



## WATER INFUSED OZONE GENERATOR

*An essential and affordable device with a multitude of beneficial advantages*



### TRI-X3 PRODUCT EVALUATION INFORMATION

#### SAFETY

**Water Infused Ozone** is completely safe as ozone has an exceptionally high dissolution rate in water.

Ozone generators which produce ozone gas should be avoided.

#### SAFE USAGE ASSURANCE

Healthy cells have antioxidant enzymes in their cell membranes, such as superoxide dismutase, catalase, glutathione and peroxidase. There are also antioxidants such as vitamin C and vitamin E present in the extracellular matrix fluids and plasma. These antioxidants create a protective barrier against ozone oxidation.

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### **INSTALLATION**

The TRI-X3 Ozone Infuser can be installed in about 15 minutes. Anyone capable of removing and replacing a faucet aerator can install the TRI-X3 Ozone Infuser.

- The unit is mounted on a wall close to a hand wash basin. Three Mounting options are provided.
- The faucet aerator is removed and replaced with our custom aerator which has a Venturi fitting to enable the micro-processor to detect the flow of water which activates the ozone generator.
- The silicon tube supplied is then routed between the new aerator and the ozone infuser. Self adhesive tube mounts are supplied.
- Following the installation, the Ozone Infuser's UL listed power adaptor can be plugged-in and the Ozone Infuser can be switched on.
- Ozone Infused water is only generated when a faucet is opened and shuts off automatically when a faucet is closed.
- 5 LEDs change color from Red to Yellow to provide a visual indication that ozone infused water is being produced.

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### **HAND WASHING**

The importance of hand washing in a dental office cannot be overstated.

The World Health Organization (WHO) and the Center of Disease Control (CDC) stress the importance of proper hand washing.

10 Second hand wash will reduce Clostridium Difficile by 99.9040 %

10 Second hand wash will reduce Escherichia Coli by 99.9995%

10 Second hand wash will reduce Salmonella Thyphimurium by 99.982%

10 Second hand wash will reduce Staphylococcus Aureus by 99.985 %

*The above is an example of tests conducted by the Bodycote Testing Group*

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### **MOUTH RINSING**

Dentistry primarily deals with treating the effects of bacterial infection.

Water is presently used to remove particles and blood during and after a procedure.

The ability to eradicate infection with an anti-bacterial mouth rinse is a powerful advantage.

Ozone disinfects by directly oxidizing and destroying the cell wall of a pathogen.

Ozone is by far the most powerful and safest disinfectant.

The Lethality Coefficient of Ozone compared to Chlorine in 500:20 for Enteric Bacteria.

This means that Ozone is 25 times more powerful and acts 3,000 faster than chlorine.

Ozone mouth rinsing should be used during and after procedures.

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### **BIOFILM PURGING – ELIMINATION OF BACTERIAL PATHOGENS**

Biofilms of resistant species, such as Enterococcus faecalis pose a major challenge in the treatment of root canals. Ozone is a strong oxidizing agent that causes lipid peroxidation and alters membrane permeability and function.

Documentation is available for this application

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### **PERIODONTAL POCKET DISINFECTION AND OSSEOUS DISINFECTION**

Ebensberger evaluated the effect of irrigation with ozone infused water on the proliferation of cells in the periodontal ligament adhering to the root surfaces of avulsed teeth. They concluded that avulsed teeth when irrigated with ozonated water for 2 minutes showed effective mechanical cleansing and root surface decontamination with no adverse effects on the periodontal cells on the tooth surface

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### **PREVENTION OF DENTAL CARIES**

The practical affordability of this reasonably priced product (Under \$200) provides dentists with the opportunity to offer these units to their patients.

