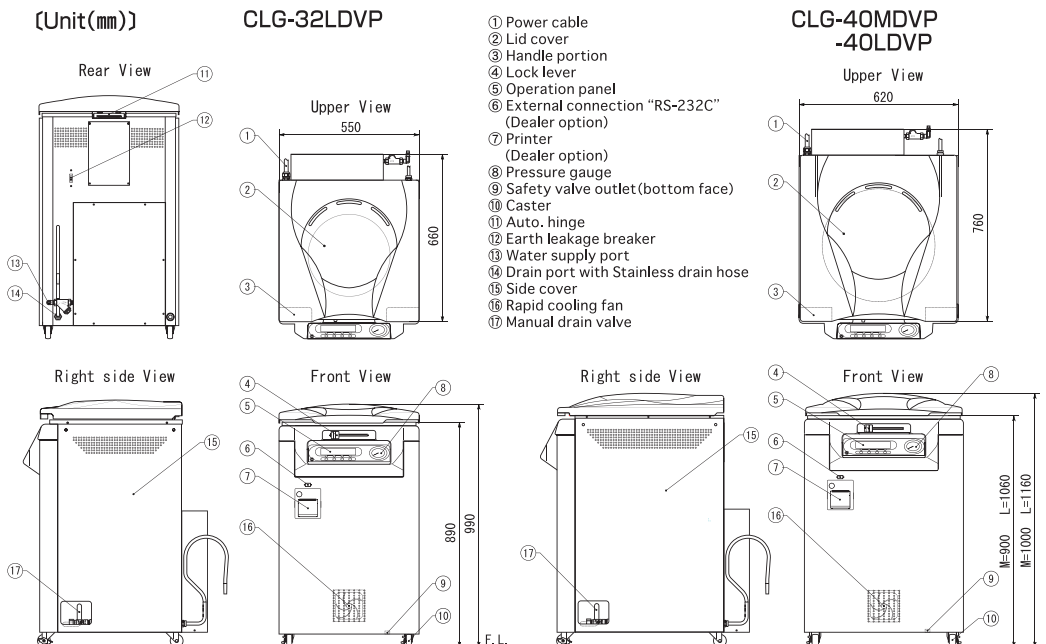
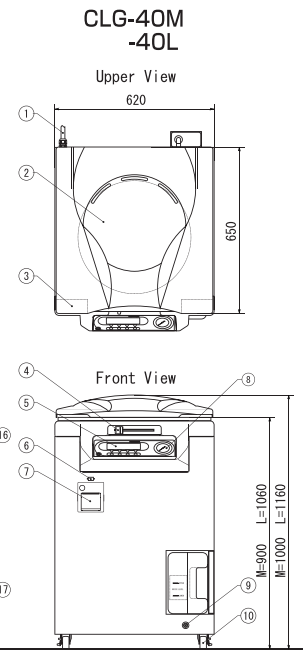
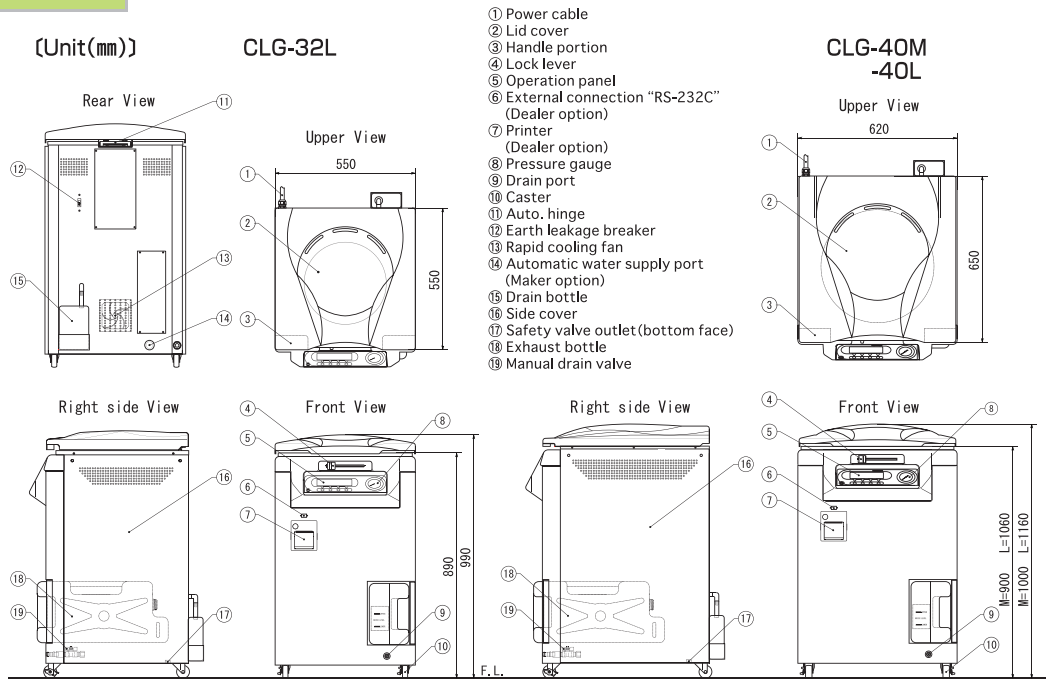


Pre vacuum → Heating → Sterilization
→ Exhaust + Fan → (Warming selectable)



Heating → Warming

INSTALLATION



Loading capacity for laboratory flasks

	100ml	200ml	300ml	500ml	1,000ml	2,000ml	3,000ml	5,000ml
Round flasks Dimension	102 φ66	126 φ80	148 φ90	171 φ108	215 φ134	270 φ172	305 φ190	330 φ234
in CLG-40 stainless wire basket								
	23pcs.	16pcs.	12pcs.	8pcs.	5pcs.	3pcs.	1pc.	1pc.
in CLG-32 stainless wire basket								
	14pcs.	9pcs.	7pcs.	5pcs.	3pcs.	1pc.	1pc.	1pc.

