

# Technologically Advanced Method For Water Treatment & Purification-Chemical-Free

Patented Electro-Magnetic Fluid Conditioning • Ultra Violet (UV) Disinfection & Purification All-In-One System

**Triangularwave Technologies, Inc. Deposit Control & Ultraviolet Disinfection/ Purification modular systems.**

**Technologically advanced method for water management.**

Waterlines in the residential, commercial & industrial sectors, *where clean water is essential*, commonly allow a contaminated interior environment conducive to the growth of bacteria, protozoa, and fungi, which initially arrive in small numbers through wells, and public waterline plumbing systems. Over time, these microorganisms bind to the sides of your water pipes and tubing, and equipment forming biofilm. As water flows through the pipes and tubes, the biofilm sheds microorganisms and bacterial endotoxins into the water, leading to these harmful conditions.

TWT® systems are factory engineered and assembled, applying the needed elements for maximum fluid protection, in one simple packaged solution. TWT Microprocessor Deposit Controller, Reaction Chamber, and UV Disinfection units are combined to provide a simplified prevention, treatment and management of water line contamination dangers. *The TWT water disinfection/purification systems are unique, compact, self-contained units for the treatment of water.*

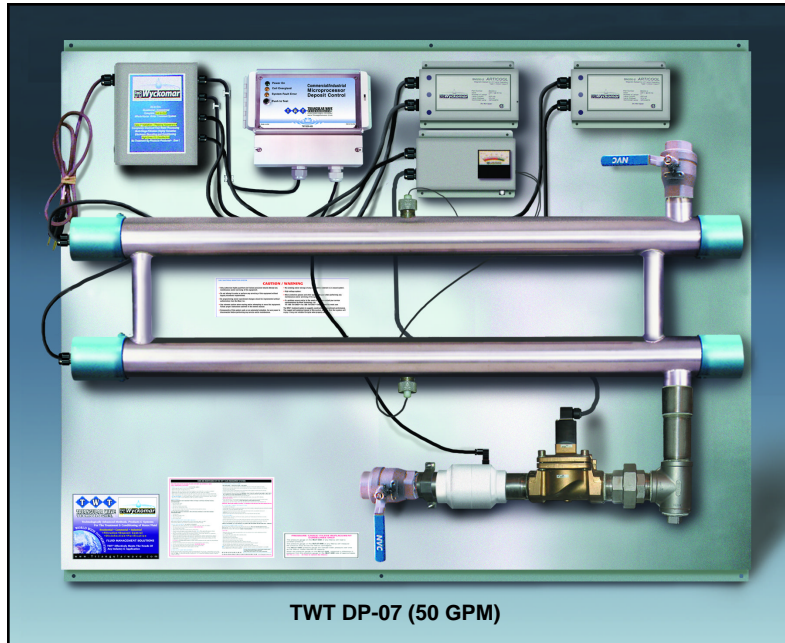
**How the TWT Disinfection/Purification systems work!**

**1. Deposit Control** (sized to meet flow requirements)

**TWT® Patented Deposit Control Technology**

Hard water problems solved easily. Control scale deposits, bacteria, corrosion, algae and colloids in all fluid based systems. Providing comprehensive end-to-end treatment & conditioning. **(chemical-free)**

The basic component in the TWT systems is the deposit controller. It is comprised of a microprocessor, solenoid



coil wrap and/or a reaction chamber. The microprocessor is a patented controller that functions like a computer to relay a continuous electrical power supply to the solenoid coil and/or reaction chamber.

The reaction chamber is plumbed into the main water in-take line and/or just before each piece of vital processing equipment, and provides a factory wrapped wire coil forming a solenoid. The solenoid conveys the Triangularwave signal at the appropriate

power level (as allowed by the model chosen) to the water passing through the chamber.

This signal constantly changes the polarity, frequency, and a amplitude of the current entering the water. This triangular wave treatment produces several benefits. It increases the capability of the water to hydrate scale ions and other colloidal particles. In effect, the surface charge of the hydrogen molecules is enhanced and the water is made "wetter". This "hydrated" water can dissolve unwanted particles, suspend them in solution, and allow them to be easily filtered out or flushed from the system. Accordingly, the mineral and biological particles that cause scale, deposits, and corrosion are dissolved and washed away.

This means that the breeding environments for bacteria, such as bio-film and corrosion, are eliminated. The agitation created in the reaction chamber also disrupts the conditions essential for the normal reproduction of bacteria and they die, thus allowing them to be harmlessly flushed out of the system. If left untreated, scale build-up inside the reaction chamber and on the quartz sleeves containing the UV lamps may rapidly diminish the UV disinfection effectiveness by reducing the amount of UV light which is absorbed into the water stream.

The TWT Deposit Control System will further condition the treated water stream so as to prevent this scale-build-up inside the UV reaction chamber, helping to maintain maximum UV life cycle and penetration into

# TWT Electro-Magnetic Fluid Conditioning & UV Disinfection & Purification Systems

the water stream. TWT deposit control technology (treated fluid) maintains the ability to control deposits throughout the system with down-stream residual value

