

Maxicator Manual

MC-90002400/ MC-90002401

Laboratory Paddle Blender for large 3500ml bags



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1. Introduction

Thank you for choosing the Maxicator. We are confident that this instrument will become an integral part of your laboratory.

Before using the Maxicator, it is essential that you read this user manual carefully. Following the instructions and safety information in this user manual will ensure safe operation and will help to maintain the system in optimal condition.

1.1. Intended use of the Maxicator

Maxicator paddle blender enables thorough homogenization of samples while isolating them from any possible contamination.

The Maxicator ensure a safe and efficient homogenization. Food, cosmetic, pharmaceutical and clinical laboratories that seek for reliable homogenization that is cross contamination free enjoy this solution. Maxicator blenders disperse samples inside sterile bags with paddles that drive a squashing action while moving the sample from side to side.

This key step in sample preparation ensures homogenous distribution of microorganisms throughout the diluent.

The Maxicator is meant to homogenize 100 to 350 g (previously diluted) samples. Bags of 3500 ml without or with filter can be used, these last ones allow ensuring pipetting of debris-free homogenized liquid and are particularly recommended when homogenizations yield sample suspensions with high amounts of large-sized particles.

1.2. General Information

1.2.1. Scope of delivery

The delivery includes the following items:

- Maxicator instrument.
- Fuse.
- Power cord.
- User's Guide disk.
- 3500 ml Irradiated homogenizer bags, 50 pcs.
- Spill collecting tray.

1.2.2. Technical assistance

At Scigiene we pride ourselves on the quality and availability of our technical support. Our Technical Service Department is staffed by experienced technicians with extensive practical and theoretical expertise in the use of Scigiene products. If you have any questions or experience any difficulties regarding the Maxicator or Scigiene products in general, do not hesitate to contact us.

Scigiene customers are a major source of information regarding advanced or specialized uses of our products. This information is helpful to other customers as well as to the researchers at Scigiene. We therefore encourage you to contact us if you have any suggestions about product performance or new application and techniques.

For technical assistance, contact your Scigiene representative.

1.2.3. Policy Statement

It is the policy of Scigiene to improve products as new techniques and components become available. Scigiene reserves the right to change the specifications of products at any time.

In an effort to produce useful and appropriate documentation, we appreciate your comments on this user manual. Please contact Scigiene Technical Service with any feedback.

1.2.4. Requirements for Maxicator users

Table 1 covers the general level of competence for the use and servicing of the Maxicator.

Task	Personnel	Training and experience
Routine use	Laboratory technicians or equivalent	Training in techniques for laboratory instrument operation
Servicing	Scigiene Service Specialists only	Trained, certified, and authorized by Scigiene

2. Safety Information

Before using the Maxicator, it is essential that you read this user manual carefully. Following the instructions and safety information in this user manual will ensure safe operation and will help to maintain the system in optimal condition.

The following types of safety information appear throughout the Maxicator *Instructions for Use*.

WARNING 	The term WARNING is used to inform you about situations that could result in personal injury to you or other persons. Details about these circumstances are given in a box like this one.
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CAUTION 	The term CAUTION is used to inform you about situations that could result in damage to the instrument or other equipment. Details about these circumstances are given in a box like this one.
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The advice given in this manual is intended to supplement, not supersede, the normal safety requirements prevailing in the user's country.

2.1. Proper use

WARNING/ CAUTION 	Risk of personal injury and material damage Improper use of the Maxicator instrument may cause personal injury or damage to the instrument. The instrument must only be operated by qualified personnel.
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CAUTION 	Damage to the instrument Before plugging ensure which is the supported voltage. Ensure that the connection do not pass through wet places. Place the instrument on a stable and tough table to support weight and vibration. Do not place close to glass or sensitive elements.
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CAUTION 	Damage to the instrument Avoid spilling water or chemicals onto the Maxicator instrument. Damage caused by water or chemical spillage will void your warranty.
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In case of emergency, switch off the Maxicator at the power switch and unplug the power cord from the power outlet.

2.2. Electrical Safety

If operation of the Maxicator is interrupted in any way (e.g., due to interruption of the power supply or a mechanical error), first switch off the instrument using the power switch, then disconnect the electrical cord from the power outlet. Contact Scigiene Technical Service after such an incident.

