

# Hejny Rentals, Inc.

Contractor, Lawn & Garden, and Party Equipment Rentals  
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## Ozone Air Cleaner TZ-1

### Total Zone Warnings and Precautions

OZONE IS A POWERFUL OXIDIZER THAT REACTS WITH ORGANIC SUBSTANCES AND IS CLASSIFIED BY OSHA AND EPA AS AN UPPER RESPIRATORY IRRITANT. OSHA SETS THE ALLOWABLE EXPOSURE LIMITS AT .05 PPM TO .1 PPM. ALL SAFETY PRECAUTIONS HEREIN MUST BE ADHERED TO AND COMMON SENSE PRACTICED.

The ozone produced by the Total Zone TZ-1, TZ-2, TZ-4 & TZ-8 is above the allowable exposure limit as set by OSHA for inhabited areas and therefore no person or animal should remain in an area being treated by these units. The treated area should be aired out or given enough time for the ozone to dissipate to a level below .1 PPM before people or animals can re-enter. Ozone has an average half-life of 20 minutes, so one hour should be sufficient time for an un-vented room to return to normal. If ozone odors are noticeable and irritating, the area should be vented longer until the level is reduced. The average person can detect ozone at levels as low as .003 PPM. Symptoms of prolonged or excessive exposure to ozone are: burning, watery or irritated eyes, nose, and throat, nausea, headache, difficulty in breathing, dry cough, irritation to nasal passages, throat, bronchial and pulmonary membranes.

### Caution:

Only qualified personnel should operate Total Zone ozone generators. As with all electrical devices this equipment should not be operated in a wet or damp environment.

This equipment should only be operated using a properly grounded electrical outlet.

All precautions must be taken to prevent over exposure of ozone gas to occupied areas.

Do not disassemble your Total Zone equipment, there are no user serviceable items inside and this will also void the warranty.

International Ozone Technologies Group, Inc. assumes no liability for damages or injuries incurred by misuse of this equipment.

### Theory of Operation

Your Total Zone ozone generator is the most modern, technically advanced ozone generation system on the market today. The Total Zone utilizes a patent pending "SP-ARC" (Silicate Polarized Arc) technology. This new technology consists of a module comprised of two quartz sleeves containing a proprietary, highly conductive substance surrounding a stainless-steel electrode. The two sleeves are mounted to facilitate a gap between of 3/32". One electrode is connected to ground while the other is charged with high voltage at a very low current. This charge creates an arc in the air gap between the two sleeves which is known as "Corona Discharge". When oxygen, O<sub>2</sub>, passes through this arc some of the molecules are split resulting in free oxygen atoms. These free atoms combine back with intact O<sub>2</sub> molecules resulting in O<sub>3</sub> which is ozone. The main benefits of our new technology are that it is self-cooling and runs at a low temperature. Also, all ozone-producing surfaces are comprised of silicate quartz with no metal components that will corrode and need cleaning on a regular basis as in most other corona discharge ozone generators. Our systems are very high output with no to very low maintenance.

### General Use Guidelines

Determine the source of the odor and remove any odor causing substance that can be found. If the odor is from a wet or flooded situation dry the entire area well before starting your ozonation procedure. Determine the size of the area that will be ozonated. Multiply the width by the length by the height to determine the total cubic feet of the area.

The following suggestions are general. The actual time it will take to remove an odor or to purify an area depends on many variables such as pollutant load, temperature, humidity, etc.

Divide the fan output (TZ-1 & TZ-2 = 100 cfm, TZ-4 & TZ-8 = 400 cfm) into the total cubic feet to be ozonated. Example: 10' wide x 10' long x 10' high room = 1000 cubic feet. Divide 100 cfm (TZ-1) into 1000 = 10. It will take ten minutes for a TZ-1 to completely fill that area with ozone. Our general rule of thumb is. Whatever the final figure you come up with once you divide the fan cfm, from the unit you are using, into the total cubic feet of the area you are ozoning you would double that time for a TZ-1, use that exact time for a TZ-2. Use the exact time for a TZ-4, and cut the time in half if you are using a TZ-8.

Examples for 1000 cubic feet.

TZ-1 (100 cfm times 2) = 20 Minutes

TZ-2 (100 cfm) = 10 Minutes

TZ-4 (400 cfm) = 2.5 Minutes

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TZ-8 (400 cfm divided by 2) = 1.25 Minutes

As stated above, these are just general guidelines. In some cases, you will have to go longer and in other cases you will go shorter. Once you have become experienced with using ozone for odor removal you will be able to determine the treatment times from your past experiences. As you can tell by the examples above the TZ-4 & TZ-8 are strong units designed for large areas but they are adjustable for variable, 100, 200, 300 and 400 cfm, output so you can use them in small areas. Set your ozone generator by the air conditioner return if possible. If there is no air conditioning set the unit in the middle of the area. You may want to use additional fans to help distribute the ozone. If there is AC set the thermostat on constant fan and adjust the temperature control to a low (cold) setting. Ozone generators work best in a cool, low humidity environment. The secondary benefit of running the AC is that you will purify the inside of the ductwork where mold and mildew love to grow. After the treatment, when the AC is turned on, the air will be clean and fresh with no germs, pollutants or irritants blended into it. The above also should be followed when ozoning automobiles. Smoke and stale odors will stay in a car's AC ducts if you do not run the AC. Close all exterior doors and windows. Set the ozone generator's timer for the time you have determined that will be needed. Make note of this time, as you do not want to return to the treated area until at least 20 minutes after the equipment has shut off. If you must enter the area before the ozone has had time to convert back to oxygen open all windows and doors to vent the ozone. DO NOT breathe high levels of ozone. International Ozone Technologies Group, Inc. offers a small digital ozone monitor that can be used to tell if the ozone levels are too high. Be safe and use common sense always when you are using ozone.

**Money Making Markets - Odor Control - Ozone is not a cover-up it destroys the odor.**

All hotel rooms can be non-smoking but they can still be smoked in.

All used cars can be odor free, easier to sell.

All fire and water damage companies use ozone.

Apartment complexes can save on carpet replacement and extensive cleaning services after tenants move out, especially if they had animals.

Restaurants, bars, etc. can cut down on offensive odors and give their patrons a much more enjoyable atmosphere to dine and socialize in.

Realtors can remove all odors from homes they are trying to sell.

A smelly house is hard to sell.

Painters can remove the offensive paint odor much sooner so that their customers do not complain.

Carpet installers can get rid of the smelly and unhealthy vocs (Volatile Organic Compounds) put off by new carpet.

Rental cars can be deodorized and have smoking odors removed before the next rental.

Health clubs and gyms don't have to smell like health clubs and gyms anymore.

Dry cleaners use ozone to deodorize draperies and upholstered furniture.

Homeowners can ozone on a regular basis to keep their home fresh, clean smelling and free of mold, mildew and germs.

Boats can be kept odor, mold, and mildew free.

**Air Purification For Healthier Living.**

Ozone will kill or deactivate mold, mildew, fungus, bacteria virus, germs, etc.

Sick buildings can benefit immensely from regular ozone treatments. This is much cheaper than replacing drywall, carpet, air conditioning ductwork, etc.

Allergy sufferers can live in a purified environment free from mold, mildew, spores, v o e s, fumes, etc.

Businesses can benefit by cutting down on employee sick days by ozoning after hours to rid the work environment of unhealthy substances.

Factories can oxidize unlawful and unhealthy chemical emissions from their exhaust systems.

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