# Triangularwave Technologies, Inc. (TWT®) Technologically Advanced Method For Water Filtration, Conditioning, Treatment & Purification

Multi-Stage Filtration • Electro-Magnetic Fluid Conditioning • Ultra Violet Disinfection & Purification All-In-One System

**Provide Your Customers** With Technologically Advanced Modular Water Treatment Systems. Available for the building industry, medical /dental, laboratory environments, residential, restaurant, childcare. corrections. aviation, convenience store, telecommunications markets, marine industry, rainwater harvesting, agriculture/irrigation, remote areas, , commercial and industrial facilities worldwide. Chemical-Fre



breeding ground for bacteria. Filtration is the first line of defense for residential, commercial, industrial facilities, where the source of water may be ponds, wells or streams that have high exposure to contamination from airborne pollutants, surface run-off, agricultural or industrial waste or similar dangers. The first step in achieving clean water is to install a filtration device that effectively removes particulate matter and similar debris. Filtration is an important step in water treatment, especially for water intended for human consumption.

water treatment, conditioning, purification systems.

## **The Green Way!**

TWT<sup>®</sup> technologically advanced method for water management. Triangularwave Technologies, Inc. All-InO-One fluid management systems, the ultimate in water treatment & conditioning. TWT<sup>®</sup> systems are factory engineered and assembled, applying all of the needed elements for maximum fluid protection, management, and peace of mind in one simple packaged solution. TWT<sup>®</sup> Filtration, Microprocessor Deposit Controller, Reaction Chamber, and UV Disinfection units are combined to provide a start-tofinish answer to simplified prevention, treatment and management of water line contamination dangers. *The TWT All-In-One Fluid management water disinfection/purification systems are unique, compact, self-contained units for the treatment of water.* 

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.

## How the TWT All-In-One systems work! 1.Filtration Systems:

Filters are designed to trap various kinds of debris, dirt and organic particles that will otherwise enter your equipment and/or plumbing system, restrict your water flow and create a

Filtration systems provide a bacteriostatic environment and are designed to remove, volatile organic chemicals, hydrogen sulfide and sulfur, herbicides, pesticides, chemical fertilizer residues, trihalomethanes and many other pollutants. The filtration units utilized in TWT systems are comprised of several filter types and media that remove harmful chemicals, metals, and toxins from the water as it passes through these layers. Filters used in staged filter housings are configured as illustrated on system trade ads. Upon request if needed other filter mediums and filters used in system can be determined by a water quality analysis. If fluid conditions require additional micronic particle trapping for enhanced results, filters are available in various micronic sizes providing flexibility & adaptability to meet the needs of all fluid conditions & applications.

## **2.Deposit Control**

## TWT<sup>®</sup> Patented Deposit Control Technology

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 amplitude of thecurrent entering the polarity, frequency, and amplitude of the current entering the water. This Triangularwave 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 the water stream. TWT deposit control technology (treated fluid) maintains the ability to control deposits throughout the system with downstream residual value.

## **3.Disinfection**/**Purification**:

#### Ultra-Violet:

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 contaminats 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
- Filtration, TWT<sup>®</sup> Deposit Control Technology Ultra Violet (UV) Disinfection & Purification Combined for Maximum Effectiveness "The Competitive Edge"

## TWT<sup>®</sup>All-In-One Multi-Process Fluid Treatment Systems:

TWT water treatment systems are ruggedly constructed for exceptional performance. The rugged self-contained design of these systems ensure that the system will enjoy a long and reliable lifecycle when properly cared for.

Triangularwave Technologies, Inc. offers several systems, wall mounted or skid-mounted designed, engineered, integrated to treat and fit your specific GPM/ flow rate and required treatment needs. These systems improve water quality, save energy, are none chemical, safe and cost effective.

The TWT<sup>®</sup> All-In-One water filtration, disinfection and purification systems are unique, compact, self-contained units (easy installation & operation).



## TWT-MD-1006 (30 GPM)

#### **Specifications**

Factory assembled and mounted on stainless steel frame with mounting brackets and/or holes provided, Size Approx. 58°W X 49°H X 8°D, Weight Approx: 141 lbs. (may vary according to custom design requirements). 1½'z' in/out. Filter mediums and micronic sizes used in 3-stage filter housings is configured as illustrated above. Other filter mediums andmicronic sizes are available and are based upon input water quality and customer and/or industry specific treatment requirements (medium TBT). All electrical, piping, fittings, pumps, and materials (equipment) used in the system can be engineered and system integrated to conform to requirement of the submitted RFQ. 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.

- A
   B

   Image: C
   D

   Image: C
   D
- A. Optional: 1<sup>1</sup>/<sub>2</sub>" X 15.5" Self-Cleaning Sediment Filter
- B. Three (3) 20" BB Stage Filtration
- C. TWT<sup>®</sup> Patented Deposit Control Technology
- D. Ultra Violet Disinfection & Purification

#### Note:

TWT Inc. recommends that an initial supply of replacement products e.g., replacement filters, UV lamps etc. be stored at owners facility at all times, that will insure uninterrupted service and treatment.



www.triangularwave.com www.twtwatertreatment.com