

## INSTRUCTIONS FOR USE OF EOD MINI EORG GENERATOR

### Overview

Congratulations on acquiring your new EORG (Electronic Oxygen Radical Generator).

The user manual is part of your purchase and is only applicable to EOD MINI device. Within this document are important instructions for safety, use of equipment and end of life disposal. Before using the product for the first time, please fully and carefully read this user manual. Use of the product in ways other than stipulated here may void your warranty. Store this document in a safe place, should you need to refer to it later.

### Appropriate use

This device is intended for water enrichment with Reactive Oxygen Species (ROS). The device must not be used with any liquids other than water, more so water without any additives. Trace amounts of gaseous Oxygen radicals may be released into the area when the machine is in operation. While these are not harmful, it is recommended for the machine to be used in a well-ventilated area. EOD Europe accepts no liability of any damage to materials or persons due to improper use of the equipment.

Continuous product development and improvement is at the heart of EOD Europe's ethos and it is important you ensure the user manual revision is relevant to the device you are using.

### Contents of your order:

- 1-off EOD MINI EORG Generator complete with a power cord
- 1-off Power supply
- 1-off in-line dip switch
- 1-off user manual (this document)

### Technical information:

Power Supply p/n	VY-12001500
Rated Voltage (input)	100-240 VAC 50/60 Hz
Rated Current (input)	1.5A
Rated Voltage (output)	12VDC
Rated Current (output)	1.5 A
Safety Protection	<input type="checkbox"/> class II
Dimensions	66mm (W) x 60mm (D) x 45mm (H)
Weight	90g
Power cord length	1300mm

	CE Marking confirms EOD Europe's compliance to EU regulations and law
	Class 2 Double insulated. Class II Can be used without earth
	Recyclable materials: All cardboard apart from corrugated board.

EOD Europe reserves all rights to technical modifications, improvements, and document revisions.

## Safety instructions

### Related to warnings

The following warnings are used in this manual as required:

- ☒ DANGER! High risk: ignoring can lead to the danger of an accident. Failure to comply may lead to injury or loss of life.
- ☒ WARNING! Average risk: ignoring a warning can result in injuries or serious material damage. / Failure to heed the warning could result in injury or serious damage to property

### General safety instructions

While the operation of the machine does not require a competent person, the device is not to be used by children/vulnerable people without supervision.

☒ WARNING! Any alterations or tampering to the device is not permitted. All service and refurbishing procedures are to be carried out only by qualified technicians or approved service centers. For all technical support issues, contact the manufacturer or the place of purchase.

☒ DANGER to the children! Packaging material can potentially become a choke hazard, if misused. Plastic bags can cause asphyxiation.

☒ DANGER to domestic animals:

- Electrical equipment may pose a risk to domestic and commercial animals. In addition, animals may damage the device. Care must be taken to keep the device and associated cabling away from animals.

☒ DANGER of electrocution:

- The current transformer or switch must not come into contact with water or other liquids.
- Do not use the device if there is visible damage to the device, current transformer, or associated switch and cabling.
- You must not replace the power cord on this device. In case of cord damage, the device must be reported faulty and returned to the manufacturer for repairs.
- Only use a socket outlet with an appropriate supply voltage as identified on the device.
- Take care to protect cabling against mechanical damage, heat and corrosive materials
- When removing the current transformer from the power supply, never pull the cable, but the transformer.
- When an extension cord is used, it must comply with the relevant safety requirements and regulations.
- Remove the current transformer from the power supply:
  - in case of a disturbance,
  - when the device is not in use
  - before cleaning or servicing
  - During electrical storms

☒ DANGER of explosion

- Due to the nature of the device, the process generates gaseous components into the container, which may lead to a pressure build up.
- Only use the EORG device in well ventilated areas and never expose the process to a source of ignition.

☒ WARNING! Natural rubber components may decompose or dry after prolonged exposure to ozone water. Some easily oxidized metals and metal alloys can oxidize in long term use. Examples are copper, brass and zinc plating.

☒ DANGER of infection

- The EOD MINI device has been designed to be used in clear water. Cloudy water indicates a high level of contamination. While the EOD MINI EORG generator is a very effective water purification system, it alone may not be enough to guarantee safe drinking water, depending on the contaminants/contamination levels of the water treated.
- The potential for infection is ambiguous and use of a EORG generator system does not guarantee absence of contagious diseases.
- Never attempt to use the device on sea water or anything other than water.

