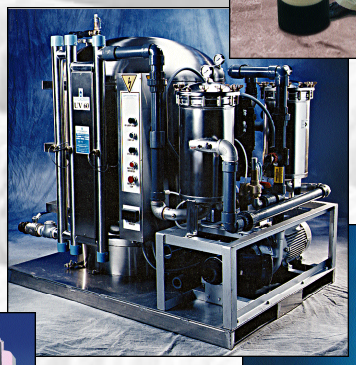
FILTRATION- Traps & Removes Harmful Pollutants, prevents restriction and keeps water in the plumbing system flowing

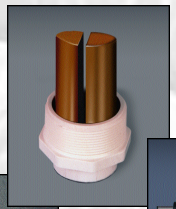
ULTRAVIOLET- Safe Water Free of Disease Causing Pathogens Disinfection/Purification

IONGUARD- Purifies Water by Killing Algae & Bacteria

DISINFECTION • PURIFICATION • PRODUCTS & SYSTEMS

Commercial • Industrial Chemical-Free Fluid Management





We've learned that any chemical we use in our society, will eventually wind up in our water supplies. There is no "new"water! Our planet re-uses the same water over and over. And as our use of SOC's (synthetic organic chemicals) increases, so does the toxicity of our water. Earth's natural filtration precess is not effective at removing these toxic SOC's. Municipal water treatment, Industry, agriculture and individuals... all contribute to the problem. Many of the contaminats found in water can be traced back to improper or excessive use of ordinary compounds like lawn chemicals, gasoline, dry cleaning solvents and cleaning products, etc.

Once we realize that everything that goes down the drain, on our lawns, on our agricultural fields or into the environment by an means... eventually winds up in the water we use & drink, we begin to see just how vulnerable our water supplies really are.

TWT unique products and services directly and reliably address the need.

All TWT® products, and integrated systems are engineered and manufactured to conform to CSA, CE, UL and efficacy standards. TWT and it's suppliers use listed components and materials as available. Continuous monitoring of the design and manufacturing provides quality assurance of the products, systems and there intended use.

T W T
TRIANGULAR WAVE TECHNOLOGIES, INC
FLUID MANAGEMENT SOLUTIONS
www.Triangularwave.Com

Filtration:

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 media that remove harmful chemicals, metals, and toxins from the water as it passes through these layers. The TWT Filter media can utilize a sediment filter, a dual media KDF-55 granular activated carbon filter, extruded carbon activated block filter, Silica, DE, or other filter media upon request. TWT filter system/medea can be configured to trap particles of various micronic sizes. The end result is clean and healthy water that is free of chemicals and organic pollutants.

Ultra-Violet Disinfection/Purification:

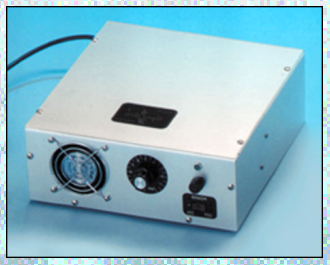
The UV disinfection technology used in the system to provide safe, potable drinking water, free of disease-causing pathogens. As water passes through the UV chamber, UV light will attack and render harmless any bacterial, viral or spore contamination present in the treated water. "High intensity UV light 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 IonGuard 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 IonGuard 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).

Ozone Disinfection/Purification:

The Ozonator is a natural, safe way to purify water in many different applications. Common uses include hot tubs, whirlpool baths, swimming pools, water bottling plants, water vending machines and household water systems. It eliminates the need for chemicals which can be irritating to people and costly to budget.The Ozonator converts Oxygen (O_2) into (O_3) by the action of the corona discharge system. Ozone is then injected into the water where it destroys viruses, bacteria and many other micro-organisms. taste, odor and color disappear and iron oxide, hydrogen sulphide, lignite and tannin are precipitated out, leaving your water pure and clean.



TWT Patented Deposit Control Technology

TWT Deposit Control Systems enhance other treatment technologies as well, including chemicals, ozone, ultraviolet, separators and other filtration systems, keeping them clean and enhancing their operation. In this way, their full treatment benefits are realized, with reduced maintenance requirements. Consider using TWT Deposit Control Systems in conjunction with any fluid treatment systems as a complementary technology.

FILTRATION PRODUCTS/10" FILTER HOUSINGS for 9-3/4" & 9-7/8" REPLACEMENT CARTRIDGES

Top-of-the-line-filter housings are rated #1 in the industry offering both quality and price. Manufactured from the highest quality FDA grade polypropylene, they are available in a wide range of styles, colors, and pipe fittings. EPDM O-rings standard. Rated for temperatures to 125˚F (52˚C), pressures to 125 psi (8.75 bar) and burst tested at 500 psi and 150,000 cycles. Custom models are available.

TWT-FH4200WW14	10" White Filter Housing for 1/4" pipe size
TWT-FH4200WW38	10" White Filter Housing for 3/8" pipe size
TWT-FH4200WW12	10" White Filter Housing for 1/2" pipe size
TWT-FH4200WW34	10" White Filter Housing for 3/4" pipe size

TWT-FH5000BL34PR	10" Blue Filter Housing for 3/4" pipe size with Pressure Release Valve
TWT-FH5000BL1PR	10" Blue Filter Housing for 1" pipe size with Pressure Release Valve
TWT-FH5000BL15PR	10" Blue Filter Housing for 1-1/2" pipe size with Pressure Release Valve

FILTRATION PRODUCTS/20" FILTER HOUSINGS for 20" X 4-1/2" OD CARTRIDGES

TWT-FH10000BL34PR	20" Blue Filter Housing for 3/4" pipe size with Pressure Release Valve
TWT-FH5000BL1PR	20" Blue Filter Housing for 1" pipe size
TWT-FH5000BL15PR	20" Blue Filter Housing for 1-1/2" pipe size with Pressure Release Valve

FILTRATION PRODUCTS/JUMBO FILTER HOUSINGS

Material: Multi-cartridge and Jumbo filter housings are constructed using 316L stainless steel.
Pressure Rating: Housings are rated for pressures to 150 psi (10 bar).300 psi pressure rating available.
Temperature: Filters are rated for temperatures to 250˚F (121˚ C). Please consider cartridges to be used.
Gaskets & Seals: Buna-N is standard.Viton, EDPM and Teflon are available.
Finish: Protective poly-coat over stainless is standard finish. Electro-polishing available.
Pressure Drop: Initial pressure drop is <1 psi at designed flow rates for housing only.
cartridge Types: Housings are designed to accept DOE cartridges.Adapters for 222 & 226 cartridges available.

Filter Housings & Cartridges Provide High Performance and Reduce Filtration Costs – *Features & Benefits*

- **100% stainless Steel**
- **All 316 stainless steel construction**
- **Pipe fittings are readily accessible for easy installation**
- **Two drains provided for clean and dirty fluids**
- **Knife edge seals are provided at both ends of all DOE cartridges for superior performance**
- **Rated for temperatures to 250˚F (No plastic holding rods)**
- **Pressure rating to 150 psi**
- **Housing for pressures to 300 psi are available**
- **Optional sanitary connections**
- **Models to accept DOE, 222 and cartridges with 226 end caps**

TWT-FMJCH40	50 GPM single cartridge, jumbo filter housings in 316 stainless steel
TWT-FMJCH90	100 GPM single cartridge, jumbo filter housings in 316 stainless steel
TWT-FMJCH170	150 GPM single cartridge, jumbo filter housings in 316 stainless steel

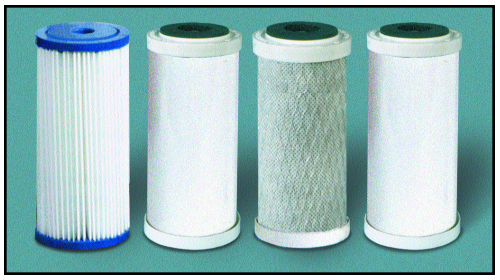
FILTRATION PRODUCTS/JUMBO FILTER & HURRICANE HOUSINGS REPLACEMENTS

100% synthetic filter media is washable and reusable, five micron and up. Cartridges are designed for jumbo housings, and they are an economical replacement for Hurricane filter housings, providing low pressure drop and long life.

