

INSTRUCTION MANUAL

V1.0

COUNTERTOP PRESSURE STEAM STERILIZER

AUTOCLAW

MODEL: LFSS03AA (LCD)



**IMPORTER
W POLSCE**

IMPORTER AND AUTHORIZED SERVICE POINT IN POLAND
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0123



Warning: The device may only be operated by qualified personnel who have knowledge and appropriate training in the operation of this type of equipment. A suitable person should be designated to operate and maintain the device.

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SCOPE OF APPLICATION OF THE INSTRUCTIONS

These instructions apply to the table top (countertop) pressure steam sterilizer manufactured by Ningbo Haishu Life Medical Technology Co., Ltd.

Model: LFSS03AA (LCD).

Before using the device, read this manual carefully to ensure safe operation of the device and its operator.

Retain the manual for the lifetime of the device. If the manufacturer makes any necessary updates, be sure to keep all updates received as appendices to this manual.

In the event of a change in the place of use or the unit using the device, hand over or return this manual as part of the entire device.



Before using the device, read this manual carefully, absolutely familiarize with information regarding safety and correct use of the device. Use only the instructions provided by the manufacturer with the device as a basis for reference. Do not use other instructions.

The manufacturer reserves the right to change the design and/or technical specifications, if necessary, without prior notice. The information contained in this manual is current as of the time of publication.

USER MANUAL

To ensure the safe and reliable operation, and use of the device, pay attention to these instructions.

Precautions:

The device is equipped with the necessary protective measures (safety precautions), in order to avoid causing damage. It is forbidden to interrupt or destroy these safety measures.

Important:

- Read these instructions carefully before using the device.
- The device must be operated and maintained only by qualified personnel who have been trained for this purpose adequately well trained.
- To ensure proper working conditions, always keep the device clean. Do not flush or pour water over the device.
- Servicing of the device may only be carried out by personnel authorized by the manufacturer who have received appropriate training from the manufacturer.
- Accessories and/or auxiliary equipment for the device may only be obtained from the manufacturer, otherwise safe and effective operation of the device cannot be guaranteed.

Emergency operation:

If an emergency situation is detected, proceed as follows:

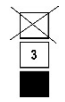
- Switch the power button to the "0" position;
- Disconnect the plug from the electrical outlet.

Product Liability:

Do not modify or use the device beyond its intended use and the scope described in this manual without written permission from the manufacturer. The manufacturer is not responsible for any damage or accidents caused by improper handling or misuse of the device.

SYMBOL DESCRIPTION

Special care should be taken to understand the dangers, hazards, warnings and cautions/cautions contained in this manual.

 DANGER	Indicates potential danger/hazard to personnel and equipment, the information next to this symbol must be strictly observed.
 WARNING	Indicates potential danger/hazard to personnel and equipment, the information next to this symbol must be strictly observed.
 CAUTION	Indicates a potential hazard to the equipment which, if not taken seriously, may result in damage to the equipment.
	CE mark with the 4-digit number of the Notified Body (symbol indicating the conformity of the equipment with the requirements of Directive 93/42/EEC).
	The symbol "Environmental Protection", means that used electrical equipment must not be disposed of with other municipal waste. Return the used device to the treatment facilities for used electrical and electronic equipment, in accordance with the local regulations in force in this regard.
	Type B application part.
	Protective grounding - equipment of protection class I.
	Caution: hot surface.
	Refer to the instruction manual. Read the instruction manual before use.
	Top, do not overturn
	Do not turn. Do not move by rolling (do not roll).
	Permissible number of stacking layers. Range of storage height (stacked maximum 3).
	Permissible temperature range: +5°C~ +40°C.
	Humidity range (relative humidity ≤ 80%).
	Store in a dry place.

WARNINGS AND IMPORTANT SAFETY INFORMATION

 WARNING	Use the autoclave only to sterilize medical devices that are resistant to heat and moisture. Do not use oily materials and powders such as petroleum jelly, agar, etc. for sterilization.
 DANGER	The autoclave must not be used to sterilize liquids or liquids in closed vessels (especially glass vessels), as this may cause these vessels to burst, thus endangering the safety of persons and equipment.
 WARNING	Chloride ions are an important factor in corrosion of stainless steel. If the autoclave will be used to sterilize items containing chloride ions, it is required to rinse the sterilization chamber with clean water after each cycle to prevent corrosion caused by the deposition of chloride ions chloride ions, and also to extend the life of the device.
 WARNING	If the symbol  , is visible anywhere on the device, it means that the temperature of this surface is high. Do not touch this surface to avoid burns,
 CAUTION	The device complies with the emission and immunity requirements of Class A equipment as specified in the standard GB/T 18268. If the device is used in a domestic or similar environment, it may cause interference with other equipment and appropriate protective measures are required.
 CAUTION	Before using the device, it is recommended to assess the electromagnetic environment. It is forbidden to use this device near strong sources of radiation (e.g.: radio-frequency, unshielded equipment), as strong electromagnetic fields may interfere with the normal operation of the device.
 WARNING	If an unexpected situation arises during the operation of the device, or if the device raises an alarm or other abnormal events occur, immediately unplug the device from the power source and check and troubleshoot the problem as described in Section 8.
 WARNING	Perform the necessary monitoring of the effectiveness of the sterilization process in accordance with relevant national and regional regulations. To do this, place an indicator (such as a chemical or biological indicator) inside the package, then run the sterilization effectiveness monitoring program and make an evaluation based on the result. In case of failure, find the cause or contact the manufacturer.
 WARNING	Connect the autoclave only to a triple grounded electrical outlet (AC 220V-240V/16A/50Hz). Always check that the outlet with the grounding pin is properly installed and connected. Do not place the autoclave in such a place where access to the electrical outlet will be difficult.
 WARNING	Do not connect to a power source with parameters other than those indicated in this manual and on the unit's nameplate.
 WARNING	Do not touch the outlet and plug with wet or damp hands.
 WARNING	Do not damage, modify, pull, bend, coil or twist the power cord. Do not place any objects on the cord.
 DANGER	Do not place the autoclave on an unstable table. Place the unit on a flat, stable surface that is not tilted, subject to vibration and shock.
 CAUTION	Do not block or cover the autoclave's door, ventilation and heat dissipation openings.
 CAUTION	Do not remove the nameplate, any labels, warning and information stickers from the unit.

 CAUTION	Do not place any objects on the unit.
 CAUTION	If the autoclave will not be used for a long time for various reasons, unplug the power cord from the electrical outlet and place the unit in a dry and cool place.

1. BRIEF INTRODUCTION

The LF series high-pressure steam sterilizer is specially designed and manufactured for use in: clinics, hospital wards, laboratories and other facilities requiring frequent sterilization. It is designed for use only by professional users, i.e. doctors, technicians or other specialists. The device is controlled by a microprocessor with an intelligent control system and a user-friendly interface, making it safe, reliable and easy to use. Dynamic display of information such as status and operating parameters is enabled by the built-in LCD display. In the event of over-temperature or over-pressure, the autoclave will automatically perform error diagnostics and initiate protective measures (safeguards) to ensure the effectiveness of the sterilization and disinfection process.

1.1. Product category

The product is classified as a Class I, Type B device according to electrical safety requirements.

The product is classified as a type B device according to YY/T 0646 "Small steam sterilizers - automatically controlled".

This product is classified as a Class A device according to GB/T 18268.

This product is classified as a Class A device according to GB/T 18268 standard on electromagnetic compatibility.

1.2. Construction of the product

The device mainly consists of: sterilization chamber, sterilization chamber door and its seal, steam generator, condenser (condenser) and fan, vacuum pump, water pump, safety valve, sensor, heating elements, bacteriological filter, piping system, control and power supply system, and accessories (i.e. tray, tray stand, tray holder).

1.3. Intended use

The device is used to sterilize heat- and moisture-resistant medical instruments.



Do not sterilize liquids! Make sure that the equipment to be sterilized is resistant to high temperature and moisture.

1.4. Sterilization principle, the force of the main sterilizing agent

1.4.1. Sterilization principle

The device is equipped with a vacuum pump that sucks cold air out of the sterilization chamber and accepts saturated steam as the sterilizing agent, taking advantage of the properties, such as high latent heat value and high permeability of saturated steam, to sterilize items.

