AUTOCLAVES PARA ESTERILIZACIÓN A VAPOR
AUTOCLAVES FOR STEAM STERILIZATION

PRESOCLAVE III PLUS 50L	**4001770**
PRESOCLAVE III PLUS 80L	**4001771**
PRESOCLAVE II PLUS 150L	**4001772**

J.P. SELECTA s.a.u. Autovía A-2 Km 585.1 Abrera 08630 (Barcelona) España Tel 34 937 700 877 Fax 34 937 702 362
e-mail: selecta@jpselecta.es - website: http://www.grupo-selecta.com

Indice

1 Seguridad 3
2 Información general 4
3 Especificaciones técnicas 4
4 Lista de embalaje y accesorios 5
Aviso a los clientes 5
5 Introducción 6
6 Descripción del equipo 7
7 Instalación 9
8 Funcionamiento 10
9 Ajustes 12
10 Mantenimiento 13
11 Mensajes de error 14
12 Recambios 14
13 Apertura de emergencia de la tapa 15
14 Recomendaciones para lograr una perfecta esterilización 15

Index

1 Safety 16
2 General information 17
3 Technical specifications 17
4 Contents list and accessories 18
Notice to customers 18
5 Introduction 19
6 Equipment description 20
7 Installation 22
8 Operation 23
9 Settings 25
10 Maintenance 26
11 Error messages 27
12 Spare parts 27
13 Lid emergency opening 28
14 Recommendations to achieve a perfect sterilization 28

1 Safety

The equipment comes complete with safety features.

This manual indicates areas of possible risk.

1.1 Safety Icons

Identifies risky situations and safety measures that should be adhered to.
The icons make reference within the paragraph, marked as a lined grey.

Risk danger
Danger risk

Beware and follow the instructions as indicated.

Electrical risk
Risk of electrical shock if accessing zones are shown with this icon.

Beware and follow the instructions as indicated.

Risk of burns in high temperature areas
The temperature in the zone indicated with this icon can exceed 60°C. Use thermal protective gloves to complete described functions.

Beware and follow the instructions as indicated.

Important information

- Important information in obtaining the best results or optimum performance of the equipment.
- Important information to extend the life of the equipment and maintain its optimum performance.

1.2 Risks that the operator can be subjected to

- Possibility of touching surfaces that are over 60°C.
- Possible escape of steam vapours.
- Electrical risk.

1.3 Qualified users

This equipment should only be used by personnel that are qualified users.

This equipment should only be used by personnel that have understood this manual or have previous adequate instruction on the use of steam sterilizers.

2 General information

2.1 Handle the equipment with care. Unpack and check that all items coincide with the delivery note. If you see any discrepancy or damage of any kind, notify your distributor as soon as possible.

2.2 Read this manual before using the equipment.

2.3 These instructions are an important part of the equipment and should be made available to all users.

2.4 If in any doubt or clarity on the use of this instrument, contact your local distributor or the service department of J.P. Selecta, s.a.u.

2.5 **ATTENTION, EQUIPMENT NOT CLEAN AND DISINFECTED SHALL NOT BE REPAIRED.**

2.6 Any unauthorised modification, lack of maintenance or deliberate damage to the machine, transgresses the directive 2009/104/CE where the manufacturer will not be responsible for damages that could occur due to undue care and attention.

2.7 Do not use the equipment for fluids that can produce vapours that can form inflammable or explosive mixtures.

¡WARNING! DON'T TRY TO OPEN THE LID UNLESS READING «8 OPERATION» SECTION

3 Technical specifications

Voltage supply 115-230V 50/60Hz according to the characteristics plate indications.

Part number:	**4001770**	**4001771**	**4001772**
Capacity:	50L	80L	150L
Chamber dimensions:			
diameter:	30cm	40cm	50cm
height:	63cm	60cm	70cm
External dimensions:			
height:	117cm	119cm	118cm
width:	48cm	58cm	80cm
depth:	62cm	72cm	95cm
Range:	115-134ºC		
Power:	3700W	3700W	7500W
Weight:	75Kg	100Kg	210Kg