TWT-FMHC-40-5	5 micron pleated cartridges for FMJC40
TWT-FMHC-90-5	5 micron pleated cartridges for FMJCH90
TWT-FMHC-170-5	5 micron pleated cartridges for FMJCH170

Filters are interchangeable allowing you to meet specific water treatment needs at all times



ITEM#	DESCRIPTION	MICRON	HOUSING
TWT-155169	Solid Block	0.5	10"
TWT-155634	Solid Block	10	10"
TWT-155783	Solid Block	10	20" Big Blue
TWT-155635	Solid Block	10	20" Slim Line

Solid Block: Activated carbon for taste, lead, odor, chlorine and organic chemical reduction/ removal

TWT-155182	Pleated Sediment	5	10"
TWT-155103	Pleated Sediment	10	10"
TWT-BB10S	Pleated Sediment	10	10"Big Blue
TWT-155420	Pleated Sediment	5	20" Big Blue
TWT-155305	Pleated Sediment	20	20" Big Blue
TWT-155414	Pleated Sediment	5	20" Slim Line
TWT-155303	Pleated Sediment	20	20" Slim Line

Pleated: Washable and reusable for sediment reduction/removal

TWT-BB10C	Pleated Carbon	10	10" Big Blue
TWT-155382	Pleated Carbon	10	20" Big Blue

Pleated Carbon: Taste, odor, chlorine and organic chemical reduction/removal

TWT-BB10R	Resin	10	10" Big Blue

Resin Filter: Water softening resin filter

TWT-155109	GAC	N/A	10"
TWT-155249	GAC	N/A	20" Big Blue
TWT-155111	GAC	N/A	20" Slim Line

GAC: Granulated activated carbon for taste, odor, organic chemicals and chlorine reduction/removal

TWT-GAC10M/KDF	GAC/KDF	N/A	10"
TWT-BB10K	GAC/KDF	10	10" Big Blue

GAC/KDF-55: Granulated activated carbon with KDF-55, specially formulated copper/zinc alloy media designed to remove chlorine, lead, volatile organic chemicals, hydrogen sulfide, sulfur, herbicides, pesticides, chemical fertilizer residues and trihalomethanes

TWT-MZRFC	Mini-Zap Replacement Filter Cartridge

The above replacement filter cartridges are used in TWT Counter Top, Under Counter, P.O.E., P.O.U. and Integrated All-In-One Treatment Systems. Refer to Specific product sheet (catalog or website) for correct replacement filter cartridges needed.

Product numbers may change, micron size, filter medium must be indicated on purchase order

Note: Filter Housing, Filter Replacement Cartridges, and In-Line Filters if not listed, are available upon request

See Section D 11 for Replacement Bag Filters

FILTRATION PRODUCTS/RESIDENTIAL REVERSE OSMOSIS SYSTEMS

FMRO4G

FMRO5GP

TWT-FMRO4J	4 stage, 50 GPM, jaco fittings, 1/4" tubing, chrome, lead-free faucet
TWT-FMRO4G	4 stage, 50 GPM, John Guest fittings, 3/8" tubing from tank to faucet, lead-free faucet
TWT-FMRO5G	5 stage, 50 GPM, John Guest fittings, 3/8" tubing from tank to faucet, lead-free faucet
TWT-FMRO5J	5 stage, 50 GPM, with Jaco compression fittings also available
TWT-FMRO5GP	5 stage, 50 GPM, John Guest fittings, 3/8" tubing from tank to faucet, lead-free faucet with Aquatic® CDP-6800 booster pump installed

Features:

- **Fully assembled with complete installation instructions included.**
- **Filmtec® high rejection membrane from Dow® Corporation. Up to 98% rejection.**
- **50 GPD capacity.**
- **NSF listed ROPRO® storage tank, rated for pressures to 100 psi; non-corrosive construction.**
- **Top quality pre-filters for superior performance, (Spun, solid block carbon & post carbon filter).**
- **Filter housings, NSF standard 42 certified. Rated for pressures to 125 psi.**
- **Chrome, long-reach, lead-free faucet. (Meets State of California requirements).**
- **Wrench for convenient sump removal.**

FILTRATION PRODUCTS/COMMERCIAL/INDUSTRIAL REVERSE OSMOSIS SYSTEMS

FM300G-FL

Fully assembled reverse osmosis equipment systems, knowing with all confidence they meet our high quality standards and are engineered to provide years of trouble-free service. All systems include every necessary option for a successful installation as standard equipment.

TWT-RO300G-FL	300 GPD, 3/4" FNPT, 2.5" X 21" membrane
TWT-RO500G-FL	500 GPD, 3/4" FNPT, 2.5" X 21" membrane
TWT-RO1000G-FL	1,000 GPD, 3/4" FNPT, 4" X 21" membrane
TWT-RO1200G-FL	1,200 GPD, 3/4" FNPT, 4" X 40" membrane

Standard Features:

- **High rejection thin film RO membranes**
- **Stainless steel frames (power coated)**
- **Efficient, high pressure pumps & motors**
- **Electronic controls**
- **Continuous TDS monitoring**
- **Level controls (on/off)**
- **Flow meters (product water & concentrate)**
- **Pressure regulator valves**
- **High pressure tank full shut-off & restart**
- **Pressure gauges for inlet and concentrate**
- **Stainless steel membrane housings**
- **Heavy-duty pressure tubing**
- **Low pressure shut-off and restart**
- **Pre-filter housings & cartridges for sediment**
- **Solenoid valves (pump & flush)**
- **Comprehensive, limited warranty**

Reverse Osmosis: Removes the entire spectrum of drinking water contaminants

Reverse osmosis systems include membrane separation, activated carbon absorption and conventional, filtration to reduce the entire spectrum of contaminants that can be found in water. RO systems substantially remove heavy metals, such as barium, cadmium, chromium, lead and mercury; radium 226 / 228 selenium, cysts, chlorine, salts, turbidity and more.

If your application requirements are not listed, contact TWT® Inc. directly for further product information

METER VALVES/AUTOMATIC SHUT-OFF BASED ON GALLONS FILTERED

These unique, meter valves provide automatic shut-off of a potable water system for filter replacement after a pre-determined quantity of water has been filtered.

WM2000B	Black 1800 gals*, Jaco fitting, 1/4" MNPT
WM2000W	White 1800 gals*, Jaco fitting, 1/4" MNPT
WM3000B	Black 3800 gals*, Jaco fitting, 1/4" MNPT
WM3000W	White 3800 gals*, Jaco fitting, 1/4" MNPT
WM3001B	Black 15,000 L* , Jaco fitting, 1/4" MNPT
WM2001B	Black 7,000 L* , Jaco fitting, 1/4" MNPT
WM2000HCW	White 1800 gal* , John Guest connectors, 1/4"
WM2000HCB	Black 1800 gal* , John Guest connectors, 1/4"

Features:

- **Choice of 1800 or 3800 gal. capacity**
- **Settings of 100 gallon increments**
- **Accuracy within 10% of setting**
- **Operating pressures from 15 to 125 psi**
- **Burst tested to 500 psi**
- **Assortment of pipe fittings**
- **Manufactured using NSF listed materials**
- **Settings in US gallons and liters**
- **Lifetime limited warranty**

DIGITAL METER VALVES – 3/8" *Pipe Fittings*

TWT-PDM-100 Capacity setting from 100 to 9900 gallons, with flow registered in gallons per minute. Highly accurate to within 7% of setting. Flow rate indicated from 0.33 to 2.00 GPM. Calendar time settings from 30 to 720 days. Pre-sets for gallons and/or days. Audible alarm sounds to indicate when cartridge replacement is necessary..Standard threads are 3/8" NPT.Two AAA batteries are included. rated to 120 psi and temperatures to 100˚ F

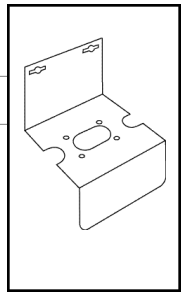
TWT-PDM-200 Up to 5 independent capacity settings so users may track total flow in gallons with capacity from 100 to 19,900 gallons. Audible alarm indicates cartridge replacement

TWT-PDM-210 Up to 5 independent capacity settings so users may track total flow in gallons with capacity from 100 to 19,900 gallons. Includes solenoid valve to shut-off system when one or more of the capacity settings reach zero gallons remaining. Audible alarm indicates cartridge replacement.

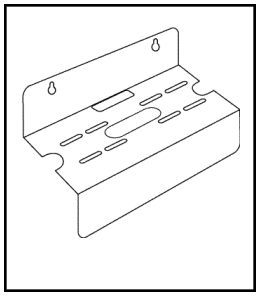
MOUNTING BRACKETS

TWT-FM20	Mounting bracket for single filter housing
TWT-FM30	Mounting bracket for double filter housing
TWT-FM50	Mounting bracket for triple filter housing

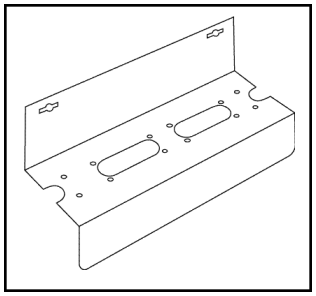
Sizes of brackets may vary according to application



FM20



FM30



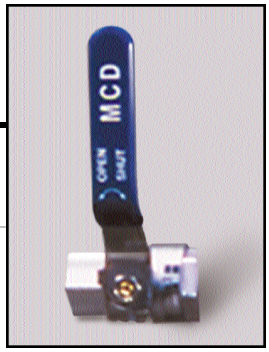
FM50

FILTER HOUSING WRENCH **TWT-FHR10** Filter Housing Wrench

FILTER HOUSING WRENCH **TWT-FHR20** Filter Housing Wrench

FEED WATER SADDLE VALVE

TWT-SV-1	1/2" MNPT x 1/2" FNPT x 1/4" compression
TWT-SV-2	3/8" MNPT x 3/8" FNPT x 1/4" compression



SHUT-OFF VALVES

TWT-05SO SHUTOFF VALVE For 1/2" size pipes (need two valves per system)In-flow/Out-flow

TWT-75SO SHUTOFF VALVE For 3/4" size pipes (need two valves per system)In-flow/Out-flow

Ultraviolet disinfection systems are mysterious to many people - how can "light" kill bacteria? But the truth is, it can. Ultraviolet (UV) technology has been around for 50 years, and its effectiveness has been well documented, both scientifically and commercially. It is nature's own disinfection/purification method. With consumers becoming more concerned about chlorine and other chemical contamination of drinking water, more dealers are prescribing the ultraviolet solution as suitable for both small flow residential applications as well as large flow commercial projects.

