# SECTION C

### Residential Products for Cleaner & Healthier Water

# **TWT® Technologically Advanced Method** for Water & Fluid Management "The Competitive Edge"







TWT<sup>®</sup> products and systems provide techno logically advanced methods for water and fluid management that are both efficient and costeffective. Components and subsystems chosen from across the range of treatment methods can be combined in different configurations to provide custom solutions specific to GPM requirements and to any industry, site or application.

TWT systems work to consistently deliver high quality water, reduce scale and bio-fouling in plumbing systems, and to increase efficiency of both once- through and re-circulating HVAC, process cooling, agriculture, industrial

process ing, waste water and other fluid based systems. Each product line offers a variety of both stand alone and comprehensive treatment solutions for end-to-end fluid manage ment, for all types of applications. To learn more about TWT products & systems visit our website at www.Triangularwave.com





# Water The Way Nature Intended It!





**GROW BETTER** 



**CLEANER WATER FOR COOKING & DRINKING** 

REDUCE SPOTTING

**RESIDENTIAL FILTRATION • DEPOSIT CONTROL • ULTRAVIOLET • IONGUARD** ALL-IN-ONE- Filtration/Deposit Control/Disinfection & Purification System



# Ensure that the water in your home or office is safe enough to use and drink... Cleaner Water is Healthier Water! TWT<sup>®</sup> Your Simple and Safe Solution

TWT, Inc. offers a full range of products & systems designed to address fluid problems wherever fluid flows. From patented deposit control technology to pre and post filtration needs, ionization, disinfection, and ultraviolet purification treatment and conditioning. Components and subsystems chosen from across the range of treatment methods can be combined in different configurations to

provide custom solutions specific to any industry, site or application. TWT has the versatile, efficient, cost-effective methods to solve your fluid management problems end to end.

For additional information: Visit Triangular Wave Technologies, Inc. Comprehensive Website. The Valuable Technical Resource For All Involved In Water And Fluid Management.

www.Triangularwave.com

NO MATTER HOW TOUGH THE JOB...TWT® IS THE SOLUTION

Triangular Wave Technologies, Inc. provides the most reliable and comprehensive drinking water systems available today, producing high quality water throughout the entire household. A TWT system can start with a single component, like filtration, or can be configured to include a complete solution, adding deposit control, purification, and disinfection.

#### Filtration

For residences located in rural areas where the source of household 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 primary filtration device, to effectively remove particulate matter and similar debris. TWT filtration methods include point-of-use filtration units at water taps in the kitchen and bathroom, and showerhead filters in the bath. The patented KDF process media make the difference. TWT Filtration Systems use either the KDF process media alone, or in

combination with granular activated carbon (GAC) and carbon block filters.

KDF media remove up to 99% of the chlorine in municipal water. By removing the chlorine, the life of the carbon filters is extended up to ten (10) times. Additionally, the KDF media protect the carbon bed against fouling from bacterial growth. The KDF media remove up to 98% of the

lead and other heavy metals that are of growing concern to public health officials.

#### **Deposit Control**

The Triangular Wave Technologies, Inc.Deposit Control System is comprised of a microprocessor and a solenoid coil (either an onsite wrap or a factory wrapped reaction chamber). It provides an array of benefits:

- Removes and prevents scale build up and bio-film deposits, descaling the entire plumbing system over time.
- Controls algae and bacteria, dispersing them in the water and and preventing attachment to surfaces where they feed and reproduce, and preventing damage to vessel surfaces from bio-growth.
- A clean, bio-film corrosion-free plumbing system is restored and maintained in an environmentally safe and chemical-free manner.

#### Disinfection

Many residential locations lack adequate treatment systems and effective disinfection methods for treating water-borne microorganisms (bacteria, viruses, etc.). When existing systems threaten health, the ultra violet method of disinfection produces water that is disease and pathogen free. It effectively kills 99.9% of microorganisms including bacteria and viruses. The UV lamp requires replacement every 10 to 12 months (a simple 10 minute procedure).



#### Whole House Filtration Solutions

The ultimate method of protection is via the Whole House Water Filtration System (a dual tank system that provides extraordinary performance and longevity of service).Like the other TWT filtration methods, the TWT Whole House Water Treatment System employs the patented KDF technology. The system and media provide a bacteriostatic environment, and are designed to remove chlorine, lead, volatile organic chemicals, hydrogen sulfide and sulphur, herbicides, pesticides, chemical fertilizer residues, trihalomethane, and many other pollutants. These filters remove odor and restore the taste and clarity of municipally treated water.

KDF is a specially formulated copper/zinc alloy media, and is combined with GAC, providing a highly effective filtration system. In comparison, some filtration systems eliminate only a portion of these pollutants. In addition, other systems often contain filters that must be changed every few months. The TWT point-of-use filter effectively treats 7,500 gallons or more (nearly a two year supply

> of water for the average household ), and the Whole House System filters in excess of two million gallons! The TWT Whole House System provides a totally safe system for household water. Whatever the level of treatment your home requires, from simple filtration to comprehensive protection, TWT delivers the products and systems to give you peace of mind.

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

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

#### **IonGuard Purification:**

The lonGuard Purification System purifies water through a process called ionization. This process utilizes a low voltage direct current [DC] to place precise and minute amounts of copper and silver ions into water systems.Copper ions kill algae and silver ions kill bacteria. The lonGuard Purification System is an electrolytic copper/silver ion generator. The system units contain specially cast copper/silver alloy electrodes. These electrodes are mounted in a housing designed for easy access (HVAC & Pool Environments).

Consider using TWT Deposit Control Systems in conjunction with any fluid treatment systems as a complementary technology. For further details on how you can leverage the TWT Deposit Control benefits, please contact us.

Review section 1 on understanding how and why it is necessary to improve the quality & taste of your water

The TWT Deposit Control is a new, revolutionary breakthrough in the of treatment of hard water and its effect on water-based applications. The system is non-invasive and non-chemical by design, and is suitable for practically all applications requiring hard water treatment.

#### Sources of Water

Drinking water primarily comes from two sources- the bodies of water on the earth's surface and the subterranean wells which gather groundwater after it is filtered through the top layers of the earth's strata. After the groundwater passes through the uppermost layers of the earth's surface, it contains carbon-dioxide ( $CO_2$ ), a carbonic acid. In the lower strata of the earth, the carbonic acid-enriched water dissolves lime ( $CaCO_3$ ) from the subterranean rock and converts it to calcium-hydrogen carbonate.The calciumhydrogen carbonate is the source of lime deposits and encrustations (scale) which form in water systems.

#### Hardness in Water

Regardless of the source of drinking water, water typically contains carbon-dioxide  $(CO_2)$  and the earth's alkalines, such as calcium and magnesium. The total hardness of water is determined by the sum calcium-hydrogen carbonate, magnesium-hydrogen carbonate and the non-carbonate starches which include calcium and magnesium component solutions. Consequently, the water "hardness" is dependent upon the amount of lime in the water. There are **several methods of preventing lime deposit formation** (scale and encrustation) in water systems.

- In one method, ion exchanging mechanisms are used to remove the calcium ions Ca2+ and the calcium-hydrogen carbonate from the water by exchanging the calcium ions and the calcium-hydrogen carbonate in the water for sodium ions from sodium chloride (NaCL).
- Another method uses phosphate chemicals as an additive mechanism to prevent the formation of crust deposits. The lime is either contained by the added chemicals or it forms a sediment which is flushed by the water moving through the system.
- A third method for preventing the formation of lime deposits uses an electronic deposit controller, (*Triangular Wave System*) which generates an electronically modulated frequency, and amplified, triangulated waveform, which is then oscillated to change the separation characteristics of calcium and carbonates before they enter the water system. That immediately neutralizes the hardness, and functionally "softens" the water. The process is purely physical as it uses no chemical additives.

The Triangular Wave Deposit Control System Will:

- 1. Give the benefits of soft water without adding harmful salt or removing health giving minerals.
- 2. Prevent any further hard scale build-up in and on water equipment and fixtures.
- 3. Remove the existing scale that is inside the water system.
- 4. Soften the existing hard scale around taps, basins, and toilets, etc.
- 5. Reduce soap scum and improve the lather of soap.
- 6. Make the water feel silkier.
- 7. Reduce the harsh effects of hard water on skin and clothes
- 8. Reduces water spotting on fixtures and surfaces in contact with the water.
- 9. Provides a much more environmentally friendly solution to hard water no salts or chemicals.
- 10. The water will taste better, as pipes will be cleared of both mineral and biological deposits.
- 11.Plants that receive the treated water will grow better.

# How does Triangular Wave electronic deposit control technology work?

This electronic deposit control method is based on frequency modulation technology. The electronic deposit control technology uses a signal cable that is wrapped around a pipe. The cable is connected to an electronic unit that sends a complex, dynamic current with rapidly changing polarity, frequency and amplitude to produce an extremely small time-varying magnetic field inside the pipe .The time-varying magnetic field produces an induced, oscillating electric field inside the pipe, the phenomenon that is well-known as Faraday's law. The induced, oscillating electric field provides the necessary molecular agitation for scale prevention and removal.

The key to the systems success and its unique approach is that different particles respond to different frequencies and amplitudes of the signal. The microprocessor rapidly varies the frequency and amplitude of the signal to deliver the various combinations to treat nearly 100% of the particles in the water. Bacteria and scale-forming colloids in the water receive a strong boost in their natural surface charge. The particles repel one another and remain in stable suspension, rather than uniting to form scale or colonizing to form biofilm or other system fouling. The Triangular Wave Deposit Control System treats all incoming water as it passes the coil and alters the characteristics of the calcium so that it does not stick and form hard scale. It is important to remember that the calcium is still in the water and will be visible in appliances that are not subject to free flowing water, (if it is desirable to remove calcium, this can be accomplished with a companion TWT filtration system).

The system requires no chemicals for operations. It is designed for non-professional installation, and it is portable. The operating costs for the residential system are approximately \$8.00 per year, based on \$0.10 per KWH electricity cost.

