Autoclaves
Specifications

- Power supply: 220 V, 50 Hz/60 Hz (CE)
- Power consumption: 2 kW
- External dimensions (W x D x H): 478 x 632 x 748 (mm) / 18.8 x 24.9 x 29.4 (inch)
- Weight: 61 kg (134 lbs.)
- Chamber dimensions (diameter x depth): ø370 x 415 (mm) / ø14.6 x 16.3 (inch)
- Effective chamber height including recess in lid: 463 mm (18.2 inch)
- Effective capacity: 50 liters (1.8 cu.ft.)
- Chamber material: Stainless steel baskets – Large: 1, small: 1

- Maximum pressure: 0.235 MPa (-PK), 0.248 MPa (-PE)
- Sterilization temperature: 115˚C to 135˚C
- Culture medium melting temperature: 60˚C to 114˚C
- Keep warm temperature: 45˚C to 60˚C
- Sterilization timer: 1 minute to 300 minutes
- Melting timer: 1 minute to 300 minutes
- Keep warm timer: 72 hrs. fixed
- программа timer: 1 week (Designation: Year, month, day, hour and minute)

- Exhaust tank: 2-liter polyethylene tank
- Exhaust control: Balanced valve, open temperature setting
- Safety devices: Temperature sensor, over-temperature limiter, anti-scorch limiter, door interlock, over-pressure limiter, current fuse

- Pressure vessel type: Small-scale pressure vessel
- Accessories included: Drain hose: 1, Exhaust tank: 1, tank mounting bracket: 1 and tip-resistant metals: 2

- Model Numbers:
  - MLS-3751L-PK
  - MLS-3751L-PE
  - MLS-3781L-PK
  - MLS-3781L-PE

**Appearance and specifications are subject to change without notice.**

*1 External dimensions of main cabinet only - see dimension drawings showing handles and other external projections.

**Optional Accessories**

- Object temperature sensor: MLS-37SB-PW
- Printer: MLS-38PR-PW (with 1 roll of paper)
- Printer paper: MLS-37PR-S-PW (5-roll set)

*Please consult your local dealer about the model number, price, delivery date, etc.

**Compact design doesn't take up space.**
**Voice guidance function for increased safety.**

---

**Process operation**

Example: Instrument sterilization course

| Operating conditions: No load; Breakwater temperature: 20˚C; Sterilizing temperature: 121˚C, Sterilizing time: 20 min. |
|---|---|---|
| MLS-3751L | MLS-3750* | MLS-3781L | MLS-3780* |
| Operating time | 0 | 0 | 0 | 0 |
| Water | 100 | 100 | 120 | 120 |
| Automatic等候 | MLS-3751L | MLS-3750* | MLS-3781L | MLS-3780* |

*Our company’s previous models

**Operating time varies depending on operating conditions.**

**For liquid sterilization course, the operating time will be longer than for instrument sterilization course.**

---

**Stainless Steel Baskets and Buckets**

<table>
<thead>
<tr>
<th>Description</th>
<th>Wire Basket</th>
<th>Solid Bucket</th>
<th>Perforated Bucket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>MLS-37BL-PW</td>
<td>MLS-37PB31-PW</td>
<td>MLS-37PF-PW</td>
</tr>
<tr>
<td>Inner Dimensions</td>
<td>ø335 x 220 (mm)</td>
<td>ø330 x 275 (mm)</td>
<td>ø330 x 300 (mm)</td>
</tr>
<tr>
<td>Features</td>
<td>No protrusions on inner surface to prevent sterilization bag from tearing. Sturdy, tube handle, recess for sterilization. 2 buckets stackable.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Dimensions**

<table>
<thead>
<tr>
<th>Model</th>
<th>MLS-3751L</th>
<th>MLS-3781L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit: mm (inch)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MLS-3751L</td>
<td>478 x 632 x 748 (mm) / 18.8 x 24.9 x 29.4 (inch)</td>
<td></td>
</tr>
<tr>
<td>MLS-3781L</td>
<td>478 x 632 x 965 (mm) / 18.8 x 24.9 x 38.0 (inch)</td>
<td></td>
</tr>
</tbody>
</table>

---

**DISTRIBUTED BY:**

**PHC Corporation, Biomedical Division**

https://www.phchd.com/global/biomedical/

Printed in Japan | 22/0-2018-04-02

**Laboratory Autoclaves**

MLS-3751L
MLS-3781L

---

**Compact design doesn't take up space.**
**Voice guidance function for increased safety.**
Space-efficient, convenience-minded autoclaves offer sterilization on demand, where and when you want it.

