Sümer®

adela series

STEAM STERILIZERS
USER AND MAINTENANCE MANUAL

SZUTEST CE2195 ISO13485 certified TSE EN 285 HYGCEN SFDA

AUTOCLAVES			
Product Name	Models		
Laboratory Type Vertical and Horizontal Autoclave	Laboratory Type Vertical Autoclave Series	ADELA-3D	60 L, 75 L, 90 L, 115 L
	Laboratory Type Horizontal Autoclave Series	ADELA-3Y	
Tabletop Autoclave	Single Door Tabletop Autoclave	ADELA 40	40 L

Absolutely Forbidden

This Sign is a Sign That Indicates That The Process Should Not Be Done. Carelessness Can Seriously Damage Operator and Device.

Important Safety or Usage Information

This Marker has been prepared to draw attention to the Important Notes on Safety and Use of the Reader.

This manual contains important instructions for the Steam Sterilizer device during the maintenance, processing, loading stages. For this reason, it should be read carefully by the personnel in charge during the installation and processing phases. This manual should be permanently available in an environment where the steam sterilizer device is located, within easy reach. It is imperative that the safety instructions specified in these and subsequent sections are followed exactly.

It is important to keep this user manual with the device for future reference. If the device is sold or transferred, the manual must be delivered in order for the manual to be delivered to new owners or the user.

Our company; all medicinal products produced and sold; repair, maintenance, revision and calibration activities, with the personnel authorized, or with the appropriate equipment through the authorized distributors or dealers; fulfills the water, electricity and air installation in the place where it will be installed in accordance with the temperature-humidity standards. After the devices are installed, the product is operated in terms of reliability, safety and performance, and the users are certificated by providing home-use training regarding the product. All this responsibility belongs to our company.

If the user repairs the device "within the warranty period" to any person or company other than Sümer A.S and its distributor, the device is out of warranty.

If maintenance-repair is made to another company other than our company, any liability for any negative situations and hazards that may arise in the final device, will not be accepted.

The usage life of our product has been determined as 10 years by the Ministry of Industry and Technology. Its safe use, determined by the PED 2014/68 / EU pressure vessels directive, is 10,000 cycles throughout its lifetime.

Our company has the right to change and improve the information in the User Manual.

INTRODUCTION

“Dear Customer,

As Sumer Inc, we produce our products to meet your requirements and expectations. Use our products, which have passed all stages of quality control, without hesitation. Our products produced in accordance with the latest technology and standards are included in MDD 93/42/EC -2007/47/EC Medical Devices Directive and PED 2014/68/EU Pressure Equipment Directive and they are audited by international organizations.

We also recommend that you read this user and service manual, which is prepared for your safety in order to ensure the ease of use of our product, which are carefully produced. Before you start to use our product, we ask you to carefully read the "User and Service Manual" and keep it as a reference.
See "Problems and Solutions" on page 43 in case of any malfunction. In case of an unsolvable failure, please call our Technical Service.
Do not interfere with anyone other than Sumer Inc and his authorized service personnel. Interventions by unauthorized persons may cause more damage to your device, and cause your device become out of warranty. This can affect the electrical safety and performance of the device in a negative way.

Sumer INC. Do not interfere with the device, except for the service personnel authorized by him. Unauthorized interventions can cause greater damage to your device, and your device will be out of warranty. This may negatively affect the electrical safety and performance of the device.

Thank you for purchasing this device.

The installation, maintenance and operation instructions given in the following pages are very important for the longevity of your device and better performance of the device, follow the instructions carefully.

Your satisfaction is the best reward for us.

PRINT HISTORY

Document Code : KK.03
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Revision 8
Place printed : Ankara

The information contained in this document may be changed without prior notice.

Warranty

SÜMER A.Ş. gives a two-year warranty period to the device you purchase, starting from the delivery date.

