



ERS/STR/GOLDBERG SERIES

STEAM STERILIZER

Operating and Maintenance Manual

OUR ORGANISATION COMMITS IN LIGHT OF INTERNATIONAL STANDARDS;

- TO CONTINUOUSLY IMPROVE ALL PROCESSES BY EFFECTIVELY MANAGING RISKS AND OPPORTUNITIES,
- TO MEET THE EXPECTATIONS OF OUR CUSTOMERS AND INCREASE CUSTOMER SATISFACTION,
- TO PROTECT THE ENVIRONMENT, TO PREVENT POLLUTION AT THE SOURCE BY TAKING INTO ACCOUNT THE ENVIRONMENTAL DIMENSION OF ALL OUR ACTIVITIES,
- TO TAKE MEASURES TO REDUCE OUR WASTE, TO USE RAW MATERIALS, ENERGY AND NATURAL RESOURCES EFFICIENTLY,
- TO PREVENT POLLUTION OF THE ENVIRONMENT BY INCREASING THE AMOUNT OF RECOVERY AND RECYCLING,
- TO CONTINUOUSLY IMPROVE OUR ENVIRONMENTAL PERFORMANCE IN LINE WITH ECONOMIC AND TECHNOLOGICAL OPPORTUNITIES,
- TO CREATE A HEALTHY AND SAFE WORKING ENVIRONMENT BY TAKING INTO ACCOUNT OCCUPATIONAL HEALTH AND SAFETY HAZARDS AND MANAGING RISKS
- TO CARRY OUT THE NECESSARY ACTIVITIES TO RAISE AWARENESS OF OUR EMPLOYEES ABOUT QUALITY, HEALTH AND SAFETY, ENVIRONMENT AND INFORMATION SECURITY AWARENESS,
- TO WORK WITH THE PRINCIPLE OF ZERO ACCIDENT IN OCCUPATIONAL HEALTH AND SAFETY
- TO ENCOURAGE THE PARTICIPATION OF EMPLOYEES AND EMPLOYEE REPRESENTATIVES IN OCCUPATIONAL HEALTH AND SAFETY ACTIVITIES AND TO PROVIDE AN OPEN COMMUNICATION ENVIRONMENT,
- TO COMPLY WITH THE REQUIREMENTS OF NATIONAL AND INTERNATIONAL LEGISLATION,
- TO CONTINUOUSLY IMPROVE THE PERFORMANCE OF MANAGEMENT SYSTEMS, AND BY INCREASING THE AWARENESS OF OUR EMPLOYEES, WE ARE COMMITTED TO IMPLEMENT AND CONTINUOUSLY IMPROVE IT WITH THE PARTICIPATION OF ALL OUR EMPLOYEES.



TS EN ISO 9001:2015
TS EN ISO 14001:2015
TS EN ISO 13485:2016



SAFETY AND SECURITY IS A GOOD HABIT TO HAVE...

Dear User,

We confirm that your product, manufactured in our modern facilities and subjected to meticulous quality control, will provide you with the best performance. Therefore, we recommend that you carefully read and keep this manual, which includes information about the safe installation and usage of your device, as a reference before using your product.

In case of any malfunction, please contact our Technical Service at the communication addresses specified below. You can reach our Technical Service on weekdays from 08:30 to 18:00, and on Saturdays from 08:30 to 13:00.

Do not allow anyone other than our technical personnel or authorized service providers to interfere with the device. Unauthorized interventions by individuals may cause more significant damage to your device.

This can adversely affect the electrical safety and performance of the device.

CONTACT DETAILS

CENTRAL OFFICE

Address: İvedik Organize Sanayi Bölgesi Özanadolu Sanayi Sitesi
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WARRANTY

ERYİĞİT provides a warranty period of two years, starting from the date of delivery, for the device you purchased.

DECLARATION OF CONFORMITY

Producer Name : Eryiğit Endüstriyel Makina ve Tıbbi Cihazlar İml. İth. İhr. İnş. Tic A.Ş.

Address : İvedik OSB Öz Anadolu Sanayi Sitesi 1453 Sokak, No:3 06370 Ostim, Yenimahalle / Ankara

Product Name: Steam Sterilizer

Model
ERS/STR 75, 75V, 4407S, 4407V, 4410S, 4410V, 5510S, 5510V, 5510D, 5512S,
Series 5512V, 5512D, 6610S, 6610V, 6610D, 6613S, 6613V, 6613D, 7712S,
7712V, 7712D, 7715S, 7715V, 7715D, 7717S, 7717V, 7717D, 2000S,
2000V, 2000D

GOLDBERG 75, 75V, 120S, 120V, 160S, 160V, 250S, 250V, 250D, 300S, 300V,
Serie 300D, 422S, 422V, 422D, 550S, 550V, 550D, 675S, 675V, 675D, 840S,
840V, 840D, 1000S, 1000V, 1000D, 2000S, 2000V, 2000D

The Steam Sterilizer

(Autoclave) Device falls under Class II a in accordance with Rule 16 of Annex VIII under the EU Medical Device Regulation 2017/745. This product is declared to be in compliance with the requirements of the Pressure Equipment Directive (PED) 2014/68/EU and the standards provided below.

EMC : TS EN 60601-1-2
: TS EN 61326-1
LVD : TS EN 60601-1
: TS EN 61010-2-40
Medical : TS EN 285-2016
Pressure Vessel : EN 13445-1
EN 13445-2
EN 13445-3
EN 13445-4
EN 13445-5
Validation : TS EN ISO 17665-1

EMC Compliance Technical Data

Guideline and manufacturer's declaration-electromagnetic immunity			
Eryiğit Steam Sterilizer is intended to be used in the electromagnetic environment as stated below. The user or customer of Eryiğit Steam Sterilizer must guarantee use in such an electromagnetic environment.			
IMMUNITY TEST	IEC 60601-1-2 TEST LEVEL	COMPATIBILITY LEVEL	ELECTROMAGNETIC CONDITIONS - RECOMMENDATIONS
Electrostatic Discharge Immunity Experiment 61000-4-2:2009	± 8 kV By contact ± 15 kV Airborne	± 8 kV By contact ± 815 kV Airborne	Floors can be wooden, concrete or ceramic tiles. If the floor material is synthetically coated, the relative humidity should be at least 30%.
Immunity Test Against Conducted Disturbances Induced by RF Fields EN 61000-4-6:2014	Field Strength: 6 V Frequency Range: 150 kHz 80MHz Modulation: AM, %80 Amplitude, 1kHz, Sinusoidal (2 seconds standby time in 1 % steps)	Field Strength: 6 V Frequency Range: 150 kHz 80MHz Modulation: AM, %80 Amplitude, 1kHz, Sinusoidal (2 seconds standby time in 1 % steps)	The Eryiğit Steam Steriliser should only be used in an armoured zone with the lowest RF shielding effectiveness and the lowest RF filter attenuation of 31 dB in the frequency range 150 KHz to 2.2 GHz for each cable entering the armoured zone. Field strengths emitted from fixed RF transmitters outside the armoured zone determined by an electromagnetic zone survey must be less than 3 V/m. Interference may occur due to proximity to equipment marked with the symbol below:
Radiant, Radio Frequency, Electromagnetic Field Immunity Test EN 61000-4-3:2006	3 V/m (80 MHz 2,7 GHz)	Field Strength:3 V/m (80 MHz 2,7 GHz) Antenna Distance 1 m Modulation 1 kHz Sine	
NOTE 1 These guidelines may not be suitable for all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people. NOTE 2 It is necessary to verify that the actual shielding effectiveness of the armored zone and the filter attenuation provide the lowest characteristic.			



SYMBOL DESCRIPTIONS	
Symbol	DESCRIPTION
	WARNING General warning sign
	PRESSURE Release device pressure before servicing.
	USER MANUAL Be sure to refer to the User Manual before servicing
	VOLTAGE Turn off and disconnect power prior to service.
	DURING TRANSPORT OR SHIPPING Use a carrier, carry it safely. Carry on schedule
	HOT SURFACE Do not touch until it cools down!
	Modification of the system is prohibited.
	Manufacturing Date
	Serial Number
	Indicates that the device should not be disposed of with Untreated Urban Waste
	Manufacturer
	Protective Ground Line
3N ~	Three-phase alternating current with neutral conductor
	Refers to the Number of the Notified Body 2014/68 PED
	Refers to the Number of the Notified Body MDD 93/42 EEC
	Medical Device
	Strictly Forbidden



	Recovery/ Recycling
	Keep the device away from the sun.
	Protect the device from moisture.
	Operating temperature range of the device
	Operating humidity range of the device
IP00	(IP Environmental Code (Protection Against Entry of Water or Particles))



TOPICS	Page No
Our Quality Policy	2
Foreword/Contact Information	3
Print History/Warranty/Declaration of Conformity	4
EMC Compliance Technical Data	5
Symbol Descriptions	6-7
Topics	8-9
Why Choose ERS/STR/GOLDBERG Series Steam Sterilizer (Autoclave)	10
What is Sterilization?	10
Advantages of Steam Sterilizer Device	10
Sterilization Techniques	10-11
Intended Use and Product Description	11
1- Considerations	
1.1. Recycling Information	11
1.2. Safety Information	12
1.3. Warranty Conditions	13
1.3.1. Matters Covered by the Warranty	13
1.3.2. Matters Not Covered by the Warranty	13-15
1.3.3. Working Environment Conditions	15
1.3.4. Storage/Transportation Conditions	16
1.4. Safety Features-Material Loading Instruction	16-17
1.5. Safety System Features in ERS/STR/GOLDBERG Series Sterilizers	17-18
1.6. General Safety Warnings Cautions and Information	18-20
2- Control System and Specifications in ERS/STR/GOLDBERG Series Sterilizers	
2.1. Control Systems of the Device and Programs Used	20
2.2. Sterilization Control System	20-21
2.3. Bowie-Dick	21
2.4. Printer	21
2.4.1. Replacing the Printer Paper	21-22
2.5. System Follow-up Program	22
2.6. Steam Quality Tests	22
2.7. Touch Screen Features	22
2.8. PLC System Features	22
3- Technical Information	
3.1. Chamber and Device Dimensions Along with Other Technical Details of the Models	23-25
3.2. TEST AND PROGRAM INFORMATION	25
3.3. VOLUME AND POWER TABLE ACCORDING TO STERILIZER MODELS	26
3.4. CHAMBER TEST RESULTS	26
3.5. GENERATOR TEST RESULTS	27
4- Instructions	
4.1. Sterilizer Installation Instruction (Installation Preparations)	27
4.1.1. Water Supply Line and Drainage	27
4.1.2. Power Line and Panel	27-28
4.1.3. General Space Requirements	28



4.1.4. Ambient Temperature and Humidity	28
4.1.5. Compressed Air	28
4.1.6. Connection	28-30
4.2. Sterilizer Operating Instructions	30-31
4.3. Sterilizer Calibration Instruction	32
5- Parts and Descriptions of Steam Sterilizer	33-42
6- Display Application of Operation and Use of Steam Sterilizer	42-52
7- Residual Risks	52
8- Notification to the Competent Authority	52
9- Information on Information Security	52
MAINTENANCE & REPAIR	53
Chapter: 1-Service Related Issues	54-55
Chapter: 2- Troubleshooting	56-60
Chapter: 3- Periodic Maintenance	60
Chapter: 4- Device Circuit Diagrams	61-68
Chapter: 5- Steam Sterilizer Flow Diagram	69-70
Chapter: 6- Steam Sterilizer Accessories	71
Chapter: 7- Our Certificates	72-73
Chapter: 8- Label Example with Serial No	74
Warranty Certificate	75



WHY CHOOSE ERS/STR/GOLDBERG Series STEAM STERILIZER (AUTOCLAVE)

1. Reliable domestic production,
2. In accordance with TS EN 285 standard, passed the type tests conducted by the German accredited organization HYGECEN,
3. Constantly renewed technology and R&D studies,
4. Offering to the market at affordable price ranges,
5. Trained technical personnel, technical service,
6. Easy accessibility, fast response,
7. Economical service life, quality materials,
8. Tübitak (*The Scientific and Technological Research Council of Türkiye*) -approved "water and electricity" saving device,
9. 2 years warranty, 10 years spare parts,
10. TS EN 17665-1 Conformity Test VALIDATION by the accredited body HYGECEN,
11. Complete reliability in assembly,
12. Renewed and repeated training process for the user,

WHAT IS STERILIZATION?

When water vapour encounters a colder object, it condenses on the material and transfers the energy it carries to this object. It is this energy transfer that provides sterilisation. The high energy carried by pressurised water vapour provides sterilisation by transferring it to objects at constant temperature and pressure within the required time. Sterilisation does not take place unless energy transfer takes place. If there is even a little air left in the cabin, this energy is transferred to the air and the air is heated. Since air does not have the power to transfer energy, sterilisation does not take place in standard times.

With this method, the death of the microorganism cells is caused by the coagulation of the protein and the reproduction stops.

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

ADVANTAGES OF STEAM STERILIZER

- Steam sterilization is the oldest and most widely used method because it is safe, fast and cost-effective.
- It is a sterilisation method suitable for all materials except heat sensitive materials.
- It is a sterilisation method applicable for materials with long and narrow lumens, closed at one end.
- It does not contain toxic substances harmful for the environment.
- It is a sterilisation method with cheap equipment and cheap operating costs.

STERILIZATION TECHNIQUES

a) Traditional Sterilization Methods

- Dry heat sterilization
- Steam sterilization

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- Ethylene oxide sterilization
 - Gamma and electron beam sterilization
 - Liquid chemical sterilants

b) Non-Traditional Sterilization Methods

- Ultraviolet light
- Combined steam and gas plasma
 - ✓ RF plasma – driven by hydrogen peroxide
 - ✓ RF plasma – paracetic acid driven
- Steam systems
- Formaldehyde
- Filtration methods

INTENDED USE and PRODUCT DESCRIPTION

This Device is intended for use by medical personnel. It should be used by healthcare personnel and should not be used for its intended use.

The manufacturer cannot be held responsible for any breakage, damage or malfunction caused by improper use of the device or lack of necessary maintenance. Steam Sterilizer is designed for use in hospitals and laboratories. Sterilization operating temperature range varies between 121°C and 134°C. Packaged textiles, surgical instruments, etc. and rubber materials can be sterilized by selecting the relevant program within this temperature range.

The PLC in the system monitors each of these sterilization processes and ensures that the necessary operations are carried out. Thanks to the printer used, all transactions are instantly printed to the printer and records are kept for documentation.

Steam Sterilizers produced in the following capacities can be divided into two groups: single door or double door. Loading and unloading of the single-door Steam Sterilizer is done through the door where the control unit is located.

In the double-door Steam Sterilizer, loading is done through the door where the control unit is located, while unloading is done through the back door.

1. CONSIDERATIONS

1.1. RECYCLING INFORMATION

- Valuable raw materials contained in old devices can be recycled for reuse.
- Regarding waste, regulations regarding waste management should be taken into account.



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- Disconnect old devices from electricity. Disconnect the mains cable from the device under the supervision of authorized personnel.
 - Your new device has been placed in a suitable packaging to prevent any damage during transportation. All materials used for the packaging of the new device are environmentally friendly and can be recycled. Help protect the environment by subjecting the packaging to an environmentally friendly disposal and reuse process.
 - Do not give packaging and packaging parts to children to play with. Foldable cardboard boxes and foils can suffocate them.
 - Dispose of packaging as required. All used packaging materials are non-polluting and can be recycled. The wooden parts have not been chemically treated.
 - Ask your dealer or your municipality for information on disposal methods and waste recycling centres.
 - The service life of the steam sterilizer device is determined by the Ministry of Science, Industry and Technology.



1.2. SAFETY INFORMATION

- Before operating the device, carefully read the information in the “**Usage and Installation Instructions**”. These instructions contain important information regarding the installation, placement, use and maintenance of the device.
- If you transfer your device to another Institution, please **provide this booklet** as a reference.
- Producer is not responsible for the consequences arising from ignoring the instructions written below.
- Do not operate damaged or disabled devices, if you are unsure, contact your dealer or Authorized Technical Service.
- Connect and install the device according to the installation instructions. Check that the electrical panel to which the device will be connected and the connection values indicated on the type plate are compatible with each other.
- Safety with regard to the electrical connection of the device is only ensured if the ground line of the institution is made properly and in accordance with the regulations.
- In the event of a malfunction, disconnect the device from the mains during maintenance and cleaning activities. In order to ensure this correctly, lower the main switch on the mains connection panel, turn off the fuses.
- Repairs to electrical devices should only be carried out by experts.
- Faulty or improper repair work may pose a hazard to the person using the device, so be careful.
- Do not block the drain (Steam-Water) vents of the appliance.
- Do not allow irresponsible and untrained personnel to perform any operations on the device.

1.3. WARRANTY CONDITIONS

1.3.1. MATTERS COVERED BY THE WARRANTY

- A. The product is warranted against material, workmanship and manufacturing defects from the invoiced delivery date for the period defined in the warranty document. The dates on the original Warranty Certificate are binding on the parties.
- B. The warranty period of exported devices is 1 (one) year, unless otherwise stated. This period can be extended by special contracts.
- C. During the warranty period, maintenance, repair, part replacement, etc. cannot be performed by persons not officially authorized by **ERYİĞİT END. MAK. TIBBİ DEV. İML. İTH. İHR. İNŞ. TİC. A.Ş.**. In case of intervention and/or detection, the device is excluded from the scope of warranty.
- D. Damages and malfunctions that may occur due to interventions made outside the authorized service are not covered by the warranty. Labor services to be performed within the warranty period are free of charge.
- E. The repair period starts after the day of written notification to our authorized dealer or company. The elapsed time will be added to the warranty period.
- F. If the malfunction is reported for devices sold within Turkey, the malfunction will be attended to within the following 48 hours and the device will be made operational within 10 business days.
- G. If the malfunction notification is made for devices sold abroad, the device will be made operational regardless of time, provided that visa applications, climate conditions, transportation conditions and foreign language difficulties are resolved.
- H. The malfunction and needs will be determined by our company's technical staff.
- i. Issues regarding the elimination of the malfunction on-site or at authorized services are subject to the approval of the user or administration.
- J. No labor fee is charged for periodic maintenance defined in the contracts.
- K. Consumers will be intervened in case they notify **ERYİĞİT END. MAK. TIBBİ CİH. İML. İTH. İHR. İNŞ. TİC. A.Ş.** in writing about their disputes with Authorized Service Centres providing maintenance and repair services.
- L. The device has a Maintenance-Repair Warranty for a fee for 10 years following the end of the warranty period.
- M. At the end of the warranty period, a Maintenance-Repair Contract may be concluded in periods at the request of the consumer.
- N. Our company is not responsible for the possible risks arising from the users' failure to use original spare parts after the end of the warranty period.
- O. Issues not covered by the warranty include issues written in the "User Manual" supplied with the device.
- P. This warranty remains in effect if the consumer or consumer institution fully fulfills its responsibilities to the customer.

The material invoice must be kept during the warranty period. Materials for which the invoice is not submitted are deducted from the warranty provision.

1.3.2. MATTERS NOT COVERED BY THE WARRANTY FOR STERILIZERS

The external factors listed below are issues that will affect the healthy operation of the device, and the repair of malfunctions within this scope is subject to a fee.

- A. Damage and malfunctions caused by not using the appropriate electrical connections and voltage defined by the manufacturer for the device.
- B. Damage and malfunctions arising from improper connection of the electrical installation of the device, failure to level and place it, and failure to mount it properly.
- C. Damage and malfunctions arising from improper installation of the ground line coming to the device.
- D. Damages and malfunctions arising from the failure of the necessary repairs to the electrical system of the devices by authorized services.



