

Ozonizer S 500 S 1000



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Introduction

Thank you for buying this quality product from Sander. We are confident that you will be satisfied with this device. You will benefit in every respect from our many years of experience in the manufacture of aquaria technology.

Please familiarize yourself with the product before using it for the first time. To do so, carefully read through the instruction manual and safety information. Unpack the ozonizer and check it for shipping damage. Operate the device only as described below for the specified applications. Keep this instruction manual in a safe place for future reference. If you give, sell, or lend this device to a third party, please do not forget to include this instruction manual when you do so.

Proper use in an aquaria

The Ozonizer S 500 / S 1000 is an ozone generating device which has an ozone performance of 500 / 1000 milligrams per hour (measuring in dry air). Under ambient air conditions (approx. 40 - 80 % air humidity), the ozone output decreases by approximately 50 %.

The ozonizer generates ozone from the air and has been specially developed for aquaria. It is important that the ozone is injected into the water at a sufficient depth (approx. 20cm, 0.7 ft.). We recommend the use of a protein skimmer in marine and freshwater applications.

Other applications of, or modifications to, the ozonizer constitute misuse and entail a risk of personal injury and/or damage to the device. The manufacturer shall assume no liability for injury/damage caused by misuse of the device. The device is not intended for commercial use.

Erwin Sander Elektroapparatebau GmbH shall not be held liable for any damages that occur as a result of any unauthorized modifications, re-engineering or amendments made to the ozonizer or its improper use.

Categorization of Safety Information



IMPORTANT INFORMATION



ATTENTION, DANGER THROUGH ELECTRICAL ENERGY



ATTENTION, DANGER

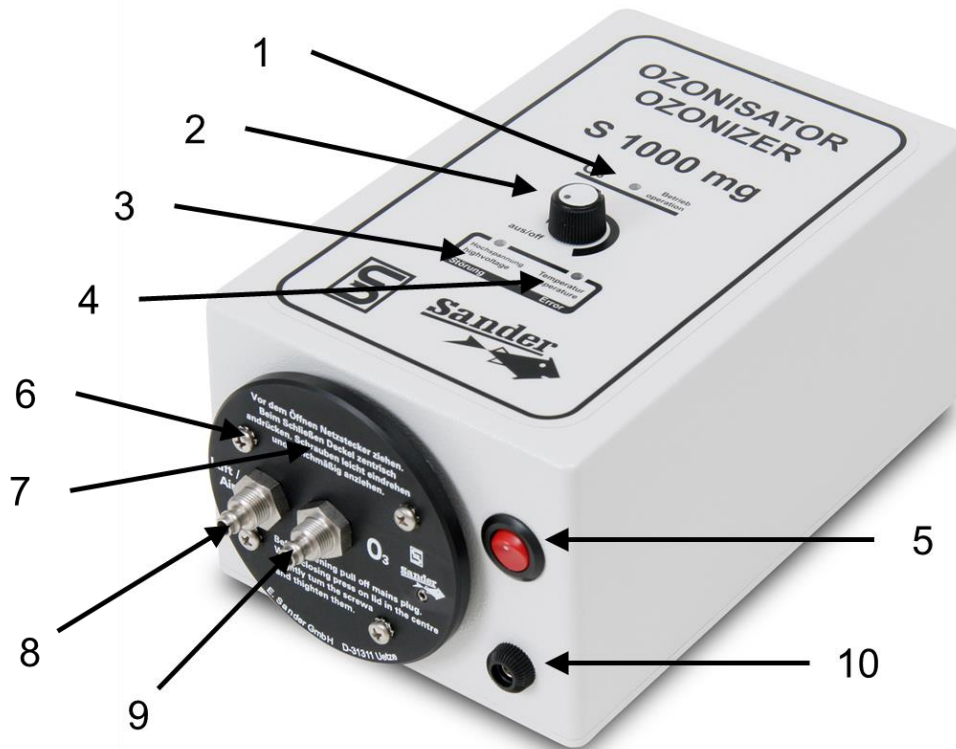


ATTENTION, DANGER THROUGH POISONOUS MATERIAL



ATTENTION, HOT SURFACES

Unit description



- 1 LED ozone production
- 2 Potentiometer
- 3 LED failure high voltage
- 4 LED failure temperature
- 5 On/off switch (only model S 1000)
- 6 Four screws
- 7 Connection plate ozone element
- 8 Air connector (suitable for 6/8 mm tube)
- 9 Ozone connector (suitable for 6/8 mm tube)
- 10 12 V socket

Technical Information

Model	S500	S1000
Ozone output (mg/h)	500	1000
Power supply	100-240 VAC 56/60 Hz	
Operating voltage	12 VDC	
Power consumption (A)	0.85	1.6

Scope of Supply

As soon as you have removed the device from its packaging, please check to ensure that all the necessary parts have been delivered and that they are in perfect conditions.

1 x ozonizer S 500 or S 1000 unit, 1 x power supply unit and an ozone information booklet.

Safety information



Danger

The Ozonizer unit is used at the owner's risk.