Ultraviolet is a means of killing or rendering harmless microorganisms in a dedicated environment.These microorganisms can range from bacteria and viruses to algae and protozoa. UV disinfection is used in air and water purification, sewage treatment protection of food and beverages, and many other disinfection and sterilization applications. A major advantage of UV treatment is that it is capable of disinfecting water faster than chlorine without cumbersome retention tanks and harmful chemicals. UV treatment systems are also extremely cost efficient!

Advantages of UV Sterilization

- ***Environmentally friendly, no dangerous chemicals to handle or store, no problems of overdosing***
- ***Universally accepted disinfection system for potable and non-potable water systems***
- ***Low initial capital cost as well as reduced operating expenses when compared with similar technologies such as ozone, chlorine, etc.***
- ***Immediate treatment process, no need for holding tanks, long retention times, etc.***
- ***Extremely economical, hundreds of gallons may be treated for each penny of operating cost***
- ***Low power consumption***
- ***No chemicals added to the water supply - no by-products (i.e., chlorine + organics = trihalomethanes)***
- ***Safe to use***
- ***No removal of beneficial minerals***
- ***No change in taste, odor, pH or conductivity, nor in the general chemistry of the water***
- ***Automatic operation without special attention or measurement, operator friendly***
- ***Offers simplicity and ease of maintenance, requiring only annual lamp replacement, and has no moving parts to wear out. Combined with a TWT Deposit Controller, the quartz sleeve will remain free of scale***
- ***Easy installation, only two water connections and a power connection***
- ***More effective against viruses than chlorine***
- ***No handling of toxic chemicals, no need for specialized storage requirements, no OHSA requirements compliance***

Compatible with all other water processes (e.g., RO, filtration, ion exchange, etc.).

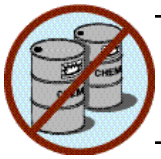
UV Applications

One of the most common uses of ultraviolet sterilization is the disinfection of domestic water supplies due to contaminated wells. Coupled with appropriate pre-treatment equipment, UV provides an economical, efficient and user-friendly means of producing potable water. The following list shows a few more areas where ultraviolet technology is currently in use: surface water, groundwater, cisterns, breweries, hospitals, restaurants, vending, cosmetics, bakeries, schools, boiler feed water, laboratories, wineries, dairies, farms, hydroponics, spas, canneries, food products, distilleries, fish hatcheries, water softeners, bottled water plants, pharmaceuticals, mortgage approvals, electronics, aquaria, boats and RV's, printing, buffer processing, petro-chemical, photography, and pre-and post-reverse osmosis.

What Is UV And How Does It Work?

Ultraviolet is one energy region of the electromagnetic spectrum, which lies between the x-ray region and the visible region. UV itself lies in the ranges of 200 nanometers (nm) to 390 nanometers (nm). Optimum UV germicidal action occurs at 260 nm. Since natural germicidal UV from the sun is screened out by the earth's atmosphere, we must look to alternative means of producing UV light. This is accomplished through the conversion of electrical energy in a low pressure mercury vapor "hard glass" quartz lamp. Electrons flow through the ionized mercury vapor between the electrodes of the lamp, which then creates UV light.

As UV light penetrates through the cell wall and cytoplasmic membrane, it causes a molecular rearrangement of the microorganism's DNA, preventing it from reproducing. If the cell cannot reproduce, it is considered dead. Turbidity, the inability of light to travel through water, makes water cloudy and aesthetically unpleasant. In the case of UV, levels over 1 NTU can shield microorganisms from the UV energy, making the process ineffective. Suspended solids need to be reduced to a maximum of 5 microns in size. Larger solids have the potential of harboring or encompassing the microorganisms and preventing the necessary UV exposure. Pre-filtration is a must on all UV applications to effectively destroy microorganisms to a 99.9% kill rate. An additional factor affecting UV is temperature. The optimal operating temperature of a UV lamp must be near 40º C (104º F). UV levels fluctuate with temperature levels. Typically a quartz sleeve is installed to buffer direct lamp-water contact, thereby reducing any temperature fluctuations. The TWT UV Disinfection Systems are uniquely designed to allow the most efficient UV operation possible.



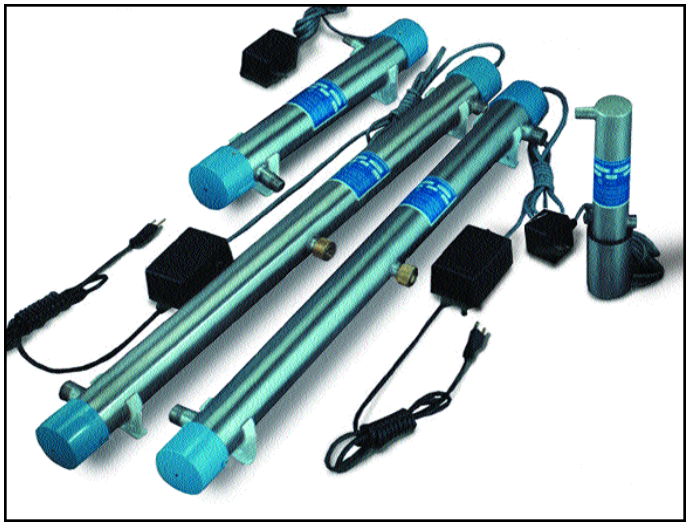
Eliminate toxic chemicals & salts
No recurring chemical expenses
No handling and storage of hazardous chemicals on site
No hazardous salt contamination

All-In-One Systems – Deposit Control • Disinfection • Purification
See section A-10

How the Triangular Wave Technologies, Inc. Ultra Violet water purifier unit works:

Untreated water enters the lower portion of the purification chamber and flows through the unit in an upward circular path. The spiraling movement assures the maximum irradiation of the fluid and prevents larger particles from blocking the treatment of microorganisms. The purification chamber contains the ultraviolet light-producing lamp. In operation, the lamp emits a bluish glow, which is visible in the view port window on the side of the UV700, UV1200,2000, 3000, 5000 and 6000. ***WARNING: DO NOT LOOK AT THE UV LIGHT DIRECTLY***. The MiniZap, UV4 and UV250 units do not contain a view port window, operation of these units may be confirmed by the illumination of a green LED indicator lamp. So long as the appropriate indicators are glowing, the unit is functioning properly. An alarm will sound when the lamp is out. When the glow does not appear and the alarm is sounding, the lamp is replaced for the unit to operate properly.

NOTE: Your TWT Purifier will function automatically to produce high quality, safe drinking fluids to the maximum of its design capacity. It will provide many years of service when factory recommended installation, operation and maintenance procedures are followed.



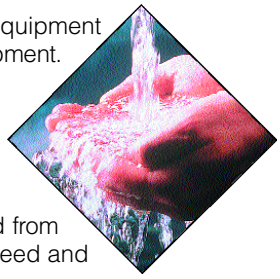
Ultraviolet Systems

Eliminate the biofilm, that serves as a breeding ground for disease-causing bacteria, collecting in your pipes, tubing and equipment.

The patented Triangular Wave Deposit Control System conditions the water before it enters the water lines for the equipment and ultraviolet System. The bacteria and scale particles in the water are conditioned so that they remain suspended and unable to attach to the water line walls or the ultraviolet system. In addition, the conditioned water will attack the biofilm on the walls of the water lines and cause the biofilm to detach from the walls and remain suspended in the water. By eliminating the habitat provided by the biofilm, the bacteria will ultimately die off.

The deposit control system feature provides the following benefits:

1. Removes and prevents scale build-up and mineral deposits (descales the entire system over time)
2. Improves efficiency of all water feed equipment and extends the useful life of this equipment.
3. Provides the effects of softened water without chemicals.
4. Is totally safe and maintenance free.
5. Controls algae and bacteria (they are dispersed in the water and prevented from attaching to surfaces where they can feed and reproduce thus they die).

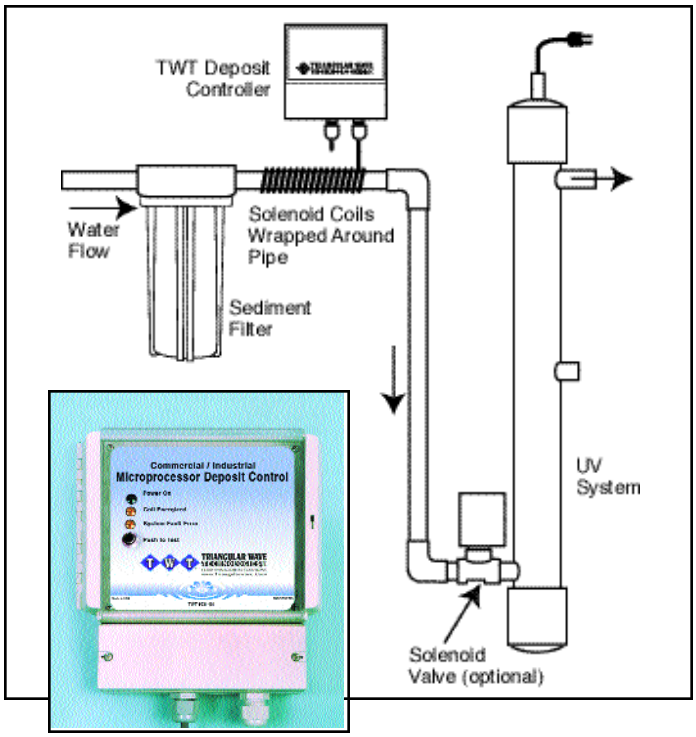


6. Biofilm is removed and prevented from reoccurring; thus damage to vessel surfaces from bio-growth is eliminated.
7. The Triangular Wave Ultraviolet Disinfection System will then kill 99.9% of any remaining bacteria and viruses by disrupting the microbe's DNA with ultraviolet light rays. Ultraviolet disinfection has been proven to be an effective non-chemical disinfection system.