#### Use With a Salt Water Softener

If a salt softener is currently being used, it should be disconnected, and the plumbing bypass valves should be opened/closed, to experience the sole effect of the *Triangular Wave System*. If the softener is not bypassed, the Triangular Wave System should be installed downstream of the softener, or else the calcium held in the ion exchange bed will quickly redissolve, causing a flood of extra-hard water. It is recommended that salt softening be eliminated for the best possible economic and ecological results.

#### How to know the system is working

The amount of time required before experiencing the effects of the system varies from home to home, depending on the amount of water used. Generally, signs of aggressive descaling are seen within 1 to 2 weeks. Note: The system may initially seem to become "less effective" at times. This is due to the removal of the existing scale, which is brought back into solution and will briefly create the effect of increased hardness. Once the scale has been removed from the system, the full effectiveness of the system will return.

#### **External Scale**

It is a good idea to use external scale as a tracking reference to determine whether or not the system is working. Areas to identify for this are:

- 1. Scale around taps, sinks, etc. it will begin to soften, provided that the newly treated water is in regular contact with the area. Once softened, these deposits can be removed using a stiff scouring pad, or other appropriate devise.
- 2. Surfaces in contact or splashed with water become easier to clean.
- 3. Scale on showerheads softens and can be removed. During descaling, some deposits may collect inside the nozzle. These can easily be rinsed away.
- 4. Water spotting on fixtures and surfaces will begin to diminish.

**Internal Scale** 

- 1. As the hot water heating coil is descaled, water heating will become progressively more efficient. The descaled heater coil will heat the water faster. Therefore, it is possible to save considerable energy by reducing thermostat settings.
- 2. If the water system was severely scaled, an improvement in water flow also may occur.

#### **Important Notes:**

- 1. For some time after installation, the unit will be descaling preexisting scale in the water system. This often results in the water appearing to be harder, and calcium deposits increase in places like showerheads. Once descaled inside, the water system will be scale-free and calcium marks outside the system should easily wipe away.
- 2. Water Softeners Water softener often leave deposits inside a water system; therefore if a softener is in use, allow the Deposit Control System to remove the deposits before the softener is switched off. In that case, leave the softener and the Deposit Control System on together for about 1 month. Remember, install the TWT Deposit Control unit down stream of the water softener, if planning to run them together.

#### Typical User Experiences ...

#### Silky WaFter Feeling

The treated water is immediately altered and will start dissolving scale build-up in the pipes. The scale dissolves one particle at a time; therefore, there are few problems with clogging filters or screens in the plumbing system.

If a water softener was never used before, the water user will experience a dramatic difference in the "feel" of the water. The water will have a silky feeling, and hair will be "squeaky clean" after a shampoo.

#### Soap, Scum, and Skin Effects:

As the hard water effects of the calcium diminish, you will usually notice:

- 1. A reduction of around 30% in soap and detergents needed.
- 2. Less water spotting on fixtures and surfaces in contact with water.
- 3. Less scum formed on the bathtub, and an improved soap lather.
- 4. A great improvement in skin condition for anyone suffer ing from dry skin. Even those with normal skin can expect improvements and reduction in the use of hand creams, etc.

#### Chlorine

Chlorine may be smelled as it dissipates in the air, if the water has been chlorinated. That is because the **TWT Deposit Control System** reduces the surface tension of the treated water. The chlorine controls organisms inside the plumbing; however, it is not good for people, their hair, or their skin. Therefore, it is ideal to have the chlorine perform its function in the water, and then have it dissipate before drinking or bathing.

#### Water Taste

Users of the *TWT Deposit Control System* will notice a great improvement in the taste of their water, due to the cleaner pipes and the softening effect. Water used in coffee, drinks, ice cubes, and for cooking will taste better.

#### **Replacing a Salt-Based Water Softener**

If a salt softener is replaced, the user may notice the water becoming harder as the scale begins dissolving, and he may wonder, "What have I done here?" Do not worry, this is a consequence of descaling, and the condition will improve daily as the scale is removed. The plumbing took years to get full of scale; however it only takes a short time to clean it up with the *Triangular Wave System*. This period may be brief for a newer home, or several months for older homes with low water usage. It is recommended that water heaters be drained regularly to shorten the descaling process. The shorter the descaling period, the more money will be saved.

#### First Ninety Days

All descaling should be complete, and you will be left with:

- 1. Soft feeling water from every tap!
- 2. Clean pipes!
- 3. A savings in energy and detergent expenses!
- 4. Cleaner, fresher water for drinking and cooking.
- 5. Less water spotting.

#### Typical Customer Questions ...

What does a softener do that an electronic deposit control system does not?

- **1.** The water softener removes calcium from the water by replacing the calcium with sodium (salt).
- 2. The softener gives a feeling that one cannot get rid of soap from one's body.
- 3. The water softener makes skin dry.
- 5. The water softener requires that salt be purchased and replaced periodically.
- 6. Water softeners are not environmentally friendly.
- 7. Water softeners require on-going maintenance.

What does the Triangular Wave System do that a water softener does not?

- 1. The Triangular Wave System gives all of the benefits of soft water without the salt.
- 2. It removes calcium build-up in hot water heaters (Saves energy costs and extends the life of the heater).
- 3. Save money (No salt purchases).
- 4. Provides salt-free water, a concern for many health conscious people.
- 5. Provides environmentally clean water, while eliminating the discharge of salt-laden water into the water table as a result of the normal regeneration cycle of conventional water softeners.
- 6 Reduces the consumption of detergents. Big savings for commercial users, and a big benefit for the environment .
- 7. Removes both mineral and biological deposits but leaves the benefits of the minerals, so water used is cleaner and healthier.
- 8. Reduces water spotting on fixtures and surfaces.
- 9. Does not require on-going maintenance.

If there is a water softener already installed, how should the Triangular Wave System be installed?

# Is it possible to use both a water softener and the Triangular Wave System?

It is possible to use both a water softener and the TWT Deposit Control System .The should be installed "downstream" of the water softener, because the Deposit Control System will cause the calcium ions attached to the ion exchange resin to be released back into the water. Because existing scale build-up in the plumbing will be dissolved into the water, the use of a water softener may help to diminish the effects of this increase in hardness. After approximately 1 month, put the softener on "by-pass".



#### NEW HOME BUILDERS

CUSTOM & LUXURY HOME BUILDERS

REFURBISHED HOME CONTRACTORS

WATER FRONT PROPERTIES

DEVELOPERS

MOBILE HOME COMPLEXES

# **HOME BUILDERS • DEVELOPERS • CONTRACTORS**

# ENSURE THAT THE WATER IN YOUR CUSTOMERS HOME IS SAFE ENOUGH TO USE & DRINK!

CHEMICAL-FREE WATER TREATMENT & CONDITIONING SYSTEMS FOR THE HOME BUILDING INDUSTRY

**BUILDING A BETTER WAY!** 



PROVIDE YOUR CUSTOMERS WITH AN EFFECTIVE WATER TREATMENT SYSTEM

# HARD WATER PROBLEMS SOLVED EASILY!

DEPOSIT CONTROL • FILTRATION • DISINFECTION • PURIFICATION TRIANGULAR WAVE TECHNOLOGIES FLUID MANAGEMENT SYSTEMS VERSATILE FLUID MANAGEMENT SYSTEMS TO EFFECTIVELY MEET THE NEEDS OF ANY APPLICATION IN THE HOME OR OFFICE. CONTROL SCALE DEPOSITS • BACTERIA • CORROSION • ALGAE • COLLOIDS.

# **YOUR SIMPLE AND SAFE SOLUTION**



- Protect Customers Investments
- Protects Plumbing Equipment & Appliances
- Environmentally Friendly
- Cleaner Water Is Healthier Water

# How the Triangular Wave System Controls Lime Scale, and Biological Deposits.

Scale and biological deposits form when these elements "stick" to the surfaces of tubes/pipes, water tanks, heat exchangers, plumbing fixtures and other water-fed equipment. The Triangular Wave Deposit Controller charges the particles in the water so that they will not stick together or stick to any surfaces.

**Simply Said...** The TWT<sup>®</sup> Deposit Control Technology gives you the total effect of soft water without the negative consequences, and clear up the deposits you already have! Breakthrough Technology Means...

- Provide the effects of softened water, neutralizes calcium hardness effects in the water
- Prevents scale & slime buildup on tubes/piping and equip ment surfaces
- Controls Algae and Bacteria
- Improves efficiency of all water-fed appliances and extends their life cycle
- Quickly pays for itself and continues saving (energy, water and maintenance)
- Descales the entire system over time
- Extends Life of Heating Elements
- Designed for safety: The output is safe to both personnel and equipment. There is NO ELECTRICAL CONTACT WITH THE PIPE

### **Universal Shower Filter Systems**

TWT offers four distinct styles of shower filters that fit any shower head. Customers can choose from optional shower heads, low-profile or high-capacity reversible filters with a choice of price points. Plus a unique hose filter that fits any existing shower

handle. Universal shower filtering technology offers exclusive shower filtration media containing... chlorgon & KDF-The only non-carbon filtering media to remove: Free chlorine (CL<sup>-</sup>), combined chlorine (sodium hypochlorite), hydrogen sulfide (rotten egg smell), iron oxide (rust water), dirt, sediment, odors, plus, its pH balanced.



Prestige All-In-One Universal Shower Filter

The Universal Filtered Shower Handles



# TWT<sup>®</sup> MINI-ZAP Portable, Water Purification System

The TWT<sup>®</sup> Mini-Zap portable, filtration, ultraviolet water purification system is ideally suited for homes, offices, camping, recreational vehicles, laboratories, boating, and world travelers concerned about water quality. These systems provide clean, clear, safe drinking water and protection from disease causing pathogens with a 99.9% kill rate for bacterial, viral and cyst contamination.

UV is a chemical-free, environmentally positive method of providing safe drinking water anywhere any time. The TWT<sup>®</sup> Mini-Zap Systems combines high-quality pre-filtration with high-power ultraviolet purification technology to produce an enhanced water quality system for use in various applications. The pre-filter system removes sediment, rust, dirt, that may impart bad tastes and odors to your drinking water. The water is then purified in the UV chamber producing drinking water that is crystal-clear and free from disease-causing pathogens.

