

# User Manual

INCUBATOR FOR BIOLOGICAL TEST  
Clave TEST



## **CONTENTS**

- DECLARATION OF CONFORMITY
- WARRANTY TERMS AND LOSS OF WARRANTY
- GENERAL SAFETY PRINCIPLES
- USEFUL ADDRESSES
- DEVICE DESCRIPTION
- TECHNICAL CHARACTERISTICS
- INSTALLATION
- A DESCRIPTION OF THE ACTION
- INSTRUCTIONS FOR USE
- UTILIZATION
- MAINTENANCE AND TROUBLESHOOTING
- ERROR SIGNALING

## **DECLARATION OF CONFORMITY**

The purpose of the declaration is to confirm that, in accordance with the ISO/IC 17050-1 standard, the LISTER device meets the requirements of the following documents

2014/30/EU EMC Directive

2014/35/EU Low Voltage Directive

## **TERMS OF WARRANTY**

1) Duration: The product has a 12-month warranty.

2) Exclusive: The warranty does not cover:

- errors resulting from lack of planned maintenance and due to negligence or misuse by User
- periodic checks and maintenance
- repair or replacement of parts subject to wear and tear, unless proven defective at the time of delivery
- defects caused by personnel or during transport
- defects or damage caused by improper use and due to exploitation inconsistent with the instruction manual, as well as inconsistent with the intended use
- defects or damage caused by water or air contamination, as well as random accidents such as fire, flood, lightning strike, power surge, etc
- defects or damage caused by the use of detergents, disinfectants or during sterilization, which are not clearly described in the operation and maintenance manual
- natural color change of plastic elements

3) Limitations: The warranty entitles the owner to repair or replace defective components free of charge.

The right to replace the device is excluded, as far as components used or built into LISTER products are concerned. by other companies and have their own warranty certificates, the conditions, limitations and exceptions indicated in those certificates apply. Carrying out service repairs does not change the warranty expiration date.

4) Claims: The case of the Buyer submitting a complaint regarding the quality of the delivered equipment, in any way does not entitle him to will payment delays.

5) Disputes: In the event of a dispute regarding the warranty or the interpretation of the warranty card, the court competent for the registered office of LISTER will be decisive, regardless of the place where the sales contract was concluded.

6) Deviations: Any deviations from the warranty conditions described in this chapter will not grant the buyer his rights, and will be considered only in exceptional cases.

7) In all matters not regulated above, the provisions of the Code of Law shall apply civil.

## **GENERAL SAFETY RULES**

1. Make sure that the device is connected to the power supply with the correct voltage as indicated on the nameplate rated.
2. Do not remove the nameplate
3. Use dry cloths to clean the device.
4. Before carrying out any repair, disconnect the power cord from the socket.
5. Only use original spare parts

**FAILURE TO COMPLY WITH THE ABOVE RULES WILL RELEASE LISTER WITH ALL RESPONSIBILITY.**

## **DEVICE DESCRIPTION**

LISTER Incubator is a device for incubating biological indicators at 56°C. The incubator keeps the temperature of the device constant throughout the incubation period, after a start-up period that lasts from 3 to 5 minutes. The incubation time depends on the type of ampoule tests used. After starting the test with the START button, the incubator maintains the set temperature until the device is turned off.

The incubator (Fig. 1) consists of a metal frame, a plastic housing (Fig. 1, item B), an aluminum heater (Fig. 1, item C ), three places for biological tests and an electronic board for automatic temperature control of the heater.

On the back there is a socket for connecting the plug from the supplied power adapter (Fig. 1 - item D). On the front of the device there is a START button (Fig. 1 - item E) and a warning diode STAND BY/ALARM (Fig. 1 - Item A). on the top of the device, there is a Transparent insulation lid (Fig. 1 - item F).

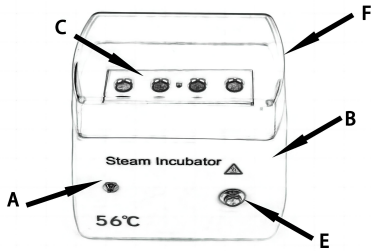


Fig.1

**Item:**

**A**-STAND BY/ALARM warning LED

**B**-Plastic housing

**C**-Heating element with three test slots

**D**-Power socket

**E**-START button

**F**-Insulation Lid

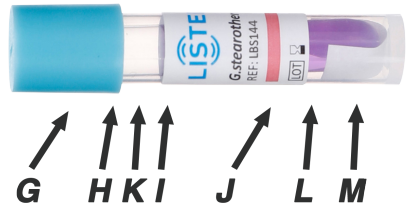


Fig. 2

The biological indicator (Fig.2) consists of a thermoplastic container containing a strip of paper on which the bacterial spores are inoculated and a small glass capsule containing the culture medium.

**G**-nut

**H**-Filter

**I**-Label

**J**-Strip with TYPE-1 chemical indicator

**K**-Glass Capsule

**L**-culture medium

**M**-Paper strip with bacterial spores

## **TECHNICAL CHARACTERISTICS**

USE TEMPERATURE DIMENSIONS: **17°C - 27°C**

(WX H x D) CASE: **130x85x90 mm**

N.W: **0,8kg**

RAMA: **Fe360B steel,**

OPERATING: **ABS plastic**

HEATER: **anodized aluminum block**

PACKAGE SIZE: **220x170x110 mm**

SUPPLY VOLTAGE: **10-14V**

NUMBER OF PHASE: **1**

POWER FREQUENCY: **50Hz**

POWER : **46W**

LEVEL OF SECURITY: **PE**

INSULATION CLASS: **1**

CABLE LENGTH: **L=1200mm (2x0.75mm<sup>2</sup> + ground wire),**

**L2=1400mm**

MAXIMUM CURRENT IN THE HEATING PHASE: **4.5A**

AVERAGE CURRENT IN A 24H HEATING CYCLE: **2A**

STANDBY CURRENT: **0,1A**

CONSUMPTION MAXIMUM: **60W**

STANDBY POWER CONSUMPTION: **1.2W**

OPERATING TEMPERATURE: **56°C**

TEMPERATURE STABILIZATION ACCURACY: **+/-1°C**

## **INSTALLATION**

**The LISTER biological incubator must be placed on a flat surface. Due to the characteristics of the device, it is important to observe the following measures precautions:**