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

Recommended configuration for combined use of TWT® Filtration, Deposit Control Technology and Ultraviolet Disinfection

All the needed elements for maximum fluid protection, management, and peace of mind in one simple packaged solution. Filtration, state-of-the-art Microprocessor Deposit Controller, Solenoid Coil and/or 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. TWT solutions are scalable to fit the volume you need - ask us to specify the system that works best for you!

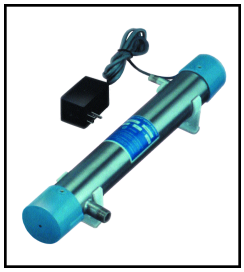


ModelTWT-5C8-401

Water The Way Nature Intended It!

TRIANGULAR WAVE TECHNOLOGIES ULTRAVIOLET DISINFECTION SYSTEM

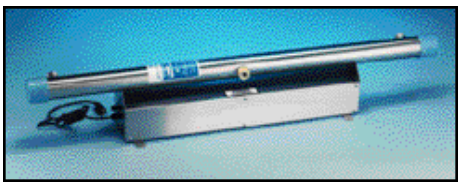
The TWT Ultraviolet Water Disinfection System is ideal for protecting drinking water from the threat of bacterial contamination. This Ultraviolet sterilizer destroys bacteria and viruses as they flow through the UV chamber with an effective kill rate of 99.9%. If installed in conjunction with the TWT Deposit Control System, this enhanced treatment approach also prevents scale formation in pipes and water appliances. We recommend that a qualified plumber perform the installation.



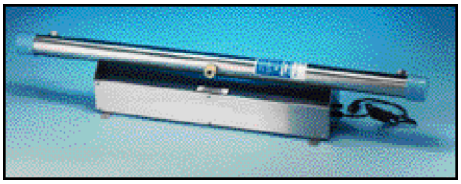
TWT-UV-250
Rated Flow: 15 Liters per minute / 4 Gallons per minute • Rated Flow UV Dose: 38,000 mw/sec or 38 mJ at 4 GPM
• Electrical Supply: 120 VAC/60Hz*.36 • Maximum Operating Temperature: 37C (98.6F) • Maximum Operating Pressure: 125 psi - 8.6 Bar
Plumbing: N.P.T. In-Out 1/2 • Size: 23"L x 5.5"W x 2.5"H • Weight: 7 lbs (3.2 kg) • Body: 304 or 316 Stainless Steel

TWT-UV-700
Rated Flow: 30 Liters per minute • 8 Gallons per minute • Rated Flow UV Dose: 60,000 mw/sec or 60 mJ at 8 GPM • Electrical Supply:120VAC/60Hz*.55 Amp • Maximum Operating Temperature: 37C (98.6F) • Maximum Operating Pressure: 125 psi - 8.6 Bar
• Plumbing: 3/4" N.P.T. In-Out • Size: 41"L x 4.75"W x 3.25"H • Weight: 8 lbs (3.5 kg)
• Body: 316 Stainless Steel

TWT-UV-1200
Rated Flow: 45 Liters per minute /12 Gallons per minute • Rated Flow UV Dose: 45,800 mw/sec or 45.8 mJ at 12 GPM Maximum Flow: 65 Liters per minute /17 Gallons per minute
• Electrical Supply: 120V/60Hz*.68 Amp • Maximum Operating Temperature: 37 C (98.6F)
• Maximum Operating Pressure: 125 psi - 8.6 Bar • Plumbing: 1" N.P.T. In-Out
• Size: 41"L x 6"W x 3.25H" • Weight: 8lbs (3.5kg) • Body: 304 or 316 Stainless Steel



TWT-UV-1500
Rated Flow: 57 Liters per minute • 15 Gallons per minute • Rated Flow UV Dose: 34,000 mw/sec or 40 mJ at 15 GPM
• Maximum Flow: 80 Liters per minute 21 Gallons per minute • Electrical Supply: 120VAV/60Hz* 2 Amp
• Maximum Operating Temperature: 37C (98.6F) • Maximum Operating Pressure: 125 psi - 8.6 Bar • Plumbing: 1" N.P.T. In-Out
• Size: 50"L x 6"W x 8"H • Weight: 21 lbs (9.5 kg) Body: 316 Stainless Steel



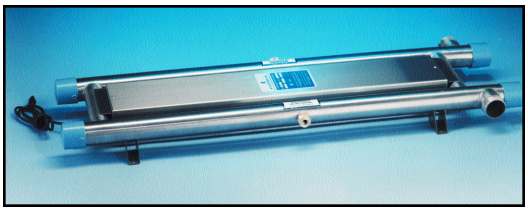
TWT-UV-2000
Rated Flow: 80 Liters per minute 21 Gallons per minute • Rated Flow UV Dose: 31,000 mw/sec or 31 mJ at 21 GPM
• Maximum Flow: 108 Liters per minute 29 Gallons per minute • Electrical Supply: 120V/60Hz* 2 Amp 240V/50Hz/2 Amp
• Maximum Operating Temperature: 37 C (98.6F) • Maximum Operating Pressure: 125 psi - 8.6 Bar • Plumbing: 1.25" N.P.T. In-Out
• Size 50"L x 6"W x 8"H • Weight:21 lbs. (9.5 kg) • Body: 316 Stainless Steel

TWT-UV-3000
Rated Flow: 117 Liters per minute 30 Gallons per minute • Rated Flow: UV Dose: 44,400 mw/sec or 44 mJ at 30 GPM
• Electrical Supply: 120V/60Hz* 2.1Amp • Maximum Operating Temperature: 37C (98.6F) • Maximum Operating Pressure: 125 psi - 8.6 Bar
• Plumbing: 1.25" N.P.T. In-Out • Size: 52"L x 8"W x 8"H • Weight: 45 lbs (20.5 kg) • Body: 316 Stainless Steel

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

UV-250/QD4M-1	4	120V / 60 Hz Residential UV Purifier with Alarm
UV-250/QD4M-2	4	230V / 50 Hz Residential UV Purifier with Alarm
UV-700/QD4E-1	8	120V / 60 Hz Residential UV Purifier with Alarm
UV-700/QD4E-2	8	230V / 50 Hz Residential UV Purifier with Alarm
UV-1200/QD4E-1	12	120V / 60 Hz Commercial UV Purifier with Alarm
UV-1200/QD4E-2	12	230V / 50 Hz Commercial UV Purifier with Alarm
UV-2000/QD4E-1	21	120V / 60 Hz Commercial UV Purifier with Alarm
UV-2000/QD4E-2	21	230V / 50 Hz Commercial UV Purifier with Alarm
UV-1500/QS4E-1	15	120V / 60 Hz Commercial UV Purifier with Alarm
UV-1500/QS4E-2	15	230V / 50 Hz Commercial UV Purifier with Alarm
UV-3000/QS4E-1	30	120V / 60 Hz Commercial UV Purifier with Alarm
UV-3000/QS4E-2	30	230V / 50 Hz Commercial UV Purifier with Alarm

• Must specify current source when placing purchase order for allUV systems

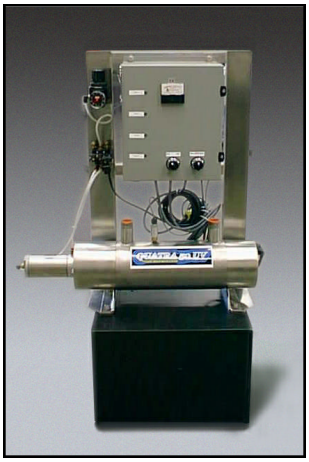


TWT-UV-5000
Rated Flow: 189 Liters per minute 50 Gallons per minute • Rated Flow UV Dose: 46,200 mw/sec or 46 mJ at 50 GPM
• Number of lamps: 2 • Maximum Flow: 290 Liters per minute 77 Gallons per minute • Electrical Supply: 120V/60 Hz* 3 Amp
• Maximum Operating Temperature: 37˚C (98.6˚F) • Maximum Operating Pressure: 125 psi - 8.6 Bar
• Plumbing: 2" N.P.T. In-Out • Size: 50"L x 13"W x 4.25"H • Weight: 46 lbs (21kg) • Body: 316 Stainless Steel

TWT-UV-5007
Rated Flow: 833 Liters per minute 220 Gallons per minute • Rated Flow UV Dose: 40,400 mw/sec or 40.4 mJ at 220 GPM
• Number of lamps: 7 • Lamp wattage: 79 Watts • Electrical Supply: 120V/60Hz* 3 Amp • Maximum Operating Temperature: 37˚C (98.6˚F)• Maximum Operating Pressure: 125 psi - 8.6 Bar • Plumbing: 3" flange In-Out
• Unit Dimensions: 56"L x 12.5"W x 20"H • Controller Dimensions: 33.6" x 25.2" x 12" • Unit Weight: 130 lbs (59 kg)
• Controller Weight: 60 lbs (27 kg) • Body: 316 Stainless Steel

TWT-UV-6000
Rated Flow: 375 Liters per minute 100 Gallons per minute • Rated Flow UV Dose: 25,000 mw / sec or 25 mJ at 106 GPM
• Number of lamps: 2 • Lamp wattage: 79 Watts • Electrical Supply: 120V / 60Hz* 1.5 Amp • Maximum Operating Temperature: 37˚C (98.6˚F) • Maximum Operating Pressure: 125 psi - 8.6 Bar • Plumbing: 2" flange In-Out
• Unit Dimensions: 50"L x 16.5"W x 8"H • Unit Weight: 52 lbs • Body: 316 Stainless Steel

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



TWT-Quattra UV50 **Effluent Wastewater Treatment System**
Integrated pneumatic Automatic Lamp Wiper System. This system is ideally suited for small/medium commercial/industrial and marine effluent applications. The Quattra 50UV has an integrated pneumatic wiper system to maintain lamp efficiency and a proprietary UV reaction chamber, designed to increase the dwell time inside the chamber. Engineered and designed to provide a very high UV dose, extended dwell time at rated flow of 50 GPM (90+mJ/cm^2).

