



# MASTICATOR SILVER

USER'S GUIDE

Doc. No.593R02



**HOMOGENIZER**

**MASTICATOR**

**SILVER**

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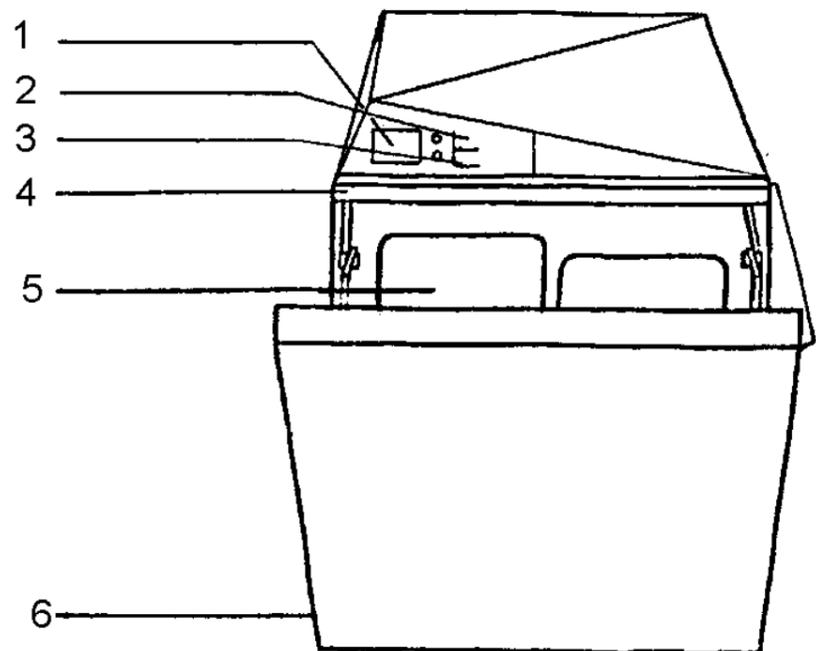
## **USE OF THE MANUAL**

All the letters which are circled; A, B, C, etc. refer to the stages which must be carried out by the operator. All the numbers; (no.1), (no.2), (no.3), etc. refer to the main illustration on the back cover.

## **IMPORTANT**

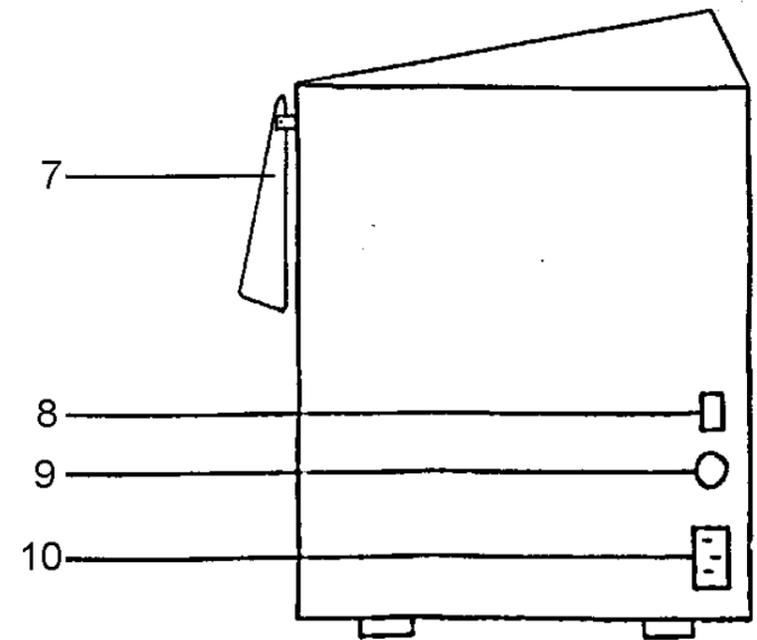
Read this little manual carefully before starting the apparatus. It will not take you very long and it will allow you to get to it more quickly and more conveniently.