1.4.2. Sterilizing agent and its potency

- 1) The strength of the sterilizing agent in the sterilization process at 134°C:

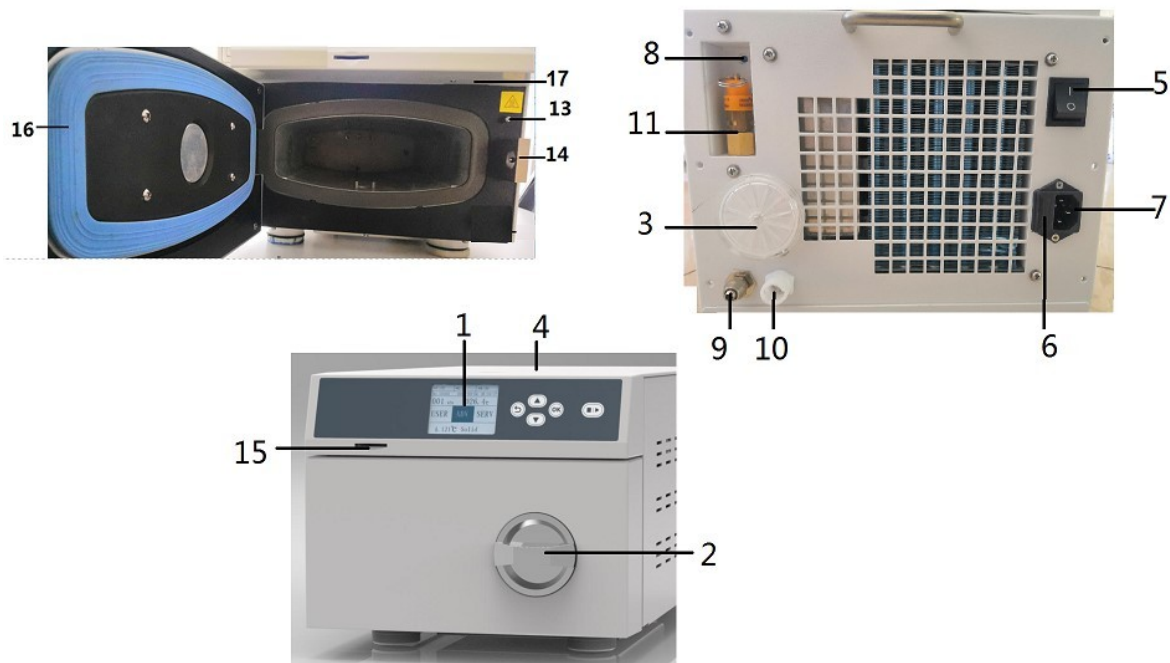
The saturated steam temperature is between 134°C and 137°C, and the temperature difference between different points in the sterilization chamber, at the same time, does not exceed 2°C, and the holding time is 4 minutes.

- 2) The strength of the sterilizing agent in the sterilization process at 121°C:

The saturated steam temperature is between 121°C and 124°C, and the temperature difference between different points in the sterilization chamber, at the same time, does not exceed 2°C, and the holding time is 20 minutes.

1.5. Construction of the device - general view

No.	Name of the component	No.	Name of the element	No.	Name of the element
1.	LCD display	7.	Power socket	13.	Door opening sensor
2.	Swivel handle	8.	Vent cap	14.	Door lock
3.	Bacteriological filter	9.	Outlet valve drain valve For drainage of used water	15.	SD card tray holder
4.	Clean water tank	10.	Outlet valve drain For discharge of clean water	16.	Door seal
5.	Power button	11.	Safety valve	17.	Cover chamber for battery control panel
6.	Fuse holder				

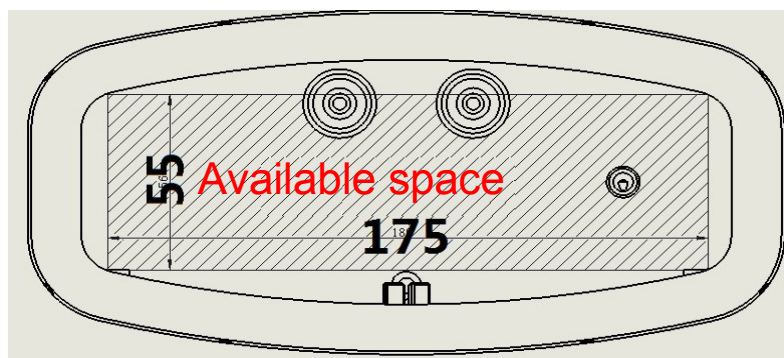


2. SPECIFICATION

2.1. Chamber specifications

Dimensions of available space:

Model:	Dimensions (nominal diameter x depth mm)
LFSS03AA (LCD)	Dep.= 175, H.= 55, W.= 280



2.2. Chamber parameters

Design pressure: -0.1 / 0.27 MPa Design

temperature: 140 C°

2.3. Device parameters

Maximum operating temperature: 137° C

Maximum operating pressure: 0.24 MPa

Safety valve set pressure: 0.24 MPa; Safety valve opening pressure 0.24 MPa~ 0.26 MPa Clean water tank capacity: 1L

Used water tank capacity: N/A (no built-in waste water tank) Power consumption: 220V - 240V, 50 Hz, 2900W

Service life: 5 years

2.4. Operating environment

Ambient temperature: +5°C~ +40°C

Relative humidity: ≤ 85%

Atmospheric pressure: 80 kPa~ 106 kPa

The following table shows the requirements that the water used for the device must meet:

Residue after evaporation	Silica (SiO ₂)	Iron	Cadmium	Lead	Other metals Heavy
≤ 10 mg/L	≤ 1 mg/L	≤ 0.2 mg/L	≤ 0.005 mg/L	≤ 0.05 mg/L	≤ 0.1 mg/L
Chlorides	Phosphates	Degree of conductivity	pH value	Degree of conductivity	Hardness
≤ 2 mg/L	≤ 0.5 mg/L	≤ 15 uS/cm	5~ 7.5	Colorless, clear, without sediment	≤ 0,02 mmol/L

2.5. Transport and storage conditions

Ambient temperature: +5°C~ +40°C

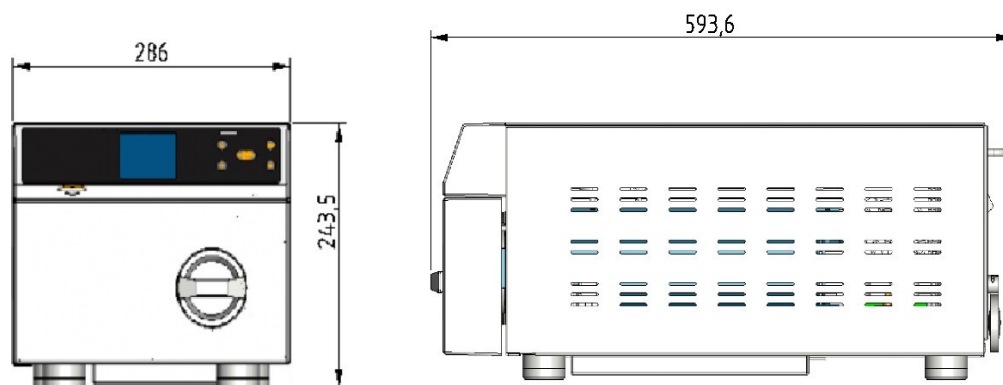
Relative humidity: ≤ 80%

In conditions free of corrosive gases.