Danger

The ozonizer must not be allowed to fall into water or otherwise come into contact with water. Do not use the ozonizer in a flammable or explosive atmosphere.



The surfaces of the connection plate of the ozone element (7) can be hot. Allow the device to cool down before cleaning it.



Airborne ozone can be harmful to health if it enters the respiratory system. The Owner should therefore take care that only the needed amount of ozone is produced. The permissible TLV (threshold limit value) for ozone is 0.1 ppm (200 µg/m³). Ozone can already be sensed in 1/5 to 1/10 (0.02 ppm) of that amount. In the USA, an IDLH (Immediately Dangerous to Life and Health) value of 5ppm (10mg ozone/m³) additionally applies [NIOSH, 1994].

If excess ozone is produced (ozone odor), the off-air discharged from the skimmer should be released into the atmosphere or passed through a residual ozone destructor.



Danger

Ensure that enough air passes through the ozone element (min. 50 L/h). If this minimum value is undershot, the ozonizer is at risk of overheating.



Danger

Children from the age of 8 years as well as disabled or handicapped persons or persons with no or small technical experience may use the ozonizer when under surveillance or after having received a thorough tuition about the use and safety measures.

Children may not play with the ozonizer. Children may do the cleaning and servicing of the unit only under surveillance.



Danger

Do not dismantle the unit under any circumstances. Improper repairs can seriously endanger the user. If repairs are necessary, please contact a specialist dealer or the manufacturer directly.



Danger

Do not operate the ozonizer if it is damaged. Damaged ozonizers can seriously endanger the user.



Danger

The ozone generator must be operated only with the power supply unit that was delivered with the ozone generator.

Warranty and limitations of liability

i All ozonizer units that we manufacture are covered by a 24-month guarantee. Within the guarantee, any component(s) that fail(s) because of material defects or manufacturing faults can be replaced free of charge.

i **Please note: the following are not covered by warranty:**

- Any damage resulting from improper handling (differing to the description in these instructions).
- Any damage resulting from unauthorized repair, disassembly, improper cleaning or opening the device.
- Damage caused by improper transportation, dropping, exposure to shocks after the purchase i.e. delivery date.

i The guarantee and liability of Erwin Sander Elektroapparatebau GmbH company covers only the delivered ozonizer S 500 / S 1000 unit.

Installing and connecting the Ozonizer

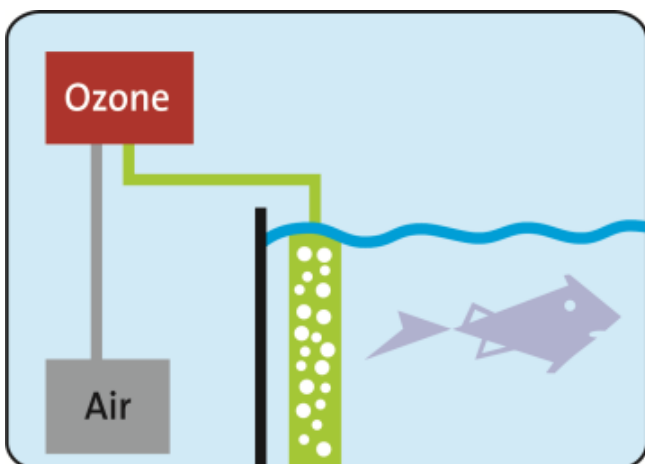
Installation example A: wall mounting

On the rear of the ozonizer is a suspension clip for mounting the ozonizer on a wall. If possible, the device should be installed at a level higher than the surface of the water of the aquarium (e.g. to prevent water from flowing back into the device in the event of a power failure).

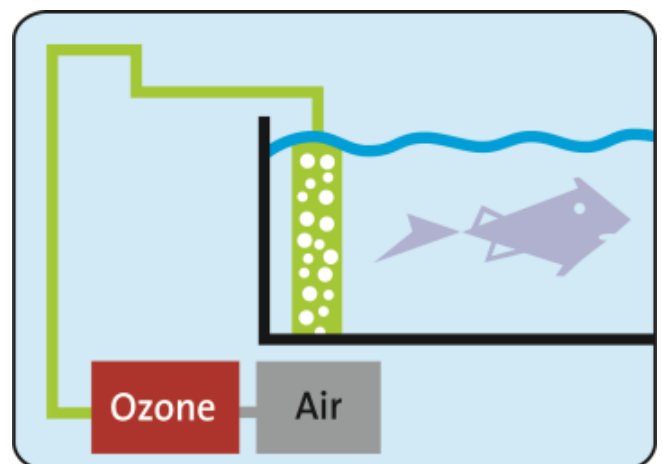
Installation example B: cabinet installation

The ozonizer can also be installed in the cabinet under the aquarium (ensure adequate ventilation). In this case, however, a tube that extends at least 20cm (0.7ft) above the surface of the water should be fitted to prevent water from flowing back into the ozonizer.

Example A



Example B



Connecting the ozonizer with protein skimmer / ozone reactor operated with air stones

The ozonizer has two tube connections. The first (8) is connected to an air tube leading to an air pump. The second (9) on the connection plate for the ozone element is connected to the air stones via the protein skimmer.

