

# In-Lab Top Loading Autoclaves



IN-LAB AUTOCLAVES (PERSONAL-USE MOBILE UNITS)

**Space efficient, convenience minded, portable autoclaves offer sterilization on-demand.**

Researchers will no longer waste valuable time and energy when limited to using a centralized building autoclave. Installation and maintenance of central autoclaves are not only costly but time consuming. Sanyo offers two convenient solutions. These portable autoclaves are designed for individual lab use and can conveniently be moved from one lab to another. Model MLS-3751L has a low enough profile to be stored under a lab bench when not in use.

MLS-3751L  
MLS-3781L



innovation  
performance  
reliability  
support

# sterilization

## MOBILE AUTOCLAVE UNITS

### Personal Series In-Lab Autoclaves

SANYO MLS-Series top-loading autoclaves are a popular method of sterilization for today's research laboratories. Self-contained and easy to use, these reliable units are ideal for a wide range of applications, including liquid culture media preparation, labware and waste sterilization. Designed to meet good laboratory practice criteria in biotechnology and research laboratories, SANYO MLS-Series portable autoclaves deliver high pressure steam with speed, efficiency and reliability.

### Small Footprint with Swing-Up Door

The door opens upwards, so no side opening space is required. This makes the 14.56 inch (37 centimeters) wide chamber easy to access. The MLS-3781L offers 75-liter capacity with the same footprint as the MLS-3751L (50 liters) and is only 18.8 inches wide.



### Double Interlocking Structure

To ensure the safe operation of this high temperature, high-pressure autoclave, the chamber and the open/close hand-pull lever are controlled by a double interlock system dependent on temperature and pressure sensors. This way, it is impossible to open the autoclave until temperature and pressure levels are safe.

## DESIGN

### Human-oriented design

SANYO has included a host of features to make this autoclave user friendly. There is a heat-insulating resin housing and the corners are gently rounded. The control panel is mounted on top so it is easier to see and use. There is a clip-on drainage hose and an exhaust tank that's easy to fill and empty, eliminating the need for fixed plumbing.

### Microprocessor Temperature Control

Sterilizing temperature is controlled by the microprocessor to within +2°C of the set temperature in the range of 115°C to 135°C.

### Process Voice Notification

A new feature the MLS series includes is voice notification of the system process. Each step of the process is notified via a pre-recorded voice message, allowing the end user to hear the process as it is happening from across the room.

### Integrated Cool Down Fan

Included as a standard feature, the cool-down fan decreases cool down process times significantly. This enables access to sterilized contents much faster.

### Air Vent Control

The exhaust valve release temperature can be set to allow automatic release after the sterilizing cycle has been completed. The setting range is from +0°C to 45°C above boiling point to suit the items being sterilized (patent pending).

## RELIABILITY & CONTROL

### Optional Process Printer (Model MLS-37PR)

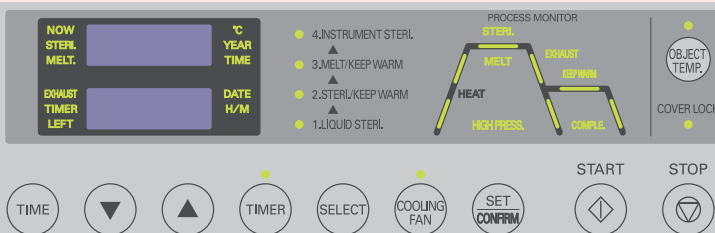
Process documentation is available via an optional built-in type thermal printer. The printer prints out the process run results of temperature, pressure, vs. time. Each printout is date and time stamped for future reference.



### Optional Object Temperature Sensor (Model MLS-37SB)

Measures temperature of items in the autoclave chamber and sets the sterilization timer accordingly. Suitable for materials that heat up more slowly than the chamber, such as resins. After installation, the autoclave control system can be switched between this sensor and the main sensors.

## CONTROL PANEL



SANYO

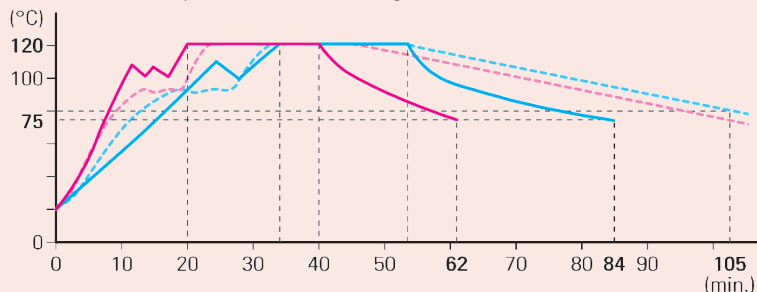


# sterilization

## PROCESS OPERATION

Example: Instrument sterilization program

(Operating conditions: No load; Ambient temperature: 20°C; Sterilizing temperature: 121°C, Sterilizing time: 20 min.)