3. INSTALLATION OF THE DEVICE

3.1. Dimensions and weight of the device

The external dimensions of the autoclave Model: LFFSS03AA (LCD), are as follows (unit: mm):



Model	Gross weight (kg)	Net weight (kg)
LFFSS03AA (LCD)	24	20

3.2. Installation requirements

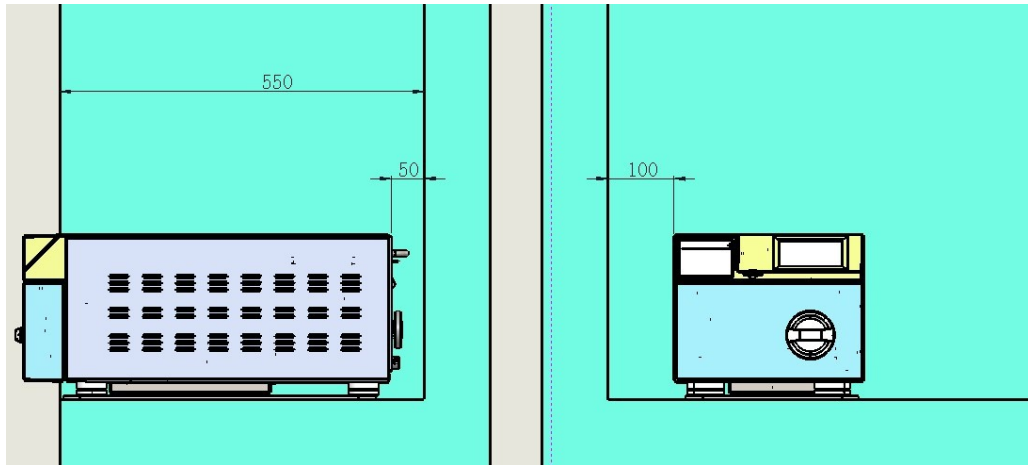
In order to ensure the safe and reliable operation of the device, check that the following requirements are met, according to the following conditions:

3.2.1. Power supply requirements: Single-ended (DC) 220V - 240V, 50 Hz, 2900W power supply.

- 3.2.2. Installation environment requirements: The unit must be installed in a clean, dry, well-ventilated enclosed room where small temperature differences can be provided. For the temperature, humidity and atmospheric pressure requirements of the operating environment, please refer to Section 2.4.
- 3.2.3. Installation site requirements:

Minimum width of the table/countertop	Minimum distance from the left surface side surface of the device	Minimum height
55 mm	≥ 100 mm	0,7 m

The following figures show the minimum space required for proper installation of the equipment. Position the equipment to provide at least the minimum required distances on each side of the autoclave.



- 3.2.4. Requirements for the mounting table: The design of the table intended for placement of the autoclave must be able to withstand the load (weight) of the equipment and its load. The table must be able to withstand pressure, at least 40 kPa.



Do not place the unit in a closed cabinet; make sure that the countertop or table on which the unit is placed is strong and solid enough; do not block the ventilation holes of the autoclave.

3.3. Handling the packed device

In order to ensure proper handling of the packaged equipment, only a cart and/or other similar equipment should be used to handle or move it. In situations where a cart and/or other similar equipment cannot be used, at least two people are required to lift or move it by hand. Always carry the crate by holding it from the front and back.



When lifting or carrying by hand, use extreme caution to avoid danger.

3.4. Unpacking

Cut the packing tape if used with knives or scissors. Then open the closures and remove the packing lid, and finally remove the protective film.



3.5. Set the device on the mounting surface

The device can be placed on the work table by one person. Lift the device, for this purpose, put your hands in the space between the front and rear feet and then place the autoclave on the table. When lifting or moving, pay special attention to the following aspects:



CAUTION

To avoid damage, it is absolutely forbidden to hold the unit by the door during handling or transportation.



WARNING

To avoid personal injury, do not lift and/or carry the unit while keeping your hands on its feet.



CAUTION

When transporting the unit, do not move it by rolling, tilting, placing it horizontally (on its side) or turning it upside down.

When lifting or moving the unit, hold it in the place indicated below:



3.6. Adjusting the feet

The height of the feet has been adjusted at the factory. If the mounting surface is flat, no adjustment is necessary; if the surface is uneven, adjust the feet accordingly, so that the front of the unit is 1 cm~ 2 cm lower than the rear.

3.7. Connection to the drain

Connect the drain line/hose to the drain valve for draining used water (see Section 1.5) to the sewer or tank.

3.8. Connect the plug of the power cord to an electrical outlet.



WARNING

Ensure that the appliance has an effective and reliable grounding.

3.9. Other aspects



CAUTION

If the autoclave has been transported or stored at a temperature lower than 2°C, allow the unit to stabilize in its operating environment (at a temperature not lower than 5°C) for at least 2 hours before use. Usually such a situation can occur in winter, and water in the pipes

The unit's piping can freeze and may cause equipment failure.

4. ADJUSTING

Before use, it is required to successfully configure the device to ensure its proper operation. To do this, perform the following steps:

4.1. Setting the atmospheric pressure

Before the first use or after each transfer of the unit, the atmospheric pressure value must be set, otherwise, the door will not be able to open (error code: E10, E11) or other problems may occur.

How to adjust the atmospheric pressure:

Open the door, turn off the power, wait about 20 seconds, turn on the power and wait 1 minute.

4.2. Setting the date and time

Check whether the correct date and time has been set. If it is not, set their respective values according to Section 6.1.4.2. The date and time have been set at the factory, there is usually no need to set them.

4.3. Leak test

A leak test should be performed at the appropriate frequency to ensure that the sterilization chamber, including its piping, is airtight, and to ensure that cold air is removed from inside the chamber. The device is supplied with a factory-programmed "Vacuum Test" leak test program. This program, can only be run when the chamber is cold. When the test is completed, the device will display the result. The device can only be used after successful completion of the test.



CAUTION

Test results may be incorrect if the sterilization chamber is hot. Perform the leak test only when the chamber is cold.

4.4. Confirmation of the correctness of the sterilization process

Use a chemical indicator for the test to initially confirm the sterilization parameters to ensure the correct course of sterilization.

A B-D test pack (Bowie Dick type) or a process test instrument - PCD - is required to check the sterilization process.

Place the B-D test package or the PCD process test instrument at the bottom of the chamber, near the autoclave door. Start the "B&D Test" program. When the program is completed, remove the test package and observe the color change of the indicator paper. The indicator paper will change color evenly (uniformly) to the color required to qualify the process.

5. PROGRAMMED PROGRAMS - INTRODUCTION

5.1. Parameters of programmed programs

Program	Sterilization temperature (°C)	Time maintenance (min)	Vacuum rate	Time drying (min)	Comment
134° C Quick (134° C Quick)	134	4	3	4	The parameters have been preset set
134° C Universal (134° C Universal)	134	4	3	6	The parameters have been preset set
134° C Solid (134° C Lite)	134	4	1	2	The parameters have been preset set
121° C Universal (121° C Universal)	121	20	3	8	The parameters have been preset set
B&D/Helix Test	134	3.5	3	4	Test program
Vacuum Test	Vacuum: -80 kPa, holding time: 15 min				Test program
Dry (Drying)				5	Parameters have been preset

5.2. Sterilization charge types for each program

5.2.1. The charge type suitable for each program

Program	Load type
134° C Quick (134° C Quick)	Unwrapped or wrapped solid batches, batches composed of textile materials and hollow batches, in paper-foil or two-ply packaging, which, if not well dried, are intended for immediate use after sterilization.
121°C/134° C Universal (121°C/134° C Universal)	Unwrapped or wrapped solid batches, textile composite batches and indented batches.
134° C Solid (134° C Lite)	Solid, unpackaged batches intended for immediate use after sterilization.
B&D/Helix Test	B-D test package or PCD process test instrument.
Vacuum Test	Without any charge.
Drying	Drying of the load if it is not dry after sterilization.

5.2.2. Table indicating maximum charge/load weight

Model	Maximum cargo weight - solid batches (instruments/tools)	Maximum cargo weight - porous batches porous (fabrics)
LFSS03AA (LCD)	2.2 kg	0.5 kg packed individually

5.3. Maximum operating time and maximum water consumption

Maximum operating time, maximum water consumption for each program at maximum load:

Model:	Program	Weight Load	Longest time	Minimum water consumption Water
LFSS03AA (LCD)	134° C Quick (134° C Quick)	2.2 kg	20 min	280 ml
	134° C Universal (134° C Universal)	2.2 kg	24 min	300 ml
	121° C Universal (121° C Universal)	2.2 kg	38 min	380 ml
	134° C Solid (134° C Lite)	2.2 kg	18 min	240 ml

6. DESCRIPTION OF USER INTERFACE

In this device, human interaction with the computer is carried out through a 4.3" LCD display with a touch panel.

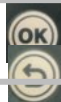
6.1. Menu - Introduction

Input is done using the following buttons:



Button "Up arrow" - Press,  to scroll to the top of the page or increase the value by 1.

Button "Arrow w Down" - Press,  to scroll to the bottom of the page or reduce the value by 1.

