

Ozonizer P 2000



Introduction

Congratulations! With your Sander Ozonizer P 2000 Unit you will be satisfied, because you can now benefit from many years of technical aquarium experience that the Sander Company has in producing guaranteed quality devices for successful fish-tank engineering.

Before using the device, please make sure you have read the general safety instructions. Please read the instructions for use attentively and keep the instructions nearby in case you have any questions. Should the Quality Device be given to a third, be sure to give on also the instructions for use with the item. Please use the device only in the described manner for the specified ranges.

Appropriate use in an aquarium or fish-pool

The Ozonizer P 2000 is an Ozone generating device which has an Ozone performance of 2000 milligrams per hour (measuring by dry air). While used in damp surrounding air (40 - 80 % air moisture), the ozone performance may be diminished by 50 %.

The Ozonizer device produces Ozone out of air and was developed especially for aquarium and fish-pool needs. The Ozone electrode is deposited under water, at least in 20 cm depth or deeper. We recommend the use of our Sander Maxi-Skim in Seawater, or as an equivalent in Sweetwater, our Product Fresh-Skim. The device was synchronized specifically for use with the mentioned products and may only be operated as represented in the following instructions according to the corresponding combination.

Please notice that other uses or modifications of the device are regarded as not appropriate and can involve the danger of injury and/or harm of the device. For any damage resulting from adverse device use, the manufacturer has no liability. This quality device is not determined for industrial usage.

Unit description



- 1 Display
- 2 Control buttons
- 3 Four INBUS screws
- 4 Air connector
- 5 Ozone element
- 6 Ozone connector
- 7 Electrical socket on backside (see page 5)
- 8 Mini-DIN-Socket with 4-poles on backside (see page 5)

Technical Information

Ozone performance:	2000 mg/h
Power supply:	100 to 240 VAC 50/60 Hz
Running power:	24 VDC
Current consumption:	2,5 A

Contents of delivery

Before starting the unit, check whether the following delivery contents are complete and undamaged:

1 x Ozonizer P 2000 Unit, 1 x Power supply cable, 1 x Adapter and an Instruction booklet.



Information about possible dangers:

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

Ozone which is released and breathed in, can be hazardous to your health. The Owner should therefore take care that only the needed amount of Ozone is produced. The actual allowed amount of Ozone at working places (MAC) is a maximum of 0.1 ppm (Pieces per million/ 200 microgram). Ozone can already be detected in 1/5 to 1/10 (0.02 ppm) of that amount. Should a surplus of Ozone be evident (Smell of Ozone), the Skimmers air valve must be placed outside or lead into an Ozon-deminisher Unit.

The Ozonizer must have sufficient fresh air to supply the device (at least 50 l/h)

The device is not a toy. Children should not have access to the Ozonizer unit.

Please do not dismantle the unit under any circumstances. By inappropriate repairs, considerable dangers can result for the owner. If needed, contact the manufacturer or an authorized technician for repairs.

Should the Ozonizer be damaged in any which way, please do not operate it without having it checked. Damaged devices may be an unnecessary and considerable danger to the owner.

Warranty and liability information

All of the Ozonizer units we produce have a 24-month guarantee. Within the guarantee, all parts effected by material defects or improper assembly will be replaced with no further cost.

Please note: the following are not covered by warranty:

Any damage done to the unit by misuse (differing from the Ozonizer using guide instructions) or failure following the instructions supplied.

Any damage done to the unit by unauthorized repair, disassembly, improper cleaning or opening the device.

Any damage done to the unit by an accident, improper transportation, dropping or hitting the device after the date it was bought.

The guarantee and liability of Erwin Sander Elektroapparatebau GmbH Company covers only the delivered Ozonizer P 2000 unit.



Hinweis

Setting up and attaching the Ozonizer

A. Proposing the vertical wall set-up

On the backside of the Ozonizer there are two shallow holes for hanging the device on a vertical wall. The holes can be used to attach the Ozonizer to screws held in a wall. The Ozonizer should be set up above the water level of the Aquarium, so that water can not flow back into the device in case of a power supply fall out.

B. Proposing the technical closet set-up

The Ozonizer can be set up in a technical closet, if there is sufficient fresh air supplied. The Unit can also be set up on a flat stable surface, hung on a vertical wall or inside a technical closet, yet it should always have enough fresh air flowing around it to avoid overheating.

Attaching the Ozonizer using a Skimmer

The Ozonizer has two air tube connectors on the front side. The right connector (4) is attached with an air tube ($\varnothing 6 \times 1$) that leads to an air-pump. The left connector (3) on the Ozonizer is attached to a Skimmer that has an escaping air piece. When all the air-tubes are attached, the power plug can be put into a socket. Now the Ozone performance can be adjusted between zero and 100 % using the control buttons (2).