**DENTAL CLEANLINESS** – Mouth rinsing with Ozone Infused water eliminates bacteria in hard-to-reach places that brushing and flossing cannot reach. Extensive literature is available regarding the effectiveness of ozone in the elimination of carious lesions

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### **DISINFECTION FOLLOWING TOOTH EXTRACTION**

Dentists have the choice to disinfect the socket (dental alveolus) by rinsing with Ozone Infused water or to inject ozone into the socket using a Waterpik or Jetpik.

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### **HYPERSENSITIVE TEETH**

Tooth structure loss occurring due to multiple factors like attrition, abrasion, erosion, trauma from occlusion may cause wearing away of enamel and dentin resulting in hypersensitivity. Ozone application has been found to effectively reduce sensitivity of not only exposed enamel and dentin but also in cases of root sensitivity. Additional information available upon request,

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### **ORAL PATHOGENS**

It has been reported that ozone treatment exhibited a 99.9% killing efficiency against cariogenic bacteria such as *Actinomyces naeslundii*, *Streptococcus mutans* and *Lactobacillus casei*. Additional information available upon request,

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### **ORAL TISSUES**

Ozone application has various beneficial effects on the oral tissues including remission of various mucosal alterations, enhanced wound healing and increased turnover rate of oral cells. Additional information available upon request,

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### **TRI-X3 SPECIFICATIONS**

- Micro-processor controlled automatic activation system.
- 5 Adjustable ozone concentration levels.
- LED visual indication of ozone production.
- Power Requirement - 12 volts DC
- Power Consumption – 6W
- Net Weight 380g
- Ozone Production – 50 to 150 mg/h
- Safety Device – 10 minute automatic power down protection.  
(Applies if a faucet is accidentally left running)

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### **MANAGEMENT OF PIT AND FISSURE CARIES**

Ozone has been found to be highly effective to stop bacterial growth in deep pits and fissures. After Ozone treatment, application of remineralizing agents and sealing of the clean fissures is encouraged.

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### **PROPHYLACTIC OZONE FOR RESTORATIVE TREATMENT**

Corroborated evidence from in vitro studies indicates that ozone can be effectively used as a prophylactic antimicrobial agent prior to etching and placement restorations.

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### **MANAGEMENT OF ROOT CARIES**

Marked reversal and arrest as part of shallow non-cavitated root caries lesions have been reported following the use of ozone as part of a full preventative care regimen. Additional information available upon request,

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### **ENDODONTICS**

Ozone has immense potential to be used as an antimicrobial in endodontics. Ozone is effective when it is prescribed in adequate concentrations, time and delivered correctly into root canals after the traditional cleaning, shaping and irrigation has been completed. Additional information available upon request,

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### **PROSTHODONTICS**

With patients suffering from periimplantitis, it was reported that the decontamination of the implant surface, its surrounding tissue and the prevention of recolonization with periodontal pathogenic bacteria produced, was most effectively contained with ozone treatment.

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## **ORTHODONTICS**

Ozone is used to reduce enamel demineralization around orthodontic brackets and was found to show significantly less decalcification of teeth among orthodontic patients. Ozone is also effective in reducing bacteria around braces.

### **Holistic Dentistry**

Ozone therapy is already a major treatment modality in Europe, South America and a number of other countries.

Naturally, the first interest of dentists is treating caries. Ozone is a very powerful medium to stop caries. Even extremely deep lesions can predictably be arrested.

Ozone is used extensively to reverse early lesions and to heal teeth.

### **The Importance of Periodontal Treatment**

Knowing that there are 700 oral bacterial species and as many as 19,000 different phenotypes suspected as causative agents in periodontal attack, and with the current knowledge of the formation of biofilm and its layering and protective elements, new nonspecific treatments must be found. Ozone fulfills these criteria.

### **Viral and Fungal Infections**

Ozone is particularly well suited to the management of viral and fungal lesions. The pain and disfigurement of perioral herpetic infections is a good example. In short order, the practitioner can render the areas comfortable and significantly accelerate the healing process.

Interestingly, around 25% of lesions treated with ozone do not appear to recur.

Ozone is well suited to manage viral infections.