Table of Contents

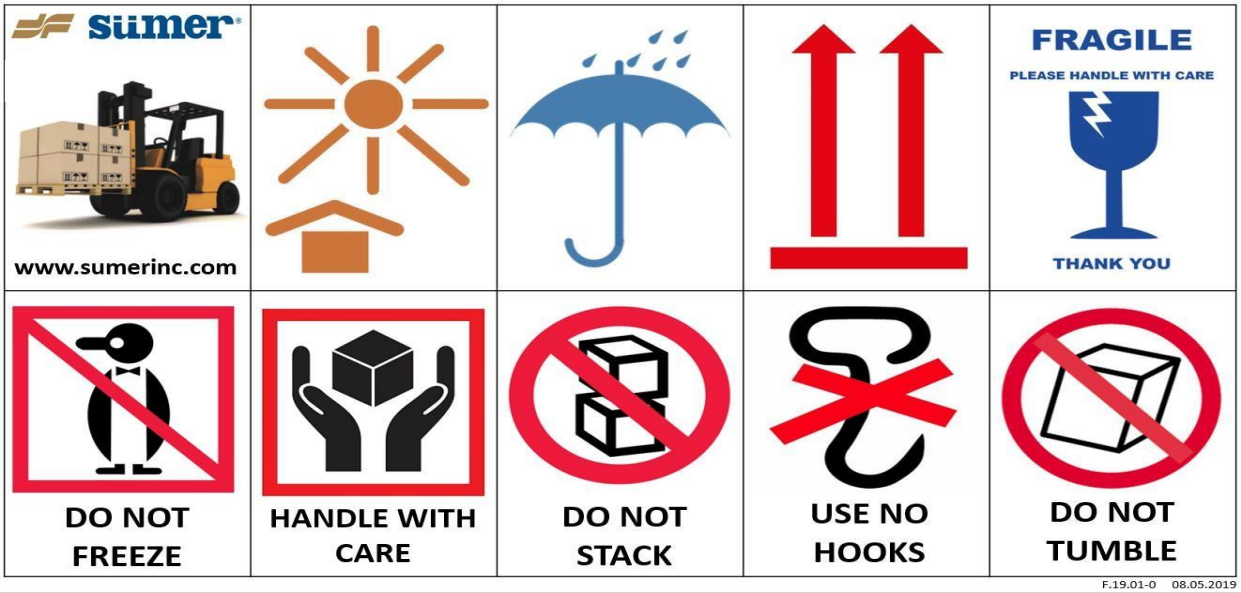
GRAPHIC SYMBOLS

	These symbols indicate that the material is part of the process of recycling / recycling.
	This symbol indicates that the device must be kept away from sunlight.
	This symbol indicates that the device may get broken and must be moved carefully.
	This symbol indicates the temperature limitation for operation, transport and storage.
	This symbol indicates humidity limit for operation, transport and storage.
	This symbol indicates that there is atmospheric pressure limitation for operation, transport and storage.
	This symbol indicates that the device should be kept dry.
	Medical Devices
	This symbol indicates the manufacturer.
	This symbol indicates the date of production.
	This symbol indicates that the device should not be disposed of with untreated municipal waste. (For EU only).
	This symbol indicates the manufacturer's catalog number of the device.
	This symbol indicates the serial number of the device.
	Read the User and ServiceManual.
	This symbol indicates the type B applied parts.
	This symbol indicates protection against hard objects> 12.5 mm in diameter.
	This device demonstrates compliance with the essential requirements of the EU Council Directive 93/42 / EEC on Medical Devices
	This device demonstrates compliance with the essential requirements of the EU Council Pressure Equipment Directive 2014/68/EU.

Device Warning Labels

The following warning labels are hit on the device for the safety of the user.

Packaging Labels: For the safety of the user, the following warning labels are hit on the packaging.



These Marks are for the user and should never be scratched or removed.

SAFETY INFORMATION

- Before operating the device, carefully read the "Service and Operation Manual". This book contains important information about installing, installing, using, and maintaining the device.
- The manufacturer is not responsible for the consequences of not following the instructions below.
- This device; Heat resistant medical devices and instruments are produced for the purpose of sterilization by saturated steam method, do not use other than their intended purpose.
- If the new machine appears damaged, contact your dealer before operating it.
- Any changes to the electrical and hydraulic systems required to install the device must be made by qualified and authorized personnel.
- This device must be used by specially trained people who are provided by our company after installation or by special request. To be careful against door jams, keep yourself away from the device when closing the doors.
- In cases where the device is not used, when cleaning the device or in case of malfunction, the mains electricity connection should be disconnected from the main panel to which the device is connected. Do not do this to unauthorized persons.
- It is forbidden to use the device in any way other than its intended use.
- The user is prohibited from doing any work or repairs on the machine.
- Technical Assistance for our Steam Sterilizer device should only be done by qualified and authorized operators.
- Do not install the device in rooms at risk of explosion.
- Do not expose the equipment to extreme cold.
- The electrical safety of our Steam Sterilizer device is guaranteed only when it is connected to an efficient grounding system.
- The device reaches 134 ° C during the working cycle. Be very careful to avoid burns. Use protective equipment to avoid being affected by heat.
- Do not wash the device with high pressure water jets.
- Always disconnect the device from the mains before any service.
- Do not block or block the drain holes of the device.
- Check that the connection values stated on the electrical panel and on the type plate to which the device will be connected are compatible with each other.

- Safety related to the electrical connection of the device is provided only if the institution's ground line is properly made and in accordance with regulations.
- The water used in the device should be taken from the Reverse Osmos device or the treated water line of the hospitals.
- Make sure that the device is always clean and dry. The internal surface of your device has been subjected to electro polishing. Never use surface scrubber mechanical cleaners and acid cleaners for cleaning the device.
- Stainless care products and acid-free cleaning products can be used in the device.
- Cleaning should not be done while the device is hot.
- It should be remembered that when loading and especially unloading the device, the basket will be at a temperature of around 100 ° C. Protective equipment must be used.
- In the event of malfunctions or potential hazards, user operators must notify the authorities immediately.
- The environment of the device should be kept clean and dry in case of possible electrical leakage.
- Liquid that will cause corrosion should not be spilled on the device and general cleaning should not be done with these liquids.
- The device should not be subject to impact or any mechanical vibration.
- There is a risk of burning from steam released after sterilization and drying. For this reason, the device should not be stopped in front of the door.
- The devices are designed and designed to minimize the expected environmental effects (Magnetic fields etc.). EMC tests are within limits. In case of unexpected environmental effects, the main supply line of the device should be cut.
- The device does not emit radiation that affects the environment and living things.
- The labels on the device should never be removed and mechanical cleaning should not be done.
- Filter changes should be done according to periodic maintenance rules.
- While the device is running, do not interrupt the cycle as it compromises sterilization unless it is mandatory.
- Use only original accessories.