"OK" button. - Press to select or enter a value. 

"Back" button: Press once przycisk,  button to return to the previous page;

"Start/Stop" button: Press to start or stop the program. 

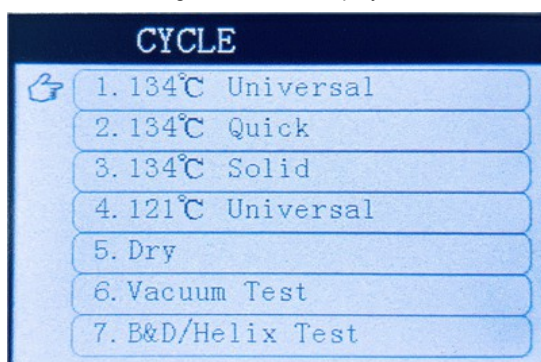
6.1.1. Start page



	Displays the status of the SD memory card. Symbol: x - indicates that the card is not connected; Symbol: ✓ - means the card is connected.
	Displays the current water quality. The number 29 means that water quality of 29 uS/cm.
	Displays whether the preheat function is enabled. On/Off - means, That the function is enabled; Off/Off - the function is disabled.
	Counter. Designation 00001 means that the device has been used 1 time.
	Displays the current date and time.
	Displays the current pressure in the sterilization chamber.
	Displays the current temperature in the sterilization chamber.
	Main menu - intended for the operator, contains all programmed programs.
	Settings - the menu is intended for the operator. The settings menu contains all the items that the user can configure.
	Service menu - is intended only for the manufacturer or authorized service. A password is required to use this menu. The user is not allowed to use from this menu.
	Program shortcut - by default this is the last running program. The user can select this shortcut and press the "OK" button to run the last running program.

6.1.2. Menu - Programs

On the home page, select the Programs menu and press the "OK" button to enter. When pressed, the menu containing the following items will be displayed:



: Cursor

Press the "Up Arrow" or "Down Arrow" button to move the cursor to the desired program, then press the "OK" button to start the selected program.

6.1.3. Programs

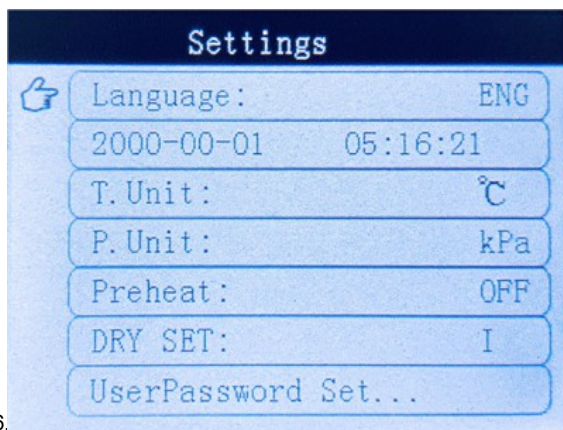
There are a total of 7 programs in the Programs menu, such as:

- 4 sterilization programs: 134°C Universal (134°C Universal); 134°C Quick (134°C Quick); 134°C Solid (134°C Lite); 121°C Universal (121°C Universal);
- 1 drying program: Dry (Drying);
- 2 test programs: Vacuum Test, a vacuum test performed to check the tightness of the device; B&D/Helix test, performed to check the efficiency of the sterilization process.

Notes: For the set parameters of each program, relevant maximum load information and other information, please refer to section 5 of this manual.

6.1.4. Settings

On the home page, select the Settings menu and press the "OK" button to enter. When pressed, the menu containing the following items will be displayed:



: Cursor

A total of 7 items can be set, such as language version, date and time, temperature unit, pressure unit, preheat, drying level and user password.

6.

(Language)

If the cursor is at the height of this option, press the "OK" button to set the appropriate display language. A total of 3 display languages are available:

Language

- 中文 - displaying pages in Chinese,
- ENG - displaying pages in English,
- POL - displaying pages in Polish.

6.1.4.2. Date and time

Date and time setting:

Format: Year - Month - Day Hour : Minute : Second.

If the cursor is at the height of this option, press the "OK" button to set the appropriate values:

At this time, the year value will flash, use the button

2020-07-08 10:37:18

"Up Arrow" or "Down Arrow" to set the corresponding value, then press the "Start/Stop" button to move to the month setting. In the same way as setting the year, set the corresponding month, day, hour, minute and second. After setting the appropriate date and time, press "OK" to save, and exit the setting.

6.1.4.3. Temperature unit

Set the unit of temperature display:

T. Unit

If the cursor is at the height of this option, press "OK" to set the appropriate temperature display unit. You can set the temperature expressed in degrees Celsius (°C) or degrees Fahrenheit (°F).

6.1.4.4. Pressure unit

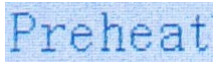


Set the pressure unit:

If the cursor is at the height of this option, press the "OK" button to set the appropriate pressure display unit.

You can set 3 pressure units: kPa, bar, psi.

6.1.4.5. Preheating



The user can set to enable or disable the preheating function. If the cursor is at the height of this option, press the "OK" button, then select:

- ON/OFF to enable this function. This means that when the power is turned on, the unit will start preheating and keeping warm to reduce the sterilization cycle time.
- OFF/ON to disable this function. This means that when the power is turned on, the device will not start heating. Only when the cycle is started, the heating will start and the whole sterilization cycle will be 5 - 7 minutes longer than when the preheat function is on.

It is recommended to set this setting to ON/OFF (enable this function).



DANGER

If the preheat function is enabled, take special care not to touch the sterilization chamber when the door is open to avoid burns.

6.1.4.6. Drying level

If after the sterilization cycle is completed, the set drying level is insufficient, increase this level accordingly to solve this problem.

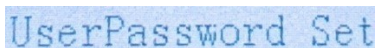
If the cursor is at the height of this option, press the "OK" button to set the appropriate drying level: I/II/III.

The drying time suitable for each level is as follows:



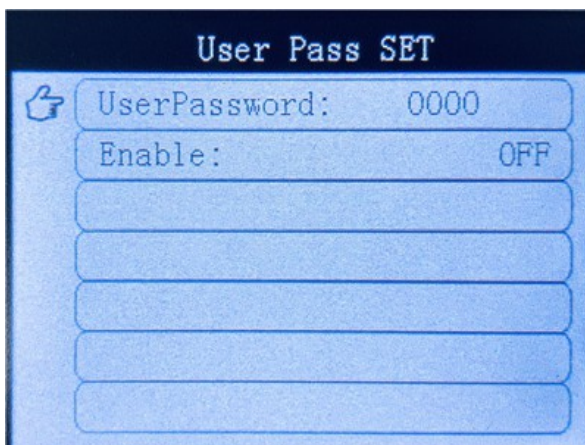
Level	134°C Universal 134°C Universal	134°C Quick 134°C Quick	134°C Solid 134°C Lite	121°C Universal 121°C Universal
I	6	4	2	8
II	10	6	2	12
III	14	8	2	16

6.1.4.7. User password



Setting the user password:

You can set the password required to be entered when starting the device. If the cursor is at the height of this option, press the "OK" button to set the password as shown in the interface below.