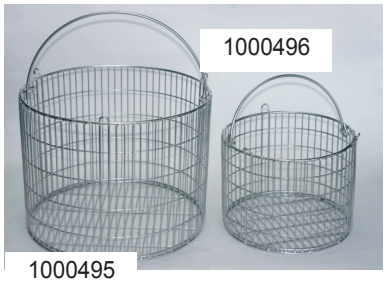
4 Contents list and accessories

4.1 Standard contents

The standard equipment consists of the following items:

Model Presoclave III	4001770	4001771	4001772
Cover resistance shelf	0009958	0009959	0009960
Instructions manual	80367	80367	80367

4.2 Accessories

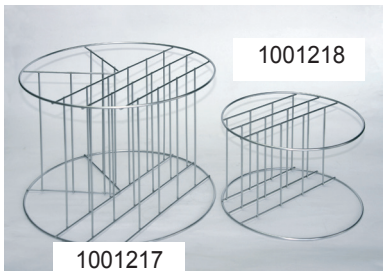


- Wired baskets made in AISI 304 stainless steel.

Model:	4001770	4001771	4001772
Part number:	1000495	1000496	1000780
Dimensions:			
diameter:	27cm	36cm	44cm
height:	20cm	28cm	22cm
Number of baskets:	3 units	2 units	3 units

- BLIND baskets in AISI 304 stainless steel with folding handle

Model	**4001770**	**4001771**	**4001772**
Part number:	1000490	1000491	1000792
Dimensions:			
diameter:	27cm	36cm	44cm
height:	19cm	28cm	22cm
Number of baskets:	3 units	2 units	3 units



- Basket 4 compartments made in AISI 304 stainless steel for 1000495 code: 1001217
- Basket 6 compartments made in AISI 304 stainless steel for 1000496 code: 1001218
- Basket 7 compartments made in AISI 304 stainless steel for 1000780 code: 1001222

Notice to customers:

The product is made up of various components and various materials that must be recycled or, failing that, deposited in the corresponding debris removal sites when the product's life has been completed or when otherwise it is necessary to dispose of it. To do this, the end user who acquires the product must know the current regulations of each municipality and / or locality based on the waste electrical and electronic equipment. The user who acquires this product must be aware of and responsible for the potential effects of the components on the environment and human health as a result of the presence of hazardous substances. Never place the product in a conventional container of citizen scope if a previous dismantling and knowledge of the components that incorporates. If you do not know the procedure to follow, consult with the city council for more information.

5 Introduction

Presoclave III Plus autoclaves are versatile and suitable for a wide range of applications, sanitation, industrial processes and quality control. These autoclaves can sterilise solids, with or without being wrapped, liquids, culture media.

5.1 Definitions

5.1.1 Sterilization

Sterilization is the destruction or elimination of all forms of microorganisms, including spores present in inanimate objects.

5.1.2 Disinfection

Disinfection is the process of the destruction of microorganisim agents. The temperature used is less than that of sterilization.

5.1.3 Culture media

A growth medium or culture medium is any substance in which microorganisms or cells can grow and multiply. Microorganisms can therefore be isolated and used in susceptibility testing. Generally it is produced as dry powder or granular form, but can also be produced as hydrates and pre-prepared. Should not be used unless they have been sterilized.

5.1.4 Purge

The purge cycle is when air is eliminated from inside the vessel with the objective of producing saturated steam vapour.

5.1.5 Saturated steam

Water vapour at a temperature corresponding to the ebullition point of the liquid origin.

5.1.6 Atmospheric purge

The term atmospheric purge is when air is gravimetrically expelled by vapour for a determined period.

6 Equipment description

Presoclave III Plus autoclaves belong to a series of saturated vapour autoclaves that are distinguished for the following features:

1. Arm / joist locking system.
2. Temperature and time electronic control circuit, and process registration. 10 user-definable programs.
3. Safety locking system that only allows lid opening with pressure 0 bar and a temperature under 95ºC.
4. Maximum pressure limiter that disconnects the heating element in case of over-pressure, set at 2.5bar.
5. Limiter thermostat to protect the heating element, set at 160ºC.