- MLS-3751L (integrated cooling fans)
- MLS-3781L (integrated cooling fans)
- - - MLS-3750\*
- - - MLS-3780\*

\*Sanyo's previous models with no cooling fans.

- Operating time varies depending on operating conditions.
- For liquid sterilization course, the operating time will be longer than for instrument sterilization course.

## PRE-SET PROGRAMS

These units offer a total of 12 pre-set programs to choose from on a simple-to-operate control panel with lighted temperature/timer indicators. They also allow for independent programming for users to set their own programs.

### Sterilizing

For water, culture media, reagents and other fluids. After completion and cooling to a selected temp., air is expelled automatically through the exhaust valve.

Sterilizing temp.: 115°C to 135°C

Timer: 1 minute to 5 hours

Exhaust temp.: 0°C to 45°C.

### Sterilizing/Keep Warm

After sterilizing culture media, reagents and other liquids, and cooling down naturally to a selected temp., air is expelled automatically from the exhaust valve. High temp. prevents solidifying.

Sterilizing temp.: 115°C to 135°C

Timer: 1 minute to 5 hours

Exhaust temp.: 0°C to 45°C

Warming temp.: 45°C to 60°C.

### Melting/Keep Warm

To melt or keep culture media at a fixed temp. (This function is not for sterilizing but prevents solidifying.)

Melting temp.: 60°C to 114°C

Timer: 72 hours

Warming temp.: 45°C to 60°C

### Instrument Sterilizing

For flasks, beakers, test tubes, and other lab instruments. When completed, the exhaust valve opens and the temp. drops to 100°C. Thus, cool down period can be shortened. Suitable for equipment that can withstand sharp drops in pressure and for sterilizing waste.

Sterilizing temp.: 115°C to 135°C

Timer: 1 minute to 5 hours

## LOAD CAPACITY

### Large Chamber

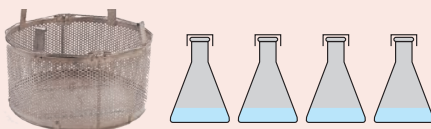
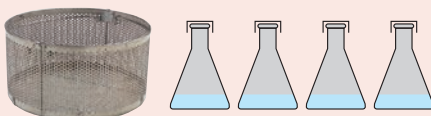
Despite the compact outer dimensions of these autoclaves, they store 8 (MLS-3751L) or 12 (MLS-3781L) 1,000 ml flasks.

### 14.6 inch Diameter Chamber

The 14.6 inch diameter wide chamber offers large capacity. For example, four 1000ml flasks will fit easily into one sterilizing basket. Also, two racks holding 50 test tubes can fit into one basket. The MLS-3751L can accommodate two sterilizing baskets, while the large-capacity MLS-3781L can hold up to three baskets at one time.