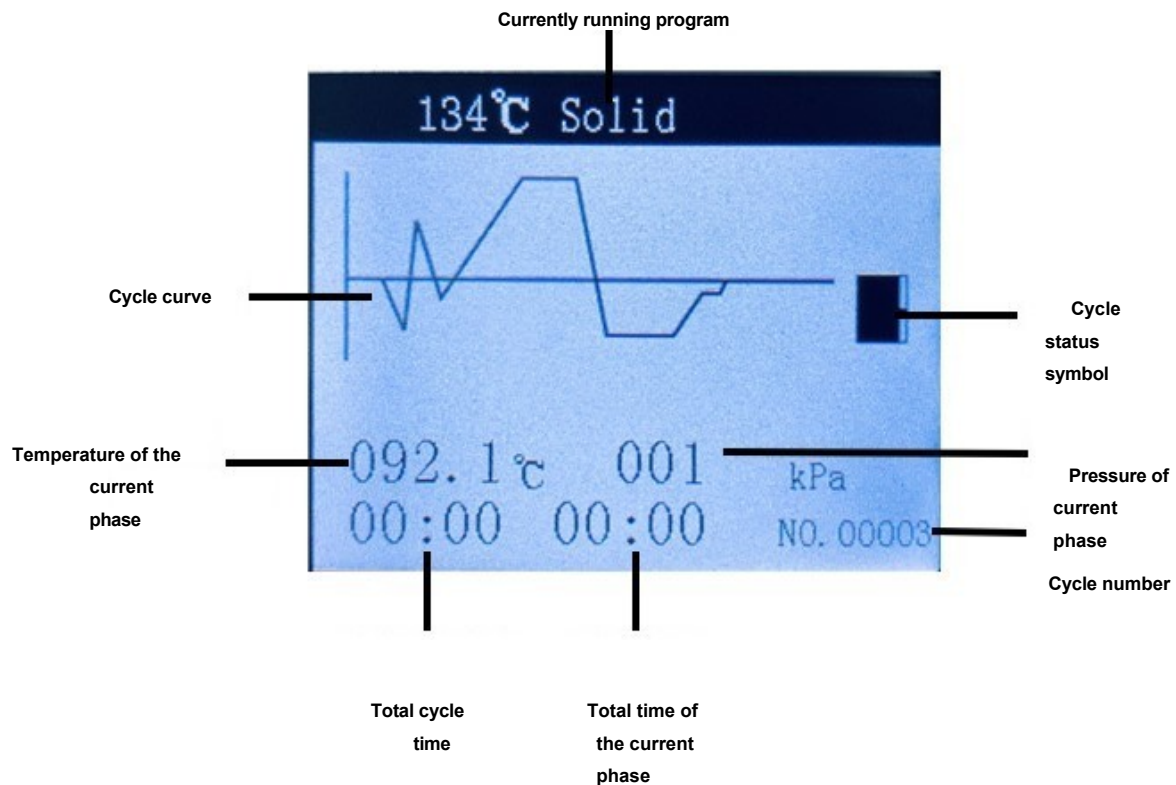


Move the cursor to the height of the UserPassword item, and then press the "OK" button to enter the password setting:

- Press the "Up Arrow" button 1 time to increase the digit by 1;
- Press the "Down Arrow" button 1 time to decrease the digit by 1;
- Press "Start/Stop" button 1 time to change the highlighted digit;
- After setting the password, press "OK" to confirm;
- Move cursor to position "Enable" ("Enable") and press "OK" to set Enable - ON/OFF or OFF/OFF password.

6.1.5. Launching the site and the graphical module of the running interface

6.1.5.1. After selecting the appropriate program, the interface of the program to be run will be displayed, for example, the interface of the 134°C Solid (134°C Lite) program will be shown as follows:



6.1.5.2. The selected program will start when the "Start/Stop" button is pressed, the cycle curve will start flashing and the total cycle time will start counting.

The line on the process flow chart will flash, indicating the cycle stage in progress. See Appendix 2 for a description of each stage.

6.1.6. Message presentation and explanation

No.	Manner of presenting messages	Description
1.		Insufficient water to run the cycle. Refill the tank for clean water.
2.		Necessarily close the door before starting the program.
3.		The door is closed.
4.		The door is locked to prevent it from opening during operation.
5.	Bad water quality. Inadequate water quality.	Inadequate water quality in the clean water tank - replace to distilled or deionized water of suitable quality.
6.	Plese open the door, wait machine to cool down then try again. Open door, wait for the chamber to cool down and try again.	The sterilization chamber is too hot, because immediately after the 134°C program ended, the 121°C program was started. Open the door to cool the chamber to the correct temperature, this may take about 5 - 7 minutes.

7.	Please replace bacterial filter.	Bacterial filter worn out. Replace the filter with a new one.
	Replace the bacteriological filter.	
8.	Please replace door seal.	Worn door seal. Replace the seal with a new one.
	Replace the door seal.	
9.	Need maintenance.	Periodic inspection and maintenance performed by the manufacturer or authorized service center has expired.
	Maintenance required.	
10.	Last cycle ended improperly.	The last cycle was carried out incorrectly, for example, due to a stoppage by the user, power failure or equipment failure. In such situations, the batch must be considered non-sterile. A repeat cycle.
	Last cycle incorrectly completed.	
11.	Please clear error.	Do not use equipment in case of malfunction. Qualified technical personnel are required to confirm whether the equipment is operational, complete or intact. If a problem or malfunction occurs, it is imperative that the problem be solved or the malfunction repaired first before the equipment be further used.
	Explain the error message.	

7. PREPARATION FOR USE

7.1. Preparation for use

Before use, check the following items:

1. If recording of sterilization results is required, make sure an SD memory card is connected.
2. Make sure the door gasket and the surface in contact with the gasket on the chamber side are clean. If they are not, clean them. Excessive dirt can cause leaks.

Only after visual confirmation of efficiency can the appliance be turned on.

7.2. Connecting the pipe for the drainage of used water

Used water can be discharged through:

1. Connecting directly to the sewer system or,
2. Connecting to an external waste water tank.

Connect the connector of the drain line/hose to the drain valve for used water drainage in the unit, and bring the other end to the sewer system or connect to the tank.



CAUTION

If a waste water tank is used, check its fill level daily. If it is full or close to full, it should be emptied.

7.3. Emptying the used water tank

If the used water tank is full, it must be emptied before running the program. Do not run the program if the tank is full.

Always empty the tank completely.

7.4. Filling the clean water tank

If there is insufficient water in the clean water tank, the machine will not run the program. If the tank is empty or the water level is too low, refill the water by pouring at least 300 ml of water into the tank.

7.5. Placing the load in the chamber

Use the handle/grip to place the load to avoid the risk of burns caused by touching the chamber.



WARNING

Do not touch any wall of the sterilization chamber to avoid the risk of burns.

Place the sterilization load in the chamber according to the following guidelines:

1. Contact of items to be sterilized with the walls of the chamber is prohibited. It is also required to provide free space between the packs to ensure free penetration of steam.
2. It is forbidden to distort or bend objects with a tubular structure intended for sterilization. If objects with such a structure are sterilized they must be kept in a straight line.
3. If the items to be sterilized have holes, slots or recesses, in such situations, they must always be arranged so that their holes or channels are in the open position and facing downward, to avoid water collecting in them and thus leading to improper drying.
4. Distribute the items evenly, at appropriate intervals, in such a way that they do not touch each other, do not stack, otherwise it may cause ineffective sterilization and drying.
5. It is advisable that simultaneously sterilized items are made of the same material. In the case of material differentiation, it is the metal tools/instruments that should be placed at the bottom of the chamber, and the fabric products at the top.
6. When sterilizing instruments in paper and foil packages, place the packages on top to facilitate their drying.
7. It is forbidden to place the tray with packaged items directly on textile or soft goods to avoid condensation of water on lower items;
8. Sterilized items must meet the conditions described in Section 5.2.2, and the placed load must not be more than 70% of the chamber volume.

7.6. Closing the door

Push the door all the way down by hand, then turn the swivel handle to the right as far as it will go until the door is locked.

The rotary handle in the closed position of the door looks as follows:



7.7. Program selection

Select the sterilization program appropriate to the type of load. Information on selecting a program for the type of load is presented in Section 5.2.1. There are no significant differences between the 134°C sterilization process and the 121°C process. It is recommended to use the former method (at 134 °C) whenever possible, as the process is faster. However, this program is only for solid, unwrapped items intended for immediate use after sterilization.



WARNING

The autoclave is intended only for sterilizing medical devices that are resistant to moisture and heat. It cannot be used to sterilize oily materials and powders, such as petroleum jelly, agar.

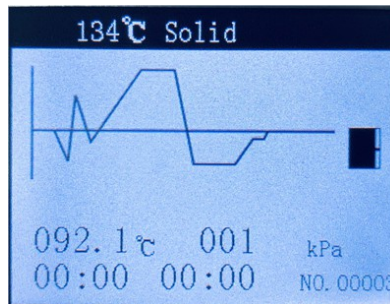


DANGER

The autoclave must not be used to sterilize liquids or liquids in closed vessels (especially glass), as this will lead to bursting of these vessels, thus endangering the safety of people and equipment.

7.8. Starting the program

After selecting the appropriate program in the Program menu or by directly selecting the program shortcut on the home page, the interface of the selected program will be displayed:



The device will automatically start the program, after pressing the "Start/Stop" button.