6.1 Equipment

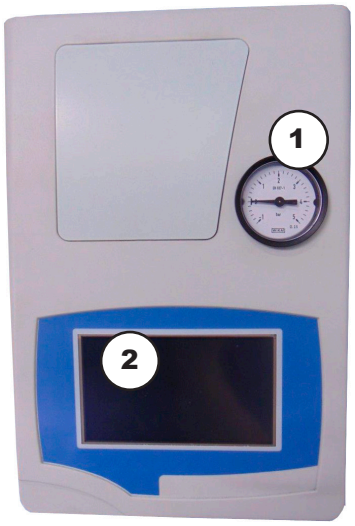
- Safety system:

  Safety over pressure valve.
  Safety pressure switch.
  Safety thermostat.
  Lid closed detector.
  Protective thermal lid cover.

- Chamber and lid made in stainless steel.
- External case made in stainless steel.
- Manual emptying valve.
- Waste water tank connection.

6.2 Features

- Sterilization temperature from 115°C to 134°C.
- Temperature resolution 1ºC.
- Sterilization time from 3 minutes to 180 minutes (3h)
- Time resolution 1 minute.
- Suitable to work with solids and liquids atmospheric purge from 115°C to 134°C.



6.3 Control panel

1. Pressure gauge
2. Touch screen

6.3.1 Screen detail

6.4 Elements position

3. Emptying manual valve control (except model 150L)
4. Open lid handle
5. USB connector

6. Main switch
7. Camera input port (except model 150L)

models 50 & 80L

8. Safety valve

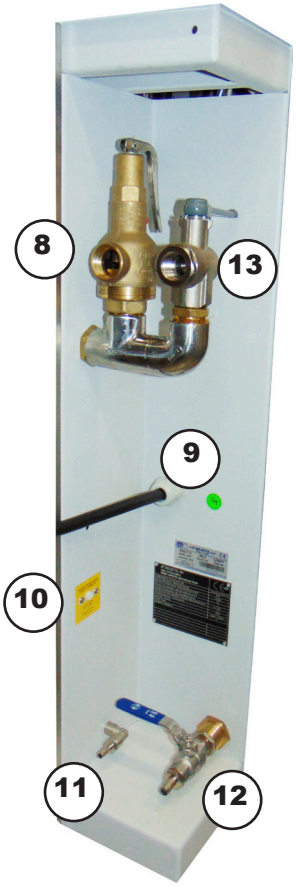
9. Power supply cord

10. Thermostat reset button

11. Condenser outlet
(and emptying chamber, for models 50L and 80L)

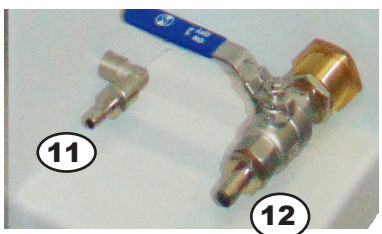
12. Chamber emptying (only model 150L)

13. Depressurization key (only model 150L)



model 150L

models 50 & 80L



model 150L

7 Installation

1 Locate the autoclave close to an appropriate power source.

2 The autoclave needs to be placed on a flat stable horizontal surface, leaving a minimum space of 10 cm around the instrument.

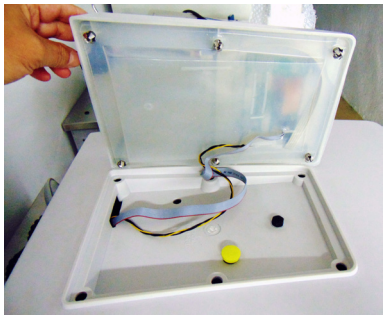
3 Adjust the front feet to level the autoclave and set the autoclave in position.

4 Fix a plastic or rubber hose to the pump output connection (11) with a receptical to collect any condensate produced by the atmospheric purge.

5 For 150L models only, do not force the key (12), as it has a locking system for the opening handle. Lift the tab to rotate the handle.

You must ensure that the purge condensate tube is not clogged or submerged in water after the cycle, since the boiler will empty and absorb the liquid through the tube.

Note that during the purge phase, the equipment draws steam through this tube and this steam is in form of water inside the container. Make sure the tube is not in contact with the bottom of the container to ensure that at the end of the cycle it does not absorb water from it.



7.1 Unblocking the door

In case of open lid blocked by a safety system failure make as follows:

1 Stop the machine.
2 Disconnect the machine from the mains.
3 Place an outlet and a tube in the aeration valve (11).
4 Carefully open the valve to avoid steam leackages. Be careful to avoid possible burns.
5 Wait for the total steam emptying.
6 Extract the upper cover where display is located in order to put it aside (it is not necessary to disconnect any wire). It does not use screws, pull tightly.
7 Remove the plastic cap and pull slightly until the lever is released.

