MATACHANA Steam sterilizer
S100 SERIES

COMMERCIAL DESCRIPTION – REF. 78870 / 78871 / 78872 / 78873

GENERALIDADES

Manufactured in Spain, MATACHANA Series **S100** steam sterilizers incorporate state-of-the-art security and efficacy to its technical design, guaranteeing a perfect control of all sterilization processes.

They have been conceived as unit of support to cover the punctual needs of Central Sterile Supply Departments and surgical blocks of hospitals. In addition, they are ideal for those establishments or organizations with reduced volume of material to process, as it can be the case of some primary assistance centres, universities, research centres, pharmaceutical or microbiology laboratories. They have also been considered to be installed in dental clinics of certain size.

They are manufactured following directives of quality standard EN ISO 9001, certification granted by the control institution Lloyd's Register Ltd., guaranteeing that the Company Antonio Matachana, S.A. carries out a quality management in the design, production, delivery, installation and after sales service of their products.

Some of the Series **S100** most remarkable features are: user friendliness, medium production capacity, microcomputer control, display for visualizing the cycle development, ejector vacuum system (Venturi effect) and sliding vertical doors with safety block mechanism.
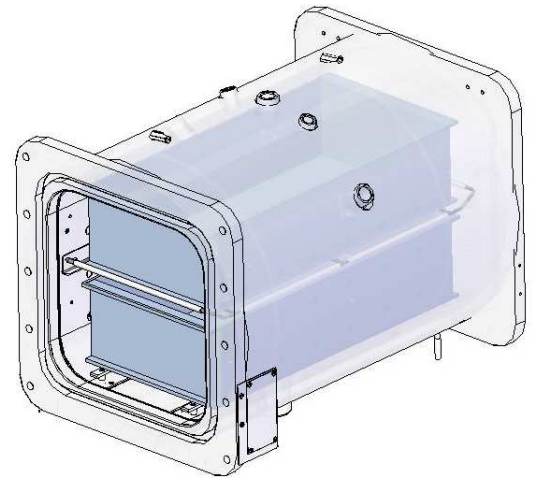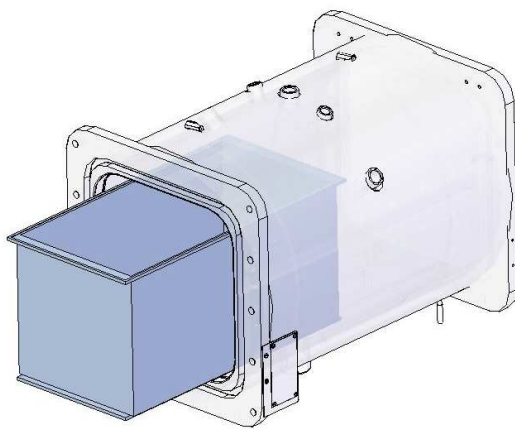
AVAILABLE MODELS

Reference	Model	Description
78871	S101V-1	Steam sterilizer 101V-1, Steam Network, 1 door
78873	S101V-2	Steam sterilizer 101V-2, Steam Network, 2 doors
78870	S101E-1	Steam sterilizer 101E-1, Steam generator, 1 door
78873	S101E-2	Steam sterilizer 101E-2, Steam generator, 2 doors

CAPACITY

MATACHANA **S100** Series sterilizers are equipped with a chamber with a total capacity of:

- o 108 litres for 1-door version.
- o 98 litres for 2-door version.

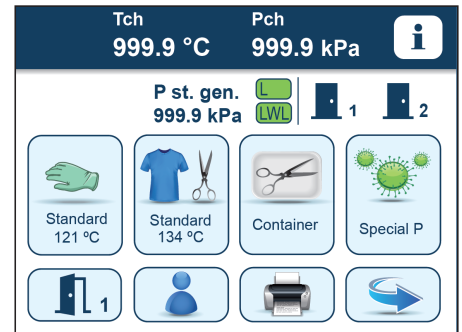The charge capacity is 1 sterilization module [*]

(*) = sterilization module (normalized module of 300 x 300 x 600 mm)

STERILIZATION PROGRAMS

The sterilizer has 7 programs set (5 production programs and 2 test programs).

Type	Description
T	Test de Bowie & Dick
T	Vacuum test
T	Preheating
P	Standard 121 °C
P	Standard 134 °C
P	Containers
P	Rapid
P	Special P

(*): This is a special program to sterilize material that is susceptible to contamination with prions, in other words, with substances or pathogens causing transferable spongiform encephalopathies (TSE), such as BSE (bovine spongiform encephalopathy), the "Scrapie" or .