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- E.** Damage and malfunctions that may arise if the sterilizer device is operated by people who have not been trained in its use.
 - F.** Damage and malfunctions caused by closing or blocking the water inlets and steam outlets of the appliance
 - G.** Scratches and breaks on the outer body, plastic parts and PLC screen that occur during loading, unloading and transportation after delivery, as well as damage and malfunctions resulting from usage errors, are not covered by the warranty..
 - H.** Fire and lightning strikes, low or high voltage, faulty electrical installation and incorrect connection, and use of a voltage different from the voltage range written on the product's label are outside the scope of warranty.
 - I.** Damages and malfunctions that occur during renovations and repairs in the area where the device is located. Malfunctions caused by burst plumbing to the device.
 - J.** Damage and malfunctions caused by not decalcifying the water feeding the device and not softening the water.
 - K.** Damage and malfunctions caused by the temperature and humidity levels of the environment in which the device is used not being within the desired values.
 - L.** Damages and malfunctions caused by the cutting, piercing and scratching nature of the materials loaded into the device.
 - M.** Although HEPA filters are replaced depending on the air pollution of the environment, they should be replaced at least every 3 months. It is out of warranty and is subject to a fee.
 - N.** Cover gaskets, condensate dischargers should be replaced in 6-month periods according to the quality of the water and the wear of the condensate dischargers. It is out of warranty and subject to charge.
 - O.** Solenoid, Pneumatic and Check Valves, Level Electrodes, Heating Resistors, Door and Core Gaskets, Door Gasket Spray and Printer Papers are out of warranty and are subject to a fee.
 - P.** Side covers covering the sterilizer are not covered by warranty and are subject to charge.
 - Q.** Installation of the software programme on the device and further upgrading of its functions are subject to a charge.
 - R.** Damages and malfunctions caused by fire and lightning, flood and inundation, low or excessive voltage and force majeure specified in the law are not covered by the warranty and are subject to charge.
 - S.** After the final acceptance procedures are completed, all damages and malfunctions during loading, unloading and transport inside and outside Turkey, which are not under the control of our company, are not covered by the warranty and are subject to charge.
 - T.** The operating voltage of the device is 380 V AC, 50 Hz \pm 10 V and cannot be operated with any other electrical power. Damages arising from this are subject to charge.
 - U.** Lime Water: The water feeding the device must comply with EN 285 standard. Otherwise, the lime resistance in the water will negatively affect the vacuum motor, check valves, solenoid valves, general plumbing and other stainless parts and prevent operation. Malfunctions that may arise from such situations are not covered by the warranty and are subject to a fee.
 - V.** Ambient Temperature should be in the range of +5 °C / +40 °C.
 - W.** Humidity should be max 85% (without condensation). Malfunctions that may arise in the electrical and electronic components of the sterilizers for this reason are not covered by the warranty and are subject to a fee.
 - X.** In accordance with EN 285, the properties of the water entering the device must be as follows. Otherwise, problems caused by water in the device will not be covered by the warranty.
 - Y.** Elimination of non-warranty malfunctions is done for a fee. In cases outside the scope of the warranty, rights and compensation cannot be claimed.



Water properties;

Determinant	Feed water
Residue in evaporation	≤ 10 mg/L
Silicate (SiO ₂)	≤ 1 mg/L
Iron	≤ 0,2 mg/L
Cadmium	≤ 0,005 mg/L
Lead	≤ 0,05 mg/L
Heavy metals other than iron, cadmium, lead	≤ 0,1mg/L
Chloride (Cl)	≤ 2 mg/L
Phosphate (P ₂ O ₅)	≤ 0,5 mg/L
Conductivity (at 25 °C)	≤ 5 μS/cm
pH value (acidity value)	5 to 7,5
Appearance	Clean colorless without sediment
Hardness (Σ alkaline earth ions)	≤ 0,02 mmol/L
Note - Conformity should be tested according to known analytical methods.	

In accordance with EN 285, the steam properties to be entered into the autoclave should be as follows.

Determinant	Condensation
Silicate (SiO ₂)	≤ 0,1 mg/L
Iron	≤ 0,1 mg/L
Cadmium	≤ 0,005 mg/L
Lead	≤ 0,05 mg/L
Heavy metals other than iron, cadmium, lead	≤ 0,1mg/L
Chloride (Cl')	≤ 0,1 mg/L
Phosphate (P ₂ O ₅)	≤ 0,1 mg/L
Conductivity (at 25 °Ca)	≤ 3 μS/cm
pH value (acidity value)	5 to 7
Appearance	Clean colorless without sediment
Hardness (Σ alkaline earth ions)	≤ 0,02 mmol/L
Note - A method of condensate sampling is given in	

Z. Narrow Drain: The drain of the device must be made with a heat-resistant metal pipe with a diameter of at least 1" (finger). Malfunctions that may arise from materials used other than those recommended are not covered by the warranty and are subject to a fee.

AA. Insufficient Water: Interrupted or insufficient water delays or stops sterilization and may cause malfunctions. Any malfunctions that may occur are not covered by the warranty and are subject to a fee.



If the user has the device repaired or maintained by any person or company other than ERYİĞİT END. MAK. TIBBİ CİH. İML. İTH. İHR. İNŞ. TİC. A.Ş. within the "warranty period", the device will be out of warranty!



Our company will not accept responsibility for any negative situations and dangers that may arise in the device as a result of Maintenance-Repairs made by another company other than our company.

1.3.3. Working Environment Conditions

- For indoor use.
- Ambient Temperature +5 ... +40 °C, Pressure 50-106 kPa.
- Maximum Humidity: 85%,
- Acceptable rate of change in voltage: ±10%
- Pollution Rate: Level 2, IK class 6



1.3.4. Storage / Transport Conditions

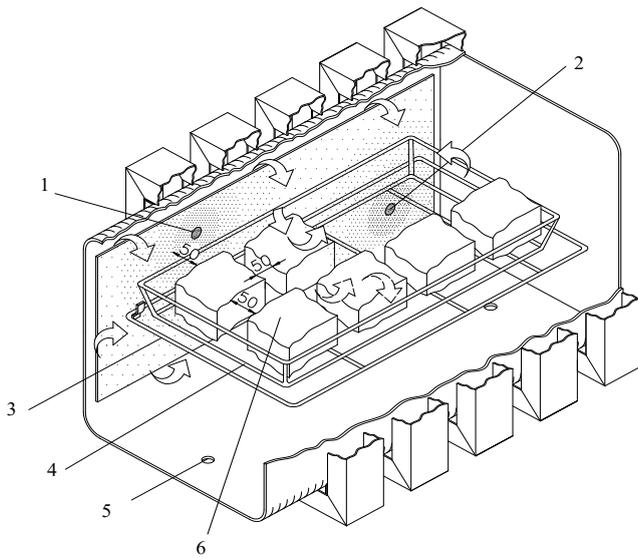
- Indoors Storage - Ambient temperature 0°C ila +50°C - Pressure +60 kPa ila +106 kPa
- Relative humidity %10-90, non-condensing, - Atmosphere: Non-corrosive - Storage period: Maximum 1 year
- Points to be considered when transporting the device; The device should always be on its own fixing legs, it should never be placed on another surface, it should be securely fixed to the transportation vehicle, the transportation vehicle should be a closed box.

1.4. SAFETY FEATURES

Material Loading Instruction

- Place the woven materials and large packages on the lower shelf and the small packages on the upper shelf.
- Place the paper against the paper and the plastic against the plastic surface.
- Do not place packages tightly together.
- Place the bundles vertically and the tool containers on the bottom shelf in a horizontal position.
- If the tool containers are to be placed horizontally in the sterilizer, two sets can be placed on top of each other using wire baskets.
- Leave a space between the bundles and leave a gap of 5-10 cm between them and the wall of the sterilizer.
- If the bundles are crammed into the boiler, steam turbulence cannot be fully realised. This directly affects the quality of sterilisation.

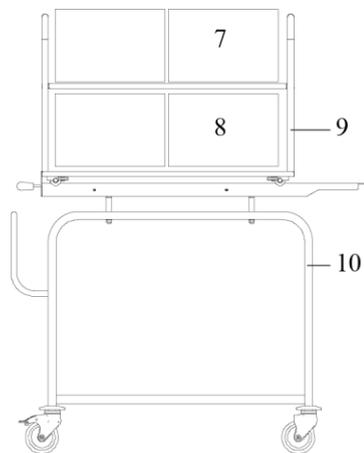




PROPER PLACEMENT OF THE LOADING RACK

Heavy loads should be placed at the bottom of the loading rack, and light loads should be placed at the top of the rack.

- | | |
|-----------------------|---------------------|
| 1- Front Steam Input | 2- Back Steam Input |
| 3- Rack | 4- STU Basket |
| 5- Waste Steam Outlet | 6- Bundles |



- | | |
|------------------------|---------------------|
| 7- Light or Small Sets | 8- Heavy Sets |
| 9- Loading Rack | 10- Loading Trolley |



The user should be well aware of the conditions under which the material will be sterilized. If it is not known, the manufacturer of the material to be sterilized should be consulted.

- The vessel volume must be filled considering the STU capacity. The STU capacities to be installed on the devices are specified in article 3.5. (1 STU= 30X30X60 cm)
- Place the fabric sets in such a way that the hollow ones are next to each other and slightly downward.
- Never place heat and moisture sensitive materials, oily substances such as vaseline, liquids, and electrical instruments into the sterilizer.

1.5. SAFETY SYSTEM FEATURES IN ERS/STR/GOLDBERG SERIES STERILIZERS

- The system warns the user when the water runs out. Cuts power/energy when needed.
- The system warns when the door is open. The program does not start until the door is closed.

-
- The system warns when there is no steam. The program does not start until steam is supplied.
 - The door is not opened until the pressure in the sterilization chamber drops to atmospheric pressure.
 - The system warns by sound when the mains voltage drops.
 - The system warns when it detects high pressure.
 - Pressure detection sensors warn of pressure faults.
 - The system warns of cable breaks and sensor failures.
 - The system displays temperature sensing element (PT 100) faults on the display.
 - Autoclave sterilization chamber working pressure of 2.8 bar was checked with 5 bar test pressure.
 - In case of overpressure inside the autoclave vessel and steam generator, the steam is safely evacuated.
 - When the sterilization program is not running, the system keeps the in-chamber pressure under control so that the door can be opened at any time.
 - The system controls the door gasket of the device with a pressure gauge.
 - The system has a cover gasket that ensures sealing until the internal pressure of the chamber reaches atmospheric pressure.
 - The system does not open the autoclave doors if the difference between the pressure inside the autoclave and atmospheric pressure, due to pressure equalization, exceeds the set value.
 - The system reports the difference between internal pressure and atmospheric pressure with warning indicators.
 - There is an emergency door opening button in the system.
 - If the temperature of the sterilization chamber decreases within acceptable limits, the programs will continue. If it is outside these limits, it can be programmed to restart. The printer has the ability to record both statuses in real time.

1.6. GENERAL SAFETY WARNINGS, CAUTIONS AND INFORMATION



WARNINGS: Indicate incidents or situations related to the use or misuse of the device that could result in injury, death, or other serious adverse reactions for the user.



CAUTIONS: Indicate incidents or situations related to the use or misuse of the device that could lead to any issues. Such issues may involve the device malfunctioning, breaking down, getting damaged, or causing damage to other items.



INFORMATION: It is used for general descriptions of the operation of the device.





WARNINGS

- In case of emergency, press the "EMERGENCY STOP" button.
- In case of emergency, open the valves on the jacket, chamber and generator to relieve the pressure inside the device.
- Steam Autoclaves should be stopped immediately by pressing the emergency stop button in case of any emergency. In this situation, the device releases the pressure inside the chamber for safety.
- Steam Autoclaves should be used by persons trained by the device manufacturer.
- If the program is canceled or an emergency stop is initiated during the operation of the device, the material loaded into the device for sterilization should be prepared again for the sterilization process, and the sterilization should be performed again.
- Sterilized materials are hot, gloves should be worn during emptying of the autoclave to prevent user injuries.
- Do not operate damaged or defective devices. In uncertain situations, contact your seller or Authorized Technical Service.
- Connect and install the device according to the assembly instructions. Verify that the connection values indicated on the electrical panel and the type plate where the device will be connected are compatible with each other.
- The institution must ensure the grounding line is properly provided and in compliance with regulations.
- In case of a malfunction, during maintenance and cleaning activities, disconnect the electrical connection of the device. To do this correctly, lower the main switch in the power connection panel and turn off the fuses.
- Repairs on electrical devices should only be performed by qualified individuals.
- Incorrect or improperly performed repairs can pose risks to the user of the device, so be cautious.
- Do not cover or block the drain (Steam-Water) holes of the device.
- Unauthorized and untrained personnel should not perform any operations related to the device.
- Do not intervene in the electrical, electronic, and mechanical components of the device without the knowledge of the Authorized Service.
- Before operating the device, carefully read the information in the "Operation and Installation Instructions." These instructions contain important information about the installation, placement, use, and maintenance of the device.
- Disconnect the electrical connection of old devices. Detach the mains cable from the device under the supervision of authorized personnel.



CAUTIONS

- When the autoclave is not in use, nothing should be left or stored inside. The door/doors should be closed.
- The user should be well aware of which program to use for sterilizing the material. If not known, consult the manufacturer of the material to be sterilized.
- When a new model is produced, the provisions of Annex F of the EN 285 standard are applied to the new model device.
- There is an outlet inside the device (16 A, 250 V, IP44). The connection to the outlet inside the device should be used considering a reduced level of safety.
- Floors and walls should be suitable for the removal of accumulated dust and prevention of microbial

contamination.

- Ceilings should be constructed to minimize condensation, dust accumulation, and potential sources of pollution. They should not allow adhesion or attachment.
- Ventilation should ensure a minimum of 10 air changes per hour, either from clean areas to dirty areas or to the outside through filtered means.



INFORMATION

- If the bundles are stuffed into the boiler, steam turbulence (circulation) cannot fully occur. This directly affects the quality of sterilization. When placing bundles into the device, a 5 cm gap should be left between the tank wall and the bundles.
- Do not operate for more than 8 (eight) hours in a day.
- Since the chamber is hot after operation, remove the sterilized materials with gloves.
- If any liquid is spilled into the chamber, clean it immediately.
- To obtain accurate results in measuring the water level, ionized water should not be used. Water conductivity should be a minimum of 5 $\mu\text{S}/\text{cm}$.
- The maximum flow rate for steam and the usage water flow rate should be a minimum of 15 liters/min at 3 bars.
- The automatic control device can generate a detailed report at the end of sterilization, including the elapsed time for each stage or sub-stage of the sterilization cycle, such as pressure, temperature, and transitions.
- Regulations related to waste management should be considered regarding waste matters.
- Do not give the packaging and packaging parts to children for play. Due to the foldable cardboard boxes and foils, they can be deprived of air and suffocate.

2.CONTROL SYSTEMS AND SPECIFICATIONS IN ERS/STR/GOLDBERG STERILIZERS

2.1.DEVICE CONTROL SYSTEMS AND PROGRAMS USED:

- Monitoring of control and sterilization stages on the screen with the help of PLC (Programmable Logic Controller)
- Managing all sterilization processes with the help of the touch screen
- Full control with the control unit that has undergone electromagnetic compatibility tests
- Microprocessor controlled main control system
- Programs that have undergone Conformity Tests according to EN 285 product and EN 17665-1 validation standards

PROGRAMS USED

- Bowie-Dick Test Program
- Leak Air Test Program
- 134°C Solid Material
- 134°C Textile Material
- 121°C Rubber Material
- 10 Special additional program options are available.

2.2.STERILIZATION CONTROL SYSTEM:

- Ethernet connection (TCP/IP) for network connectivity (optional)
- Ability to connect to the central computer system and other computers via the RS 232 output socket and remote access.

- Access to error messages both audibly and in writing by the user.
- Monitoring, changing, and saving selected values for programming through the graphical screen.
- Capability to measure all pressure levels with electronic pressure transducers without using a pressure switch.
- Continuous control of device safety elements through the PLC system.
- Ability to monitor parameters during sterilization from the screen.
- Information on the program in use.
- Name and step number of the sterilization stage.
- Chamber pressure and temperature values.
- Time for the sterilization stage and the name of any possible error in case of an error.

2.3. BOWIE-DICK:

- Bowie-Dick color change test on the test paper compliant with the EN 867-4 standard is used to check the following non-homogeneous parameters:
- Insufficiency in the vacuum pumping function; presence of air in the device,
- Potential leakage in the autoclave environment,
- Presence of overheated steam or droplets containing steam,
- Presence of non-condensing gases.
- The frequency of the Bowie-Dick test varies depending on the frequency of use unless there are specific conditions in hospitals. It can be performed once a day or once a week. In addition to routine testing, this test should be conducted when there is suspicion about the effectiveness of sterilization.

2.4. PRINTER:

- The following parameters can be monitored with a 40-column alphanumeric printer with thermal technology.
- Date-Time Information
- Sequential Sterilization Number-Program Number
- Pre-Vacuum Time and Phase Number
- Preheating Time and Phase Number
- Sterilization Temperature – Pressure – Time
- Drying Temperature – Pressure – Time
- Error Messages That May Occur in the System
- Total Sterilization Time

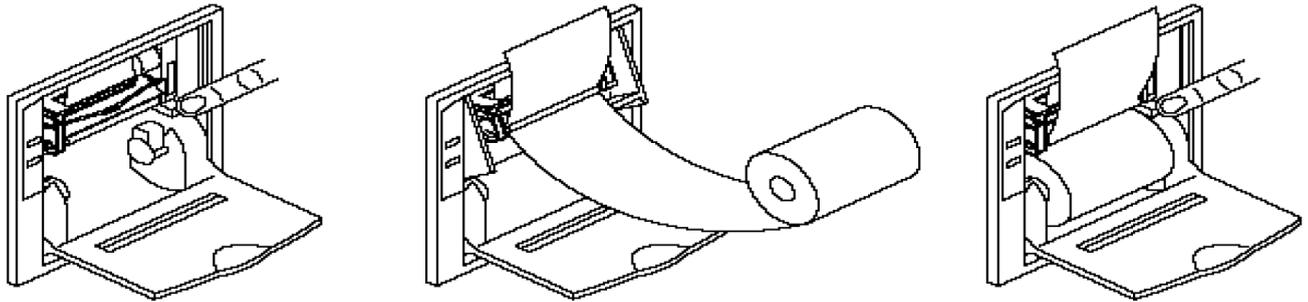


NOTE: Since the printer output is thermal paper, the information cannot be stored for a long time. Therefore, it would be useful to make a photocopy of the printout and keep it. According to the EN 285 standard, this information must be kept for 10 years for traceability. If our customers wish, they can also request a dotmatrix printer on the device. This feature is optional.

2.4.1. REPLACING THE PRINTER PAPER

- 1- Pull the handle of the printer cover until it comes out of the locked position.
- 2- Remove the remaining paper.
- 3- Roll out a few centimeters from the new roll of paper.
- 4- Keep about 5 cm of the paper out of the appliance as you will be inserting a new paper roll into the holder.

-
- 5- Close the lid by applying an even amount of pressure to all sides of the lid until the lid is in the locked position.



2.5. SYSTEM FOLLOW-UP PROGRAM:

- It is optional. "RS232 Output Socket" available.

2.6. STEAM QUALITY TESTS:

The following parameters can be monitored during the operation of ERS/STR/GOLDBERG Sterilizers. These parameters can be monitored depending on the relationship between pressure and heat.

- Wet Steam
- Saturated Steam
- Superheated Steam
- Extreme Heat

Apart from these parameters, air leakage can also be monitored by the device.