If the above rules are not followed
SÜMER A.Ş.,
will not be responsible for problems caused by personal injury or material damage.
Failure to comply with these rules ensures that the warranty is canceled completely and immediately.

REPORTING AN ACCIDENT OR EVENT

If an accident or incident occurs about the device, a report should be written about the reason for the accident or incident and the current situation and should be reported to SÜMER A.Ş. urgently.

Sümer A.Ş .; In the following cases, in accordance with the Medical Devices Directive, it must notify this to the "Notified Body" and the "Authorized Institution" of the country in which the incident occurred.

1. Conditions that cause the death of a patient, user, or person,
2. Conditions that cause serious deterioration in a patient's health,

In this regard, our company is obliged to investigate and investigate the cause of the accident and to improve it as a result.

USAGE PURPOSE OF PRODUCT

Intended Use - Patient Population - Target User - Indication - Contraindication

A) Product Usage Purpose: Our product; It is produced to be used for sterilization of 134 °Cheat resistant medical products by steam method in health institutions.

B) Targeted User: It should be used by expert technical personnel who are experienced in sterilization and disinfection, assigned to this subject and who have completed the necessary trainings by our Technical Service Personnel.

C) Indication: It is the path to be followed for the proper use of the product, taking into account the user manual and necessary warnings, it is the safe and desired performance of the device.

D) Contraindication: It is inappropriate use. Regarding this subject, warnings were made for the user in the warning labels on the manual, product and packaging.

Our company will not be responsible for any injuries and malfunctions that may occur due to using the device, except for its intended use.

It is the duty of the Authority to purchase the product to check whether the degree of staff training is suitable for the assigned tasks. The institution is obliged to determine the competent personnel to use the device.

WORKING CONDITIONS

- Temperature : 5 ° C / 25 ° C
- Moisture : Must be between 40% / 70%.
- Pressure : Atmospheric Pressure
- Lighting : Min 500 Lux
- Ventilation : No air exchange required
- Average Sound Pressure Level: <70 dB (A)

The value given is a value measured with a device at a height of 1,5 m at a distance of 1 m.

STEAM STERILIZERS

Our Steam Sterilizer Device; It is a device that provides sterilization of medical products by steam method.

Our Steam Sterilizer Devices; it is the only flywheel cover.

STEAM STERILIZATION PROCESS

When water vapor meets a cooler object, it concentrates on the material and transfers the energy it carries to this object. It is this energy transfer that provides sterilization. The high energy carried by the pressurized water vapor provides the sterilization by transferring it to the objects in the required time at constant temperature and pressure. Unless energy transfer occurs, sterilization does not occur. If there is very little air left in the cabin, this energy is transferred to the air and the air is heated. Since air does not have an energy transfer power, sterilization does not take place at standard times. With this method, the death of microorganism cells causes the clotting of the protein and reproduction stops. After sterilization, steam is expelled and drying is activated. Drying time may increase in proportion to the material load.

ADVANTAGES

Steam sterilization is the oldest and most used method, because;

- It is safe, fast and inexpensive. It is a cheap equipment and cheap operating cost sterilization method.
- It is a suitable sterilization method for all materials except heat sensitive materials.
- It is a suitable sterilization method for all materials except heat sensitive materials.
- It is not toxic.

GENERAL WARNINGS

The Sterilization Devices can be stopped by pressing the emergency stop button in any emergency.

The Sterilization Devices must be used by trained personnel and this user must be the only person responsible for the device.

If the program is canceled or an emergency stop is performed during the operation of the device, the material loaded on the device must be re-prepared for sterilization process must be repeated.

When the Steam Sterilizer Device is not in use, nothing should be left or stored inside. The doors must be opened.

Sterilized finished materials are hot, gloves should be worn during evacuation of materilas from the the autoclave chamber to prevent user injuries.

If any liquid is spilled into the cell, clean it immediately.

The details of the automatic control device can be output as a report at the end of sterilization, as well as the time for all stages of sterilization cycle such as pressure and temperature.

REMAINDER RISKS

The device includes a set of fixed guards to prevent access to dangerous internal parts or areas. However, the autoclave is thought to contain some residual risks. The precautions to be taken at each stage or for important business interventions are:

	**BASKET LOADING AND UNLOADING**
RISK	Falling during basket loading - unloading, crushing from this, injuries that may occur due to sharp corners.
MEASURE	Trained competent personnel and the use of Protective equipment.

RISK	When the sterilization program is over, the door of the sterilizer is opened to pick up the items and the inside of the boiler is still hot. Pay attention to the hot air coming out of the boiler. Do not stand in front of the door as soon as the door is opened, hot steam may damage it.
MEASURE	Trained competent personnel and the use of Protective equipment.
PROTECTIVE EQUIPMENT	Latex Protective Glasses and Heat-resistant gloves

	**INTERACTION WITH CHEMICALS USED ON THE DEVICE**
RISK	Contact of washing chemicals used with the body.
MEASURE	Trained competent personnel and the use of Protective equipment. Remove contaminated or wet clothing immediately and rinse the contact area with plenty of water. Observe the chemical manufacturer's recommendations.