### **Filtration Products/Counter Top Filter Systems**



#### TWT<sup>®</sup> Counter Top functions and features Model TWT-CT-MW

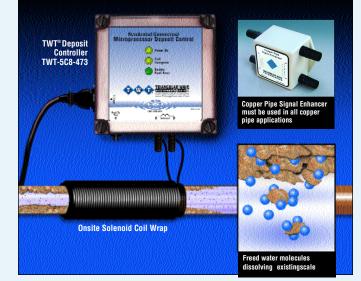
- Flow is registered in gallons per minute
- Range is 0.33 to 2.0 GPM
- Pre-sets for alarm sounds and / or days
- Audible alarm sounds to indicate when cartridge replacement is necessary
- Standard threads are 3/8" FNPT• Highly accurate (to 75% of settings)
- Two AAA batteries are included
- Low battery alarm
- · Batteries are used only when water is flowing

### TWT<sup>®</sup> RPOU001 Point-of-Use Potable Water Treatment & Conditioning System



This point-of-use purifier is designed for many different applications. The UV-4 system has deposit control combined with two superior quality pre-filters that aid in the removal of sediment, bad taste and odors. This com plete system produces high quality drinking water that surpasses all Health Department standards.

# **Patented Deposit Control Technology**



# All the benefits of SOFT WATER WITHOUT THE SALT!

- Easy to follow application and installation instructions
- Takes up minimal space and plugs into any standard outlet
- GUARANTEED

### Factory Assembled & Mounted Fluid Management System

#### These fluid management systems are compact, self-contained, 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. Filtration, TWT<sup>®</sup> 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. TWT<sup>®</sup> solutions are scalable to fit the gpm's and water conditions you need.

TWT All-In-One integrated water treatment systems are ruggedly

constructed for exceptional performance. These systems are ideally suited for Wells, Homes, Offices, Factories, Farms, Medical/Dental & Laboratory 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 lifecycle when properly cared for.





# **Chemical-Free Iron Removal Systems** (no chemical injection required)

Effects of iron and manganese in water– When exposed to air, dissolved iron or manganese reacts with oxygen and is converted by oxidation to a colored, solid material that settles out of the water. Iron changes to white, then yellow and finally to a reddish-brown color. Manganese forms a black residue. High concentrations of these sediments cause reddish-brown or black stains on laundry and facility fixtures. Another result of iron and manganese in water is the presence of harmless bacteria in soil, shallow groundwater supplies and some surface water that secrete large amounts of red-brown (iron) or black-brown (manganese) slime that stain toilet tanks. The Rust-Erase iron filter system is designed to effectively eliminate rust from your water supply economically and thoroughly.

TWT-RE-30

Maximum Iron Removal Capacity: 30 p.p.m. **TWT-RE-50** Maximum Iron Removal Capacity: 50 p.p.m.



#### P.O.E. Filtration and/or UV Disinfection/Purification

These two units, UV-1500 / UV-3000 are similar in appearance, but have different capacities. The need for different flow rates will depend on the application and the nature of the installation. These TWT systems provide clean, safe water to large operations for manufacturing processes or human consumption. The units operate continuously, automatically and inexpensively. Installation is easy and there is no need to heat or cool the water prior to purification.

TWT-5C8-401 DEPOSIT CONTROLLERS

TWT-ISRC-01 INDUSTRIAL ST/ST REACTION CHAMBERS

Hot Water/ Boilers

TWT<sup>®</sup> Microprocessor Based Control System represents a significant breakthrough in electromagnetic technology. This state-of-the-art electronic devise provides continuous scale and bio-film control. Eliminate the bio-film that creates the breeding grounds for bacteria.





# TWT DEPOSIT CONTROL PROTECTION FOR NEW EQUIPMENT

Provides new equipment with the ability to enhance it's features and benefits

# TREATMENT FOR EXISTING EQUIPMENT

Retrofit existing equipment to improve its operating efficiency and life cycle

C1

# HARD WATER PROBLEMS **SOLVED EASILY!**

# **TWT<sup>®</sup> PRODUCTS FOR CLEANER WATER...** Your Simple and Safe Solution

- Eliminates Deposits in Pipes, Fixtures and Equipment (Softens and removes hard scale build-up around plumbina fixtures)
- Controls Algae and Bacteria (Prevents the formation of biofilm, the breeding ground for algae and bacteria)
- Reduces Soap Scum and Improves Lather of Soap
- Reduces Detergent and Soap Use
- Reduces Effects of Hard Water on Skin and Clothes
- Removes Existing Scale on Heat Exchangers
  Over Time, Which Improves Heat Transfer for **Greater Efficiency**
- Salt and Chemical -FREE Water Conditioning
- Pennies Per Day to Operate
- Cost Effective
- Guaranteed

HEAVY SCALE BUILDUP SCALE FREE Eliminates deposits in pipes, fixtures and equipment.



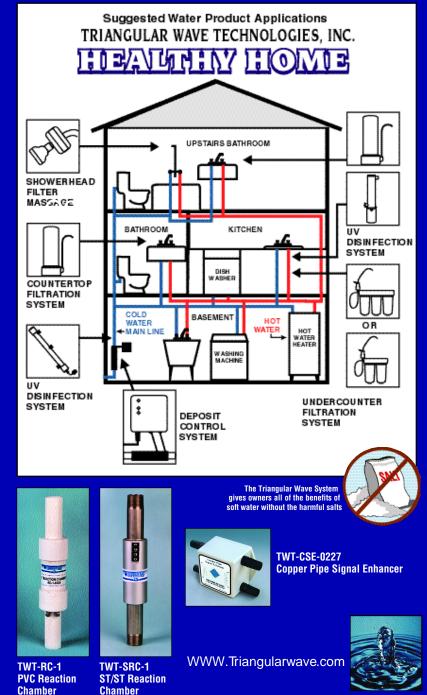




TWT-5C8-472 Residential Commercial: For pipes up to 1" Voltage: 9 vdc Transformer



TWT Patented Microprocessor Deposit Control Systems. **Technologically Advanced Method for Water & Fluid** Management Providing Comprehensive End-To-End Solutions. Water The way Nature Intended It! Chemical-Free.



C2

### TRIANGULAR WAVE TECHNOLOGIES PATENTED RESIDENTIAL APPLICATIONS

The Triangular Wave System represents a significant breakthrough in electromagnetic technology. The triangular wave has made possible the use of TWT electromagnetic technology in residential applications of all sizes.

Controls mineral and biological deposits, as well as corrosion in all fluid-based systems. Once installed on the pipe, or as part of a bypass or reaction chamber system, the TWT Deposit Control System provides continuous and reliable water treatment.



ModelTWT-5C8-470 **Residential Deposit Control** Designed for pipes 1/2 inches or less in diameter. Size: 3.3"W x 3.3"H x 1.3"D Voltage: 9 vdc Amperage: Draws less than 1 Amp. Coil length: 4"



Model TWT-5C8-472 Commercial/Industrial Designed for pipes 1 inch or less in diameter. Size: 6.5"W x 3.75"H x 1.3"D Voltage: 9 vdc Amperage: Draws less than 1 Amp. Coil length: 4"

Icroprocessor eposit Control

TRIANGULAR WAVE

TRIANGULAR WAT



ModelTWT-5C8-472FGRC

Amperage: Draws less than 1 Amp.

Water-Fed Appliances

**Commercial/Industrial Deposit Control System** 

Designed for tubes & pipes 1 inch or less in diameter.

Size: 5.25"W x 5.25"H x 2.5"D • Voltage: 120 vac

with PVC Reaction Chamber for Larger

#### Model TWT-5C8-473 **Residential / Commercial**

Designed for pipes 1 inch or less in diameter Size: 5.25"W x 5.25"H x 2.5"D Voltage: 120 vac Amperage: Draws less than 1 Amp. Coil length: 4"



#### Model TWT-5C8-460

**Residential Deposit Control System with Reaction** Chamber For All water-Fed Appliances Designed for pipes 1/2 inch or less in diameter. Size: 3.3"W x 3.3"H x 1.3"D Voltage: 9 vdc

Amperage: Draws less than 1 Amp. Control Scale and Bio-fouling in Coffee & Tea Dispensers, Water Coolers, Ice Makers, Soup Vending Machines, Espresso machines and Many More.

Note: Other voltage source available upon request.

# PATENTED REACTION CHAMBER



TWT-RC-1-0221 Factory wrapped 1 inch PVC pipe Solenoid Reaction Chamber for use with TWT-5C8-470 / TWT-5C8-472 and TWT-5C8-473 Microprocessor Deposit Control System.

Please see **Reaction Chamber** section earlier in the catalog



#### TWT-SRC-1-0241 Stainless Steel Reaction Chambers

Factory Wrapped 1 inch St/St Reaction Chamber for use with TWT-5C8-472 or TWT-5C8-401 Deposit Control System For use with TWT Deposit Controllers in magnetic pipe environments, Triangular Wave Technologies, Inc. has developed Reaction Chambers constructed of stainless steel piping, fully sealed, protecting their two layers of factory wrapped wire coil.

To use in conjunction with the TWT Deposit Control Systems when required, Triangular Wave Technologies, Inc. has developed a line of factory-wrapped wire coil Reaction Chambers to address magnetic pipe environments. Typically, wire coil cannot be installed on any magnetic pipe, such as steel, galvanized steel, ductile iron, or cast iron. The pipe becomes a shield to such coil and prevents the wave energy from entering the fluid path. The TWT Reaction Chamber provide an easily installed section of non-magnetic pipe to provide the proper pipe material for the Deposit Control System to work as designed. The TWT Reaction Chamber is fully sealed, protecting its two layers of factory-wrapped coil.

### **COPPER PIPE SIGNAL ENHANCER**



TWT-CSE-0227 For copper pipes up to two inches (2") in diameter

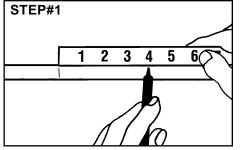
To ensure enhanced signal penetration, Triangular Wave Technologies, Inc. has designed its Copper Pipe Signal Enhancer. This unit is placed between the deposit controller and the copper pipe solenoid wrap to provide a proper impedance match and to ensure maximum energy transfer between the controller and the solenoid, which ensures enhanced the treatment of the fluid. The Copper Pipe Signal Enhancer must be usedin all copper pipe applications to maximize the performance, and provide a boost to your application.

