



Triple O Systems, Inc

1550 Dell Ave., Unit E, Campbell, CA 95008, USA
E-mail sales@tripleo.com, Phone (408) 378-3002, Fax (408) 378-7155

Home

Ozone

How it Works

Sizing

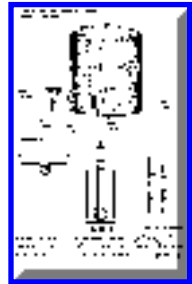
Models

Maintenance



Click to see
full size

***Patented chemical free
ozone water treatment systems
for use in atmospheric holding
tanks.***



The System
and its Parts

The "Triple O" water purification system is designed to remove many common contaminants from well and spring water: **Iron** (orange stains), **Manganese** (black stains), **Hydrogen Sulfide** (rotten egg odor), **Bacteria**, Taste, **Color**, Acid pH and Turbidity.

Easily installed into any atmospherically vented water holding tank, Triple O continuously ozonates, filters and circulates the entire contents 24 hours per day. The result is pure, chemical free water for all your needs.

Drawing only 55 watts of power (usual US cost about \$3 per month), units are available in worldwide voltages: 120v-60hz, 230v-60hz, 230v-50hz.

In addition to systems for well and spring water, we also offer ozone solutions for reverse osmosis product water tanks, water store water tanks, etc. Please **contact us** for details.

Triple O sells only through authorized dealers. Please **contact us** for a dealer near you.

We are seeking additional distributors throughout the world. Please fax your request for export information on your letterhead to (408) 378-7155 and tell us about your company and its applications.

- [Company History](#)
- [Properties of Ozone](#)
- [Secondary Contaminants](#)
- [How "Triple O" Works](#)
- [Additional Benefits](#)
- [System Application and Sizing](#)
- [Models](#)
- [Installation](#)
- [Maintenance](#)
- [Frequently Asked Questions](#)
- [What the Users Say](#)
- [Ozone "In the News"](#)
- [Standard Warranty \(USA\)](#)
- [Extended Warranty \(USA\)](#)
- [Dealer Information](#)



Triple O Systems, Inc

1550 Dell Ave., Unit E, Campbell, CA 95008, USA
E-mail sales@tripleo.com, Phone (408) 378-3002, Fax (408) 378-7155

The Properties of Ozone

OZONE: WHAT IS IT?

Ozone (O₃), one of nature's basic elements, is a very powerful disinfecting and deodorizing gas consisting of oxygen (O₂) with an extra oxygen atom attached, therefore becoming ozone (O₃). When oxygen in the air is exposed to high intensity ultraviolet rays, ozone is created (such as our sun creating the ozone layer). When ozone does it's job, it oxidizes by giving up and attaching it's extra oxygen atom to anything that can be oxidized. Once this process occurs, the ozone molecule becomes oxygen (O₃ - O = O₂). Thus, the only by-product of ozone is pure oxygen. In fact, ozone reverts to pure oxygen quite rapidly and naturally: The half life of ozone in air is on the order of hours and on the order of minutes when dissolved in water. Additionally, ozone dissolves over 12 times more readily into water than pure oxygen, then reverts to oxygen, providing hundreds of times more dissolved oxygen in your water than could otherwise be possible. This high oxygen content of your water provides many of the benefits made possible with the Triple O system.

THE BENEFITS OF OZONE:

Municipal water companies have used ozone technology to treat large quantities of water for many years because of its effectiveness in purifying and conditioning water.

Triple O Systems has selected ozone technology for use in treating well/tank water because of its unique properties to:

1. Kill bacteria on contact thousands of times faster than chlorine or bromine.
2. Kill virus on contact.
3. Kill algae spores, fungus, mold and yeast spores.
4. Precipitate heavy metals.

Home

Ozone

How it Works

Sizing

Models

A rectangular button with a blue border and a light blue gradient background. The word "Maintenance" is written in bold black text in the center.

Maintenance

5. Remove excess iron, manganese, and sulfur by a process known as micro-flocculation, thus conditioning the water naturally without chemical additives.
6. Remove color and odor, leaving a fresh, healthy bouquet.
7. Reduce scale build-up on equipment such as pipes and water heaters, and staining of showers, sinks, bathtubs and toilets .
8. Ozone leaves no residue, it's only by-product is pure oxygen.

- [Home](#)
- [Company History](#)
- [Secondary Contaminants](#)
- [How "Triple O" Works](#)
- [Additional Benefits](#)
- [System Application and Sizing](#)
- [Models](#)
- [Installation](#)
- [Maintenance](#)
- [Frequently Asked Questions](#)
- [User Testimonials](#)
- [Ozone "In the News"](#)
- [Standard Warranty \(USA\)](#)
- [Extended Warranty \(USA\)](#)
- [Dealer Information](#)



Triple O Systems, Inc

1550 Dell Ave., Unit E, Campbell, CA 95008, USA
E-mail sales@tripleo.com, Phone (408) 378-3002, Fax (408) 378-7155

How "Triple O" Works

The system consists of an ozone generator with air pump, in-line mixing system (installed on the well feed line to the water tank), and a filter module (with 100 square feet of filter area) that hangs inside the tank and includes an ozone diffuser to create millions of ozone saturated bubbles.

The ozone generator creates [ozone](#) the same way the sun does in our upper atmosphere. Inside the generator is a very high intensity ultraviolet (UV) lamp that simulates the ozone producing UV rays of our sun. When compressed air is pumped through the UV chamber, the result is partial conversion of the oxygen in the air to ozone.

The output of the ozone generator is fed through the in-line mixing system and into the diffuser inside the filter module to create ozone saturated bubbles. As these bubbles rise inside the filter module lift pipe, the friction of the ozone bubbles against the water causes the bubbles to mix with and draw water through the filter and into the lift pipe. Thus, the water exposed to the tiny ozone bubbles is filtered prior to ozonation, increasing the ability of the ozone to do its job. As the ozone bubbles rise up and out of the lift pipe, they continue to rise up through about 6 feet of water in the tank, continuing the ozone adsorption process and circulating large quantities of water throughout your holding tank.

The in-line mixing system further increases the ozone benefits by treating your well water with ozone prior to the well water entering your holding tank. When your well pump is activated to add water to your holding tank, the in-line mixing system automatically directs and mixes the output of the ozone generator directly into the incoming well water. When the well pump turns off, the ozone is automatically redirected into the filter module assembly inside your tank. This process is accomplished mechanically and requires no complex controls.

The complete system thus provides continuous purification, filtration and circulation without the use of a water pump. Water delivered to your home and land is fresh and clean, and ideal for all your domestic water uses.

[Home](#)

[Ozone](#)

[How it Works](#)

[Sizing](#)

[Models](#)

[Maintenance](#)

- [Home](#)
- [Company History](#)
- [Properties of Ozone](#)
- [Secondary Contaminants](#)
- [Additional Benefits](#)
- [System Application and Sizing](#)
- [Models](#)
- [Installation](#)
- [Maintenance](#)
- [Frequently Asked Questions](#)
- [User Testimonials](#)
- [Ozone "In the News"](#)
- [Standard Warranty \(USA\)](#)
- [Extended Warranty \(USA\)](#)
- [Dealer Information](#)



Triple O Systems, Inc

1550 Dell Ave., Unit E, Campbell, CA 95008, USA
E-mail sales@tripleo.com, Phone (408) 378-3002, Fax (408) 378-7155

System Application and Sizing

Home

Ozone

How it Works

Sizing

Models

Maintenance

This unique chemical free ozone system solves common water quality problems such as:

- **Iron** (Brown Stains)
- **Manganese** (Black/Grey Stains)
- **Bacteria**
- **Hydrogen Sulfide** (Rotton Eggs)
- **Low pH** (Acid Water)
- **Taste**
- **Odor**
- **Color**

This system works with all types of atmospheric vented tanks including above ground holding tanks, buried cisterns, and roof-top tanks and is compatible with all tank materials.

Each system can be used in a tank up to 10,000 gallons depending on the severity of the contaminants and the daily water usage. The system works on the concept of *gallons per day* and is independent of the *gallons per minute* flow rate. The important rule is that no more than 25% of the storage capacity should be used in a 24 hour period. Higher water usage could result in less than perfect water because the ozone needs contact time with the water to do its job, plus the water must pass through the in-tank filter multiple times. In order to calculate *minimum* tank size, multiply the maximum daily water usage times 4, although we recommend the tank size be as large as can be comfortably accommodated.