RECYCLING INFORMATION

- Older devices are not worthless trash. By passing through an environmental removal process, valuable raw materials can be evaluated for reuse.
- Regulations on waste management should be taken into consideration for wastes.
- Disconnect old devices from electricity. Separate the main cable from the device under observation of authorized personnel.
- Your new device has been placed in an appropriate packaging to prevent any damage during its transport. All materials used for the packaging of the new appliance are of a non-destructive nature and can be recycled. By subjecting packaging to environmental degradation and reassessment, you can help protect the environment.
- Do not give packagings and packaging parts for children to play. Due to the foldable cardboard boxes and foils, they can suffocate without air.
- Properly dispose of the packaging as required. All packaging materials used are genuine materials that do not pollute the environment and can be re-evaluated. No chemical processing is made in wood fragments.

- Get information about the old device removal methods and garbage re-evaluation centers from your dealer or affiliated municipality.

WARNING !

Be sure to convey the wastes that arise during the opening of the product packages, the wastes that will occur when you use the product and all the stages after the product has completed its life, to the authorized recovery centers of the country you are in.

PRE-INSTALLATION ACTIVITY

Planning of the central sterilization units to be installed should be done in accordance with the dimensions of the device to be purchased. For this reason, it is necessary to get information from our company and to plan accordingly.

INSTALLING THE DEVICE

A. Positioning the Steam Sterilizer Device

All packaging materials are recyclable and follow the recycling rules.

- Open the packaging carefully.
- Do not overturn the machine as it may cause irreparable damage.
- Cut the strap or open the box and remove the expanded polystyrene corner protectors.
- First remove the box and then the plastic bag.
- Based on the table on page 22, the back of the device should be 100cm, right side 75cm, left side 75cm, and the space between the device and the ceiling 150cm.

WARNING 1: Regardless of the total weight of the device, the device must be installed on a concrete or epoxy coated hard floor. The mezzanine should not be installed in a place that does not bear the weight of the device.

WARNING 2: The place where the device will be mounted and the ground must not be made of flammable materials. The device cannot be moved after assembly.

- The installed device must definitely breathe. If the device must be operated in a closed environment, the absolute environment must be ventilated. For example, it would be useful to have ventilation. If the environment in which the device operates is not receiving air, our company is not responsible for any damages arising from this.

B. Water Connection

- This device must be connected to the water network in accordance with the current legislation.
- Connect using ¾" coupling taps in an easily accessible location.
- Make sure the mains water pressure is between 2 and 5 Bar.
- Heaters and check valves, pneumatic solenoids, strainers will be damaged if the city water is extremely calcareous. In order not to damage the device, it is absolutely necessary to treat city water. For this, a water softener device should be used.
- If the pressure is higher than 5 Bar, a pressure reducer should be installed.
- If the average hardness of the water is higher than 10 ° FR, descaled water should be used.
- Characteristics of the city water to be used are given below.

Determinant	Condensate
Silicate (SiO_2)	≤ 0.1 mg / L
Iron (Fe)	≤ 0.1 mg / L
Cadmium (Cd) [c]	≤ 0.005 mg / L
Lead (Pb) [c]	≤ 0.05 mg / L
Rest of heavy metals except iron, cadmium, lead	≤ 0.1 mg / L
Chloride (Cl)	≤ 0.1mg / L
Phosphate ($P2O_5$)	≤ 0.1 mg / L
Conductivity (at 20 °C) [a]	≤ 4.3µS / cm
pH (20 °C) value	5 ila 7
Appearance	No residue, clean, colorless
Hardness (Ions of alkaline earth)	≤ 0.02 mmol / L
a. See European Pharmacopeia. b. If the condensate meets the requirements on conductivity, it is not necessary to perform heavy metal tests. c. The limiting values meet the requirements for potable water.	

- In order for the device to discharge easily while vacuuming after sterilization, its expenses must be as smooth as possible. For example, the fewer the corner brackets in the drain, the more

NOTE 1: The expense must be in a closed area, if the expense is open and the expense in the winter freezes according to the weather conditions, our company is not responsible for the malfunctions that may arise from this.

- After completing the sterilization process, gloves or cloth should be used according to the temperature while removing the materials from it. If the user takes the hot material with bare hands, our company is not responsible for the damage that will occur.

Static Pressure	: 2.0 - 5.0 Bar
Dynamic Pressure	: 1.5 - 4.0 Bar
Feed Water Hardness	: 0 ° FR - 10 ° FR
Feed Water Temperature	: Cold Water : 5 - 15 ° C

C. Electrical Connection

- Environment in line with current Technical Regulations.
- The electrical connection must be made in accordance with the applicable technical regulations.
- 380V three-phase electricity should be connected to the device. When the heaters draw excess current, the cables reach a certain temperature. This has no harm to the device. When excessive current draws, one of the heaters is automatically cut off and the device returns to normal current.

D. Evacuation Links

Use a drain suitable for the device. (You can consult our Authorized Service on this matter.)