The copper signal enhancer is a passive signal / impedance matching circuit. This device provides a power boost to the conditioning signal in copper pipes.

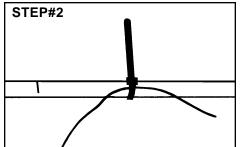
Width	Height	Depth
2"	2"	1 1/2"



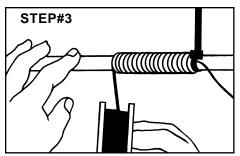
TWT® St/St Factory Wrapped Reaction Chambers with Dielectric Union (Couplings) for Copper Pipe Applications See Section A5 For Additional Info



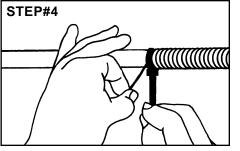
Measure and mark a 4" section in the middle of a straight pipe segment.



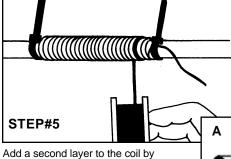
Fasten the signal wire to the pipe with a cable tie (provided) at one end of the 4" section.



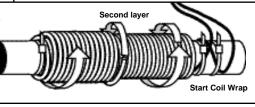
Wrap the signal wire around the pipe in a tight coil, in a clockwise manner, so that the adjacent wires are touching each other.

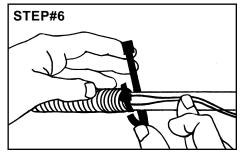


Continue to wrap until the 4" section of pipe is completely covered. Fasten down the end of the coil with the second cable tie (provided). You can hold the first layer in place with cloth tape or electrician's tape.

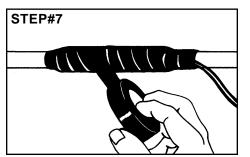


Add a second layer to the coil by continuing to wind in a clockwise manner starting where you completed the first layer and wind **back in the direction** of the starting point. (see Diagram A) Do Not Twist or Cut Wire or the System WILL NOT Function. Place the second layer directly on top of the first layer.Be careful to wind the second layer tightly in the same clockwise manner as the first layer back in the direction of the starting point.

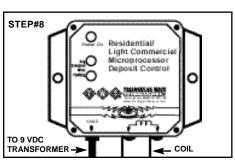




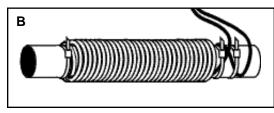
Complete the second layer by clamping the wire with third cable tie (provided). (See Diagram B Below)



Wrap the coil with vinyl industrial tape to help maintain a tight coil and protect the coil from being loosening.



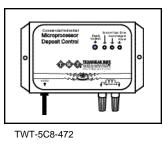
Guide both wires to the Triangular Wave Unit Model TWT-5C8-470 and leave about 2" of extra wire.

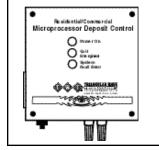


On site solenoid wrap sizes vary according to pipe material & size.For further instructions regarding the completion of the installation, please refer to your Deposit Control System Owner/Installation Manual.

Repeat step #8 for the Triangular Wave Unit Model TWT-5C8-472 and leave about 2" of extra wire. Follow the same installation instructions

for the Triangular Wave Unit Model TWT-5C8-471 (Units not to scale)

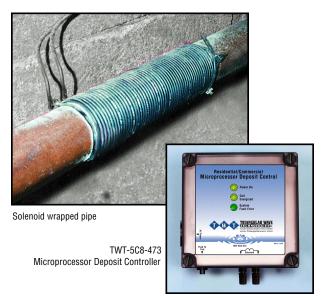




TWT-5C8-471

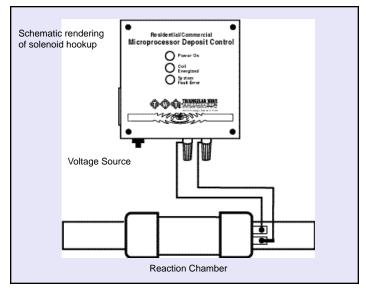
For high temperature applications of 176°F and above, request and use teflon wire. Teflon wire solenoid wrap sizes vary according to pipe material and pipe size, refer to the technical guidelines on the TWT website for additional information. TWT recommends that installers should use vinyl self-sealing industrial electrical tape for maximum protection and support of the solenoid coil wrap.

#### TO ENSURE THE MAXIMUM EFFECT AND RESULTS OF OUR DEPOSIT CONTROL SYSTEMS PLEASE FOLLOW THESE GUIDELINES:



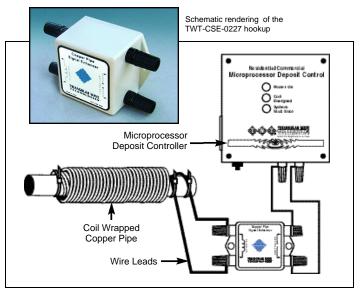
#### TRIANGULAR WAVE TECHNOLOGIES REACTION CHAMBERS

To use in conjunction with the TWT Deposit Control Systems when required, Triangular Wave Technologies, Inc. has developed a line of factory-wrapped wire coil Reaction Chambers to address magnetic pipe environments. Typically, wire coil cannot be installed on any magnetic pipe, such as **steel**, **galvanized steel**, **ductile** *iron*, **or cast iron**. The pipe becomes a shield to such coil and prevents the wave energy from entering the fluid path. The TWT Reaction Chambers provide an easily installed section of non-magnetic pipe to provide the proper pipe material for the Deposit Control System to work as designed. The TWT Reaction Chambers are fully sealed, protecting their two layers of factory-wrapped coil. The PVC, Stainless Steel and the Industrial Reaction Chamber systems are designed and manufactured to meet the highest quality specifications.



The TWT Reaction Chamber is part of the patented TWT Deposit Control Technology, the function of which is to control scale and bio-film in the plumbing infrastructure, fixtures, and water-fed appliances found in the facility being treated. The Reaction Chamber provides a chamber through which the water flows and is exposed to the triangular wave signal that lies at the heart of the deposit control technology. As the fluid passes through, it is treated and then carries that treatment downstream, to condition the rest of the plumbing system, non-chemically and reliably.

#### TWT-CSE COPPER PIPE SIGNAL ENHANCER (For copper pipes only)

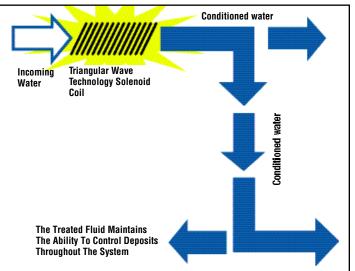


# Copper pipes, although acceptable, are one of the more difficult of materials to work with. To overcome this difficulty...

Triangular Wave Technologies has designed its Copper Pipe Signal Enhancer. This unit is placed between the controller and the copper pipe solenoid. The function of the signal enhancer is to provide a proper impedance match and to ensure maximum energy transfer between the controller and the solenoid, which ensures enhanced treatment of the fluid. The Copper Pipe Signal Enhancer must be used in all copper pipe applications to maximize the performance, and provide a boost to your application.

The copper signal enhancer is a passive signal / impedance matching circuit. This device provides a power boost to the conditioning signal in copper pipes.

WHEN THE TWT SYSTEMS ARE PROPERLY INSTALLED THE EFFECTS OF THE TRIANGULAR WAVE TECHNOLOGY TREATMENT LAST DOWNSTREAM



In effect, a clean, corrosion-free delivery system is restored and maintained in an environmentally safe and chemical-free manner. The result is clean pipes and tubing with no biofilm and reduced bacterial contamination.

Water The Way Nature Intended it!

For HOMES, OFFICES, APARTMENTS and CONDOMINIUMS

Water is one of the most precious and yet potentially most abused or dangerous substances. Clean water is absolutely essential to human health. There are three basic causes of water/fluid related problems...

- Scale: Loss of heat transfer efficiency
  - Flow restriction in pipes and frozen valves
  - Back pressure increases energy needed to pump
  - Reduced reaction vessel capacity
  - Localized corrosion
  - Visible surface scale objectionable
- **Biofilm:** Loss of heat transfer efficiency
  - General corrosion
  - Biocorrosion (both general and local)
  - Sludge
  - Disease and odors
  - Bacteria, Algae, Fungus, etc.

#### Adverse Water Chemistry: • General corrosion

#### The End Results of Water Problems

- Wasted water Ruined equipment High energy costs
- Productivity losses Product contamination or quality problems
- · Disease and odor in the water environment

#### TREATMENT

The bottom line is that if the problem causing materials are controlled, then 85% to 90% of the problems are eliminated. Treatment options include removal and control. The most effective systems utilize a variety of both removal and control methods depending upon the specific nature of the water being treated and its intended use. These combinations of various techniques can be arranged to effectively solve your specific problems and designed to function together in a way that will enhance the effectiveness of each component in achieving the desired results.

#### **FILTRATION**

Filters are designed to trap various kinds of debris, dirt and organic particles that will otherwise enter your plumbing system, restrict your water flow and create a breeding ground for bacteria. The first line of defense for residential/ light commercial facilities located in and around rural areas 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. They are the first step in achieving clean water is to install a primary filtration device, that effectively removes particulate matter and similar debris. A TWT Sediment Filter effectively removes sediment and waterborne pollu-tants ranging from herbicides and pesticides to iron and manganese.

Other TWT filter systems employ patented KDF technology. The filters provide a bacteriostatic environment and are designed to remove chlorine, lead, volatile organic chemicals, hydrogen sulfide and sulfur, herbicides, pesticides, chemical fertilizer residues, Trihalomethanes, MTBE, and many other pollutants. The filters remove odors and restore clarity to municipally treated drinking water. The filters use KDF process media, which is a specially formulated copper/zinc alloy media. The KDF is used in conjunction with carbon block filters, granular activated carbon filters, and sediment filters. They all combine to provide highly effective protection.