The best buy tank size for a single home in the US is 2500 gallons which allows the homeowner to use up to about 600 gallons per day for average contaminants (iron to ~ 10 ppm, or manganese to ~1 ppm, or hydrogen sulfide to ~25 ppm, etc.) For severe contaminants (iron to ~50 ppm, etc) we recommend either twin storage tanks in series with a Triple O in each tank (preferred method), or a larger tank with multiple Triple O units.

- [Home](#)
- [Company History](#)
- [Properties of Ozone](#)
- [Secondary Contaminants](#)
- [How "Triple O" Works](#)
- [Additional Benefits](#)
- [Models](#)
- [Installation](#)
- [Maintenance](#)
- [Frequently Asked Questions](#)
- [User Testimonials](#)
- [Ozone "In the News"](#)
- [Standard Warranty \(USA\)](#)
- [Extended Warranty \(USA\)](#)
- [Dealer Information](#)



Triple O Systems, Inc

1550 Dell Ave., Unit E, Campbell, CA 95008, USA
E-mail sales@tripleo.com, Phone (408) 378-3002, Fax (408) 378-7155

Models Available

All models are based the TWTS-101 format (Tank Water Treatment System - 101).

[Home](#)

Voltage/hertz available: 120v-60hz with US style grounded plug, 230v-60hz with cord cut and stripped ready for termination, 230v-50hz with grounded European type cord.

[Ozone](#)

Model TWTS-101 System No. 1

Includes Ozone Generator, Mixer Assembly, and Filter Module. This is our best selling domestic system for wells that pump in the range of 5 to 30 gallons per minute.

[How it Works](#)

Model TWTS-101 System No. 2

Includes Ozone Generator and Filter Module (Less Mixer). This system requires no "water pipe" connection, works independently from well pump flow rates, and can therefore be used on gravity fed spring systems. Additionally, this system is readily used as multiples in tanks larger than 10,000 gallons, or in series tanks. This is our best selling export system.

[Sizing](#)

[Models](#)

Model TWTS-101 System No. 3

This is a unique system for applications that do not require filtration. Includes Ozone Generator and Special Lift Pipe. Use for RO product water applications to keep water bacteria free, add oxygen and raise the acidic pH that is common with RO product water.

[Maintenance](#)

Note that no filtration is provided: If your water is not crystal clear, or if your water becomes cloudy with ozonation (oxidation) such as the precipitation of iron or manganese, then you must use either systems #1 or #2 above.

- [Home](#)
- [Company History](#)
- [Properties of Ozone](#)
- [Secondary Contaminants](#)
- [How "Triple O" Works](#)
- [Additional Benefits](#)
- [System Application and Sizing](#)
- [Installation](#)
- [Maintenance](#)
- [Frequently Asked Questions](#)
- [User Testimonials](#)
- [Ozone "In the News"](#)
- [Standard Warranty \(USA\)](#)
- [Extended Warranty \(USA\)](#)
- [Dealer Information](#)



Triple O Systems, Inc

1550 Dell Ave., Unit E, Campbell, CA 95008, USA
E-mail sales@tripleo.com, Phone (408) 378-3002, Fax (408) 378-7155

Maintenance Manual (illustrations)

Regular cleaning of your system's filter and diffuser is important to keep the system operating at peak efficiency.

WHEN TO CLEAN FILTER

There appears to be a natural tendency to clean the filter more often than required. Actually, a slightly dirty filter will filter the water better than a new filter. The filter element will also filter out finer particulates after it has been used for awhile. This is referred to as "seasoning" the filter.

The time between filter cleaning will vary according to the severity and type of water problems, the condition of your holding tank prior to the system installation, and the daily amount of water usage.

To clean the filter, it is only necessary to hose the collected debris off the filter pleats - it is not necessary to scrub the pleat material or use any cleaning agents. The pleats will stain over time and will not become white when cleaned. This is normal and will not affect the function of the filter.

Use the following method to determine the cleaning interval for your filter:

1. After initial start up, perform the first filter cleaning in 10 to 14 days. If the filter is not "loaded" with particulates, clean again in 30 days. A "loaded" filter is defined as having more than 1/2 of the filter pleat depth filled with particulates. If the filter is not loaded at the 30 day cleaning, you can then set your cleaning schedule to every 60 days. If not loaded in 60 days you can extend the cleaning schedule to every 90 days. In no case should the filter cleaning interval exceed 90 days.

2. If the filters are loaded at the initial 10 to 14 day cleaning, continue cleaning at

2 week intervals until the filters are no longer loaded. This bi-weekly cleaning will be required if your tank has a lot of "growth" or deposits on the tank walls. The water treatment system will remove this growth off the tank walls and your tank will reach a point of stabilization. Once your tank has stabilized, extend your cleaning interval to 30 days. If the filters are not loaded at 30 days, extend the cleaning interval to 60 or 90 days as appropriate. In no case should the filter cleaning interval exceed 90 days.

FILTER CLEANING

1. Leave the ozone generator ON.

2. Proceed to the tank manhole. Slowly pull the filter module to the surface of the tank water, such that the top of the lift pipe is just below the surface of the water. Remove the Norprene hose from the inside of the 3/16 hose barb (inside the manhole) to stop the ozone flow to the diffuser. Now pull the entire filter module vertically through the manhole in one smooth motion and place on most level area of tank. Do not pull up the filter so fast that turbulence will be created as this will knock excess debris off of the filter.

As you pull up on the filter, the lower flapper valve will open and release the water trapped inside the filter. This creates a slight vacuum inside the filter, thus helping to hold the debris on the pleats in place.

Note - some debris will fall off the filter, but since this is coagulated debris, it will fall rapidly to the bottom of the tank.

3. Hose down the filter with a stiff water spray, washing from top to bottom using the cleaning wand provided. Remove the quick disconnects to gain access to the inside of the filter and hose from the inside out (reverse flow) for more thorough cleaning. Check to make sure that there is no debris in the flapper valve that would prevent sealing.

HELPFUL HINTS

You may wish to purchase an extra filter element. You can then change the filter element on top of tank, clean the dirty filter on the ground and store for next change. Once used, keep the filter element wet.

DIFFUSER CLEANING

The diffuser will become restricted over time due to the ozone precipitating out iron, manganese, calcium, etc., and plating the surface of the diffuser with these contaminants. A plugged diffuser will reduce both the ozone flow and therefore the water flow through the filter, thus impairing the ability of the system to maintain your water quality. A completely plugged diffuser can cause damage to the ozone generator.

Home

Ozone

How it Works

Sizing

Models

Maintenance

During the filter cleaning, remove the handle assembly to gain access to the diffuser. Immerse diffuser with Norprene hose attached in a gallon jug of swimming pool muriatic acid for about 30 seconds.

Make sure the ozone hose has been disconnected from the manhole barb fitting as covered under filter cleaning, so no ozone gas is flowing through the diffuser. If ozone gas is flowing through the diffuser, it will keep the acid from cleaning the diffuser pores and create excess acid fumes.

CAUTION: MURIATIC ACID NEEDS TO BE HANDLED CAREFULLY. DO NOT BREATHE THE MURIATIC ACID FUMES.

Remove the diffuser from the muriatic acid and rinse completely with water. It should become sparkling white. Repeat cleaning procedure if necessary.

Replace the diffuser/handle assembly and tighten the quick disconnect. Slowly lower the filter module into the tank and reconnect the Norprene hose to the 3/16 inch barb fitting.

Check for a rising pattern of bubbles in the tank and replace the manhole cover.

HIGH HYDROGEN SULFIDE WATER
(Rotten egg odor)

In water systems with very high hydrogen sulfide, the diffuser may become plugged with sulfur which is not soluble in muriatic acid. If this is the case, first clean the diffuser with muriatic acid as described above. Then rinse the diffuser thoroughly and soak for at least 15 minutes in concentrated chlorine solution and rinse.

ANNUAL MAINTENANCE

Once a year, the ozone hose from the generator to the mixer, and the ozone hose from the mixer to the filter module should be disconnected and condensation drained from the hoses.

BI-ANNUAL MAINTENANCE

The ozone generator UV light assembly should be replaced every 18 to 24 months to maintain peak ozone output. The UV lamp ozone producing rays will decrease over time. This is due to the lamp glass "solarizing" and becoming more opaque to the ozone producing wavelength. Please note that the light you see coming from the UV view port on the front of the generator can is visible UV light. The wavelength of light that produces ozone is not visible to the human eye.