Alternative: Setting up the Ozonizer when using a Skimmer with an Injector

Attach the Injector with the left connector (3). The air is automatically sucked into the Ozonizer. To avoid an air-pollution through dust, we recommend using an air filter at the right connector (4).

Choosing the language

The read-out language „German“ (“deutsch”) can be changed by pressing the OK Button for at least five seconds. By choosing one language and pressing the OK Button to confirm, the Ozonizer is set into the chosen language.

Operating the Ozonizer

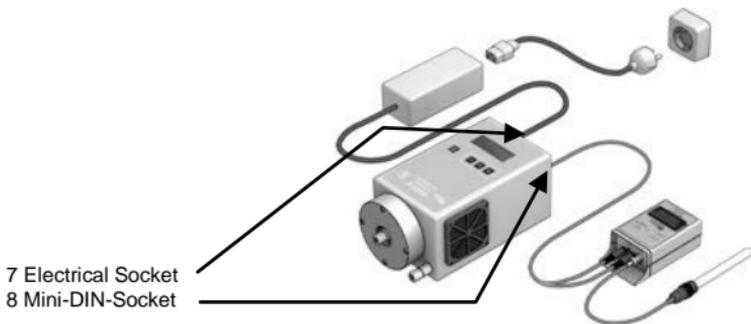
Turn the device on / off by pressing the on / off button for at least five seconds. To set the needed Ozone performance, the Ozonizer has three setting buttons and a LCD-display with four data lines. To set the Ozone performance in steps of percentage points, press the +/- (plus or minus) buttons and confirm the setting by pressing the OK button. For 100 Litres of Seawater we approximately need about 10 milligrams Ozone. 200 Litres of Sweet-water need about 10 milligrams Ozone.

To determine the exact amount of needed Ozone, use a Sander Redox potential measuring and regulating unit, which can be connected to the Ozonizer. The Redox potential measuring and regulating unit can be used to turn the Ozonizer on and off automatically

- „Sander Redox potential measuring and regulating unit for 12VDC Devices“, Article Nr. 7.1C

Use in connection with a REDOX measuring and regulating unit

To connect the Ozonizer P 2000 Device with a Redox measuring unit, insert the adapter in the Mini-DIN-Socket (8) after taking the cap off the Socket. Then connect the two Redox measuring unit cables delivered with the Redox Unit with the Ozonizer Device. The connection with the Redox measuring unit and the switch-standing of the Ozonizer will be shown immediately in the display. Scheme showing use of Sander ozone generator Ozonizer P 2000 with a Redox Unit:



Performance by less than 250 l/h air circulation

When the air circulation drops below a security level of 250 litres per hour, the Ozone generator slowly runs itself down to avoid overheating. For example: Should the air circulation measure only 125 l/h when setting the Ozonizer at 100 % performance, then it will work at the rate of 50 %. The Ozonizer avoids the danger of overheating and will automatically diminish its function when the air circulation is below 75 l/hr.

Cleaning and maintenance of the Ozone Generator

The Ozone performance can decrease because of dusty, polluted or moist air. Therefore it may be necessary to open and clean the Ozone element (5). The Ozone element can be opened by loosening hexagon socket screws with an IMBUS hex-wrench. The manufacturer recommends checking the unit regularly towards pollution if it is always running and cleaning it if necessary every 4 weeks.

The cleansing process in steps:

- Disconnect power supply cable (7) and pull it out of Ozonizer socket
- Unscrew the 4 hexagon socket IMBUS screws (3) on the Ozone element (5) with a customary hex-wrench IMBUS screw driver
- Lift up the cover (5) of the Ozone element
- Carefully wipe the Ozone plates with a cloth clean (if needed, use normal tile cleaner) and let the plates dry completely.

Assembly:

- Attach the Ozone element (6) with the hexagon socket IMBUS screws (3) and tighten the screws crossing over each other
- Connect the power cable (7) in to the Ozonizer and back into the socket

Disturbances

Failure air supply

The air supply amount is less than 50 l/h. The device shuts down to prevent overheating when there is not sufficient air supplied. Disconnect the power connection cable. Check the air tubes towards leaks, congestion and broken tubes, clean and repair if necessary.

Failure temperature

Cause of overheating: Insufficient surrounding fresh air (example: a closed technical closet) leads to less air flowing through the device during a maximum performance setting. The Ozonizer will start up automatically after cooling down.

Failure high voltage

The operation can be disturbed by water or dirt that has seeped into the Ozone generator. Pull the power cable, blow pressed air through the Ozone generator to get rid of water, clean as described above. Should the disturbance continue after cleaning, send the Ozonizer in for an official check-up.

Disposal



The wrapping consists of non-polluting materials which you can dispose of at any local recycling collection places.



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.

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