#### DEPOSIT CONTROL SYSTEM

A means to control the substances in your water supply that will result in deposit buildup in your pipes and in your

> water-fed appliances. The TWT Deposit Control system, comprised of a microprocessor unit and a solenoid coil (either an on-site wrap or a factory wrapped reaction chamber), provides an array of benefits:

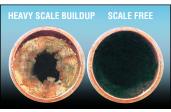
- Removes and prevents scale build-up and bio-film deposits (descales entire plumbing system over time).
- Improves efficiency of all water-fed appliances and extends their useful life (saves 5% to 30% on water heating bills).
- Provides the effects of softened water with out the harsh chemicals by neutralizing calcium hardness effects in water, and leaving in the beneficial minerals.
- Non-invasive, safe and maintenance-free.
- Pays for itself quickly and provides continuous savings throughout its life.
- Controls algae and bacteria (they are dispersed in the water and prevented from attaching to surfaces where they feed and reproduce), thus eliminating damage to vessel surfaces from bio-growth.
- In effect, a clean, bio-film, corrosion-free plumbing system is restored and maintained in a environmentally safe, responsible, and chemical-free manner.
- Neutralizes hardness effects in the water without using chemicals-provides the positives of softened water without the negative effects.
- Improved ability of soap to lather and rinse in all process bathing, laundering, dishwashing, etc.; the soap formula can "complete" and rinse out properly, where it could not before.
- Pennies per day to operate.
- Easy to install.
- · Moves when you do



· Uses NO salts or other CHEMICALS.

#### PURIFICATION AND/OR DISINFECTION SYSTEMS

As an important health measure, all households or facilities should include on-site purification and/or disinfection components as part of their treatment systems. In residential locations that lack adequate purification methods for treating water-borne microorganisms (bacteria, viruses, etc.), or when existing systems are poorly managed, ultraviolet disinfection produces water that effectively kills 99.9% of these health-threatening microorganisms.



Eliminates deposits in pipes, fixtures and equipment.

C3

#### For HOMES, OFFICES, APARTMENTS and CONDOMINIUMS

#### **Deposit Control System**



#### TWT-5C8-470 Patented Microprocessor Deposit Control System

Controls scale deposits, biofilm, corrosion, algae and colloids in all fluid-based systems. Once installed on the pipe, the Triangular Wave System provides continuous and reliable water treatment. Our microprocessor uses no salts or other chemicals. Extends the life span of water appliances and eliminates septic bed toxic salt poisoning. For pipes upto 1/2"

#### **Ultraviolet Disinfection/Purification**



#### TWT-UV-1

Rated Flow: 3.75 Liters per minute/1 Gallon per minute U.V. Dose @ Rated Flow: 29,500 mw/sec/cm2 Maximum Flow: 5.8 Liters per minute U.V. Dose @ Maximum Flow: 18,500 mw/sec/cm2 Electrical Supply: 120V/60Hz/0.6Amp /240V/50Hz/0.6Amp Power Consumption: 12 Watt , Maximum Operating Temperature: 37C, Maximum Operating Pressure: 100 psi - 7 Bar Plumbing: 1/4" N.P.T. In-Out, Size: 12"x2.5" (30cm x 6.5cm) Weight: 2.2lbs (1kg), Body: 316 Stainless Steel



#### TWT-5C8-473 Patented Microprocessor Deposit Control System

Controls scale deposits, biofilm, corrosion, algae and colloids in all fluid-based systems. Once installed on the pipe, the Triangular Wave System provides continuous and reliable water treatment.Our microprocessor uses no salts or other chemicals. Extends the life span of water appliances and eliminates septic bed toxic salt poisoning.For pipes unto 1"

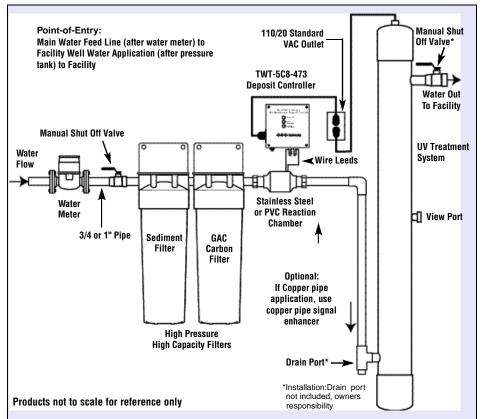


#### TWT-UV-250

Rated Flow: 16 Liters per minute / 4 Gallons per minute U.V. Dose @ Rated Flow: 31,500 mw/sec/cm2 Maximum Flow: 22 liters per minute / 5 Gallons per minute U.V. Dose @ Maximum Flow: 22,500 mw/sec/cm2 Power Consumption: 120V/60Hz/72 Watt 240V/50Hz/144Watt Electrical Supply: .6 Amp Maximum Operating Temperature: 37C (98.6F) Maximum Operating Pressure: 100psi - 7 Bar Plumbing: N.P.T. In-Out 1/2 Size: 20.5"L x 6"W x 3.5"D ( 52cm x 15cmX 9cm) Weight: 5 lbs (2.5 kg) Body: 316 Stainless Steel

#### Recommended configuration for combined use of TWT<sup>®</sup> stand-alone product for end-to-end water treatment & conditioning (residential/commercial)

Filtration • Ultraviolet Disinfection • Deposit Control Systems



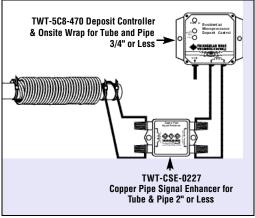
#### **Copper Pipe Signal Enhancer**



TWT-CSE-0227 (For copper pipes up to two inches in diameter) This unit is placed between the controller and the copper pipe solenoid to provide a proper impedance match and to ensure maximum energy transfer between the controller and the solenoid,

which ensures enhanced treatment of the fluid. The Copper Pipe Signal Enhancer must be used in all copper pipe applications to maximize the performance, and provide a boost to your application. The copper signal enhancer is a passive signal / impedance matching circuit. This device provides a power boost to the conditioning signal in copper pipes.

Note: Copper pipe signal enhancers are to be used on copper pipes only.



#### For HOMES, OFFICES, APARTMENTS and CONDOMINIUMS

#### **MINI-ZAP Counter Top UV Disinfection/Purification Systems**

#### **MINI-Zap**

Whether you are a world traveller, heading to a cottage, camping or boating, the Mini-Zap will assure safe, high quality drinking water. Simply attach to faucet, plug it in, turn on the water. This Ultra-Violet purifier destroys bacteria and viruses as they flow through the UV chamber with a kill rate of 99.9%.

#### Mini-zap Traveller

By adding a pre-filter to the MINI-Zap, we have have provided an extra measure of protection. The filter will remove sediment, bad taste and odors to ensure fresh, clean drinking water anywhere, anytime.

TWT-PMTZ/P4M-1	.2 GPM	120V / 60Hz Travel Ultraviolet Purifier with Filter
TWT-PMTZ/P4M-2	.2 GPM	230V / 50Hz Travel Ultraviolet Purifier with Filter
TWT-PMTZ/P4E-12	.2 GPM	12V Travel Ultraviolet Purifier with Filter



TWT-PMTZ/P4M-1

### **UV-4 Disinfection/Purification System**

#### TWT-IJV-1

- Rated Flow: 4 Liters per minute/1 Gallon per minute
- U.V. Dose @ Rated Flow: 42,000 mw/sec or 42 mJ at 1 GPM
- Maximum Flow: 5.8 Liters per minute
- Electrical Supply: 120 VAC/60Hz\*.2 Amp
- Power Consumption: 12 Watt
- Maximum Operating Temperature: 37C
- Maximum Operating Pressure: 125 psi 8.6 Bar
- Plumbing: 1/4" N.P.T. In-Out • Size: 12.5"x 2.75 x 2.5" • Weight: 4lbs (1.8 kg)
- Body: 304 or 316 Stainless Steel



#### TWT-UV-250

UV-250 Disinfection/Purification System

- Rated Flow: 15 Liters per minute / 4 Gallons per minute Rated Flow UV Dose: 38,000 mw/sec or 38 mJ at 4 GPM
- Electrical Supply: 120 VAC/60Hz\*.36
- Maximum Operating Temperature: 37C (98.6F)
- Maximum Operating Pressure: 125 psi 8.6 Bar
- Plumbing: N.P.T. In-Out 1/2
- Size: 23"L x 5.5"W x 2.5"H Weight: 7 lbs (3.2 kg)
- Body: 304 or 316 Stainless Steel

\*Other voltage sources available upon request: 100V / 120V / 220/240V

UV-1/QS4M-1	<b>GPM</b> 1-2	120V / 60Hz Point of Use Ultraviolet Purifier
UV-1/QS4M-2	<b>GPM</b> 1-2	230V / 50Hz Point of Use Ultraviolet Purifier
UV-1/QS4E-12	<b>GPM</b> 1-2	12V Point of Use Ultraviolet Purifier
UV-1/QS4E-24	<b>GPM</b> 1-2	24V Point of Use Ultraviolet Purifier
UV-250/QD4M-1	GPM 4	120V / 60 Hz Residential UV Purifier with Alarm
UV-250/QD4M-2	GPM 4	230V / 50 Hz Residential UV Purifier with Alarm

2 GPM UV Purifier available upon request

Custom Orders:	Prices quoted upon request for larger systems.
GPM:	Gallons per minute.
Voltage:	All products are 115/120V 60 Hz For higher voltage sources contact TWT for pricing.
Case Pack:	All units packed individually.
Replacement Lamps:	Generally lamps should be replaced every 10 to 12 months, depending on water use quality and conditions

\* Custom System Quote: Industry specific fluid treatment needs and up grades Custom Installation: Pricing to be established based upon proposal submitted at time of sale based on materials cost at time of purchase

Note: Review TWT catalog, website, and/or product sheets for detailed technical information

### **UNIVERSAL SHOWER FILTER SYSTEMS**

TWT offers four distinct styles of shower filters that fit any shower head. Customers can choose from optional shower heads, low-profile or high-capacity reversible filters with a choice of price points. Plus a unique hose filter that fits any existing shower handle. Universal shower filtering technology offers exclusive shower filtration media containing... chlorgon & KDF-The only non-carbon filtering media to remove: Free chlorine (CL), combined chlorine (sodium hypochlorite), hydrogen sulfide (rotten egg smell), iron oxide (rust water), dirt, sediment, odors, plus, its pH balanced.

#### **Slim-Line Universal Shower Filters**

Low-profile Slim-Line Filters provide ample headroom.Designed to extend the shower head less than 1.5 inches, the Slim-Line is compact but powerful in filtration performance.

