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# INSTRUCTIONS

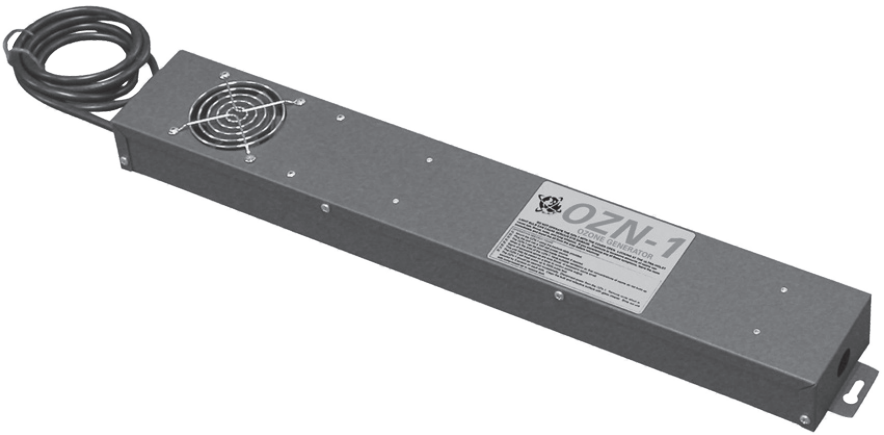
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## OZONE GENERATOR & LAMP

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CAOZN1 & CAOZNB

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# INSTRUCTIONS

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Ozone is a naturally occurring molecule which is produced in the upper atmosphere when UV (ultra-violet) light strikes oxygen. The earth's "Ozone layer" protects us from harmful UV rays. Ozone is also produced during thunderstorms... that fresh smell after a rainstorm is ozone.

## OVERVIEW

- The CAOZN1 and CAOZNB Ozone Generator safely produces ozone by using a UV / ultra-violet light. Other ozone generators use a charged "corona discharge" grid, which can be dangerous to operate.
- Ozone is a very powerful "oxidizer" which means it can sterilize water and air by attaching itself to offending odors and destroying them by actually changing their chemical composition.
- When used properly, levels far below the OSHA and EPA limits are maintained with no harmful effects

## WHAT IS OZONE?

Ozone (O<sub>3</sub>), is a strange and reactive molecule consisting of three atoms of oxygen (O<sub>1</sub>). Ozone is created when UV light strikes a molecule of oxygen (O<sub>2</sub>), which has two atoms of oxygen. The molecule is split into two individual atoms of oxygen that are free to attach to two molecules of oxygen producing ozone (O<sub>3</sub>). The third atom of oxygen is "weakly" attached to the molecule, which makes it very unstable and able to react quickly with pollutants. When a molecule of ozone "bumps" into an offending odor, the third "weakly" bonded atom of oxygen attaches to the odor molecule, which destroys the chemical's "smell" thus eliminating odors. The simple equation is  $UV\ light + O_2 + O_1 = O_3$ .

## HOW TO USE CAOZN1 & CAOZNB

The CAOZNI and CAOZNB are very easy to use. Most people find a location to hang the unit on a wall away from human activity. It does not have to be directly by the source of odors because they can effectively treat up to 5500 cubic feet. When the unit is plugged in and the switch on the side is turned on, the fan draws in air and passes it over the UV lamp located inside the powder-coated steel enclosure. The lamp itself is surrounded by a highly reflective aluminum chamber that increases the efficiency of the unit resulting in a higher output of ozone. Ozone is created inside the unit and is expelled from the exit hole in the end of the unit.

The unit can also be located inside air return ducts. Another way to use it is to allow the ozone to mix with exhaust from a closed area by placing only the exit hole inside the ducting or use a short piece of tubing / hose from the hole to the ducting.

The turbulence created when the air flows through the ductwork increases the "mixing" of the ozone to fully neutralize all odors. If you want to reduce the level of ozone being produced, simply plug it in to a cycle timer. Keep in mind that the more the lamp cycles on and off, the quicker the lamp will burn out. Use a timer that doesn't cycle too fast and the lamp should last for years.

