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# MEDIMACHINE II

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Dissociator and Homogenizer  
*(code 121600)*



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USER MANUAL





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# **MEDIMACHINE II**

Dissociator and Homogenizer

## **User manual**

Rev. 08

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## Important information

### Please read before use!

Please read all information contained in this chapter before use.

The use of an instrument for a task other than that for which it is intended, as well as improper or insufficient maintenance can greatly reduce the life time of the instrument and will invalidate the instrument's warranty. Incorrect handling and care as well as misuse can lead to premature wear or can cause hazards to users.

The following chart is an illustrated glossary depicting the symbols that are used in this user manual and on the Medimachine II.

## Symbols

### Warning



Triangles indicate general warnings. Warnings include the risk of damage to the equipment, severe personal injury, or loss of life. Consult the user manual for further instructions and proceed with caution.

### Warning



This symbol indicates the risk of loss of life or severe injury to the instrument operator due to high voltage. Consult the user manual for further instructions and proceed with caution.

### Warning



This symbol indicates the risk of loss of life, severe injury to the instrument operator, or equipment damage due to potentially dangerous chemical or biological material. Consult the user manual for further instructions and proceed with caution.

### Caution



This symbol indicates the risk of equipment damage if instructions in the user manual are not followed precisely. It is therefore strongly recommended that the instrument operator consult the corresponding chapters in the respective documentation.

### Protective conductor terminal



Symbol is attached on the inside of the instrument. Warning for service personnel only.



On (supply)



Off (supply)

## Warnings and precautions



This chapter contains information for the safe operation of the Medimachine II. Detailed instructions regarding safety are provided throughout this manual, marked with the symbols described above. The operator is responsible for the correct use of the Medimachine II following the instructions given in this manual and in full accordance with all local, state, and federal laws that may apply. The impeccable and safe operation of the instrument presumes that any operator understands the user manual and pays attention to all safety information.

**Keep this user manual in a safe place, accessible for anyone using the Medimachine II. At all times, all safety instructions in this user manual, local working area safety instructions, laboratory policies, and standards regarding laboratory safety and health, and prevention of accidents must be adhered to.**

In the case of safety-relevant defects of the equipment, C.T.S.V. srl technical service must be contacted.

To ensure safe operation of the Medimachine II all covers or parts that have been removed from the Medimachine II must be re-installed prior to setting the instrument into operation. Do not allow fluids or objects to enter the interior of the instrument.

Incorrect handling of the Medimachine II bears risks in the form of mechanical, electrical, chemical, and biological hazards.

The instrument must be used only with properly installed Medimachine II disposable whose lids are tightly closed.

## Electrical hazards



Please be particularly aware of electrical hazards. Standard electrical safety precautions must be applied at all times. Only qualified personnel are permitted to perform electrical servicing. It is strictly forbidden to operate the instrument with disassembled or damaged parts.

The instrument is equipped with a three-wire electrical grounding-type plug. This is a safety feature. Do not insert the plug into a non-grounded power outlet. If you cannot insert the plug into the outlet or if you are not sure whether the outlet is grounded, contact your local electrician.

The instrument should only be operated from a power source indicated on the product's electrical ratings label. If you have questions about the type of power source to use, contact your authorized C.t T.S.V. srl service provider or local power company.

Make sure that the main switch as well as the connector for the power cable are easily accessible and located as close to the operator of the instrument as possible. If it is necessary to disconnect the power supply, unplug the cable from the power outlet.

After moving the Medimachine II Dissociator from a cold environment, for example, a cold room at 4 °C to room temperature, it is necessary to wait a minimum of 4 hours before setting the instrument into operation. Condensing liquid droplets can severely damage the instrument.

## Chemical and biological hazards



The proper handling of the Medimachine II disposable minimizes exposure to the samples. However, potential hazards to the operator still exist. The operator must choose and wear personal safety equipment in accordance with warnings and precautions for the used substances. Defective or inadequate safety equipment might endanger the operator.

The Medimachine II must be operated within a safety enclosure when hazardous or unknown materials are processed, to protect persons and the laboratory environment from contamination.

All liquid and solid waste must be considered biohazardous and, therefore, must be handled taking universal laboratory precautions. All clinical samples must be considered potentially infectious.

Toxic or corrosive chemicals, poisonous, acidic, or radioactive substances may be present.

It is strictly prohibited for anyone other than the operator to handle contaminated accessories or contaminated parts of the Medimachine II.