The ozone output of your system will reduce to about 80% of new after 12

months, 50 - 65% of new at 18 months, and 25 - 40% of new at 2 years.

Ozone lamp replacement is especially critical when bacteria control is needed. In this case we recommend annual UV replacement.

Trouble-shooting

Basic trouble-shooting of the system is quite simple. A decreased bubble pattern in the tank means there is less ozone flow and therefore less water flow through the filter, with the result being reduced water quality.

Reduced or no ozone bubble pattern in tank:

1. Diffuser needs cleaning.
2. Check for ozone hose leaks with soapy water.
3. Bad air pump - replace air pump.
4. Leaking UV light assembly - replace.
5. Crimped ozone hose.
6. Leaking 6 psi check valve on mixer assembly.

The 6 psi red check valve is the one between the 3/16 inch barb tee and the venturi eductor (see page 3). If this valve leaks, some of the ozone gas will continuously bubble into the water feed pipe to the tank. To determine if the valve is leaking, place your ear against the venturi eductor and listen for a "gurgling" sound. If the check valve is leaking, replace with new valve.

Water conditions were good, but then became worse:

1. Filter needs cleaning.
2. Diffuser needs cleaning.
3. Reduced or no ozone bubbles in tank - see above.
4. UV light assembly is more than 24 months old.
5. Large water usage such as filling swimming pool or irrigation.
6. Check the filter module flapper valve, located on the bottom of the filter module, for foreign objects (leaf, twig, etc.) that may be keeping the flapper valve from sealing.

Helpful Information

Once your holding tank has stabilized, you will start enjoying good water. If you have been living with poor water in your home for some time, it is very likely that your plumbing has accumulated deposits of the contaminants that are now being removed from your water supply. These deposits will be removed from your plumbing over time:

Iron: As your pipes are cleaned out, you may notice "spurts" of iron colored

water when your taps are first opened. This is especially true for taps that are not used regularly. Cleaning out your toilet tanks will remove any accumulated iron and help eliminate continued toilet staining.

Odor/Taste: These problems are similar to iron in that you may notice "spurts" of bad taste or odor when a water tap is first opened.

Calcium/Hardness: Your new Triple O system, through the use of ozone/polarization technology, will make your water appear softer. Your water will suds and act like soft water without any sodium being added. You may still notice some hard water deposits on your fixtures, but these deposits can be more readily removed because they will not bond strongly. For extreme hard water, you may wish to treat your water with an available water softener.

- [Home](#)
- [Company History](#)
- [Properties of Ozone](#)
- [Secondary Contaminants](#)
- [How "Triple O" Works](#)
- [Additional Benefits](#)
- [System Application and Sizing](#)
- [Models](#)
- [Installation](#)
- [Frequently Asked Questions](#)
- [User Testimonials](#)
- [Ozone "In the News"](#)
- [Standard Warranty \(USA\)](#)
- [Extended Warranty \(USA\)](#)
- [Dealer Information](#)

OZONE WATER TREATMENT SYSTEM

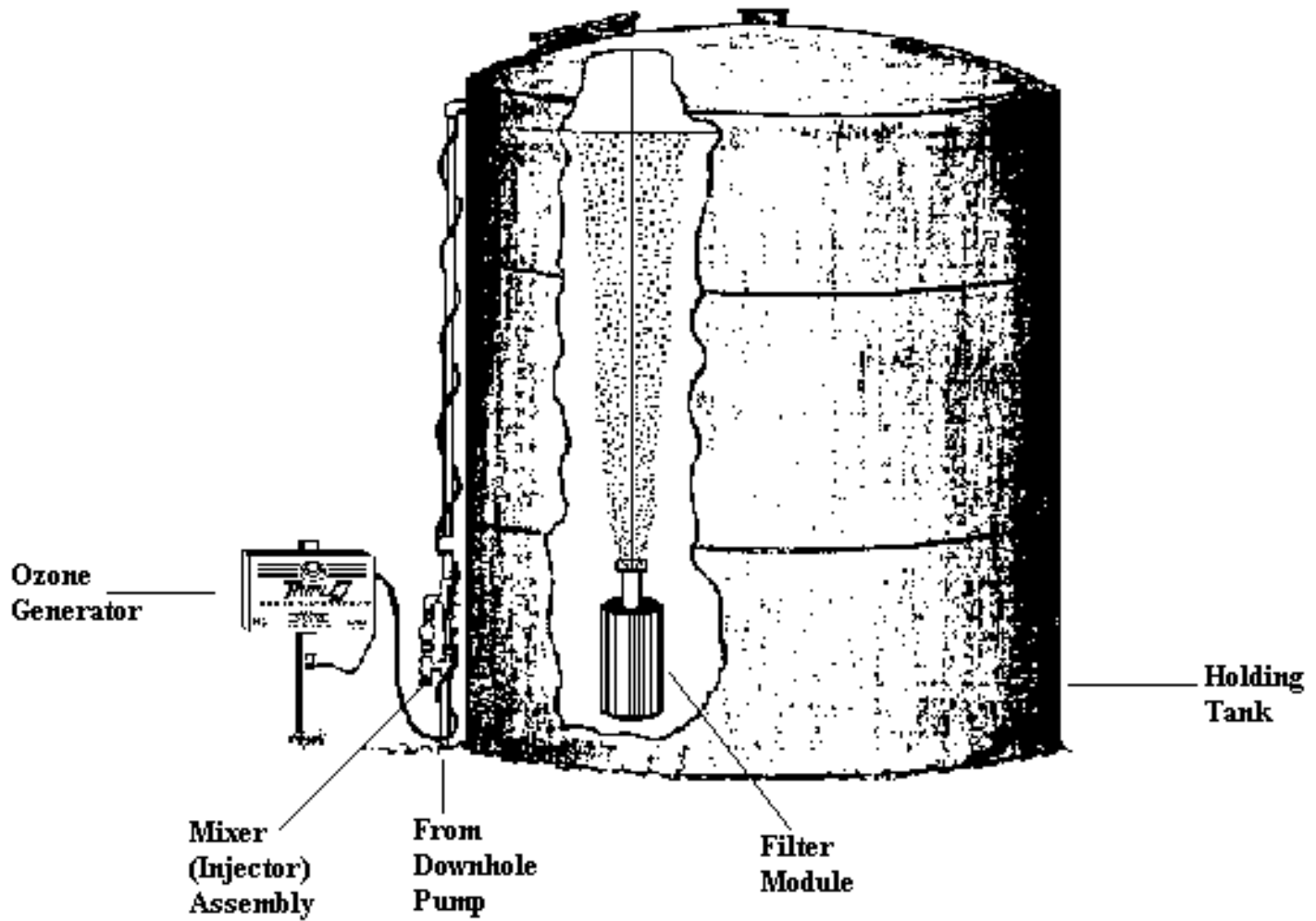
Model TWTS-101



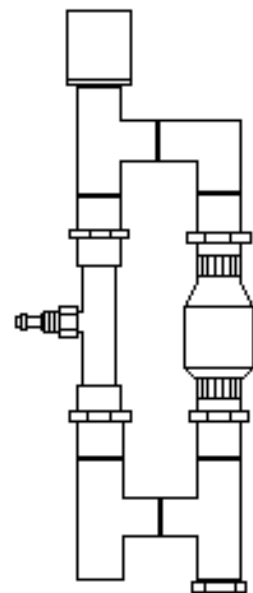
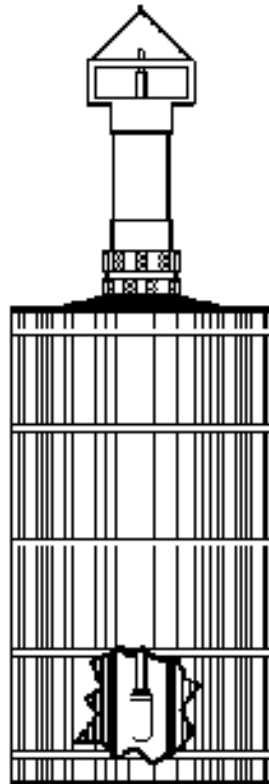


**Triple O
Systems, Inc.**

Typical Above Ground Installation Model TWTS-101



Components





Ozone Generator

Size (in): 17.25 wide x 13.5 high x 3.9 deep
Ozone Output: Nominal 3.0 grams/day
Volts/Hz: 115/60, 230/60, 220/50, 240/50
Power Consumption: 55 watts
Electrical current: 0.8 amps @ all volt-ages. Solar compatible.