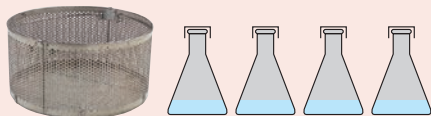


## MLS-3751L LOAD EXAMPLE



Eight 1000ml flasks

## MLS-3781L LOAD EXAMPLE

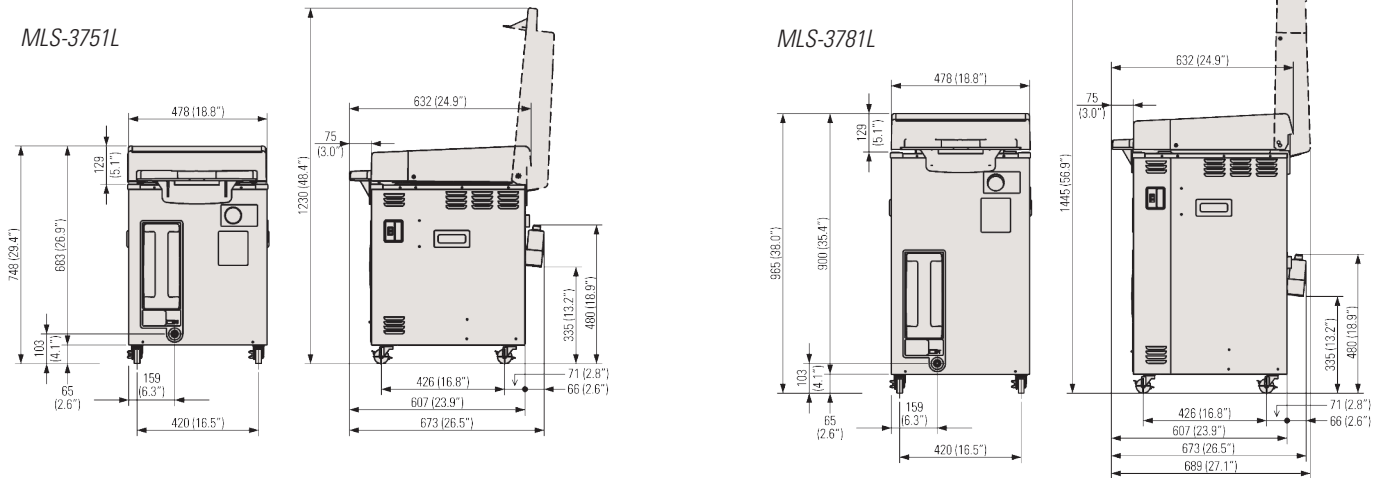


Twelve 1000ml flasks

# Specifications

Model No.	MLS-3751L	MLS-3781L
<b>Effective capacity</b>	50 liters (1.8 cu.ft.)	75 liters (2.6 cu.ft.)
<b>External dimensions</b>	18.8"W x 24.9"D x 29.4"H (478 mm W x 632 mm D x 748 mm H)	18.8"W x 24.9"D x 38.0"H (478 mm W x 632 mm D x 965 mm H)
<b>Chamber dimensions</b>	14.6" (370 mm) diameter x 16.3" (415 mm) depth	14.6" (370 mm) diameter x 24.2" (640 mm) depth
<b>Effective chamber height</b>	18.9" (480 mm), including recess in lid	27.8" (705 mm), including recess in lid
<b>Power specifications</b>	120V, 60Hz, 1 phase, 20 Amp breaker, NEMA L5-20P locking plug	208V-230V, 60Hz, 1 phase, 30 Amp breaker, NEMA L6-30P locking plug
<b>Unit weight</b>	134 lbs. (61 kg)	154 lbs. (70 kg)
<b>Wire baskets included</b>	2 x stainless steel baskets, MLS-37BL x 1, MLS-37BS x 1	3 x stainless steel baskets, MLS-37BL x 2, MLS-37BS x 1
<b>Printer</b>	Optional, built-in type thermal printer, pressure and temperature vs. time process printout, MLS-37PR	
<b>Controller</b>	Microprocessor controller with process indicators, 12 pre-set programs, LED digital display, location on lid	
<b>Voice alert process guidance system</b>	Standard, automated voice process guidance, on/off function	
<b>Sterilization temperature</b>	115°C to 135°C	
<b>Culture media melting temperature</b>	60°C to 114°C	
<b>Keep warm temperature</b>	45°C to 60°C	
<b>Cool down fan</b>	Standard, built-in	
<b>Sterilization timer</b>	1 minute up to 5 hours	
<b>Melting timer</b>	1 minute up to 5 hours	
<b>Keep warm timer</b>	72 hours delayed, auto off	
<b>Program timer</b>	1 week (designation: year, month, day, hour and minute)	
<b>Exhaust control</b>	Exhaust valve open temperature setting	
<b>Safety devices</b>	Pressure safety valve, over-temperature limiter, anti-scorch limiter, door interlock, over-pressure limiter, current fuse	
<b>Chamber material</b>	SUS 304 stainless steel	
<b>Maximum pressure</b>	34.14 PSI (0.235 MPa)	
<b>Pressure gauge</b>	Upper right, front panel	
<b>Accessories included</b>	Drain Hose: (1), Exhaust tank (1), exhaust hose at rear side (1), tank mounting bracket (1)	
<b>Optional accessories</b>	Object Sensor model MLS-37SB, Process Printer model MLS-37PR	

## Dimensions



## Accessory Stainless Steel Buckets and Baskets

<b>MLS-37BL</b>	<b>MLS-37BS</b>	<b>MLS-37C30</b>	<b>MLS-37PB30</b>	<b>MLS-37PB40</b>
Large Stainless Steel Mesh Basket	Small Stainless Steel Mesh Basket	Solid Bucket	Stainless Steel Bucket Perforated Holes for 3 liter flasks	Stainless Steel Bucket Perforated Holes for 3 liter flasks
Diameter - 13.2" Height - 8.7"	Diameter - 13.2" Height - 6.7"	Diameter - 13.0" Height - 11.8"	Diameter - 13.0" Height - 11.8"	Diameter - 13.2" Height - 15.7"
MLS-3751L: 1 will fit MLS-3781L: 2 will fit	MLS-3751L: 1 will fit MLS-3781L: 1 will fit	MLS-3751L: 1 will fit MLS-3781L: 2 will fit	MLS-3751L: 1 will fit MLS-3781L: 2 will fit	MLS-3751L: 0 will fit MLS-3781L: 1 will fit

