



## **M 4 WATER STILL USER MANUAL**

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## PREFACE

Thank you and congratulations for purchasing our water still device. We deliver you the user manual along with the product to help you make better use of our product in a short time. Please read the information provided to you carefully before first use.

There may be differences between the product and the instructions for use, as changes can be made to the product time to time for development. However, we do our best to update the instructions for use by reviewing, adding and removing relevant information. In the event of any failure, please contact us via the following contact details:

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### **Manufacturer's Limited Liability**

Elektro-mag will only be responsible for the safety and operation of the product if:

- I. Elektro-mag products do not require assembly. Electrical connection must be carried out by authorized technicians.
- II. The place of electrical connection must be in compliance with the national electrical safety standard.
- III. All processes follow the instructions within the specified applications.

**Please read the following information carefully.**

## 1. DESCRIPTION AND FUNCTION OF THE DEVICE

Water Stills; are used to obtain distilled water in the research and quality control laboratories of the chemical, pharmaceutical, food, textile industry, medical laboratories, operating rooms of hospitals and clinics.

The distilled water produced does not contain metal ions, it is suitable for pharmacopoeia.

The boiler section is located at the top and has a lid. This section, where the resistance and water cutting automatic are located, can be easily cleaned by opening the lid and pouring salt spirit in case of calcification.

All sections in contact with water and water vapor are made of stainless steel. Silicone material is used in the pipes where with the possibility of calcification could built up due to poor main water quality.

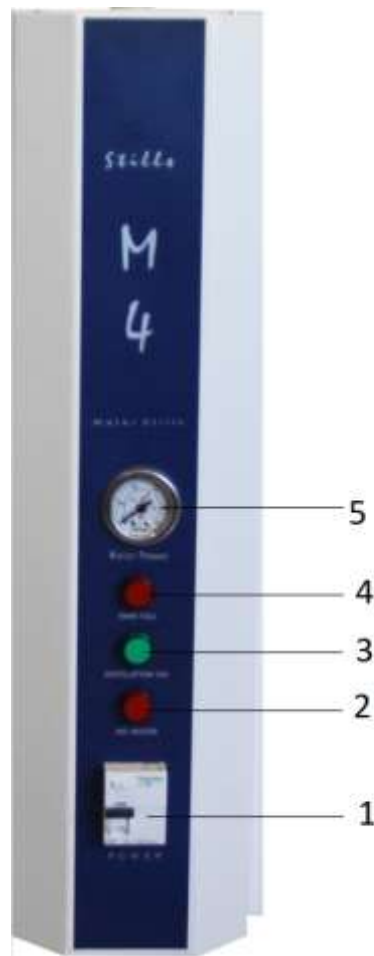
If the mains water inlet flow rate is not sufficient, the "no water" lamp on the front panel lights up and the device does not start.

When the water level in the boiler drops to a lower level than normal, the resistance is automatically deactivated.

The device is manufactured in such a way that it can be hung on the wall.



## FRONT PANEL



- 1) **Fuse:** It is used to energize the device. It provides protection by turning it off in case of electrical leakage.
- 2) **Signal Lamp (No water):** It is the lamp that indicates that the water input is insufficient.
- 3) **Signal Lamp (Distillation on):** It is the lamp that shows that the device produces distilled water and that there is no problem with the system.
- 4) **Signal Lamp (Tank full):** It is the lamp that indicates that the pure water tank is fully filled.
- 5) **Analog Manometer:** The mains water pressure is indicated, the ideal pressure is between 0.5-0.7 bar.

## BACK PANEL



- 1) **Cooling water outlet (Hot):** The connection end of the water output hose that provides condensation.
- 2) **Release all water:** It is the tap that allows the water remaining in the boiler of the device to be drained for cleaning purposes.
- 3) **Distilled water out:** It is the tap used to remove distilled water accumulated in the tank of the device.
- 4) **Top water in:** It is the inlet connection of the mains water required to obtain distilled water.

## 2. TECHNICAL PARAMETERS

### 2.1 Working Conditions

- a. Ambient Temperature: 10 °C - 40 °C
- b. Relative Humidity: %30 - %75
- c. Air Pressure: 700hPa - 1060hPa

### 2.2 Transport & Storage

- a. Transport: According to the purchase agreement.
- b. Storage: Stored in ventilated room without corring gas (10 °C - 40 °C RH ≤ %75).

