FREQUENTLY ASKED QUESTIONS

Who uses ozone?

Ozone domestic water purification has been used extensively in Europe since 1906. In the United States, currently hundreds of municipal water treatment plants use ozone. Los Angeles has one of the largest ozone treatment facilities, purifying over 600 million gallons of water per day. Las Vegas is currently constructing the largest municipal ozone treatment plant to date. California state law now requires ozonation as the final step before bottled drinking water is packaged. The International Bottled Water Association also requires ozonation prior to bottling.

Isn't ozone bad for the environment?

Ozone in the earth's upper atmosphere is what protects us from the harmful ultraviolet rays of the sun. If we could pump more ozone up there, we'd all be better off. However, when created by and mixed with smog and carbon monoxide, ozone is a contributing factor to the greenhouse effect. In contrast, the Triple O system creates "clean ozone" which dissipates and reverts back to oxygen readily and naturally.

How long does ozone last in my water?

Ozone has a half life on the order of minutes when dissolved in water. Half life is the time it takes for half of the ozone to revert back to oxygen. Therefore, ozone must be generated on site and constantly introduced into the water to be effective.

People have been using chlorine for years, why do I need ozone?

In recent years, scientists have discovered that chlorine creates harmful by-products known as THMs that are carcinogenic. The EPA is starting to impose strict standards on the level of THMs allowed in domestic water treatment plants. Ozone is the treatment method of choice by water treatment professionals to replace chlorine, since ozone produces no THMs.

Do the larger municipal water treatment plants that use ozone also use chlorine?

Yes, they do add a small chlorine residual after ozonation. This is done to prevent the possibility of the water picking up bacteria in the lengthy distribution piping required in larger municipal water supplies, since the dissolved ozone will revert to oxygen before distribution.

Will my water system require chlorine in addition to ozone?

Typically, no. Single family dwellings and small multi-house systems do not require a chlorine residual due to their short distribution piping systems.

If chlorine is required in larger systems, why don't they just use chlorine rather than chlorine and ozone?

There are many advantages to using ozone other than the fact that ozone water treatment does not create THMs. Ozone (which is not a chemical additive) kills virus and bacteria on contact, precipitates many metals, deodorizes, removes color and taste, leaves no residue, reduces scale formation, kills algae, mold and yeast spores. Since ozone dissolves over a dozen times more readily into water than pure oxygen, and then readily reverts to oxygen, your water will have a very high level of dissolved oxygen. This high oxygen content has some wonderful benefits: White laundry, great tasting coffee plus anything cooked with water has enhanced flavor, refreshing showers and baths, house plants spring to life with little or no fertilizer. Additionally, if chlorine is added to ozonated water, all the chorine will be free chlorine, rather than combined chlorine (chloramines) and will therefore not be offensive. Combined chlorine is what causes water to smell like chlorine. Combined chlorine occurs when the chlorine has not completely oxidized the contaminants. Chlorine added to ozonated water has nothing to oxidize and therefore becomes free chlorine.

If I have surface water from a spring, lake, stream or roof top, can I use this system to treat bacteria?

Surface water is subject to fecal coliform, which includes E.coli bacteria, as well as, certain types of protozoa that can produce severe physical symptoms if ingested and is thus considered a potential health hazard. The Triple O System is UV generated ozone, meaning the ozone production is less intense than the commercial corona ozone systems. It is considered a Class B system and is designed for supplemental bactericidal treatment. Class B systems aren't intended for primary disinfection of microbiologically unsafe water, but are designed to reduce only normally occurring nonpathogenic or nuisance microorganisms. Equipment design features are less demanding under this class.

What system design would allow me to treat surface water and be considered safe?

Although the Triple O System will keep the tank water circulated, filtered and ozonated, the use of a UV disinfection lamp should be applied for primary disinfection of microbiologically unsafe water. Please contact a water treatment professional for further advice.

What size holding tank is needed for the Triple O System?

The maximum size holding tank for a single system is 10,000 gallons; multiple systems should be used for larger tanks. The maximum daily water usage and the contaminant levels determine the tank size. Generally the holding tank should be sized at 4 times the daily water usage. The exception is when the contaminant levels are extreme (iron at 10 PPM or higher/ manganese at 1 PPM or higher), then the tank size should be larger to allow for the extended contact time needed for oxidation and filtration. If the water usage or contaminant levels are low, then a smaller tank can be used. When choosing a tank, a tall narrow tank is recommended over one that is short and wide as a taller bubble column is more efficient. In cases of extreme contaminant levels, contact Triple O for application information.

