



**ALP Co.,Ltd.**  
TOKYO JAPAN  
SINCE 1976

# Automatic **AUTOCLAVE**

Laboratory use

# **KTR** **SERIES**

**KTR-23/-23DP**  
**KTR-30S/-30SDP**  
**KTR-30L/-30LDP**

**KTR-40S/-40SDP**  
**KTR-40/-40DP**  
**KTR-40L/-40LDP**



**KTR-23~30L**



**KTR-40SDP~40LDP**

Simple easy operation and maintenance

# Ease for use and reliability have further improved.

## ● Simple easy operation

By just pushing start button, you get automatic operation. The digital temperature-time controller and the gravity air exhaust system by temperature sensing-time controlled solenoid valve, guarantee always reliable sterilization. The timer begins to move only after the set temperature is reached, and cuts off heater after the set time elapsed. The inner chamber cools down naturally. When it comes down at the safe temperature (80°C) for the lid open, RUN lamp goes off and buzzer sounds. A exhaust manual needle valve is also provided to shorten total operation time.

## ● Up-opening lid

The lid opens and closes lightly, yet securely due to the self-closing silicone rubber gasket and rotation handle rock. Lid is lightened by pressed structure, and realize space-saving for laboratory.

## ● Digital temperature-time controller

Though the controller with simple specification is adopted, it can set temperature by 0.1°C unit and time by 1 second unit. So fine requirement of sterilization or drying can be accepted. The data (set temperature/time) which you set once are preserved even after electricity is cut off.

## ● Prevention of water lack

The sensitive thermostat mounted on the surface of pipe heater, cuts off immediately the heater in case of water lack, and the buzzer sounds continuously. (also red lamp goes on...except-DP models). Then cut off breaker. After the chamber becomes cool, please supply water and re-start operation.

## ● 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.

## ● Easy maintenance

Maintenance is easy because operation is by only several parts...simple main controller, temperature sensor, air exhaust solenoid valve, heater, water lack preventer, pressure safety switch and valve (+ drying heater, air pump & capsule-filter...DP models).

## ● Exhaust drain receiver bottle & hose

KTR-23, 30S & 30L...The exhaust drain receiver bottle is set in the front box, and the drain valve is put inside the box side. So your maintenance is easy front work. Other models...The stainless flexible drain hose is set on the back side, and the drain knob is located on the upper surface. So you can discharge the drain water at one touch.

## ● Safety

Shiny polished SUS-304 stainless steel chamber and double lid with pressed thick plate arm, passed though water pressure test (0.36MPa...Twice as high pressure as safety valve). In case of abnormal pressure rise, the pressure safety switch cuts off the heater at 0.17MPa and the safety valve with enough inner diameter operates surely at 0.18MPa. Safety breaker cuts off the electric source in case of earth leakage, short circuit or over current.

## ● Applicable to HACCP or GMP/GLP for food or pharmaceutical industry

For further details, please send inquiry.

## ● Drying system (-DP models)

DP models are provided with drying function which, leaving the lid closed, can dry the condensed water from steam for sterilization and exhaust out, by warm air circulating through 0.2μm capsule filter by air pump and band heaters around the chamber. When sterilization process completed, you turn the switch from STER. to DRY, open the drain valve knob and push the start button. (This switching is by manual. Full automatic models : MC or CL-DP series are prepared...please send inquiry.) After automatic drain of bottom water, warm air drying and exhaust are completed.



## Caution for use of autoclave

- Sterilization performance may vary depending on objects, quantity and/or their arrangement in the chamber. Check performance with sterilizing indicator as "OK" card or data logger.
- When you select model for purchasing, consider that sterilization capacity at one time should be up to 60% of chamber capacity. Sterilization performance becomes worse when objects are over 60%. 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%, may cause dangerous blow-up of hot liquid after sterilization.
- 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. Neglect of this disposal may cause pitting of chamber by electric erosion.
- In case of sterilization of BGLB culture media with daram tube, it requires more accurate setting to obtain sufficient sterilize result.
- Drying system of autoclaves (-DP models) is for the purpose of drying the condensed water from steam for sterilization. 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 are able to be sterilized and dried reasonably.

1 Temperature-time controller



2 Pressure gauge

3 Sterilization run lamp (green)

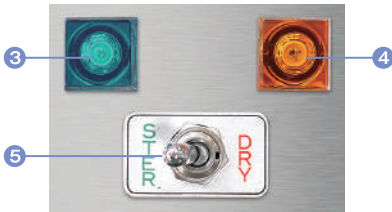
4 Warning lamp (red)



Indicator of KTR model

3 Sterilization run lamp (green)

4 Drying lamp (orange)



Indicator of KTR-DP model

5 Operation change switch

18 Exhaust-drain port

On front lower side...KTS-23 & -30

By stainless flexible hose on back lower side...KTR-40 & -DP shown in below photo



