



Stainless Steel Water Bath

LMSL-A102

Index

Sr.no	Title	Page no
1.	Introduction	2
2.	Features	2
3.	Specifications	2
4.	Applications	2
5.	Instrument Introduction	3
6.	Operations	4

1. Introduction

Stainless Steel Water Bath LMSL-A102 crafted with stainless steel insulated walls designed for incubating samples at a constant temperature and controlled environment for heating, or incubating biological samples. Our water bath accommodates a loading capacity of 30 L that incubate sample at 5 to 99 °C ensure safe and reliable operation. Outfitted with safety feature include automatic shut-off mechanisms to prevent over-heating and overloading.

2. Features

- Temperature range: RT +5 ~ 99 °C
- Microprocessor control with timing function
- Digital display for visual monitoring of parameters
- Over temperature alarm
- Stainless steel chamber ensuring corrosion resistance

3. Specifications

Model No.	LMSL-A102
Chamber volume	30 L
Temperature Range	RT +5 ~ 99 °C
Temperature Stability	±0.5 °C
Timing Range	1 ~ 999 min
Display Resolution	0.1 °C
Power Consumption	1000 W
Voltage	220 V; 50 Hz
Inner Dimension	600 x 300 x 160 mm
External Dimension	760 x 340 x 190 mm

4. Applications

It is widely used in research laboratories, for incubating reagents essential for molecular biology and tissue culture experiments.

5. Instrument Introduction

The **LMSL-A102** is a water bath type. Its diameter of the maximum opening is 125mm, each opening is provided with 4 rings and 1 cover. The inner bath is made of a one-piece sheet of copper moulded by punching. The outer casing is made of choice sheet steel of high quality to be finished in spray lacquer. The gap between the outer casing and the inner bath is stuffed with glass wool for heat preservation. The heating element is immersed in water so rapid heating can be obtained and power consumption economised. A metal regulator is also equipped for adjusting the temperature from 5 °C to 99 °C according to requirements. These are for the adjuster's reference only.

6. Operations

- 1) **Set temperature:** Press the **SET** key to set temperature. After pressing the **SET** key, data on the lower line digital tube will flash (the upper low measure temperature normally), which means the meter enters the status of the temperature setting. Press Δ the key to increase the set value, and press ∇ a key to decrease the set value. If continuously pressing the increase key or decrease key, the set value will change rapidly. Press the **SET** key again, and the meter returns to temperature under normal working status. The setting is finished.
- 2) **Parameter setting:** Press the **SET** key for 3 seconds to enter the setting status of the internal menu. The following parameters appear one by one.
 - E:** Offset of proportion zone, parameter E can move the actual control point. Even though the center of time proportion moves, value E can be positive or negative depending on the heating system.
 - P:** Proportion zone, that is, proportion control value. For easy understanding and for the proportion zone to have bigger representation space, the proportion zone of this meter is unilateral, that is, the actual proportion zone is twice the value P. With the actual control point as the center, output heating proportion within the range of value P from down to up is evenly distributed at 0% - 100%.
 - T:** Heating output circulation period, that is the working circulation period of the relay. Value T is small, and the control effect is good, but if value T is too small, the relay's lifetime will shorten due to frequent working. Generally, value T is 20-40s.
 - For example:** If P is set to 4.0 (actual proportion zone is 8.0), temperature is set to 60.0°C, E is set to 2.0, and the actual control point is 58.0°C. When the temperature reaches 54.0°C, the meter will enter the status of proportion zone control.

6.1 Correction of error

When confirming that the displayed value on the meter is not the correct measured value, the correct displayed value is. Press the **SET** key for 3 seconds to enter the internal menu of the meter, and the first parameter that appears is E, press the **SET** key, meter data will flash, this flashing parameter is the correcting parameter of error, and press Δ or ∇ key to correct this parameter. The correction range of error is -9.9°C~+9.9°C. Press the **SET** key again and parameters P, and T will appear one by one, and then press the **SET** key again to exit. Correction value of meter when ex-work is 0. When using, one shall prevent the correct meter from being corrected incorrectly.

6.2 Circuit

The **LMSL-A102** is operated on 220V 50Hz.AC. A rubber 3-strand main cord is provided, of which the black one is for grounding. One of the terminals of the cord is connected to the floorboard of the outer casing, while the other terminal is connected to the longest and thickest pin in the 3-pin plug. When in operation, the ground wire for the 3-pin receptacle must be connected effectively. Generally, the pound wire is welded to the water pipe or a galvanized tube of 2m long and 25mm, in diameter to be buried underground.

Note: Do not connect to the gas pipe.