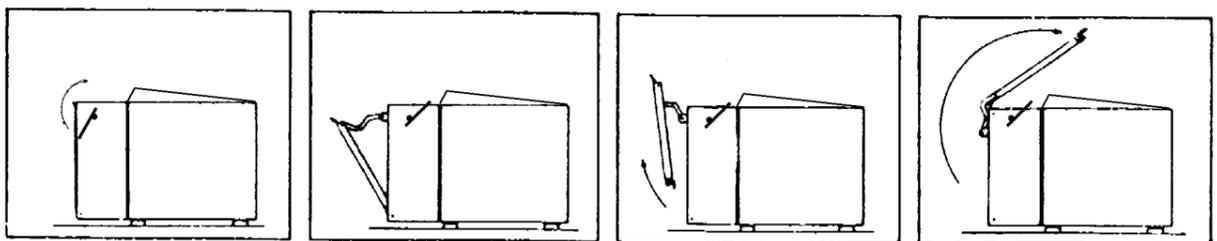
**FRONT PART**

- 1- Display
- 2- TIME key
- 3- SPEED key
- 4- Bag closing bar
- 5- Homogenisation blades
- 6- Lid holding bar



**REAR PART**

- 7- Opening and closing lever
- 8- Main power switch ON/OFF
- 9- Fuse
- 10- Mains lead connection



# 1. INTRODUCTION

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In many microbiological analysis processes it is essential to have available a liquid sample which has a bacterial content which is representative of a solid, semi-solid, paste and pulverulent, etc. original material. The liquid sample is easy to cultivate, or to process microbiologically, whereas the original material would not allow reliable results to be obtained.

In general, the homogenisation process involves the original substance and the support liquid or diluent being brought into close contact in order to establish a balance in the microbiological content of each.

This process facilitates the use of reusable material which must be washed and sterilised so as not to invalidate consecutive samples.

## **WHAT IS THE MASTICATOR?**

The Masticator is a simple and yet robust instrument, designed essentially to work for prolonged periods without maintenance, in any kind of environment. Initially devised for the homogenisation of different materials in order to take representative samples from them, it is currently used for other applications related to microbiological analysis.

In a short period of time, with a minimal amount of noise, and without the necessity of cleaning between samples, the Masticator carries out a profound homogenisation which makes it possible to obtain a diluent liquid perfectly representative of the sample to be analysed.

Its working principle lies in the use of bags made of strong polyethylene or other plastics, inside which the original sample and the diluent liquid are placed. The Masticator acts upon the sample and the diluent through the sides of the bag, which, at this moment, is perfectly sealed, without either soiling or contaminating any part of it whatsoever. The blades compress and allows for the periodic expansion of the sample and the diluent for a pre-determined period of time. This operating time is controlled by the microprocessor which can be adjusted by the operator. In spite of this, a process which is in progress can be interrupted by activating the lever in order to open the homogenisation compartment.

The parts which are in contact with the sides of the bag are made of stainless steel, and both the stopper and the homogenisation blades are perfectly accessible in order to allow them to be eventually cleaned. (See diagram, back page).

# 2. TECHNICAL SPECIFICATIONS

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- Maximum capacity per bag: 400 ml. (sample + diluent)
- Minimum capacity per bag: 80 ml. (sample + diluent)
- Tabulated speed values (strokes/sec): Speed: 5 6 7 8
- Tabulated time values (sec): 15, 30, 60, 90, 120, 150, 180, 210, 240.
- One position for unlimited time (000 on the display)
- Power supply: 220 V, 2 A, 50 Hz (110 V, 3 A, 60 Hz)
- Dimensions: 262 x 322 x 420 mm.
- Weight: 20 Kg.