☒ DANGER of water quality standards and recommendations for drinking water:

- Please note that when using non-resident safe water as domestic water, different chemical quality standards and recommendations have been set for domestic water, which may not be exceeded when water is used for household use.

☒ DANGER of carcinogenic compounds:

- After enriching the water supply with EORG it should be tested to ensure levels of Bromide and Bromate remain within the tolerances set by the local regulation and safety guidelines. Bromate is suspected to be carcinogenic and is formed if bromide-containing water is exposed to aqueous Ozone.

### **Emergency and first aid instructions**

If strongly ROS enriched water gets into direct contact with eye(s), rinse the eye(s) with clean water (Not water activated by ROS generator).

Prolonged inhalation of ozone evaporating from water can lead to slight irritation of the airways. If symptoms occur, remove the person from exposure to fresh air. If symptoms persist, seek medical attention.

## Use

### Applications

The EOD MINI EORG Generator is designed to enrich water to be both an effective cleaning agent and disinfectant while remaining safe to drink.

### Introduction

- Remove all packaging materials from the device.
- Carefully inspect the unit for signs of mechanical damage
- Fully unwind the power lead (ensure the switch is in the OFF-position) and connect securely into a suitably rated domestic power supply.
- Make sure the dip switch is in OFF-position.

### Before first use, clean the protective coating from the EOD MINI EORG generator

- Fill a container large enough for the EOD MINI Device to be fully submerged in with clear tap water.
- Fully Immerse the EOD MINI unit in the water.
- NEVER introduce the switch or the current transformer to water, this will cause your device to go faulty and will be considered misuse of the equipment and not covered by the warranty.
- Ensure the wall socket is switched on (where applicable) and switch on the EOD MINI device using the dip switch provided.
- Let the device run for ten (10) minutes for all the protective oil from the electrodes to be dissolved
- Turn off the EOD MINI device, give it a swirl in the container and then remove it from the water.
- Dispose of the water treated after the first run with the machine. Residual oil might be present in the water.
- After this, your EOD MINI unit will be ready for use.

### Enriching of water (container volume of one liter is assumed and times very depending on the size of the container used)

- Follow the steps above
- If you make a cleanser or disinfectant, let the EOD MINI unit run for 5 minutes.
- If you disinfect drinking water, let the EOD MINI unit run for 1 minutes and wait 5 minutes before use.
- Turn off the device by turning the dip switch into OFF-position.
- Remove the current transformer from the wall socket and remove EOD MINI from the water. Place EOD MINI onto a dry towel or similar, to dry off.
- If the water is prepared for it to be used as decontaminant or disinfectant, use the water as soon as possible (allowing all the microbubbles, or milkiness, to dissolve into the water after the device is switched off), but within at least 20 minutes after preparation.
- A simple way to determine if the treated water is still active is to smell if any odor of ozone (think of the smell after a lightning strike or the smell near a large copying machine) can be detected. While the machine produces a range of different oxygen radicals into the water, Ozone is the one easiest to detect. Ozone will start to decay back into Oxygen immediately after the device is turned off. In 20°C degree water, the half-life of ozone is 20 minutes.

- If the water is being treated for it to be used as drinking water, wait until the ozone has completely disappeared from the water. This takes anywhere from five minutes to one hour depending on water temperature, iron content and other factors. Water can be consumed as soon as the smell of Ozone cannot be detected any more.

### Comments

- The EOD MINI EORG Generator works best in cold or cool water (less than 20°C).
- The EOD MINI forms ROS and aqueous ozone. Generator does not work in water with very low electrical conductivity. Therefore, the device should not be used with e.g. ion exchanged battery water or water purified by reverse osmosis.
- With the EOD MINI it is not possible to “over enrich” the water, but it is possible that the enriching does not reach the desired level for the intended purpose. If this happens, repeat the treatment of water with the EOD MINI Generator.
- Correct operation of the device can be visibly observed as soon as the device is switched on whilst submerged in clear water. Stream(s) of micro bubbles with a milky appearance will start to rise from the electrolysis plates.
- The water is quickly filled with micro bubbles, becoming milky in appearance. When the device is turned off, the micro bubbles immediately begin to dissolve into the water. The water is ready for disinfection once most of the micro bubbles have dissolved (i.e. the water resumes a clear appearance)

### Examples and notes

- For the preparation of sufficiently concentrated disinfectant in a water volume of five (5) liters (at 20°C room temperature), let the device run un-interrupted for twenty (20) minutes. In a water volume of ten (10) liters, the corresponding operation time required is forty (40) minutes.
- Continuous use of the EOD MINI ROS generator for longer than one hour (60 minutes) is not recommended. In between uses, allow the EOD MINI ROS generator as well as the current transformer time to cool down, should they have become warm during the process.