Filter Module

Overall Size (in): 10.0 dia x 32.0 high
Cartridge Only (in): 10.0 dia x 20.0 high
Weight: 8.5 pounds
Media: 100 sq.ft. non-woven polyester
Water Flow: Nominal 10gpm
Function: Continuously filters, ozonates and circulates water in storage tank.

Mixer (Injector) Assy.

Size (in): 7.0 wide x 20.5 high x 2.5 deep
Weight: 3 pounds
Flow Rate: 5 to 30 gpm
Fittings: 1 in PVC female input, 1-1/2 in. PVC female output
Function: Automatically diverts ozone gas into incoming water when tank is filling.



Triple O Systems, Inc

1550 Dell Ave., Unit E, Campbell, CA 95008, USA
E-mail sales@tripleo.com, Phone (408) 378-3002, Fax (408) 378-7155

Company History

Ozone water purification research began 1984 in the Santa Cruz mountains of Northern California. Larry Ramsauer, our founder, had moved into his new mountain home only to discover that his well and spring water was polluted with iron, manganese, hydrogen sulfide (rotten egg odor), and dangerous bacteria. The water was also quite murky, and certainly undrinkable.

The only solutions to his problem were reverse osmosis or chlorination/filtration. Reverse osmosis was out because it discarded several gallons for every gallon of good water produced, the membranes would surely plug up immediately with the raw water, and Larry's well was a low yield well. Chlorination/filtration was also out because Larry insisted on chemical free water.

Knowing that Europe had been on the "leading edge" of ozone water purification since the early 1900's, Larry researched existing ozone systems. Unfortunately, these industrial ozone systems used an ozone production method known as *corona*, which involved high voltage, air dryers and filters. If the air feed was not dried to -60°F minimum, concentrated nitric acid would be generated that would literally destroy the generator. Obviously, corona ozone was far too complicated for home use.

As an alternate, ultraviolet (UV) production of ozone was investigated. This is the same method that the sun uses to create the ozone layer around the earth. UV ozone did not require air drying or filtering and thus appeared to a solution. Air moisture would result in some hydrogen peroxide, which was fine as hydrogen peroxide is the liquid equivalent of ozone. *Ozone* (O₃) is a oxygen molecule (O₂) with and extra oxygen atom attached, *Hydrogen peroxide* (H₂O₂) is water (H₂O) with an extra oxygen atom attached. Of

[Home](#)

Ozone

course, since UV did indeed produce much lower levels of ozone than corona, a method had to be invented to apply UV correctly.

How it Works

Some time later, the solution was discovered: Introduce ozone into *filtered* water. If ozone (or any oxidant for that matter) is introduced into cloudy water, the oxidant (ozone) will attack the small particulates, exhausting itself before it can do its job. Constantly filtering the water would solve this problem, plus allow filtering out the flocculated particles of iron, manganese, sulfur, etc. that ozone oxidation would produce.

Sizing

However, since ozone has a very short half-life, low levels of ozone would *require constant ozone introduction*. For this to work, the system had to be ultra-efficient as it would be required to run 24 hours per day. That is, the system could not be water pump driven as the electrical costs would be way too high (as early prototypes proved). The solution was to let the ozone bubbles do the water pumping by drawing the water through a large filter *inside* a water holding tank.

Models

Maintenance

Larry finally had a system for his own water, and then a funny thing happened. Neighbors noticed the high quality of his water and commented on this saying "You have wonderful well water!" Larry would say "No, I have lousy well water but also have a system that makes the water wonderful". Needless to say, the word spread and several "hand built" systems were installed in Larry's neighborhood.

It soon became obvious that there was indeed a market for this new ozone system. Patents were applied for and in 1989 prototypes were test marketed to make sure that the system would work as well on a large variety of water as it had proven itself on Larry's own water. Triple O Systems, Inc. was incorporated in 1990.

The system did work as planned The rest is history. Today Triple O Systems, Inc. serves a multi-national market with over 4,000 systems installed in various locations: Homes, businesses, farms, trailer parks, wineries, nurseries, small municipal water districts, California Parks and Recreation, California Division of Forestry, etc. The smallest application would be a single family home system, and the largest to date is a small municipal system that processes up to 250,000 gallons per day, serves 350 homes and businesses, and uses 25 each standard "Triple O" systems in a total of 560,000 gallons of water storage. This system has been "on line" since 1990.

- [Home](#)
- [Properties of Ozone](#)
- [Secondary Contaminants](#)
- [How "Triple O" Works](#)
- [Additional Benefits](#)
- [System Application and Sizing](#)
- [Models](#)
- [Installation](#)
- [Maintenance](#)
- [Frequently Asked Questions](#)
- [User Testimonials](#)
- [Ozone "In the News"](#)
- [Standard Warranty \(USA\)](#)
- [Extended Warranty \(USA\)](#)
- [Dealer Information](#)



Triple O Systems, Inc

1550 Dell Ave., Unit E, Campbell, CA 95008, USA
 E-mail sales@tripleo.com, Phone (408) 378-3002, Fax (408) 378-7155

Secondary (Aesthetic) Contaminants

<p>Metals, iron and manganese, which can stain laundry and bathroom fixtures as well as lending unpleasant taste and odor to water, can be removed through oxidation and filtration.</p>	<p>The Triple O System oxidizes and filters out these heavy metals.</p>
<p>Hydrogen sulfide, which is identified by its sulphurous odor, can be controlled through oxidation and aeration.</p>	<p>The Triple O System rapidly oxidizes the sulfides in the water to sulfates, and keeps the water fresh through constant ozone aeration, thus eliminating this offensive gas with its rotten egg odor.</p>
<p>pH is the measurement of the acidity of your water. Somewhere between 6.5 and 8.5 is considered acceptable by the EPA.</p>	<p>The Triple O System will neutralize acidic water to the pH range between 7.2 to 7.8.</p>
<p>Color, generally in the form of tannins, can be removed by ozonation, chlorination, reverse osmosis or activated carbon filtration.</p>	<p>The Triple O System will oxidize and thus remove some tannins in the water.</p>

Home

Ozone

How it Works

Sizing

Models


 A rectangular button with a blue border and a light blue gradient background. The word "Maintenance" is written in bold black text in the center.

Maintenance

Hardness in the form of dissolved calcium and magnesium can shorten the life of water heaters and does increase the amount of soaps and detergents used in normal cleaning tasks. Hardness can be removed through the use of a water softener which substitutes sodium or potassium for these dissolved minerals.

The **Triple O System** alters the molecular bonding capability of the hardness constituents so that the water acts softer (lowers the surface tension of the water) and keeps the hard water deposits from strongly bonding to surfaces. This is an additional benefit to the primary oxidation/filtration capabilities of the Triple O System.

Chlorides, sulfates, nitrates, sodium and other dissolved solids can all be removed by reverse osmosis.

The **Triple O System** does not remove dissolved solids in this category.

- [Home](#)
- [Company History](#)
- [Properties of Ozone](#)
- [How "Triple O" Works](#)
- [Additional Benefits](#)
- [System Application and Sizing](#)
- [Models](#)
- [Installation](#)
- [Maintenance](#)
- [Frequently Asked Questions](#)
- [User Testimonials](#)
- [Ozone "In the News"](#)
- [Standard Warranty \(USA\)](#)
- [Extended Warranty \(USA\)](#)
- [Dealer Information](#)



Triple O Systems, Inc

1550 Dell Ave., Unit E, Campbell, CA 95008, USA
E-mail sales@tripleo.com, Phone (408) 378-3002, Fax (408) 378-7155

Additional Benefits of the Triple O Systems

[Home](#)

[Ozone](#)

[How it Works](#)

[Sizing](#)

[Models](#)

[Maintenance](#)

The Triple O system conditions and purifies your well water using the most effective, economical and proven technology available. Ours is the only system to offer the highest quality water for all domestic uses. You can say goodbye to all the water problems you have been forced to live with for years.

In addition to the obvious benefits (removal of iron, manganese, H₂S, bacteria etc.) of our ozone purification system, there are several not-so-obvious benefits you will soon be enjoying:

1. The high dissolved oxygen content of the water will make plants in your home and garden "come alive", grow strong and healthy, and greatly reduce the need for fertilizers. In fact, studies have shown a 30% increase in plant growth when watered with ozonated water.
2. This same high oxygen content will make your laundry sparkling white with little or no bleach. Cooking with your new water will allow you to create dishes with more flavor and bouquet than you ever dreamed possible. Vegetables rinsed with high oxygen water will last much longer and stay much fresher.
3. The clean, fresh Triple O system water will add a new dimension to bathing, dish washing, washing your car, etc.
4. Imagine the luxury of being able to take a refreshing, healthy drink directly from your garden hose.