7.9. Interruption of the program by the user

If you need to stop the unit during the cycle, press and hold the "Start/Stop" button for 5 seconds. The device will automatically begin to lower the pressure to a safe level and end the program, only then will you be able to open the door.

7.10. Opening the door and unloading the chamber

7.10.1. Opening the door

After finishing the program, turn the rotary handle to the left to open the door.

7.10.2. Discharging the chamber

When the cycle is complete, you can open the door and remove the sterilized items. To remove them, absolutely use a special handle (handle) for removing trays or special insulated gloves or other means to protect against heat.



Always use a special tray removal handle (handle) or special insulated gloves or other protective measures to remove the sterilization load to avoid the risk of burns.



If the sterilization charge is removed from the device immediately after the program is completed, there may be a small amount of moisture on the sterilized items, it is recommended to open the door and wait 5 minutes before starting to empty the chamber.

7.11. Reading and archiving results

7.11.1. Reading cycle data

The method of reading the data is shown in Appendix 3.

7.11.2. Archiving cycle data

It is recommended that the data ripped to the SD card be backed up regularly and then deleted from the card, every 3 months. Too much stored data on the SD card, will fill up the entire card, and once the card is full, older records will be automatically overwritten with new ones.

7.12. Emergency door opening

If the door cannot be opened due to an equipment malfunction (such as that signaled by an E05 alarm), and the batch must be removed from the device, follow the steps described below:

As a prerequisite for safety, turn off the power supply to the appliance and equalize the pressure in the chamber with atmospheric pressure.

1. Open the safety valve with a tool to completely lower the internal pressure. It is absolutely necessary to be very careful not to get burned by the steam coming out of the device. Always use special insulated protective gloves for this purpose.
2. Turn on the power supply.
3. Open the door.



DANGER

During the emergency opening of the door, the autoclave must be turned off and disconnected from the power source, and the pressure in the chamber must be equal to the atmospheric pressure.

7.13. Preparation for an extended break in use

If the unit will not be used for an extended period of time (4 days or longer), the unit must be properly prepared for downtime, i.e.:

1. Completely empty the clean water tank, as well as the external waste water tank, if used.
2. Disconnect the device from the power source.
3. Store the device in a place where it will not be exposed to high temperature and high humidity.

8. LIST OF ERROR MESSAGES

If a malfunction or any situation abnormal to the proper operation of the device occurs during operation, the autoclave will automatically raise an alarm, stop the program and lower the pressure to ensure the safety of the operator. In such a situation, the corresponding error code number will be displayed on the screen.

Immediately after the alarm occurs, write down the error code information and disconnect the power supply. If it is not possible to solve the problem on your own, according to the information shown in the table below, as soon as possible contact the manufacturer or an authorized service center to solve the problem.



CAUTION

If an error code is displayed, it is advisable to run the program once again and see if the error code is displayed again. If the error code appears again, contact the manufacturer or with an authorized service center to solve the problem.

List of error codes and possible ways to solve them

L.p.	Code Error code	Current state	Cause	Possible solutions
1.	E31	The temperature in the sterilization chamber is $> 150^{\circ}\text{C}$.	Defective temperature sensor in the sterilization chamber.	Check the temperature sensor in the sterilization chamber.
2.	E32	The temperature of the heating ring in the chamber is $> 220^{\circ}\text{C}$.	Defective heating jacket temperature sensor.	Check the heating jacket temperature sensor.
3.	E33	Heating tube temperature of the steam generator is $\geq 230^{\circ}\text{C}$.	Defective temperature sensor steam generator.	Check the temperature sensor of the steam generator.
4.	E51	The temperature in the sterilization chamber is $\leq 0^{\circ}\text{C}$.	1. Short circuit of the temperature sensor in the sterilization chamber. 2. Ambient temperature is too low.	1. Check the temperature sensor in the sterilization chamber. 2. Check the temperature in the room if it is not $< 0^{\circ}\text{C}$.
5.	E52	Heating jacket temperature is $\leq 0^{\circ}\text{C}$.	1. Short circuit of the heating ring temperature sensor. 2. Ambient temperature is too low.	1. Check the heating jacket temperature sensor. 2. Check the temperature in the room if it is not $< 0^{\circ}\text{C}$.

6.	E53	The temperature of the steam generator heating tube is $\leq 0^{\circ}\text{C}$.	1. Short circuit of steam generator temperature sensor. 2. Ambient temperature is too low.	1. Check the steam generator temperature sensor. 2. Check the temperature in the room if it is not $< 0^{\circ}\text{C}$.
7.	E61	134°C program: the chamber temperature is $>140^{\circ}\text{C}$ and $\leq 150^{\circ}\text{C}$.	1. Chamber temperature sensor connector contact too weak. 2. Defective control board.	1. Repair/replace the chamber temperature sensor connector. 2. Replace the control board.
		121°C program: chamber temperature is $> 127^{\circ}\text{C}$ and $\leq 150^{\circ}\text{C}$.		
8.	E62	The temperature of the heating jacket is $> 190^{\circ}\text{C}$ and $\leq 220^{\circ}\text{C}$.	1. Too weak contact of the sensor connector temperature of the heating jacket. 2. Defective control board.	1. Repair/replace heating jacket temperature sensor connector. 2. Replace the control board.
9.	E63	Heating jacket temperature is $> 160^{\circ}\text{C}$ and $\leq 230^{\circ}\text{C}$.	1. Contact of heating jacket temperature sensor connector too weak. 2. Defective control board. 3. Defective water pump.	1. Repair/replace heating jacket temperature sensor connector. 2. Replace the control board. 3. Replace the water pump.
10.	E2	Too high pressure during sterilization: 134°C program: pressure $> 235\text{ kPa}$; 121°C program: pressure is $> 135\text{ kPa}$.	Insufficient vacuum, more cold air remains.	Check vacuum pump and valve for vacuum.
11.	E41	After 8 minutes of the preheating phase, the temperature of the heating jacket is $< 100^{\circ}\text{C}$.	Malfunction of the heating jacket.	Check heating jacket thermostat and mating thermostat.
12.	E42	After 8 minutes of preheating phase preheating phase the steam generator temperature is $< 110^{\circ}\text{C}$.	Failure of steam generator heating rod.	Check the heating rod thermostat and the mating thermostat.
13.	E5	After 10 minutes of sterilization phase, pressure release has not reached $< 20\text{ kPa}$.	Clogged pipe for water drainage.	1. Clean and sterilize the internal filters. 2. Check the drain solenoid valve and vacuum valve
14.	E6	Door safety switch contact opened during program run. Program.	Safety switch sensor displaced, microswitch not working properly.	Replace the door safety switch.
15.	E7	Atmospheric pressure is $< 70\text{ kPa}$.	1. Incorrect value of stored pressure. 2. Atmospheric pressure too low.	1. Adjust the pressure. 2. Use the device at an altitude of $< 2500\text{ m}$ above sea level.
16.	E8	During the heating process, the pressure increase in 1 min is $< 3\text{ kPa}$.	1. No water can be drawn. 2. Steam generator heating rod damaged. 3. Door seal damaged.	1. Check, water level in clean water tank and water level sensor. 2. Check pump and inlet solenoid valve. 3. Check the door gasket.
17.	E9	Too low pressure during sterilization: 134°C program: pressure $< 100\text{ kPa}$; 121°C program: pressure $< 200\text{ kPa}$.	1. Excessive chamber loading. 2. Pump cannot draw water.	1. Reduce the load. 2. Check, water level in clean water tank and water level sensor. 3. Check the water pump and inlet solenoid valve.
18.	E10	Unlocked door during running cycle.	Defective door lock.	Check the door solenoid and control board.

19.	E11	Door does not open when program ends. The door opens during the program.	1. Defective or jammed electric door lock. 2. Defective control board.	Check the electric lock and control board.
20.	E12	During running program where there is 2 times vacuum generation, cannot reach the level of < -70kPa.	1. Incorrect loading of the chamber. 2. Defective vacuum pump. 3. The seal in the door is leaking.	1. Run the program with an empty chamber (no load). 2. Check the vacuum pump. 3. Check that the door is closed enough that it cannot be moved.
21.	E16	The sterilization chamber still A high vacuum is present after the program is completed.	1. Clogged or worn air filter. 2. Defective inlet solenoid valve.	1. Replace the air filter. 2. Check the inlet solenoid valve and control board.