It should be transported supported under the device with the appropriate carrying equipment for its weight.

The surface on which the device will be installed must be flat and solid.

The device is also designed to be used by hanging on the wall. In this case, it is important for security that the wall on which the device will be hung is solid and the installation of the hanging screws correctly.

### 2.3 Auxiliary Materials

Check the auxiliary materials supplied with the device:

- 3 meters long distilled water and cooling water connection hose
- 5 pcs hose clamp
- Silyphos lime and sediment filter
- 2 pcs hoses (for mains water and device connection)

### 2.4 Electrical Connection

The device should be connected to an alternating electric current only through a socket with a ground line, which is installed as required.

The voltage reported on the type plate of the device (on the back of the device) must be the same as the mains voltage at the place where it is installed.

The operating voltage of the device and the required fuse value are reported on the type plate of the device.

Pay special attention to:

- The plug of the device and the outlet to be connected are compatible with each other.
- Ensure that the earth line is properly laid.

If for any reason it is necessary to replace the power cord, this must be done by our authorized service provider.

### 2.5 Device Label

 ELEKTRO-MAG LABORATUVAR ALETLERİ SAN. VE TİC. A.Ş.  
İKİTELLİ ORG. SAN. BÖLG. DEMİRCİLER SİT. B/7 BLK NO:153  
BAŞAKŞEHİR, İSTANBUL, TÜRKİYE  
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Water Still  
Saf Su Cihazı

# M4

SN 22120922

09.12.2022









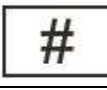







Capacity / Kapasite: 8 lt  
Weight / Ağırlık: 18 Kg.

190-240V~ 25A 3000W  
IP: 20  
2P+N 50-60Hz 



EE-84 Rev Tar/No: 08.03.2023/1

## 2.6 Meaning of Symbol

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	Registered trademark		Manufacturer
	Read the operating instructions		Protective Grounding
	Alternating current	<b>IP20</b>	Protection from water and dust: - Objects larger than 12.5 mm in diameter cannot come into contact with the device. - There is no water protection feature in the housing of the device.
	General warning		Dangerous voltage
	Country of manufacture		Model number
	Keep it dry		Do not throw it away. The medical device must be destroyed in accordance with the rules of destruction.
	Move in a steep position		Attention can be broken
	Grounded outlet warning		Read the manual
	CE		

## 3. DISINFECTION AND CLEANING

Disconnect the device from the electrical network.

### 3.1 Cleaning the Outer Body of the Device

If necessary:

- Clean only with soapy water or a cleaning agent that does not contain melting agents and does not require rubbing.
- Dry with a soft cloth.

### 3.2 Maintenance

Clean the boiler at least 1 time per month according to the ratio of minerals in the feed water.

For the cleaning process:



- Unplug the device from the outlet and turn off the supply water.
- Completely drain the water from the boiler by turning on the water discharge tap.
- Open the hinged top cover of the device.
- When the device is viewed from the top, open the lid of the boiler on the left, remove the rubber clamp from its slots on each of the 2 sides to open the lid.
- Add descaler into the 2 lt. boiler and add water to the upper level of the remaining resistance and leave for 30 minutes, during this time the lime accumulated on the heater and on the tank walls will be removed.
- At the end of cleaning, rinse the boiler and waterways with plenty of water. Leave the water discharge valve open during this process.
- Do not use the distilled water obtained in the first operation after cleaning and **CHECK** the conductivity value of the water to be used first.

#### 4. INSTRUCTIONS FOR USE

Your device is designed to be used on its feet. If you wish, you can fix the hanging nails on the wall and hang the device through the holes on the back face. (Install the device as close as possible to the place where the cooling water will be poured (sink, waste channel, tank, etc.)

You can either accumulate the cooling water outlet in the tank and reuse it for any other purpose, or connect it to the channel and let it drain. The cooling water outlet temperature will have a temperature of around 50°C.

First, connect the gray record hose coming out of the package to the cold water inlet of the device and compress it with your hand, connect the other end of the hose to the outlet port of the siliphose filter coming out of the package and connect it to the mains water with your hand. You do not need to use any hand tools for the installation of the record connection hose. It is recommended to install the siliphose filter on the wall in such a way that it can be seen, to check and drain the sediment that may form in it at periodic intervals. In order to drain the sediment formed in the siliphose filter, the filter transparent container is removed with a plastic key and then re-installed after cleaning. (It is ideal to use water purified from minerals in the device. For this reason, it is recommended that the water coming from the supply network is passed through the deionization device or filtered and used.)

