



ALP Co., Ltd.  
TOKYO JAPAN

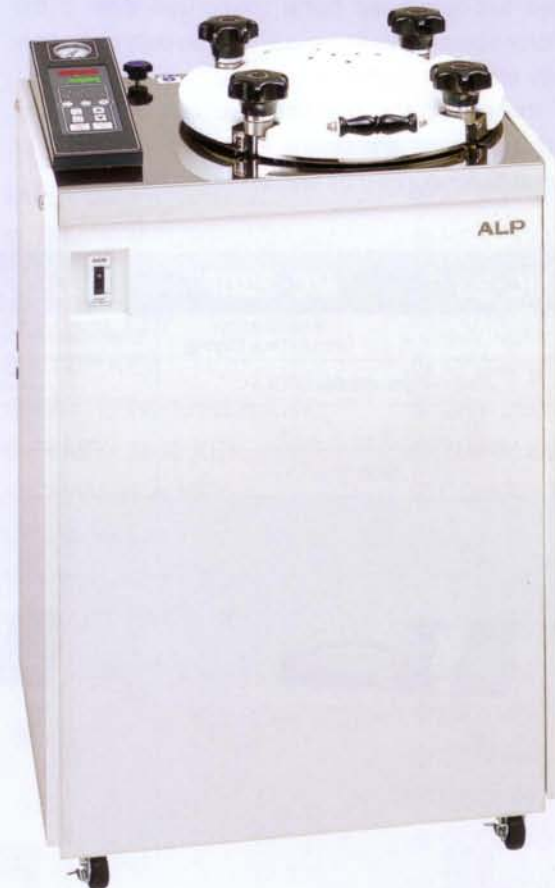
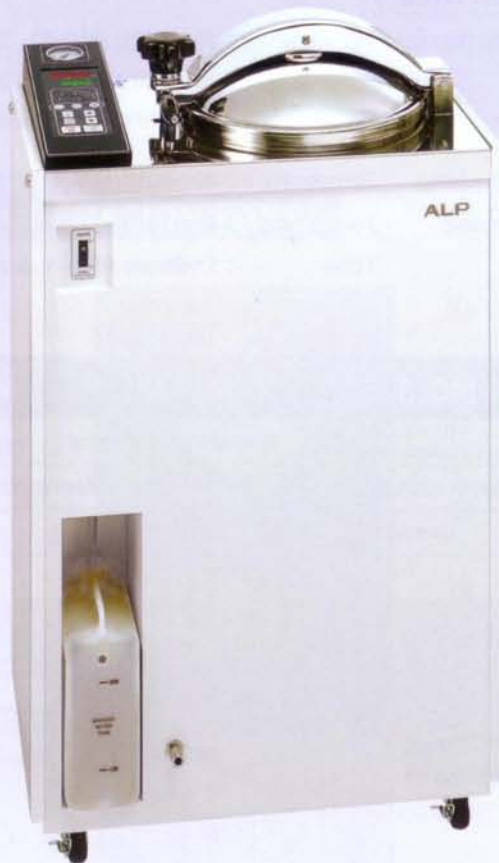
# Microcomputer Control AUTOCLAVE