9. MAINTENANCE

The condition for safe and reliable operation of the autoclave is the regular periodic inspection, cleaning and maintenance processes.

9.1. Safety rules during maintenance of the device



WARNING

1. To carry out any maintenance of the device, it is required to provide sufficient lighting, i.e. the illumination should be at least 100 lx.
2. Any maintenance work, perform only when the device is disconnected from the power source, and also when the device is completely cooled down.
3. Use only original consumables and accessories. Use of other substitutes not supplied by the device manufacturer, may lead to unpredictable damage.
4. Performing activities beyond the routine maintenance provided for the user may only be performed by the manufacturer or an authorized service center.
5. The user may independently replace the following consumables and/or accessories: air filter, door seal, safety valve, power cord and other directly accessible internal components.

9.2. Maintenance plan

9.2.1. Cleaning plan

L.p.	Required action	Frequency	Target condition	Note
1.	Cleaning the sterilization chamber	Once a week	Clean, free Free from dirt and water.	See 9.3.1
2.	Cleaning the clean water tank water	Once a month	No contamination.	See 9.3.2
3.	Cleaning the drain filter	Once a month	Transparent Filter surface.	See 9.3.3
4.	Cleaning the door seal	Once a week	No contamination.	See: 9.3.4
5.	Cleaning filter w tank for clean water	Once a month	Transparent filter surface.	See 9.3.5

9.2.2. Checking plan

L.p.	Required activity	Frequency	Target condition	Note
1.	Inspection of the safety valve protecting the chamber	1 once every six months	You can check whether the valve is working properly. Absolutely do not do this while the running cycle.	See 9.3.6

2.	Checking sensor water level of water in the clean water tank	1 once every six months	Trigger an alarm In case of water shortage.	See 9.3.7
3.	Checking the water quality sensor	1 once every six months	Trigger an alarm In case of inadequate water quality.	See 9.3.8
4.	Checking cable supply-supplying	Once every six months	No damage to the insulation exterior.	See 9.3.9
5.	Checking battery panel pushbutton control panel	1 once every six months	Display of correct date and time values.	See 9.3.10
6.	Leakage check (performing a leakage test)	Every day as first activity	Successful test result.	See 9.3.11
7.	Checking the fuse	1 time per year	No blackout.	See: 9.3.12
8.	Checking the waste water tank (if used)	Every day before start of the program	Empty the tank, if filled, at least at least half full.	See 9.3.13

9.2.3. Maintenance schedule

L.p.	Required action	Frequency	Target condition	Note
1.	Replacement of bacteriological filter	1 time, every 150 cycles	Well, permanently seated.	See 9.3.14
2.	Replacement of the door seal	1 time every 2 years	Wide side of the gasket facing outward. Gasket adhering flat to the floor.	See 9.3.15
3.	Replacement of button control panel batteries	1 time every 2 years	Display correct date and time values (also after 5 minutes after switching off).	See 9.3.16

9.3. Detailed information

9.3.1. Cleaning the sterilization chamber: wipe the wall of the sterilization chamber and the sealing surface of the chamber with a clean, dust-free cloth soaked in water.



CAUTION

Do not use acidic or alkaline pH cleaners to clean the sterilization chamber.



WARNING

Before cleaning the chamber, wait until the chamber has cooled completely to avoid the risk of burning yourself.

9.3.2. Cleaning the clean water tank

Empty the tank, remove sediment and other debris, and then wipe the inner surfaces with a clean, dust-free cloth.



CAUTION

Do not remove the filter from the tank to prevent debris from entering the pipeline, which can cause the pump to fail and set off the alarm.



WARNING

Use only clean water to clean the tank. Do not use other liquids or agents, such as: chlorine-based, methyl alcohol, sodium hypochlorite or acetone, etc., they may damage the tank.

9.3.3. Cleaning the drain filter

There is a drain filter in the front of the sterilization chamber:

1. Turn clockwise to remove the filter from the chamber.
2. Unscrew the inner filter pressure ring.
3. Clean the 2 inner filter elements.

4. Reassemble the filter: make sure to insert the coarse mesh filter element first, followed by the fine mesh element, and only then screw on the pressure ring.
5. Screw the drain filter into place.



Before cleaning the filter, wait until the chamber has cooled completely to avoid the risk of burning yourself.

WARNING

9.3.4. Cleaning the door seal:

Check that there is no dirt on the sealing surface; if there is, it must be removed. Then wipe the entire sealing surface with a clean, dust-free cloth soaked in clean water.

9.3.5. Cleaning the clean water tank filter

The clean water tank filter is the same structure as the used water drain filter and is installed in the clean water tank. Before removing the filter, first empty and clean the tank. Clean the filter analogously to the drain filter cleaning procedure described in section 9.3.3.

9.3.6. Checking the safety valve

Regularly, every 6 months, check that the valve opens properly and steam is completely released to prevent the safety valve from failing. Check the valve as follows:

- 1) Run the program at 134°C.
- 2) Wait until the pressure rises to about 100 kPa. Then pull the ring on the safety valve to move the valve to the open position and wait about 1 second, if the air and steam are completely released this indicates that the safety valve has been opened. If the valve does not open, stop the program and immediately contact an authorized service center to have the safety valve replaced.
- 3) If the test was successful, let go of the ring and wait for the completion of the program run.
- 4) Observe whether steam escapes from the safety valve during the remaining phases of the running program. If it does, contact an authorized service center to have the safety valve replaced. If no steam escapes, it means that the valve is working properly.



Ring

Safety valve

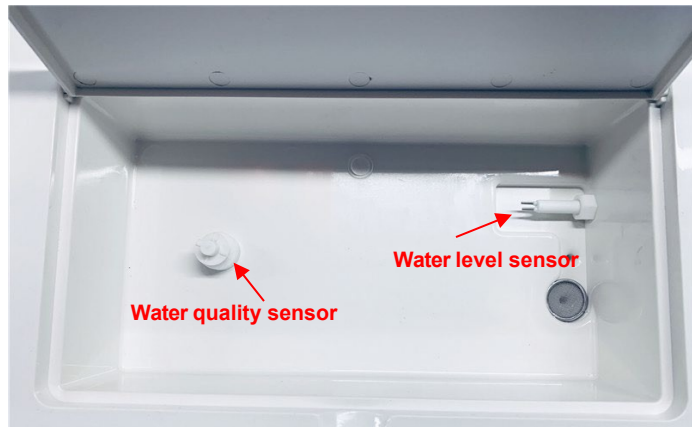


WARNING

Steam will be ejected when the ring is pulled. Pull the ring using a suitable tool, such as a flathead screwdriver or other tool. Absolutely do not do this directly with your hand. The operator must stand as far back as possible and always wear special insulated protective gloves, to avoid the risk of getting burned.

9.3.7. Checking the water level sensor in the clean water tank

With the power on, press the program shortcut button to enter the program interface. Completely drain the water from the tank. If a message about no water is displayed, it means that the sensor is operational. If there is no such message, report the malfunction to the manufacturer or authorized service center.



9.3.8. Checking the water quality sensor

With the power on and the tank filled, short out and hold the two electrodes of the sensor by using a metal object (such as tweezers, scissors, etc.) and wait a few seconds. If a message about inadequate water quality is displayed, report the fault to the manufacturer or authorized service center.

9.3.9. Checking the power cord

Check the outer surface of the power cord for any damage. If the cable is damaged, contact the manufacturer or authorized service center for replacement.

9.3.10. Checking the button control panel battery

Check the date and time on the display when the unit is turned on. If these values are incorrect, the battery may be dead and should be replaced.

9.3.11. Checking for leaks

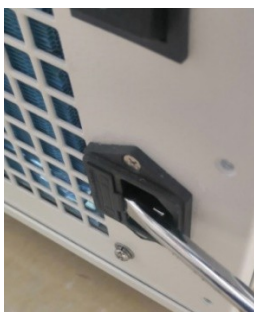
To check for leaks, perform the vacuum test "Vacuum Test". Carry out the test with an empty chamber (no charge). After the test is completed, the device will display the result. The device can only be used after successful completion of the test. In case of failure, contact the manufacturer or authorized service center.



