SANYO

Laboratory Autoclaves
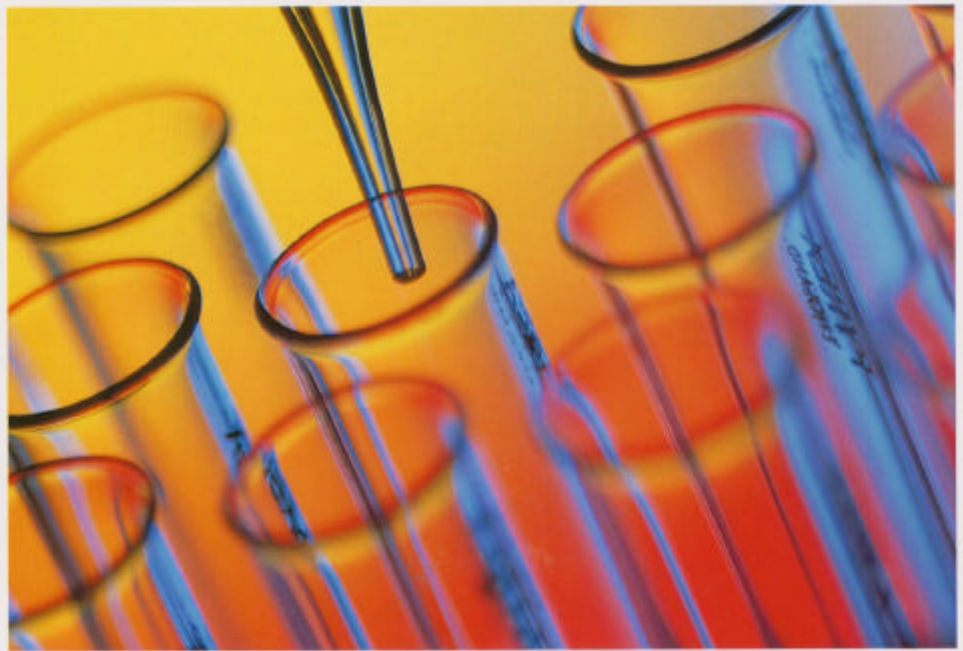
MLS-2420/2420U
MLS-3020/3020U

MLS-3020

MLS-2420
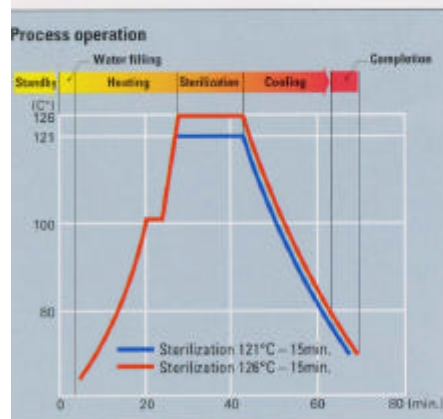
105° – 121°C digital display • 180-minute timer

Accurate sterilization temperature control – easy to use

The importance of sterilization is growing in the field of good laboratory practice in areas such as biotechnology and medicine. Of all sterilization methods, the use of high pressure steam (autoclave) is the most widely used because of its efficacy, speed and reliability. This method is suitable for a wide range of applications including culture media, glass and metal implements, and waste products. SANYO laboratory autoclaves provide a safe, reliable high pressure steam sterilizing environment within a unit that is particularly easy to use. Microprocessor control ensures that the correct temperature is accurately maintained and easily operated with one-touch operation.

Fail-safe functions ensure user safety and the compact design maximises use of valuable laboratory space. These reliable, energy saving autoclaves are ideal for a wide range of applications.

Microprocessor control maintains accurate sterilization temperature.

A microprocessor monitors and controls the steam temperature within the chamber, ensuring that it is maintained within the range $105° – 121°C$ (MLS-2420/3020), $105° – 126°C$ (MLS-2420U/3020U).

Process operation graph: Standby / Heating / Sterilization / Cooling / Completion
— Sterilization 121°C – 15min.
— Sterilization 126°C – 15min.

Easy to operate ergonomic design

The interior of the chamber is free of protrusions such as sensors or piping joints that could interfere with the insertion or removal of items. The single rectangular handle turns easily and securely seals the chamber.

The control panel is mounted at the top of the unit, making it easier to see and operate. A water outlet valve allows easy changeover of the sterilization water.

There is an elevation selector switch on the unit's circuit board to assure an optimal saturated steam environment even in areas high above sea level.

Digital controls and display eliminate setting errors.