# MC series

40~127°C, 20~82L..... **MC-23,30&40** models

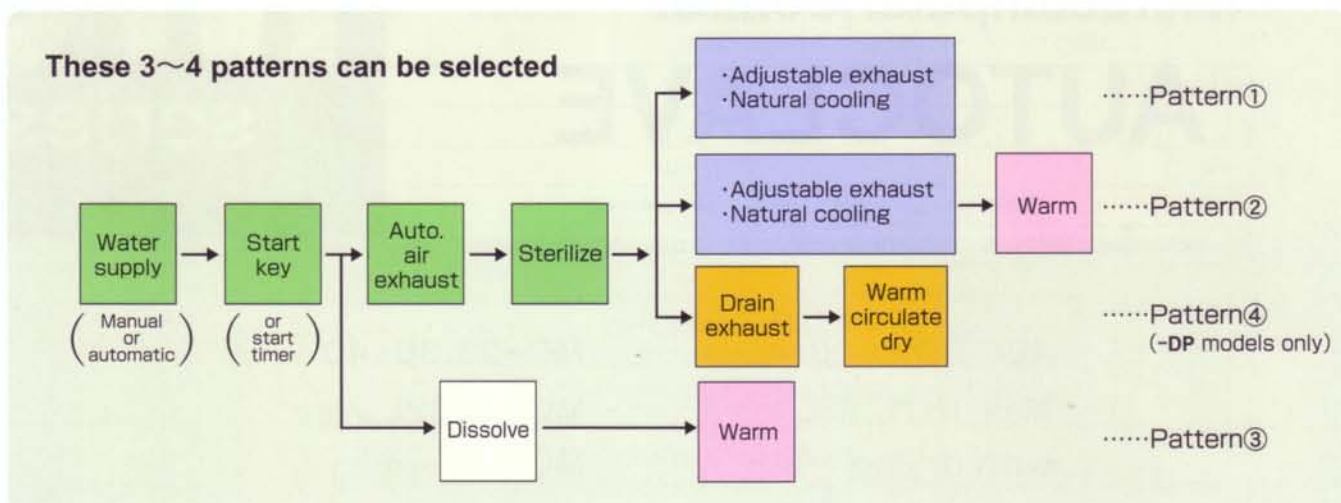
Max. 150°C, 45L ..... **MC-3032L** model

with drying ..... **MC-DP** models



Warming system after sterilization (all models)  
Automatic water supply ~ Pre-heat system (option)  
Rapid cooling system after sterilization (option)  
Warm air circulating drying (-DP models)

# Microcomputer Control, Graphic Disp



Above mentioned 3 or 4 process patterns can be selected by the touch-key. On each pattern, you can set the sterilizing or drying temperature/time.

These set-data keep being memorized even if the electricity source should be cut. So, on daily operation, you only push the start-key.

On the panel, the present selected pattern and operating process are clearly indicated. The end of operation is announced by electronic sound.

## Main Ability

- **Sterilization** Temperature : 40~127°C (MC-23, 30, 40 models)  
40~150°C (MC-3032L)  
Time : 1~10hrs.00min. & continuous
- **Warming** Temperature : 40~60°C (50°C at shipping)
- **Drying** Temperature : 60~180°C  
Time : 1~99hrs.00min. & continuous

Model	MC-23	MC-23DP	MC-30S	MC-30SDP	MC-30L	MC-30LDP	M
Use	Sterilization·Warming	Sterilization Circulating Drying	Sterilization·Warming	Sterilization Circulating Drying	Sterilization·Warming	Sterilization Circulating Drying	St
Chamber	23φ×46cm depth (20L)		30φ×45cm depth (32L)		30φ×64cm depth (45L)		
Ability	Usable max. 127°C · 0.16MPa						
Elec.	1.5KW		2.0KW				
Appearance							
	MC-23 Height of upper surface : 76cm -DP : not provided with exhaust tank		MC-30S Height of upper surface : 76cm -DP : not provided with exhaust tank		MC-30L Height of upper surface : 84cm -DP : not provided with exhaust tank		
Basket	21φ×40cm×1pc.	Option	27φ×40cm×1pc.	Option	27φ×30cm×2pcs.	Option	3φ

# lay, Warming System, Warm Air Circulation

## Graphic Display

The current process is indicated clearly.  
At setting, the set process is illuminated ON~OFF.

## Timed Free Steaming

This reliable automatic air exhaust system guarantees always sure sterilization under pure steam exposure.

## Adjustable Auto. Exhaust

After sterilization process, steam is slowly released or cooled by the key set especially for liquid bottles.

## Warming & Dissolving of Culture Medium

Warming after sterilization and dissolving of culture medium.

## Start -Timer by Calendar

You can set operation start by month, day, hour and minute.

For example if you set on Friday evening, operation will start before your arrived at your office on Monday morning and you can quickly take out the objects at your work-start.

## Soft and Safe Lid System

The lid can be opened and closed softly with your one hand, yet securely due to the one handle (MC-23 & 30 models), four handles (MC-3032L) or six handles (MC-40 models), the sub-rings and the self-closing silicon rubber gasket.