2.7. TOUCH SCREEN FEATURES:

- 7" Touch Screen with 65,000 color capability
- 256 Pages, RS232, RS422, USB Port, and printer port
- Ability to view the performed process steps
- Option to increase to multiple and 10 custom program selections as needed
- Option to input multiple and 10 custom special programs as needed
- 16,000 permanent memory and archive information

2.8. PLC SYSTEM FEATURES:

- 32 Kb Memory
- 16 Input Adjustable Socket Connection
- 16 Output Adjustable Socket Connection
- 8 Analogue Inputs,
- 24 VDC Supply Socket Connection (Special Power Supply Circuit to avoid being affected by voltage changes)
- Real Clock & Time
- Single port RS 232
- Single port RS 485

3. TECHNICAL INFORMATION

3.1 Chamber and Device Dimensions Along with Other Technical Details of the Models

No	Models			Door Type	Chamber				Device Dimensions			
	ERS	STR	GOLDBERG		Diameter (mm)	Width (mm)	Height (mm)	Length (mm)	Width (mm)	Height (mm)	Length (mm)	Weight (kg)
1	75	75	75	Single	405	-	-	600	1050	1260	620	230
2	75V	75V	75V	Flywheel Door								265
3	4407S	4407S	120S	Single Sliding Door	-	350	520	700	800	1800	1230	480
4	4407V	4407V	120V	Single Flywheel Door					800	1800	1230	480
5	4410S	4410S	160S	Single Sliding Door	-	350	700	700	800	1985	1230	610
6	4410V	4410V	160V	Single Flywheel Door					800	1985	1230	610
7	5510S	5510S	250S	Single Sliding Door	-	350	700	1050	800	1985	1580	675
8	5510D	5510D	250D	Double Sliding Door					800	1985	1315	750
9	5510V	5510V	250V	Single Flywheel Door					800	1985	1580	675
10				Double Flywheel Door					800	1985	1315	750
11	5512S	5512S	300S	Single Sliding Door	-	670	700	700	1080	1985	1230	815
12	5512D	5512D	300D	Double Sliding Door					1080	1985	1000	890
13	5512V	5512V	300V	Single Flywheel Door					1080	1985	1230	815
14				Double Flywheel Door					1080	1985	1230	890
15	6610S	6610S	422S	Single Sliding Door	-	670	700	1000	1080	1985	1530	975
16	6610D	6610D	422D	Double Sliding Door					1080	1985	1265	1050

No	Models			Door Type	Chamber				Device Dimensions			
	ERS	STR	GOLDBERG		Diameter (mm)	Width (mm)	Height (mm)	Length (mm)	Width (mm)	Height (mm)	Length (mm)	Weight (kg)
17	6610V	6610V	422V	Single Flywheel Door					1080	1985	1530	975
18				Double Flywheel Door					1080	1985	1265	1050
19	6613S	6613S	550S	Single Sliding Door	-	670	700	1300	1080	1985	1825	1035
20	6613D	6613D	550D	Double Sliding Door					1080	1985	1565	1110
21	6613V	6613V	550V	Single Flywheel Door					1080	1985	1825	1035
22				Double Flywheel Door					1080	1985	1565	1110
23	7712S	7712S	675S	Single Sliding Door	-	670	700	1600	1080	1985	2130	1235
24	7712D	7712D	675D	Double Sliding Door					1080	1985	1865	1310
25	7712V	7712V	675V	Single Flywheel Door					1080	1985	2130	1235
26				Double Flywheel Door					1080	1985	1865	1310
27	7715S	7715S	840S	Single Sliding Door	-	670	700	1950	1080	1985	2480	1445
28	7715D	7715D	840D	Double Sliding Door					1080	1985	2215	1520
29	7715V	7715V	840V	Single Flywheel Door					1080	1985	2480	1445
30				Double Flywheel Door					1080	1985	2215	1520
31	7717S	7717S	1000S	Single Sliding Door	-	670	700	2250	1080	1985	2780	1530
32	7717D	7717D	1000D	Double Sliding Door					1080	1985	2515	1730

No	Models			Door Type	Chamber				Device Dimensions			
	ERS	STR	GOLDBERG		Diameter (mm)	Width (mm)	Height (mm)	Length (mm)	Width (mm)	Height (mm)	Length (mm)	Weight (kg)
33	7717V	7717V	1000V	Single Flywheel Door					1080	1985	2780	1530
34				Double Flywheel Door					1080	1985	2515	1730
35	2000S	2000S	2000S	Single Sliding Door	-	800	1200	2100	2185	2140	2500	2650
36	2000D	2000D	2000D	Double Sliding Door					2185	2140	2500	2800
37	2000V	2000V	2000V	Single Flywheel Door					2185	2140	2500	2650
38				Double Flywheel Door				2185	2140	2500	2800	

3.2. TEST AND PROGRAM INFORMATION

Packaged Medical & Surgical Instruments	134 °C
Textile Materials	134 °C
Rubber Materials	121 °C
Bowie&Dick Test	134 °C
Flash (Rapid) Program	134 °C
Pre-Vacuum Program	121 °C -134 °C
Liquid Program	121 °C
Leak Test	Standard
Additional (Backup) Programs	Optional
IP Environmental Code (Protection Against the Ingress of Water or Granular Substance)	IP00

3.3. VOLUME AND POWER TABLE ACCORDING TO STERILIZER MODELS

MODELS		ERS/ STR 4407 S GOL DBER G 120S	ERS/ STR 4410 S GOL DBER G 160S	ERS/ STR 5510 S/D GOL DBER G 250 S/D	ERS/ STR 5512 S/D GOL DBER G 300 S/D	ERS/ STR 6610 S/D GOL DBER G 422 S/D	ERS/ STR 6613 S/D GOL DBER G 550 S/D	ERS/ STR 7712 S/D GOL DBER G 675 S/D	ERS/ STR 7715 S/D GOL DBER G 840 S/D	ERS/ STR 771 7 S/D GOL DBE RG 100 0 S/D	ERS/S TR 2000 S/D GOLD BERG 2000 S/D	ERS/ STR 75 GOL DBE RG 75	ERS/ STR 75V GOL DBE RG 75V
Chamber Volume (L)		120	165	250	325	460	600	740	900	1040	2000	75	75
Generator Power (kW) (3 phase/380±10 V AC)		30	30	30	30	40	40	50	62,5	62,5	75	7,5	7,5
Installed Power		40	40	40	40	50	50	60	70	85	90	10	11,5
Hardware Values	Main Grid Steam	1" Pipe 4-6 bar	1" Pipe 4-6 bar	1" Pipe 4-6 bar	1" Pipe 4-6 bar	1" Pipe 4-6 bar	1" Pipe 4-6 bar	1" Pipe 4-6 bar	1" Pipe 4-6 bar	1" Pipe 4-6 bar	1" Pipe 4-6 bar	½ " Pipe 3 bar	½ " Pipe 5 bar
	Air	6-8 bar pressure, Flow:100 L/min, 1/2", 1/4" Pipe connection										-	-
	Generator Volume (L)	50	50	50	50	60	60	60	60	60	60	60	10
Water Consumption (L)*		15-200	15-200	15-200	15-200	20-250	22-250	24-265	26-265	28-285	40-320	10	10-150
STU Capacities		1	2	2	4	6	8	10	12	14	18	-	-

* The amount of water consumption varies according to the sterilization program.

3.4. CHAMBER TEST RESULTS

Chamber water	1/2" Pipe 2-4 bar 30 L/hr.	1/2" Pipe 4 bar 30 L/hr.
Chamber Test Pressure	5 bar	
Chamber Test Temperature	150 °C	
Chamber Operating Pressure	2,8 bar	
Chamber Operating Temperature	140 °C	

3.5. GENERATOR TEST RESULTS

Generator Water	1/2" Pipe 2-4 bar 40 L/hr.	1/2" Pipe 2-4 bar 50 L/hr.
Generator Test Pressure	7 bar	
Generator Test Temperature	160 °C	
Generator Operating Pressure	3 bar	
Generator Operating Temperature	150 °C	

4. INSTRUCTIONS

4.1. STERILIZER INSTALLATION INSTRUCTIONS (INSTALLATION PREPARATIONS)

- The sterilizer should be installed in an area accessible only to authorized users.
- Do not install the sterilizer near steam sources or in places where water splashing is possible. Water can cause short circuits and damage to internal electronic circuits.
- Use the sterilizer in a well-ventilated space with good air circulation.
- Do not use the sterilizer near heat sources.
- The area where the sterilizer will be installed and used must be illuminated according to the TS EN 12464-1 Standard.
- Suitable room conditions for the operation of the device: Temperature should be between 5-40 °C, and maximum humidity should be 85% (without condensation).

4.1.1. Water Supply Line and Drainage

- a. The water supplied to the device must come from a reverse osmosis system.
- b. The hardness level of the water must be determined and should be ≤ 0.02 mmol/L.
- c. If the user is unsure about the quality of the water, connection should not be made.
- d. If tap water is used, the pressure should not exceed 3 bar.
- e. There must be a shut-off valve at the water connection point.
- f. The water supply should be in an isolated position from the electrical installation.
- g. The water line should be protected to prevent unauthorized individuals from tampering with it.
- h. Metal pipes must be used for drainage.
- i. The height of the drainage connection element on the floor should not exceed 5 cm.
- j. The diameter of the pipe used for drainage should not be less than 1".
- k. The drainage line should not have short-distance sharp turns and constrictions.
- l. The distance from the outlet of the drainage to the main waste drain should be no less than 1.5 meters.
- m. PVC-based materials should not be used for drainage.

4.1.2. Power Line and Panel

- a. The **INSTALLED POWER** at the location where the device will be installed must be known.

-
- b. The electrical line coming to the panel must be a single-piece cable. Spliced cables should not be used. The cable should be 4x10 mm², 4x16 mm², or 4x25 mm² depending on the device model.
 - c. The ground line coming to the panel must be installed by qualified individuals in compliance with standards.
 - d. All switches and fuses used in the panel should be of high quality.
 - e. The panel should not be in close proximity to the water plumbing or line.
 - f. The incoming power to the panel should supply 3-phase 380 V AC ±10 Volts.
 - g. Depending on the electrical power consumed by the device, a fuse should be used in the panel.
 - h. Our devices are designed and manufactured according to the principles of IEC 60601-2-40, so they do not produce critical interference with other devices manufactured to the same standards.

4.1.3. General Space Requirements:

- a. Floors and walls should be suitable for removing accumulated dust and preventing microbial contamination.
- b. Ceilings should be constructed to minimize condensation, dust accumulation and possible sources of pollution. It should not allow adhesion or retention.
- c. Ventilation should be ensured that the air present in the space is filtered from the clean area to the dirty area or outside, with at least 10 air changes per hour.

4.1.4. Ambient Temperature and Humidity

- a. The ambient temperature where the device will be installed should not exceed the range of +5°C to +40°C.
- b. A ventilation system should be installed to balance the ambient temperature.
- c. While one line absorbs heat from the environment, cold air should be provided from the other line.
- d. The humidity of the environment should be between 15% and 85%.

4.1.5. Compressed Air

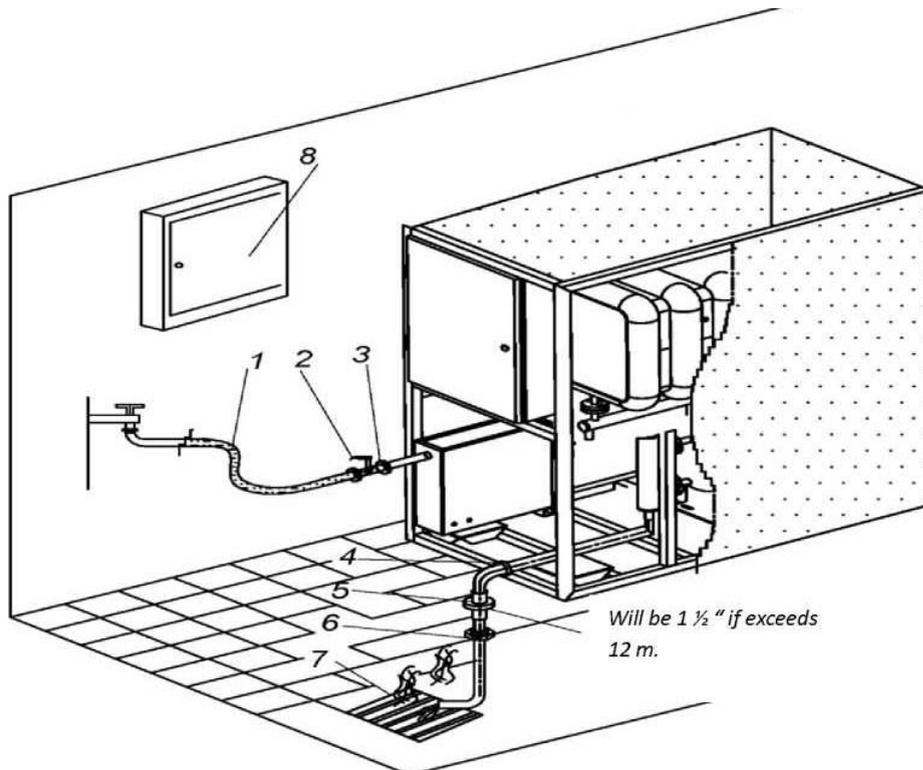
- a. There must be a dryer compressor that will provide pressurized air for the devices.
- b. The air discharge pressure of the compressor should be in the range of 6-8 bar.
- c. Pressurized air should also be fresh air, free of water and excessive moisture.
- d. The connection of the air coming from the compressor with the device must be checked.

4.1.6. Connection

- a. Connect water to the device, prevent leakage if any, and check the float.
- b. Fasten and connect the drain and tighten the hose clamps securely.
- c. Firmly connect the wires from the electrical panel to the device panel.
- d. THE DEVICE IS READY TO OPERATE.

		Measure	Material	Pressure (bar)	Temperature (°C)	Remarks
1	Drain	Minimum 2"	Galvanized	5	150	Rigid Pipe Connection
2	Supply water for generator	Minimum 3/4"	Flexible Plastic Hose	2-4	20-25	Flexible Connectivity
3	Supply water for cooling	Minimum 3/4"	Flexible Plastic Hose	2-4	20-25	Flexible Connectivity
4	Air	Ø8x1mm	Polyamide	5-10	20-25	Flexible Connectivity
		Power		Ampere (A)	Remarks	
5	Electrical Connections	25 kW	380V 3P+1N	50 Hz	3*63	4x16 10m, 4x25 10-20 m
		40 kW			3*100	4x25 10m, 4x35 10-20 m
		63 kW			3*120	4x25 10m, 4x35 10-20 m
		80 kW			3*160	4x35 10m, 4x50 10-20 m
After the plumbing and electrical connections are made, the device is taken off the wheels and placed on the feet by loosening the foot nut and placing the device on the nut..						
* The cable used for electrical connection should not be broken or crushed in any way and should be positioned in a way that it can go to the socket freely.						

HOSPITAL LAYOUT



During transportation, the device should be lifted with the help of a crane and loaded onto the transport vehicle. Once placed in the desired location, the device will initially rest on fixed legs as shown in the diagram. To move the device, it must be lifted off the fixed legs and placed on the wheels again. After bringing the device to the installation area, the installation process begins, starting with the electrical connection, and once the electrical

connection is complete, the device is put into operation. After the installation of the device is complete, to prevent damage to the connections before starting, the device is placed back onto its fixed legs. At this point, the device becomes immobile.

The sterilizer should be installed in an area accessible only to authorized users. Do not mount the sterilizer near steam sources or in places where water splashing is likely. Water can cause short circuits and damage to internal electronic circuits. Use the sterilizer in an area with good air circulation. Avoid using the sterilizer near heat sources. The area where the sterilizer will be installed and used should be well-lit. The operating conditions for the device require a temperature between 5°C and 40°C and humidity between 15% and 85% (without condensation).

1. City mains water line (PPr Pipe ½”),
2. Ball valve,
3. Water inlet ¾”,
4. Drain outlet 1 ¾”,
5. Nipple,
6. Pipe Coupling 1”,
7. Manhole (waste water drain - heat resistant (160 °C) metal pipe at least 1”)
8. Electrical panel

NOTE: The distance from the back and sides of the device must be at least 60 cm, and the distance from the top of the device to the ceiling must be at least 150 cm.

4.2. STERILISER OPERATING INSTRUCTIONS

A. PRELIMINARY PREPARATION and CONTROLS

1. Always read the "Operation and Maintenance Manual" before using the device. Make use of the information in this book in case of any problems and malfunctions. If the problem cannot be solved, notify the authorized person.
2. Check that the inside of the device is empty, clean and that the level racks are in place.
3. Check whether the electricity, water, drain and air connections of the device are normal.
4. Check whether there is water in the device's tank. Always keep the water inlet valve open.
5. Check whether there is air in the air indicator. (If there is sufficient air and water in the device, the device will start to heat up.)
6. For models with double sliding doors, check whether the clean side door is closed.
7. Make sure that the door gaskets are properly placed in their slots.
8. Make sure that the "EMERGENCY STOP" button is not pressed before switching on the device.

B. LOADING

1. Prepare the material to be sterilised. Load the device so that 5-10 cm space is left on the sides of the chamber. Leave 1/3 of the chamber empty. (It is recommended to put the material to be sterilised into the device with a loading trolley and loading basket).
2. In case of emergency, press the "EMERGENCY STOP" button.
3. In case of emergency, open the valves on the jacket, chamber and generator to relieve the pressure inside the device.

C. SWITCHING ON THE DEVICE

9. Turn the switch/key on the front panel of the device.
10. See the main menu appear on the screen.
11. "No Steam" will appear on the display. Other than that, "No Water", "No Air" will disappear. If it does not disappear, there is a malfunction and the device will give an audible warning. Check the water and air.

-
- The device will start to heat up by activating the resistances. When the generator pressure gauge reaches 3.2 bar (Green Zone), the air gauge reaches 3 bar and the jacket pressure reaches 2.8 bar, the device will be ready and "No Steam" will disappear. The device is ready for use.
 - If your device is a Flywheel Door model, close the door manually, and if it is a Sliding Door model, it will close automatically.

D. PROGRAM SELECTION

- The device will warn the user and the "READY" lamp will light up.
- Press the auto-use button on the screen.
- Select the program that suits you.
- Select the program that suits you by moving up and down with the select program arrows.

E. STARTING THE PROGRAM

- Press the "START" button in the lower right corner of the screen and start the program.
- Make sure the door is closed. The device will start the selected program.

F. PHASES OF THE PROGRAM

- Check the phases of the program on the screen. See on the screen that pre-vacuum, pre-heat, sterilization and drying processes are carried out in order.
- Graphically monitor the stage of sterilization on the screen.
- If there is a power failure during the sterilisation phase, a new menu will appear on the device. It will ask whether to continue sterilisation from where it left off. It would be correct to select "NO" as a suggestion.
- The program will run automatically according to the values selected by the user. Then, "SAVE MENU" will be displayed with a buzzer. The values will be saved by touching the "SAVE" button.
- Take the output paper from the printer and see that the sterilization process has been completed successfully. If the sterilization process is not successful, the process is repeated.

G. END OF PROGRAM

- After the device completes its function, the automatic door will open by itself. If it is a flywheel door, it will be opened manually by the user after the end signal of the device. Do not force the door of the device.
- If your sterilizer is a double-sliding door model, watch for the clean side door to open.
- If one of the doors is open in models with double sliding doors, never open the other door.

H. EMPTYING THE DEVICE

- Sterilized materials are carefully removed by the user.
- The sterilization process has been successfully completed and your device is ready for a new sterilization.
- If sterilization will not be performed, turn off the device by pressing the "POWER" button.

STERILIZER CALIBRATION INSTRUCTION

TECHNICAL SPECIFICATIONS OF THE SENSORS TO BE USED

- | | |
|-----------------------|---------------------|
| 1. TEMPERATURE SENSOR | : THERMOCOUPLE |
| MEASURING RANGE | : 0...200 DEGREE |
| SENSITIVITY | : 0.01 DEGREE |
| 2. PRESSURE SENSOR | : DIGITAL MANOMETER |
| MEASURING RANGE | : -0,9...10 BAR |
| SENSITIVITY | : 0.01 BAR |

A. TEMPERATURE CALIBRATION

- Open the pipe coupling made for calibration purposes on the device



-
2. Connect the calibrated temperature sensor with the specification above.
 3. Determine the desired sample reference values at the temperature (121 °C, 134 °C)
 4. Press the manual control system of the device at 121 °C.
 5. Wait until the temperature display reaches 121 °C.
 6. When the temperature reaches 121 °C, note the value of the calibrated temperature sensor.
 7. Take note of the temperature display of the device and the calibrated temperature sensor (connected to the device) values at one minute intervals, get a total of 5 values.
 8. If the temperature difference is different from the specified standards, change the settings of the temperature sensor on the touch screen.
 9. You can do the same for 134 °C.