• High-Power 4 lamp array inside cylindrical reaction chamber • 2" in-out piping
• Approx. size of sterilizer 31 X 8 X 10 inches not including controller • 316 St/St chamber body

TWT offers a complete line of Ultraviolet water purifiers, from the UV-4 unit on up to the UV-5000/UV-5007 suitable for large industrial, institutional and hotel installations. The UV-250 is ideally suited for use in cottages, boats and small family situations. The UV-700 accommodates the largest families, restaurants and small commercial, industrial applications. The UV-1500 and UV-2000 fit the bill for agricultural, industrial and commercial settings. And the UV-5000 delivers huge quantities of safe water in even the most demanding of situations.

Our Ultraviolet sterilizers operate continuously and automatically. There is no need to heat or cool the water prior to sterilization and the systems are inexpensive to operate. Units are simple to install. The germicidal lamps work effectively for 8,000 hours and replacement is accomplished in minutes. All sterilizers are manufactured to strict tolerances of 316 stainless steel.

UV-5000/QS4E-1	50	120V / 60 Hz Commercial UV Purifier with Alarm
UV-5000/QS4E-2	50	230V / 50 Hz Commercial UV Purifier with Alarm
UV-6000/QS4E-1*	80	120V / 60 Hz Commercial UV Purifier with Alarm
UV-6000/QS4E-2*	80	230V / 50 Hz Commercial UV Purifier with Alarm
UV-5007/QS4E-1*	220	120V / 60 Hz Commercial UV Purifier with Alarm
UV-5007/QS4E-2*	220	230V / 50 Hz Commercial UV Purifier with Alarm
UV-50 Quattra	50	Compact Commercial / Industrial / Marine Industries Effluent Waste Water Treatment System

Ultra Violet Disinfection & Purification:
Independently Certified Standard 55 Class A for stand-alone and integrated products and systems are available upon request if mandated and/or required (protector UV series). Contact your dealer and/or TWT Inc. for additional information.

WHAT'S IN YOUR WATER?
IS YOUR WATER SAFE ENOUGH TO DRINK?

Triangular Wave Technologies, Inc. Ultraviolet Disinfection & Purification Systems is the Answer!

Residential • Commercial • Industrial Applications

TWT® C Series UV systems are factory engineered and assembled in one simple packaged solution. Ultraviolet Disinfection provides simplified prevention, treatment and management of water line contamination dangers. The TWT water disinfection/purification systems are unique, compact, self-contained units for the Purification of water.


TWT-UVC-6 30 GPM

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

How the TWT Disinfection/Purification systems work!

1.Ultra-Violet:

Disinfection/Purification

The UV disinfection technology used in the system provides 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.

UV Monitoring System

This electronic safety device monitors lamp output and triggers the audible alarm when lamp output falls below recommended levels.

Solenoid Valve (on systems so equipped) Stops the Water Flow in the Event of a System Failure

The Solenoid Shut-Off Valve is a backflow cutoff for use as a safety measure in the event of a system shutdown. Its use is strongly recommended for the medical and dental environments, and anywhere else that the highest degree of disinfection protection is required.

TWT® Disinfection/Purification Water Treatment Systems:

TWT C Series UV 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 life cycle when properly cared for.

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

TWT-UVC-2	4 GPM	Purification System
TWT-UVC-3	8 GPM	Purification System
TWT-UVC-4	12 GPM	Purification System
TWT-UVC-5	15 GPM	Purification System
TWT-UVC-6	30 GPM	Purification System
TWT-UVC-7	50 GPM	Purification System
TWT-UVC-8	100 GPM	Purification System

Upgrades (GPM): Available upon request

TWT-UVC-250 (4 GPM)
Ultraviolet Disinfection/Purification System
Mounted on St/St frame with Manual Shut-Off Valves, Alarm and UV Monitor
Size: 18"W X 26"H 6"D
Available 120V/60 Hz or 230V/50 Hz

TWT-UVC-700 (8 GPM)
Ultraviolet Disinfection/Purification System
Mounted on St/St frame with Manual Shut-Off Valves, Alarm and UV Monitor
Size: 20"W X 20"H 44"D
Available 120V/60 Hz or 230V/50 Hz

TWT-UVC-1200 (12 GPM)
Ultraviolet Disinfection/Purification System
Mounted on St/St frame with Manual Shut-Off Valves, Alarm, UV Monitor and Automatic Solenoid Valve
Size: 20"W X 44"H 10"D
Available 120V/60 Hz or 230V/50 Hz

TWT-UVC-1500 (15 GPM)
Ultraviolet Disinfection/Purification System
Mounted on St/St frame with Manual Shut-Off Valves, Alarm, UV Monitor and Automatic Solenoid Valve
Size: 20"W X 55"H 10"D
Available 120V/60 Hz or 230V/50 Hz

TWT-UVC-3000 (30 GPM)
Ultraviolet Disinfection/Purification System
Mounted on St/St frame with Manual Shut-Off Valves, Alarm, UV Monitor and Automatic Solenoid Valve
Size: 20"W X 55"H 10"D
Available 120V/60 Hz or 230V/50 Hz

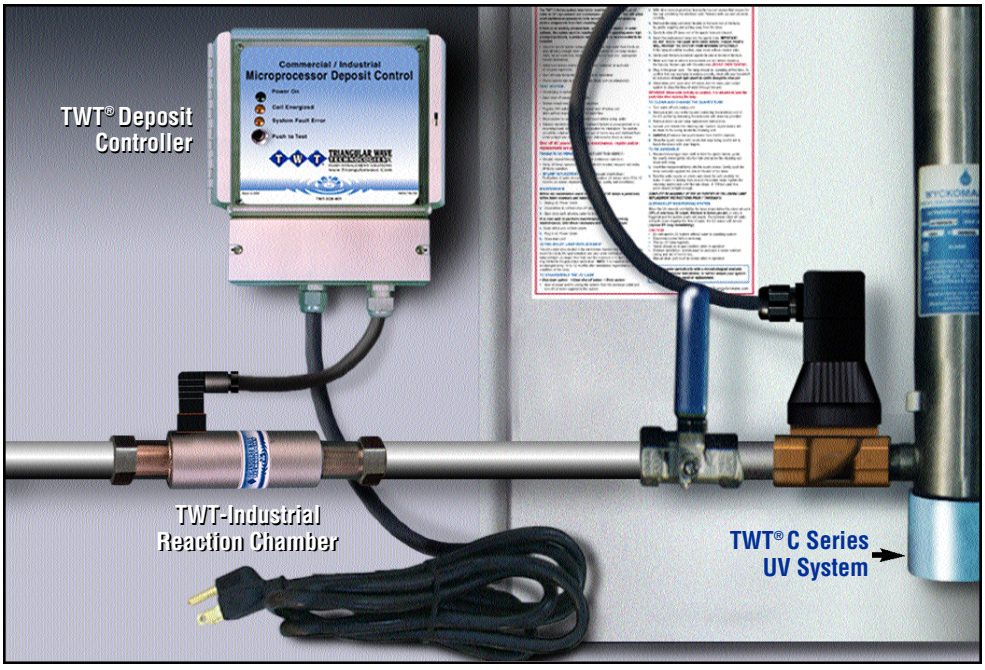
TWT-UVC-5000 (50 GPM)
Ultraviolet Disinfection/Purification System
Mounted on St/St frame with Manual Shut-Off Valves, Alarm, UV Monitor and Automatic Solenoid Valve
Size: 25"W X 55"H 10"D
Available 120V/60 Hz or 230V/50 Hz

TWT-UVC-6000 (100GPM)
Ultraviolet Disinfection/Purification System
Mounted on St/St frame with Manual Shut-Off Valves, Alarm, UV Monitor and Automatic Solenoid Valve
Size:25"W X 55"H 10"D
Available 120V/60 Hz or 230V/50 Hz

TREATMENT SOLUTIONS DESIGNED TO FIT EVERY NEED

DON'T WAIT... contact us today (info@Triangularwave.com) for the Dealer/Distributor near you and/or for information on what TWT system will meet your specific application needs!