# 3. INSTALLING AND STARTING THE INSTRUMENT

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The Masticator requires no special conditions for its installation. Its robustness and its reduced size allow it to be located in any part of the laboratory whatsoever. The only thing which it is necessary to take into account is the proximity of a power source and a surface large enough for it to be correctly supported.

**N.B. Do not expose the sample compartment to air .Its lower part is totally open. If the table is large enough, it will never be possible, not even by accident, for a hand to pass beneath the lid of the homogenisation compartment when the Masticator is in operation, in this way avoiding the possible trapping of ones fingers.**

The Masticator should be received in perfect condition, as it has been tested at the factory and the packaging means that it can stand up to the roughest treatment.

Remove the lid of the compartment, do this by lightly pulling the lever (no.7) forwards, detaching it from its interior holding bar, (no.6). Tilt it forwards and upwards it so that it is kept open (see the open position on the back cover).

Now look at the inside, clean off any possible remains of the packaging and see that the homogenisation compartment is open in its lower part. This design permits the easy elimination of any remains that could be left over after the accidental breaking of a bag on the inside of the homogenisation compartment.

Tilt the lid to its working position and fit the lower angle onto its holding bar. The instrument is now ready to operate in its most normal operation mode.

Now, plug the mains lead into its socket, (no.10), at the base, and switch on the main power switch ON/OFF, (no.8).

The Masticator will start up, showing a double countdown in both numbers of the display. Once at zero, the display shows the last readout on time or speed according to the LED lighting.

# 4. OPERATION AND USE THE CONTROLS

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A) By pushing the TIME key select the time (usually 60 sec). At any pulse, the readout must follow the sequence: 00, 15, 30, 60, 90 and 00 ... again. 00 means continuous operation only finished by opening the lid. Once the time is selected, push SPEED key.

Do the same procedure with SPEED and choose the appropriate value pushing the key between 5.0, 6.0, 7.0 and 8.0.

B) Put the sample and the dissolvent into a homogenisation bag. Do not exceed 500 ml in total. Centre the sample as much as possible in the bag.

C) Place the bag into the compartment, the lower ledge where the lid is held down by the bar, (no.6), is an end where the bag may be rested.

D) With the mouth of the bag very flat, held with one hand and supported by the rim of the lid, let out 5 cm. and go on to close the compartment with the lever, (no.7). A moment before the engine starts up the bag will have been hermetically sealed by the pressure of the lid upon the upper bar, (no.4). The mouth of the bag is trapped between the bar and the lid and is only free when the lever, (no.7), is activated again.

When the instrument is working the display shows the countdown of time and the operator can see the speed only by pushing the SPEED key.

E) Once the period of pre-determined time with the time key is elapsed, the motor will stop. Hold the flap of the bag and open the compartment with the lever,(no.7). Take out the bag.

## **CLEAN OF SAMPLE COMPARTIMENT**

Remove the lid of the compartment, do this by means of a light movement pulling it upwards and detaching it from its interior holding bar, 5. Tilt it forwards and upwards so that it is maintained supported (see the open position on the back cover).

Now look at the inside, clean off any possible remains of the packaging and make sure that the homogenization compartment is open in its lower part.

This design permits the easy elimination of any remains that could be left over after the accidental breaking of a bag on the inside of the homogenization compartment.

Tilt the lid to its working position and fit the lower angle onto its holding bar. The instrument is now ready for operation.

# 5. BEFORE NOTIFYING THE TECHNICAL SERVICE

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If the Masticator does not start up check the connection of the mains lead and the fuse, (no.9), situated on its rear side. If both of these are correct contact the technical service in your country or:

**IUL S.A.**

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08030 BARCELONA - SPAIN  
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**PLEASE NOTE:**

***THIS INSTRUMENT WILL NEED TO BE KEPT CLEAN BY THE USER. USE A CLOTH MOISTENED WITH WATER BUT NEVER FORGET TO DISCONNECT THE INSTRUMENT FROM THE POWER SUPPLY BEFORE BEGINNING TO CLEAN IT. THE STAINLESS STEEL COMPARTMENT CAN BE CLEANED WITH DISSOLVENTS OR OTHER MORE ACTIVE AGENTS, WITHOUT ANY DANGER OF ITS BEING DAMAGED IN ANY WAY.***

# 6. ACCESSORIES AND OTHER RELATED INSTRUMENTS

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The **MASTICATOR** is designed not to need any kind of periodic maintenance. The only accessories which are offered are sterile bags packaged in a variety of ways.