- Low Profile Design
- Extend-A-Path<sup>™</sup>Baffle System
- Shower Head Extension: Less than 1.5 inches
- Slim-Line Replacement Cartridge (Model TWT-SLC)
- Cartridge Life Rating: 6 Months







TWT-SL-CM-M Chrome



TWT-SL-GD-M Gold

#### **High-Output Universal Shower Filter**

- High-Capacity Filter
- Ultra-Strong Housing
- •\*Reversible Filter Cartridge (Model TWT-HOC)
- Cartridge Life Rating: 1 Year









TWT-HO-GD-M Gold

#### Prestige All-In-One Universal Shower Filter

All-In-One is the world's first showerhead with an internal filtering system. Patented technology combines with multiple-function shower sprays. high-strength construction and triple-plated components assure structural integrity. Contemporary designs complement any shower environment.

- 3-Way Massaging Spray High-Flow Filter Cartridge (Model TWT-A1C)
- High-Strength Housing Cartridge Life Rating: 6 Months
- Triple Plated Finish

#### The Universal Filtered Shower Handles

Successfully incorporating the All-In-One's multi-function sprays and patented filtration media into gracefully sculpted, ergonomically balanced shower handles.

Here's high style and versatility in a high-per formance handle that feels right in any position.



- Hose-Mount Shower with Built-in Filter
- 3-Way Massaging Spray 72" Reinforced Nylon Hose or Matching Metal Hose
- Plated Brass Bracket Triple-Plated Finish Cartridge Life Rating: 3 Months
- \*Reversible Filter Cartridge (Model TWT-HHC-2) 2 pack

#### Universal Hose Filter (attaches to any existing shower handle)

Shower handle hose filters are available in two metallic finishes. Attaches to any existing shower handle, swivel-ball attachment allows the filter to adjust to any angle. Replaceable cartridge is rated for three months.

- Attaches to any Shower Handle
- Reversible Filter Cartridge
- (Model TWT-HHC-2) 2 Pack
- Cartridge Life Rating: 3 Months



TWT-HH-CT

**3 Valve-Chrome Trim** 

\*Here's a versatile reversible shower filter with outstanding structural integrity and reliability in a one-year filter. Easy operation and maintenance, combined with long-life performance make make this high-output shower filter an outstanding value.





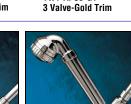
TWT-HF-GD Gold







TWT-APS3-CT 3 Valve-Chrome Trim



TWT-HH-CM **3 Valve-Chrome** 







TWT-HH-GD 3 Valve-Gold

TWT-HO-WH-M White

TWT-HF-CM Chrome

### FILTRATION PRODUCTS/UNDER COUNTER FILTER SYSTEM

#### Fully Assembled Under Counter Drinking Water Systems with and without Meter Valves (Must Specify)

You may now select fully assembled TWT<sup>®</sup> drinking water units to meet a variety of residential water treatment requirements. All drinking water units utilize our NSF standard 42 certified filter housing.



#### **TWT-ADWU-S** (Ideal for Kitchens, Bath Rooms)

The Triangular WaveTechnologies 1 Under Counter Filter System features dual media KDF-55 and Granular Activated Carbon.Designed to remove *chlorine, lead, volatile organic chemicals, hydrogen sulfide, sulphur, herbicides, pesticides and trihalomethanes.* Optional meter valves to provide automatic shut off and signals when to change filters are available.

Single Unit/Under Counter Water Filter System Size: 14"H X 6.5"W X 5.75"D • Weight: 5 lbs. Filtering capacity: 7500 gal. Operating Pressure: 60 to 100 PSI



TWT-UCR-1S (Single Unit) TWT-GAC10N/KDF Dual media KDF-55 / Granular Activated Carbon Replacement Filter (single pack=1 filter)

Size: 2 1/2" X 9 7/8" • Weight : 2 lbs.



### TWT-ADWU-DM

(Ideal for Kitchens, Bath Rooms)

The Triangular WaveTechnologies 2 Under Counter Filter System features dual media KDF-55/Granular Activated Carbon Filter and extruded Carbon Activated Block Filter. Designed to remove *chlorine, lead, volatile organic chemicals, hydrogen sulfide, sulphur, herbicides, pesticides and trihalomethanes.* 

Double Unit Under Counter Water Filter System Size: 14"H X 11 "W X 5.75"D • Weight: 9 lbs. Filtering capacity: 7500 gal. Operating Pressure: 60 to 100 PSI



TWT-UCR-2D (Double Units)

- A.TWT-GAC10N/KDF Dual media of patented KDF-55 / Granular Activated Carbon
- B. 155109 Carbon Block Replacement Filters (double pack=2 filters)

Size: 2 1/2" X 9 7/8"



#### TWT-ADWU-TM

(Ideal for Bars, Kitchens, Offices & Break Rooms) The Triangular WaveTechnologies 3 Under Counter Filter System features sediment filter, dual media KDF-55/Granular Activated Carbon filter and extruded Carbon Block Filter. It is designed to remove *chlorine*, *lead, volatile organic chemicals, hydrogen sulfide, sulphur, herbicides, pesticides and trihalomethanes.* 

Triple Unit Under Counter Water Filter System Size: 14"H X 16"W X 5.75"D • Weight: 12 lbs. Filtering capacity: 7500 gal. Operating Pressure: 60 to 100 PSI



TWT-UCR-3T (Triple Units) A.155103

Sediment filter cartridge B.155109

Carbon block filter

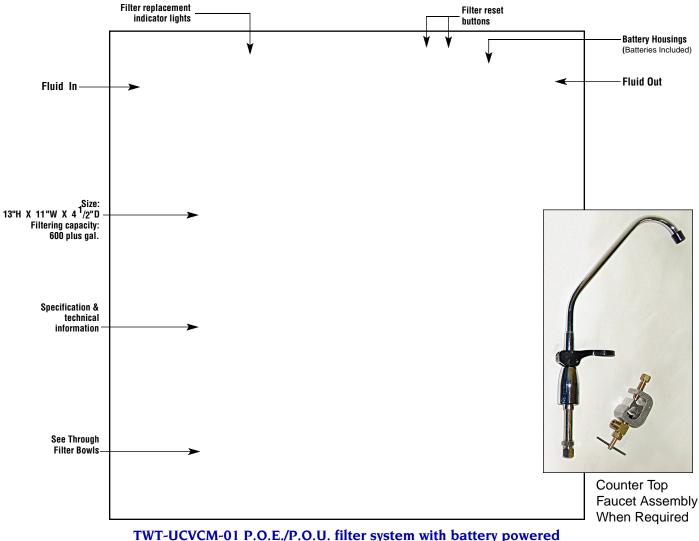
C.TWT-GAC10N/KDF Dual media of patented KDF-55 / Granular Activated Carbon (triple pack=3 filters)

Size: 2 1/2" X 9 7/8"

TWT-DWU-S	Single Filter with chrome spout, J.Guest connectors, and mounting bracket
TWT-DWU-D	Dual Filter with chrome spout, J.Guest connectors, and mounting bracket
TWT-DWU-DM	Dual Filter with Meter Valve, chrome spout, J.Guest connectors, and mounting bracket
TWT-DWU-T	Triple Filter chrome spout, J.Guest connectors, and mounting bracket
TWT-DWU-TM	Triple Filter with Meter Valve, chrome spout, J.Guest connectors, and mounting bracket

# Triangular Wave Technologies, Inc: The TWT Point-of-Entry/Point-of-Use filtration System

Ideally suited for Homes, Offices, Factories, Farms, Medical/ Dental & Laboratory Environments, Restaurants, Schools, Coffee & Tea Dispensers, Ice Making Machines, Spas, Beverage Dispensing Machines, Bottleless Water Coolers, Tavern Draft Taps, Aquariums, Espresso Machines, and anywhere the need for cleaner water to use and drink is required.



# indicator lights to alert you when filters/batteries need to be replaced

#### **Activated Carbon Cartridges**

- A.TWT-CF2 activated carbon filter cartridges are dual action filters, designed to economically reduce sediment and chlorine in potable water. They are also effective in improving water taste, odor and color. The TWT-CF2 cartridges offer a unique mix of coarse sediment and carbon filtration utilizing high quality peat-based activated carbon for efficient reduction of chlorine and suspended matter, and improvement of water taste and color. The TWT-CF2 cartridge has been independently tested and certified by CSA International to ANS/NSF standard 42 for reduction of chlorine, taste and odor.
  - Efficient chlorine reduction over long life
  - · Dual-filtration-sediment and carbon
  - · Higher flow rates
  - Low differential pressure
  - Fits most competitive housings

#### Note:

- **B.** TWT-VC1 filter cartridges are high performance activated carbon filters designed to reduce chlorine, volatile organic compounds including trihalomethanes (THM). They are also highly effective in improving water taste and oder. Other contaminants reduced by TWT-VC1 filter cartridges are 2 4-d, 0-Dichlorobenzene, carbon tetrachloride, heptachlor, heptachlor epoxide, styrene, trichloroethylene, toluene, methoxychlor and more.
  - Efficient reduction of volatile organic compounds over long life
  - · Efficient reduction of chlorine, taste and odor
  - Fits most competitive housings