## Servicing



Unless otherwise mentioned in the C.T.S.V. srl documentation, do not service the equipment yourself. Service needed on components inside the instrument must be carried out only by personnel trained and authorized by C.T.S.V. srl.

## Introduction

The Medimachine II Dissociator is a benchtop instrument for the automated dissociation of tissues to obtain single-cell suspensions. Single-cell suspensions are a crucial prerequisite to achieve reliable results in cell separation, cell analysis, and cell culture. Moreover, the Medimachine II can be used for the homogenization of cells and tissues to extract biomolecules for molecular biology or protein biochemistry applications.

Medimachine II homogenizer provides high quality results for extraction of molecules for the analysis of chemical residues, virus, bacterias, etc.

Four types of disposables have been specially designed:

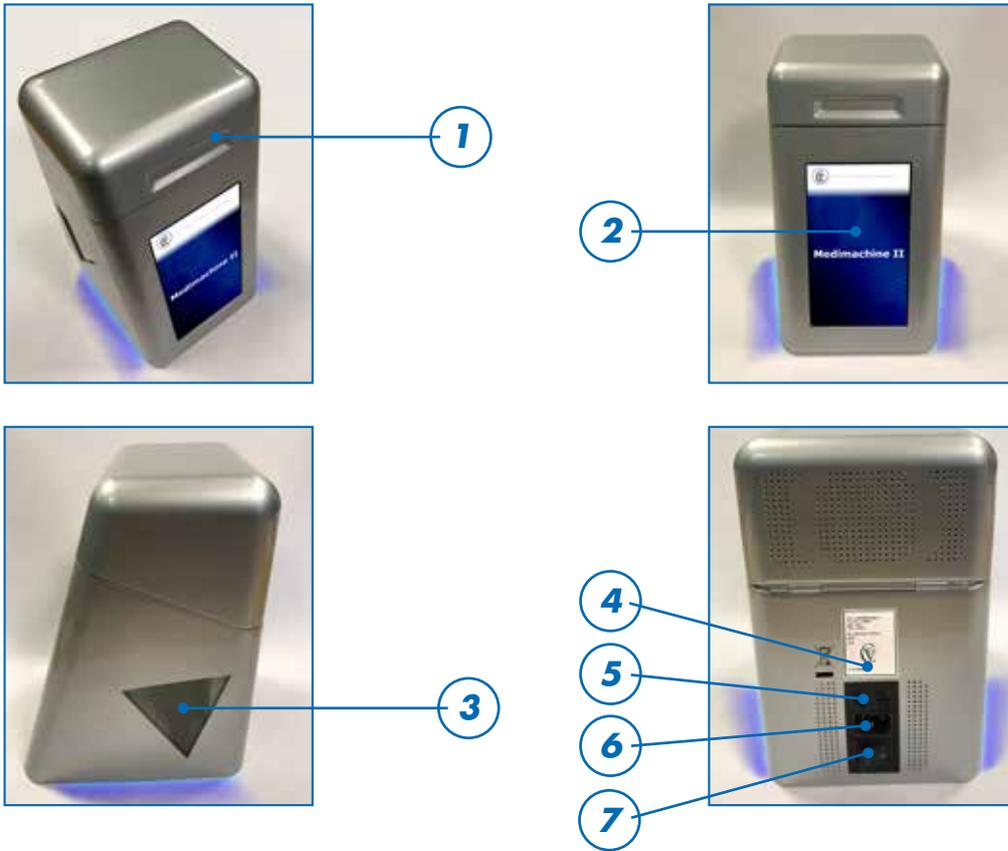
Medicons and Medicons Max for the gentle preparation of viable single cells suspensions from solid tissues;

Prypcons and FOODcon7 for the homogenization of tissues and cells

A number of Medimachine II programs have been specifically developed to offer standardized procedures for the gentle dissociation or fine homogenization of various samples.

Operator could add and remove new customized programs.

# 3 Medimachine II Product and Spare Parts



- 1. **Lid**
- 2. **Display**  
This specific screen has been selected for use wearing lab gloves.
- 3. **Inspection window**
- 4. **ID Label**
- 5. **Connectors**
- 6. **Fuses**  
N° 2 fuses x 2A
- 7. **Start push-button**  
ON: position the switch to "1"  
OFF: position the switch to "0"
- 8. **Prypcons**
- 9. **Foodcon 7**
- 10. **Medicons**
- 11. **Medicons Max**
- 12. 13. **Adapters**  
All adapters for dissociation are white.  
All adapters for homogenization are light blue.