The digital control panel allows temperature and time settings to be entered accurately in 1°C and 1-minute intervals. The display panel is easy to read helping prevent errors when setting parameters. Pressing the (TEMP) and (TIMER) keys simultaneously displays the remaining sterilization time.

Safety assured with fail-safe functions

1. Dry scorch protection function

Should the water level drop too low, an overheating protection circuit is triggered, a buzzer sounds and an error message appears on the display. Buzzer alert: Pairs of short beeps repeated in succession

2. Door switch

A safety mechanism prevents the autoclave from operating if the door is not completely closed. A door closed lamp lets you check whether the door is closed.

3. Pressure safety valve

A simple reliable pressure safety valve is used to prevent the pressure inside the chamber from rising above acceptable levels. A spring type safety valve is incorporated for MLS-3020U and MLS-2420.

4. Thermistor error detector function

If the state of the thermistor temperature sensor is opened (connection broken), the heater turns off to prevent overheating. Buzzer alert: Pairs of short beeps repeated in succession
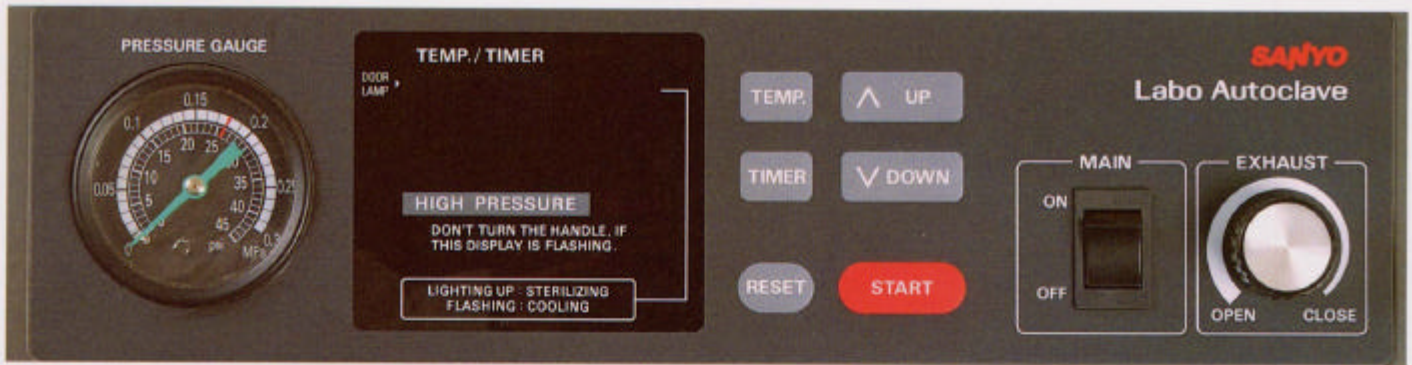
5. Overheating protection function

The digital display starts to flash if the temperature in the chamber rises more than 2°C above the temperature setting. If it rises 3°C or more above the setting, the relay shuts off, and cuts off power to the heater.

6. Door protection function

If the magnet-holder is not connected to the switch button, the high pressure lamp will flash when the temperature inside the chamber is over 99°C (210°F). (MLS-2420U/3020U only)

Audible and visual alarms alert the user to end of cycle and error conditions.

The unit sounds a buzzer to alert the user to any error conditions requiring attention and to the end of the sterilization cycle so that items can be removed from the autoclave.

1. Sterilization finished alert function

A buzzer sounds to tell you when sterilization is finished.

Buzzer alert: Single long beep

2. Safe to open door alert function

The unit continues to monitor the temperature inside the chamber after sterilization is finished. Once the autoclave has cooled to the point where it is safe to open the door, a buzzer sounds.

Buzzer alert: A short beep followed by a long beep

3. Safe to remove contents alert function (cycle fully complete)

When the items being sterilized have cooled down to the point where it is safe to remove them, a buzzer sounds.

Buzzer alert: 10 long beeps in succession (MLS-2420/3020) ;
5 long beeps in succession (MLS-2420U/3020U)

One touch operation with memory pattern settings

Thanks to the autoclave's microprocessor control, frequently used sterilization pattern parameters are stored in memory for easy use. Operation is as easy as pressing the START key.