Will the Triple O System affect the PH of my water?

The system will raise the PH of your water if it is in the acidic range (below a PH of 7.0) and stabilize the PH in the 7.5 range. Thus if your water is acidic, the PH stabilization properties of the Triple O system will increase the life of your plumbing.

If the system runs 24 hours a day, won't it be expensive to operate?

One of the system's outstanding features is its efficiency. The entire system consumes less electricity than a 60 watt light bulb. This means a typical operating cost is pennies a day.

How long will the system take to clean up my water tank?

This depends on the severity of your water problem, the size of your tank, and the amount of water that you use. A typical 5,000 gallon tank will stabilize anywhere from a few days to a few weeks. If your tank is 10,000 gallons and needs a lot of cleaning, it can take a several weeks to completely stabilize. Regardless, you will notice a dramatic change in your water within a few days.

Once my tank is clean, will the incoming well water affect my tank water quality?

The system No.1 has a unique, automatic feature that mixes the ozone into your incoming well water before the water is introduced into the tank. This happens every time your well pump is turned on.

What kind of maintenance is required?

The only regular maintenance required is to hose off the filter and clean the ozone diffuser (bubble maker). This usually takes about 10-15 minutes and requires no tools.

How do I know the Triple O System works?

The system has been developed and tested since 1984 in the Santa Cruz Mountains of Northern California on some of the worst well water conditions. It has been proven with over 10,000 installations and a vast array of bad water problems, including: Iron, manganese, tannins, hydrogen sulfide, iron bacteria, coliform bacteria, strong odor, bad taste, color, acid water, etc.

How do I know it will solve my water problems?

Our dealers offer a unique, no cost, in person demonstration using your own water. This will show you the quality of water you can expect from your holding tank. If you have any doubts, we invite you to have certified water tests performed on the demonstration water.

What if I don't have a holding tank?

A holding tank is required for the Triple O system to do its job.

Will I need a water softener with the system?

Usually no. The system alters the molecular bonds of the water so that it acts soft. You will experience good soap suds and great cleaning. However, the water will not be chemically soft. Some hard water deposit may still be experienced, but these can easily be removed through normal cleaning procedures. This is because the ability of the hard water deposits to bond to your sinks, etc., is greatly reduced. If you currently have a water softener, try using it with the Triple O system installed in your tank. If your water becomes too soft (water becomes too slimy), we recommend that your softener be connected to your hot water supply only or disconnected completely.

What level of contaminants can Triple O remove?

For single tanks, typical levels are: Iron to ~10ppm, Manganese to ~1ppm, Hydrogen Sulfide up to ~25ppm. Twin tanks in service have successfully removed: Iron to ~55ppm, Manganese to ~16ppm, H2S to over ~100ppm.

What are some actual water test results using the Triple O System?

Note: The following sample cases have had state certified water tests performed on both the raw water and the water from the holding tank after installation of the Triple O system. These are random examples and do not indicate the aesthetics of the water. In all cases the water was considered undrinkable by the homeowners, prior to the installation of the Triple O system. Certified test results are on file at Triple O.

CASE NO. 1: Water Source: Spring.
5,000 gallon holding tank, single family dwelling.

	Before	After
IRON	0.660 ppm	0.056 ppm
MANGANESE	0.320	0.008
HARDNESS	170	140
TURBIDITY	7.0 units	0.4 units
COLIFORM BACT.	9.0 per 100ml	0.0 per 100ml

CASE NO. 2: Water Source: Well.
5,000 gallon holding tank, single family dwelling.

	Before	After
IRON	1.1 ppm	None Detect.
MANGANESE	0.05	None Detect.

CASE NO. 3: Water Source: Well.
20,000 gallon holding tank, multiple families.

	Before	After
IRON	5.6 ppm	0.15 ppm
MANGANESE	0.04	0.02
PH	6.8	7.2
COLIFORM BACT.	>16	None Detect.

CASE NO. 4: Water Source: Well.
5,000 gallon holding tank, family of 6.

	Before	After
IRON	0.06 ppm	None Detect.
MANGANESE	0.03	0.01
COLIFORM BACT.	>16	None Detect.

Is there anything ozone won't do?

Yes. Ozone will not remove nitrates (typical when water is contaminated by fertilizer run off), sodium, sulfates, total dissolved solids, chlorides, and fluoride. These contaminants can be removed by reverse osmosis or distillation. Pre-treating the water with the Triple O system will dramatically reduce the maintenance required on the reverse osmosis or distillation equipment.