CAUTION

Test results may be incorrect if the sterilization chamber is hot or not dry. Perform the leak test only when the chamber is dry and cold.

9.3.12. Checking the fuse



Turn off the device and disconnect the power cord. Lift the fuse holder cover with a flat screwdriver. Remove the fuse and check if any blackout is visible. If there is, replace the fuse immediately.

When replacing the fuse, make sure that the new fuse is of the same type. Use a fuse with the designation: F15AL250V.



CAUTION

Make sure that the new fuse is in accordance with the specification, otherwise it may cause the failure of functional safety components and thus damage the device or endanger the operator. Checking or replacing the fuse must only be done with the unit turned off and with the power cord disconnected from the unit and from the electrical outlet.

9.3.13. Checking the waste water tank (if used)

If an external waste water tank is used, check every day before starting work, whether it is full or close to full. If it is filled, at least half full, empty the tank.

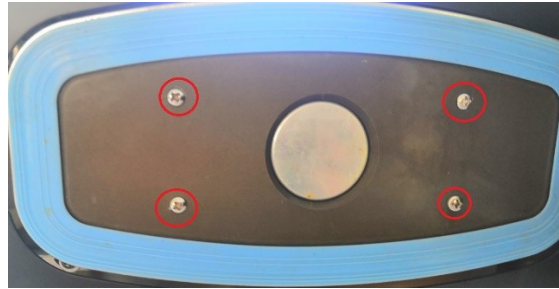
9.3.14. Replacing the bacteriological filter

The position of the bacteriological filter is shown in section 1.5. Turn the filter to the left, remove it and install a new one.

9.3.15. Replacing the door seal

After removing the 4 screws shown in the photo opposite, first separate a certain part of the gasket, and then remove the whole gasket.

Insert the new gasket by carefully pushing the gasket into each of the 4 grooves. Then push the remaining sections of the gasket all the way in, put on the cover and tighten it with the screws.



WARNING

Before replacing the seal, make sure the door cover is completely cooled down to avoid the risk of burning yourself.

9.3.16. Replacing the button control panel battery

The push-button control panel is powered by a battery (1 x CR2032). If the battery runs out, the user must independently replace the used battery with a new one of the same type.

Replacement method: Unscrew the 2 screws at the bottom of the panel, remove the compartment cover, lever the battery with a flat screwdriver and remove it. Insert the new battery and fix the compartment cover.



10. SERVICE AND WARRANTY CONDITIONS AND SERVICE

10.1. Service

Servicing is necessary for the device to function properly. An annual (every 12 months) inspection of the device is required. Service may be performed only by qualified personnel of the warranty and post-warranty service company designated by the manufacturer.

10.2. Warranty

The expected lifetime of the device is 5 years. The device is covered by a 2-year warranty, which runs from the date of the invoice. Any failure or damage caused by proper installation, use and service of the device in accordance with the provisions of this manual, under the warranty is covered by free replacement or repair of faulty components. The warranty does not cover consumables. Servicing by unauthorized parties excludes any claim under the warranty and any other claims.

The warranty does not apply, even during the warranty period in the following cases:

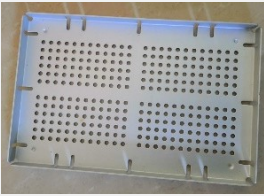
- damage or defects caused by improper installation and operation,
- damage or malfunctions caused by damage to the device, e.g. due to a fall or impact,

- damage or malfunctions caused by installation and repair of the device by entities not authorized by the manufacturer,
- lack of proof of purchase and warranty card,
- damage or malfunction due to a fortuitous event (e.g. surge or fire),
- use of non-original consumables and accessories,
- normal wear and tear of consumables and accessories,
- blurring, modification, damage or removal of any markings, labels/tags, including warning and information stickers from the device/product,
- if the serial/partial number of the device has been removed, altered or is illegible, or the authenticity of the device/product cannot be confirmed.

In cases not covered by the warranty, including after the warranty period has expired, repairs are made against payment.

Detailed warranty conditions are presented in the warranty card.

11. ACCESSORIES

Lp.	Item name	Photo	Comment
1.	Instrument tray (1 piece is standard, 2 pieces are optionally available).		Used to place items or instruments. Serves to place on the rack for trays.
2.	Tray rack (optional).		The lower part is used to place items for sterilization. The upper part is used to place instrument trays.
3.	External tank for used water (optional).		It is used to collect used water discharged during the cycle.
4.	Handle (handle) for removing trays.		Always use the handle (handle) to remove trays from the chamber to avoid the risk of burning yourself.
5.	Wire/hose drain (2 pcs.)		Used for draining water.
6.	Power cord (1 piece).		

12. APPENDICES

Annex No. 1 Items and results of the inspection

Subject of the test	Method of compliance	Result
Dynamic pressure control	Type test	Compliant
Air leakage	Inspection of finished product	Compliant
Empty chamber test	Inspection of finished product	Compliant
Solid batch	Type test	Compliant
Small porous objects	Type examination	Compliant
Small porous batches	Type test	Compliant
Full porous charge	Type test	Compliant
Type B hollow charge	Type examination	Compliant
Type A indented charge	Inspection of finished product	Compliant
Multilayer packaging	Type testing	Compliant
Drying of solid batches	Type examination	Compliant
Drying of porous batches	Type test	Compliant

Appendix 2 Explanation of each process step

Lp.	Method Display	Explanation
1.	Standby	The device is in sleep mode, when it exits the mode, it is ready for operation.
2.	Warm up	Pre-heating phase.
3.	Vacuum	Air evacuation phase.
4.	Raise	Saturated steam is injected into the sterilization chamber: the increase in temperature and pressure in the chamber.
5.	drain	Emptying (draining water and releasing steam) of the sterilization chamber.
6.	Sterilization	Sterilization: maintaining the sterilization pressure and temperature.
7.	Dry	Vacuum drying.
8.	equilibrium	Air is drawn into the interior of the sterilization chamber through a bacteriological filter to equilibrate the pressure in the chamber to atmospheric pressure.
9.	End	Termination of the running program.

Appendix No. 3 Sample printout of the result of the completed program

SERIAL NO.:300012345

OPERATER:

----CLASS B--

COUNT:00001

B.W. WATER COUNT

DATE: 01-07-2020

TIME: 15:46:25

PROGRAM: 134 / QUICK

HH:MM:SS KPA °C

START

15:51:43 000 072.6 05:18

VACUUM

15:52:45 -080 079.1 01:02

RAISE

15:53:00 021 089.2 00:15

VACUUM

15:53:50 -080 095.2 00:50

RAISE

15:54:05 010 103.9 00:14

VACUUM

15:55:09 -080 105.7 01:05

RAISE

15:56:24 221 133.7 01:15

STER-START:

15:56:24 221 133.7 01:15

MAX TEMP: 136.1

MIN TEMP: 133.7

MAX PRESS: 227

MIN PRESS: 207

STER-END

16:00:24 213 134.6

04:00

DRY-END

16:04:58 -017 118.8

04:34

CYCLE COMPLETE

16:04:59 000 119.1

00:01

Pressure unit

Temperature unit

Vacuum phase time

Total cycle time (18 m :
34 s)During the
sterilization
phase

SERIAL NO.:

OPERATOR:

CLASS B

COUNT:

B.W. WATER COUNT

DATE:

TIME:

PROGRAM: 134 / QUICK

HH:MM:SS

START

VACUUM

RAISE

RUDDER-

START: MAX

TEMP: MIN

TEMP: MAX

PRESS: MIN

PRESS:

RUDDER-END

DRY-END

CYCLE COMPLETE

SERIAL-

NUMBER:

OPERATOR:

CLASS B

CYCLE NUMBER:

WATER

QUANTITY/QUALITY

DATE:

TIME:

PROGRAM: 134 / FAST HG:MM:SS

START

PHASE VACUUM

GENERATION

PHASE INCREASE

OF TEMPERATURE AND

PRESSURE IN THE

CHAMBER

START OF

STERILIZATION MAX.

TEMPERATURE MIN.

TEMPERATURE MAX.

PRESSURE

MIN. PRESSURE END

OF STERILIZATION

END OF DRYING

COMPLETE CYCLE

13. CONTACT INFORMATION**MANUFACTURER****Ningbo Haishu Life Medical Technology Co., Ltd.**

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