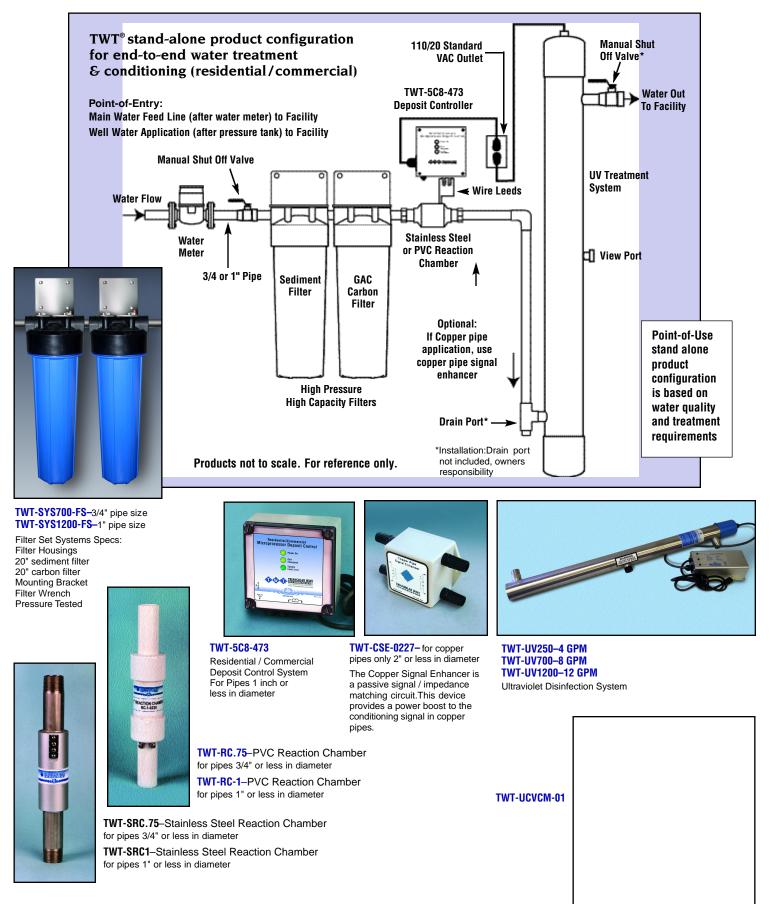
### Replacement Cartridges for TWT-UCVCM-01 System A-TWT-CF2

B-TWT-VC1

Rated Service Flow – 0.75 gpm • Approx Life Time:– 4-6 months Max Operating Temp– 100°F (-38°KC) • Size: 9 $^3/4"L$  / OD 2 $^3/4$  / ID1"

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

### Filtration • Patented Deposit Control Technology • UV Disinfection & Purification



TWT stand alone products will vary based on water quality, and GPM requirements. Visit TWT website for additional product and technical information: www.Triangularwave.com

#### For HOMES, OFFICES, APARTMENTS and CONDOMINIUMS and More!

#### FILTRATION PRODUCTS/COUNTER TOP FILTER SYSTEMS

#### TWT® Counter Top functions and features Model TWT-CT-MW

- · Flow is registered in gallons per minute
- Range is 0.33 to 2.0 GPM
- Pre-sets for alarm sounds and / or days
- · Audible alarm sounds to indicate when cartridge replacement is necessary
- Standard threads are 3/8" FNPT• Highly accurate (to 75% of settings)
- Two AAA batteries are included
- · Low battery alarm
- · Batteries are used only when water is flowing



#### TWT-CT-C

(Slim-Line Design, Conserves Counter Space)

The Counter Top Water Filter System restores taste and clarity to municipally treated water and removes foul, odors. With its dual filter media, is designed to remove lead, mercury, iron, and other heavy metals. The KDF-55 and granulated carbon removes 98% of... Chlorine, lead, volatile organic chemicals, hydrogen sulfide, sulphur, herbicides, pesticides and trihalomethanes.

Size: 5 1/2" X 5 1/2" X 12" Weight: 3.5 lbs. • Operating Pressure: 60 to 100 PSI



Single Unit Counter Top replacement filter cartridge features: TWT-GAC10N/KDF The dual filter media of patented KDF-55 / granular activated carbon.

Size: 2 1/2" X 9 7/8" • Weight : 2 lbs.

TWT-CT-MW TWT<sup>®</sup> Counter Top Filter System with with audible alarm for cartridge replacement TWT-CT-C

TWT® Counter Top Filter System with chrome spout & John Guest connectors



For residential filter housings, Replacement filters and reverse osmosis filter systems refer to section B-2 of catalog



# Typical problems and/or concerns in household water systems resulting from contaminated (hard) water.

- Unpleasant taste of drinking water (chlorine, fishy, stale, etc.).
- Spotting on dishes or glassware.
- Clothes and linens are stiff, do not come clean.
- High cost of heating water due to corrosion and buildup in elements.
- Clogging of lines and inadequate performance of appliances such as dishwashers, washing machines, and showers, and excessive use of soaps, detergents.
- Inadequate performance of heating, ventilation or air conditioning.
- Lawn and garden watering does not produce desired root growth nor satisfactory plant production.
- Pools and spas, decorative water features and aquariums require excessive chemical treatment and maintenance.

The Triangular Wave Technologies systems improve virtually all these conditions and produce high quality water for the entire household. A complete Triangular Wave Technologies system may utilize all or only some of the following items, depending upon the nature of the problems.

#### Solutions:

#### A. Filtration

For residences located in rural areas where the source of household 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 primary filtration device, that effectively removes particulate matter and similar debris.

- The ultimate method is via the Whole House Water Filtration System (a dual tank system that provides extraordinary performance and longevity of service).
- The second method is via point-of-use filtration units at water taps in the kitchen and bathroom, and showerhead filters in the bath.

All of these filtration methods employ the patented KDF technology. They provide a bacteriostatic environment and are designed to remove chlorine, lead, volatile organic chemicals, hydrogen sulfide and sulfur, herbicides, pesticides, chemical fertilizer residues, trihalomethanes and many other pollutants. These filters remove odor and restore the taste and clarity of municipally treated water. They are comprised of KDF, a specially formulated copper/zinc alloy media, and GAC, granular activated carbon, which combine to provide a highly effective filtration system. In comparison, some filtration systems eliminate only a portion of these pollutants. In addition, some of these systems contain filters that must be changed frequently (every few months). The Triangular Wave Technologies point-of-use filters effectively treat 7,500 gallons or more (nearly a 2 year supply of water for the average household), and the Whole House Unit filters in excess of two million gallons. Removing the chlorine is a particularly strong health advantage. These treatment steps provide a safe system for household water. However, all steps may not be required depending upon the specific conditions. A buyer may only wish to employ point-of-use filtration. Or if the user is confident that his water supply comes from a wellmanaged municipal system, he may eliminate the sediment filter and the ultraviolet treatment. All households can benefit from installation of the Triangular Wave Technologies Deposit Control System as a basic of protection.

#### **B. Deposit Control**

The TWT Deposit Control System, comprised of a microprocessor unit and a solenoid coil (either an on-site wrap or a factory wrapped reaction chamber), provides an array of benefits:

- Removes and prevents scale build-up and bio-film deposits (descales entire plumbing system over time).
- Improves efficiency of all water-fed appliances and extends their useful life (saves 5% to 30% on water heating bills).
- Provides the effects of softened water without harsh chemicals while neutralizing calcium hardness effects in water, and leaving in the beneficial minerals.
- Less scum formed on the bathtub and an improved soap lather.
- Eliminates septic bed toxic salt poisoning.
- Requires minimum space.
- Requires only \$10-\$14 per year of electricity.
- Non-invasive, safe and maintenance-free.
- Pays for itself quickly and provides continuous savings throughout its life.
- Controls algae and bacteria (they are dispersed in the water and prevented from attaching to surfaces where they feed and reproduce), thus eliminating damage to vessel surfaces from bio-growth.
- In effect, a clean, bio-film, corrosion-free plumbing system is restored and maintained in an environmentally safe, responsible, and chemical-free manner.

#### C. Purification

In residential locations lacking adequate treatment systems with effective purification methods for treating water-borne microorganisms (bacteria, viruses, etc.) that threaten health, or when existing systems are inadequate or poorly managed, the ultraviolet method of purification produces water that is disease and pathogen-free. It effectively kills 99.9% of microorganisms including bacteria and viruses. The UV lamp requires replacement every 10 to 12 months ( a simple 10 minute procedure).

#### For HOMES, APARTMENTS and CONDOMINIUMS

#### TWT Advanced, Chemical-Free Comprehensive Water Treatment Systems for Your Whole House...Your Safe and Simple Solution!

#### **TWT Healthy Home Configurations**



**Basic Filtration Protection** TWT Point of Use Filtration Products

- Protect Your Drinking WaterGuard Against Lead and Chlorine
- Reduce By-Product Damage to Clothes and Skin

#### **Comprehensive Filtration Protection**

TWT Whole House Filtration System offers complete filtration treatment of your entire interior plumbing system, when installed at the point of entry



#### Enhanced Appliance and Pipe Protection TWT Deposit Control Products

- Reduce scale and lime deposits that cause corrosion
  & bio-film in pipes and fixtures
- Reduce visible spotting
- Reduce habitats for bacteria development
- Keep your water-fed appliances, boilers, and water
- heaters working efficiently and increase their functional life
- Reduce your energy, water, and sewer costs

Kill 99.9% of bacteria and viruses

Immediate treatment process

· No handling of toxic chemicals

operating cost

Enhanced Ultraviolet Bacteria Control

· Environmentally friendly, no chemicals are added

Low power consumption 
 Easy installation

· More effective against viruses than chlorine

· Extremely economical - treat 100s of gallons for pennies of



#### Comprehensive Whole House Protection TWT Whole House Treatment Systems

Combine the TWT Whole House Filtration System with TWT Deposit Control for thorough protection of your drinking and household use water, as well as your pipes and appliances

Add TWT Ultraviolet Disinfection for the ultimate in comprehensive water treat ment protection



With Our Versatile Fluid Management Systems You Can Effectively Meet The Needs Of Any Application...Protect Your Investments! Your Family And Your Home!

TWT is the leader in chemical-free water treatment technology, based on its patented Triangular Wave deposit control technology

**Deposit Control • Filtration • Purification • Disinfection** 

# WHOLE HOUSE FILTRATION SYSTEM

The Triangular Wave Technologies Whole House filter system is designed to remove *chlorine, lead, volatile organic chemicals, hydrogen sulfide, sulphur, herbicides, pesticides and trihalomethanes.* 



Whole House Filtration Solutions

The ultimate method of protection for your home and family, the Whole House Water Filtration System is a dual tank system that provides extraordinary performance and longevity of service. Like the other TWT filtration methods, the TWT Whole House Water Treatment System employs patented KDF technology. The system and media provide a bacteriostatic environment designed to remove chlorine, lead, volatile organic chemicals, hydrogen sulfide and sulphur, herbicides, pesticides, chemical fertilizer residues, trihalomethanes, and many other pollutants. These filters remove odor and restore the taste and clarity of municipally treated water.

Where hard water conditions exist, the system...

