



**ALP Co., Ltd.**  
TOKYO JAPAN

# Automatic **AUTOCLAVE**

# **KT** *SERIES*

**KT-23 / -23DP**

**KT-30S / -30SDP**

**KT-30L / -30LDP**

**KT-40S / -40SDP**

**KT-40 / -40DP**

**KT-40L / -40LDP**



Simple easy operation and maintenance

# Easy Operation! Trouble Free

## Automatic operation

- Can be conveniently operated anywhere by just plugging it in.
- By just closing the exhaust valve and pushing the start button, you get fully automatic performances from start to finish.
- Timer begins to move only after the set pressure / temperature is reached, buzzer announces sterilizing (and drying) completion and electricity cuts off.
- Automatic air exhaust valve guarantees reliable sterilization under pure steam exposure.

## Space-saving up-opening lid

- The lid opens and closes lightly with one hand, yet securely due to the unique opening system and the self-closing silicon rubber gasket.
- The vertical design and the up-opening lid occupies minimum space.
- This system protects you from steam contact.

## One touch setting of sterilizing temperature

- Before operating, you can select and set sterilizing temperature by the control knob. So you need not adjust it in sterilizing operation. Also change of temperature (ex. 121°C ↔ 110°C) is one-touch.

## Prevention of water lack

- The sensitive thermostat mounted on the surface of immersion-type sheathed heater, cuts off immediately the electrical source in case of water lack, and the buzzer sounds continuously. (also red lamp goes on...except **-DP** models). And even after the chamber cooled, the heater does not operate until you reset the main switch (breaker).

## Easy and plain maintenance

- Easy operation, and less trouble and plain maintenance by the simple analogue control system... the precise pressure switch, the automatic air exhaust valve by heat expansion bellows, the pressure-temperature gauge by Bourdon's tube, the motor-timer, the diaphragm thermostat and the safety valve with stainless spring.

Model	KT-23 / -23DP	KT-30S / -30SDP	KT-30L / -30LDP
Use	Sterilizing		
Chamber	23cm $\phi$ ×46cm depth (20L)	30cm $\phi$ ×45cm depth (32L)	30cm $\phi$ ×64cm depth (45L)
Ability	Maximum temperature · pr Sterilizing temperature sel		
Electricity	1.5kW	2.0kW	
Outside view	 <p style="text-align: center;">KT-23</p> <p style="text-align: center;">With exhaust drain tank / drain hose Height of upper surface : 76cm</p>	 <p style="text-align: center;">KT-30SDP</p> <p style="text-align: center;">With exhaust drain tank / drain hose Height of upper surface : 76cm</p>	 <p style="text-align: center;">KT-30L</p> <p style="text-align: center;">With exhaust drain tank / drain hose Height of upper surface : 84cm</p>
Basket	21cm $\phi$ ×40cm 1pc. / Option for <b>-DP</b>	27cm $\phi$ ×40cm 1pc. / Option for <b>-DP</b>	27cm $\phi$ ×30cm 2pcs. / Option for <b>-DP</b>

# Performance! Guaranteed Results!

## Exhaust and Drain

- As the needle exhaust valve is provided on the panel, you can exhaust finely steam after sterilization.
- As the drain valve and piping of large diameter can pour out dust and dirty water in the bottom of chamber, you can keep always the chamber-inside clean.

## Drying system (-DP models)




- **DP** models are provided with drying function which, leaving the lid closed, can dry the condensed humidity-water drops from steam for sterilization, and exhaust out them, by means of warm air circulating through 0.2  $\mu$ m HEPA cartridge - filter by air pump and band heaters around the chamber.  
When sterilization process completed, you open the drain valve knob before the inner pressure goes down to zero. Then turn the selector switch from STER. to DRY, set drying time and push the start button. (These are manual operation.)

## Exhaust drain receiver tank & hose

- **KT-23, 30S & 30L...** The exhaust drain receiver tank is set in the box of the front side, and the drain valve is put on the low front. So your maintenance is easy front work.
- Except **KT-23, 30S & 30L...**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.

## Safety

- Shiny polished SUS-304 stainless steel chamber and double lid with pressed thick plate arm, passed through water pressure test (twice as high pressure as safety valve).
- Highly-reliable pressure regulator and electrical parts selected after years of testing.
- Pressure safety valve with enough inner diameter and stainless spring, operates surely in case of abnormal pressure rise (at 0.18MPa)
- Electric safety of insulation resistance, slight leakage current and withstand voltage is based on Japanese Industrial Standard.

