



PLANET FRIENDLY®  
Est. 1994

## Preventing Biofilm and Bacteria in Dental Operatory Tubing

By: Greg Steiner

ECOsmarte's natural oxygen and ionic copper system has prevented the formation of biofilms and bacteria in dental operating tubage successfully since 2006.

"The ECOsmarte system can be configured with all forms of conventional water treatment at the point of entry, with or without a conventional water softener and regardless of whether the source water is municipally chlorinated or a conventional well.

Both of ECOsmarte's Minneapolis based dental offices have approximately 400ppm calcium, .3ppm iron and use a 2 cube GAC filter with a one inch valve. One site uses a 48,000 grain softener (Brite Smiles) and the other uses the ECOsmarte electronics for bicarbonate calcium control (Steiner Dental).

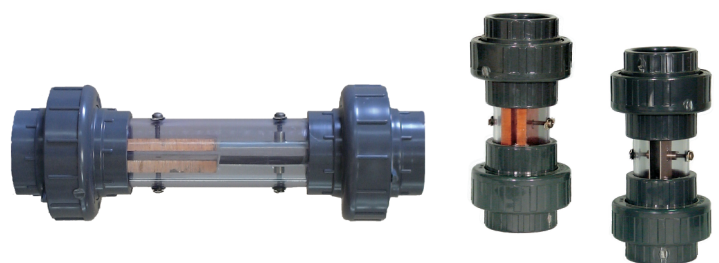
***"The potential for dangerous biofilm microbes has been noted by federal regulatory agencies including OSHA and is noted periodically in industry trade periodicals."***

"ECOsmarte furnishes a Millipore bacteria test kit along with a simple five drop Lamotte EC test kit, with testing assigned to the employee who sterilizes the instruments. The concept is simple. We simply pretend the dental office is an Apollo Lunar Module when NASA used ionization on three week missions to the moon." They used the ionization because it was more effective on single cell microbes than chlorine, had a safe and stable residual for humans and was the best technology to combat moon microbes.

The ECOsmarte Dental System treats full facility water at 1500 available gallons per day, requires annual purchase of test kits for \$75 and semi-annual anode cleaning furnished by the local dealer for around \$156.

Properly installed, the ECOsmarte electronics prevent the formulation of bacteria in the point-of-entry filters and allow a three year filter life at an installed cost of around \$1000.

Annually the ECOsmarte purification system can treat easily 250,000 gallons for \$500. At 1/5 of one penny per gallon (.002) this is a small price to pay for the safety of the customers and employees.



1600 East 78th St. Richfield, MN 55423  
(612)866-1200 (800)466-7946 US, Canada, Mexico  
[www.ecosmarte.com](http://www.ecosmarte.com)  
[www.glasspackfilter.com](http://www.glasspackfilter.com)



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**TECHNICAL SPECIFICATIONS**

**MECHANICAL & PLUMBING**

Operating Press. Max. 150 PSIG  
Operation Temp. Max. 120° F  
Tank listing and structural integrity requirements only.

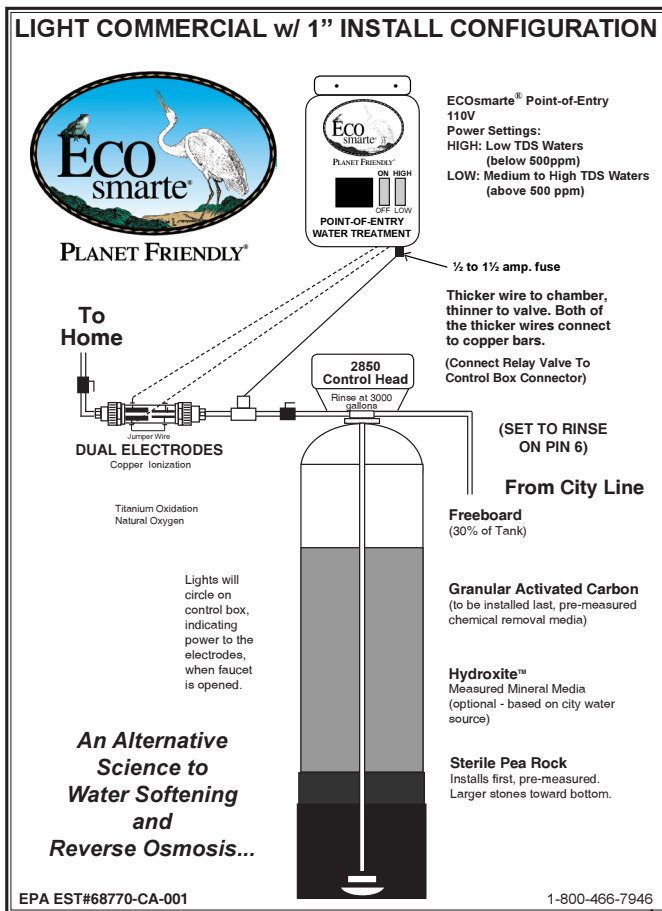
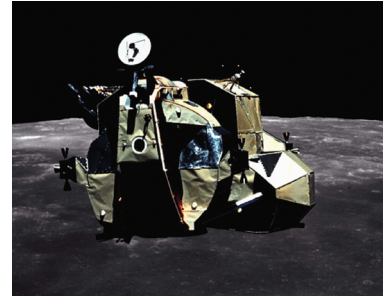
OXYGEN ELECTRODES  
Proprietary composite material

IONIZATION ELECTRODES  
100% Pure Copper

**ELECTRICAL**

Input Voltage: 110 to 267 Volts, Specify  
Output Voltage: 100 VA Class UL CSA  
Compliance Power Supply  
GPM: Each Unit 1 GPM to 30 GPM

Municipal and Well Water Systems Available  
Full Facility Approach



The ECOsmarte system has been tested and Certified by WQA according to NSF/ANSI 61, Section 8



Biofilm control in the dental operatory tubing is confirmed by a simple five drop reagent test for copper ppm.



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