Before connecting the power cord to the power outlet, ensure that the voltage is the one stated in the ID label.



## Storage and handling

The Medimachine II must be stored and operated under dry conditions (non-condensing humidity). Storage temperature must be between  $-15\text{ }^{\circ}\text{C}$  and  $+70\text{ }^{\circ}\text{C}$ . The instrument should be operated at a temperature between  $+5\text{ }^{\circ}\text{C}$  and  $+45\text{ }^{\circ}\text{C}$ .

## Installation

Please unpack the instrument carefully and check for completeness and for any damage that may have occurred during transportation. If there is any damage, contact your local C.T.S.V. srl representative or C.T.S.V. srl technical service. Please keep the original packaging material.

The Medimachine II is designed exclusively for indoor use.

### Components included in delivery

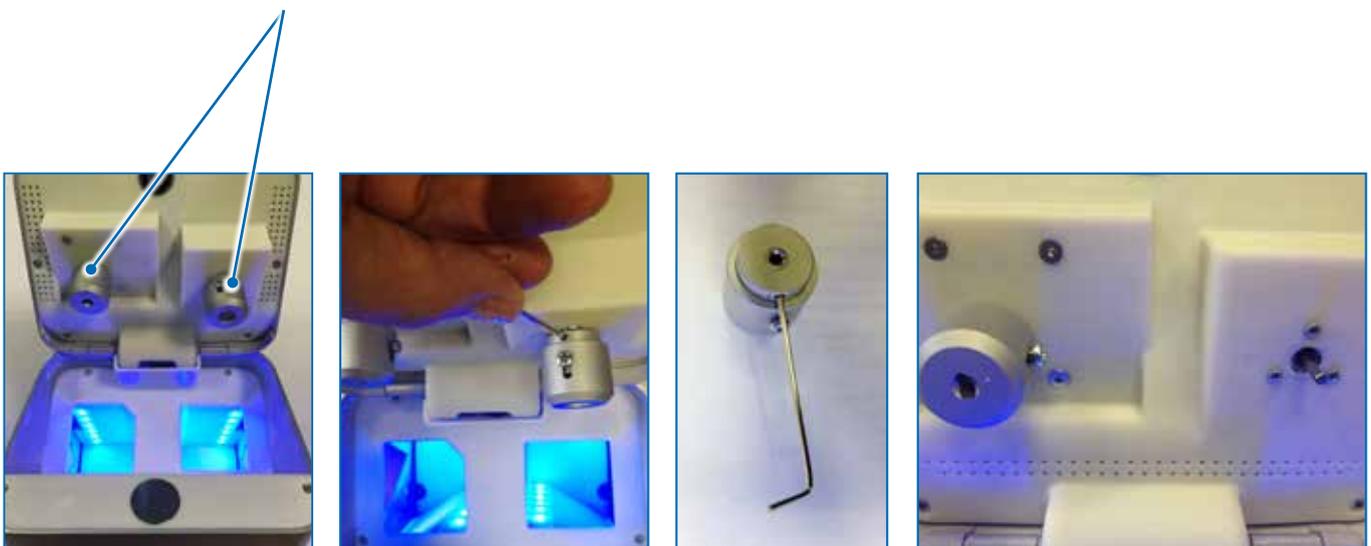
- 1 Medimachine II
- 1 power cord
- 1 Medimachine II user manual
- Basic tool (screw driver and/or allen key)
- 4 adapters for the related disposables

### Installation

The Medimachine II requires a flat surface with dimensions 250 mm × 400 mm and a power connection. To operate the instrument, the keyboard area and the top of the instrument must be accessible. The Medimachine II is a plug & play instrument.

### Shaft hooks removal

In case deep cleaning or sterilization is required, it is possible to disassemble the shaft hooks using the basic tools included in the delivery.



## DESCRIPTION OF THE INSTRUMENT



1



2



3



4

5

6

7

1. **Lid**

2. **Display**

This specific screen has been selected for use wearing lab gloves.

3. **Inspection window**

4. **ID Label**

5. **Connectors**

Before connecting the power cord to the power outlet, ensure that the voltage is the one stated in the ID label.