	KT-40S / -40SDP	KT-40 / -40DP	KT-40L / -40LDP
g / Sterilizing · Drying			
	40cm $\phi$ ×50cm depth (62L)	40cm $\phi$ ×65cm depth (82L)	40cm $\phi$ ×83cm depth (105L)
Pressure Selector	127°C · 0.16MPa 110, 115, 121, 127°C		
	4.0kW		
			
	KT-40S	KT-40	KT-40LDP
se	With exhaust drain tank & drain hose Height of upper surface : 66cm	With exhaust drain tank & drain hose Height of upper surface : 81cm	With exhaust drain tank & drain hose Height of upper surface : 100cm
DP	38cm $\phi$ ×20cm 2pcs. / Option for <b>-DP</b>	38cm $\phi$ ×30cm 2pcs. / Option for <b>-DP</b>	38cm $\phi$ ×40cm 2pcs. / Option for <b>-DP</b>



## Caution for use of autoclave

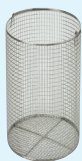
1. Sterilization performance may vary depending on objects, quantity and/or its arrangement in the chamber. Check performance with Sterilizing indicator as "OK" card or Maximum thermometer.
2. When select model for purchasing, consider that sterilization capacity at one time should be up to 60% of capacity of chamber. Sterilization performance become worse when objects over 60% of capacity of chamber.  
Especially in case of sterilization of liquid in the conical flask or other container, liquid must be filled up to 50% of their capacity. Liquid, being filled more than 50% of the capacity of conical flask or other container, may caused dangerous blow up of hot liquid after sterilization.
3. In case of sterilization of liquid involving salt, acid, or alkali and of culture media from which sulfured or chlorine gas are generated, please drain water from the bottom of autoclave at the end of operation every day. Neglecting this operation may cause pitting of chamber by electric erosion.
4. In case of sterilization of BGLB culture media with daram tube, it requires more accurate settings to obtain sufficient sterilize result. Therefore we recommend you to select MC or CL series for this purpose
5. Drying system of autoclaves (-DP models) is for the purpose of drying only moisture by steam for sterilizing. If you would put dripping wet cloth or gauze after wash, these are unable to be sterilized because saturated steam cannot penetrate through these dripping wet cloth or gauze, and also quite unable to be dried. Only dried cloth or gauze shall be sterilized and dried reasonably.



## Caution for safe use

1. Please always acknowledge that steam-sterilization-operation is severe dangerous work by high pressure and temperature of steam. Operator must use autoclaves with maximum care.
2. Before and after operation, you must daily check whether something is abnormal with the autoclave or not.  
Sterilized objects must be treated with care especially at being taken out of the chamber.
3. Natural cooling is recommended in case of sterilizing of liquid in the bottle. Pay attention that it must be taken out of the chamber at least 20-30 minutes after the pressure becomes "0", otherwise hot liquid with high specific heat may blow up and cause burn-injury.
4. Especially in case of sterilization of liquid in the bottle with narrow mouth, pay attention that, if you open the lid immediately after sterilization completion and your face close to the chamber to take it out, the inner hot liquid blows up to your face seriously.  
When you take out sterilized liquid in the bottle, keep distance from liquid for protecting liquid-blow-up to you. And do not swing and /or shock liquid inside immediately after take out of the chamber.
5. Container capped rigidly (closed perfectly) or film-pack can not be sterilized by these autoclaves, because they would burst seriously in the process of sterilization, cooling down or your take-out of the chamber. (Please choice the autoclaves provided with ability of pressure-holding and water-cooling...Retort autoclave. Please send your inquiry for these specifications.)
6. Autoclave must not be installed in the place as follows:
  - Locations which receive direct sunlight
  - Humid place
  - Locations with water drip falling down
  - Locations with air containing salt and/or corrosive gas
  - Locations with temperature under 5°C or over 35°C

### ● Stainless wire basket



for **KT-23** series  
21φ×40cm  
(21φ×20cm option)



for **KT-30** series  
27φ×30cm  
27φ×40cm  
(27φ×20cm option)



for **KT-40** series  
37φ×20cm  
37φ×30cm  
37φ×40cm

### ● Basket with pan



27φ×40cm  
27φ×60cm (for **KT-30**)  
37φ×40cm  
37φ×60cm (for **KT-40**)

### ● Stainless bucket



21φ×21cm (for **KT-23**)  
27φ×27cm (for **KT-30**)  
36φ×30cm (for **KT-40**)



with plain lid with exhaust hole  
24φ×24cm (for **KT-30**)  
33φ×27cm (for **KT-40**)

### ● Stainless dressing drum



18φ×12cm (for **KT-23**)  
27φ×18cm (for **KT-30**)



1 Sterilizing temperature selector



One touch setting — you need not adjust in operation. Also if you move the dial clockwise, it stops at the stopper so that inner pressure does not rise above 0.16MPa