B. PRESSURE CALIBRATION

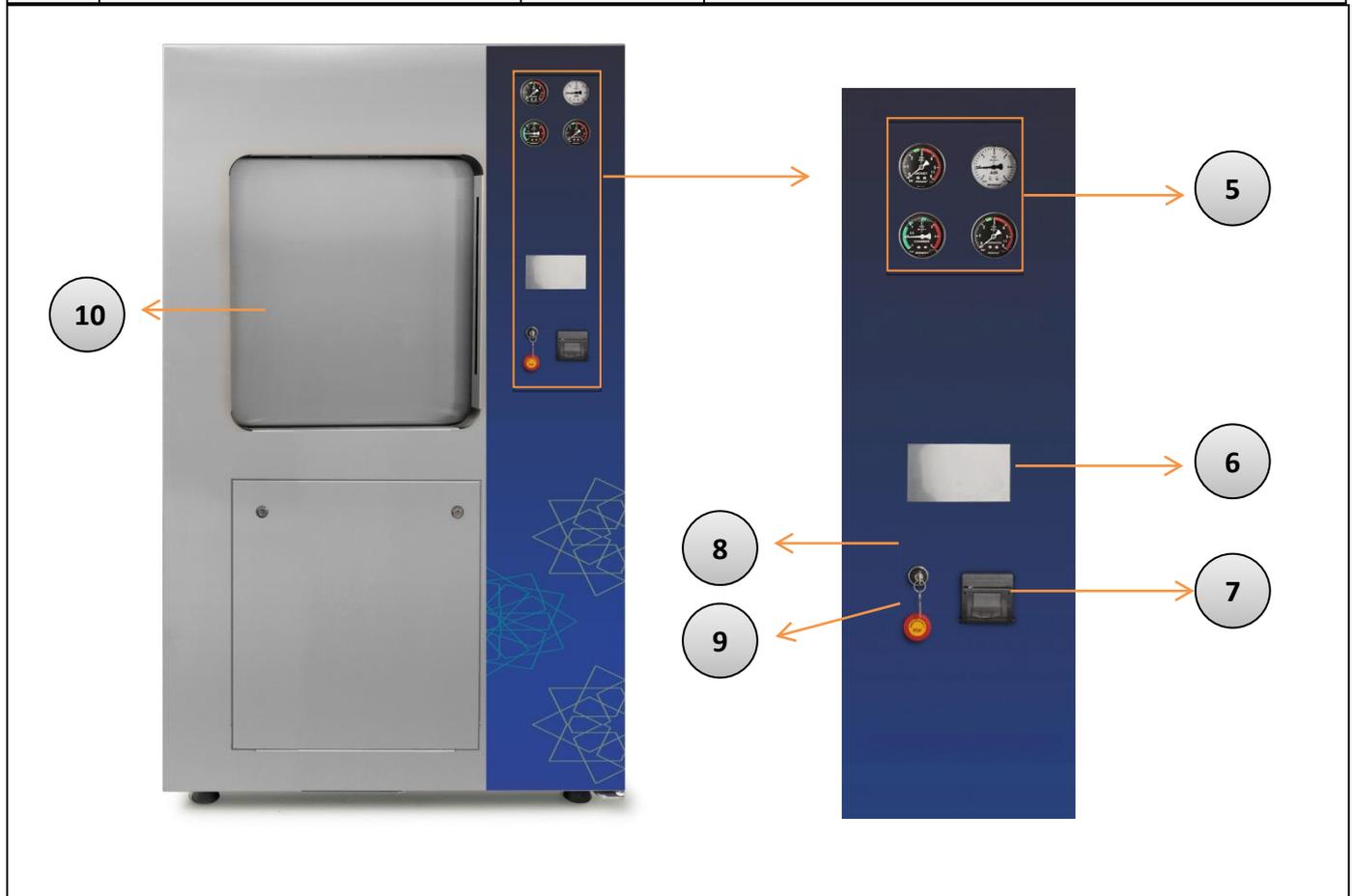
1. Open the pipe coupling made for calibration purposes on the device.
2. Connect the calibrated pressure sensor to the specification above.
3. Determine the desired sample reference values at pressure 70 mbar, 0 bar, 1.2 bar, 2.8 bar)
4. Press the 134 °C button on the manual control system of the device
5. Wait until the pressure gauge reaches 2.8 bar
6. Note the value of the calibrated pressure sensor when the pressure is 2.8 bar.
7. Take note of the values of the pressure gauge of the device and the calibrated pressure sensor (connected to the device) at one minute intervals, take a total of 5 values.
8. If the pressure difference is different from the specified standards, change the settings of the pressure sensor on the touch screen..
9. For 1.2 bar, 0 bar, 70 mbar, press the relevant button on the screen and perform the same operations for other values and degrees.

5. PARTS AND DESCRIPTIONS OF STEAM STERILIZERS

No	Parts Photo	Part Name	Parts Description
1		Chassis	<p>It describes the frame that carries all the elements of the sterilizer. The side covers on the chassis can be easily removed and installed, facilitating technical intervention. The device can move easily thanks to the wheels attached to the chassis, and it has height-adjustable legs to be fixed in the desired location. It can be manufactured from AISI 304 quality stainless steel or carbon steel box profile (40X40mm) with electrostatic powder coating (oven paint) according to preference.</p>
2		Sterilization Chamber	<p>It is produced in the form of a rectangular prism or cylinder. It is the volume where sterilization takes place. It is entirely made of AISI 316L or AISI 316Ti Quality Stainless Steel. The metal thickness of the chamber is 6 mm.</p>
3		Steam Jacket	<p>It ensures the circulation of steam on the external surface of the chamber, allowing the heating of the chamber wall. The steam jacket and the door of the device are made of AISI 304L, AISI 316L, or AISI 316 Ti Quality Stainless Steel according to preference.</p>



No	Parts Photo	Part Name	Parts Description
4		Isolation	Glass wool is used as an insulation material in the autoclave chamber and heat areas. Thanks to insulation, heat transfer is isolated from the device to the outside and from the outside to the device.

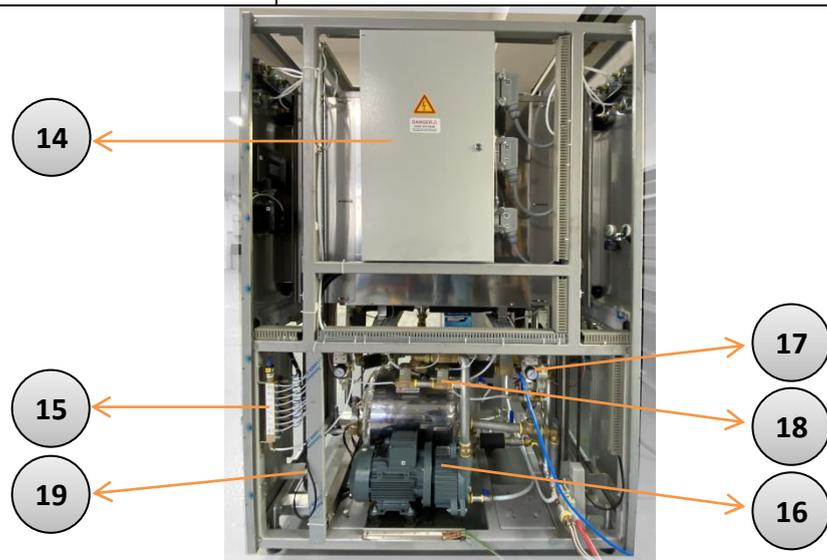


5	Manometers (Gauges)	Indicates the operating pressure values of the device.
6	Monitoring Screen	The monitoring screen is an LCD touchscreen. It allows for starting, stopping, and monitoring the sterilization process. The screen displays and allows control of temperature, time, pressure, and program stages.
7	Printer	It is used to print out the operations performed by the device. There is a thermal or cartridge ribbon printer on the device.
8	On/Off Switch	It is the switch that allows the device to turn on and off.

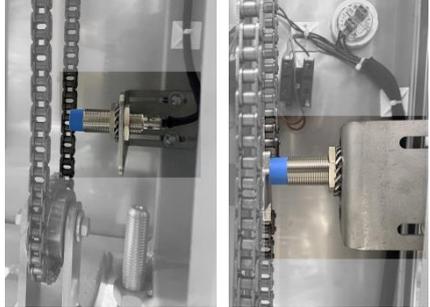
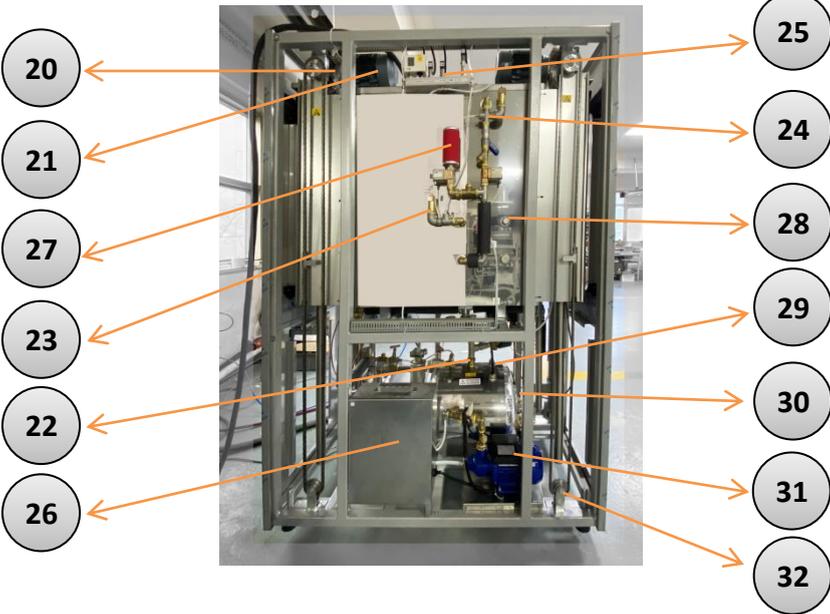
9	Emergency Stop Button	When pressed in any adverse situation, it allows the device to stop and the steam in the chamber to be evacuated.
10	Door	It is the part that securely isolates the chamber from the external atmosphere. Optionally, flywheel door or Sliding Door models can be used. Both door systems ensure the chamber's tightness with vulcanized heat-resistant silicone gaskets.

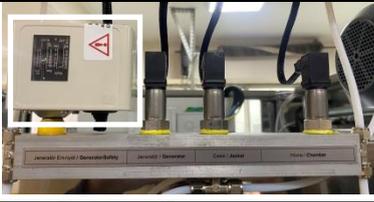


11	Loading Rack	It is the rack where the materials to be sterilized are placed and prevents them from coming into contact with the chamber surfaces.
12	Loading Trolley	It is the trolley that allows the loading rack to be loaded and unloaded into the device.
13	Gasket	It is used for sealing the cover system of the device. It is 100% vulcanized silicone based. It is used in doors and flywheel door hub.



14		Electrical Panel	It is the main place where electrical power and control equipment are located.
15A		Control Valve Coil	It is used to control the air going to the pneumatic valves.
15B		Air Pressure Switch	When the operating pressure of the device drops, it gives a NO AIR warning. This ensures that the device stops all ongoing processes to protect itself.
16		Vacuum Pump	It serves to vacuum the air inside the chamber.
17		Air Regulator	<p>It adjusts the air pressure coming to the device.</p> <p>On the left: Gasket pressure regulator On the right: Inlet air regulator</p>

18		Pneumatic Valve	It ensures the direction of steam, water, or air that will go to the connected system.
19		Door Motion Sensor	Allows the door to close and open to the set level.
			
20		Door Decelerator	By reducing the rotation speed of door motors, it prevents doors from opening and closing quickly. Thanks to the reducers, doors open and close slowly in a safe manner.
21		Door Motor	It serves to enable the opening and closing of loading and unloading doors of the device.

22		Generator Safety Valve	When the generator pressure reaches 6 bar, the safety valve discharges the excess pressure.
23		Chamber Safety Valve	When the chamber pressure reaches 4 bar, the safety valve discharges the excess pressure.
24		Jacket Safety Valve	When the jacket pressure reaches 4 bar, the safety valve expels the discharges pressure.
25A		Pressure Sensors	Generator, jacket, and chamber pressure sensors transmit the pressure of the connected system to the PLC.
25B		KP-35 (Generator pressure switch)	It controls the opening and closing of the generator resistance contactors and cuts off the power to the contactors at high pressure and temperature
26		Water Tank	The tank is used to meet the water needs of the device. Thanks to this tank, in case of any interruption in the mains water supply, the device stops its operations, preventing any damage to water-operated equipment.



27		Filtration	It filters and purifies the air entering the device through HEPA filters with a pore size of 0.01 micron and a bacterial filtration efficiency of 99.99%.
28		PT100 Input for Supervisory Authority	It is the input prepared for the institutions authorized to perform the calibration and validation of the device to attach their own PT100s to the device while doing this process. There are two independent pressure and temperature sensor connection inputs for operations.
29		PT100 (Temperature Sensor)	Measures the temperature inside the device (chamber, generator, etc.).
30		Resistance (Heater)	It is used to produce saturated steam by heating the water in the steam generator. They are produced from stainless material, and, depending on the device capacity, each one is manufactured with power ratings of 5-7.5-10-12.5-15 kW.
31		Water Pump	It is used to pump water into the generator.

32		Door Gear	It is the gear that transfers the motor movement to the door. It allows the door to move synchronously.
33		Water Level Box	The boiling of water in the steam generator causes fluctuations on the water surface. These fluctuations lead to inaccurate measurements of the water level electrodes. Therefore, the water level is measured in the water level box directly connected to the steam generator.
34		Water Level Electrodes	They are electrodes that measure the water's lower, upper, and safety levels in the steam generator. These electrodes ensure the intake of water required by the generator and prevent the water level from falling below the resistance level.
35		Steam Generator	It is a separate unit where steam, necessary for sterilization processes, is produced. The operating pressure is 3 bar according to the pressure gauge. The steam generator produces at least 98% saturated steam. Heat is provided to the generator through electric resistors, and the water level is controlled with electrodes. The steam generator, designed according to the safety calculations of pressurized vessels, can be manufactured from AISI 304L, AISI 316L, or AISI 316Ti Quality Stainless Steel, depending on preference. The generator has undergone testing processes at high pressures, ensuring both electrical and mechanical safety.

36		Phase Protection Relay	It serves to protect the device and motors by ensuring the rotation directions of the three-phase motors used in the device and providing a GRID VOLTAGE FAULT when there is a power outage in one or more phases.
37		Relay (Providing communication between magnetic float and PLC)	When there is a mains water outage or a decrease in mains water pressure in the device, it prevents the device from operating without water by cutting off the signal sent to the magnetic float relay inside the water tank, triggering a FAULT OF NO MAINS WATER. In this way, the risk of the device operating without water is prevented. This relay is used to transmit the signal from the magnetic float to the PLC.
38		Door Safety Switches	When the doors are closing, it detects the small pressure caused by any object that may come on the door, stopping the closing process and allowing the door to open again.
39		Drain Valve	It is a pneumatic valve. It is used to lower the steam pressure in the chamber below a certain level to transition from the heating stage or the sterilization stage to the vacuum stage. It also serves for safety by emptying the pressure (steam) in the chamber when the emergency button is pressed or a malfunction occurs in the device
40		Drain Line Check Valves and Pipes	The drain line pipes are the pipes through which steam passes during the drain and condensation stages of the device. The check valves in this line are used to prevent backflow from the drain.

41		Wheel and Rubber Foot	The device has 4 wheels that allow easy movement and adjustable rubber feet to ensure the stability of the device.
42		Up and Down Buttons	These are the buttons that allow the device door to move up or down.

6. SCREEN APPLICATION OF STEAM STERILIZER OPERATION AND USE



Figure.1- MAIN MENU

After device is turned on from the main power switch, it provides the necessary environment to start sterilization and the image in figure 1 appears on the screen.

- By tapping the menu button, the main menu page in Fig.5 is displayed.
- By tapping the Programs button, the programs page in Fig.6 appears on the screen.
- You can open the door by tapping the Down OK button.
- You can close the door by tapping the Up OK button.



When you tap this button, the sliding door of the sterilizer opens and the menu in Figure.2 appears.



Figure.2 – THE DOOR IS OPENING



When you tap this button, the sliding door of the sterilizer closes and the menu in Figure.3 appears.



Figure.3 –THE DOOR IS CLOSING

If there is any problem with the sliding door, the door will not work and the warning menu in Figure 4 will appear. At this stage, the user starts an effort to solve the problem. Regarding this work, the user should review the "Problems and Solutions" section of our User Manual.



Figure.4 – THE DOOR DOES NOT SLIDE

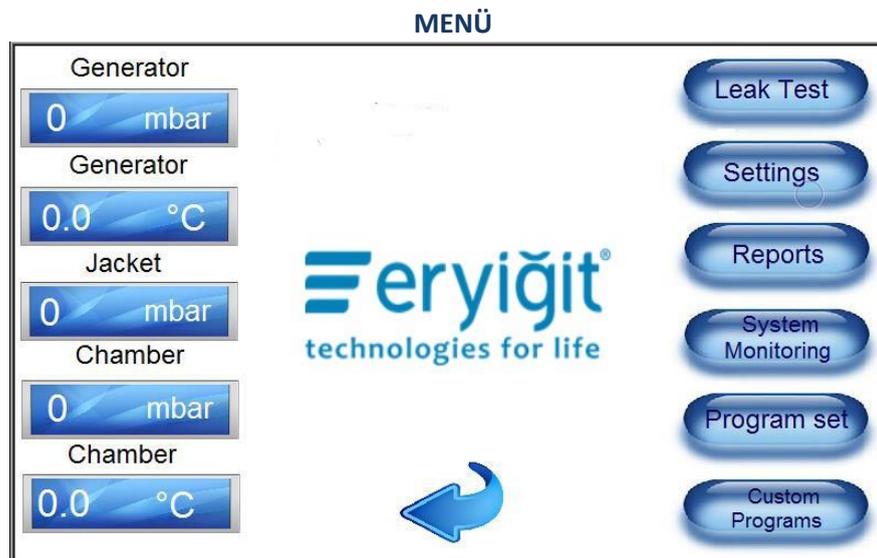


Figure.5- MENU

From the buttons seen on the screen in Figure.5;

- Leak Test : Proceed to the leak test menu. (Figure.5.1)
- Settings: Switch to the settings menu.
- Reports : Retrospective sterilization processes are monitored and documented.

- System : It is the menu in which the operation of the system is visually monitored.
- Program Set : It is the menu that allows the user to make special programs. (It requires a password and is given to the user by the company).
- Special Programs : It is the menu where the special programs prepared by the user will be run.

In order for the user to access the previous menu, it will be sufficient to press the  button. You can switch to previous menus with the help of this button, which you can see in all menus.

When the leak test button in Figure 5 is pressed, the menu in Figure 5.1 will be displayed. The leak test is started by pressing the Start button.



Figure.5.1 – LEAK TEST.1

After the leak test starts, the menu in Fig.5.2 is displayed.