## SAFETY AND MAINTENANCE

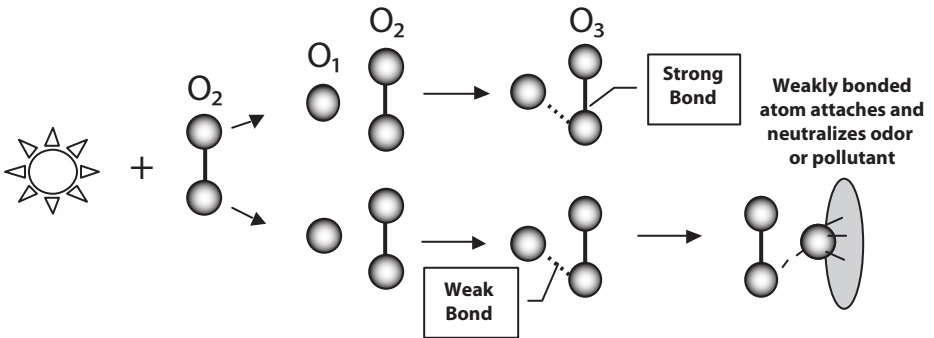
We have made the CAOZNI and CAOZNB as safe as possible. The main safety issue is exposure to the UV lamp inside the unit. Just as the sun will burn skin while at the beach, the UV light has the potential to cause damage mainly to your eyes, which is why we have installed a safety shut-off switch which will turn off the lamp if the enclosure is opened.

Of course the unit should never be opened while plugged in. The only service required is to clean the lamp and reflector once every 6 months to maintain peak performance. The red, lighted power switch

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will verify the unit is getting power and provides an easy method to turn the unit off.

## TROUBLESHOOTING HINTS

- The red, lighted power switch does not light up. Check the power into the unit. Plug the unit into a different outlet that is known to be working.
- The power switch is lit-up but the unit does not work. Verify the unit is properly closed and all 8 screws are in place. The safety switch must be closed by the enclosure in order for the lamp to have power.
- The power switch is lit-up and the fan is running, but the light will not fire. If the fan is running but the light is not it could be a couple of things. First disconnect power then open the unit and verify the lamp is properly connected to the 4-pin socket assembly. Close the unit and try it again, if it still doesn't light, the UV lamp is probably no good.
- I smell a strong "ozone" odor. You may have to ventilate more often or move the unit to an area not directly around people. You can also reduce the ozone level by plugging the unit into a timer to cycle the unit on and off.
- I develop a sore throat after being exposed to the ozone. Excessive exposure to ozone can be dangerous above .15 ppm. To reduce exposure, increase ventilation. People with asthma or chronic respiratory disease may be more susceptible to problems than others and should not use an ozone generator in a closed area if ill affects are being felt. Prolonged extreme exposure to high concentrations of ozone (over .5 ppm) can damage the lungs.

## PRECAUTIONS

Do not operate the Ozone Generator with the housing/cover open or the UV bulb exposed. Direct exposure to UV light may cause severe eye damage.

Ozone can be toxic at high levels. If you experience nose, throat, eye or lung irritation, immediately power off the Ozone Generator and vacate the area. Ventilate the space before returning.

People with asthma or other respiratory disease may be more affected to the effects of ozone and should use caution when operating the Ozone Generator.

Only use the Ozone Generator with a timing device for safe, reliable operation.

Always unplug the Ozone Generator from the power source before cleaning.

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# WARRANTY

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## WARNING

OSHA limits for ozone exposure are .1 ppm for 8-hours. Do not operate the OZN-1 in small closed spaces while occupied. When used properly with adequate ventilation, exposure to ozone is nearly eliminated. Some people are more sensitive to ozone than others. Indications of overexposure include strong ozone smell, sore throat or irritation. To reduce the amount of ozone present, increase ventilation or switch the OZN-1 on and off with a timer.

SPECIFICATIONS	
Main power voltage	120 volts
Amperage	Less than 1 amp
Coverage area	Up to 5500 Cubic Feet
Lamp length	14"
Weight	5.7 lbs
Dimensions	25" x 4" x 2"



### LIMITED WARRANTY

Hydrofarm warrants the **CAOZN1 & CAOZNB** to be free from defects in materials and workmanship. The warranty term is 1 year for generator, and 6 months for bulb, beginning on the date of purchase. Misuse, abuse, or failure to follow instructions is not covered under this warranty. Hydrofarm will, at our discretion, repair or replace the **CAOZN1 & CAOZNB** covered under this warranty if it is returned to the original place of purchase. To request warranty service, please return the **CAOZN1 & CAOZNB**, with original sales receipt and original packaging, to your place of purchase. The purchase date is based on your original sales receipt.

CAOZN1 & CAOZNB Instructions - rev.10.02.2015