The lid is lightened by being pressed, keeping enough strength with reasonable reinforcement. The up-opening system occupies minimum space.

The shape of the handle and the low whole height (76~99 cm to the upper surface) are elaborately considered for your easy use.

## Exhaust Drain Receiver Tank

MC-23 & 30 models.....The exhaust drain receiver tank is set in the box of the front side, and the drain valve is located beside the exhaust drain tank. So your maintenance is easy front work.

MC-40 & 3032 models.....The stainless flexible drain hose is set on the back side, and the drain knob is set on the upper surface. So you can pour out the drain water at one touch of the drain knob.

## Conformity to EMC regulation

MC-40 / -40L	MC-40DP / -40LDP	MC-3032L
Sterilization·Warming	Sterilization Circulating Drying	Sterilization·Warming
40φ×65/83cm depth (82/105L)		30φ×64cm depth (45L)
		Usable max. 150°C · 0.38MPa
4.0 / 4.4KW		3.0KW
 <p>MC-40 MC-40DP</p> <p>Height of upper surface : 81/99cm</p>		 <p>MC-3032L</p> <p>Height of upper surface : 81cm</p>
φ×30/40cm×2pcs.	Option	Option

## Stainless Drain Hose (-DP models)

On the back side, stainless steel flexible hose is connected for steam exhaust and safe drain of hot water. Its open end is leaded horizontally to drain facilities (drain pipe or pit in the floor) as fig. 1. In case of no drain facilities, it can be leaded to a receiver tank by hanging on the hook as fig. 2.



fig 1.



fig 2.

# ng Drying, Automatic Water Supply

## Warm Air Circulating Drying through Micro-Filter (-DP models)

In order to dry the sterilized wet objects leaving the lid close, clean air is poured into the chamber through micro-filter by air pump, heated by drying heater, and exhausts out together with inner humidity. So, even clothes can be dried cleanly, and you can use them soon after take out.

The operation is full automatic from the sterilization-start to the drying-end.



0.2 $\mu$ m  
Micro filter

## Lid Safety Cover (-40 & -3032 models)

For avoiding your miss-touch on the hot lid in operation, lid safety cover made of heat resistant resin is provided for **MC-40&3032** models. You can use this autoclave surely.

## ●Option

### Automatic Water Supply System

Instead of troublesome check and manual supply of water at every operation-start, proper quantity of water is automatically supplied, by means of the piping directly from city water supply, the water level sensor in the chamber, and the supply controller.

Even when the chamber is empty of water for cleaning or inspection of its bottom and the start-key is pushed, the heater is operated only after water is supplied to the proper level.

Especially on pattern ④, you can get great labor-saving if this supply system will be adopted, because you need not supply water from the first.

### Pre-heat System

In order to complete required sterilization in shorter time, this pre-heat system keeps always the chamber at 60°C and shorten much the time from sterilization-start to arrival at the set-temperature.

## Safety

### • Prevention of water lack

In case of water lack, the sensitive thermostat mounted on the surface of heater cuts off the electrical source, and informs you by the error indication and electronic continuous sound. And even after the chamber cooled, the heater does not operate until you reset.

### • Highly reliable chamber and lid

Shiny polished SUS-304 stainless steel chamber and pressed lid with reasonable reinforcements, and passed through water pressure test (0.36MPa—**MC-23, 30 & 40** models, and 0.82MPa—**MC-3032L**……twice as high pressure as safety valve pour-out).

### • Safety valve & Safety switch

In case of abnormal pressure rise, the pressure safety valve with enough inner diameter and stainless spring, operates surely at 0.18MPa (**MC-23, 30 & 40** models) or 0.41MPa (**MC-3032L**). And the pressure safety switch cuts off heater operation.

### • Safety of electricity

Safety breaker cuts off the electricity source in case of short circuit, over current or even a slight electricity-leakage of the heater, etc.