¡WARNING! DON'T TRY TO OPEN THE LID UNLESS READING «8 OPERATION» SECTION

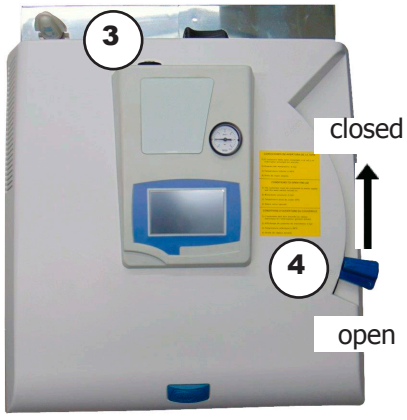
8 Operation

8.1 Opening the lid

- The autoclave must be connected to mains supply and the main switch turned on.
- Pressure gauge: 0 bar.
- Temperature in the internal chamber must be under 95ºC.
- Press the "OPEN"  button to unlock the locking system of the lid opening lever.

ONLY WITH THIS CONDITIONS LID IS READY TO BE OPEN

8.2 Starting



- Start on using the main switch (6)
- Open the lid as we can see on 8.1 section, using the handle (4)
- Place the shelf at the bottom of chamber.
- Be sure the valve (3) is closed.
- Fill of decalcified water until shelf level.
- Put the material to sterilize and close the lid.
- Start the cicle as shows the section 8.3
- When closing the lid, make sure that the open door indicator is off, otherwise the device will not start.

  An electromechanical system blocks the lid closing lever. For safety reasons, it is recommended to make sure that the lever is locked before starting a cycle.

BEFORE STARTING THE CICLE, ALWAYS CHECK IF THERE IS ENOUGH WATER IN THE CHAMBER. IF NOT, THE HEATING ELEMENT COULD BE DAMAGED.

8.3 Program selection

- To select the program, use the arrow keys **< >**

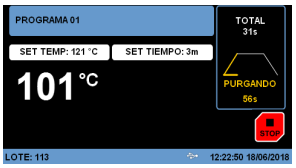
8.4 Program modification

- Press on the temperature and / or the program time and modify its value with the keys **+ -**.
  These values are automatically saved.

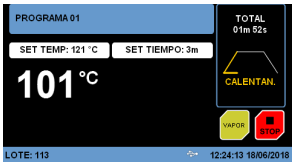
8.5 Cycle starting

- Once the temperature and time have been adjusted, press the RUN key to start the process.

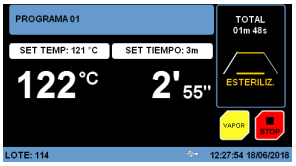
8.6 Work cycle steps



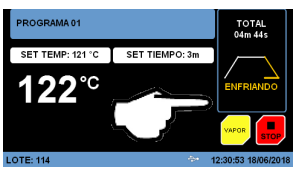
1 Purging: The autoclave expels the air inside the boiler to obtain saturated steam. The **Presoclave III Plus** autoclaves perform what we call an atmospheric purge. The temperature increases until reaching 103°C. The purge solenoid valve remains open for 3 minutes once it reaches 103°C.



2 Temperature rise to the setpoint temperature: The temperature continues risING from 103ºC to the setpoint temperature, with all valves closed.



3 Sterilization: 20 seconds after the setpoint temperature is reached, the autoclave begins the sterilization that will continue throughout the selected set time. The equipment purges cyclically to ensure proper operation.



4 Cooling: At the end of the sterilization, the equipment stops heating and the cooling phase begins.

NOTE: when the **STEAM** key appears, if pressed, the depressurization valve opens. This function is useful when you want to accelerate the cooling process or to ensure that there is no pressure in the chamber.

DO NOT OPEN THE VALVE UNTIL THE CYCLE IS COMPLETELY FINISHED TO AVOID POSSIBLE BURNS WITH HEAT WATER OR STEAM.

- End cicle: When sterilization is finished, cold process starts. In case of solids sterilization, fast steam output can be made using the **STEAM** button. The unsteaming is made by the output (11).