For Evacuation Connection, it is Necessary to Follow These Instructions:

- Discharge pipe must be resistant to heat (120 ^{O}C and 2 Bar) and pressure and connected with a
- 12 mm hose inlet record.
- When the discharge pipe is connected; it should be slightly curved, not corners.
- The discharge point should be placed at a maximum height of 10 cm from the base on which the device is placed.
- Carefully follow these instructions, as incorrect drain connection may prevent the appliance from vacuuming.
- Avoid drain pipe extension.

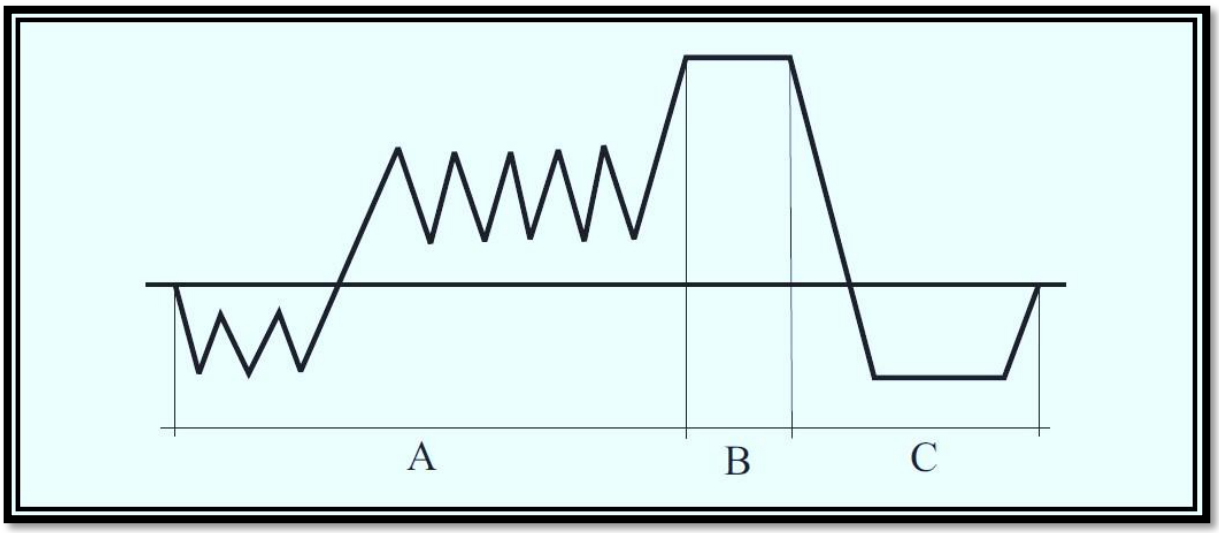
Steam Sterilizer General Introduction

STERILIZATION PROCESS

When water vapor meets a cooler object, it concentrates on the material and transfers the energy it carries to this object. It is this energy transfer that provides sterilization. The high energy carried by the pressurized water vapor provides the sterilization by transferring it to the objects in the required time at constant temperature and pressure. Sterilization does not occur unless energy transfer occurs. If there is very little air left in the cabin, this energy is transferred to the air and the air is heated. Since air does not have an energy transfer power, sterilization does not take place at standard times.

With this method, the death of microorganism cells causes the clotting of the protein and stops its reproduction.

After sterilization, steam is expelled and drying is activated. Drying time may increase in proportion to the material load.



A. Before sterilization
The steam required for sterilization is produced.

B. Sterilization
It is the stage in which sterilization takes place at appropriate pressure and temperature.

C. After sterilization
It is the stage where 70 mBar vacuum is taken and moisture is taken out. The sterilization chamber is brought to atmospheric pressure. Pressure balancing with vacuum takes place by accepting it as atmospheric. The system does not allow the doors to open if the internal pressure is more than 0.13 bar atmospheric pressure and the vacuum is more than 0.033 bar atmospheric pressure. The system also has a filter that prevents bacteria from entering. The efficiency of the filter is 99.998% and 0.3 micron (0.0003 mm) in size.

WARNING !

Ambient conditions, type of material, packaging etc. variables like
"STERILIZATION PROCESS"
It affects.
Our product offers you a good sterilization by optimizing all these factors.

STERILIZATION PROCESS DOCUMENTATION

Printer output will help you to archive the sterilization processes and documentation. You can follow the program used in a printout and the appropriate sterilization process and save it. You can see a sample sterilization printout below.

DEVICE SERIAL

MODEL

COMPANY/INSTITUTION

PROGRAM NAME
Fast

PROGRAM NUMBER 1

PROCESS	TEMPERAT	TIME
Heating	81.6℃	05:12:08
Heating	89.1℃	05:14:08
Heating	98.9℃	05:16:08
Heating	106.9℃	05:18:08
Heating	113.8℃	05:20:08
Heating	114.0℃	05:20:09
Heating	117.5℃	05:22:09
Heating	123.3℃	05:24:09
Heating	128.9℃	05:26:09
Heating	133.3℃	05:28:09
Sterilization	134.0℃	05:28:49
Sterilization	134.3℃	05:30:49
Sterilization	134.5℃	05:32:49

OPERATION COMPLETED

Cycle 8 TIMES
05:46:10 03/01/2020
Cycle time 00:47:38

Keep this document

Examples.

DO NOT USE!

UYARI !