WARNING 	Electrical hazard Any interruption of the protective conductor (earth/ground lead) inside or outside the instrument or disconnection of the protective conductor terminal is likely to make the instrument unsafe. Intentional interruption is prohibited. Lethal voltages inside the instrument When the instrument is connected to line power, its terminals may be live. Opening covers or removing parts is likely to expose live parts.
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To ensure satisfactory and safe operation of the Maxicator:

- The line power cord must be connected to a line power outlet that has a protective conductor (earth/ground).
- The instrument must not be operated with the cover removed.
- If liquid has spilled inside the instrument, switch it off, disconnect it from the power outlet, and contact Scigiene Technical Services.

If the Maxicator becomes electrically unsafe, prevent other personnel from operating it, and contact Scigiene Technical Service.

The instrument may be electrically unsafe if:

- The instrument or the power cord appears to be damaged.
- The instrument has been stored under unfavorable conditions for a prolonged period.

2.3. Environment

Operating conditions

WARNING 	Explosive atmosphere The Maxicator is not designed for use in an explosive atmosphere.
WARNING 	Risk of overheating Slits and openings that ensure the ventilation of the Maxicator must not be covered.
WARNING 	Risk of trapping The lower part of the homogenization compartment is open to allow the drain of liquids if a bag accidentally breaks. Do not operate the Maxicator placed with the homogenization compartment part outside of the table. If the table is large enough, it will never be possible, not even by accident, for a finger to pass beneath the door of the homogenization compartment when the Masticator is in operation, avoiding by this way a possible trapping of fingers.

2.4. Biological safety

Use safe laboratory procedures as outlined in publications such as *Biosafety in Microbiological and Biomedical Laboratories*, HHS:

<http://www.cdc.gov/od/ohs/biosfty/biosfty.htm>

WARNING 	Samples containing infectious agents Some samples used with the Maxicator may contain infectious agents. Handle such samples in accordance with the required safety regulations. The responsible person(s) (e.g., laboratory manager) must take the necessary precautions to ensure that the workplace is safe and that the instrument operators are suitably trained and not exposed to hazardous levels of infectious agents, as defined in the applicable Safety Data Sheets (SDSs) or OSHA ¹ ACGIH ² or COSHH ³ documents. Venting of fumes and disposal of wastes must be in accordance with all national, state, and local health and safety regulations and laws.
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2.5. Maintenance safety

CAUTION 	Damage to the instrument Do not use spray bottles containing alcohol or disinfectant to clean the surface of the Maxicator instrument or its parts. Spray bottles should be used only to clean items that have been removed from the instrument.
WARNING 	Risk of electric shock Do not open the panels on the instrument. Risk of personal injury and material damage Only perform maintenance that is specifically described in this Instructions for Use.

¹ OSHA: Occupational Safety and Health Administration (United States of America).

² ACGIH: American Conference of Government Industrial Hygienists (United States of America).

³ COSHH: Control of Substances Hazardous to Health (United Kingdom).

2.6. Waste disposal

Used consumables, such as sample tips or bags, may contain hazardous chemicals or infectious agents. Such waste must be collected and disposed of properly in accordance with local safety regulations.

For disposal of waste electrical and electronic equipment (WEEE) see Appendix A.

2.7. Symbols on the Maxicator instrument

Symbol	Location	Description
	Type plate on the bottom of the instrument	Waste Electrical and Electronic Equipment (WEEE)
	Type plate on the bottom of the instrument	CE Mark, see point 9.