- [Home](#)
- [Company History](#)
- [Properties of Ozone](#)
- [Secondary Contaminants](#)
- [How "Triple O" Works](#)
- [System Application and Sizing](#)
- [Models](#)
- [Installation](#)
- [Maintenance](#)
- [Frequently Asked Questions](#)
- [User Testimonials](#)
- [Ozone "In the News"](#)
- [Standard Warranty \(USA\)](#)
- [Extended Warranty \(USA\)](#)
- [Dealer Information](#)



Triple O Systems, Inc

1550 Dell Ave., Unit E, Campbell, CA 95008, USA
E-mail sales@tripleo.com, Phone (408) 378-3002, Fax (408) 378-7155

Installation Manual (illustrations)

Ozone Water Treatment System Model TWTS-101 System No.1

When installing this electrical equipment, basic safety precautions should be followed, including:

1. READ AND FOLLOW ALL INSTRUCTIONS.
2. Do not breathe the ozone gas that exits the ozone generator for an extended period of time.
3. Do not breathe the accumulated ozone gas within the water holding tank for an extended period of time. Before working inside tank, turn off ozone generator and fully ventilate tank. Note: Ozone is heavier than air.
4. For 120 Volt cord connected ozone generators:
 - A. Connect the ozone generator to a properly grounded, grounding type receptacle only.
 - B. Do not bury power cord nor allow cord to be in contact with standing water.
 - C. WARNING - To reduce the risk of electrical shock, replace power supply cord immediately if it should become damaged.
5. WARNING - To reduce the risk of electrical shock, disconnect power supply before servicing ozone generator.
6. The ozone generator must be mounted vertically.
7. The ozone generator creates heat and must be installed with adequate ventilation.
8. Install this unit in compliance with all national and local codes.
9. SAVE THESE INSTRUCTIONS.

How the System Works

The system consists of three major components: Ozone generator, in-line mixer and filter module:

The ozone generator either plugs into a standard receptacle (120v-60hz model) or is hardwired (230v-60hz model). It has an air pump which provides compressed air to an ultraviolet ozone producing lamp, thus producing compressed ozone.

The mixer installs into the well pump water feed pipe to your holding tank. The ozone gas is routed from the ozone generator, through the mixer, to the filter module within your holding tank. When your well pump turns on to provide water to your tank, the mixer automatically diverts and mixes the ozone gas into the incoming well water before the water enters your tank.

The filter module hangs below the water surface inside your holding tank, includes a 100 square foot filter, a lift pipe and a diffuser (bubble maker). The ozone gas from the mixer is fed to the filter module diffuser, which makes millions of tiny ozone saturated bubbles that rise up the filter module lift pipe, mixing the ozone with the water and drawing water through the filter at the rate of about 10 gallons per minute. As the ozone saturated bubbles exit the lift pipe, the bubbles rise up through your holding tank water, continuing the ozone/water adsorption process and circulating the contents of your holding tank.

HOLDING TANK SIZE

One TWTS-101 system is designed to purify the water in a tank of up to 10,000 gallons with normal contaminant levels. Larger tanks will require multiple systems.

As a rule, the maximum water usage should never exceed 25% of the tank capacity in a 24 hour period. A typical family of 4 uses about 350 gallons per day and should therefore have a minimum 1500 gallon tank.

Installation

FILTER MODULE INSTALLATION

Prepare the filter module for installation into the tank:

1. Attach the handle/diffuser assembly to the filter top by feeding the diffuser hose down into the filter module lift pipe and attaching the quick dis- connect.
2. Attach the stainless steel chain (provided) to the captive chain on the handle by crimping the end link onto the top link of the handle chain.
3. Connect the Norprene hose (dull black rubber like hose) to the barb located on top of the filter module handle. Using the black wire ties provided, gently tie the Norprene hose at one foot intervals to the stainless steel chain. Do not over tighten the wire ties as this will crush the hose and reduce ozone flow.

Prepare [the tank](#) for installation of the filter module:

1. Drill a 3/16 inch hole through the manhole flange nearest the center of the tank.
2. Insert the provided #8 bolt through the manhole flange from the outside of the manhole and secure in place with one of the #8 nuts provided. Do not discard second #8 nut, this will be used later.
3. On the side of the manhole flange, at the 9 o'clock or 3 o'clock position (12 o'clock is the side of the manhole closest to the center of the tank as viewed from the top), drill a 5/16 inch hole through the manhole flange.

Install the filter module in the tank:

IMPORTANT: THE BOTTOM OF THE FILTER MODULE SHOULD BE AT A MAXIMUM DEPTH OF 8 FEET BELOW THE HIGHEST TANK WATER LEVEL, BUT NOT CLOSER THAN 1/2 FOOT FROM THE BOTTOM OF THE TANK TO PREVENT STIRRING UP SEDIMENT.

1. Slowly lower the filter module down into the water. For deep tanks (water depths of 9 feet or more), position the bottom of the filter module 8 feet below the highest water level. For shallow tanks (water depth less than about 8-1/2 feet), lower the filter module down into the tank until it touches bottom, pull back up 1/2 foot.
2. Remove excess chain and attach chain to the #8 bolt with second #8 nut.
3. Insert the 90 degree hose barb fitting through the 5/16 inch hole in the side of the manhole flange from the outside of the manhole, and attach the 3/16 inch black Norprene hose to the barb, cutting off excess Norprene hose as appropriate.

MIXER INSTALLATION

The mixer installs into the well water feed pipe to your tank. For above ground tanks, the mixer should be installed at about the same vertical level as the filter module (the bottom of the mixer should be at about the same level as the bottom of the filter module). For buried tanks, the mixer can be mounted anywhere above the ground. The mixer can be mounted in any orientation.

The mixer has a 1 inch PVC slip input (lower) and a 1-1/2 inch slip output (upper). To maximize the effectiveness of the mixer, 1-1/2 inch pipe should be run from the top of the mixer, up the side of the tank to the point of water introduction into the tank. If this is not possible, the 1-1/2 inch pipe should be run at least 3 to 4 feet from the top of the mixer before converting to the existing water well feed pipe, thus providing a "mixing chamber" for the ozone gas.

Glue the mixer in place in the well water feed line:

1. Determine vertical location of the mixer.

Home

Ozone

How it Works

Sizing

Models

Maintenance

2. Cut the water pipe in appropriate location. Using PVC fittings, glue the water feed pipe (from the well pump) to the bottom input of the mixer. NOTE - MAKE SURE THE MIXER IS CORRECTLY POSITIONED WITH THE ARROW ON THE BYPASS CHECK VALVE POINTING IN THE DIRECTION OF WATER FLOW.
3. Using appropriate PVC fittings, install 1-1/2 inch PVC pipe from the top of the mixer to the tank water input fitting.

Ozone hose installation:

1. Using the glossy black vinyl hose (50 foot coil supplied), route the hose from the 3/16 inch barb in the manhole to the top 0 psi (white) check valve, wrapping the vinyl hose around the 1-1/2 inch water feed pipe for a neat installation. NOTE: If it is cold outside, heating the vinyl hose slightly with a match will make it easier to slip onto the barb fittings.
2. Connect the 6 psi (red) check valve hose to the venturi eductor barb.

Freeze Protection:

The mixer assembly is subject to freezing as is the water feed pipe from the well. In freezing climates, insulate well. Use "heat tape" in severe climates.

OZONE GENERATOR INSTALLATION

The ozone generator can be mounted up to 200 feet from the holding tank; 50 feet of black vinyl hose is supplied which is more than adequate for most installations. Consult factory if additional hose and connectors are needed.

The generator construction is rain tight and can be mounted indoors or outdoors. Good ventilation is required since the generator creates heat.

1. Remove generator can lid.
2. Mount the can to a solid vertical surface (wall, etc.) with the 3 screws supplied. Two screws are used to mount the can hanging tabs, and one screw is used to attach the can back to the mounting surface through the 1/4 inch hole provided in the back of the can.
3. Write installation date on sticker located on the inside of the can lid.
4. Route the 3/16 black vinyl hose from the ozone generator to the lower 0 psi (white) check valve of the mixer. Be sure to route the hose so it will not become accidentally damaged.
5. If your generator is cord connected, plug the ozone generator into a properly grounded, grounding type receptacle. Use a waterproof receptacle/plug cover if installed outdoors. If your generator is the 230v hard wired version, wire according to local and national codes.

