



ALP Co.,Ltd.
TOKYO JAPAN
SINCE 1976

Automatic **AUTOCLAVE**

Laboratory use

MC

series

100~127°C, 20~105 l **MC-23,30&40** models

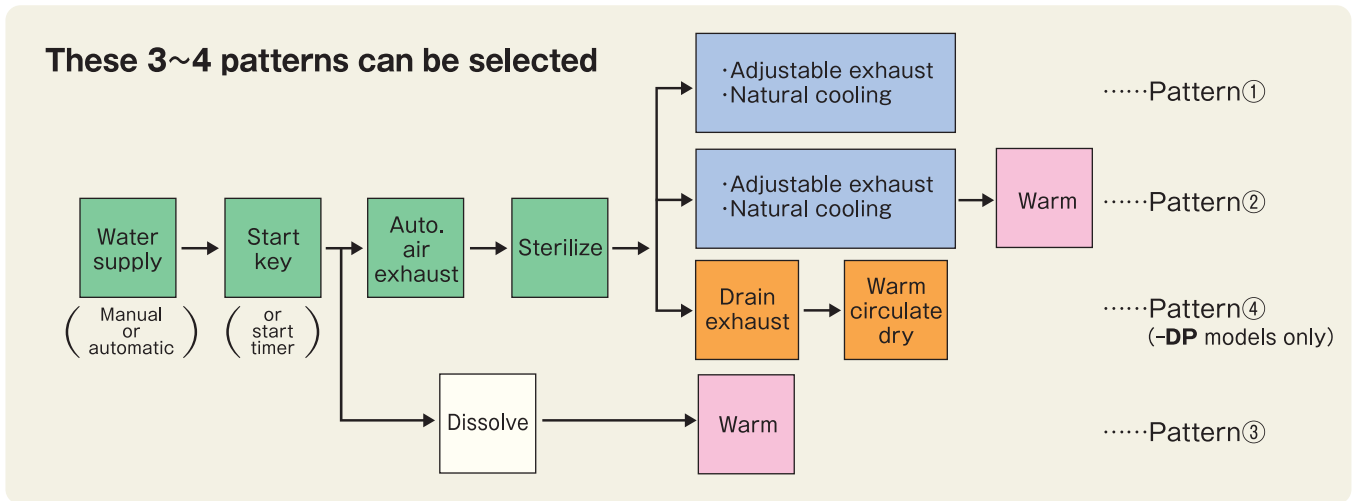
Max.150°C, 45 l **MC-3032** model

With warm air 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)

Advanced functions compatible with cost performance



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 : 100~127°C (MC-23, 30, 40 models)
100~150°C (MC-3032L)
Time : 1min.~48hrs.00min. & continuous
- **Warming** Temperature : 40~60°C (50°C at shipping)
- **Drying** Temperature : 60~180°C
Time : 1min.~99hrs.00min. & continuous

Model	MC-23	MC-23DP	MC-30S	MC-30SDP	MC-30L	MC-30LDP
Use	Sterilization·Warming	Sterilization Circulating Drying	Sterilization·Warming	Sterilization Circulating Drying	Sterilization·Warming	Sterilization Circulating Drying
Chamber	φ230×460mm depth (20ℓ)		φ300×450mm depth (32ℓ)		φ300×640mm depth (45ℓ)	
Ability	Usable max. 127°C · 0.16MPa					
Elec.	AC220~240V, 1φ, 8A		AC220~240V, 1φ, 12A			
Appearance	 MC-23 Height of upper surface : 760mm -DP : not provided with exhaust tank		 MC-30S Height of upper surface : 760mm -DP : not provided with exhaust tank		 MC-30L Height of upper surface : 840mm -DP : not provided with exhaust tank	
	Basket	φ210×400mm×1pc.	Option	φ270×400mm×1pc.	Option	φ270×300mm×2pcs.

Digital control, Graphic display, Warming & dissolving

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 you arrive 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.

MC-40/-40L	MC-40DP/-40LDP	MC-3032L
Sterilization·Warming	Sterilization Circulating Drying	Sterilization·Warming
φ400×650/830mm depth (82/105ℓ)		φ300×640mm depth (45ℓ)
Usable max. 127°C · 0.16MPa		Usable max. 150°C · 0.38MPa
AC220~240V, 1φ, 18A		AC220~240V, 1φ, 15A
 <p>MC-40/40L MC-40DP/40LDP Height of upper surface : 810/990mm</p>		 <p>MC-3032L Height of upper surface : 810mm</p>
φ380×300/400mm×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.

Warm air circulating 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, objects 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 μm
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 through piping from container of distilled or de-ionised water, or soft city water tap.

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
φ210×400mm
(φ210×200mm option)

for **MC-30** series
φ270×300mm
φ270×400mm
(φ270×200mm option)

for **MC-40** series
φ380×300mm
φ380×400mm
(φ380×200mm option)

Basket with pan



φ210×400mm (for **MC-23**)
φ270×400mm
φ270×600mm (for **MC-30**)
φ370×400mm
φ370×600mm (for **MC-40**)

Stainless bucket



φ210×210mm (for **MC-23**)
φ270×270mm (for **MC-30**)
φ360×300mm (for **MC-40**)

Stainless dressing drum



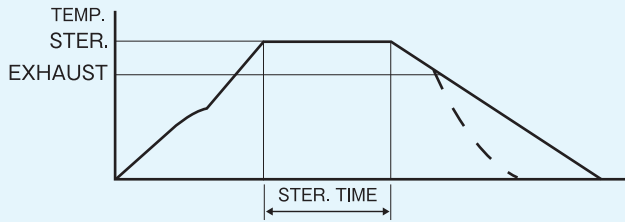
φ180×120mm (for **MC-23**)
φ270×180mm (for **MC-30**)