6. **Fuses**

N° 2 fuses x 2A

7. **Start push-button**

ON: position the switch to "I"

OFF: position the switch to "O"



## USE OF INSTRUMENT

### Part 1

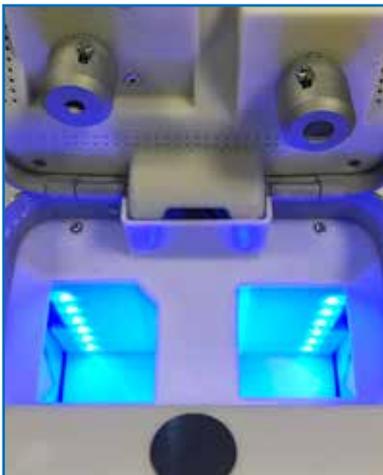


#### 1. Home page



#### 2. Choose language

At installation please choose the appropriate language touching the flag



#### 3. Empty

When the Medimachine II is in standby all led are on



#### 4. Back to home

Touch the back arrow to reach the home page

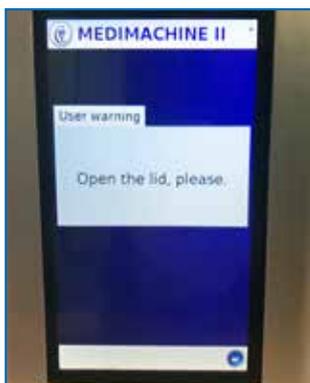
## USE OF INSTRUMENT

### Part 2 (Dissociation chapter)



#### 5. Choose disposable dissociation

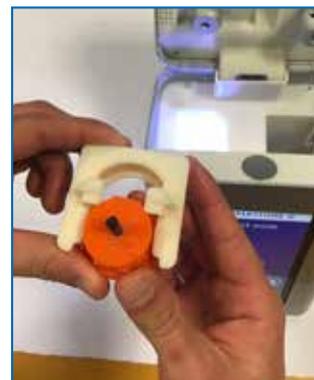
Where dissociation of a solid tissue is required, follow the procedure below selecting the appropriate dissociation disposable: Medicons and Medicons Max



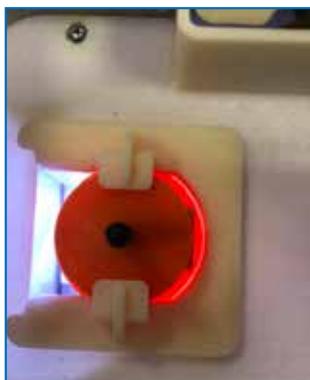
6. Pop-up lid warning



7. Position light



8. Disposable adapter



9. Position in place



10. Select mode



11. Manual program



12. Pop-up lid warning



13. Time setting



14. Run



15. Running



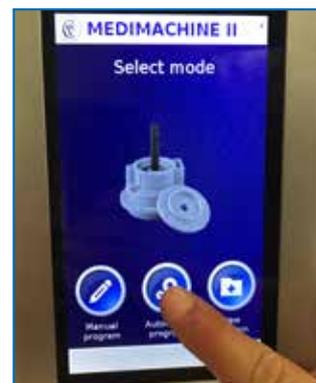
16. End

When the process is terminated the magnetic lock is released



17. Remove disposable

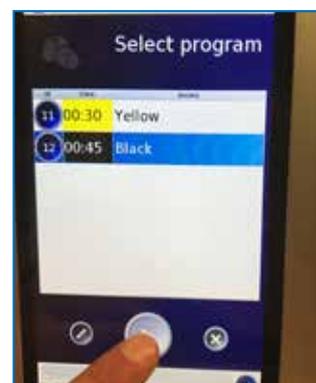
Now is possible to open and remove the disposable

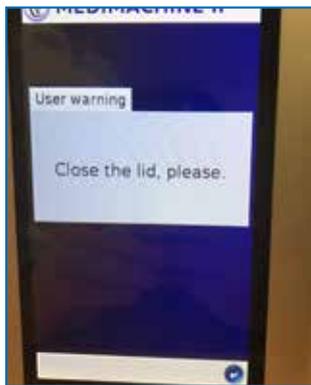


18. Automatic program



19. Select automated program





20. Pop-up lid warning



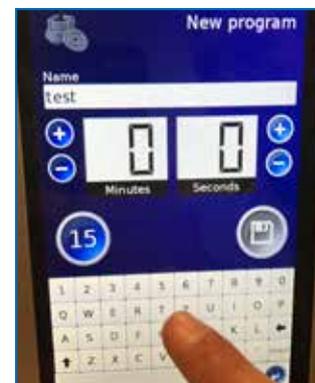
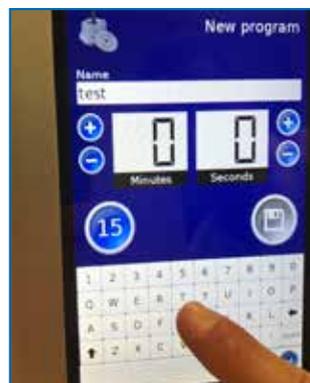
21. Running