Patented Deposit Control Technology and TWT Ultraviolet Disinfection/Purification Treatment Process Integrated for Maximum Results! Recommended Configuration for Combined use as Illustrated



1. *Deposit Control*

TWT® *Patented Deposit Control Technology*

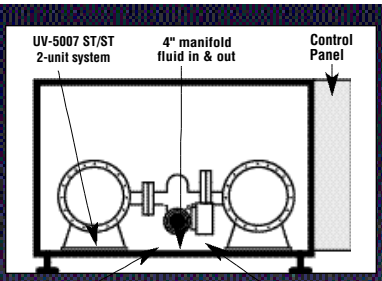
The basic component in the TWT systems is the deposit controller. It is comprised of a microprocessor, solenoid coil wrap and/or a reaction chamber. The microprocessor is a patented controller that functions like a small computer to relay a continuous electrical power supply to the solenoid coil and/or 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 sleeve 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 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.

Visit TWT web site for our complete line of Fluid Treatment Systems www.Triangularwave.com

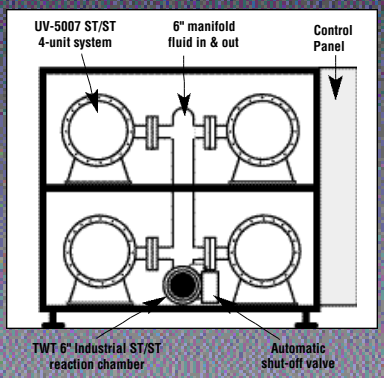
TWT TRIANGULAR WAVE TECHNOLOGIES, INC.
FLUID MANAGEMENT SOLUTIONS
www.Triangularwave.Com

- TRIANGULAR WAVE (TWT®) PATENTEDDEPOSIT CONTROL TECHNOLOGY
- ULTRA VIOLET DISINFECTION & PURIFICATION
- CUSTOM ENGINEERED, DESIGNED, INTEGRATED & ASSEMBLED ST/ST SKID-MOUNTED HIGH VOLUME FLUID CONDITIONING, DISINFECTION & PURIFICATION SYSTEMS



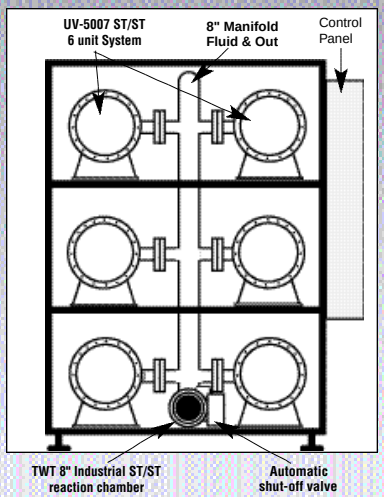
#1 Transportable Fork Lift St/St Skid-Mounted System
TWT-CSMS-G2T-404-5007
400/600 GPM Treatment System

Unit Dimensions Approximate: 48" W x 65" D x 55" H
400/600 (GPM) UV Disinfection/Purification Treatment System
• One (1) TWT-5C8-404 Deposit Control System
• Two (2) TWT-UV-5007 Disinfection/Purification Systems
Efficiency: Expected 3 Log Reduction (99.9) for processing & drinking water
Expected 1–2 Log Reduction for wastewater applications



#2 Transportable Fork Lift St/St Skid-Mounted System
TWT-CSMS-G4T-406-5007
700/1200 GPM Treatment System

Unit Dimensions Approximate: 48" W x 65" D x 55" H
700/1200 (GPM) UV Disinfection/Purification Treatment System
• One (1) TWT-5C8-406 Deposit Control System
• Four (4) TWT-UV-5007 Disinfection/Purification Systems
Efficiency: Expected 3 Log Reduction (99.9) for processing & drinking water
Expected 1–2 Log Reduction for wastewater applications

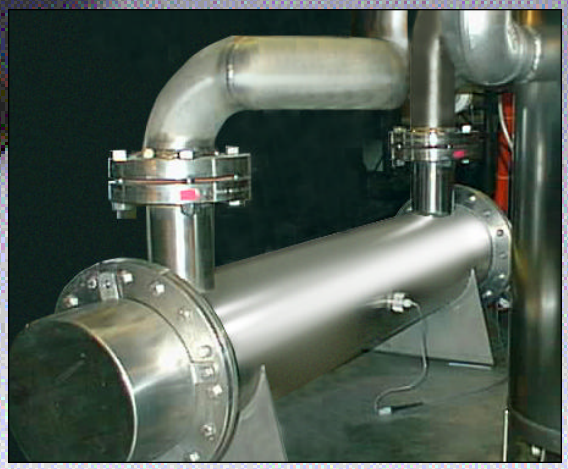


#3 Transportable Fork Lift St/St Skid-Mounted System
TWT-CSMS-G6T-408-5007
1300/1500 GPM Treatment System

Unit Dimensions Approximate: 48" W x 65" D x 75" H
1300/1500 (GPM) UV Disinfection/Purification Treatment System
• One (1) TWT-5C8-408 Deposit Control System
• Six (6) TWT-UV-5007 Disinfection/Purification Systems
Efficiency: Expected 3 Log Reduction (99.9) for processing & drinking water
Expected 1–2 Log Reduction for wastewater applications

TWT-UV5007
Seven (7) Lamp
Unit

TWT water treatment systems are ruggedly constructed for exceptional performance. The rugged self-contained design, component assembly and Stainless Steel frame of these systems ensure that the system will enjoy a long and reliable life cycle when properly cared for.



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

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

Schematic renderings for reference only, final rendering will be provided (if requested) upon proposal/P.O. acceptance

Current/voltage source to be determined at time of purchase

Custom Design A System To Meet Your Specific Application

The basic functions & components of Triangular Wave Technologies, Inc. (TWT) high volume fluid treatment systems can be designed, integrated and assembled to combine various treatment methods that meet your industry specific process needs.

Triangular Wave Technologies, Inc. has extensive design, engineering, and manufacturing ability to work with customers to use its products in whole or component form, as a component assembly, or as an accessory to their primary product. TWT offers custom designs, at cost effective pricing schedules.

TWT will work together with your technical staff to develop fluid management systems, system enhancements and training to make your treatment needs the priority. The TWT team is driven by a simple but challenging goal - to build superior products and systems to continually innovate to be the leader in fluid management solutions.

The basic functions and components to be used for aquaculture, water bottling plants, breweries, waste water applications or any other type of liquid processing (fluid based) requiring high volume, high water quality applications, are as illustrated (front page) and as follows.

- ***For waste water applications use, double flow rate equals GPM system requirements for maximum UV dose and efficiency***

Factory Assembled & Mounted Fluid Management Systems. These fluid management systems are compact, self-contained, skid-mounted unit for the treatment of water.

TWT systems applies all the needed elements for maximum fluid protection, management, and peace of mind in a simple packaged solution.Technologically advanced method for water & fluid management, Separator/ Filtration (optional), 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.

TWT Patented Deposit Control System: Stage #1

The basic component in the TWT systems is the deposit controller. It is comprised of a microprocessor, and reaction chamber. The microprocessor is a patented controller that functions like a computer to relay a continuous electrical power supply to the solenoid coil 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 sleeve 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 filtered 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 Systems have no moving parts and minimal maintenance requirements. The Triangular Wave Deposit Control remain on all of the time.The control panels have indicator lights and alarm circuits to show any problems caused by external forces; such as damage to the coils or insulation or damage to the electrical connections.

Ultra-Violet Disinfection: Stage#2

The UV disinfection/purification technology used in the system provides safe 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 conditioned water.

All units are expertly constructed of # 316 stainless steel to high quality control standards.The units operate continuously, automatically and inexpensively. UV lamp replacement is easy. The germicidal lamp is effective for approximately 8,000 hours which means extremely cost effective water sterilization over the long term.

The industrial size TWT-UV-5007 sterilizer can assure a ready supply of safe, pathogen-free water for manufacturing processes or human consumption. Applications include all types of liquid processing. With the capacity to remove disease-causing microorganisms effective to a 99.9% kill rate at 200 G.P.M. (820 L.P.M.), you can eliminate the need for chemicals and reduce high overhead costs. TWT has the technical expertise to assess your water problems and when needed, prefiltration systems may be added to the TWT-UV-5007 sterilizer. Environmental safety is our priority, therefore no chemicals are added and the PH balance of the water is unaffected by UV sterilization.

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).

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

Benefits of TWT® Fluid Treatment Systems:

- *Short payback period (pays for itself)*
- *Prevents scale buildup • Eliminates toxic chemicals • Reduces corrosion • Controls algae and bacteria • Less downtime for equipment repairs and maintenance • Unpolluted discharge-environmental compliance*

TWT treatment equipment is a reusable investment and retains its value – if you move your facility or re-engineer your plumbing system, TWT equipment moves with you.

Separator/Filtration: Optional

(not illustrated or included)

Filters/separators 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.

Additional filtration can be provided if required.