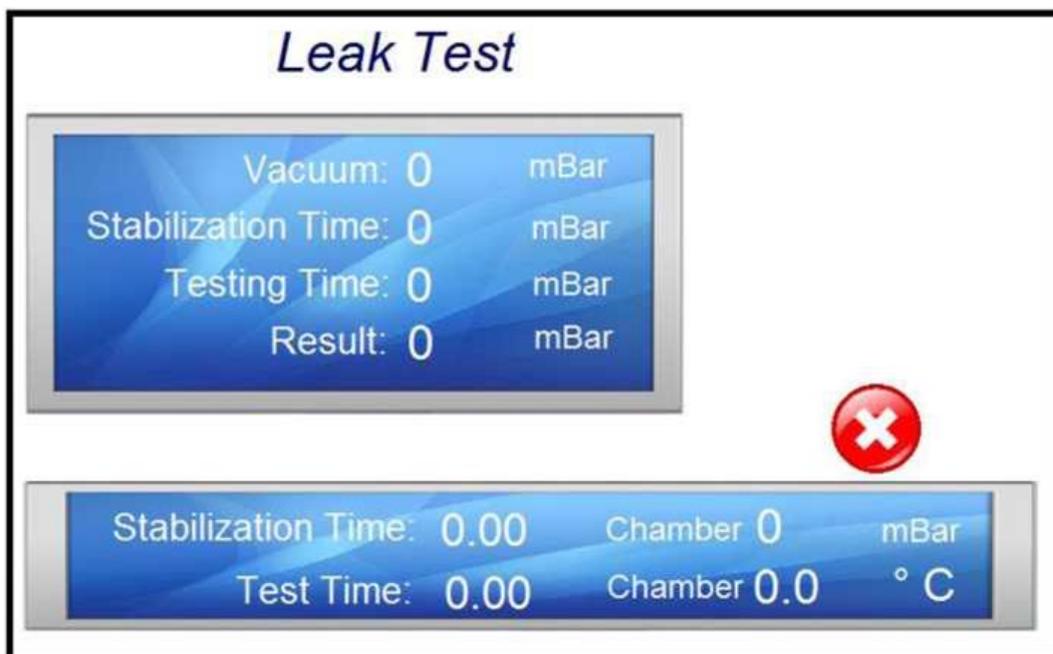


Figure.5.1.A – LEAK TEST.2

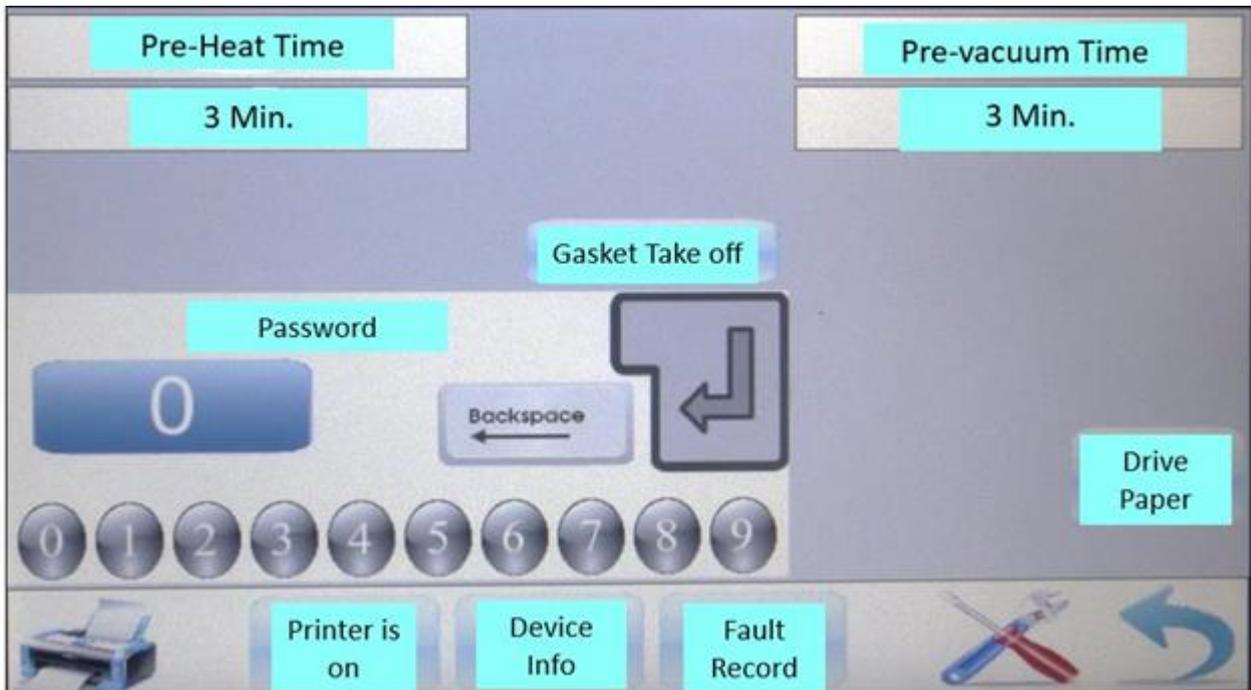
After the test is completed, the result of the test is displayed in the upper right corner of the screen in Figure 5.1.A. If you want to stop the test at any stage, the test can be stopped by pressing the  button.

When the settings button in Figure 5 is pressed, the menu in Figure 5.2 will be displayed.



Figure.5.2 – SETTINGS.1

In this menu; date, time, pre-vacuum and preheat times can be set. Besides, the user can also turn the printer on and off. When the user taps the icons to change the values, a mini keyboard appears on the screen as seen in the menu in Fig.5.2.A and the values are changed in this way. The lock sign seen on the screen has nothing to do with the user. This key is related to technical service.



Şekil.5.2.A – SETTINGS.2

When the reports button in Figure 5 is pressed, the menu in Figure 5.3 will be displayed.

	Time	Date	Pressure	Temperature	
Pre-Vacuum:	0 :0	0 /0	0	0.0	
Pre-Vacuum:	0 :5	0 /0	0	0.0	
Pre Heat:	0 :0	0 /0	0	0.0	
Heating:	0 :0	0 /0	0	0.0	
Sterilizing:	0 :0	0 /0	0	0.0	
Sterilizing:	0 :0	0 /0	0	0.0	
Drying:	0 :0	0 /0	0	0.0	
Drying:	0 :0	0 /0	0	0.0	
Air:	0 :0	0 /0	0	0.0	
Cycle End:	0 :0	0 /0			


0


Time 0 :0

Date 0 /0 Year 0



Figure.5.3 – REPORT PAGE

On the report page, you can follow our transactions retrospectively and take the recorded outputs. You can access the archive we are looking for with the arrow keys.

When the system button in Figure.5 is pressed, the menu in Figure.5.4 will appear on the screen. You can visually monitor the operation of the system from this screen.

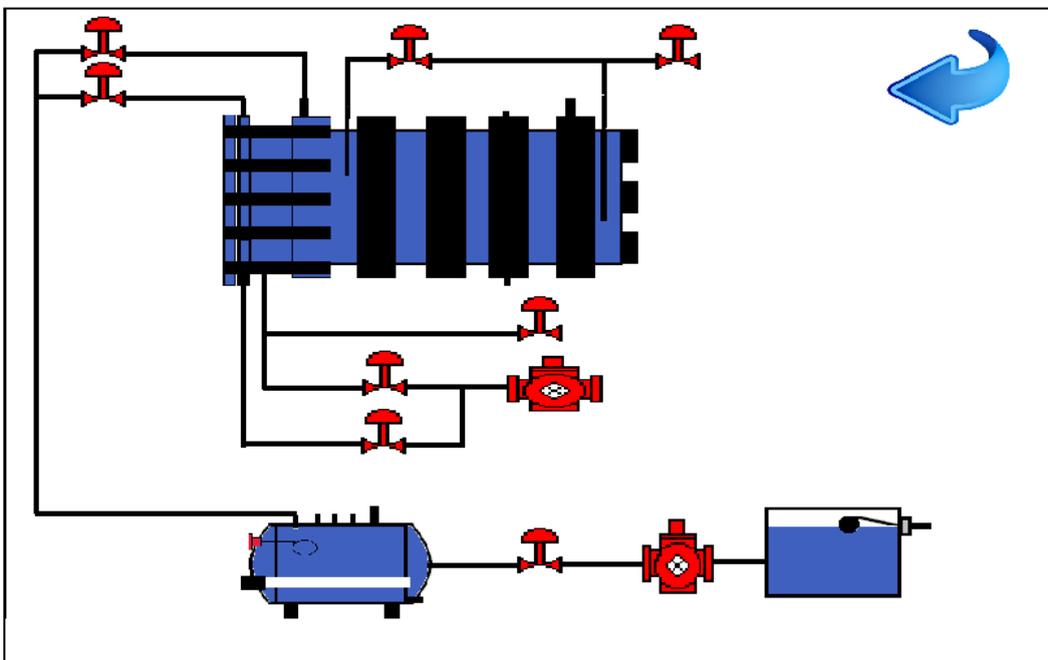


Figure.5.4 – SYSTEM PAGE

When the program set button in Figure.5 is pressed, the menu in Figure.5.5 will appear on the screen.



Figure.5.5 – PROGRAM SET PAGE

The user enters the password given to him/her by the company and enables the entry of the programmes to be made by the user.

When the special programs button in Figure 5 is pressed, the menu in Figure 5.6 will appear.



Figure.5.6 – SPECIAL PROGRAMS PAGE

From this menu, you can see the special programs made by the user and run the system by making a selection.

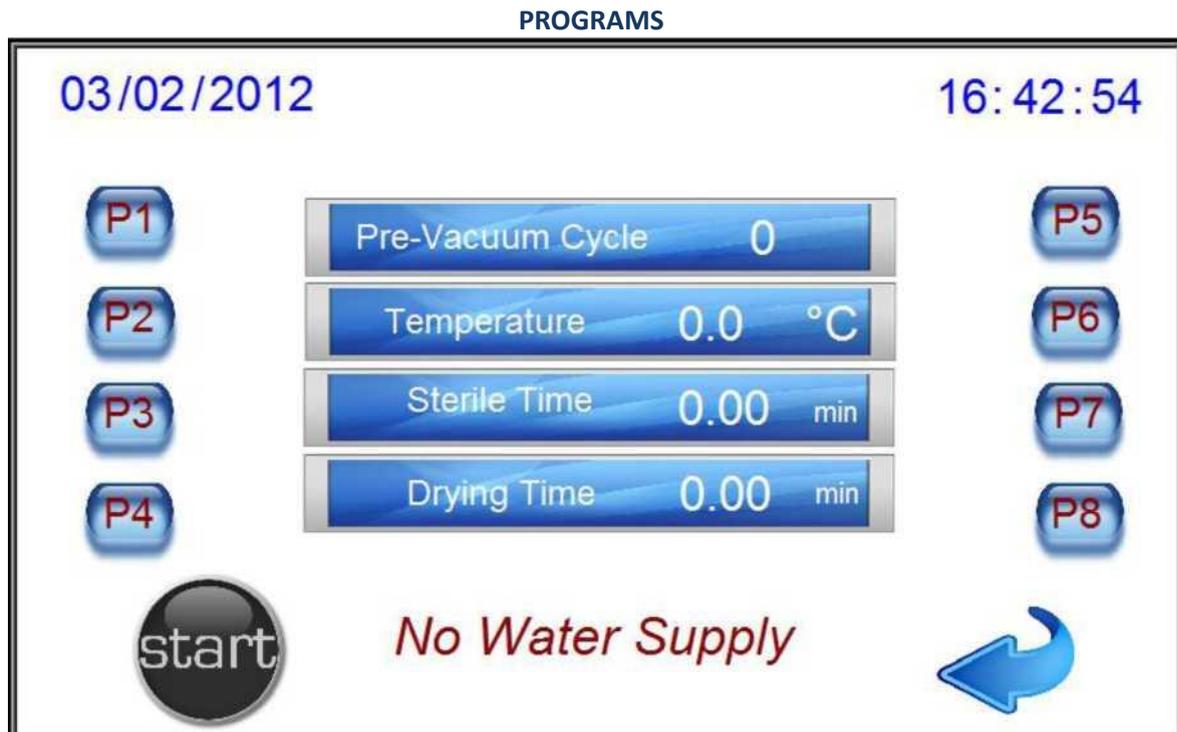


Figure.6- PROGRAMS

From the programs page, initiate the sterilization process by pressing the button of the program you want to run. Accordingly;

- P1.** Textile,
- P2.** Surgical Instrument,
- P3.** Liquid,
- P4.** Silicon,
- P5.** Flash,
- P6.** Prion,
- P7.** Rubber,
- P8.** Bowie-Dick.

The sterilization process is started by selecting one of the programs.

If there is no problem when the program is started, the sterilization process starts. If there is any problem in the system, the warning message in Figure.7 is displayed.



***Initialization Unsuccessful
Please Check the System***

Figure.7- WARNING.1

In about a few seconds, the warning texts in Figure 8 about what the problem is will appear on the screen.



Figure.8 – WARNING.2

At this stage, the user starts a study to solve the problem. For this study, the user should review the "Problems and Solutions" section of our User Manual. When the problem is solved or there is no problem, the screen in figure 9 appears and the sterilization process starts. If the lid of the device is closed while the sterilization process is not active, if it is above or below atmospheric pressure, the menu in Figure 9 is displayed and the system automatically equals the atmospheric pressure.

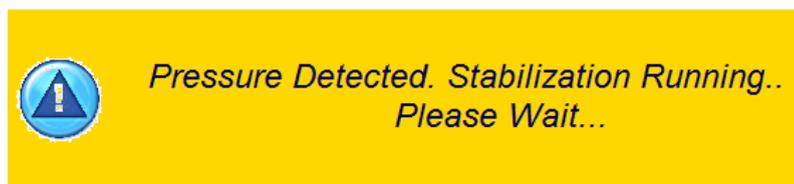


Figure.9 – WARNING.3

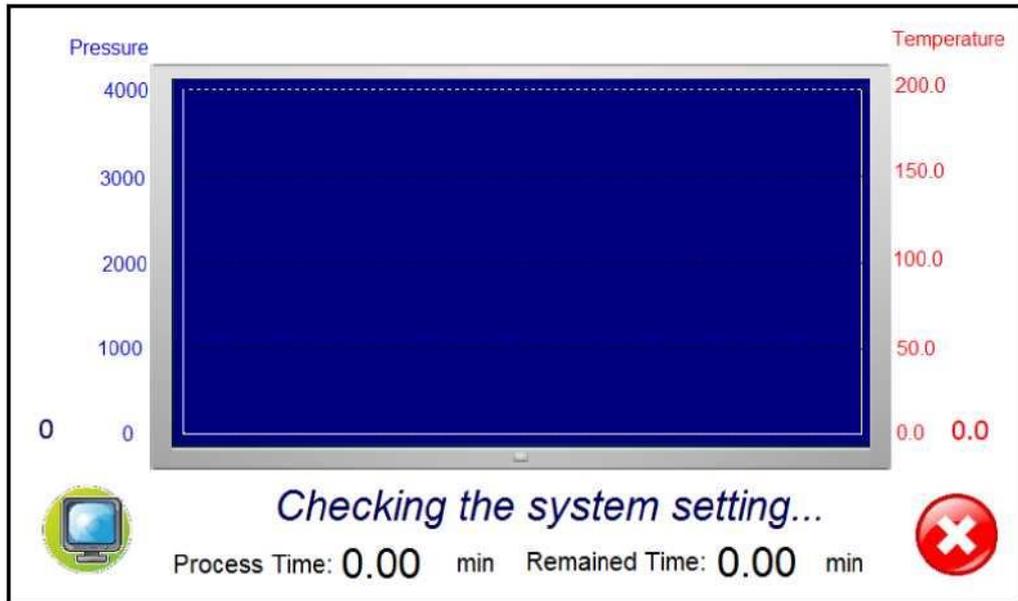


Figure.10 – STERILIZATION PROCESS

By touching the center of the screen of the device seen in the menu in Figure.10, the menu in Figure.11 is displayed. On this screen, the temperature and pressure values of sterilization are checked instantly. Tap the same screen again and you'll be returned to the screen you came from.



Fig.11 - TEMPERATURE AND PRESSURE INDICATORS

When a problem occurs when the system is running, the menu in Figure.12 is displayed. For the solution of the malfunction, the user should review the "Problems and Solutions" section of our User Manual..

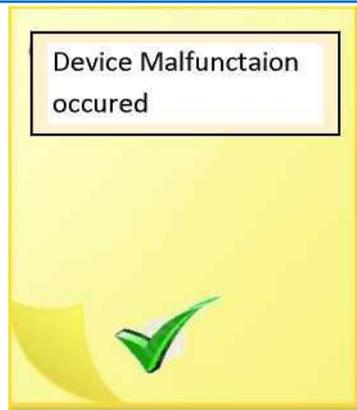


FIGURE 12 - FAULT PAGE.1

When a problem arises that will prevent the device from working, the menu in Figure 13 is displayed. When the user sees this warning, he should directly de-energize the device and call the Technical Service.



FIGURE 13 - FAULT PAGE.2

If a power failure occurs during the sterilisation process, the menu in Fig.14 is displayed and the system stops. When the power is restored, the warning text in Figure.15 automatically appears on the screen. Accordingly, the user can either continue the sterilisation process from where he/she left off or stop the sterilisation process.



Fig.14 - ELECTRIC FAILURE WARNING

NOTE: If the system cannot provide the appropriate conditions, the system will not continue the operation even if the user requests.



Fig. 15 - WARNING FOR STOPPING STERILIZATION PROCESS

Press the  button to stop the system in case of any emergency during the sterilisation process. When you press the button, the menu in figure 15 appears on the screen. To stop the system, press the  button to end the sterilisation process.

After the sterilization process is completed, the warning menu in Figure 16 is displayed. By pressing the  button, the data of the operation is recorded. Terminate the sterilisation process by pressing the  button.

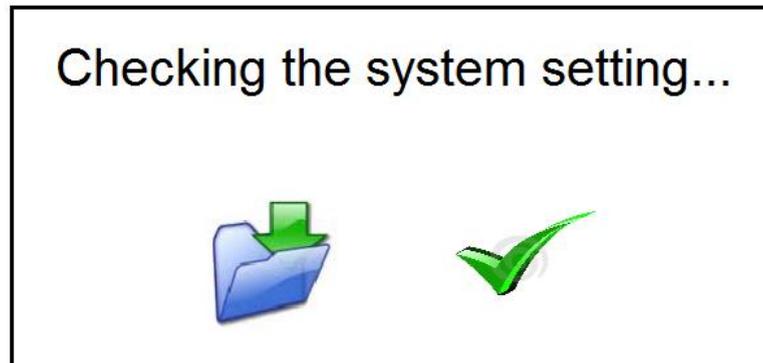


Fig.16 - STERILIZATION PROCEDURE ENDED

7. RESIDUAL RISKS

All risks identified in the risk analysis study have been reduced to acceptable risk levels and there is no longer any risk.

8. NOTIFICATION TO THE COMPETENT AUTHORITY

In case of an adverse event, notify the manufacturer and the competent authority.

9. INFORMATION ON INFORMATION SECURITY

For devices, including those consisting of electronic programmable systems or software themselves, such as software with hardware, IT network features, and security measures against unauthorized access, including hardware protection, the minimum requirements necessary for the software to function as intended are provided.

To prevent unauthorized access to the device, encrypted entry can only be made by the technical service and production personnel responsible for the device, and this password is updated daily. The PLC software used in the device is also encrypted and can only be accessed by authorized technical service personnel.



MAINTENANCE



BEFORE MAINTENANCE AND REPAIR...

WORK SAFETY FIRST

CHAPTER 1. SERVICE RELATED ISSUES

1. Cleaning

- Steam sterilizer devices are cleaned according to the recommendations of the manufacturer.
- The inner boiler, basket rail, the strainer, loading trolleys, and the inner surface of the door are wiped with a soft cloth soaked in warm soapy water and then dried.
- The plastic part of the control panel is cleaned with a damp cloth without rubbing.
- The outer surface of the device is polished by rubbing with the recommended stainless steel polish.

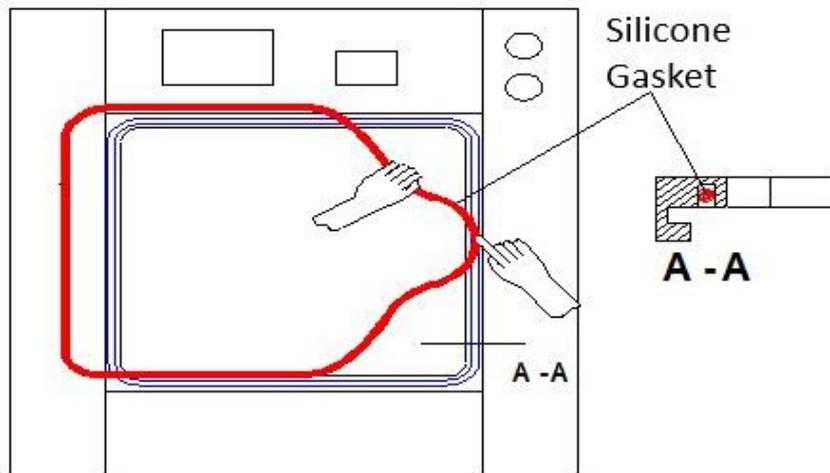
2. Sterilizer User Maintenance Instruction

- During maintenance, do not disturb or alter the stabilization or balance position set by the manufacturer. Do not change the installation location.
- After the sterilization process is completed, unload the sterilized materials using a loading trolley.
- Check for any textile particles that may remain inside the chamber.
- Clean the door gaskets with the recommended spray once a week.
- Do not tamper with the electrical, electronic, and mechanical components of the device without the knowledge of authorized service personnel.
- Do not allow the devices to be moved from their positions during the fine and coarse cleaning of the sterilization center.
- Clean the external stainless surfaces of the device weekly using the recommended stainless maintenance spray.
- Avoid using cutting and scraping materials with very hard properties during maintenance.
- Check the quality of water and air coming into the device. Inform authorities if any undesirable situation is detected.
- Drain and renew the water inside the generator once a month.
- Disconnect the electrical and water connections of the device if it will not be used for an extended period.
- Do not allow untrained personnel to perform maintenance on the device.
- Do not place anything inside the chamber other than materials intended for sterilization.
- Do not clean the interior with materials containing chemical compounds.
- Avoid using petroleum-based, flammable, oily, or combustible liquids during maintenance due to environmental factors or incorrect guidance.