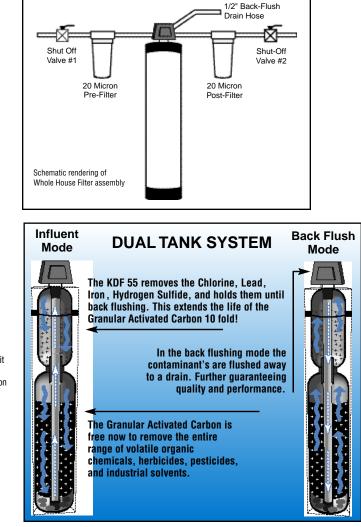
- · Improves water quality and taste
- Reduces electricity usage, allows more efficient heating operation
- · Reduces detergent and soap consumption

*TWT-WF* Whole House Water Filter

Size: 63" H X 12" diameter Weight: 100 lbs. Operating Pressure: 60 to 100 PSI



Included in the Whole House Unit TWT-FH10-SD Clear Filter Housing and 20 Micron Sediment Cartridge Unit



# POINT-OF-ENTRY WHOLE HOUSE FILTRATION and/or ULTRAVIOLET SYSTEM



Filter Set

See Section B3 For Additional Info

#### TWT-SYS700-FS (filter set)

Filter Specs:Sed-5M/Carb -10M Filter Set - FS complete with filter housings, mounting bracket, wrench and 20" sediment filter and 20" carbon filter, 3/4" in-out–pressure tested

Filter Set and Ultraviolet UV700 Purifier Combined as a Unit Product # TWT-SYS700-FSUV (8 GPM)

#### TWT-SYS1200-FS (filter set)

Filter Specs:Sed-5M/Carb -10M Filter Set - FS complete with filter housings, mounting bracket, wrench and 20" sediment filter and 20" carbon filter 1" in-out–pressure tested

> Filter Set and Ultraviolet UV1200 Purifier Combined as a Unit Product # TWT-SYS1200-FSUV (12 GPM)

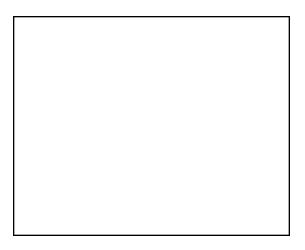
#### Filter Set & UV Combined

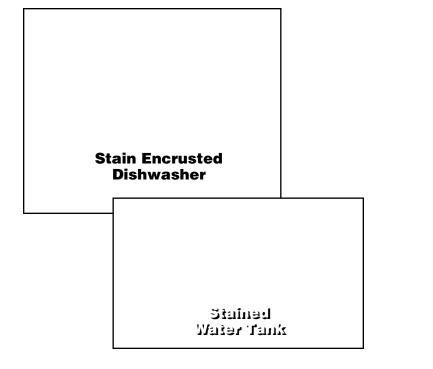
The UV-700 / UV-1200 purifier is best suited for larger households. Both units are efficient for small commercial and restaurant applications too. The effective kill rate of micro-organisms, including bacteria and viruses is 99.9%. No chemicals are added and the PH balance of the water is unchanged. Purifiers operate continuously with no need to heat or cool the water source. TWT purifiers are easy to install and practically maintenance-free. Lamp replacement every 10 to 12 months and is a simple 10 minute procedure



Triangular Wave Technologies, Inc.

# RUSTERASE IRON STORES (CONSERVENTION STORES) AND THE CONTROL OF THE CONTROL OF THE SALES SHOLL OF HERE SHIT SET STOLES



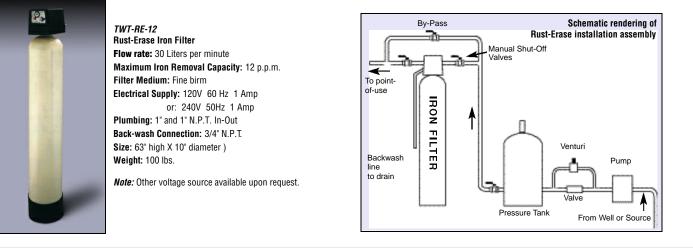


**Residential • Commercial • Industrial Applications** 

#### Chemical-Free Iron Removal Systems (no chemical injection required)

#### Effects of iron and manganese in water

When exposed to air, dissolved iron or manganese reacts with oxygen and is converted by oxidation to a colored, solid material that settles out of the water. Iron changes to white, then yellow and finally to a reddish-brown color. Manganese forms a black residue. High concentrations of these sediments cause reddish-brown or black stains on laundry and household fixtures. Another result of iron and manganese in household water is the presence of harmless bacteria in soil, shallow groundwater supplies and some surface water that secrete large amounts of red-brown (iron) or blackbrown (manganese) slime that stain toilet tanks. The Rust-Erase iron filter system is designed to effectively eliminate rust from your water supply economically and thoroughly. No more unsightly rust stains in the toilet, tub and sink., the laundry will be cleaner, too! The Rust-Erase Iron Filter works automatically. Every drop of water coming through the line is filtered to remove rust and other particles. The pre-set timer periodically activates the back-wash mechanism which keeps the filter medium fresh and effective for many years. Media is good for approximately 3 - 5 years or more depending on water conditions.



# Chemical-Free Iron Removal Systems (no chemical injection required)

Systems Include: • Clack 1" air injection system • Off air control tank (10x47)

• 163 valve • Brim Media • Bypass valve • Electronic timer control valve (backwash)

TWT-RE-30





Maximum Iron Removal Capacity: 30 p.p.m.

W1-HE-50 Maximum Iron Removal Capacity: 50 p.p.m. Flow rate: 48 Liters per minute Filter Medium: Fine birm Plumbing: 1" and 1" N.P.T. In-Out Back-wash Connection: 3/4" N.P.T. Size: 52" high X 12" diameter Weight: 100 lbs.

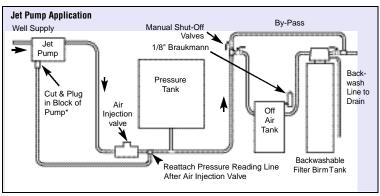


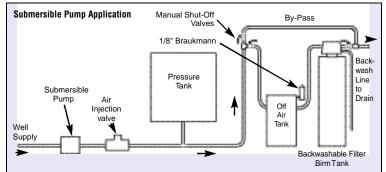
#### TWT-RE-30C

The chrome jacketed system is complete with upgraded valves (chrome jacket is only available on the 30 ppm iron system). Flow rate: 30 Liters per minute Maximum Iron Removal Capacity: 30 p.p.m. Filter Medium: Fine birm Plumbing: 1" and 1" N.P.T. In-Out Back-wash Connection: 3/4" N.P.T. Size: 47" high X 10" diameter Weight: 90 lbs.

Electrical Supply: 120V 60 Hz 1 Amp or: 240V 50Hz 1 Amp

#### **AIR BIRM INSTALLATION OPTIONS**





Visit Triangular Wave Technologies, Inc. Comprehensive Website. The Valuable Technical Resource For All Involved In Water And Fluid Management. www.Triangularwave.com

Not to scale for reference only

All systems come with easy to follow illustrations, operational & installation manuals.



### Ultra-Violet/Ozone Disinfection Products/Systems & Accessories



# THE SOLUTION FOR YOUR POOLS, SPAS, AND DECORATIVE WHEETER FOUNTAINS

REDUCE THE NEED FOR CHILORINE AND GET THE SAME RESULTS WITH TWT "CHEMICAL-FREE" CONDITIONING. TRIANGULAR WAVE TECHNOLOGIES JONGUARD AND ENHANCED CONTROL POOL MANAGEMENT SYSTEM







# PURIFICATION



C5

See Section B5 For Additional Info

# ALL-IN-ONE POTABLE WATER PROTECTION SYSTEM

Versatile Fluid Management Products & Systems To Effectively Meet The Needs Of Any Industry and Application • Industrial • Commercial • Residential



WHAT IS IN OUR WATER? IS YOUR WATER SAFE ENOUGHI TO DRINK?



The All-In-One Potable Water Protection TWT-MD-1001/1002/1003/1004

### Control Scale Deposits/Bacteria Corrosion Algae/Colloids In Your Water-Fed Systems.

Eliminate the biofilm that serves as a breeding ground for disease causing bacteria collecting in your pipes, tubing and equipment. TWT systems apply all the needed elements for maximum fluid protection, management, and peace of mind in one simple packaged solution. TWT state-of-the-art Filtration, Microprocessor Deposit Controller, Reaction Chamber, and UV Disinfection units are combined to provide a start-to-finish answer to simplified prevention, treatment and management of water line contamination dangers. The TWT All-in-One Fluid Management water purification system is a unique, compact, self-contained, wall mounted unit for the treatment of water in the home, office, farm, factory and laboratory environments.

Filtration: The water is filtered to remove lingering sediments, chlorine, heavy metals and organic

# Do You Have An Effective Water Treatment System?

ARE YOU

EPARED?

# FILTRATION DEPOSIT CONTROL DISINFECTION PURIFICATION

carbon compounds. The filtering process features a sediment filter, the dual filter media of patented KDF 55 and Granular Activated Carbon, and a final sediment filter.

**Deposit Control** and Reaction Chamber Subsystem prevents scale and biofilm deposits from forming on water system components and surfaces. It conditions the water before it enters the waterlines feeding the equipment and instruments; the bacteria and scale particles in the water remain suspended and unable to attach to the waterline walls, equipment and appliances, and then flow through harmlessly.

**Disinfection/Purification:** Ultraviolet treatment kills bacteria and biofilm. The Ultraviolet Subsystem is designed to kill 99.9% of any remaining bacteria and viruses. The result is virtually disease and pathogen-free water.





IN LABORATORY, MEDICAL & DENTAL ENVIRONMENTS

TWT offers several systems designed to treat and fit your individual & industry-specific needs. DON'T WAIT...contact us today for information on how to purchase the system that works best for you!

TWT systems improve the quality of and taste of water, and the operating efficiency and life cycle of all fluid-fed equipment

Conserve Water, Save Energy... Non-Chemical, Safe, Cost-Effective Water Treatment

Visit our comprehensive website, the valuable technical resource for all involved in water and fluid management...

WWW.TRIANGULARWAVE.COM

C6

See Section A10 For Additional Info