Este es un programa especial para esterilizar material susceptible de estar contaminado con priones, es decir, con sustancias causantes o patógenos de encefalopatías espongiformes transferibles (TSE), como la BSE (encefalopatía espongiforme bovina), el "Scrapie" or Creutzfeld-Jakob disease.
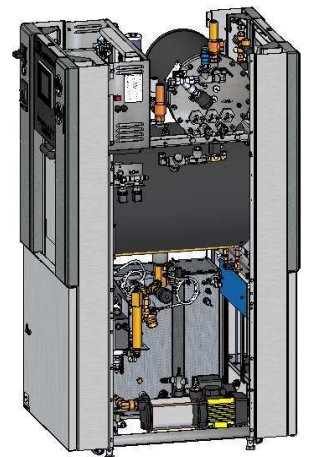
Optionally, additional programs are available upon request such as:

- o Open liquids 121 °C
- o Disinfection 105 °C
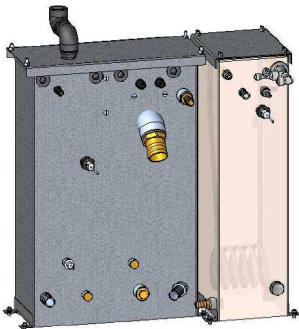- o Breast prosthesis 134 °C

CONSTRUCTION FEATURES

MATACHANA Series **S100** sterilizers include in their technical design the state-of-the-art security and efficacy features:

- Chamber in high quality stainless steel 1.4404 (AISI 316L).

- Steam conducting pipes and components made of high-quality stainless steel 1.4404 (AISI 316L). This includes both the pipes and the different elements (pneumatic valves and cut-offs, connectors, etc.) used in these primary pipes.

- Mechanized door gasket groove for long gasket life and easy maintenance.

- Door seals pressurisation with compressed air.

- Manual sliding vertical doors with safety locking mechanism. Independently whether the sterilizer has one or two doors, the doors are equipped with a safety system which complies with the relevant standards and regulations in force and has the following characteristics:

  - o Starting a process and therefore active steam injection into the chamber is not possible when the door is open. This prevents injuries, which might be caused by an uncontrolled steam output.
  - o The sterilizer's door can not be opened as long as the pressure inside the chamber is over 20 kPa above the atmospheric pressure.
  - o The sterilizer's door can not be opened when a program is running.
  - o If a door is inadvertently unlocked due to a fault or if the pressure in the door gasket is too low while a process is running, this latter will be automatically interrupted and the steam supply intake into the chamber will be stopped.
  - o In two-door sterilizer version, it is not possible to open a door as long as the other door is already open or the command to open has been given.

- Pneumatic valves in the main internal circuits of the sterilizer to ensure a high reliability and safety operation..

- Built-in air compressor for valve operation and pressurisation of door seals.

- Independent control and recording thanks to the industrial micro-computer and the touch screen with the built-in PLC Control, easy to use and understand. Additionally, the sterilizer incorporates a double chamber temperature and pressure sensors.

- Backlit panel that incorporates a number of highly visible indicators icons, giving constant information on the sterilizer's status and indicates the existing hazards as described below:

Process status	Warning, alarm or error	Use of protection	Crushing of hands	Warning, hot surface	Pending repair	Suppliers failure

- Alphanumerical thermal printer for the recording of the sterilization process, installed on the loading side.

- Vacuum by means of ejector (Venturi system), with recirculation water pump and economizer tank: high efficiency and low maintenance, silent and effective.

- Independent water tanks, one for vacuum system with temperature and water level control and second one to supply water to the steam generator, which includes a system for recovering heat from condensates, which allows the preheating of the water. This preheating offers a double function:

  o Reduction of percentage non-condensable gases (according to the EN285) to ensure a correct steam quality.
  o Reduction of the activation time of the steam generator heating elements which turns into an electrical consumption saving.

- Design oriented to easier accessibility to the different components of the sterilizer. Additionally, wheels are incorporated to allow the equipment to be moved in situations where maintenance access is limited.

- Access ports for validation.

- Stainless Steel side panels.

STEAM GENERATOR

The 101E-1 and 101E-2 models incorporate an AISI316L stainless Steel steam generator, automatic operation and an appropriate steam production according to the sterilizer's capacity thanks to the heating elements for a total power of 9kW. Equipped with safety system, water level control and visual level indicator on the front.