Be sure to put the "Bowie Dick" test kit into the device at the beginning of each day and run the "Bowie Dick" program.
At the beginning of each week, run the idle "Leak Test" program.
In case of any problem, inform “Authorized Service”.

GENERAL SPECIFICATIONS

- Reliable production in accordance with TS EN 285,
- Devices are controlled and checked for conformity according to type tests.
- Constantly renewed technology and R & D work done devices,
- Devices placed on the market in reasonable price ranges
- Trained technical staff, technical service facilities,
- Easy accessibility, quick intervention possibilities,
- Economic lifetime, use of quality materials,
- Water and electricity saving devices,
- 2 year international warranty, 10 year spare parts availability,

Devices; safe, protective, all tests-Calibration, leakage current, water consumption, electricity consumption, air leakage, helix, bowie-dick, ETS, generator capacity and water testing facilities in full sterilization cycle.

SAFETY AND QUALITY

- The door designed with a safety system as to prevent injury to the operator.
- Protects the user against current leaks
- Short circuit protection available with separate control of heating elements.
- Safety valve
- Uses HEPA filter for clean air, pressure equalization in the sterilization chamber provided by HEPA filter
- Built-in electric steam generator. The device has a built-in fully automatic steam generator with electrical elements as a heating source.
- Water level control with liquid level probe inside the generator
- Water level float (in water tank)
- Precision steam discharge with pneumatic valve
- Leak test
- Pressure door locks
- Emergency button

CONTROL SYSTEMS AND PROPERTIES IN STERILIZERS

- Electronic card is controlled.
- Managing all sterilization processes with the help of touch color screen
- Full control with the control unit that has undergone electromagnetic compatibility tests
- Programs that have undergone Compliance Tests according to EN 285 and EN 17665-1-2 standards

SAFETY FEATURES

- The system warns the user when the water runs out, high temperature and for the sterilization abort and failure.
- The system warns when the cover is open. The program does not start until the cover is closed.
- The lid cannot be opened until the pressure in the sterilization chamber drops to atmospheric pressure.
- Overheating protection using the heat sensing element (PT 100) which displays faults on the screen; this production is to prevent the steam generator from overheating if the dry boil protection fails.
- The sterilization chamber was controlled with 2.5 bar working pressure and 3.75 bar test pressure.
- In case of excessive pressure inside the sterilization vessel, the safe discharge of steam is ensured.
- In case the sterilization program is not running, the system; It keeps the intracellular pressure under control so that the lid can be opened at any time.
- The system has a cover gasket that seals until the cell internal pressure reaches atmospheric pressure.

TECHNICIAL SPECIFICATIONS

Laboratory Type Horizontal Autoclave Series;

Models					
Cell Volume (Lt)	**40**	**60**	**75**	**90**	**115**
Cell Dimensions	Ø400 x 500	Ø400 x 525	Ø400 x 600	Ø500 x 700	Ø400 x 915
Device Dimensions	785X780X635	785X780X660	980 X 1050 X 750	1110 X 1150 X 850	1445X 675 X 675
Temperature (^{o}C)	100 - 134	100 - 134	100 - 134	100 - 134	100 - 134
Maximum Pressure (bar)	2,1	2,1	2,1	2,1	2,1
Power (W)	4.5 kW, 1 Faz 230 VAC ±10	4.5 kW, 1 Faz 230 VAC ±10	7 kW, 1 Faz 230 VAC ±10	7 kW, 3 Faz 400 VAC ±10	11 kW, 3 Faz 400 VAC ±10
Weight (Kg)	154	156	175	185	188

Laboratory Type Vertical Autoclave Series ;

Models				
Cell Volume (Lt)	**60**	**75**	**90**	**115**
Cell Dimensions	Ø400 x 525	Ø400 x 600	Ø500 x 700	Ø400 x 915
Device Dimensions	785X780X660	980 X 1050 X 750	1110 X 1150 X 850	1445X 675 X 675
Temperature (^{o}C)	100 - 134	100 - 134	100 - 134	100 - 134
Maximum Pressure (bar)	2,1	2,1	2,1	2,1
Power (W)	7 kW, 3 Faz 400 VAC ±10	7 kW, 3 Faz 400 VAC ±10	7 kW, 3 Faz 400 VAC ±10	11 kW, 3 Faz 400 VAC ±10
Weight (Kg)	156	175	185	188

CELL TEST RESULT	
Cell Test Pressure	3,75 Bar
Cell Test Temperature	140 °C
Cell Operating Pressure	2,5 Bar
Cell Operating Temperature	134 °C

STRUCTURAL PROPERTIES	
Body	AISI 304L Stainless Steel
Cell	AISI 316L Stainless Steel
Cover	AISI 304L Stainless Steel
Panel Coating	AISI 304L Stainless Steel
Piping	Brass, AISI 304 Stainless Steel Optionally AISI 316L Stainless Steel

OTHER MATTERS TO BE CONSIDERED IN USE:

1. After the sterilization process is completed, gloves or cloth should be used according to the temperature while removing the materials from it. If the user takes the hot material with bare hands, our company is not responsible for the damage that will occur.
2. Make sure that the materials are properly placed in the baskets.
3. When using the device, follow OHS rules.
4. Keep the perimeter of the device dry.