3. Gasket Replacement



In sterilizers, it is RECOMMENDED to spray the gasket surfaces at least once a week for maintenance purposes after gasket replacement.



Gasket Replacement

4. Resistances

Since generator resistances are exposed to high temperatures, they may fail due to water lime over time. Therefore;



Resistances must be checked and replaced at least once every six months.

It is not recommended to use it by scraping off the lime on it.

5. Electrodes

Due to the fact that they are exposed to high temperatures, calcification may occur over time.

Therefore;



The electrodes must be checked and replaced at least once every six months.

There is 1 water sensing magnetic float or electrode in the water tank and at least 2 water sensing electrodes in the generator part of the device.

For this, **if the mains water is calcareous, a "Water Purification Device" must be used with our device**

Thus, the working life of the device will be increased, high energy savings will be achieved and loss of labor will be prevented.

CHAPTER 2. TROUBLESHOOTING

a. Steps Before Calling the Service

It may not be necessary to call technical service for every sign of malfunction. Before calling technical service, check whether you can intervene in the malfunction with the help of the solution suggestions below. Never intervene or let anyone to intervene in the malfunction related to the software program. Even during the warranty period, you must pay all service-related costs in such cases. If the fault cannot be resolved despite the solutions we suggested, call our AUTHORIZED TECHNICAL SERVICE. In this case, do not try any further operation yourself, especially do not touch the electrical part.

FAULTS and TROUBLESHOOTING			
FAULT DEFINITION	CAUSE OF THE FAULT	TROUBLESHOOTING	FIGURE
<p>NO WATER IN THE GENERATOR</p> <p>The water level is below the minimum level required for the resistances to activate</p>	The solenoid valve at the water pump outlet is defective.	After making sure that the valve is energized during operation, unscrew the fitting at the outlet of the valve, if no water comes from the valve outlet while the water pump is running, the valve is faulty. Replace the faulty valve.	Page 35, No:31
	Water Level Electrode Malfunction	Replace the faulty electrodes. If necessary, drain the water or steam from the generator and use a multimeter to identify the faulty electrode..	Page 36, No:34
	Liquid Level Relay (SSR-1 and SSR-2) malfunction	Detect the faulty SSR with the help of multimeter and replace the faulty SSR-1 or SSR-2.	Page 32, No:14
	Blockage of the generator water inlet	Unscrew the fitting on the generator water inlet and unclog it (the use of calcareous water clogs this part or similarly various passages of the device).	Page 36, No:35
	The water pump has trapped air.	Bleed the air from the water pump	Page 35, No:31
	The water pump is broken down.	Replace the defective water pump.	Page 35, No:31
<p>OVERPRESSURE AND TEMPERATURE ERROR</p>	Failure of the generator maximum water level electrode	Replace the defective electrodes as overpressurisation will occur with water.	Page 36, No:34
	Malfunction of the SSR-2	Replace SSR-2.	Page 32, No:14
	Failure of resistance contactors (stuck)	Replace the defective contactor, as overpressure will be created by steam.	Page 32, No:14
	Generator pressure sensor may be faulty.	Compare the generator pressure value on the screen with the pressure value on the manometer. If the value on the screen is higher, check the pressure sensor. If there is dirt, clean it, otherwise replace the pressure sensor.	Page 36, No:35



FAULTS and TROUBLESHOOTING

FAULT DEFINITION	CAUSE OF THE FAULT	TROUBLESHOOTING	FIGURE
	PT100 Temperature Sensor malfunction	Check the PT100 temperature sensor, if there is sediment, lime and corrosion, replace the PT100 temperature sensor.	Page 35, No:29
AIR IS INSUFFICIENT Insufficient air pressure to the device	Air regulator malfunction	Check the air regulator, air pressure should be 6 bar. If the air is low, adjust it on the regulator, if not, check the air pressure at the compressor outlet. If the compressor output is normal, replace the regulator.	Page 32, No:17
	Compressor pressure drop or malfunction	Solve it by contacting the authorized person regarding the compressor.	
	Air pressure switch is out of adjustment or malfunctioning	Check the setting of the pressure switch, replace it if it is faulty..	Page 32, No:15B
MAINS VOLTAGE ERROR	Power interruption to the device or a change in phase sequence fault.	Please contact the relevant department of your organisation to resolve the power outage.	
	Malfunction of the Phase Protection Relay	Check the phase protection relay with a multimeter, replace it if it is faulty.	Page 36, No:36
HEATING ERROR Failure of the steam temperature to reach sufficient level	Resistance failure	Check the resistances. Replace the faulty ones. If the resistance fuse has fallen to off/0 position, replace the resistance.	Page 35, No:30
	Calibration Error	Contact technical service for pressure and temperature calibration.	
	Failure of mechanical parts such as check valves, steam trap, safety valves and pneumatic valves	Replace the faulty part.	Page 33, No:18 Page 34, No:22-23-24
TEMPERATURE ERROR Lack of continuity after the steam temperature reaches a sufficient level (for example, the temperature drops to 133 °C or lower after reaching a temperature of 134 °C)	Resistance failure	Check the resistances. Replace the faulty ones. If the resistance fuse has fallen to off/0 position, replace the resistance.	Page 35, No:30
	Calibration Error	Contact technical service for pressure and temperature calibration.	
	Failure of mechanical part such as check valve, steam trap, safety valve and pneumatic valve	Replace the faulty part.	Page 33, No:18 Page 34, No:22-23-24
DOOR DOES NOT CLOSE* Failure of the	Door motor failure	Check the door motor and reducers, and/or consult technical service.	Page 33, No:20-21

FAULTS and TROUBLESHOOTING

FAULT DEFINITION	CAUSE OF THE FAULT	TROUBLESHOOTING	FIGURE
loading or unloading door to fully close or remaining completely open.	Malfunction of door open and closed sensors	Check the sensors and/or contact the technical service.	Page 33, No:19
	Electrical fault	Check the door thermal and contactors in the device electrical panel and replace the faulty one.	Page 32, No:14
	The door opens and closes with friction.	Check the door gasket, make sure that the gasket enters and exits the gasket channel.	Page 31, No:13
VACUUM ERROR Failure to reach the desired pressure at the desired time	Vacuum Pump failure	Check the vacuum pump thermal, check the heating and vacuum reduction performance of the pump and/or contact technical service.	Page 32, No:14 Page 32, No:16
	Door gasket failure	Check the wear and deformation of the door gasket and replace it if necessary.	Page 31, No:13
	Valve failures	Check equipment such as check valve and pneumatic valve and contact technical service.	Page 33, No:18 Page 37, No:40 and other similar valves
	Safety Valve failure	Check the chamber safety valve, replace it if it is defective.	Page 34, No:23
DRAIN ERROR Failure to reduce chamber pressure to the desired level in the desired time	Failure of drain valve	Check the opening and closing positions of the valve, replace it if it is faulty. Check the valve coil and replace it if it is defective.	Page 37, No:39 Page 32, No:15A
	Failure of mechanical parts in the drain line	Check the check valve and pipes in the drain line, replace any defective parts.	Page 37, No:40
	Blockage in the drain line	Remove the blockage in the drain inside or outside the device.	
NO MAINS WATER The internal water tank is empty	Mains water is not supplied at all or at insufficient pressure	Check the mains water and water pressure. If there is no water or the water pressure is low, contact the relevant authorities to resolve it.	Page 34, No:26
	Magnetic float failure	If the magnetic float gives the "no water" error even though there is water in the tank, replace the float.	Page 34, No:26
	Relay Failure	Check the relay that provides communication between the magnetic float and PLC, replace it if it is faulty.	Page 37, No:37
CHECK DOOR SAFETY SENSORS Material getting stuck or coming into contact with the door while the door is closing	Failure or activation of the door safety switches	Check if anything is stuck in the door, remove it if there is. If there is nothing stuck, check the switches, replace them if they are faulty.	Page 37, No:38



* If your autoclave device is piston-driven, contact technical service..

Note: In the event of the chamber pressure being higher or lower than atmospheric pressure, the warning message 'PRESSURE DETECTED, PLEASE WAIT' displayed on the screen is not a malfunction indicator. The device will perform an automatic balancing, and it is expected to wait until the balancing process is completed.

SOFTWARE ERRORS AND SOLUTIONS

FAULTS and TROUBLESHOOTING			
ERROR DEFINITION	CAUSE OF THE ERROR	TROUBLESHOOTING	FIGURE
"PLC Error" Light on PLC	Analog Input Currents Over The Limits	Check the Analog Module	Page 37, No:14
		Check the Sensors	
"PLC No Response" on screen	PLC Communication Error	Check Communication Protocol	Page 37, No:14
		Check Communication Connection and Cables	
Printer Error	Printer Does Not Output	Check Communication Protocol	Page 37, No:14
		Check Communication Cables	
		Check Printer Feeds	
The device must be restarted after the checks are made for software errors.			



When you call for service, please provide the "Serial Number and Model" of the device. You can find these numbers on the type plate of the device.

Place the device correctly



The ambient temperature range of the installation area for our device should be between +5°C and +40°C, with a humidity level between 15% and 85%. The device should be installed in a well-ventilated area, shielded from direct sunlight, and placed away from heat sources (such as radiators)

Use Reverse Osmosis Water Purifier



The device must be used together with the "RO Device" in areas where mains water lime rates are high. This issue is of great importance in terms of energy saving.

Check the Door Gasket



Keep the door gasket clean to avoid hot air and vapour loss. Cover gaskets that are not cleaned and maintained regularly are deformed very quickly and cause heat and steam leaks. In this case, the device causes energy loss by continuous operation.

Do not Overload the Device



Good steam circulation is required for the sterilization processes to be healthy and to get accurate results. Filling the device chamber too much will cause air circulation to deteriorate, materials to come out wet and humid, and strain the generator.

CHAPTER 3. PERIODIC MAINTENANCE



In order to use your device more efficiently and for a long time, you should have your periodic maintenance done without interruption.



According to the frequency of use, ensure that you perform periodic maintenance on your devices at least every six months..

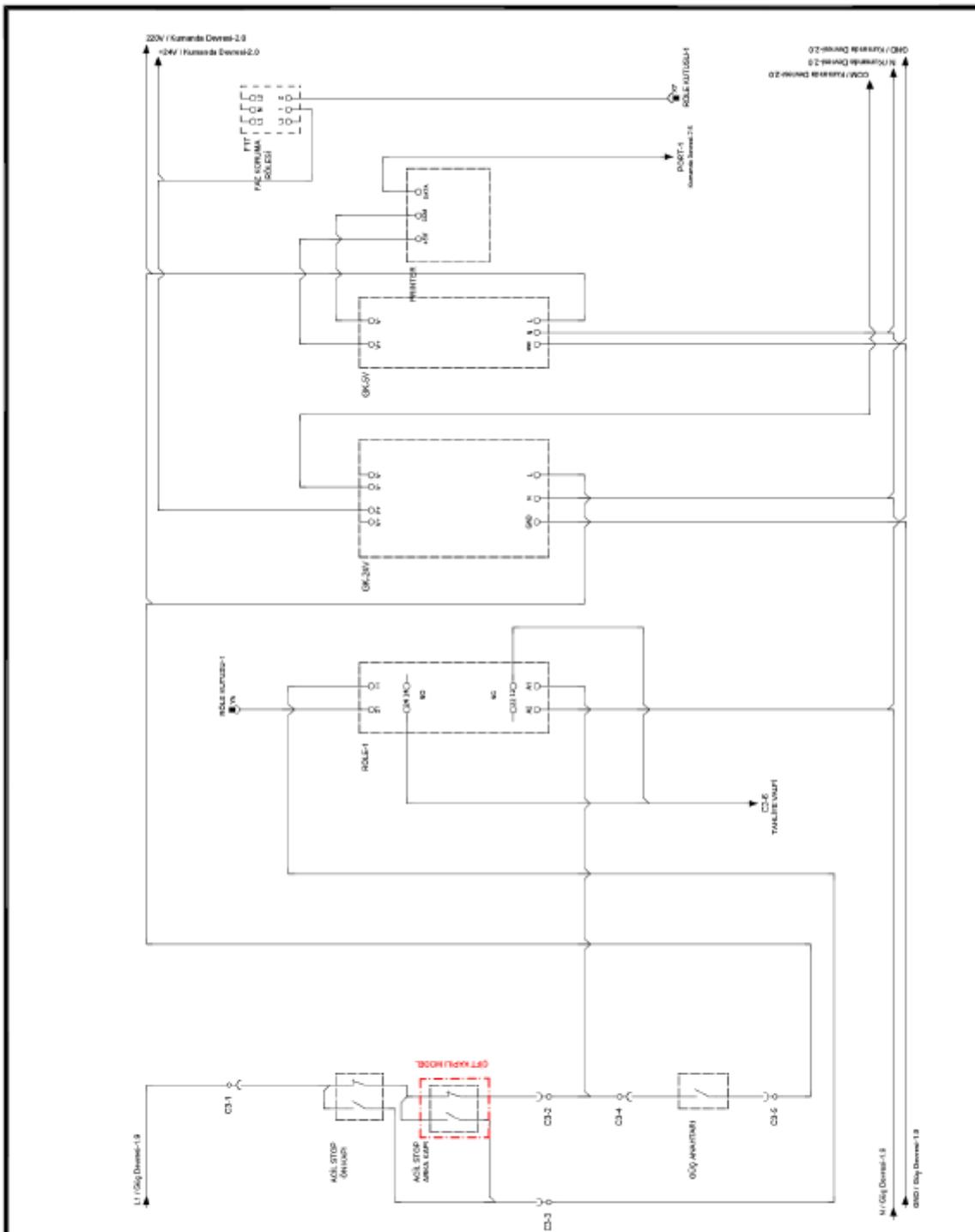
1. HEPA filters should be replaced in 6-month periods depending on the air pollution of the environment.
2. Electrodes must be checked at least every six months and replaced if necessary.
3. The resistances must be checked at least every six months, and replaced if necessary.
4. Hub gaskets should be checked at least every six months, if necessary, should be replaced.
5. Check valves must be checked at least every six months and replaced if necessary



Door gaskets should be treated with a maintenance spray at least once a week.



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

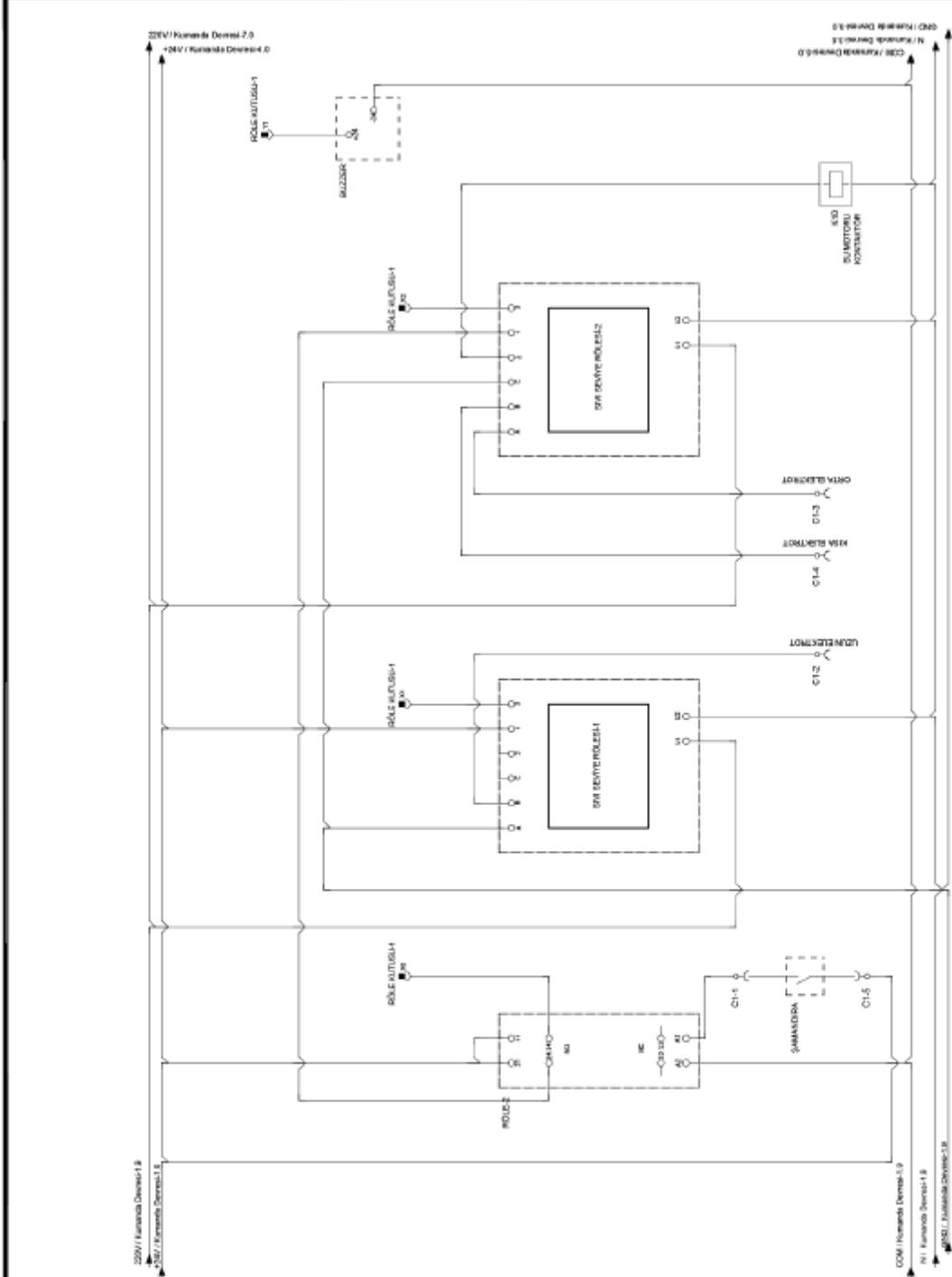


AD-SOYAD	İsım	Tarih	Çizim
Haydar Şimşek		10.06.2022	Çizim
M.Emin Demet		10.06.2022	Kontrol Eden
Muhammet Beki		10.06.2022	Onaylayan

Sayfa No: 1 / 1

KONTROL DEVRESI-1

Versiyon No:	000
Versiyon Tarihi:	10.06.2022
Doküman No:	DOC.24.02
Rev No:	000
Rev Tarihi:	10.06.2022