Before operating your device, check that it is properly set up and connected.

- Securely plug the device into a groundline mains outlet.
- Operate the device from its fuse on the front panel. The mains water will first pass through the cooling system, and then after filling into the boiler, it will be drained from the level system. The ideal level of inlet water pressure is between 0.5-0.7 bar. In case the pressure in the mains water is insufficient, the NO WATER lamp on the device panel is lit and the user is warned and there is no water ingress to the device.
- When the boiler is full sometime after the mains water inlet, wait until the NO WATER lamp turns off. After the lamp is off, this time the DISTILLATION ON lamp

lights up and the production of distilled water begins, starting to warm up in the device. Distilled water is produced and stored in the internal tank of the device. When the produced distilled water tank is fully filled, the TANK FULL lamp lights up and the device automatically stops working and the mains water inlet connection is closed, in this case there will be no more hot water output from the device cooling water outlet. If the distilled water outlet valve at the tank outlet is opened and distilled water is taken, the device automatically starts to work again and produces as much distilled water as is missing and closes automatically again.

- If the device does not start, check that the mains inlet pressure may be insufficient.
- The ideal value of the inlet water pressure of the device during operation should be set between 0.5-0.7 bar.

## 5. WARNINGS



### **Attention!**

User manuals are made for many models.

When reading the user manual, we recommend that you read it by comparing the details of your device with the pictures.

Please read the user manual and all other documents supplied with the device carefully and act in accordance with the information provided.

Your new device is properly packed and protected to avoid damage when it is delivered to you.



### **Current Shock Hazard!**

All repairs that need to be made to the device must be done by our authorized workshop or by an authorized specialist.

When any repairs are required and you cannot eliminate the fault yourself in accordance with the information provided;

- Turn off the Fuse of the device.
- Disconnect the device from the electrical network.
- Call the authorized dealer or Elektro-mag technical service in your area. ☎

Make sure that the power supply line of the device is installed with cables that can meet the required power.

Do not pull the electrical plug of the device by holding it by the cable and the ports may separate.

If you will not use the device for a long time, close the valve of the mains water that feeds the device.

Ensure that the water supply pressure of the device is constant, pressure changes in the feed water will adversely affect the operation of the device.

Considering that the cooling water and the distilled water produced are hot, take the necessary precautions to avoid being affected (protective glasses, heat-resistant gloves, etc.).

## 6. FAULT AND SOLUTION

FAULT	CAUSE	SOLUTION
If the water level lamp is not lit (No Water)	Cold water inlet is closed or the fuse is closed	Open the insurance. Check the water inlet. If the fault occurs again, contact the Elektro-mag fault service.
	Energy is out	When the draft comes again, the device continues to work.
	Supply cable	The draft plug is not plugged into the outlet or is not well plugged in.
If the device does not produce distilled water	Inlet water pressure is insufficient	Set the inlet water pressure from the tap to 0.5-0.7 bar.
	Device off	Open the fuse of the device.
If the device leaks excessive steam	Distilled water outlet hose	Make sure that the hose does not break and that the hose end is not in the water in the distilled water collection container.
If the carries water through the level pipe	Cooling water discharge hose	Check that the hose is not broken or clogged.
	Feed water	Adjust the feed water inlet flow. (Between 0.5-0.7 bar)

## 7. AFTER SALES SERVICE



This product is manufactured in accordance with 2014/35/EU (Regulation on Electrical Equipment Designed for Specific Voltage Limits), 2006/42/EC (Machinery Safety Directive) and 2014/30/EU (Electromagnetic Compatibility Directive).