SPECIFICATIONS

Vertical Autoclaves **CLG/CLG-DVP** series

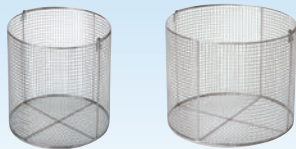
Model	Standard (Sterilization only)	CLG-32L	CLG-40M	CLG-40L
	Pre-vacuum~Vacuum drying	CLG-32LDVP	CLG-40MDVP	CLG-40LDVP
Chamber(Usable inner dia. × depth)		φ320×676mm	φ400×672mm	φ400×832mm
Capacity (Liters)		54ℓ	85ℓ	105ℓ
Operating temperature	Sterilization	100~140°C	100~137°C	
	Dissolution / Warming	Dissolution : 40~99°C, Warming : 40~60°C		
Maximum operating pressure		0.270MPa	0.250MPa	
Sterilization / Dissolution / Warm time		Sterilization/Dissolution : 0min.~48hrs.00min.(& continuous), Warming : 0min.~48hrs.00min.		
Air exhaust system		Gravity substitution : Pulse air purge by temp. & press. sensing, or Timed free steaming(Time : adjustable), selectable		
Operation language		English		
Memorized programs		15(16...DVP) programs available by operation pattern and data		
-DVP Models	Vacuum pump	Water sealed vacuum pump		
	Pre-vacuum	Triple pulse vacuum system		
	Vacuum drying	Alternate operation of vacuum and suction, or continuous vacuum operation		
	Heating method	Electrically heated chamber outside		
	Drying temperature range	60 to 150°C		
	Drying time	0min.~100hrs.00min.		
	Suction air filter	0.2μm micro cartridge filter		
Start timer		Able to set operation-start by calendar ... month, day, hour and minute.		
Drain valve		CLG models : Manual valve, CLG-DVP models : Automatic valve & manual valve		
Option	Auto. water supply	Automatic water supply system from city-water-faucet by level sensor & controller		
	Pre-heat system	To shorten the come-up time, 40~75°C. Provided only with auto.water supply		
	Exhaust air filter	PTFE membrane filter (Bore 0.2μm) in stainless housing on front outer panel		
Safety	Safety devices	Lid interlock system, Electro mechanical lock system, Double check system of lid close, Over pressure detector, Over temperature detector, Water lock preventor, Sensor break indicator, Abnormal time indicator, Memory of power failure, Safety valve, Breaker for slight leakage, over current & short circuit		
	Safety valve	0.290MPa	0.270MPa	
	Hydrostatic test	0.538MPa	0.499MPa	
	Pressure gauge	0~0.7MPa -0.1~0.6MPa		
	Pressure sensor	-0.1~0.5MPa		
Material of chamber		SUS304 Stainless steel		
Material of enclosure		Steel with melamin resin/Heat-resistant plastic		
Power requirement		AC220/230/240V, Single phase, 50/60Hz		
Current rating		12A	18A	
		15A	21A	
Heat output		2.6/2.8/2.9kW	4.0/4.1/4.3kW	
Outer dimensions (W×D×H)/Weight		550×550×990mm/65kg	620×650×1000mm/83kg	620×650×1160mm/89kg
		550×660×990mm/109kg	620×760×1000mm/127kg	620×760×1160mm/133kg
Standard accessories	Stainless wire basket	φ300×300mm, 2pcs.	φ380×300mm, 2pcs.	φ380×400mm, 2pcs.
	Others	Option for -DVP models		
Optional accessories		Exhaust bottle(CLG models), Drain hose & water supply hose(CLG-DVP models)		
Optional accessories		Object temperature sensor, Printer or RS-232C, Recorder, Basket with pan, Bucket, Dressing drum		

●Specifications on light blue shows CLG models, and yellow shows CLG-DVP models. ●Specifications subject to change without notice for improvement.

STANDARD / OPTIONAL ACCESSORIES

For standard CLG models, 2 baskets are equipped as standard accessories.

Stainless wire basket



for CLG-32L φ 300×200mm
φ 300×300mm

for CLG-40M/L φ 380×200mm
φ 380×300mm
φ 380×400mm

Basket with pan



for CLG-32L φ 270×400mm
φ 270×600mm

for CLG-40M/L φ 370×400mm
φ 370×600mm

Stainless bucket



for CLG-32L φ 270×270mm

for CLG-40M/L φ 360×300mm

Stainless dressing drum



for CLG-32L φ 270×180mm



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