



# Drinking Water Purifiers

For homes, offices and shops

... electronic control of microbes, taste, colour and odour

Drinking Water Purifiers



WT1

## Leading Edge Technology

*High technology products for electronically purifying the drinking water for your home, office or shop.* These innovative products generate environmentally friendly levels of ozone for eliminating microbes, off-tastes, colours and odours from your water.

**Do you buy bottled water?** If you do, you are probably drinking ozonated water as thousands of bottled water plants worldwide use ozone - and almost all the high quality plants do. But why not have your own bottled water plant in your own kitchen, which is what these Water Purifiers achieve by using the same process. It saves money but also treats the water when you need it - minutes before using it. (Bottled water might be stored for weeks or months before you buy it).

**Do you use mains tap water?** If you do, your Government would have treated it with chemicals. But there are numerous microbes that chlorine, for example, struggles to kill - such as giardia and cryptosporidium. Chlorine and organic matter also produce THMs, which are proven carcinogens. The National Cancer Institute, in a study of 6,000 patients,

confirmed a definite correlation between the amount of chlorinated water consumed and increases in bladder cancer. Ozone, however, is a strong bug-killer but leaves no chemical residue. This is why, in the USA, hundreds of Government authorities are introducing ozone into municipal water supplies. Europe, in fact, has been doing it for 50 years. Over 3,000 large scale plants use ozone, worldwide. (Did you know that all Olympic swimming pools are required to use ozone as well?) In your home, Ozone Water Purifiers actually remove the chlorine - at the best possible moment, minutes before you drink it.

**Do you use a water filter?** Then you are halfway there. But filters, including carbon, often do not kill microbes, they just stop them on the upstream side where they breed. You then drink water which passes through this "microbe nest". Filters should always be used in conjunction with a sanitising device, such as ozone, which kills microbes by oxidation.

**How ozone works.** Ozone is made from life giving oxygen. The oxygen is passed through an electric field (a plasma field in fact) where ozone is created. This ozone is then dissolved in water where it permanently removes pollutants (microbes, off-tastes, off-colours, odour, chlorine, etc) by a process of oxidation. Then, when it has done its job, it automatically converts back into oxygen again, so that it oxygenates your water to healthy levels. It leaves no chemical residue.

Ozone is approved by many bodies, such as the EPA and FDA, for drinking water, bottled water and food processing. Ozone achieves the following:

- Eliminates microbes, including parasites, bacteria, viruses, protozoa (giardia and cryptosporidium).
- Oxidises chemicals such as chlorine, manganese, iron.
- Removes off-tastes, leaving tasty "rain water".
- Removes off-colours, leaving clear water.
- Removes odours, leaving fresh water.

A wide variety of chemicals and microbes have been documented in various city water supplies (from your tap). Water Purifiers such as the WT1 or WT2 can control these pollutants:

|                        |           |              |
|------------------------|-----------|--------------|
| Cryptosporidium        | Iron      | Sediment     |
| Giardia                | Manganese | Particulates |
| Escherichia Coli       | Aldehydes | Organics     |
| Salmonella Enteritidis | Phenols   | Metals       |
| Listeria Menocytogenes | Lead      | Inorganics   |
| Campylobacter Jejuni   | Cadmium   | Odours       |
| Bacillus Anthracis     | Calcium   | Off-tastes   |
| Pseudomonas            | Sodium    | Off-colours  |
| Clostridium            | Chromium  | Chlorine     |

### Model WT1

The WT1 is an amazing "5 in 1" water purification system. It is like having a "bottled water" plant located on your own kitchen bench. The WT1:

- Filters out particulates and sediment (cellulose filter).
- Then adsorbs off-tastes and kills microbes (carbon filter).
- Then controls scale or salts (special filter).
- Then removes microbes, off-tastes, organic matter and metals (ozone).
- Then oxygenates your water (oxygen).

Simply connect the WT1 to your tap and start enjoying pure fresh water today.