3. General Description

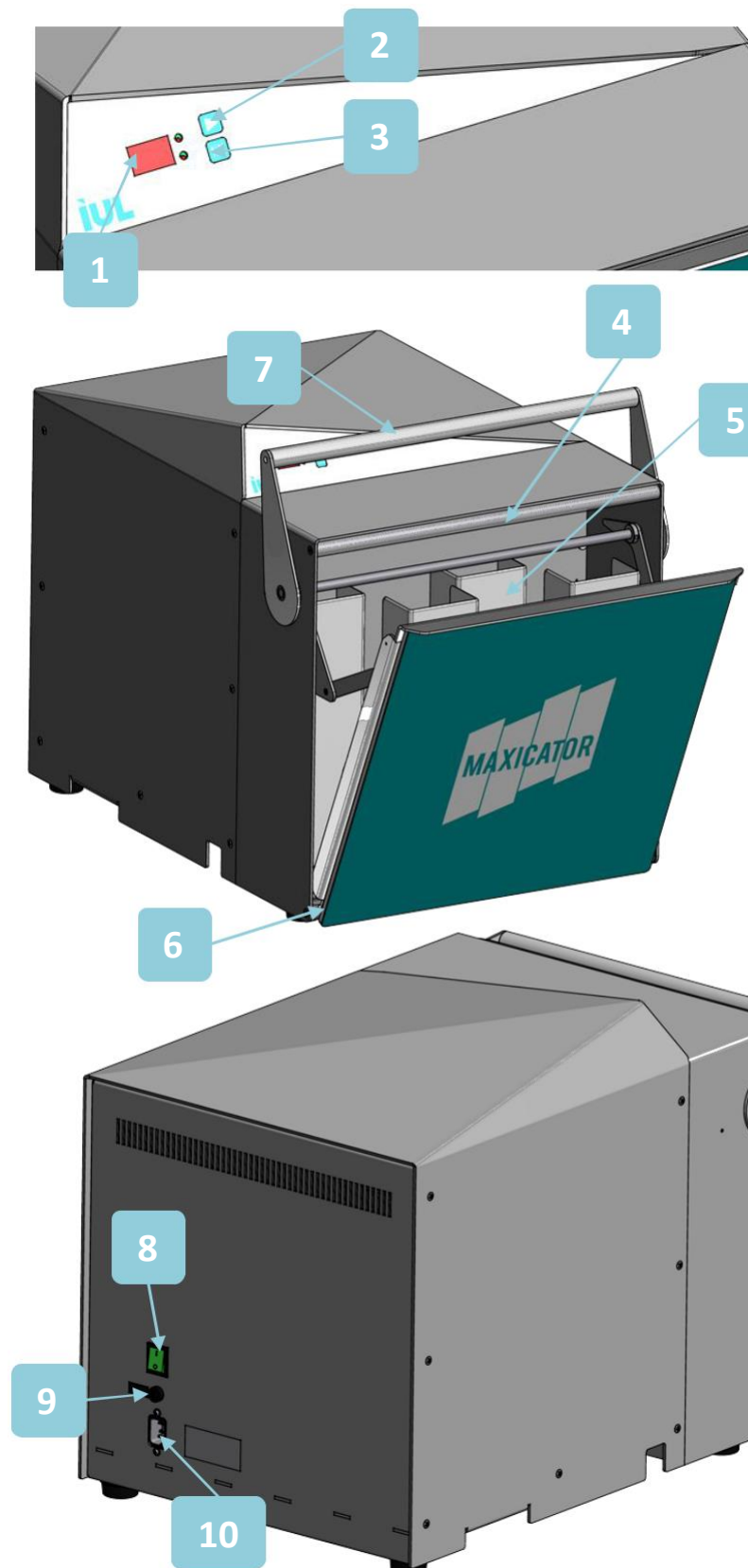
Maxicator is a simple, compact and robust instrument, designed essentially to work without maintenance for extended periods of time. Originally devised for the homogenization and taking representative samples of different materials, it is currently used for other applications related to microbiological analysis.

In a short period of time, without cleaning between samples, the Maxicator carries out a thorough homogenization that allows getting a perfectly representative sample solution.

Its working principle relies on the use of highly resistant sterilized polyethylene bags, into which the original sample and the diluent liquid are placed. Maxicator acts on the sample and the diluent without contacting them, only through the bag. During homogenization, the bag is hermetically sealed without any external contamination. The sample is compressed and expanded at regular intervals for a predetermined period of time by the paddles action. A microprocessor controls the operating time and this can be adjusted by the user. However the process can be interrupted opening the Maxicator door by operating the bar.

The parts in contact with the external side of the bag are stainless steel made and can be easily cleaned if needed.

3.1. Parts of the Maxicator instrument



FRONT PART:

3.1.1. Display

3.1.2. TIME key

3.1.3. SPEED key

3.1.4. Bag closing bar

3.1.5. Homogenization
paddles

3.1.6. Door holding bar

3.1.7. Door operating
bar

REAR PART:

3.1.8. Power switch
ON/OFF

3.1.9. Fuse

3.1.10. Mains Socket

3.2. Power cord

The Maxicator is equipped with a power cable with a plug suitable for the destination country. See the Package Check List for details.