The steam generator incorporates an "intelligent" economizing system. It is fully controlled by the sterilizer's CPU, through a pressure transducer, so it only produces the steam necessary for the program and it is adapted to the selected program pressure and temperature needs and launching.

Another important "intelligent" control feature is the water filling control of the steam generator that enables to prevent the water supply during the processes of the steam injection in the chamber. The sterilizer's software only provides water those phases where there is no a high steam demand. This control allows a stable steam pressure inside the generator and therefore a reduction of the electrical consumption with respect to systems with another control system.

This "intelligent" operation allows significant energy savings as well as water savings respect to generators that work with the same pressure and do not have this filling function.

The sterilizer includes a double visualization system of the water level inside the generator. This consists on:

- o Generator level visualization trough the touch screen incorporated in the loading side. It is an intuitive visualization by means of a pair of luminous symbols accompanied by the signs "+" or "- ".
- o Visualization of the generator level through the indicator located on the front panel of the sterilizer. The front panel incorporates marks that indicate the maximum and minimum working levels of the generator, as well as the minimum safety level.

Built-in manometer in the frontal panel of the sterilizer is used to display the generator pressure or the external steam pressure. The pressure range goes from -1 to +4 bar

USER INTERFACE

El esterilizador está controlado por dos PLC, un primero (PLC de control) integrado en la pantalla táctil situada en el panel frontal y un segundo (PLC de registro) en el cuadro eléctrico.

The sterilizer is equipped with a high-quality TFT colour touch screen, which provides colour brightness and an increased viewing angle. It incorporates the EasyRUN user interface that allows the user's menus to be identical to those used in the other MATACHANA sterilizers. This common feature makes the MATACHA S100 series sterilizers a simple and quick system when it comes to user training.

By means of the colour touch screen, the user interacts with the micro-computer of the sterilizer in order to carry out the following functions:
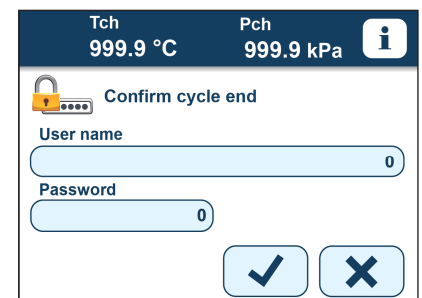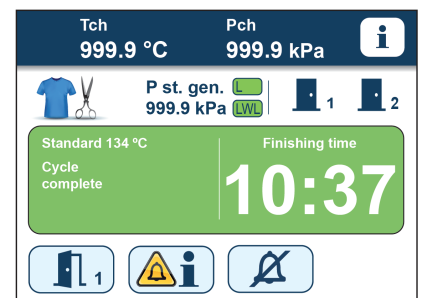
- Access to menus for selecting programs, information, maintenance and statistics.
- Operation of the door, status indication.
- Viewing of program parameters.
- Monitoring of the current cycle data: temperature, pressure, phase, time, cycle time and phase name.
- Indication and management of alarms, operator errors and reset cycle.

- Viewing of process curves (pressure and temperature) in real time.
- Management of user names and passwords.

The interpretation of the successful completion of the cycle is made simple through a green background display for correct cycles and by means of a red background display for incorrect cycles.

The modern and ergonomic menu allows to give support to the user in many ways, such as the selection and start-up of the cycles, process status

display with corresponding values of temperature and pressure as well as error, alarm and warning messages that can be acknowledged if necessary, simply by clicking on the "acknowledge" button".

Depending on the options available in the sterilizer, there are some regarding the user interface to take into consideration. These options are the following:

- Starting the cycle with user identification: allows the operator identification before starting a cycle.

- End-of-cycle confirmation with identification: Allows the possibility of entering the user name and password to confirm the end of the cycle with a pre-setting user name.

- Autostart: allows you to schedule for each day of the week, the start time to perform automatically up to 3 programs. This option offers the opportunity to have the sterilizer already preheating at the beginning of the working day.

- Auto suspend: allows to select, before pressing the cycle start key, that after the end of the cycle the sterilizer automatically goes to a suspension mode. Additionally, the sterilizer can be programmed to enter sleep mode after 30 minutes of inactivity.

Both possibilities offer the user significant energy savings compared to other equipment that do not have these possibilities.

DOCUMENTATION AND CONECTIVITY

- **Printer**
  MATACHANA Series **S100** sterilizers are equipped as standard with an alphanumerical digital printer installed on the loading side, for the detailed recording of the sterilization process. Besides pressure, temperature and time, the printer provides other important data such as cycle number, batch, date, total cycle time, etc. This printer has a big paper storage, which allows printing up to 220 cycles.