The WT1 is rich with great features, many of which are truly unique:

- Instant automatic on/off controls. When you turn your tap on the electronics are activated. They turn off automatically when you turn the tap off again.
- Stylish aesthetics. A bright "translucent case" which will have your friends "peering inside" to see how it works. The product is deliberately "tall" with a small "foot print" to minimise bench space. (Or it can be mounted on the wall using the user-friendly "keyhole" slots). The top of the product can be used to place another kitchen appliance - or a vase of flowers or a coffee maker.
- Seconds to install. It just screws onto your tap. (Adaptors are available if you have a non-standard tap).
- A hi-tech "3 in 1 filter" is integrated into the product. It includes:
  - a particulate filter.
  - a carbon adsorber.
  - special pellets for scale and salts.

The filter has a large 1,500 hour life (3 times more than conventional filters). The filter is very easy to access for replacement - every few years perhaps.

- Plastic case and controls, with electrical insulation. Electrically certified including EMI.
- On/off switch, flex and plug.
- Extra long-life, high quality design. The ozone is generated by using plasma emitters (corona discharge) and mixed with water using a venturi injector.



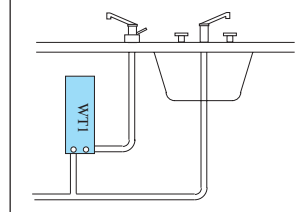
The WT1 quickly and simply connects to the end of your tap. Then, when you turn on the tap, the water is diverted to be treated by the WT1, then returned back again - almost without you knowing it - as the treated water still flows from the same tap!



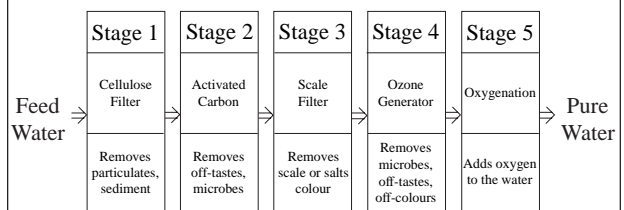
WT1

If required, the WT1 can be located under the sink by your plumber. Ideal for supplying pure water to a bench top drinking fountain.

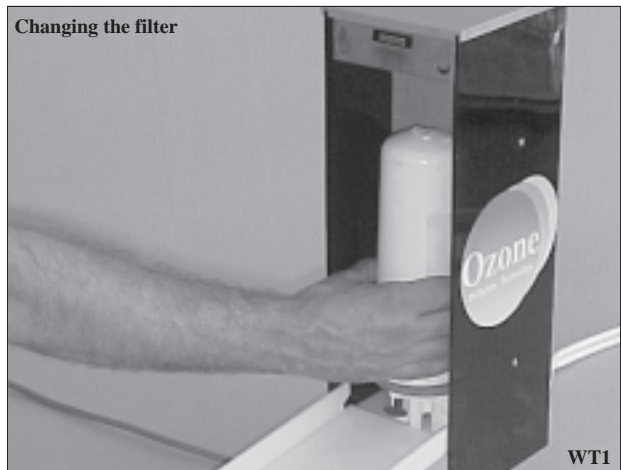
#### Optional "under sink" mounting



How does a Bottled Water Plant or Spring Water Plant work? Typically they involve multiple stages, like that below. And this is precisely what the WT1 does - in your own kitchen.



#### Changing the filter



WT1

## Model WP1

The WP1 Water Purifier is a cost effective solution to ozonate your water. Just drop the porous diffuser ball into a small tank. The WP1 then does the rest.

Ideal for treating a vessel or bottle of water, or for treating a sink/basin of water when washing fruits and vegetables. Also perfect for portable use such as camping, vans, boats and RVs.

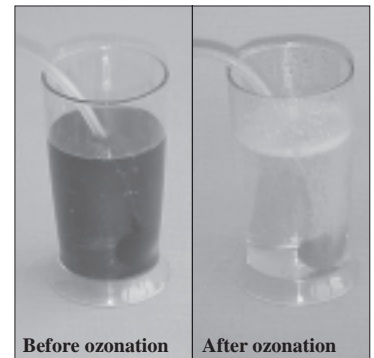
Also for small rainwater tanks. Rainwater makes great drinking water. However, you should not let the pollutants on your roof or gutter spoil it - birds, leaves, micro-organisms, etc. By adding the WP1 to your tank, you will be treating these pollutants.