3.3. Tray

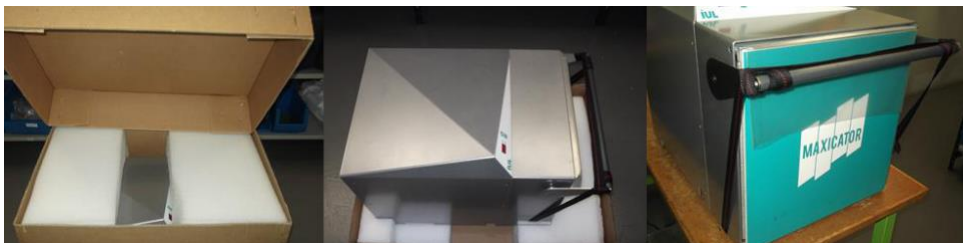
The Maxicator is equipped with a spill collecting tray of 4 liters.



4. Installation

4.1. Unpack the instrument

The packaging of the Maxicator can be stored for reuse.



4.2. Site requirements

Place the Maxicator instrument on a level, tough and stable surface, ideally a firmly secured bench top, near an earthed/grounded power outlet. Allow at least 10 cm (4 in) of clearance on all sides of the unit for proper ventilation. While operating, make sure that the instrument does not touch other objects. Locate it away from vibration-sensitive instruments, such as an analytical balance.

4.3. Tray placement

Place the spill collecting tray below the front part of the Maxicator, fitting the tray rear edge into the bottom slot of the Maxicator. Send the drainage pipe to a collecting container with a capacity higher than 4 liters.



4.4. Power cord connection

The socket for connecting the power cable is on the rear part of the Maxicator instrument.

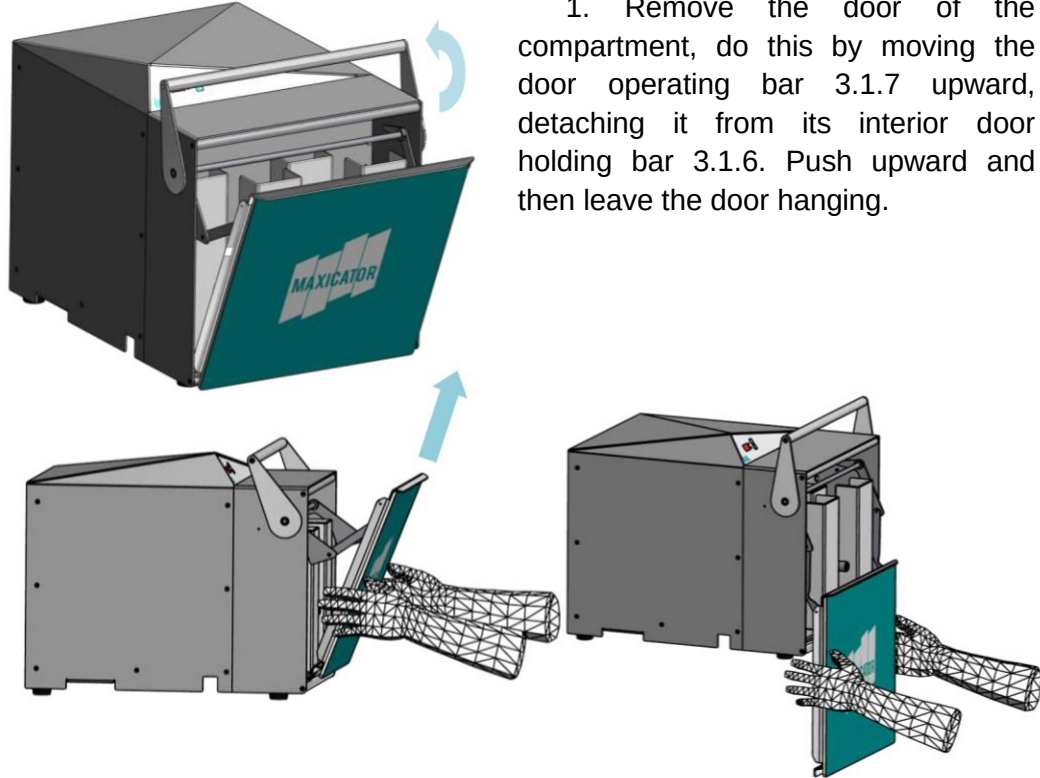
1. Connect the supplied power cord to the socket on the instrument.
2. Plug the instrument into the power outlet.
3. Switch the instrument ON.
4. Maxicator will start up showing a double countdown in both numbers of the display. Once at zero, the display shows the last readout on time or speed according to the LED lighted.