Easy to ship anywhere in the world

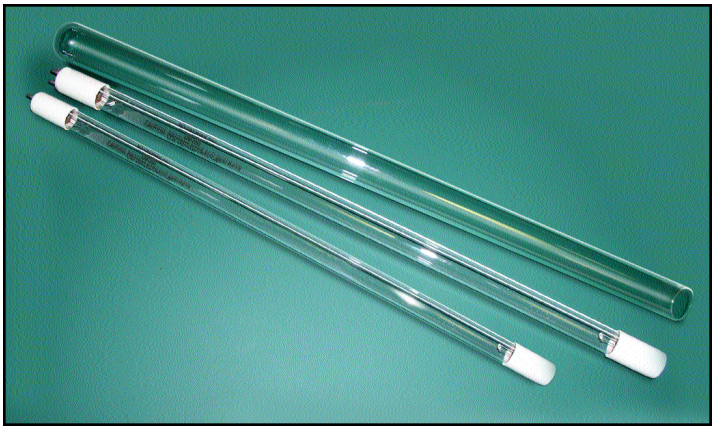
The system is fully self-contained and mounted on transportable skid.The total dimensions are within allowable limits, making it possible to ship by air-freight to any international airport.

Easy to follow care, maintenance & operational procedures and other basic informational labels will be permanently affixed to the TWT system. This information will ensure owners of a long and reliable lifecycle if system is properly cared for (system requires minimal maintenance).

ULTRAVIOLET DISINFECTION SYSTEM REPLACEMENT LAMPS (& Quartz Domes)

UV-RL-MZ/CELL	Replacement Lamp Cell – Mini-zap
UV-RL-4/T5	UV Lamp with Quartz Sleeve for UV-4 Purifier
UV-RL-250/T5	UV Lamp 1 ended without Quartz Sleeve for UV-250 Purifier
UV-RL-250/T8	UV Lamp 2 ended without Quartz Sleeve for UV-250 Purifier
UV-RQS-250	Quartz Sleeve for 1 ended Lamp–UV-250 Purifier
UV-RQD-250	Quartz dome for UV-250 Purifier
UV-RL-700/T5	UV Lamp 1 ended without Quartz Sleeve for UV-700 Purifier
UV-RL-700/T8	UV Lamp 2 ended without Quartz Sleeve for UV-700 Purifier
UV-RQS-700	Quartz Sleeve for 1 ended UV Lamp–UV-700 Purifier
UV-RQD-700	Quartz Dome for UV-700 Purifier
UV-RL-1200/T5	UV Lamp 1 ended without Quartz Sleeve for UV-1200 Purifier
UV-RL-1200/T8	UV Lamp 2 ended without Quartz Sleeve for UV-1200 Purifier
UV-RQS-1200	Quartz Sleeve for 1 ended UV Lamp for UV-1200 Purifier
UV-RQD-1200	Quartz Dome for UV-1200 Purifier
UV-RL-15/20/50/T5	UV Lamp 1 ended without Quartz Sleeve for UV-1500, UV-2000 & UV-5000
UV-RL-15/20/50/T8	UV Lamp 2 ended without Quartz Sleeve for UV-1500, UV-2000 & UV-5000
UV-RQS-15/20/50	Quartz Sleeve for 1 ended UV Lamp – UV-1500, UV-2000 & UV-5000
UV-RL-30/60/T6	UV Lamp 1 ended without Quartz Sleeve for UV-3000 & UV-6000
UV-RL-30/60/T12	UV Lamp 2 ended without Quartz Sleeve for UV-3000 & UV-6000
UV-RQS-30/60	Quartz Sleeve for 1 ended UV Lamp – UV-3000 & UV-6000
UV-RL-5007/T5	UV Lamp 1 ended without Quartz Sleeve for UV-5007 Purifier (7 required-Price is for single lamp)
UV-RQS-5007	Quartz Sleeve for 2 ended UV Lamp – UV-5007 Purifier
UV-50-RL	Quattra replacement lamps

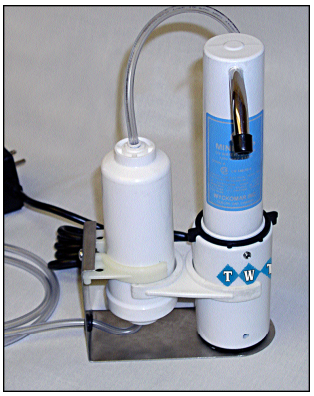
Generally lamps should be replaced every 10 to 12 months, depending on water use quality and conditions



ULTRA-VIOLET DISINFECTION/PURIFICATION MINI-ZAP SYSTEM

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



Mini-Zap Traveler

ULTRA-VIOLET DISINFECTION/PURIFICATION SYSTEM with Filtration

This point-of-use purifier is designed for many different applications. It can be combined with an under-counter filtration system or a reverse osmosis system.The UV-1 is ideally designed for use in cottages, board ships or in RV's. In areas where standard electricity is not available, the UV-1 comes in a 12 or 24 DC unit. The UV-1 system has combined two superior quality pre-filters that aid in the removal of sediment, bad taste and odors. This complete system produces high quality drinking water that surpasses all Health Department standards.

TWT-SYSTEM4/QS4M-1

TWT-SYS4/QS4M-1	Filter Specs: Sed-5M/Carbon-0.5M • 120V / 60 Hz Point-of-Use Ultraviolet Purifier 10" Sediment Filter – 10" Carbon Block
TWT-SYS4/QS4M-2	Filter Specs: Sed-5M/Carbon-0.5M 230V / 60 Hz Point-of-Use Ultraviolet Purifier – 10" Sediment Filter – 10" Carbon Block
TWT-SYS4/QS4E-12	Filter Specs: Sed-5M/Carbon-0.5M • 12V Point-of-Use Ultraviolet Purifier – 10" Sediment Filter – 10" Carbon Block
TWT-SYS4/QS4E-24	Filter Specs: Sed-5M/Carbon-0.5M • 24V Point-of-Use Ultraviolet Purifier – 10" Sediment Filter – 10" Carbon Block

TWT-SYS43/QS43M-1	Filter Specs: Sed-5M/ Carbon-0.5M / GAC • 120V / 60 Hz Point-of-Use Ultraviolet Purifier 10" Sediment Filter /10" Carbon Block/10" GAC
TWT-SYS43/QS43M-2	Filter Specs: Sed-5M/ Carbon-0.5M / GAC • 230V / 60 Hz Point-of-Use Ultraviolet Purifier 10" Sediment Filter /10" Carbon Block/10" GAC
TWT-SYS43/QS43E-12	Filter Specs: Sed-5M/ Carbon-0.5M / GAC • 12V Point-of-Use Ultraviolet Purifier 10" Sediment Filter /10" Carbon Block/10" GAC
TWT-SYS43/QS43E-24	Filter Specs: Sed-5M/ Carbon-0.5M / GAC • 124V Point-of-Use Ultraviolet Purifier 10" Sediment Filter /10" Carbon Block/10" GAC

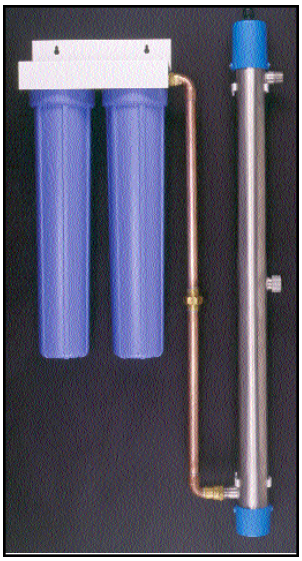
As illustrated above three stage filter system. These two units are similar in appearance, but have different capacities.

TWT-SYS250-FSUV (4 GPM) – Filter Set with UV Purifier

The UV-250 purifier is ideally sized to provide safe, disease and pathogen-free water at point-of-entry to any average sized household.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. TWT purifiers are easy to install and only require lamp replacement every 12 months. When combining high quality pre-filtration units with this purifiers, we have produced a complete water purification system.The filters also remove sediment, bad taste and odors that may be in the water.

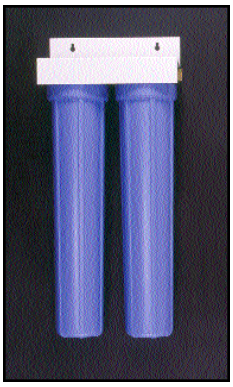
TWT-SYS700-FSUV (8 GPM) – Filter Set with UV Purifier

The UV-700 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.



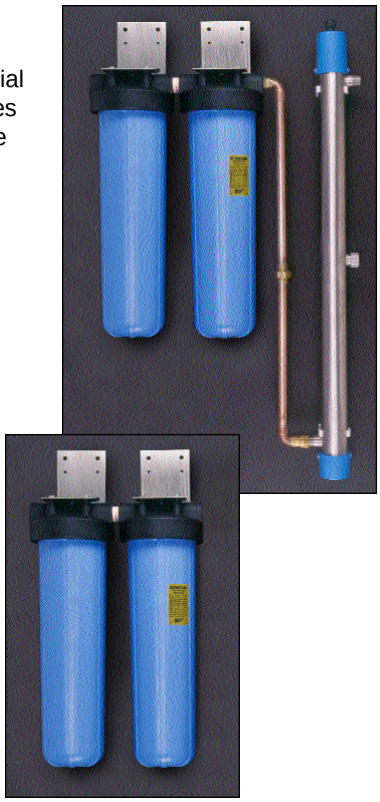
TWT-SYS700-FS – Filter Set

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



TWT-SYS1200-FSUV (12 GF) – Filter Set with UV Purifier

The 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.