Features include:

- Its own in-built air compressor.
- A porous ball for diffusing ozone into water.
- Plastic case and controls, with electrical insulation. Electrically certified, including EMI.
- On/off control, flex and plug, with microswitch.
- Attractive aesthetics in a bright "translucent case".
- Extra long-life, high quality design. The ozone is generated by using plasma emitters (corona discharge).
- Can be fitted with the CD1 Dryer Chamber Accessory to optimise ozone output and product life.

The WP1 treats microbes, parasites, chemicals, off-colours, off-tastes and odours.

Try this fun colour test. Fill a vessel with water and some common red cordial or food dye. After about 15 minutes it turns clear. After another 15 minutes it tastes like fresh water.



## Model WP1-750

The WP1-750 is, of course, a larger version of the standard WP1. It includes its own in-built air compressor and a porous diffuser for diffusing ozone into the water.

The WP1-750 is designed for larger tanks, either large home rain water tanks, or farm storage tanks. Just drop the diffuser stone into the centre/base of the tank, position the ozone supply tube, and connect electricity.

The WP1-1000 includes a cyclical timer, plasma ozone emitter, plastic case and many more great features.

The CD1 Dryer Accessory slides into the product to achieve even higher oxidation performance and to optimise the life of the emitter component.

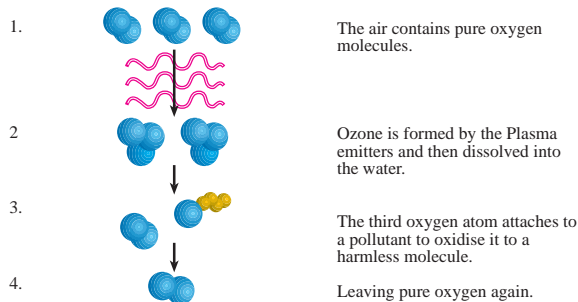


**Data Table**

| Water Purifier Code →                                    | WT1   | WP1                   | WP1-750             |
|--|---|-----------------------|---------------------|
| Application  | Connect to tap faucet                           | Drop ball into vessel | Drop ball into tank |
| Outlets supplied as standard                             | - Nozzle  | Tap connector         | Porous ball         |
|  | - Valve   | Check valve           | –                   |
|  | - Hose  | 1m hose               | 3m hose             |
| Oxidant output, maximum (dryer chamber fitted) (mg/hour) | 200   | 200                   | 750                 |
| Oxidant concentration, maximum (ppm)                     | 1,500   | 1,500                 | 2,000               |
| Air/gas flow rate, maximum (litres/minute)               | 0.5   | 0.5                   | 1.0                 |
| Rated power, nominal (watts)                             | 30  | 30                    | 120                 |
| Weight, nominal (kg)                                     | 5.0   | 4.0                   | 8.0                 |
| Dimensions, as standard                                  | - Width W (mm)                                  | 140                   | 140                 |
|  | - Length L (mm)                                 | 170                   | 330                 |
|  | - Height H (mm)                                 | 380                   | 170                 |
| Water flow rate, design level (litres/minute)            | 2   | –                     | –                   |
| Filter life, recommendation to change (operating hours)  | 1,500   | –                     | –                   |
| Filter life, at 5% utilisation (years)                   | 3.5   | 3.5                   | 3.5                 |
| Height of tank or vessel, maximum (m)                    | –   | 1                     | 4                   |
| Features   | - plasma ozone emitter, tubular                 | ✓                     | ✓                   |
|  | - air pump                                      | –                     | ✓                   |
|  | - plastic body                                  | ✓                     | ✓                   |
|  | - certified: no electromagnetic interference    | ✓                     | ✓                   |
|  | - Dryer Chamber accessory can be fitted         | –                     | ✓                   |
|  | - cyclical timer                                | –                     | ✓                   |
|  | - automatic on/off, via flow switch and venturi | ✓                     | –                   |
|  | - on/off switch and safety micro switch         | ✓                     | ✓                   |