When the Maxicator is not in use for a long period of time, we recommend disconnecting the power cable.

5. Operating Procedures

5.1.Preparation

Before switching on the instrument:



1. Remove the door of the compartment, do this by moving the door operating bar 3.1.7 upward, detaching it from its interior door holding bar 3.1.6. Push upward and then leave the door hanging.

2. Clean the inside of any possible remaining of the packaging and verify that the homogenization compartment is open at its lower part
3. Put back the door to its working position making the reverse process. The instrument is now ready to operate.

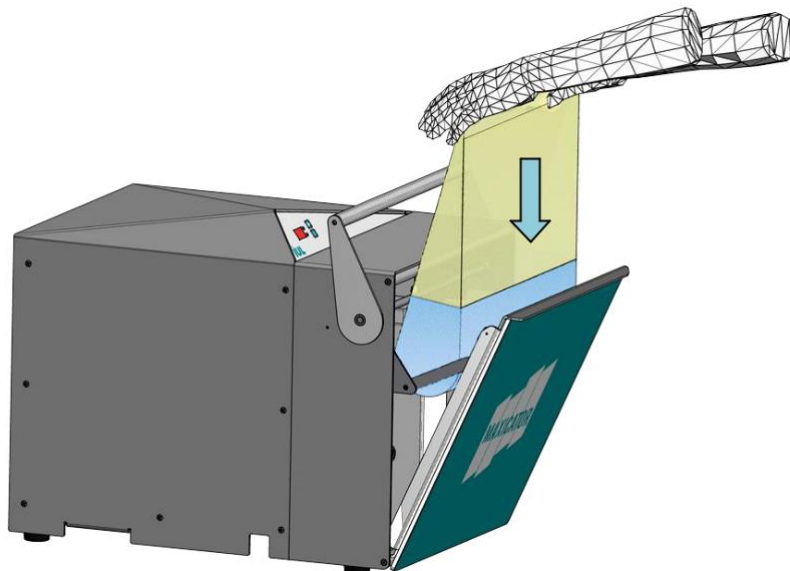
5.2. Settings

Push the TIME key to select the time (usually 60 sec.) At each pulse, the readout must follow the sequence: 000, 015, 030, 060, 090 and 000 ... again. 000 means continuous operation only finished by opening the door. Once the time is selected, push SPEED key.

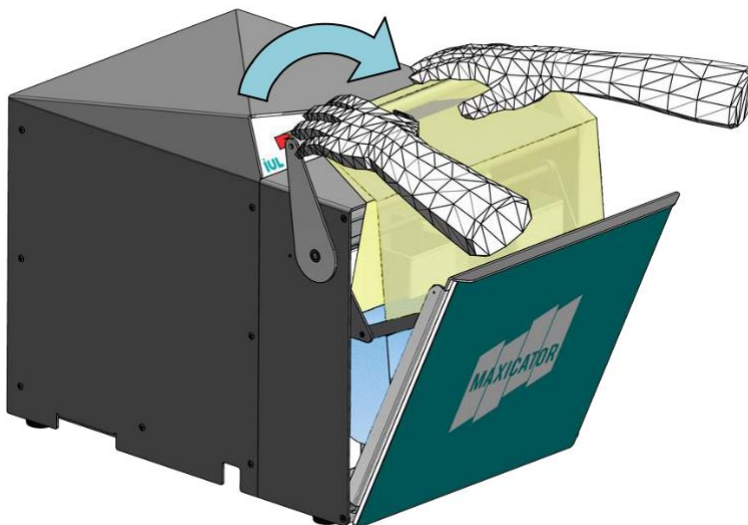
Do the same procedure with SPEED and choose the appropriate value pushing the key 3, 4, 5, and 6.