**NOTE: In Highly conductive waters (high TDS value) the device might become noticeably warm**

**NOTE: In waters with low electrical conductivity (low TDS value) the reaction might not start. By adding a trace amount of mineral water into the mix, the reaction should start.**

**NOTE: Never add any chemicals or other additives (apart from mineral water) into the water being treated. This may result into unpredicted chemical compounds becoming airborne and EOD Europe accepts no liability of any harm to materials or persons due to this.**

### Storage of the device

When not in use, the device must be kept in a clean, dry, area or container. The apparatus must not be exposed to temperatures outside + 60 °C and -20 °C. Allow the device to entirely dry out before stowing it away.

### Maintenance of electrodes

Water typically contains a variety of minerals such as calcium carbonate. These minerals accumulate slowly onto the surfaces of the electrodes. Accumulation of the calcium may thereby slow down the electrolysis process. When the micro bubble formation appears weak, clean the electrodes as identified below

1. Make a mixture of untreated tap water and 10% white vinegar with one to five ratio, or alternatively ten parts water and one part of citric acid.
2. Immerse the EOD MINI Generator fully into this mixture for 1 hours (60 minutes). It is recommended to have the device fully disconnected from the electrical supply as running the device in the mixture is strictly prohibited.
3. Rinse the device thoroughly with tap water and resume normal operation. After the de-calcifying procedure, normal micro bubble formation should resume. If it does not, the device might be in need or refurbishment or has become faulty. In either case, contact the manufacturer or the place of purchase for technical support.

### **Life of the device**

The service life of the EOD MINI ROS Generator is approximately 2,000 hours of operation, which is approximately 24,000 five-minute cycles.

### **Disposal of parts**

subject to European Directive 2012/19/EU. A deleted waste container is a symbol used in all EU countries, which means that the product in question does not belong to the household waste category but must be disposed of separately. The instructions apply both to the product itself and to accessories bearing the same symbol. Products thus marked must not be placed in household waste but must be taken to the electronic and electronic waste collection point.



## **Warranty**

### **Warranty information**

This device has a warranty of 12 months from the date of purchase. In the event of defects in the equipment, the buyer's legal rights are valid. The following guarantee conditions do not limit these legal rights.

### **Warranty conditions**

The warranty starts on the date of purchase. If there is a material or manufacturing defect in the product within one month of the date of purchase, replacement unit or repair of the unit will be carried out at no extra cost.

### **Warranty period and legal notifications of deficiencies**

The warranty period cannot be extended. Any defects existing at the time of purchase must be reported immediately to the manufacturer or the sales agent. After the expiry of the warranty period, repairs and refurbishments are subject to a fee.

### **Coverage of the guarantee**

The device has been carefully manufactured according to strict quality instructions and has been inspected before its delivery. The manufacturer's warranty covers material and manufacturing defects. The warranty does not apply to the product components which are exposed to normal wear and are thus considered to be consumable parts. The warranty is invalidated if the product is damaged, used or maintained inappropriately. The proper use of the product requires all the instructions contained in the instructions to be followed. Use for purposes not complying with the instructions and not complying with warnings strictly prohibited. Incorrect or inappropriate use, use of force, repairs made by non-authorized maintenance services or other tampering with the device invalidates the warranty.

Repair or replacement of the product does not re-validate the original warranty period.

**This warranty does not apply to the normal wear of the electrodes and the wear components that are subject to normal wear and no damage to broken parts, e.g. the dip switch.**

### **Guarantee for case handling**

- Follow the following instructions to ensure that your case is handled quickly:
- Read the documentation that comes with the product carefully before the product is taken into service. In case of problems that are not resolved by following instructions, please contact us via email to our customer service [eod@charlot.ee](mailto:eod@charlot.ee).
- Return of a product considered defective is free of charge to the sales agent you purchased the device from. Include a written explanation of the defect complete with the time and date when the defect occurred.

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