### Dear Elektro-Mag Customer;

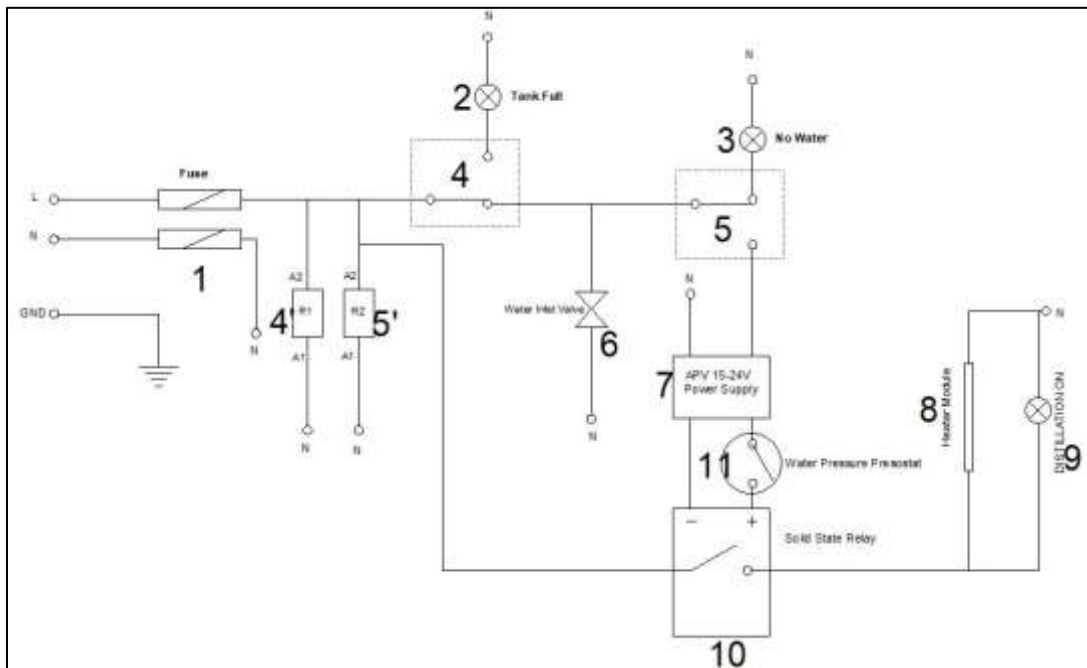
We kindly ask you to follow the recommendations below.

- Use your device according to the user guide.
- When you need service, please contact your nearest Elektro-mag Authorized Service.
- Please do not forget to request a "Service Receipt" from the service technician when you are finished. The service voucher you receive will benefit you in case of any problems that may occur on your device in the future.
- The service life of our device is 10 years.
- Our devices are under our 1 year free and 5 years paid parts supply warranty.

## 8. TECHNICAL SPECIFICATIONS

<b>MODEL</b>	<b>M 4</b>
Distillation water capacity	4 liters/hour
Cooling water consumption	40 liters/hour
Cooling water outlet temperature	50 °C
Internal tank capacity	8 lt
Heater type	Stainless steel tube resistance
Safety measure	Water level control, magnetic switch
Casing material	Stainless steel finished in stoved enamel paint
Interior material	Stainless steel
Internal Tank Capacity	8 lt
Connection materials	PVC and silicone hose
Fuse (automatic)	25 Amps.
Power supply	190-220V / 50-60 Hz.
Power rating	3000W
Overall dimensions (w x h x d ) (cm.)	62 x 60 x 35
Net weight (kg.)	18 kg.

## ELECTRICAL CIRCUIT DIAGRAM



### CIRCUIT ELEMENTS

1. Protection Fuse
2. Tank full lamp
3. No water warning lamp
4. Level control relay (distilled water tank)
5. Level control relay (boiler)
6. Water inlet valve
7. Power Supply
8. Heater
9. Distillation On lamp
10. Solid State Relay
11. Inlet water pressure conditioner

## OUR PRODUCTS

PHOTOTHERAPY EQUIPMENT  
ELECTROSURGICAL UNIT  
HOT AIR STERILIZER  
INFANT RADIANT WARMER  
NEGATOSCOPE (X-RAY FILM VIEWER)  
BABY COT  
HAEMATOCRIT CENTRIFUGE  
COOLED INCUBATOR  
LABORATORY OVEN  
MAGNETIC STIRRER  
HEATING MANTLE  
MUFFLE FURNICE  
LAMINAR FLOW  
VORTEX MIXER  
WATER STILL  
WATER BATH  
STEAM BATH  
CENTRIFUGE  
FUME HOOD  
INCUBATOR  
SAND BATH  
HOTPLATE  
STEAM STERILIZER (AUTOCLAVE)  
INDUSTRIAL OVEN

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