**22. manual stop**

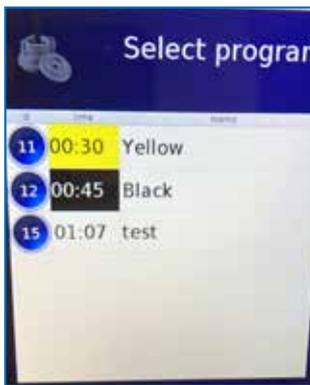
During all sample processing, the operator can manually stop the instrument by touching the stop button



23. Add new program

**24. Customized new program**

can be added both for dissociation and homogenization

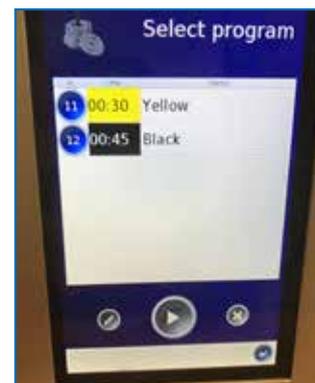
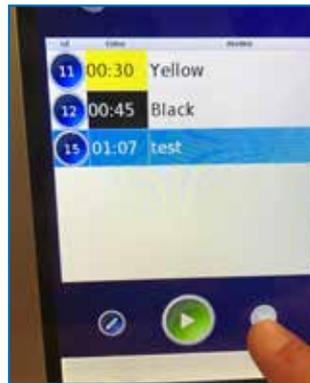
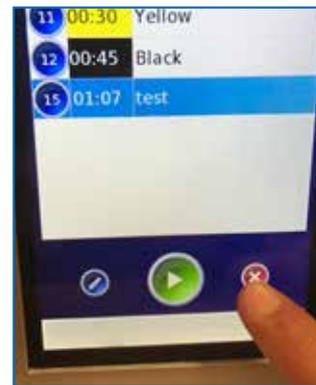


25. New program added



26. New program removal

The customized program can be easily removed by selecting the program and touching the X icon



## USE OF INSTRUMENT

### Part 3 (Homogenization chapter)

Where sample homogenization is required, follow the procedure below selecting the appropriate homogenization disposable: Pypcons and FOODcon7



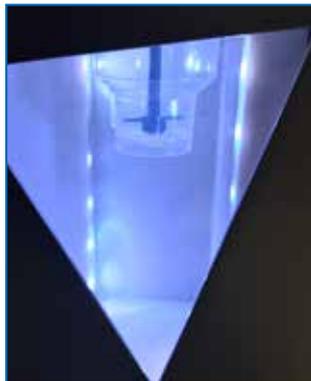
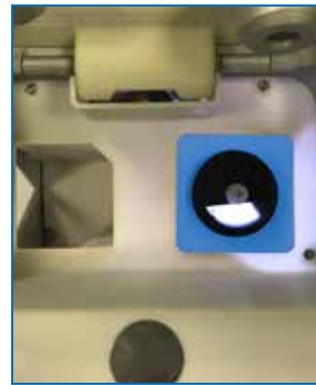
27. Choose disposable homogenization