5.3. Performing the run

1. Put the sample and the solvent into a homogenization bag. Do not exceed a total of 3500ml. Center the sample in the bag as much as possible.
2. Place the bag, holding strongly with both hands, into the compartment. The lower ledge where the door is held down by the bar, is an end where the bag may rest.

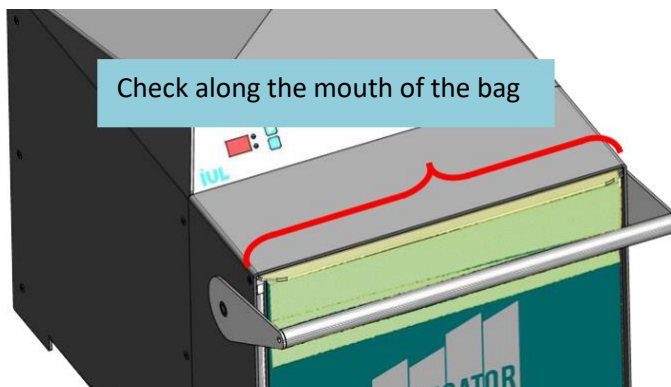


3. Without stopping to hold the bag with both hands, fold it along the door operating bar 3.1.7, and at the same time hold strongly with both hands the bag and the door operating bar together.



4. Drive the door operating bar 3.1.7 downwards **very slowly**, in order to let out the air of the bag and avoid leakage. Check any possible leakage along the mouth of the bag, and make the last click to close definitely the door.

At this very moment, the motor starts the cycle.



WARNING 	Samples may contain infectious agents Some samples used with the Maxicator may contain infectious agents. Handle such samples in accordance with the required safety regulations (See 2.4). To avoid a leakage of the sample that may contain infectious agents pay attention to do this step downwards the operating bar <u>very slowly</u>.
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5. The mouth of the bag is trapped between the bar and the door, and will be released only after the door operating bar 3.1.7 had been raised again.

When the instrument is working the display shows the countdown of time and the user can see the speed only by pushing the SPEED key 3.1.3.

6. 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 door operating bar 3.1.7. Take out the bag.

5.4. Troubleshooting

Symptom	Probable cause	Recommended action
During an operation there is a strong noise coming from the door of the homogenization receptacle	The door is not well placed onto to the door holder bar and the paddles are hitting the door	Open the homogenization receptacle and place the door correctly onto the door holder bag
The display is off, and the cycle doesn't start when the door is closed	The main fuse is blown	Replace the fuse as described in 6.3
Liquid appears in the tray	A sample bag has broken and its content spilled	Clean the sample compartment as described in 6.2

6. Maintenance

6.1. Cleaning procedure

Disconnect the Maxicator from the power supply for cleaning. Use a lightly moistened cloth or an antistatic cloth. Do not use cleaning agents or abrasive solvent products.

CAUTION 	Damage to the instrument Do not use spray bottles containing alcohol or disinfectant to clean the surfaces of the Maxicator instrument or its parts. Spray bottles should be used only to clean items that have been removed from the instrument.
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6.2. Cleaning of sample compartment

See chapter 5.1

The design allows the easy elimination of any remaining that could have been falling over after the accidental breaking of a bag on the inside of homogenization compartment.

6.3. Replacing the main fuse

To replace the main fuse, follow this procedure:

1. Switch OFF the instrument.
2. Remove the power cord from the socket.
3. Remove the fuse holder.
4. Remove the fuse from the fuse holder.
5. Insert the new fuse and insert the fuse holder into the instrument.

Specifications of the fuse are given in Appendix A "Technical data".

7. Appendix A: Technical Data

Scigiene reserves the right to change specifications at any time.

Specifications

Maximum recommended capacity per bag:	3500ml. (sample + diluent).
Minimum recommended capacity per bag:	100ml. (sample + diluent).
Tabulated speed values (strokes/sec):	Speed: 3, 4, 5, 6.
Tabulated time values (sec):	15, 30, 60, 90, 120, 150, 180, 210, 240.
One position for unlimited time:	(000 on the display).