The following memory patterns are available for selection:

Sterilization temperature	Sterilization time
121°C	15 minutes
121°C	20 minutes
115°C	15 minutes
110°C	15 minutes

The sterilization temperature or sterilization time values may also be adjusted using the UP and DOWN setting keys.
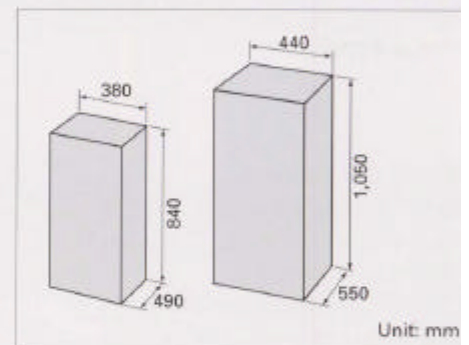
Features of MLS-3020U/2420U

- Wide variety of items can be autoclaved using 126°C sterilization.
- The pressure vessel is designed to meet the ASME safety code. In accordance with the code, these units have a lid interlock function.
- 120V and 208V versions comply with CSA-NRTL(UL) / CSA standards.
- 230V versions comply with European Directives and are CE marked accordingly.

Compact design ideal where space is limited

The body of the unit, with its built-in exhaust bottle, measures a mere 38 (W) x 49(D)cm (MLS-2420/2420U)/44(W) X 55 (D)cm (MLS-3020/3020U), so it will fit in the tightest spaces.

Unit: mm

Autoclave Options

MLS-RBA   MLS-RBB   MLS-RBH

MLS-RBA
Special round basket, A
Dimensions: 220(ø) x 215(H)mm

MLS-RBB
Special round basket, A
Dimensions: 290(ø) x 215(H)mm

MLS-RBH
Special round basket, Half
Dimensions: 290(ø) x 320(H)mm

TECHNICAL SPECIFICATIONS

Model	MLS-2420U	MLS-2420
Power supply	120V units: 120V AC (50/60Hz), 12.5A 208V units: 208V AC (50/60Hz), 7.2A 230V units: 230V AC (50/60Hz), 6.5A	AC local voltage (110V, 120V, 220V, 240V)
Power consumption	1.5kW	
External dimensions (W x D x H)	380 x 490 x 84mm (15" x 19-5/16" x 3-5/16")	
Chamber dimensions (dia. x depth)	240 x 450mm (9-7/16" x 17-11/16")	
Chamber material	Stainless steel (SUS304)	
Sterilization temperature	105°– 126°C (221°– 258.8°F)	105° – 121°C (221° – 249.8°F)
Temperature gauge range	Digital display 80° – 141°C (176° – 286°F)	
Safety valve releasing pressure	177kPa (25psig)	200kPa
Pressure gauge range	0 – 0.3MPa / 0 – 45psi	0 – 0.3MPa
Timer setting range	1 – 180 minutes	
Exhaust tank	3L polyethylene tank	
Safety devices	Pressure safety valve Anti dry scorch thermo limiter Door switch Handle switch Current fuse	Pressure safety valve Anti dry scorch thermo limiter Door switch
Accessories	Vinyl cover (1) Stainless steel baskets (2)	
Applicable standards	Pressure vessel: Japanese standard/CE	General standard

Model	MLS-3020U	MLS-3020
Power supply	120V units: 120V AC (50/60Hz), 16.7A (Dedicated 20A circuit required) 208V units: 208V AC (50/60Hz), 9.6A 230V units: 230V AC (50/60Hz), 8.7A	AC local voltage (110,120, 220, 240V)
Power consumption	2kW	
External dimensions (W x D x H)	440 x 550 x 1,050mm (17-5/16" x 21-5/8" x 41-5/16")	
Chamber dimensions (dia. x depth)	300 x 670mm (11-13/16" x 26-3/8")	
Chamber material	Stainless steel (SA-240 type 304)	Stainless steel (SUS304)
Sterilization temperature	105° – 126°C (221° – 258.8°F)	105° – 121°C (221° – 249.8°F)
Temperature gauge range	Digital display 80° – 141°C (176° – 286°F)	
Safety valve releasing pressure	177kPa (25psig)	200kPa
Pressure gauge range	0 – 0.3MPa / 0 – 45psi	0 – 0.3MPa
Timer setting range	1 – 180 minutes	
Exhaust tank	3L polyethylene tank	
Safety devices	Pressure safety valve Anti dry scorch thermo limiter Door switch Handle switch Current fuse	Pressure safety valve Anti dry scorch thermo limiter Door switch
Accessories	Vinyl cover (1) Stainless steel baskets (3)	
Applicable standards	ASME Code/CSA/CSA-NRTL (UL)/CE	General standard

Specifications are subject to change without notice.