- The device should not be used in places where there is a risk of explosion.
  - Remove from the packaging and check the condition of the device. If there are any signs of damage on the device, notify the distributor/ manufacturer.
  - Place the device on a flat surface, away from sources of heat, i.e. (oven, washer, cooker, etc.)
  - Place the device so that the warning light is clearly visible to the user.
  - Connect the power cord to a 230 electrical socket and then the 12V cord to a power socket (Figure 1)
- Attention, to power supply use only the power adapter supplied in the set A(12V, (5A). The use of other power supplies may damage the module and avoid the warranty.

## **A DESCRIPTION OF THE ACTION**

***A biological test incubator is a device for use in medicine and/or dentistry.***

- The manufacturer is not responsible for damage to the device and injuries resulting from improper use or lack of user experience.
- Service temperature +17/+27 °C.

**There is a diode in the incubator to indicate a possible malfunction of the device or a temporary lack of electricity.**

**Inside the device there is a thermistor measuring the temperature during operation of the device**

1. Connect the 230 power cord to the power socket, then the 12V power cord to the power socket (Fig. 1 - item D).
2. The warning diode (Fig. 1 - item A) will turn red.
3. Press the Start/Stand By button (Fig. 1 - item E). The LED starts flashing with intermittent green light. The heating cycle starts. After reaching the temperature of 56 °C, the diode begins to burn with a onotonous green light. The electronic board maintains a constant temperature of the aluminum block throughout the incubation period by controlling the operation of the heater. In the event of a power failure, the device controls the temperature when returning to work. If the temperature does not fall below 52 °C, the device will reheat the block and return to work. If the temperature drops below 52 °C, the incubate or LED wil turn red.

## **The validity of the test**

If at the end of the incubation time (check the incubation length of the ampoule tests used) the diode lights up green, the test is valid. If the LED is red at the end of the incubation time, the test is invalid.

- Attention: Hot surface - Do not touch the heating block while the device is operating.
- Attention: Keep out of the reach of children
- Attention: Do not touch metal surfaces while the device is operating

## **INSTRUCTIONS FOR USE**

1. Determine the biological indicator.
2. Insert the biological indicator into sterilization in a representative package or as recommended by the autoclave manufacturer.
3. Perform a sterilization cycle.
4. Remove the biological indicator from the autoclave. Allow the indicator to cool down.
5. Allow the indicator to cool for at least 10 minutes
6. Check for discoloration of the chemical indicator strip (Fig. 2)
7. Smash the glass capsule (Fig. 2) of the biological indicator inside thermoplastic container by squeezing it with pliers or against the edge of the table top. This should be done just before inserting the indicator into the incubator. the indicator should be placed in the incubator no later than one hour after sterilization.
8. Insert the biological indicator into the holes in the aluminum block.
9. Start the incubation cycle by pressing the START button, check after a period of 10 minutes that the LED has changed from intermittent green light to a steady green light cycle (otherwise see maintenance and troubleshooting).



10. Incubate the biological indicator for the time described in the indicator manual.
11. For a detailed procedure, please refer to the instructions for use included inside the package of biological indicators.

## **UTILIZATION**

- Directive on disposal of electrical and electronic equipment (WEEE)
- In accordance with Directive 2002/96/EC, this symbol means that the product must not be disposed of in municipal waste at the end of its useful life.
- The product must be delivered to a company specializing in the disposal of electronic and electrical devices or to the company that sold the product.
- The owner of the device is responsible for this.



**Proper disposal of equipment that is no longer in use prevents negative impacts on the environment or human health. Abuse will be prosecuted**

## **MAINTENANCE AND TROUBLESHOOTING**

The device does not require any particular maintenance, except for the periodic cleaning of the heating element, which is necessary to avoid deposits inside the biological indicator sockets.

When cleaning the incubator, it is enough to follow the most basic hygiene rules provided for in such circumstances.

- First, switch off the device and disconnect the plug from the power socket.
  - If the device has been used, wait for it to cool down
  - Wipe with a soft cloth moistened with soapy water and wipe with a dry and clean paper towel.
  - Do not use detergents that can irreversibly change the appearance of plastic elements
  - Do not use spray chemicals directly on the device, risking electrical damage inside the device.
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- **Do not maintain or repair the inside of the device.**
  - **Disassembling the device will damage it.**

## **ERROR SIGNALING**

1. Damaged heater - 3s red flashes, then 3s off repeated.
2. Wrong adapter - 4 times short red flashes, then 2 times short red flashes, repeated.
3. Heater temperature drop below 52 °C due to power failure - steady red flashing.
4. Damaged NTC- 1s red flashes, then 1s off, repeated

**Errors can be cleared by disconnecting the power supply and reconnecting it 3 seconds later.**

**Attention, the system monitors the supply voltage and temperature, and if there is a power failure that does not cause the temperature of the heater to drop, the device will go into heating mode after the power supply is restored. An error indicating a power failure will be automatically deleted and the indicator will signal correct operation by lighting in green.**