**Innovative Electronics**

**Ozone science (for microbe + colour control)**



**The problems with drinking chlorinated water:**

- Chlorine and organic matter create THMs (tri-halomethanes) which are carcinogens.
- Chlorine struggles to kill protozoa such as Giardia and Cryptosporidium.
- Chlorine can create odours and discoloration.
- Chlorine leaves a chemical residue.
- Chlorine is a relatively weak oxidant (50% weaker than ozone).
- Chlorine is a relatively slow acting oxidant (kills cellular microbes 3,000 times slower than ozone).

**The problem with particulate filters:**

- When used alone they do not remove the following:
- bacteria and viruses
  - organic contaminants
  - chlorine, fluoride
  - minerals
- and they must be replaced regularly, e.g. 6 monthly.

**The problem with carbon filters:**

- When used alone they do not remove the following:
- bacteria and viruses
  - fluoride
  - dissolved ions
  - minerals
- and they are easily colonised by bacteria. They must be replaced regularly or pollutants just pass straight through them.
- Particulate Filters + Carbon + Ozone can solve these problems.

**Accessories**

|                                    |  |                             |  |
|------------------------------------|--|-----------------------------|--|
|                                    | Filter Cartridge for WT1. Code 3848UV.   |                             | For drying feedstock air, to maximise ozone output and product life, for model WP1 and WP1-750                                   |
|                                    | Check Valve for all models. Code 3847UV. |                             |  |
| Replacement Filters & Check Valves |  | Dryer Chamber CD1           |  |
| Purifier                           | Hose (Type)                              | Hose Code                   | Simple device for indicating ozone in water levels, using the DPD method. Comprises a set of tablets. Fits in your shirt pocket. |
| WT1                                | 10mm x 1m                                | HS10                        |  |
| WP1                                | 6mm x 5m                                 | HS6                         |  |
| WP1-750                            | 6mm x 5m                                 | HS6                         |  |
| Spare Hose                         |  | "Ozone In Water" Tester EW0 |  |

**The problems with ultraviolet products (radiation type):**

- When used correctly they can kill microbes, but they have no effect on other pollutants such as:
- organic contaminants
  - off-tastes
  - minerals
  - off-colours
  - chlorine
  - salts and scale.
- Their ability to kill microbes reduces dramatically:
- if there is organic load or sediment in the water, which shields the microbes from UV rays
  - if the UV tubes are not regularly cleaned
  - if the water flow rate is too high.
- The UV tubes break easily.
- The UV radiation is carcinogenic if it escapes from the chamber.

**Application notes**

1. For the very best results with the WT1, run the treated water from the tap into a glass or bottle or vessel. Then leave for 4 minutes prior to drinking.
2. Replace filters and check valves periodically.
3. For best results with the WP1 and WP1-750, run water through pipes to clean pipes, prior to drinking. Regularly check microbe levels in tank, ozone levels, and adjust disinfectant levels as required.
4. Water Purifiers are not suitable for water which is biologically unsafe.
5. Read Instruction Manual before use.

**Useful Conversions**

- 1m = 1000 mm = 3.38 feet
- 1kg = 1000 g = 2.20 pounds
- 1Pa = 0.102 mm water = 0.004 inches water
- 1 l/s = 3.60 m<sup>3</sup>/hr = 2.12 cfm
- 1kW = 1000 W = 1.34 hp
- Ozone: 1 ppm (by volume) = 2 mg/m<sup>3</sup> = 2000 µg/m<sup>3</sup> (at 1 atmosphere and 25°C).

Ozone Pollution Technology,  
 Sydney Head Office, 212 Silverwater Road,  
 Silverwater NSW 2128, Australia.  
 Phone 02-9748 7748  
 Fax 02-9748 7749  
 Email sales@ozonetec.com  
 Web Site http://www.ozonetec.com