STARTING UP YOUR SYSTEM

Recheck your installation to verify that it is correct. Turn ON the ozone generator. You should hear a faint hum - this is the air pump. A faint blue-green glow should be visible through the lens near the top center of the generator can - this indicates the UV lamp is ON and the system is producing ozone. NOTE: The UV lamp may not fire up immediately if the ambient temperature is below 40 degrees F, and may never fire in extreme cold. However, once lit, the lamp will stay lit in extreme cold.

Proceed to the tank manhole - you should see a full pattern of bubbles rising up from the filter module. This may take a few seconds to develop since the entire ozone hose system must be pressurized.

Now turn ON your well pump. The bubble pattern inside the tank should decrease or stop completely. This indicates that the ozone gas is correctly being diverted to the mixer. If you see no change in the bubble pattern in the tank, recheck your installation and make sure the ozone hose is correctly installed and the mixer is installed with the flow arrows pointing in the direction of water flow.

If the installation is correct, it is possible that your well pump cannot create enough pressure to fully activate the mixer. With the well pump ON, pull off the black Norprene hose from the venturi eductor barb - you should be able to feel suction on the venturi barb indicating that the mixer is working. Reinstall the Norprene hose.

If no suction is detected, check for debris in the mixer. The mixer bypass valve is factory set to 15 psi. If your well pump cannot produce more than 15 psi, the water flow into your tank will all pass through the venturi eductor and your well water feed flow rate will be reduced. This is no cause for alarm as reducing the water flow rate will not harm your well pump.

- [Home](#)
- [Company History](#)
- [Properties of Ozone](#)
- [Secondary Contaminants](#)
- [How "Triple O" Works](#)
- [Additional Benefits](#)
- [System Application and Sizing](#)
- [Models](#)
- [Maintenance](#)
- [Frequently Asked Questions](#)
- [User Testimonials](#)
- [Ozone "In the News"](#)
- [Standard Warranty \(USA\)](#)
- [Extended Warranty \(USA\)](#)
- [Dealer Information](#)



Triple O Systems, Inc

1550 Dell Ave., Unit E, Campbell, CA 95008, USA
E-mail sales@tripleo.com, Phone (408) 378-3002, Fax (408) 378-7155

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 facility, 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 chlorine 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.

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 about the same electricity as a 55 watt light bulb. This means a typical operating cost of about \$3 per month.

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

A rectangular button with a blue border and a light blue gradient background, containing the word "Home" in bold black text.A rectangular button with a blue border and a light blue gradient background, containing the word "Ozone" in bold black text.A rectangular button with a blue border and a light blue gradient background, containing the text "How it Works" in bold black text.A rectangular button with a blue border and a light blue gradient background, containing the word "Sizing" in bold black text.A rectangular button with a blue border and a light blue gradient background, containing the word "Models" in bold black text.A rectangular button with a blue border and a light blue gradient background, containing the word "Maintenance" in bold black text.

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 4000 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. The system has been granted a United States Patent.

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 size holding tanks does the system work on?

The maximum recommended tank size is 10,000 gallons; multiple systems can be used for larger tanks. The minimum tank size is limited only by the water usage. We recommend that for fairly severe water conditions that not more than 25% of the holding tank capacity be used in a 24 hour period. Since a typical family of 4 uses an average of 350 gallons per day, this size family should have a minimum 1500 gallon capacity holding tank.

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.

- [Home](#)
- [Company History](#)
- [Properties of Ozone](#)
- [Secondary Contaminants](#)
- [How "Triple O" Works](#)
- [Additional Benefits](#)
- [System Application and Sizing](#)
- [Models](#)
- [Installation](#)
- [Maintenance](#)
- [User Testimonials](#)
- [Ozone "In the News"](#)
- [Standard Warranty \(USA\)](#)
- [Extended Warranty \(USA\)](#)
- [Dealer Information](#)



Triple O Systems, Inc

1550 Dell Ave., Unit E, Campbell, CA 95008, USA
E-mail sales@tripleo.com, Phone (408) 378-3002, Fax (408) 378-7155

What Users Tell Us

After installing the Triple O system for our water tank, I've been quite surprised and amazed at the results.

I have to admit I was a little skeptical going in, but since installing the ozone treatment system, the water has not only been sparkling clear, but the improvement in taste has been remarkable. Perhaps it's a comment on how poor the quality of our water was beforehand. Nobody in the house would drink it, nobody would use the ice cubes, but since Triple O all that's changed.

I have no hesitation in recommending the Triple O system to anyone who wants the purest, cleanest water possible.

Dr. Dean Edell, USA (*Doctor of medicine and respected US syndicated talkshow host*)

I just wanted to tell you how much I like your water system. We had well water high in iron and sulfur (rotten eggs). We also used to have very high bacteria readings. We got the Triple O System ... and now our water is great - no bacteria, no color and no odor. I was a little skeptical at first, but I am a convert now. Thanks a lot.

Rick & Anna, USA

This note is to let you know how impressed I am with the Triple O System that I have had for about 2 years now. Our water had iron, sulfur and perhaps other things as well ... only used for showers. Upon installation of the Triple O, water quality immediately improved ... the water is now not only clear and odorless, but seems softer too. Thanks for providing a product that actually does what the brochure claims, and for a very reasonable price.

Mike Humphries, USA

Your Triple O System was installed in our Potter Valley vacation home in June of 1995. The difference in our water is remarkable. The iron and manganese over the last 20 years had caused much discoloration of all bathroom fixtures (particularly the fiberglass shower), plus the inside finish of our swimming pool.

Upon installation of the Triple O System, we noticed an immediate difference in taste and odor. . . the pool water is crystal clear. The shower walls remain white. We are very pleased overall with the Triple O System, and highly recommend it for water with high iron and manganese.

Viada C. Hoffman, USA

Cheryl and I wanted to drop you a quick note to express our satisfaction with the Triple O purification system that was installed last spring. Our water has been crystal clear. It has no trace of the rust that had been ruining our plumbing, teeth and food.

Home

Ozone

How it Works

Sizing

Models

Maintenance

Ron Barr, USA

..I had been using a number of conventional water filters to reduce sediment build-up and bad tastes... purchased a Triple O System and all of my water problems literally disappeared within a week. Since that time, out of town guests and other friends, who drink chlorinated water on a regular basis, have commented how great my water tastes, and of course it is chemical free. I believe the Triple O System is the solution for all rural property owners who have any sort of bad tastes or odors in their well water. The system has been easy to maintain and I could not imagine treating my water any other way in the future.

Kelvin J. Sheahan, USA

It has been approximately 18 months since the Triple O System was installed at our home ...We had a serious odor problem due to the high hydrogen sulfide level in the water. The iron content was also higher than desirable. Since the installation of the Triple O ozone system, the odor has been totally eliminated... The system has performed flawlessly with filter cleaning being the only maintenance. We are completely satisfied with the product and recommend it without any hesitation.

Serge Blanc, USA

- [Home](#)
- [Company History](#)
- [Properties of Ozone](#)
- [Secondary Contaminants](#)
- [How "Triple O" Works](#)
- [Additional Benefits](#)
- [System Application and Sizing](#)
- [Models](#)
- [Installation](#)
- [Maintenance](#)
- [Frequently Asked Question](#)
- [Ozone "In the News"](#)
- [Standard Warranty \(USA\)](#)
- [Extended Warranty \(USA\)](#)
- [Dealer Information](#)



Triple O Systems, Inc

1550 Dell Ave., Unit E, Campbell, CA 95008, USA
 E-mail sales@tripleo.com, Phone (408) 378-3002, Fax (408) 378-7155

Ozone in the News

"International Bottled Water Association (IBWA) membership standards require that any non-chlorinated public water supply be treated by mechanical filtration and ozonation prior to bottling. ... If the source water is a protected private water supply, such as a spring or well, the minimum treatment required is ozonation or other acceptable means of protecting the product against bacterial contamination." Jerry T. Hutton, Vice President Scientific Affairs McKesson Operations Resource Group