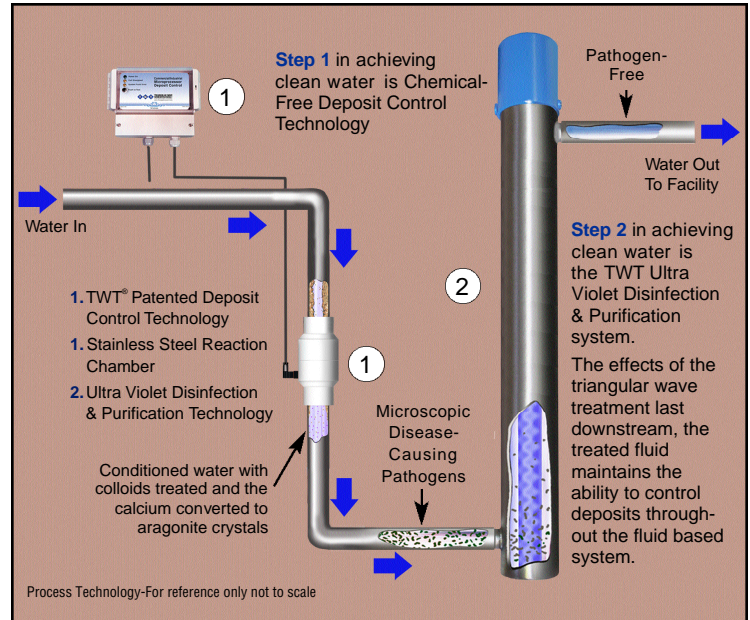
## 2. Disinfection/Purification

**Ultra-Violet:** (sized to meet flow requirements)

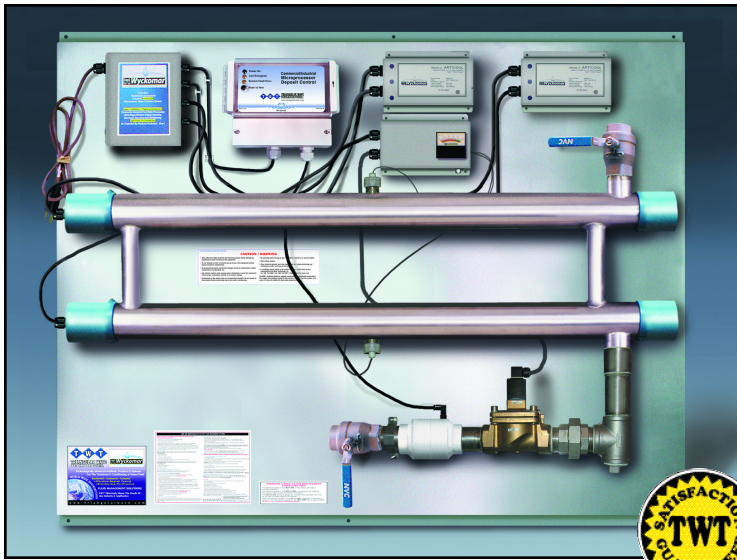
The UV disinfection technology used in the system to provide safe, potable drinking water, free of disease-causing pathogens. As water passes through the UV chamber, UV light will attack and render harmless any bacterial, viral or spore contamination present in the treated water. "High intensity UV light destroys these contaminants with a 99.9% or greater kill rate" The output water is thus disinfected and offers exceptionally high quality for human consumption

**Triangularwave TWT® Ultra Violet Lamp Protection (cleaning) with Down-Stream Residual Benefits**

**TWT® Deposit Control Technology • Ultra Violet (UV) Disinfection & Purification Combined for Maximum Effectiveness "The Competitive Edge"**



**Test proves Triangularwave Technologies (TWT®) Deposit Control System reduces the fouling effects caused by "hard water" on the quartz sleeve and UV lamp inside the disinfection/purification unit while maintaining the residual effects downstream chemically free.**



**TWT-DP-07 (50 GPM)**

The TWT® All-In-One water conditioning, disinfection and purification systems are unique, compact, self-contained units (easy installation & operation). Modular units shipped to customers ready to put in place, plumb into water feed-line and plug in and operate.

### Specifications:

Factory assembled and mounted on stainless steel frame with mounting brackets and/or holes provided • Size Approx: 52"W x 43"H x 8"D • Weight Approx: 124 lbs. (may vary according to custom design requirements). 2" in/out. All TWT systems are shipped with 120 VAC/60Hz current source. Other current source available upon request. Must specify current source requirements when placing order. All electrical, piping, fittings, and materials (equipment) used in the system can be engineered and system integrated to conform to requirement of the submitted RFQ.

**All UV purifier units have an audible alarm feature**

**Minimal maintenance required • Replace UV lamps yearly for maximum effectiveness**

### Note:

System engineering design, weight, size and system component assembly can vary based on TWT engineering review, water conditions, application, industry and/or customer specific needs. Pumps, piping, fittings, valves, and other material needed to and from system owners responsibility. TWT Inc. recommends that an initial supply of replacement UV lamps be stored at owners facility at all times, that will insure uninterrupted service and treatment.

### Optional:

Pre and/or Post filtration for all units available upon request (well & process water application)

TWT offers several systems designed to treat and meet your individual & industry-specific needs.

### Custom Engineered Systems Built to Order Only

TWT-DP-02 4 GPM Treatment System

TWT-DP-03 8 GPM Treatment System

TWT-DP-04 12 GPM Treatment System

TWT-DP-05 15 GPM Treatment System

TWT-DP-06 30 GPM Treatment System

TWT-DP-07 50 GPM Treatment System

Upgrades (GPM): Available upon request

### Optional: Unit Pricing

All DP series water treatment units are engineered and built to order with UV monitors and automatic solenoid shut-off valves. If these features are not required for project application; contact your distributor or Triangularwave Technologies for technical support prior to purchase..

**TWT water treatment systems are ruggedly constructed for exceptional performance. These systems are ideally suited for Wells, Homes, Offices, Factories, Farms, Medical /Dental & Laboratory, Pool/Spas, Hot Tub Environments, Hospitals, Restaurants, Schools and anywhere the need for cleaner water to use and drink are required. The rugged self-contained design of these systems ensure that the system will enjoy a long and reliable life cycle when properly cared for.**