OPERATION PATTERNS

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

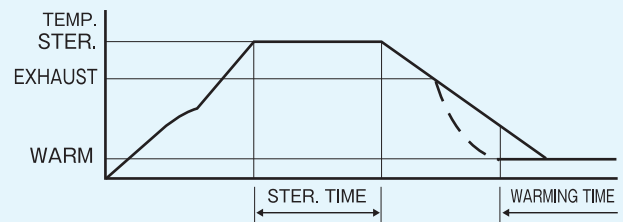
STERILIZATION OF SOLIDS / LIQUID

- ① Sterilization pattern
(adjustable exhaust or natural cooling)



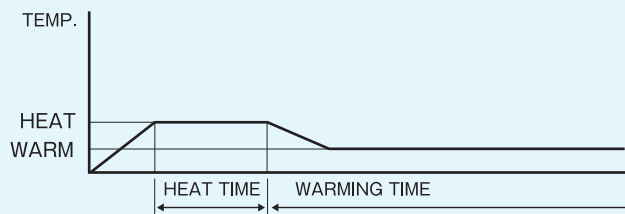
STERILIZATION OF AGAR WITH WARMING

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



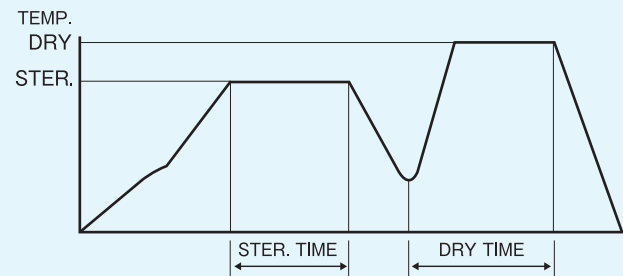
DISSOLVING OF AGAR (CULTURE MEDIUM)

- ③ Heating·Warming pattern

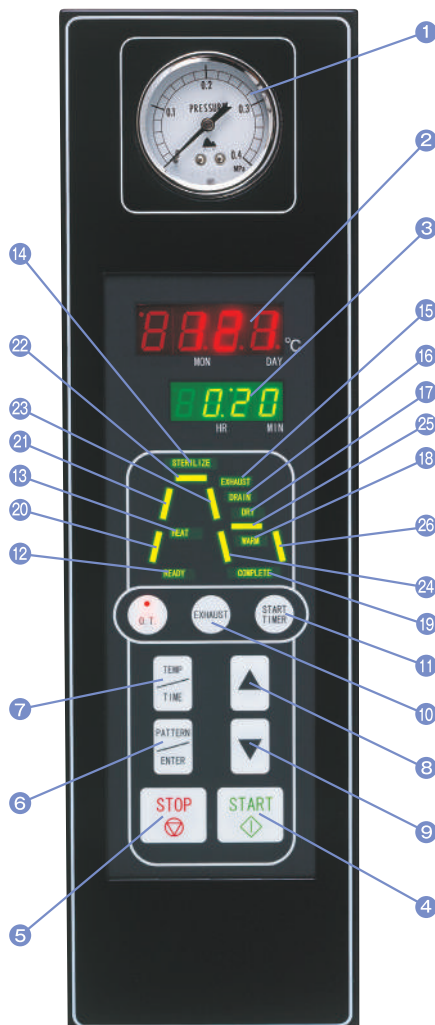


STERILIZATION OF SOLIDS / CLOTHS WITH DRYING

- ④ Sterilization·Drying pattern (-DP models)



OPERATION PANEL



- ① PRESSURE GAUGE
- ② TEMPERATURE DISPLAY
- ③ TIME DISPLAY
- ④ START KEY
- ⑤ STOP KEY
- ⑥ PATTERN/ENTER KEY
- ⑦ TEMP/TIME KEY
- ⑧ CHANGE ▲ KEY
- ⑨ CHANGE ▼ KEY
- ⑩ EXHAUST KEY
- ⑪ START TIMER KEY

- ⑫ READY LED
- ⑬ HEAT LED
- ⑭ STERILIZE LED
- ⑮ EXHAUST LED
- ⑯ DRAIN LED
- ⑰ DRY LED
- ⑱ WARM LED
- ⑲ COMPLETE LED

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 for Laboratory use **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		φ230×460mm 20ℓ	φ300×450mm 32ℓ	φ300×640mm 45ℓ	φ400×650mm 82ℓ	φ400×830mm 105ℓ	φ300×640mm 45ℓ
Ability	Usable max. press.	0.16MPa					0.38MPa
	Usable max. temp.	127°C					150°C
	Sterilization	100~127°C					100~150°C
	Warming & dissolving	Warming : 40~60°C, Dissolving : 40~99°C					
	Usable time	Sterilization, Dissolving : 0min.~48hrs.00min. and continuous, Warming : 0min~48hrs.00min. and continuous					
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 } Full automatic operation ③ : Dissolving→Warming					
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 0.2μm 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 soft water tap 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 demand		AC 220 / 230 /240V, 1 phase, 50/60Hz					
Power consumption		1.6kW, 8A	2.6kW, 12A		4.0kW, 18A		2.6kW, 12A
Outer size W×D×Hmm		530×400×870	600×400×870	600×400×950	780×570×910	780×570×1090	620×480×910
Weight		26/33kg	38/46kg	42/50kg	60/70kg	68/80kg	48kg
Accessories	Stainless wire basket (except MC-DP models)	φ210×400mm 1pc.	φ270×400mm 1pc.	φ270×300mm 2pcs.	φ380×300mm 2pcs.	φ380×400mm 2pcs.	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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ISO9001



ISO13485