Researchers 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. PHCi offers two solutions:

**MLS-3751L**
- **Load example**
- Eight 1000ml flasks

**MLS-3781L**
- **Load example**
- Twelve 1000ml flasks

**Surprisingly Large Chamber**
Despite the compact outer dimensions of these autoclaves, they store 8 (MLS-3751L) or 12 (MLS-3781L) 1000-ml flasks. The MLS-3751L has two baskets, and the larger MLS-3781L has three.

**Compact Design, Swing-up Lid for Easy Access**
Both PHCi models can be easily installed in minimal space. A swing-up lid provides effortless access for loading and unloading test tubes, flasks and lab instruments.

**Easy Access**
- **Compact Design, Swing-up Lid for Easy Access**
- **Surprisingly Large Chamber**

**Bottom of inside of chamber (flat diagram)**

**Voice-guidance function increases safety to prevent operating mistakes and increase carefulness.**
- **Standard Mode**
  - For safe use of the product, precautions and operating instructions are given by voice guidance.
- **Condition**
  - **Voice Guidance**
  - **Operation**
    - Please check the water level in the front exhaust tank.
    - Did you check the water level in the chamber?
    - You have finished the setup. Press the start button to begin operation.
    - The lid is not completely closed.
    - The temperature inside the chamber is higher than the set temperature.
    - This is the liquid sterilization program.
    - Please set the sterilization temperature.
    - The liquid sterilization program is running.
- **Warning Mode**
  - If a safety device is activated during use and the product stops operation, the voice guidance will inform users of verification/inspection items. In addition, messages urging periodic maintenance are also provided.

**Plus a Wealth of Other Important Features**
- **Functions for user safety and cooling fan/exhaust level adjustment to reduce cooling time.**
  - Conforming to the requirements of IEC standards, the device offers sterilizing liquid the temperature when opening the cover is set to 65°C or less. In addition, by adding exhaust holes at several positions on the side of the product and positioning the standard-equipment cooling fan under the chamber, cooling efficiency and sterilizing efficiency are increased, so that operating time can be reduced. Furthermore, a constant open/close interval (with 5-step adjustment) for the exhaust process valve enables selection of the exhaust rate for steam inside the chamber to enable cooling in a shorter time while reducing exhaust time and preventing boiling over of sterilizing liquid.

**Rough Standard of Exhaust Rate**

<table>
<thead>
<tr>
<th>Exh. Temp. %</th>
<th>0</th>
<th>20</th>
<th>40</th>
<th>60</th>
<th>80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exh. Rate (%)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**Thermal printer (optional)**
The work conditions shown on the control panel (temperature/pressure inside chamber, sterilizing course, time) can be printed out by a line thermal dot printer for record-keeping, management, and storage.

**Microprocessor temperature control**
Sterilizing temperature is controlled to within +2°C/-0°C of the set temperature in the range of 115°C to 135°C.

**Air vent control**
Can be set to allow automatic release after sterilizing is completed.

**Equipment with 4 selectable courses and 3 customizable programs**
Any of 4 courses can be selected according to the purpose of use, and 3 types of settings can be stored for each course according to the usage conditions. The setting values (sterilizing temperature, sterilizing time, melting temperature, melting time, keep warm, exhaust temperature, exhaust rate) for each program can be easily changed for the user for easy use.

**Setting example**
- **Cycle**
- **Program**
- **Setting example**

1. **Sterilizing**
   - For warm, 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 to 300 min.
   - Exhaust temp.: 0°C to 45°C

2. **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 to 300 min.
   - Exhaust temp.: 0°C to 45°C
   - Incubation temp.: 45°C to 60°C

3. **Melting/Keep Warm**
   - Melting temp.: 0°C to 114°C
   - Timer: 0 to 300 min., 72 hrs.
   - Exhaust temp.: 0°C to 45°C

4. **Instrument Sterilizing**
   - Sterilizing temp.: 115°C to 135°C
   - Timer: 1 to 300 min.
   - Exhaust temp.: 0°C to 45°C

**Printing example**