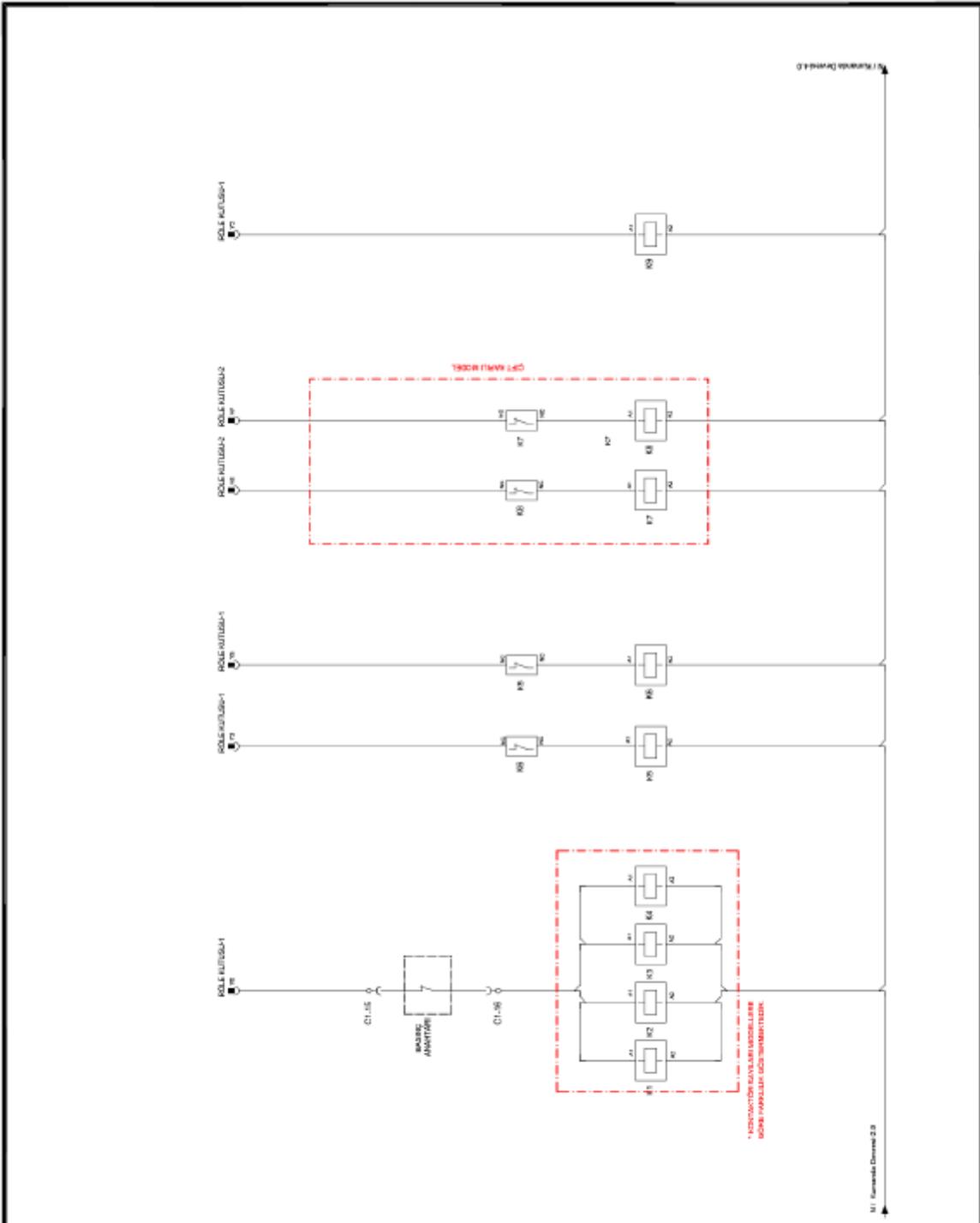


AD-SOYAD	İsm	Tarih	
Haydar Şişek		10.06.2022	Çiçm
M.Emir Demet		10.06.2022	Kontrol Eden
Muhammet Baki		10.06.2022	Onaylayan

Sayfa No: 1 / 1

KONTROL DEVRESİ-2

Versiyon No:	000
Versiyon Tarihi:	10.06.2022
Doküman No:	DOC.34.02
Rev No:	000
Rev Tarihi:	10.06.2022

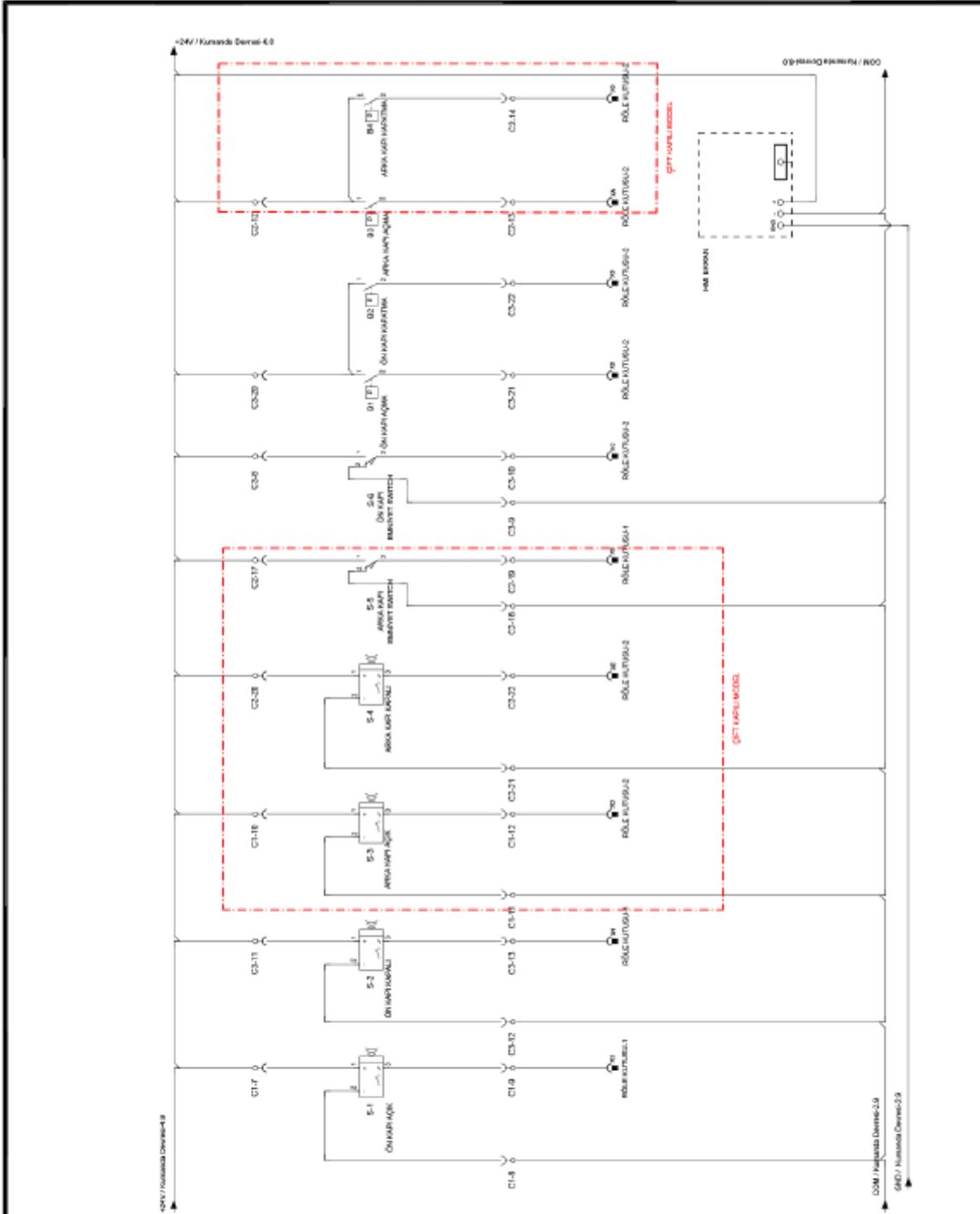


AD-SOYAD	İsm	Tarih	Çıkm
Haydar Şimşek		10.06.2022	Çıkm
M.Emin Deniz		10.06.2022	Kontrol Edem
Muhammet Baki		10.06.2022	Onaylayan

Sayfa No: 1 / 1

KONTROL DEVRESI-3

Versiyon No:	000
Versiyon Tarihi:	10.06.2022
Doküman No:	DOC.24.02
Rev No:	000
Rev Tarihi:	10.06.2022

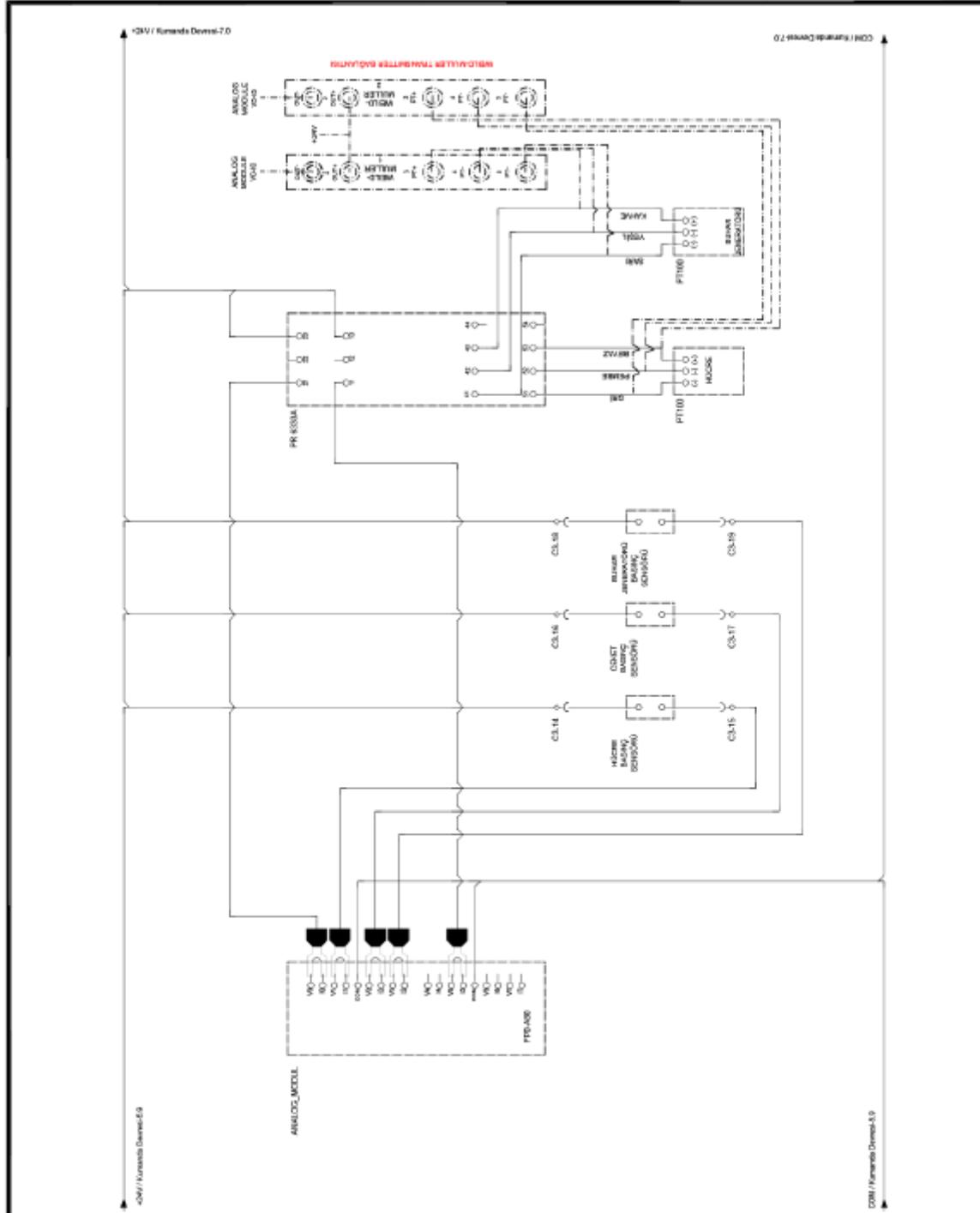


AD-SOYAD	İsm	Tarih	Çım
Haydar Şimşek		10.06.2022	Çım
M.Emin Demet		10.06.2022	Kontrol Eden
Muharrem Beki		10.06.2022	Onaylayan

KONTROL DEVRESİ-5

Versiyon No:	000
Versiyon Tarihi:	10.06.2022
Doküman No:	DOC.24.02
Rev No:	000
Rev Tarihi:	10.06.2022

Sayfa No:

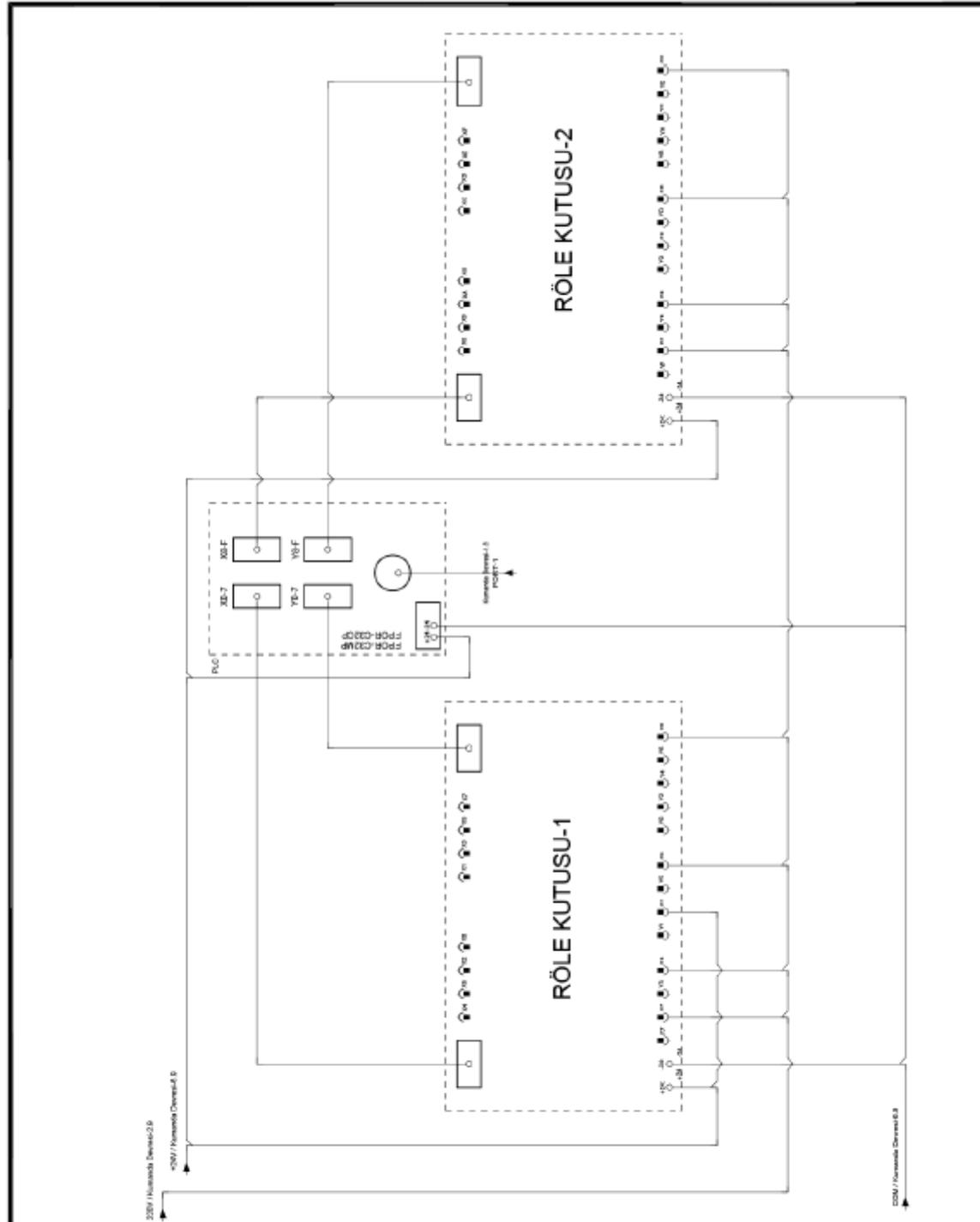


AD-SOYAD	İmza	Tarih	Çevre
Haydar Şişçi		10.06.2022	Çevre
M.Emir Demet		10.06.2022	Kontrol Eden
Mahmut Baki		10.06.2022	Onaylayan

KONTROL DEVRESİ-6

Versiyon No:	000
Versiyon Tarihi:	10.06.2022
Doküman No:	DOC.24.02
Rev No:	000
Rev Tarihi:	10.06.2022

Sayfa No: 1 / 1



AD-SOYAD	İmza	Tarih		KONTROL DEVRESİ-7	Versiyon No:	000
Haydar Şimşek		10.06.2022	Çizim		Versiyon Tarihi:	10.06.2022
M.Emir Demet		10.06.2022	Kontrol Eden		Doküman No:	DOC.24.02
Muhammet Beki		10.06.2022	Onaylayan		Rev No:	000
Sayfa No:		1 / 1			Rev Tarihi:	10.06.2022



CHAPTER 5. STEAM STERILIZER FLOW DIAGRAM

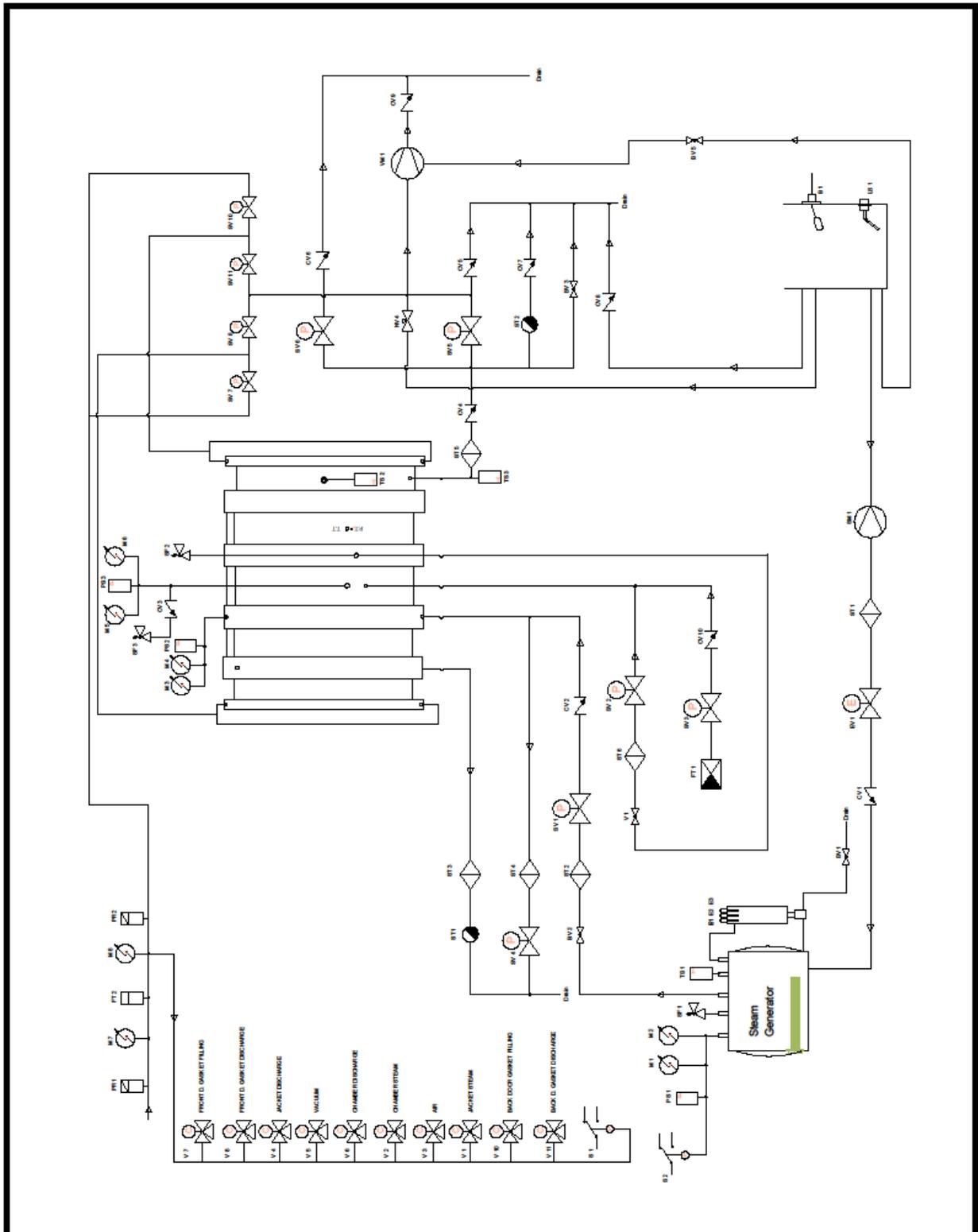
SYMBOL	EXPLANE
	Solenoid Valf (2 yollu)
	Hava Kontrol Valfi (3 yollu)
	Pnömatik Valf (2 yollu)
	Basınç Şalteri
	Vakum Motoru
	Su Motoru
	Elektrot
	Su Seviye Anahtarı
	Sıcaklık Sensörü (PT100)
	Pislik Tutucu
	Manometer
	Emniyet Ventili
	Çek Valf
	Basınç Sensörü
	Şamandıra
	Filtre
	Kondenstop
	Küresel Vana
	Basınç Regülatörü
	Hava Kurutucu Filtre
	İğneli Vana

AD-SOYAD	İmza	Tarih	
Haydar Şimşek		10.06.2022	Çizim
M.İsmail Demet		10.06.2022	Kontrol Eden
Muhammet Baki		10.06.2022	Onaylayan

Sayfa No: 1 / 1

P&I SEMBOL TABLOSU

Versiyon No:	000
Versiyon Tarihi:	10.06.2022
Doküman No:	DOC2402
Rev No:	000
Rev Tarihi:	10.06.2022



AD-SOYAD	İsme	Tarih	
Haydar Şimşek		10.06.2022	Çizen
M. Rıza Demek		10.06.2022	Kontrol eden
Mehmet Beki		10.06.2022	Onaylayan

Sayfa No:

P&I DIAGRAM

Versiyon No:	000
Versiyon Tarihi:	10.06.2022
Doküman No:	DOC.24.02
Rev No:	000
Rev Tarihi:	10.06.2022

CHAPTER 6. STEAM STERILIZER DEVICE ACCESSORIES

The CE marking of the sterilizer makes the manufacturer responsible for ensuring that the safety and function of the product meets the stringent requirements set out in the relevant EC directive. Accessories connected to the sterilizer mechanically, electrically or otherwise must be compatible. As a result, equipment that has been evaluated and approved by the manufacturer can be used with the sterilizer.