OPERATING THE STEAM STERILIZER DEVICE

OPENING OF THE DEVICE

Figure 1 "on/off" by pressing the device control panel gets ready in a short time.

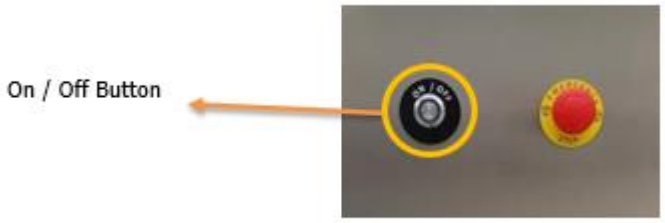


Figure 1

Check that the Emergency Stop Button is Open. If it is not open, you can make it open by pulling the button to yourself.

After opening the device;

Language Selection:

Language key is pressed, the following language selection screen opens.

The language in which the device is to be run by selecting that language adjustment is made.

Program selection:

General key pressed toggle between programs. Press to start the selected program is guaranteed to be initialized by holding down for 3 sec. The device has already standard programs.

On the start screen

Program Screen

Program	Temperature (°C)	Pressure (bar)	Sterilization Time (min.)	Drying Time (min.)
General	134	2,1	10	15
Fast	134	2,1	7	10
Precision	121	1,1	20	10
Prion	134	2,1	20	20
Flash	134	2,1	7	10
Packed 1	134	2,1	10	15
Packed 2	121	1,1	7	10
Liquid 1	134	2,1	20	-
Liquid 2	121	1,1	15	-
Preset 1	Adjustable (110 - 150)	1,1-2,1	Adjustable (1-50)	Adjustable (0-99)
Preset 2	Adjustable (110 - 150)	1,1-2,1	Adjustable (1-50)	Adjustable (0-99)
Waste*	134	2,1	20	20
Bowie Dick Test	134	2,1	3,5	7
Helix Test	134	2,1	3,5	7
Vacuum Test	This program should be run at least once a week. If the result is more than 1.3 mbar/minute, the result is considered unsuccessful.			

**** Temperature, sterilization time and drying time can be adjusted in the Waste Program. Contact the technical service to set up the waste program.***

Water Quality Indicator:

Depending on the device shows the quality of the water.

Service Screen:

Just change the settings and display this screen can be done by authorised service centres. The program selection screen press the service password is printed and virtual keyboard opens. From this virtual keyboard is entered and the following service setting the service password screen opens.

ON FAULT

In case the device malfunctions, our company should be notified by mail or phone. If notified, the device will be intervened within 48 hours at the latest.

BEFORE CALLING AUTHORIZED SERVICE

PROBLEMS AND SOLUTIONS

FAULT DEFİNİTİON	REASON FOR THE FAULT	TROUBLESHOOTING
No Water	Water inlet valve may be faulty. The float may be faulty.	If the valve is defective, it should be replaced with a new one. If the float is faulty, it should be replaced with a new one.
Open Door	The door may not have been closed properly. The door switch may be faulty.	Check if the door is closed. If the door switch is faulty, it should be replaced with a new one.
Heat Indicator * Visibility**	PT100 may be faulty. Card Socket may be faulty.	If the PT100 heat sensor has failed, it must be replaced with a new one. Card socket should be checked. Technical service should be contacted immediately.

In case of power failure, it gives the document from the printer. The program must be selected and started again.

Maintenance – Repair

Maintenance:

Technical service and maintenance are carried out by authorized technical staff.

- No parts of the device should be removed.
- Any parts that are defective or need to be replaced must be selected from the original spare parts.
- The device must be switched off immediately after any failure.

- It should be used according to the device operating manual, maintenance and cleaning should be done at regular intervals. In case of any malfunction, the authorized service must intervene.
- Metal parts should not be mechanically cleaned(metal brush, abrasive cleaning material)
- The rough filter should be cleaned once a week or once a day.
- The Steam Sterilizer is made from non-corrosive material.

Warning:

- The water used in rinsing and disinfection used in the Steam Sterilizer device should be Good quality demineralized water. SÜMER A.Ş is not responsible for the failure and negative sterilization results due to the use of good quality non-demineralized water.
- Faults caused by the use of good quality non-demineralized water are not covered by the warranty.

CLEANING:

- Clean the inside of the chamber every 3 to 4 weeks with a soft damp cloth.
- Use a brush and plenty of water to clean the filter.
- Do not store chemical materials near the device.

MAINTENANCE – REPAIR AND PERIODIC MAINTENANCE:

1. Maintenance must be performed in accordance with the maintenance instructions in the device's operating instructions. Our company is not responsible for damages caused by improper maintenance.
2. Points to note when servicing the device for the specified periods.
    a. Switching off the mains switch located in the electrical panel of the device
    b. Closing the on / off button on the front panel
3. If the V automat fuses, on-off button, leakage current relay Pt-100 and other parts on the device are replaced by others, our company is not responsible for any malfunctions that may arise from this.

PERIODIC MAINTENANCE

In order to use your device more efficiently and for a longer period of time, you should do it periodically without interruption.

According to your frequency of use, make periodic maintenance of your devices at least every six months.