To drain pit or piping

To drain bottle if no facilities

KTR-30LDP

6 Start button

7 Reset button

8 Fine exhaust valve

9 Side cover  
...easy removal for repair

10 Knob of drain valve  
(-40 & -DP model)

11 Earth leakage breaker

12 Handle easy to grasp

13 Lid grip

14 Lid with double plate

15 Silicone lid gasket

16 Safety valve



17 0.2μm capsule filter  
only for -DP model



KTR-40DP

## SPECIFICATIONS

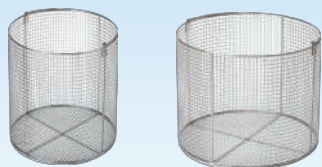
# Autoclave for Laboratory use **KTR** series

Model	Sterilization only	KTR-23	KTR-30S	KTR-30L	KTR-40S	KTR-40	KTR-40L
	With warm air drying	KTR-23DP	KTR-30SDP	KTR-30LDP	KTR-40SDP	KTR-40DP	KTR-40LDP
Chamber(inner dia × depth) Usable capacity		φ230×460mm 20ℓ	φ300×450mm 32ℓ	φ300×640mm 45ℓ	φ400×500mm 62ℓ	φ400×650mm 82ℓ	φ400×830mm 105ℓ
Ability	Usable max. press.	0.16MPa					
	Usable max. temp.	125°C					
	Sterilization	110 ~ 125°C					
Sterilization system	System	Saturated steam generated by sheathed electric heater					
	Main controller	Digital temperature/time controller					
	Timer	0~60min, 59sec. (Operates after the set temperature is reached.)					
	Operation start	PUSH-ON start button switch					
	Air exhaust valve	Gravity substitution system by temperature sensing-time controlled solenoid valve					
	Water lack preventor	Automatic cut-off system by a sensitive thermostat and relay (Heater cut off, Buzzer & Red lamp warning)					
	Exhaust valve	Manual needle valve to be opened only in rapid exhaust required					
	Drain valve	Manual ball valve (Inner dia. : 10mm)					
Sterilization pattern		(Temperature/time set) → PUSH-ON start → Sterilization → Natural cooling → Completion buzzer · RUN lamp off at safe temp. for lid open(80°C)					
KTR-DP models	Operation pattern with drying	(Sterilization/Drying temperature/time set) → PUSH-ON start → Sterilization → Natural cooling → Completion buzzer · STER. lamp off at safe temp.(80°C) → Switching from STER. to DRY and DRAIN valve knob to open → PUSH-ON start → Automatic drain of hot bottom water → Drying → Natural cooling → Completion buzzer · DRY lamp off at safe temp. for lid open(80°C)					
	Drying devices	Hot air circulating and discharge by heaters around chamber and air pump through bore dia 0.2μm capsule filter Drying temperature : 130°C (100~150°C available), Timer : 0~99hr, 59min.					
Safety	Safety devices	Water lack preventor, Over pressure safety switch, Safety valve					
	Electric safety	Breaker for over current & earth leakage					
	Safety valve operation	Withstand voltage : 1,400V, 2sec. Insulation : 100MQ~(500V,D.C)					
	Water test pressure	0.18MPa 0.36MPa					
Pressure vessel Standard		[Summary & Small pressure vessel] in Japanese law					
Material	Chamber & lid	Stainless steel SUS304 shiny polished. Lid gasket : Molded silicone rubber					
	Outer panel	Upper surface : SUS304, Main body : Steel with baked enamel, Caster(front two with stopper)					
Power requirement		AC 220 / 230 / 240V, 1phase, 50/60Hz					
Outer size W×D×H mm		1.6kW (8A)	2.6kW (12A)	3.6kW (18A)			
Weight		520×380×880	600×380×900	600×380×980	770×550×810	770×550×960	770×550×1140
Weight		35/40kg	49/54kg	53/58kg	67/76kg	72/81kg	86/95kg
Accessories	Stainless wire basket (except KTR-DP models)	φ210×400mm 1pc.	φ270×400mm 1pc.	φ270×300mm 2pcs.	φ380×200mm 2pcs.	φ380×300mm 2pcs.	φ380×400mm 2pcs.
	Bottle & hose	Exhaust drain receiver bottle			Exhaust drain receiver bottle, Stainless drain hose		
	KTR-DP models	Stainless drain hose (Stainless wire basket : option)					

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

## STANDARD / OPTIONAL ACCESSORIES

### Stainless wire basket



for KTR-23 φ210×200mm  
φ210×400mm

for KTR-30S/L φ270×200mm  
φ270×300mm  
φ270×400mm

for KTR-40S~L φ380×200mm  
φ380×300mm  
φ380×400mm

### Stainless pan for basket bottom



for KTR-23 φ203×60mm

for KTR-30S/L φ267×60mm

for KTR-40S~L φ363×60mm

### Stainless bucket



for KTR-23 φ210×210mm

for KTR-30S/L φ270×270mm

for KTR-40S~L φ360×300mm

### Stainless dressing drum



for KTR-23 φ180×120mm

for KTR-30S/L φ270×180mm



# ALP Co., Ltd.

3-3-10, Midorigaoka, Hamura-shi  
Tokyo 205-0003, Japan  
TEL.81-42-579-0531 FAX.81-42-579-0533  
E-mail: alpco@wonder.ocn.ne.jp  
URL: http://www.alpco.co.jp



ISO9001



ISO13485