The **Smart-Dilutor**, the **Porta-Bag** and the **Stand & Tray** are also included in this section.

The **Smart-Dilutor** is a diluter especially designed for carrying out the dilution of microbiological samples directly into sterile homogenizer bags. The system automatically prepares your desired dilution based upon sample weight, liquid flow rate and predefined dilution factor.

The **Porta-Bag** is a device which allows six bags filled with the sample and the diluent to be held in a vertical position without the fear of spilling the contents. The tray which holds the pincers and these themselves are made of stainless steel.

The **Stand & Tray** is an device adaptable to all the models of Masticator. It consists of a support of stainless steel with a mouth that allows the collection of the bags liquid in case it breaks for any circumstance during the operation. The spilled liquid is collaged in a removable and interchangeable plastic tray.

# 7. WARRANTY CONDITIONS

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## LIMITED WARRANTY

**IUL S.A.** warrants the Instrument, disposables and replacement items, to the original "Purchaser" for a period of three (3) years after date of receipt by the end user, against defects in material and workmanship. **IUL S.A.** agrees to correct either by repair or, at its election, by replacement, any such defect found on examination to have occurred, under normal use and service, during such one (1) year period provided IUL is promptly notified in writing upon discovery of such defect to the address of one of its workshops noted in the User's Guide.

Upon discovery of such defect, the instrument should be sent to an IUL workshop noted in this User's Guide, postage prepaid.

## EXCLUSIONS

**IUL S.A.** shall not be liable as to any defect arising from abuse of the Instrument, failure to operate and maintain the Instrument in accordance with the User's Guide supplied with the Instrument, repair, service, alteration or modification of the Instrument by any person other than the authorized service personnel of IUL,

modification, change or reuse of the disposables supplied by IUL for use in the Instruments, operation outside of the environmental specifications for the product listed in the User's Guide or accidental damage to the Instrument.

## NO OTHER WARRANTIES

The warranty set forth above is exclusive and no other warranty, whether written or oral, is expressed or implied. IUL and its suppliers specifically disclaim any implied warranties including merchantability and fitness for a particular purpose.

## NO LIABILITY FOR CONSEQUENTIAL DAMAGES

**IUL** or its suppliers shall not be liable as to any damage whatsoever (including without limitation, special, incidental, consequential, or indirect damages for personal injury, loss of business profits, business interruption, loss of business information, or any other pecuniary loss) or defect arising from abuse of the Instruments, failure to operate and maintain the Instruments in accordance with the User's Guide, repair, service, alteration or modification of the Instruments by any person other than authorized service personnel of IUL, or modification, change or reuse of the disposables supplied by IUL for use in the Instruments.

## OTHER SPECIFICATIONS

Purchaser shall indemnify IUL and hold it harmless for all expenses, damages, attorneys' fees, and costs resulting from claimed infringement from patents, trademarks or industrial property rights arising out of compliance by IUL with Purchaser's specifications, designs or instructions.

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Acceptance by IUL of purchaser's order is expressly limited to and conditioned upon purchaser's acceptance of, and assent to, these terms and conditions referred to herein. Any additional, inconsistent or different terms and conditions contained in purchaser's purchase order or other documents submitted by purchaser to IUL at any time, are hereby expressly rejected by IUL. Purchaser acknowledges that, notwithstanding anything to the contrary contained in its purchase order or other documents, receipt and acceptance by purchaser of the Instrument shall constitute acceptance by purchaser of these terms and conditions.



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