1. Hepa filters should be replaced with periods of 3 months depending on the air pollution of the environment.
2. At least every six months, the gaskets must absolutely checked or changed if necessary. When replacing, remove the old gasket and clean the gasket groove and insert the new gasket into the gasket groove. Our company is not responsible for the malfunctions and incidents that may arise if the gasket not recommended by our company is used.
3. At least every six months, the check valves must absolutely checked or changed if necessary.

The appliance should be cleaned every morning before use, without using any chemicals.

AUTOCLAVE MAINTENANCE INSTRUCTION

DAILY MAINTENANCE

- The device should be cleaned both inside and outside.

WARNING: Please do not use scraper and abrasive cleaning products.

WEEKLY MAINTENANCE

- Apart from daily cleaning, the inside of the device should be cleaned with an acid-free soap solution and plenty of water.

MONTHLY MAINTENANCE

4 MONTHLY MAINTENANCE

- The electrical system must be checked and the connections (especially contactor connections) must be tightened.
- Vacuum pump should be checked.

6 MONTHLY MAINTENANCE

- Steam, water and discharge pipes should be checked.
- The discharge pipe of the generator should be removed and the lime condition checked and purified from lime and mud if necessary,
- The resistances should be checked and replaced with new ones if they are damaged or burned.
- Cable connections, fuse inputs and mains connections must be checked.
- Vacuum pump must be controlled. Leaks should be avoided when a leak is seen.

ANNUAL MAINTENANCE

- Door safety system must be checked.
- Thermostat must be checked. (contact technical service for calibration)

WARNING!

The autoclave device delivered by our company is warranted for 1 year against fabrication and manufacturing errors. Maintenance, repair and parts replacement of the defective device within the warranty period will be made free of charge by technical service. The device is not covered by warranty if the device is replaced or replaced by another person or if the source water where the device is installed is not supplied from the reverse osmosis or water softener.

WARNING !

- The device must be turned off and cooled at least six hours before starting the transport process,
- It must be securely fixed to the transport vehicle, the fittings (hoses) of the device must be in a separate package and the vehicle in which the device will be transported must have closed trailer,

After being packed for the safe transportation of the device, warning labels are affixed as above.

PRODUCT COMPLIANCE

MDD 93/42/EC MEDICAL DEVICES DIRECTIVE DECLARATION

Product : SÜMER®
Model : ADELA

CE Class : IIb
GMDN 38671

We declare that the Steam Sterilizer Device meets the requirements of MDD 93/42 / EEC - 2007/47 / EC - Annex IX, IIb in accordance with Rule 15.

RELATED STANDARDS

EN 60601-1, EN 61010-2-40, EN 61010-1, EN 60601-1-2, EN 61326-1, EN 62304, EN 285, EN 13445-1, EN 13445-2, EN 13445-3, EN 13445-4, EN 13445-6, EN15223-1, ISO 17665-1, EN 62366

RoHS DECLARATION

Our company operates worldwide. We are responsible for the use of the environment and natural resources. SUMER A.S. has been in compliance with ISO 14001 Environmental Management Standard for many years. SUMER brand ADELA series products conform to the limits defined in 2011/65 / EU (RoHS) for all electronic modules.

All electrical and electronic equipment used in our products and service processes are RoHS compliant and used under the following limits.

Cd	Cadmium	%0.01 ppm
Hg	Mercury	%0.1 ppm
Cr(VI)	Hexavalent chromium	%0.1 ppm
Pb	Lead	%0.1 ppm
PBB	Polybrominated Biphenyls	%0.1 ppm
PBDE	Polybrominated Diphenyl Ethers	%0.1 ppm

WEEE DECLARATION

SÜMER products are only for B2B (in accordance with WEEE 2012/19/ EU directive). Products can be disposed in commercial waste disposal.

EMC DECLARATION

We declare that it complies with the Electromagnetic Compatibility Directive 2014/30/EU and harmonized standards EN 61326-1 and EN 60601-1-2.

LVD DECLARATION

We declare that it complies with the Low Voltage Directive 2014/35/EU and the harmonized standard EN 61010-2-40, EN 61010-1 and EN 60601-1.

RELATED DIRECTIVES AND STANDARDS	
Medical Device Directive	MDD 93/42/EEC - 2007/47/EC
Medical Device Class	Class IIb, acc. to EC MDD 93/42/EEC 2007/47/EC (Annex IX)
LVD	2006/95/EC EN 60601-1 EN 61010-1 EN 61010-2-40
EMC	2004/108/EC EN 60601-1-2 EN 61326-1
PED and Prodcut Standard	PED 2014/68/EU, EN 285, EN 13445 Standards
Quality Management System Requirement	ISO 9001
Medical Devices Regulation Requirement	ISO 13485
Enviroment Management System	ISO 14001

Electrical connection	3N+1-400 V, 50-60 Hz

SAFETY and QUALITY
Protects the user from current leakage
Short-circuit protection is available.
Safety valve protection is available.
Fresh air hepa filter is used.
Password protection is available.
The system which prevents the opening of two doors at the same time is used in the double door models.
There is an emergency stop button

TEMPERATURE	
Working Range	115 ^{O}C – 137 ^{O}C
Measurement	1 x PT100 (DIN A Class) Sensor
Sensor Positions	Chamber (1)

PRESSURE	
Measurement	1 pieces Pressure Sensors
Sensor Positions	Chamber (1)


Sümer®