28. Position light



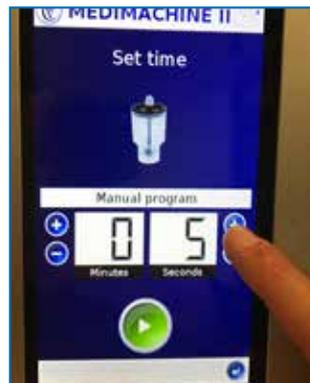
29. Position in place



30. Inspect sample placement from outside

31. Manual program  
to select manually the running time

32. Pop-up lid warning



33. Time setting



34. Run

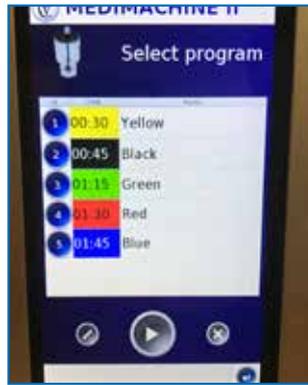


35. Running

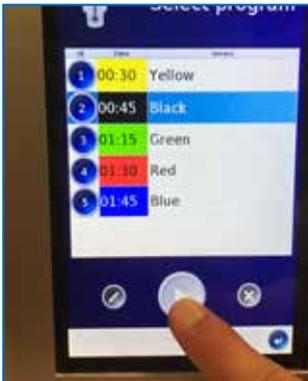
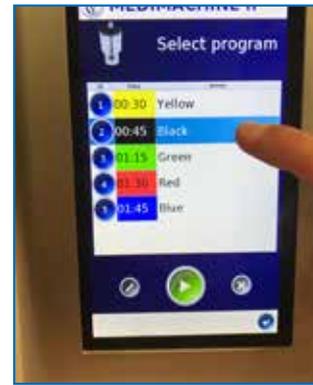
36. End  
When the process is terminated the magnetic lock is released37. Remove disposable  
Now is possible to open and remove the disposable



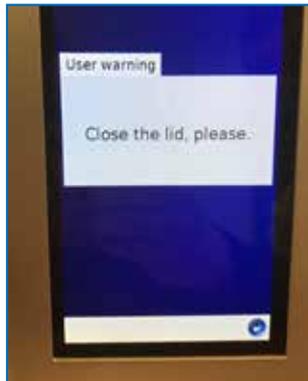
38. Automatic program



39. Select automated program



40. Select automated program and run



41. Pop-up lid warning



42. Running



43. Manual stop

## USE OF INSTRUMENTS

### Part 4



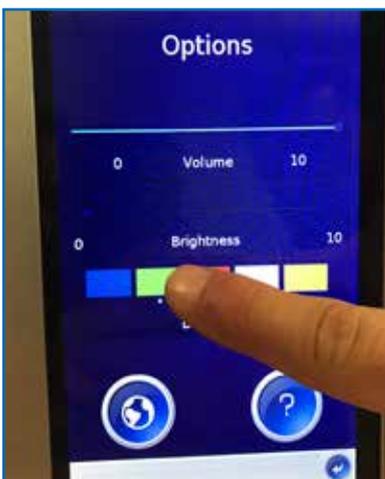
#### 44. Settings

Touch setting icon to access to settings options

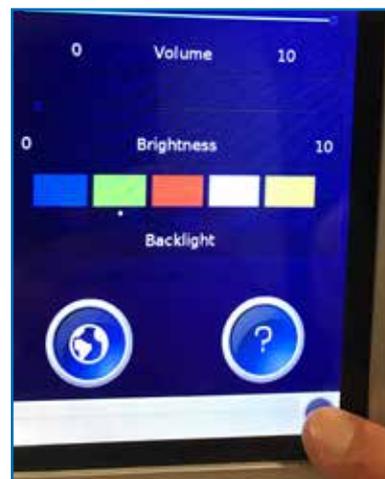


#### 45. Setting options

From the setting options page, voice, volume, brightness and led colours may be customized



#### 46. Led colours

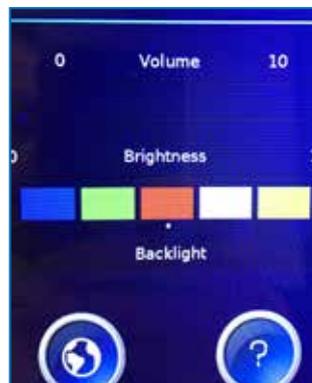


#### 47. Confirm setting and esc

Everytime operator changes colour as well as other options, return to the home page to confirm settings