Environmental Conditions

Operating conditions

Power range	100V, 120V, 230-240V AC (according to model)
Frequency range	50, 60Hz (according to model)
Fuse	3.15 A T 250V (230-240V model) 6.3 A T 250V (100V and 120V model)
Maximum power	650W
Overvoltage category	II
Air temperature	15–32°C (59–89.6°F)
Relative humidity	15-75% (non-condensing)
Altitude	Up to 2000m. (6500ft.)
Place of operation	For indoor use only
Pollution level	2

Transportation conditions

Air temperature	-25°C to 60°C (-13°F to 140°F) In manufacturer's packaging
Relative humidity	Maximum of 75% (non-condensing)

Storage conditions

Air temperature	5°C to 40°C (41°F to 104°F) In manufacturer's packaging
Relative humidity	Maximum of 75% (non-condensing)

Dimensions and Weight

Dimensions	Width: 440mm (17.3in) Height: 500mm (19.7in) Depth: 570mm (22.4in)
Weight	52.5kg (115lb)

Waste Electrical and Electronic Equipment (WEEE)

This section provides information about disposal of waste electrical and electronic equipment by users.

The crossed-out wheeled bin symbol (see below) indicates that this product must not be disposed of with other waste; it must be taken to an approved treatment facility or to a designated collection point for recycling, according to local laws and regulations.

The separate collection and recycling of waste electronic equipment at the time of disposal helps to conserve natural resources and ensures that the product is recycled in a manner that protects human health and the environment.



Warranty

The Maxicator instrument has a 36-month warranty period which starts when the instrument is purchased from Scigiene.

The warranty is void when misuse of the equipment can be proved. Damage or manufacturing faults caused by impacts, chemical or corrosive products, liquids, damp, or other external factors, such as radiation, fire, or inadequate transport are not included.

In addition, the warranty will not apply if the equipment has been handled, repaired, or modified by not qualified or specifically designated personnel.

8. Appendix B: Ordering Codes

Product	Contents	Part #
Maxicator 230V 50Hz	Maxicator unit with Instructions for Use, power cord and 50 sterile bags.	MC-90002400
	3500 ml Irradiated homogenizer bags, 50 pcs - Power cord (Schuko) - User's Guide - Maxicator Tray	MC-900014030 MC-90004017 MC-50007863 MC-900011524
Maxicator 120V 60Hz	Maxicator unit with Instructions for Use, power cord and 50 sterile bags.	MC-90002401
	3500 ml Irradiated homogenizer bags, 50 pcs - Power cord (NEMA 5-15P) - User's Guide - Maxicator Tray	MC-900014030 MC-90004018 MC-50007863 MC-900011524
Maxicator 100V 50/60Hz	Maxicator unit with Instructions for Use, power cord and 50 sterile bags.	MC-90002402
	3500 ml Irradiated homogenizer bags, 50 pcs - Power cord (NEMA 5-15P) - User's Guide - Maxicator Tray	MC-900014030 MC-90004018 MC-50007863 MC-900011524

8.1. Accessories and consumables

The following accessories can be purchased separately. State the order number (cat. no.) when ordering the accessory.

Product	Part #
3500 ml Irradiated homogenizer bags, 250pcs packed in 50 bag packs	MC-900014035

9. Appendix C: EC Declaration of Conformity

Manufacturer Name:

IUL, S.A.

Manufacturer Address:

Torrent de l'Estadella, 22 08030 Barcelona Spain

Declares that the product Name:

Maxicator

Part Numbers:

MC-90002400, MC-90002401, MC-90002402

Conforms the Council Directives:

- Directive [2004/108/EC](#) of the European Parliament and of the Council of 15 December 2004 on the approximation of the laws of the Member States relating to electromagnetic compatibility.
- Directive [2006/95/EC](#) of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits.

Standards which Conformity is Declared:

- [UNE-EN 61326-1:2006](#) Electrical equipment for measurement, control and laboratory use - EMC requirements -- Part 1: General requirements (IEC 61326-1:2005)
- [UNE-EN 61010-1:2011](#) Safety requirements for electrical equipment for measurement, control, and laboratory use -- Part 1: General requirements.

Barcelona, July 2015



A handwritten signature in black ink, appearing to read 'Diego Moreno'.

Diego Moreno / Quality Manager