¡WARNING!

- **THE DIRECT CONTACT WITH PRESSURE STEAM CAN PRODUCE SERIOUS BURNS.**
- **IF YOU USE A HOSE TO MAKE THE STEAM OUTPUT, DO NOT HOLD IT WITH HANDS TO AVOID BURNS.**

YOU CAN NOT OPEN THE LID UNTIL THE PRESSURE IS NOT 0 BAR AND THE INTERNAL TEMPERATURE UNDER 95ºC. SEE SECTION 8.1

When the lid is ready to be opened, the display (6) shows the word **CORRECT CYCLE**.

If liquids or culture media are sterilized must leave cooler until the pressure will be 0 bar. During the cooling, is the same case of manual depressurize, the display shows the internal temperature.

9 Settings

From the home screen, press the key to go to **Settings**.
-Language: allows you to select the language of messages
-Brightness: adjusts the screen brightness
-Printer: Yes/No
-Date/Time: sets the date and time of the system
-Insert password: **0000** allows adjusting the temperature offset.

Note: Correction range from -9.9 to +9.9ºC. The entered value is added or substracted to the measured temperature by correcting it.

-Download logs: transfers data stored in memory to a USB pen
-Units: Changes the numeric format
-Information: software version and version update button

By pressing the CAL button, you enter Calibration mode and allow you to adjust the temperature offset.

10 Maintenance

10.1 Temperature calibration

If a correction needs to be done, do as follows:

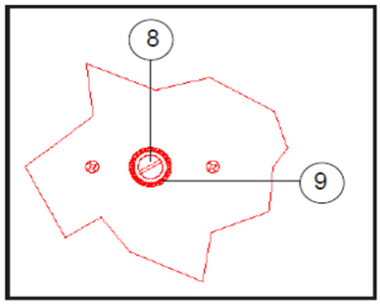
- Press the button (8) «ºC» and (9) «clock» simultaneously for more than 5 seconds.

- While continuing to press these two keys, press keys (10) and (11) to modify this parameter. For fast forward press and hold the arrow (10 or 11) for a few seconds.

Note: Correction range from -9.9 to + 9.9ºC. The modified value is added or restored to the measured temperature by correcting it.

10.2 Safety thermostat

10.2.1 Rearming the safety thermostat



8. Safety thermostat regulation screw (grey).
9. Safety thermostat reset button (white).

Safety thermostat is an element to prevent the temperature from exceeding a value. If by a fortuitous event the thermostat is triggered, that is, it opens the power circuit, the heating element will stop working. Usually there is an indicator light, or an error message, that indicates that the thermostat is in this position.

If the thermostat is triggered, check that the equipment looks good and it is not overheating at any point.

To change its status, simply press the white button (9), and you will hear a "click" that indicates that the thermostat has been reset. If the equipment has not cooled down sufficiently, the thermostat cannot be reset, and you must wait for the temperature to drop before it can be reset.

10.2.2 Adjusting the safety thermostat

In some equipment such as ovens or baths and with certain processes, it may be useful to adjust the thermostat trigger value, but for the rest of equipments this operation should NEVER be carried out. From factory, the thermostat is adjusted to its maximum temperature.

10.3 Gasket

It is necessary to check that the gasket is in good condition. With the door open, remove the gasket and check that it is not deformed, has cracks or is broken. To check it, remove the gasket from the cover, dry it with a cloth and dry the groove of the cover where the gasket is located. Reassemble and do a test cycle. To ensure a good seal with a use of 1 cycle a day, it is recommended to replace the gasket every two years.

10.4 Cleaning the chamber

When working with steam, it is possible that traces of materials are deposited on the walls of the chamber. It is recommended from time to time to clean the inside of the chamber with a clean cloth. Also remove the heater cover and clean the bottom of the chamber.

To better ensure sterilization, it is recommended to change water between cycles of different materials, and perform a vacuum cycle with clean water, without material, for example at 134°C for 3 minutes.

10.5 Maintenance plan

Monthly

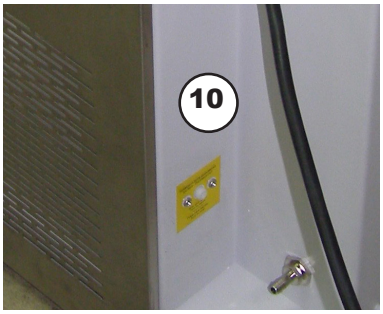
- Change the water in the chamber.
- Chamber cleaning.