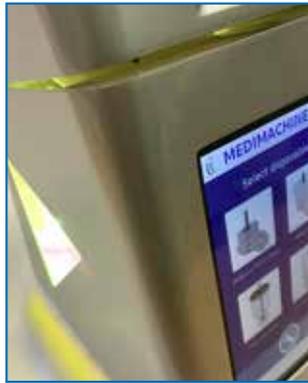
#### 48. Green light



#### 49. Red light



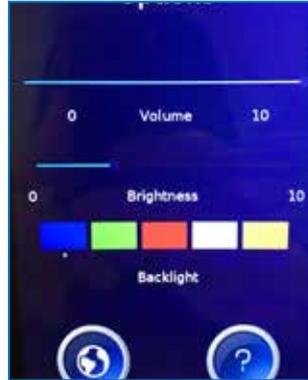
50. Red light



51. Other colours choices



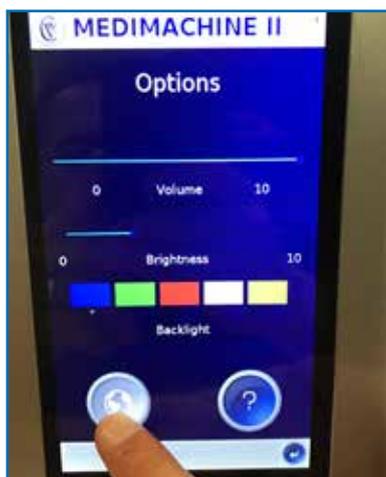
52. Other colours choices



53. Other colours choices

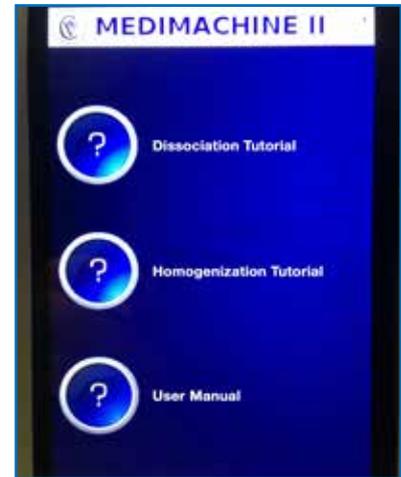
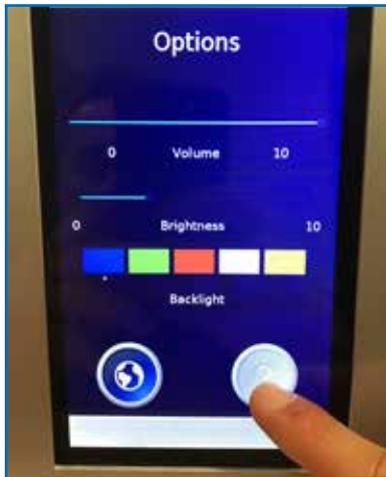
## USE OF INSTRUMENTS

### Part 5



### 54. Change language

From the settings page, select the planet icon to access to the language selection page and select as required



### 55. Help

Touch the question mark to access to tutorials and operating instructions

## FUSES REPLACEMENT

Refer to the *DESCRIPTION OF THE INSTRUMENTS* on page 13 of this manual

To replace fuses on MEDIMACHINE II:

With a suitable tool, remove the fuse holder, replace the fuses and replace the fuse holder



### CLEANING AND DECONTAMINATION

In case of proper operation of the device, cleaning is not required.

In case of abnormal operation of the disposables, with possible leakage, it is recommended to clean the outside of the machine, using a cloth moistened with sodium hypochlorite.

### MAINTENANCE AND SERVICE

In case of malfunction, except for the replacement of fuses, the device must be sent to the supplier for repair / replacement.

## Maintenance

### Cleaning

In case of spillage or contamination, clean the instrument appropriately. For decontamination, use 70% ethanol or a 1% hypochlorite solution.



- Do not allow fluids or objects come in contact with the interior of the Medimachine II.
- Ensure to clean the instrument exclusively with cleaning agents recommended by C.T.S.V. srl. Do not use acetone or any aggressive agents.
- Do not leave disposable attached to the instrument while not in use.
- When processing infectious, radioactive, poisonous, or any other hazardous liquids, always abide by the necessary safety precautions.
- If servicing of the Medimachine II is required, send the instrument back to a service provider authorized by C.T.S.V. srl. Make sure that all parts are decontaminated and sterilized. Use the original packaging material.
- Always use your personal safety equipment while removing or disassembling parts of the Medimachine II for cleaning or sterilization.

### Internal quality control

During the lifetime of the instrument no calibration is necessary. To check the quality of the instrument, the Medimachine II must be sent to C.T.V.S. srl.

### Disposal information

The Medimachine II shall be disposed of according to the biosafety level of its use. Potentially contaminated parts must be sterilized before being disposed of, according to local laboratory regulations.