### ● Stainless wire basket



for **MC-23** series  
21 $\phi$ ×40cm  
(21 $\phi$ ×20cm  
option)



for **MC-30** series  
27 $\phi$ ×30cm  
27 $\phi$ ×40cm  
(27 $\phi$ ×20cm  
option)



for **MC-40** series  
38 $\phi$ ×30cm  
38 $\phi$ ×40cm  
(38 $\phi$ ×20cm  
option)

### ● Basket with pan



21 $\phi$ ×40cm  
(for **MC-23**)  
27 $\phi$ ×40cm  
27 $\phi$ ×60cm  
(for **MC-30**)  
37 $\phi$ ×40cm  
37 $\phi$ ×60cm  
(for **MC-40**)

### ● Stainless bucket



21 $\phi$ ×21cm  
(for **MC-23**)  
27 $\phi$ ×27cm  
(for **MC-30**)  
36 $\phi$ ×30cm  
(for **MC-40**)



with plain lid  
24 $\phi$ ×24cm  
(for **MC-30**)  
33 $\phi$ ×27cm  
(for **MC-40**)

### ● Stainless dressing drum



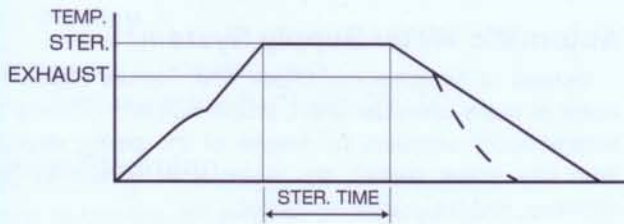
18 $\phi$ ×12cm  
(for **MC-23**)  
27 $\phi$ ×18cm  
(for **MC-30**)  
36 $\phi$ ×24cm  
(for **MC-40**)

## OPERATION PATTERNS

The selected pattern and set-data are memorized even if the electricity should be cut.

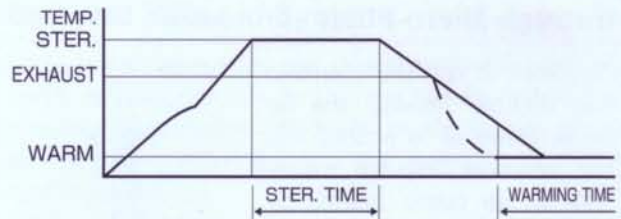
### STERILIZATION OF SOLIDS / LIQUID

- ① Sterilization pattern  
(adjustable exhaust or natural cooling)



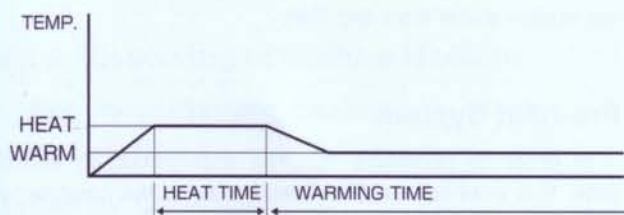
### STERILIZATION OF AGAR WITH WARMING

- ② Sterilization · Warming pattern  
(adjustable exhaust or natural cooling)



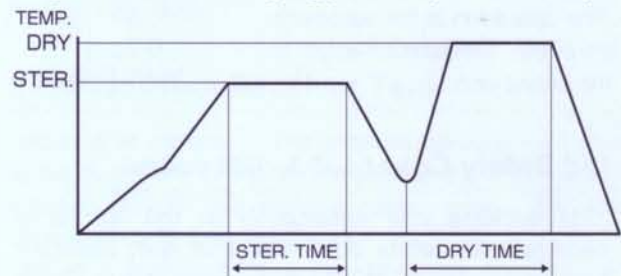
### DISSOLVING OF AGAR (CULTURE MEDIUM)

- ③ Heating · Warming pattern



### STERILIZATION OF SOLIDS / CLOTHS WITH DRYING

- ④ Sterilization · Drying pattern (-DP models)