ACCESSORY	PRODUCT
Loading Trolley	Loading Trolley 670*700 mm
	Loading Trolley 350*700 mm
	Loading Trolley for the 2000 liter model
Loading Rack	Loading Rack 670*700 mm
	Loading Rack 350*700 mm
	Loading Rack for the 2000 liter model
Rack Element	Perforated Rack Component
STU Basket	Size (WxLxH): 600x300x300 mm
	Size (WxLxH): 600x300x200 mm (optional)
SPRI Basket (optional)	Size (WxLxH): 595x395x195 mm
	Size (WxLxH): 595x395x100 mm

CHAPTER 7. OUR CERTIFICATES

CERTIFICATE

kiwa

AT Sertifikası
Tam Kalite Güvence Sistemi
Tıbbi Cihaz Yönetmeliği 93/42/AT Ek-II Bölüm 3
 Sertifika Numarası: 1984-MDD-21-738

Aşağıda bahsi geçen kuruluşun tam kalite güvence sistemine ait incelenmesinin, tıbbi cihazlara dair 93/42/AT yönetmeliği Ek-II (Bölüm 4 muaf tutularak) gereksinimlerine göre yapıldığını beyan ederiz. Tam kalite güvence sisteminin yukarıda bahsi geçen yönetmeliğin ilgili koşullarına uygunluğunu tasdik ederiz.

Kuruluş:
ERYİĞİT ENDÜSTRİYEL MAKİNE VE TIBBİ CİHAZLAR İMALAT İTHALAT İHRACAT İNŞAAT TİCARET ANONİM ŞİRKETİ
 İvedik Organize Sanayi Bölgesi Öz Anadolu Sitesi 1453. Sok. No:3 06370 Ostim, Ankara, Türkiye

Ürünler: Buhar Sterilizatörü, Yıkama ve dezenfeksiyon cihazı, Oksijen Üretim ve Depolama Sistemi, Hidrojen Peroksit Gaz Plasma Sterilizatör

Ürünler, sertifikanın bir parçası olan ekte tanımlanmış olup, ek bir sayfadan oluşmaktadır. Sertifika son kullanma tarihine kadar geçerli olup periyodik gözetim denetimlerinin başan ile tamamlanmasına tabidir. Detaylar için lütfen Kiwa Belgelendirme Hizmetleri'ne başvurunuz.

Rapor No: M.2927.12
 Son Geçerlilik Tarihi: 27 Mayıs 2024

Muhtemem Gökhan Yücel
 Muhtemem Gökhan Yücel
 Onaylanmış Kuruluş Başkanı

12 Şubat 2021, İstanbul, Türkiye

Kiwa Belgelendirme Hizmetleri A.Ş.
 ITD8818 | Cui. No: 15 7900000 | Türk, İngilizce, Türkçe
 Tel: +90 216 880 25 75 | Faks: +90 216 880 25 74
 Web: www.kiwa.com.tr | e-posta: info@kiwa.com

MDD 93/42/EEC CERTIFICATE

TÜV AUSTRIA

CERTIFICATE

Certificate registration number: ZST5/SWZE/4670

The notified body TÜV AUSTRIA SERVICES GMBH (identification number 0408) certifies, that the manufacturer

ERYİĞİT Endüstriyel Mak. ve Tıbbi Cih. İml.İh.İhr.İnş. Tic.A.Ş.
 Öz Anadolu sanayi sit.1453 sk.no:3 Yenimahalle/Ankara/Turkey

operates a quality assurance system for design, manufacture, final inspection and testing according to Annex II of the Pressure Equipment Directive 2014/68/EU which is subject to surveillance by TÜV AUSTRIA SERVICES GmbH and is therefore authorized to apply the following conformity assessment procedures according Pressure Equipment Directive 2014/68/EU

Modules E, EI, D, D1, Hand H1

Scope: Steam Sterilizer V = 75 to 2000 L and PS up to 3 bar;
 Steam Generator V = 90 to 90 L and PS up to 3 bar

Based on our audit carried out on October 26, 2021 in accordance with Annex II of the Pressure Equipment Directive 2014/68/EU we certify compliance with the requirements.

Results of the audit are recorded in the audit report 21-S-1706-2021-PED-MODUL_H443 dated December 17, 2021.

Pressure equipment and assemblies within the scope of this certificate shall carry the marking as illustrated:

CE 0408

This certificate is valid from December 22, 2021 to December 21, 2024 provided that the terms and conditions of the agreement with the notified body are met.

Vienna, 22.12.2021

Di Martin Schwarz
 Di Martin Schwarz
 Notified Body 0408
 TÜV AUSTRIA SERVICES GMBH

TÜV AUSTRIA SERVICES GMBH
 Division: Austria
 E-mail: info@tuvaustria.com | www.tuvaustria.com
 Tel: +43 1 7113930-1 | Fax: +43 1 7113930-2000
 CE 0408

PED 2014/68/EU CERTIFICATE

BBS

SERTİFİKA

TS EN ISO 9001:2015 Kalite Yönetim Sistemi

Eryiğit

ERYİĞİT ENDÜSTRİYEL MAKİNA VE TIBBİ CİHAZLAR İMALAT İTHALAT İHRACAT İNŞAAT TİCARET A.Ş.
 İvedik Organize Sanayi Bölgesi Öz Anadolu Sitesi 1453. Sk. No: 3 Ostim – Yenimahalle / ANKARA

Yukarıda belirtilen kuruluş BBS Belgelendirme Eğitim ve Gözetim Hizmetleri A.Ş. prosedürlerine göre standart şartlarını karşıladığını kanıtlamıştır.

Kapsam
 Merkezi Sterilizasyon Ünitesi ve Buharlı Sterilizatörler, Buharlı Kombinasyon Formaldesit Sterilizatörleri, Etilen Oksit Gaz Sterilizatörleri, Hidrojen Peroksit Gaz Sterilizatörleri, Laboratuvar Tipi Dik Otoklav, Cerrahi Yıkama ve Dezenfeksiyon Cihazları, Ameliyath Tavan ve Traşyon Setleri, Ameliyath Tavan Lambaları, Jinekolojik ve Ürolojik Doğum ve Müayene Masaları, Hastane Sterilizasyon Paslanmaz Ekipmanları, KBB Kolütürleri, Oksijen Üretim ve Depolama Sistemleri, Su Arıtma Sistemleri ve Dizi Motorları, Nöro Anestezisi Modelleri AUS 32 Tasarımı, İmalat, Satış ve Servis, Yücel Digienda Kullanılan Tıbbi Tani Ürünleri, Laboratuvar Matreze, Kİ ve Cihazları, El, Yüzye, Alet ve Ortam Temizleyici Modelleri, Ortam Temizleme Sistemleri, Medikal Sarf Malzemeleri (Önlük-Hasta ve Doktor İçin, Bone, Sedyo Örtüsü), Laminasyonlu ve Laminasyonuz Tek Kullanımlık Kapıyönü Tulum, Steril ve Nonsteril Tek Kullanımlık Maske Geliştirilmes, Üretimi ve Satışı.

Sertifika No: 997-01
 İlk Belge Tarihi: 06.09.2018
 Belge Geçerlilik Tarihi: 05.09.2024

Ankara, 20.08.2021

Belgelendirme BBS A.Ş. teknik ve belgelendirme prosedürlerine uygun olarak gerçekleştirilmiştir ve düzenli gözlemlerle sürdürülmektedir.

IAF **TÜRKİYE**

Bu sertifikasyon programı detayları www.bbsaa.com.tr ve bbs.aarak.org.tr adreslerinden öğünebilirsiniz.
 Belge düzenleme hizmetleri için: www.bbsaa.com.tr | E-posta: info@bbsaa.com.tr
 BBS BELGELENDİRME EĞİTİM VE GÖZETİM HİZMETLERİ A.Ş.
 Cevizdere Mah. 1246 Sokak No: 4/2D P.K. 06520 ÇANKAYA / ANKARA
 www.bbsaa.com.tr

ISO 9001:2015 CERTIFICATE

BBS

SERTİFİKA

TS EN ISO 13485:2016 Tıbbi Cihazlar Kalite Yönetim Sistemi

Eryiğit

ERYİĞİT ENDÜSTRİYEL MAKİNA VE TIBBİ CİHAZLAR İMALAT İTHALAT İHRACAT İNŞAAT TİCARET A.Ş.
 İvedik Organize Sanayi Bölgesi Öz Anadolu Sitesi 1453. Sk. No: 3 Ostim – Yenimahalle / ANKARA

Yukarıda belirtilen kuruluş BBS Belgelendirme Eğitim ve Gözetim Hizmetleri A.Ş. prosedürlerine göre standart şartlarını karşıladığını kanıtlamıştır.

Kapsam
 Merkezi Sterilizasyon Ünitesi ve Buharlı Sterilizatörleri, Hidrojen Peroksit Gaz Plasma Sterilizatörleri, Laboratuvar Tipi Dik Otoklav, Cerrahi Yıkama ve Dezenfeksiyon Cihazları, Ameliyath Tavan Lambaları, Jinekolojik ve Ürolojik Doğum ve Müayene Masaları, Hastane Sterilizasyon Paslanmaz Ekipmanları, KBB Kolütürleri, Oksijen Üretim ve Depolama Sistemleri, Su Arıtma Sistemleri ve Dizi Motorları, Nöro Anestezisi Modelleri AUS 32 Tasarımı, İmalat, Satış ve Servis, Yücel Digienda Kullanılan Tıbbi Tani Ürünleri, Laboratuvar Matreze, Kİ ve Cihazları, El, Yüzye, Alet ve Ortam Temizleyici Modelleri, Ortam Temizleme Sistemleri, Medikal Sarf Malzemeleri (Önlük-Hasta ve Doktor İçin, Bone, Sedyo Örtüsü), Laminasyonlu ve Laminasyonuz Tek Kullanımlık Kapıyönü Tulum, Steril ve Nonsteril Tek Kullanımlık Maske Geliştirilmes, Üretimi ve Satışı.

Sertifika No: 997-03
 İlk Belge Tarihi: 28.01.2010
 Belge Geçerlilik Tarihi: 07.01.2025

Ankara, 18.01.2022

Belgelendirme BBS A.Ş. teknik ve belgelendirme prosedürlerine uygun olarak gerçekleştirilmiştir ve düzenli gözlemlerle sürdürülmektedir.

IAF **TÜRKİYE**

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 Cevizdere Mah. 1246 Sokak No: 4/2D P.K. 06520 ÇANKAYA / ANKARA
 www.bbsaa.com.tr

ISO 13485:2016 CERTIFICATE

BBS

SERTİFİKA

TS EN ISO 14001:2015 Çevre Yönetim Sistemi

Eryiğit

ERYİĞİT ENDÜSTRİYEL MAKİNA VE TIBBİ CİHAZLAR İMALAT İTHALAT İHRACAT İNŞAAT TİCARET A.Ş.
 İvedik Organize Sanayi Bölgesi Öz Anadolu Sitesi 1453. Sk. No: 3 Ostim – Yenimahalle / ANKARA

Yukarıda belirtilen kuruluş BBS Belgelendirme Eğitim ve Gözetim Hizmetleri A.Ş. prosedürlerine göre standart şartlarını karşıladığını kanıtlamıştır.

Kapsam
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Sertifika No: 997-02
 İlk Belge Tarihi: 06.09.2018
 Belge Geçerlilik Tarihi: 05.09.2024

Ankara, 20.08.2021

Belgelendirme BBS A.Ş. teknik ve belgelendirme prosedürlerine uygun olarak gerçekleştirilmiştir ve düzenli gözlemlerle sürdürülmektedir.

IAF **TÜRKİYE**

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 BBS BELGELENDİRME EĞİTİM VE GÖZETİM HİZMETLERİ A.Ş.
 Cevizdere Mah. 1246 Sokak No: 4/2D P.K. 06520 ÇANKAYA / ANKARA
 www.bbsaa.com.tr

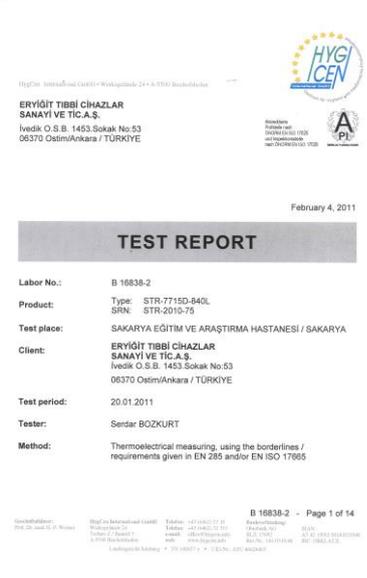
ISO 14001:2015 CERTIFICATE



EN 285 TYPE TEST CERTIFICATE



ACCREDITATION CERTIFICATE

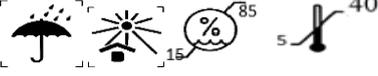


EN 285 VALIDATION TEST REPORT



Kiwa Belgelendirme Hizmetleri A.Ş.
İTOSB 9. Cd. No:15 Tepeören Tuzla – İstanbul / TÜRKİYE

 Eryigit Endüstriyel Makina ve Tıbbi Cihazlar İml. İth. İhr. İnş. Tic. A.Ş. 	Adres / Address	İvedik Organize Sanayi Bölgesi Öz Anadolu Sitesi 1453 Sok. No:3 Ostim, Yenimahalle, Ankara, Türkiye
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BUHARLI STERİLİZATÖR STEAM STERILIZER					
MODEL Model	ERS/STR/GOLDBERG	SN SERİ NO Serial No	20__/01-__		
HACMİ Volume	_ L	GÜCÜ Power	3x 220/380 V AC, E+Z, 50 Hz, _ A, _ kW		
Toplam Ağırlık Total Weight	_ kg				
	__/20__				
IP00 (IP Environment Code (Protection Against Entry of Water or Particles in Suspension))					
	SERİ NO Serial No	ÇALIŞMA BASINCI Working Pressure	ÇALIŞMA SICAKLIĞI Working Temp	TEST BASINCI Testing Pressure	VAKUM BASINCI Vacuum Pressure
HÜCRE Chamber	H/01-__	2,8 Bar	140 °C	5 Bar	70 mBar
JENERATÖR Generator	J/01-__	3 Bar	150 °C	7 Bar	-

 Kullanma Kitabını Okumadan Cihazı Çalıştırmayınız! Do not power on the device before you read the instructions 			
   3N ~	 EN 285 TİP TESTİ TYPE TEST	 Basınçlı Ekipman Direktifi Pressure Equipment Directive 2014/68 EU	 Medikal Cihaz Yönetmeliği Medical Device Directive 93/42 EEC
ISO 9001 & ISO 13485 & ISO 14001			
F.02.23-4/04.03.2024			

Warranty Certificate

WARRANTY CONDITIONS

1. The product is guaranteed against material, workmanship, and manufacturing defects from the invoiced delivery date for a period of (1-2) years as specified in the document (according to contract provisions).
2. Any intervention, maintenance, repair, part replacement, etc. carried out by individuals not officially authorized by ERYİĞİT END. MAK. VE TIBBİ CİH. İML. İTH. İHR. İNŞ. TİC. A.Ş. during the warranty period will void the warranty coverage.
3. Damages and malfunctions resulting from interventions conducted outside of authorized service are not covered by the warranty. Labor services performed during the warranty period are free of charge.
4. The repair period begins after the written notification is made to our authorized dealer or our company. The elapsed time will be added to the warranty period.
5. Damages and malfunctions occurring during loading, unloading, and transportation, as well as scratches and breakages to the external casing, plastic parts, and PLC screen during use, are not covered by the warranty.
6. Incidents such as fire, lightning strikes, voltage drop or excess, incorrect electrical installation, and usage at a voltage different from that stated on the product label are not covered by the warranty.
7. Repairs for issues outside the warranty scope will be performed at an additional cost. No claims for rights and compensation can be made in cases outside the warranty coverage.
8. Intervention for reported issues will occur within 48 hours, and the device will be restored to working order within 10 business days.
9. Our company's technical personnel will identify faults and requirements.
10. Matters related to on-site or authorized service resolution of faults are subject to the approval of the user and/or administration.
11. No labor charges will be requested for periodic maintenance as defined in the contracts.
12. In case of disputes with Authorized Service providers providing maintenance and repair services, consumers should notify ERYİĞİT END. MAK. VE TIBBİ CİH. İML. İTH. İHR. İNŞ. TİC. A.Ş. in writing, and the company will intervene.
13. Following the expiration of the device's warranty period, there is a Maintenance-Repair and Spare Parts Supply Guarantee for a period of 10 (ten) years for a fee.
14. Upon the consumer's request after the warranty period expires, Maintenance-Repair Contracts can be arranged periodically.
15. Our company is not responsible for possible risks arising from the non-use of original spare parts by administrations after the warranty period for our manufactured devices.
16. Matters not covered by the warranty are included in the "User Manual" provided with the device.
17. This warranty remains valid as long as the consumer and/or consumer institution fulfills their responsibilities to the customer in full.
18. The warranty certificate is issued in duplicate, and no alterations can be made to the documents or the serial number label on the device.
19. The material invoice must be kept during the warranty period. Materials for which invoices are not presented lose their warranty status.
20. The use of this Warranty Certificate is permitted by the Turkish Ministry of Industry and Trade, General Directorate of Consumer and Competition Protection, in accordance with Law No. 4077 and the regulation TRKGM-95/116-117 based on this law.

TYPE OF PRODUCT	: Steam Sterilizer
BRAND	: ERS/STR/GOLDBERG ®
MODEL	: ERS/STR/GOLDBERG
SERIAL NUMBER	:
DELIVERYLOCATION	:
SELLER	: ERYİĞİT END.MAK.VE TIBBİ CİH.İML.İTH.İHR.İNŞ.TİC.A.Ş.
ADDRESS	: İVEDİK OSB ÖZANADOLU SAN.SİT.1453.SOK.NO:3 OSTİM,YENİMAHALLE/ANKARA
TEL	: 0312 395 57 95
FAX	: 0312 395 57 96
Web	: www.eryigit.com.tr
E-mail	: servis@eryigit.com.tr / info@eryigit.com.tr
INVOICE DATE	:
INVOICE NO	:
DATE	:
STAMP/SIGNATURE	:

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technologies for life

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