

# TWT-SMD-200-4 Fluid Management Conditioning & Treatment System 4-Stage Filtration • TWT Deposit Control Technology (200 GPM) Ultra Violet (UV) Disinfection/Purification System

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



## Factory Assembled Skid Mounted, Fork Lift/Fluid Management (200 GPM) Treatment System

*This fluid management system is a compact, self-contained,  
skid-mounted unit for the treatment of water.*

Applies all the needed elements for maximum fluid protection, management, and peace of mind in one simple packaged solution. Technologically advanced method for water & fluid management, Staged Filtration, TWT® Microprocessor Deposit Controller, Reaction Chamber, and UV Disinfection/Purification units are combined to provide a start-to-finish answer to simplified prevention, treatment and management of water line contamination dangers.

### System Components:

- Staged Filtration • TWT® Deposit Control Technology
- 7 Lamp Ultra Violet Disinfection & Purification • Stainless Steel skid

**Specifications:** Factory assembled and skid mounted on stainless steel skid. Size/weight approx. 84"W X 72"H X 60"D, 800 lbs. (may vary according to custom design) 3" line in/out of system. Filter medium and micronic sizes used in staged filter housings are configured as illustrated. Other filter medium and micronic sizes are available and are based upon input water quality and customer and/or industry specific treatment requirements (medium TBT).

Micronic sizes of filters are generally 20, 30, 50 microns, unless otherwise specified

**Please Note:** System engineering design, weight, size and system component assembly can vary based on TWT engineering review, water quality conditions, application, industry and/or customer specific needs.

Pumps, piping, fittings, valves, and other material needed to and from system owners responsibility.

**The rugged self-contained design of this system ensures that the system will enjoy a long and reliable lifecycle when properly cared for.**

**Installation:** Licensed plumber and/or contractor is recommended. Must have enough room on all sides for filter and UV replacement & maintenance.

Easy to follow care, maintenance & operational procedures and other basic informational labels will be affixed to the system (system requires minimal maintenance).

### Point-Of-Entry/Point-Of-Use Treatment System



## System Integration at factory



Front View Control Panel



Rear View Staged Filtration



## System Integration at factory



Left Side View



Side View Right 3" Plumbing In/Out of System

# **TWT® Technologically advanced method for water management. Triangular wave Technologies, Inc.**

## **All-In-One fluid management systems, the ultimate in water treatment & conditioning**

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, ponds, rivers and public waterline plumbing systems. Over time, these microorganisms bind to the sides of your water pipes, 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 SMD-200-4 system 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 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. 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® 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 triangular wave 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 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 the water stream. TWT deposit control technology (treated fluid) maintains the ability to control deposits throughout the system with down-stream residual value.

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

##### **Ultra-Violet:**

The UV disinfection technology is 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% kill rate". The output water is thus disinfected and offers exceptionally high quality for human consumption.

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#### **TWT® All-In-One Fluid Treatment Systems:**

**TWT water treatment systems are ruggedly constructed for exceptional performance. These systems are ideally suited for Wells, Offices, Factories, Farms, Schools, Medical/Dental & Laboratory Environments, Hospitals, Restaurants, and anywhere the need for cleaner water to use and drink are required.**

**UV lamp replacement:** To ensure adequate disinfection/purification of water line contamination, replace UV lamps every 10 to 12 months (or sooner depending on water use, quality and conditions).

**Filters:** Must be cleaned when indicated by the pressure switch (on models so equipped) or based on the readings from the gauges installed on the filter housings.

**Filter Cartridge Replacement:** Generally twice a year, depending on water use, quality, & conditions.

##### **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.