## OPERATION PANEL



- |                       |                  |
|-----------------------|------------------|
| ① PRESSURE GAUGE      | ⑫ READY LED      |
| ② TEMPERATURE DISPLAY | ⑬ HEAT LED       |
| ③ TIME DISPLAY        | ⑭ STERILIZE LED  |
| ④ START KEY           | ⑮ EXHAUST LED    |
| ⑤ STOP KEY            | ⑯ DRAIN LED      |
| ⑥ PATTERN/ENTER KEY   | ⑰ DRY LED        |
| ⑦ TEMP/TIME KEY       | ⑱ WARM LED       |
| ⑧ CHANGE ▲ KEY        | ⑲ COMPLETE LED   |
| ⑨ CHANGE ▼ KEY        |                  |
| ⑩ EXHAUST KEY         |                  |
| ⑪ START TIMER KEY     |                  |
|                       | PROCESS BAR LED  |
|                       | ⑳ HEATING-1      |
|                       | ㉑ HEATING-2      |
|                       | ㉒ STERILIZATION  |
|                       | ㉓ COOLING-1      |
|                       | ㉔ COOLING-2      |
|                       | ㉕ WARMING/DRYING |
|                       | ㉖ COOLING-3      |

● Specification

Autoclave **MC** series

Model	Sterilization only	MC-23	MC-30S	MC-30L	MC-40	MC-40L	MC-3032L
	With warm air drying	MC-23DP	MC-30SDP	MC-30LDP	MC-40DP	MC-40LDP	—
Chamber (inner dia.×depth) Capacity		23φ×46cm 20L	30φ×45cm 32L	30φ×64cm 45L	40φ×65cm 82L	40φ×83cm 105L	30φ×64cm 45L
Ability	Usable max. press.	0.16MPa					0.38MPa
	Usable max. temp.	127°C					150°C
	Sterilization	40~127°C					40~150°C
	Warming & dissolving	Warming : 40~60°C, Dissolving : 40~99°C					
	Usable time	Sterilization, Dissolving : 0min.~10hrs.00min. and continuous, Warming : 0min~48hrs.00min					
Controller		Microprocessor controller , graphic display Temperature...3digits, PID control Timer...2digits hours : 2digits minutes, down count (Temperature / Time integration system)					
Operation pattern		① : Heating→Sterilization→Exhaust(adjustable) ② : Heating→Sterilization→Exhaust(adjustable)→Warming ③ : Dissolving→Warming					Full automatic operation
MC-DP models	Operation pattern with drying	④ : Heating→Sterilization→Drain→Drying ⑤ : Only drying					Full automatic operation
	Drying devices	Warm air circulating and discharge by electric heater and air pump through 0.2 μ m micro cartridge filter Temperature range : 60~180°C, Timer range : 0min,~99hrs.00min. and continuous					
Start timer		Able to set operation-start by calendar...month, day, hour and minute.					
Air exhaust device		Temperature sensing·time control & magnetic valve (Timed free steaming system)					
Drain valve		MC models : Manual valve beside the drain tank, MC-DP 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, setable at 55~60°C. Provided only with auto.water supply					
	Rapid cooling system	Chamber cooling system by 1~2 fans					
Safety	Safety devices	Over pressure safety switch, Over temperature detector, Water lack preventor, Sensor break indicator, Abnormal time indicator, Memory of power failure, Safety valve Breaker for slight leakage, over current & short circuit					
	Safety valve operation	0.18MPa					0.41MPa
	Water test pressure	0.36MPa					0.82MPa
Material	Chamber & lid	Stainless steel SUS304, shiny polished, Molded silicon rubber lid gasket (self-seal system)					
	Outer panel	Steel with baked enamel finish		Caster (front two with stopper)			
Power requirement (50/60Hz)		AC 110 / 120 / 220 / 230 /240V, 1 phase, 50/60Hz					
		1.5KW	2.0KW		4.0KW	4.4KW	3.0KW
Outer size W×D×H		53×40×87cm	60×40×87cm	60×40×95cm	78×57×91cm	78×57×109cm	62×48×91cm
Weight		26/33kg	38/46kg	42/50kg	60/70kg	80/92kg	48kg
Accessories	Stainless wire basket (except MC-DP models)	21φ×40cm 1 pc.	27φ×40cm 1 pc.	27φ×30cm 2 pcs.	38φ×30cm 2 pcs.	38φ×40cm 2 pcs.	Option
	Tank & hose	Exhaust drain receiver tank			Exhaust drain receiver tank Stainless flexible drain hose		
	MC-DP models	Stainless flexible drain hose (Stainless wire basket : option)					

●Please specify the voltage when you order. ●Specifications subject to change without notice for improvement.



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