If ozone production is deactivated while the ozonizer is still connected to the skimmer, the air supply must remain switched on. This stops water from entering the ozone generator.

Alternative: connecting the ozonizer with protein skimmer with an injector

Connect the injector to the ozone connector (9). Air is automatically sucked through the device. The air connection (8) remains free.

Start-up procedure

Place the ozonizer and power supply unit on a dry surface. Plug the 12V connector into the socket (10) on the ozonizer. The ozonizer is equipped with a controller (potentiometer) (2), which allows continuously variable adjustment of the ozone output. Plug the power supply unit into a wall socket. Guidance values are for 100-litres marine aquarium approx. 10 milligrams of ozone per hour, and approx. 5 milligrams of ozone per hour for 100-litres freshwater aquarium.

The LED (1) lights up when the ozonizer is in operation, though not when the output is zero. Above zero, the LED (1) lights up and gets brighter as the output increases. At 100% output, the LED is permanently lit up.

To determine the ozone requirements, we recommend measuring the redox potential with a Sander redox measuring and regulating device, which switches the ozonizer on and off automatically depending on the set target value. For this purpose, the ozonizer should be set to full output.

When the device is newly installed, we recommend gradually increasing the output over a period of roughly 14 days. This allows the living organisms in the water to slowly adjust to the improved water quality.

Cleaning and maintenance

To ensure that the ozonizer functions properly at all times, the ozone element must be cleaned regularly. The ozone element has therefore been designed to be easily opened and cleaned. If the device is in permanent use, we recommend checking the ozone element every three to six weeks for dirt and, if necessary, cleaning it.

Cleaning procedure

- Before cleaning the ozonizer, set the ozone output to “off” by turning the potentiometer (2), and allow the device to run in this state for a few minutes. This ensures that any residual ozone is discharged from the ozone element.
- Switch the ozonizer off.
- Allow the ozone element (7) to cool down.
- Unplug the power supply unit.
- Remove the power plug (10) from the ozonizer.
- Remove the tubes from the tube connections.
- Unscrew the locking screws (6) of the ozone element (7) using a standard Phillips screwdriver.
- Remove the ozone element (7) from the base.
- Clean the ceramic using a cloth and warm water (and standard cream cleanser, if necessary); when doing so, also remove any dirt from the connection nipples.
- Allow the device to dry thoroughly.

Re-assembling the device and switching it back on

- Place the connection plate back in position (7), making sure that the sealing ring is firmly seated in the groove.
- Reinsert the screws (6) partway and then tighten evenly.
- Reattach the tubes to the tube connections.
- Plug the 12V connector back into the power connection (10).
- Plug the wall power supply unit back into the socket.
- Use the potentiometer (2) to set the desired ozone output.

Failure

Failure high voltage (3)

The ozone output can be reduced or interrupted through the ingress of water or dirt particles. Such impairments can be rectified by cleaning the device (see “Cleaning procedure”).

If such impairments cannot be rectified by cleaning the device, please contact your specialist dealer or send the device directly to the manufacturer.

Failure temperature (4)

One cause of overheating can be insufficient ventilation (e.g. inside a closed cabinet). The ozonizer will stop automatically. It will start up again automatically after cooling down.

Disposal




The packaging is made from eco-friendly materials that you can dispose of at your local recycling centre.



Possibilities for disposing the used product can be asked about at your municipal administration. In interest of general environmental protection, do not dispose of the device in domestic garbage, but provide for an appropriate way of disposal. You can be informed about garbage collecting places and opening hours at your public administration.

EC Declaration of conformity

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EC-Declaration of Conformity following Low voltage directive 2014/35/EU		
The manufacturer: Erwin Sander Elektroapparatebau GmbH Am Osterberg 22 DE 31311 Uetze-Eltze		
hereby declares, that the product described below has been constructed and built in accordance with the relevant fundamental security and health requirements of the EU-Directive. If the unit should be modified without our knowledge and consent, this statement loses its validity.		
Title of the unit Unit-type Corresponding EC-directive:	S 500 / S 1000 Ozone Generator Low voltage directive 2014/35/EU E.C.-directive electromagnetic compatibility (2014/30/EU) RoHS- directive (2011/65/EU)	
Used harmonised standards: see page 2		
Name and address of the person authorized to issue the technical documentation: Thomas Stolze Erwin Sander Elektroapparatebau GmbH Am Osterberg 22 DE 31311 Uetze-Eltze		
 Place, date	 signature management	
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Following standards have been applied:		
EN 60335-1:2012/A11 EN 60335-2-55/A1:2008 DIN EN 55016-2-3:2014 DIN EN 61000-4-3:2011-04	Household and similar electrical appliances - Safety Part 1: General requirements (Amendment) Household and similar electrical appliances – Safety Part 2-55: Particular requirements for electrical appliances for use with aquariums and garden ponds. Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-3: Methods of measurement of disturbances and immunity - Radiated disturbance measurements German version EN 55016-2-3:2010 Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test. German version EN 61000-4-3:2006 + A1:2008	
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