SCRUTINIZING OZONE TREATMENT OF DRINKING WATER Ozone in the stratosphere acts as a sunscreen,...but in drinking water ...ozone makes an effective disinfectant and purifier. Ozone treatment also avoids creation of trihalomethanes (THMs), the harmful by-products formed in the more common chlorine treatment of water. The products formed during ozonation appear to be harmless... In the United States and Canada, the number of ozonation plants increased from 28 to almost 70 between 1977 and 1984. ENVIRONMENTAL SCIENCE & TECHNOLOGY

Ozone generators are used in some systems to produce small quantities of the gas which is a very strong oxidizing agent, and is effective in killing bacteria with short exposure times. Ozone is also effective in oxidizing organic matter, iron and manganese, and produces no tastes and odors. REEVES JOURNAL

OZONATION IS WAVE OF FUTURE FOR DRINKING WATER Ozone is looking like the chemical of choice to replace chlorine in drinking water treatment plants as EPA's new surface water disinfection rules under the amended 1986 Safe Drinking Water Act (SDWA) come into effect over the next couple of years. Rice has predicted that 75% of all U.S. surface water treatment plants directly influenced by surface waters will install ozone by 1995. Montgomery is currently working on a pilot plant in LaVerne, Calif. for the Metropolitan Water District of Southern California. It supplies half of Southern California's water needs and has been studying ozone a treatment option for the last two years, primarily in response to the new EPA rules. Drinking water has been treated with ozone in Europe since 1906. The first plant was in Nice, France. Today, Europe has 3,000 ozonation facilities, said consultant Rip Rice. Research into chlorine alternatives in the United States began in 1974 when that chemical was

Home

Ozone

How it Works

Sizing

Models

Maintenance

discovered to have harmful residues, said the EPA's Director of Drinking Water Standards Joseph Cotruvo. Ozone has a short life and must be generated on site. ENVIRONMENTAL BUSINESS JOURNAL

"Chlorine produces byproducts such as THMs that can be harmful to human health. The need for THM (Trihalomethane) control has forced water utilities to search for appropriate substitutes... Ozone and chlorine dioxide are being used presently at various facilities." "In tests in which ozone has been compared with chlorine, ozone has been shown to be superior as a coagulant..." William H. Glaze UCLA Professor of Public Health

During the past two years the professional water treatment trade press has devoted considerable space and attention to the technological aspects of ozonation as a purification and oxidation technique for residential point-of-entry/point of use applications. "Folks usually won't call a treatment company until they've decided they just can't live with their problems any longer. That often means their water is so bad it's beyond the scope of the type of treatment devices available...But ozone, combined with appropriate filtration and other system components tailored to the specific problem, permits us to tackle water chemistries that we might have avoided before." Durham typically uses the ozone system to treat coliform bacteria, iron, iron bacteria, hydrogen sulfide, taste, color and odor. "we've seen results such a 33 parts per million iron reduced to non-detectable and effluent of bottled water quality where taste and smell have been the problem." "Ozone generally makes other equipment perform better..." WATER CONDITIONING & PURIFICATION

Seraydarian also said people who get water from private wells should be concerned, and not only with toxics. A study of private wells in the county revealed 36 percent of those are contaminated with coliform bacteria. Carbon filters on taps can be home to bacteria. Water softeners should be hooked up to hot water only. That way, cold water used for drinking is free from the high levels of sodium used to soften the water. LOS GATOS TIMES OBSERVER

"We have a number of water store operators who use ozone not only for purification of their holding tanks...but also as a means of insuring that any potentially contaminated bottles their customers may bring in will be disinfected." Another potentially important ozone application is pre-treatment for R.O. systems to reduce biofouling of the membranes. ...reports from such industry authorities as Robert Slovak of Water Factory Systems have stated that ozone is the best treatment available for sanitizing holding tanks and preventing taste and odor from occurring during storage. "Because ozone will oxidize iron, manganese and hydrogen sulfide, the overall load on the softener is greatly reduced," Long added. WATER CONDITIONING & PURIFICATION

Ozone is only partially soluble in water, as a rule of thumb, about 13 times the solubility of oxygen. As a result, applying ozone to water involves gas/liquid contacting. Of those materials readily available for water treatment, ozone is the most powerful, having an oxidation potential about 1.5 times higher than that of chlorine, and 20% higher than pure hydrogen peroxide. OZONE FOR DRINKING WATER TREATMENT

CHLORINE'S OUT, OZONE'S IN AS PURIFIER OF WATER ."..Adding chlorine to water is not a healthy practice... For years no one knew that people were getting small doses of THMs every time they brushed their teeth or made lemonade... The ozone gas, which smells like watermelons, disinfects as well as chlorine does. It is more expensive. Europeans pay much more for their water than Americans. But , unlike chlorine, ozone disappears into the air within 24 hours, leaving behind no toxic residuals... The two year old, \$106 million plant in Sylmar, Los Angeles, is one of the largest in the world that disinfects with ozone... So far, nothing alarming has been found in the product of the plant called 'one of the best in the world.'" LOS ANGELES HERALD EXAMINER

- [Home](#)
- [Company History](#)
- [Properties of Ozone](#)
- [Secondary Contaminants](#)
- [How "Triple O" Works](#)
- [Additional Benefits](#)
- [System Application and Sizing](#)
- [Models](#)
- [Installation](#)
- [Maintenance](#)
- [Frequently Asked Questions](#)
- [What the Users Say](#)
- [Standard Warranty \(USA\)](#)
- [Extended Warranty \(USA\)](#)
- [Dealer Information](#)



Triple O Systems, Inc

1550 Dell Ave., Unit E, Campbell, CA 95008, USA
E-mail sales@tripleo.com, Phone (408) 378-3002, Fax (408) 378-7155

The Triple O Warranties

Limited Warranty (USA)

Triple O Systems, Inc., warrants to the original owner its Model TWTS-101 to be free of defects in material and workmanship for a period of one year, and will be repaired or replaced at no charge to the customer (excluding field labor) under normal use and care during the warranty period.

To get a defective part replaced, call your dealer and explain the problem:

1. Have the dealer service the unit (he will charge a nominal labor charge which you are responsible to pay).
2. Take the defective part to your dealer for exchange.
3. You may obtain your defective part replacement from Triple O Systems (TOS) by shipping the part to TOS, prepaid, along with complete information (copy of original sales receipt, description of problem, name, address, daytime phone number and evening phone number). TOS will repair or replace the failed part and ship via UPS prepaid within 3 days after receipt of the defective part.

As the owner's exclusive remedy, any defective part or assembly will be repaired or replaced at the sole discretion of TOS. Field service labor is specifically excluded from the terms of this warranty.

Except as set forth above, there shall be no other guarantees, warranty or liability either expressed, implied, oral or statutory and in no event shall Triple O Systems, Inc., its agents or employees be liable for injury or damage to any person or property whatsoever, or for any special, indirect, contingent, secondary or consequential damage of any nature however so arising. Triple O Systems, Inc. does not warrant the Triple O Water Treatment System to be merchantable or fit for a particular use.



Home

Ozone

Your specific legal rights under this limited warranty may vary from state to state.

How it Works

3 YEAR EXTENDED WARRANTY (USA ONLY)

A three year factory extended warranty is available at additional cost. This warranty covers all components of the system (except filter), and extends the factory warranty for an additional two years beyond the original one year warranty. This extended warranty includes two replacement UV light assemblies (one for replacement at 18 months and one for replacement at 36 months). Contact your dealer for details.

Sizing

Models

WHAT IS COVERED? This extended warranty covers the model TWTS-101 Water Treatment System, including the Ozone Generator, In-Line Mixer and Filter Module and all components thereof. Included, at no additional cost, are two replacement UV Lamp Assemblies: One for replacement at 18 months and one at 36 months. *You must call either your Dealer or Triple O at 18 and 36 months to receive your free UV Assemblies.* Triple O will allow a 90 day grace period beyond the 3 year term of this warranty to order the final UV Lamp Assembly only.

Maintenance

WHAT EXCLUSIONS ARE THERE ON COVERED ITEMS? Except for loss due to theft, war, riot, negligence, purposeful damage or Acts of God, all covered items will be repaired or replaced during the warranty at no charge to the customer for materials.

WHAT IS NOT COVERED? The Filter Element and any special items that may have been used for a particular installation (i.e. special wiring, special bracketing, etc.). *All field labor is specifically excluded from the terms of this parts warranty.*

HOW LONG IS MY WARRANTY? This warranty covers an additional 2 years after the 1 year original factory warranty that comes with the equipment. The original factory warranty began with the equipment purchase.