- **Internal memory**
  Due to the large internal memory of this new screen, it is possible to store the data of the last 1,000 process cycles (including 20 cycles with complete analogue curves).

- **USB port**
  The screen of the sterilizer incorporates a USB port that allows to download the records of the cycles storage in the internal memory. The HTML format reports can be opened in any navigator and printed in any printer.

- **Ethernet port**
  Allow to print cycle reports in A4 format, using an external printer connected to the network, as well as download the cycle history in the costumer's service.

- **Remote diagnosis**
  Through the Ethernet port, a remote connection allows Technical Service to monitor the sterilizer and even present a diagnosis in case of failure.

- **Connection to the supervision/tracking software**
  MATACHANA **S100** Series sterilizers are ready for the connection to the MATACHANA EasyLOOK supervision system and third parties tracking systems thanks to the Ethernet port.

MAINTENANCE

The maintenance of the sterilizers MATACHANA **S100** series is carried out by the right side and the front of the equipment. The equipment incorporates, as standard, a set of wheels to move the equipment and simplify the maintenance actions.

Optionally, the sterilizer can be manufactured to have the maintenance access in the left side.

STANDARD CONFIGURATION

MATACHANA **S100** Series incorporate the following elements as the standard configuration:

- Stainless Steel side panels.
- Inner camera guides.
- Intermediate shelve.
- Wheels for maintenance actions.

OPTIONS

The MATACHANA **S100** series has several options:

- EasyLOOK supervision software
- Frequency and voltage change.
- Supply alarms.
- Remote alarms.
- Automatic generator purge.
- Connection to external cooling systems.
- Manual steam bypass.
- Autostart / Auto suspend.
- Start and end of cycle with identification.
- USB port, in the frontal panel of the sterilizer.
- Air detector.
- Drainage pump in height.
- Loading/unloading system with chassis and trolley.

MARCADO CE

MATACHANA **S100** sterilizers are manufactured according to the specifications of the European Standard and following the guidelines of the International quality Standards ISO 9001:2015 and EN ISO 13485:2012+AC:2012, which guarantees that the company Antionio Matachana, S.A. carries out a quality management in the design, production, installation and after-sales service of its products. This has a substantial impact on our customers in the points detailed below:

- We comply with an internationally recognized quality management system.
- The implementation of this system allows us to constantly improve for your grater satisfaction.
- Our quality system firmly supports its achievement. It is an interrelated system where the final quality is determined by each of the people in our company.

The sterilizers of the **S100** series, which intended use is the sterilization of invasive medical devices in healthcare facilities, fall within the scope of the European Medical Device Directive (MDD) 93/42/EEC, and in accordance with Annex IX of this directive are classified as Medical Devices class IIb.

In addition, the steriliser is a pressure equipment according to the Pressure Equipment Directive 2014/68/UE and so sterilizers of the **S100** series are considered as category II. For the verification of conformity with the DEP, European Standards EN 13445:2014 and EN 14222:2003 have been duly considered.

Besides, sterilizers of the **S100** Series also fulfil the essential requirements of the following European Directives:

- 2014/30/UE: European Directive on Electromagnetic Compatibility (EMC)
- 2014/35/UE: European Directive on Low Voltage
- 2006/42/CE: European Directive on Machinery
- 2011/65/UE: European Directive the Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (RoHS)

TECHNICAL SPECIFICATIONS

Technical specifications	S101V-1	S101V-2	S101E-1	S101E-2
Reference	78871	78872	78870	78873
Steam generator (E)	-	-	YES	YES
Network steam (V)	YES	YES	-	-
Number of doors	1	2	1	2
External dimensions (mm) Width Height Depth	680 1570 925	680 1570 940	680 1570 925	680 1570 940
Usable space chamber (mm) Width Height Depth	340 340 645	340 340 675	340 340 645	340 340 675
Load capacity (l)	75	80	75	80
Chamber volume (l)	108	98	108	98
Capacity in baskets model 85099[1]	2	2	2	2
Capacity in baskets model 85097[2]	1	1	1	1
Power (kW)	2	2	11	11
Weight (kg)	350	375	375	400

[1] *Baskets reference: 85099, dimensions: 585 x 280 x 130 mm (width, height, depth)*

[2] *Baskets reference: 85097, dimensions: 585 x 280 x 260 mm (width, height, depth)*