Annual

- Check the operation of the safety valve.
- Check the operation of the safety circuit (thermostat, pressure switch and door lock)
- Check the electrical connections, both internal and external.
- Compare the temperature with an external standard.
- Check the condition of the cover gasket.

11 Error messages

Code	Name	Description
01	MIN TEMPERATURE	Pt100 probe failure. Stop the equipment and check the Pt100 probe connection.
02	MAX TEMPERATURE	Pt100 probe failure. Stop the equipment and check the Pt100 probe connection.
03	SECURITY RELAY	External alarm. Pressure switch or safety thermostat trip. Stop the equipment. Allow the safety thermostat to cool down and reset by pressing button 10 (see picture attached). The thermostat is set at the factory, it must not be manipulated except for its resetting.
05	DOOR OPEN	Door open. Stop the equipment. Let it cool down, make sure the pressure is 0 bar. Check if the closing system is working correctly. If the error is repeated, contact the technical service.
06	UNDERTEMP	Temperature out of limits during sterilization. The sterilization may not be correct. Check the material once the cycle is finished. Make sure that the autoclave has enough water and that the material to be sterilized does not touch the temperature probe at the bottom of the chamber.
08	OVERTEMP	Temperature out of limits during sterilization. The sterilization may not be correct. Check the material once the cycle is finished. Make sure that the autoclave has enough water and that the material to be sterilized does not touch the temperature probe at the bottom of the chamber.
09	POWER FAIL	Network voltage drop during the cycle. The equipment has run out of power during the operation of a cycle. Make sure you have not turned off the equipment before the end of the cycle or that you have had a power cut during the cycle.
11	PURGE	It can be due to different reasons: the resistance is in discomfort (check); the purge solenoid valve is closed (check); the equipment is located more than 1500m high. In this last case, contact the technical service.
12	DISCONNECTED	Screen and power have lost communication.



Location of the safety thermostat reset system

12 Spare parts

10044 R4 closing
13006 Contactor
15410 Fuse 16 A
16057 Electrovalve NA 3 mm 24 V
16212 Pressure switch
20017 Bipolar switch
29487 Frontal circuit
29499 Power circuit
36027 Solid relay 25A
39001 Heating element 50L + 80L
43031 Thermostat
43071 Pt100 probe
21193 Gasket 50L
21271 Gasket 80L
21206 Gasket 150L

**When requesting spare parts it is mandatory to send the model and serial number of the equipment.*

13 Lid emergency opening

In case of power supply failure, it is possible to open the lid manually.

Attention: Before opening the cover by using this system make sure that the gauge pressure is 0 bar.

Remove the top drawer from the display by pulling hard (it is not screwed down, but snapped). A yellow cap will appear, gently pull it until you hear a click. The closure will be unlocked.

14 Recommendations to achieve a perfect sterilization

The material to be sterilized needs to be clean, free from any encrusted or residual material, we recommend to wash it with a good detergent and distilled water, then rinse it with distilled water.

Do not overload the baskets, drums or trays, always leave a space of 1 or 2 cm between items to allow a free passage of vapour and to ease drying.

14.1 Sterilization of instruments in bulk

Place the instruments on a tray with waterproof paper leaving a space between each instrument.

Try to keep similar type material instruments together on a tray.

14.2 Tubing

The tubing needs to be clean and drained. Place the tubing so that the openings on both ends are open. Make sure that the tubes are not touching the autoclave wall, blocked or twisted and that nothing can block the inside.

14.3 Vessels

Never put hermetically sealed vessels in the autoclave.
Place the contents open end down to prevent any residual water being left inside.

14.4 Liquids

Place the receptacle with the liquid inside on a drip tray, making sure that the receptacle can withstand the temperature.

Do not fill the receptacle more than 2/3rds of its maximum capacity, DO NOT CLOSE THE LID IF IT HAS A HERMETICAL SEALED, only use a lid if the pressure can be released.

Try to avoid using narrow neck vessels.

At the end of the cycle, let the autoclave cool down slowly (until the pressure is 0 kg/cm^2).