CAN I TRANSFER MY EXTENDED WARRANTY? Yes, this warranty is transferable any number of times. Call or write Triple O to make your transfer request. A \$20.00 transfer fee will be assessed to cover the cost of record keeping. The transferred warranty will expire on the same date as the original extended warranty.

HOW DO I GET MY DEFECTIVE PARTS REPLACED? Simply call your Triple O dealer, explain the problem: 1) Have the dealer service the unit (he will charge for labor which you are responsible to pay), or 2) Take the defective part to the dealer for exchange. You may also obtain your defective part from Triple O Systems (TOS) directly by shipping the part to TOS, prepaid along with complete information (description of problem, extended warranty number, name, address, and phone number). TOS will repair or replace the failed part and ship via UPS prepaid within 72 hours after receipt of part.

HOW DO I KNOW MY EXTENDED FACTORY WARRANTY IS IN EFFECT? You will receive written notification from TOS within four (4) weeks from the date TOS receives your extended warranty paperwork. Contact TOS immediately if you do not receive

notification as indicated. TOS has no obligation to honor the Extended Warranty unless a properly completed application and payment of proper fees are received by TOS in a timely manner, as outlined herein. Incomplete applications or applications without payment will not be honored.

- [Home](#)
- [Company History](#)
- [Properties of Ozone](#)
- [Secondary Contaminants](#)
- [How "Triple O" Works](#)
- [Additional Benefits](#)
- [System Application and Sizing](#)
- [Models](#)
- [Installation](#)
- [Maintenance](#)
- [Frequently Asked Questions](#)
- [What the Users Say](#)
- [Ozone "In the News"](#)
- [Dealer Information](#)



Triple O Systems, Inc

1550 Dell Ave., Unit E, Campbell, CA 95008, USA
E-mail sales@tripleo.com, Phone (408) 378-3002, Fax (408) 378-7155

Dealer Information

[Home](#)

Getting Started: The suggested way to get started would be to contact your customers, who are known to have bad well or spring water, and to perform either a table top or in-tank demonstration on their water. Everyone will be amazed at how well this system cleans up that problem water. Remember, happy customers tell others, and this makes for a successful Triple O dealer.

[Ozone](#)

We at Triple O Systems want to extend our support to all our dealers with regard to the application and installation of the Triple O ozone system. Simply stated, we want all installations to work and work well. To this end, for us to help you correctly apply and size the system, please have the following information available before contacting us:

[How it Works](#)

1. Recent water test
2. Size of holding tank in gallons if a tank exists
3. Maximum 24 hour water usage

[Sizing](#)

Table Top Demonstrator

[Models](#)

Allows simple demonstration of Triple O's ability to oxidize and filter contaminants. Shows your customer that Triple O will work on *their* water.

[Maintenance](#)

This unit consists of a two gallon clear plastic jug, with miniature filter / diffuser, and a Triple O ozone generator. The generator includes a carrying handle and rubber feet which allow for portability and table top display. Within one hour, your customer will be able to view the dramatic results of the Triple O system and its ability to clear up their water.

- [Home](#)
- [Company History](#)
- [Properties of Ozone](#)
- [Secondary Contaminants](#)
- [How "Triple O" Works](#)
- [Additional Benefits](#)
- [System Application and Sizing](#)
- [Models](#)
- [Installation](#)
- [Maintenance](#)
- [Frequently Asked Questions](#)
- [User Testimonials](#)
- [Ozone "In the News"](#)
- [Standard Warranty \(USA\)](#)
- [Extended Warranty \(USA\)](#)

System TWTS - 101

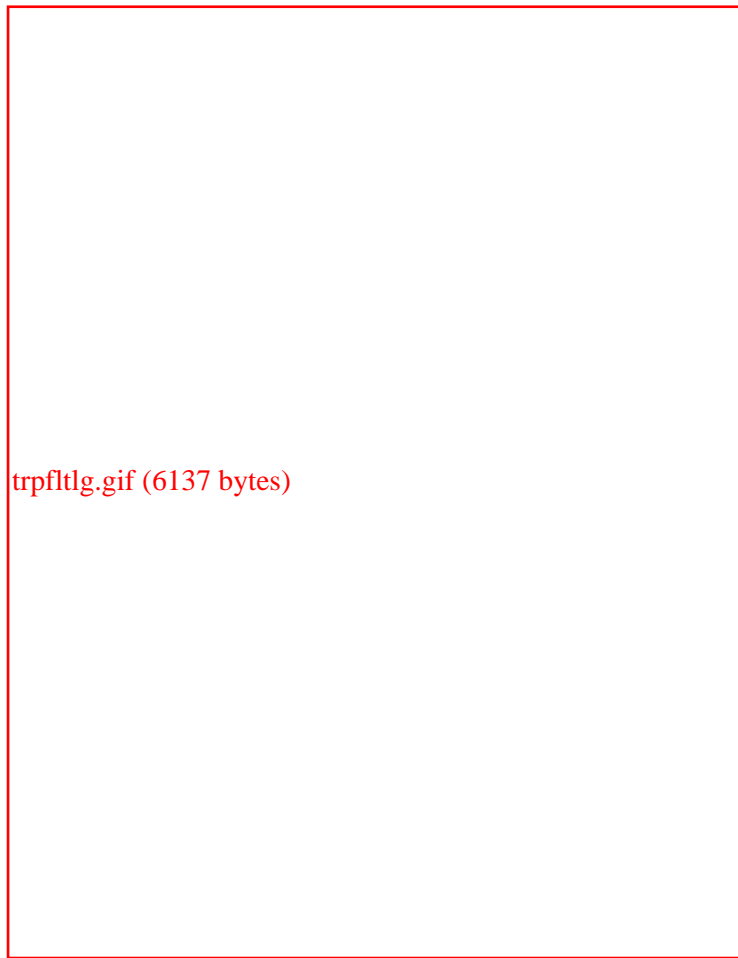


Back to:

[Installation](#)

[Maintenance](#)

Filter Module



Back to:

[Installation](#)

[Maintenance](#)

Top View of Tank/Manhole

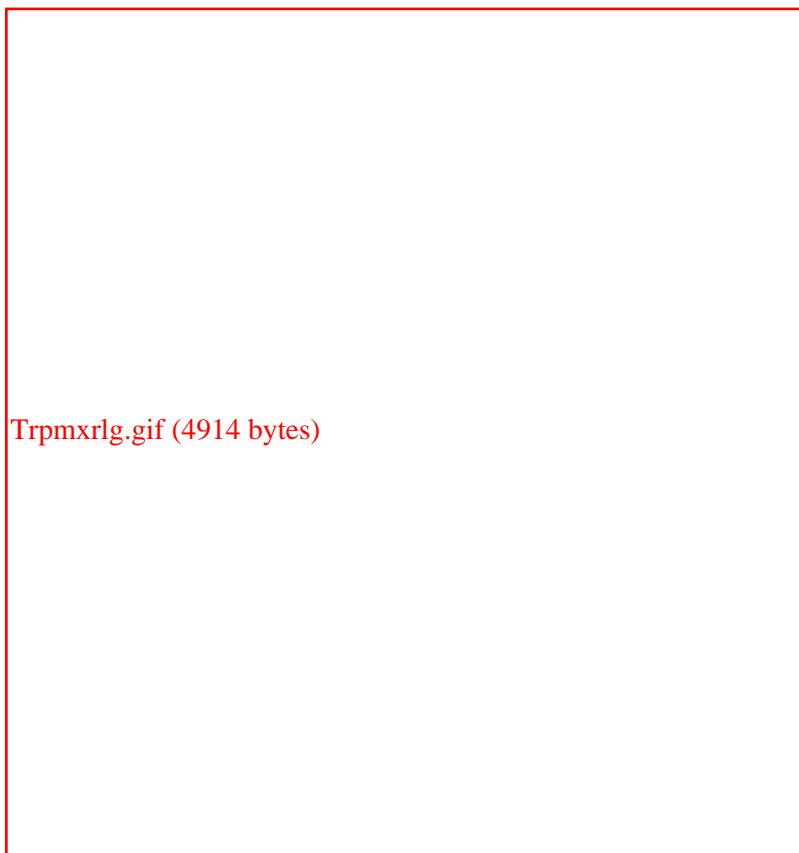
Trpmnhlg.gif (5618 bytes)

Back to:

[Installation](#)

[Maintenance](#)

Mixer



Trpmxrlg.gif (4914 bytes)

Back to:

[Installation](#)

[Maintenance](#)