2 Pressure gauge (showing actual inside chamber temperature)

3 Sterilizing pilot lamp (green)

4 Drying pilot lamp (orange)  
(-DP models)

- in **KT-23, 30S, 30L, 40** this lamp changes to water-lack pilot lamp (red)

5 Sterilizing → Drying selector switch  
(-DP models)

11 Exhaust & drain connector

- on the low front (-23, 30S, 30L)
- on the back side (-40, -DP models) with stainless hose as below



To drain pipe or pit

In case of no drain facilities

6 Timer

7 Start push button switch

8 Sensitive exhaust valve  
Capped bottles can be sterilized

9 The fully removable side covers allow easy inspection and maintenance

10 Drain knob (-40, -DP models)

12 Smooth handle fits your hand

13 Lid arm lightened with pressed plate

14 Stainless steel double lid

15 Self-closing silicon rubber gasket

16 Safety valve



17 0.2 μm filter for drying  
(-DP models)



● Specification

Model	Sterilization only	KT-23	KT-30S	KT-30L	KT-40S	KT-40	KT-40L
	With warm air drying	KT-23DP	KT-30SDP	KT-30LDP	KT-40SDP	KT-40DP	KT-40LDP
<b>Chamber (inner dia×depth) Usable capacity</b>		23φ×46cm 20L	30φ×45cm 32L	30φ×64cm 45L	40φ×50cm 62L	40φ×65cm 82L	40φ×83cm 105L
<b>Ability</b>	Usable max. press.	0.16MPa (1.6kg/cm <sup>2</sup> )					
	Usable max. temp.	127°C					
	Sterilization	110~127°C					
	One-touch setting temp.	110,115,121,127°C					
<b>Sterilization system</b>	system	Saturated steam generated by sheathed electric heater					
	Main controller	Precise pressure switch					
	Temp. set system	Analog temperature set on the panel of pressure switch					
	Temp. indicator	Saturated steam scale on the panel of pressure gauge					
	Timer	1~60 min. (Operates after the set temperature is reached.)					
	Operation start	PUSH-ON start button switch					
	Air exhaust valve	Automatic exhaust system of remained air by heat expansion bellows valve					
	Water lack preventor	Automatic cut-off system by a sensitive thermostat (Warning by buzzer and lamp)					
	Exhaust valve	Manual needle valve being opened only in required rapid exhaust					
	Drain valve	Manual ball valve (Inner dia. : 10mm)					
<b>Sterilization pattern</b>		PUSH-ON start → Heating, Air exhaust → Sterilization → Completion buzzer → Exhaust or natural cooling					
<b>KT-DP models</b>	Operation pattern with drying	PUSH-ON start → Heating, Air exhaust → Sterilization → Completion buzzer → Open DRAIN valve (by manual) while pressure remains → Pressure goes down to zero → Switching from STER. to DRY (by manual) → Set drying time → PUSH-ON drying start → Drying → Drying completion buzzer					
	Drying devices	Warm air circulating and discharge by electric heater and air pump through 0.2μm HEPA cartridge filter Drying temperature : 130°C (changeable by inner dial), Timer 0~60min.					
<b>Safety</b>	Safety devices	Water lack preventor, Saftey valve			Water lack preventor, Saftey valve Over pressure saftey switch		
	Electric safety	Breaker for over current			Breaker for over current & slight leakage		
		Withstand valtage : 1,500V, 1min. Insulation : 100MΩ~(500V.D.C)					
	Safety valve operation	0.18MPa					
Water test pressure	0.36MPa						
<b>Material</b>	Chamber & lid	Stainless steel SUS304 shiny polished. Lid gasket : Molded silicon rubber					
	Outer panel	Upper surface : SUS443J1, Main body : Steel with baked enamel, Caster (front two with stopper)					
<b>Power requirement (50/60Hz)</b>		AC 110 / 120 / 220 / 230 / 240V, 1φ, 50/60Hz					
		1.5kW	2.0kW		4.0kW		
<b>Outer size W×D×H</b>		53×40×87cm	60×40×87cm	60×40×95cm	73×57×76cm	73×57×91cm	73×57×109cm
<b>Weight</b>		35/40kg	49/54kg	53/58kg	67/76kg	72/81kg	86/95kg
<b>Accessories</b>	Stainless wire basket (except KT-DP models)	21φ×40cm 1 pc.	27φ×40cm 1 pc.	27φ×30cm 2 pcs.	38φ×20cm 2 pcs.	38φ×30cm 2 pcs.	38φ×40cm 2 pcs.
	Tank & hose	Exhaust drain receiver tank			Exhaust drain receiver tank Stainless drain hose		
	KT-DP models	Stainless 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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