Decontamination is within the responsibility of the operator of the instrument. Contaminated instruments or contaminated parts of the instrument must not be sent or given to any person.

**System error 01:** switch off from the main switch and after 10 seconds switch on again.

If the Medimachine II does not switch on, check if power cord is connected and main switch is on. If it is connected and the switch is on but the instrument remains off, please proceed with fuse replacement as described into the manual.

For any other issues and troubleshooting please contact the supplier or authorized technical service.

## Technical specifications

Technical specifications		
<b>Size</b>	Length x Width x Height	211 mm x 164 mm x 257 mm
<b>Weight</b>		2,50 kg
<b>Main power</b>	Power consumption	120 W
	Supply voltage	85 ~ 264 VAC, 47-63 Hz
	Fuses	2 x 2A
<b>Motors</b>	Low speed specs	rotational speed → 90 rpm rotation wise → clock wise max torque → 420 mNm
	High speed specs	rotational speed → 22.200 rpm rotation wise → clock wise stall torque → 123 mNm
<b>Conditions of operations</b>	Working temperature	+5 to +45 °C degrees
	Humidity	less than 90%
	Altitude	Unlimited
<b>Storage temperature</b>		0 to +50 °C degrees

## Warranty

C.T.S.V. warrants the Medimachine instrument against defects in material and workmanship for a period of 12 months from date of purchase.

If any defect should occur during this period of warranty, C.T.S.V. will repair or replace the defective parts free of charge.

This warranty covers only Medimachine II. The Medicons, Medicons Max, Prypcons, FOODcon7, Filcons Max and Filcons used in combination with the Medimachine II instrument are not covered by the warranty. This warranty is valid only if the instrument and its functions have been used according to the operating manual.

This warranty is not valid if repairs or modifications have been done by anyone other than C.T.S.V. authorized personnel. This warranty specifically excludes damages or defects resulting from shipping, misuse, accident, carelessness, or neglect and C.T.S.V. liability under the warranty is subject to receipt of reasonable proof by the customer that the defect is contained within the terms of the warranty. All claims made under this warranty must be presented to C.T.S.V. within 12 months following the date of purchase of the Medimachine II instrument.

This warranty is in lieu of any other warranties or guarantees, expressed or implied, arising by law or otherwise. C.T.S.V. makes no other warranty, expressed or implied, including warranties or merchantability or fitness for a particular purpose. Under no circumstances shall negligence, strict liability, breach of warranty, or any other theory, arising out of the use of the Medimachine II instrument.



**Instrument model**

**MEDIMACHINE II**

**C.T.S.V. code n°**

**121600**

**Customer purchase order n°**

\_\_\_\_\_

**Serial number**

\_\_\_\_\_

**Invoice n°**

\_\_\_\_\_

**Date of purchase**

\_\_\_\_\_

**Warranty period**

\_\_\_\_\_

**Date**

\_\_\_\_\_

**C.T.S.V. Q.C. Signature**

\_\_\_\_\_

**(available on printed warranty only)**

## Technical service

For support and technical questions, please contact your local C.T.S.V. srl representative or C.T.S.V. srl Technical Support:

C.T.S.V. srl  
Via Marco Polo 28  
10090 Bruino (TO)  
Italy

Tel. +39 011 9049381  
Fax +39 011 9055288  
[info@ctsv.biz](mailto:info@ctsv.biz)

[www.ctsv.biz](http://www.ctsv.biz)

## EC Declaration of conformity

12

The Manufacturer C.T.S.V. Srl with main office in Via Marco Polo 28 – 10090 Bruino (TO) – ITALY hereby states, under his responsibility, that the tissue homogenizer equipment:

Model: **MEDIMACHINE II cod. 121600**

Supply voltage: 85 - 264 VAC.  
47 - 63 Hz

Year of manufacture: 2016

Complies with the following standards and specifications:



**EN 60601-1-2 : 2016**  
**EN 61010-1 (2013)**

And this therefore also complies with the main requirements of the Low Voltage Directive and subsequent amendments.

Armando Roggero  
CEO



## Depacons

Support for the rehydration of slices of paraffinised tissue.



**MORE  
STANDARDIZATION AND  
AUTOMATION WITH:**

- Depacons
- MagDem



**MagDem** Cod. 90500

**Flycons** Cod. 90520/100

Magnetic device for cells scraping from culture. Flycons are disposable micro scrapers supplied in sterilized bags.