TWT-SYS1200-FS – Filter Set

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

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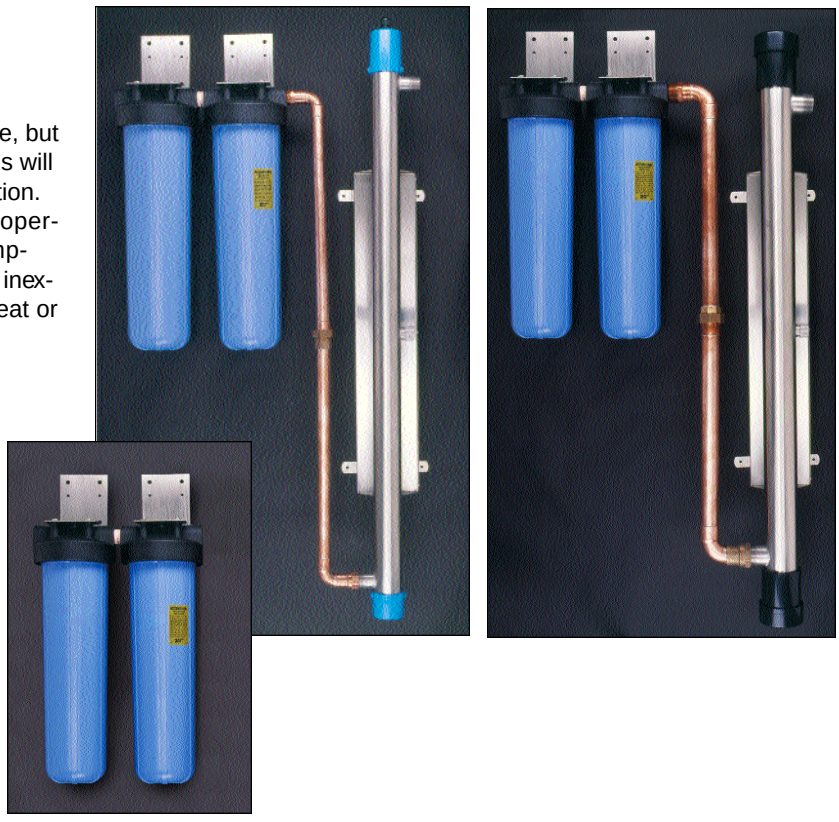
TWT-SYS1500-FSUV (GPM 15)
TWT-SYS3000-FSUV (GPM 30)
– Filter Set with UV Purifier

The UV-1500 and the 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 purifiers 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.

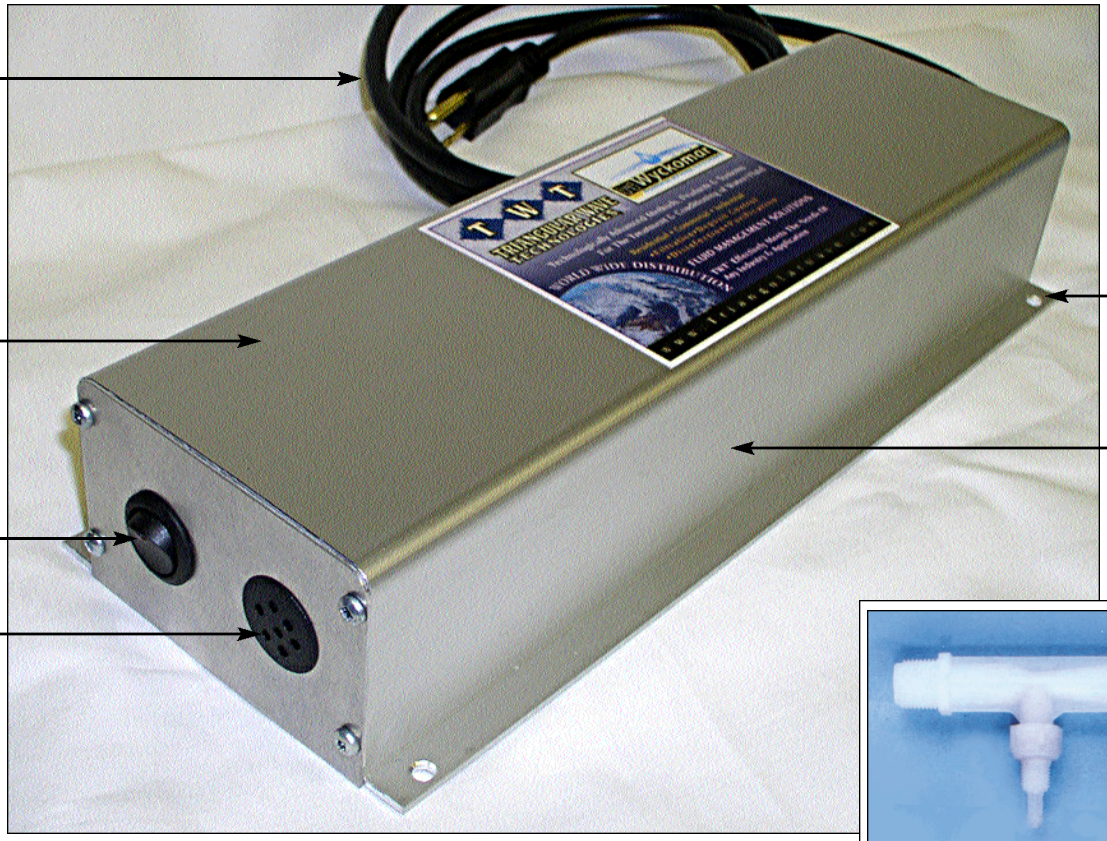


TWT-SYS1500-FS–Filter Sets Only

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

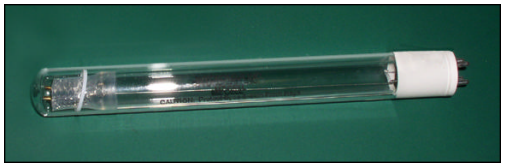
TWT-SYS3000-FS

Filter Specs: Sediment-5M/Carbon-10M Filter Set - complete with filter housings, mounting bracket, wrench and 20" sediment filter and 20" carbon filter- 1-1/2" BB in-out–pressure tested

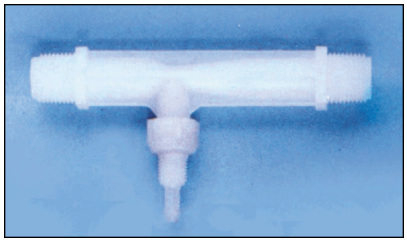


TWT-OZ-SB038 Ozone Generator & Venturi Injector

System Size: 2 3/8"H X 4 3/4"W X 12 1/4"L
Weight: 3 1/2 lbs
Ozone Output: 0.38 grams/hr
Ozone Generated by: 185 Nm UV lamp
Current: 110/20 VAC or 230 VAC



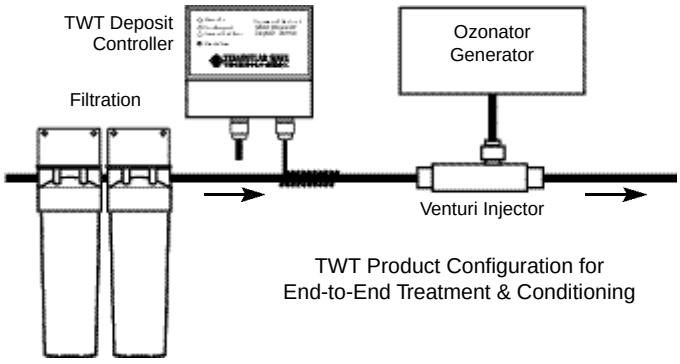
TWT-SB038-RL
Ozone producing ultra-violet replacement lamp



VENTURI–MUST SPECIFY SIZE WITH P.O.

TWT-VI-50	Venturi Injector 1/2"
TWT-VI-100	Venturi Injector 1"

Venturi injector creates suction which draws ozone gas from generator into the fluid stream for disinfection & purification



TWT Product Configuration for
End-to-End Treatment & Conditioning

- The Triangular Wave Technologies Ozone disinfection & purification system is efficient and cost effective.
- Ozone is a natural purifier, meaning no harmful chemicals or by-products are created during purification
- Ozone is the most powerful oxidizer, it is over 1000 times stronger than chlorine

Selection of 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

Commercial/Industrial and higher capacity systems available upon request

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. 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.

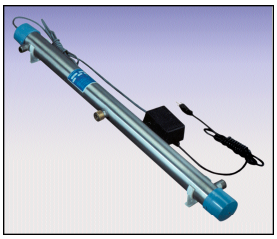
2. *Deposit Control (Chemical-Free)*

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 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 sleeve 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 filtered 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.

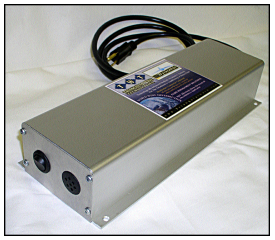
3.*Disinfection/Purification*:



Ultra-Violet:

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

4. *Ozone (Generator & Venturi)*



Ozone is a natural, safe way to purify fluid in many different applications. It eliminates the need for costly chemicals. The Ozone Generator converts oxygen (O2) into Ozone (03) by the action of the corona discharge or UV lamp generated ozone. Ozone is then injected into the fluid where it destroys viruses, bacteria and many other microorganisms. The TWT Deposit Control System enhances the Ozone Generator Technology and its operation. In this way, the full treatment benefits are realized, with reduced maintenance requirements.

- Ozone is a natural purifier, meaning no harmful chemicals or by-products are created during purification
- Ozone is the most powerful oxidizer. It is over 1000 times stronger than chlorine

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.

End-to-End Fluid Treatment and Conditioning

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

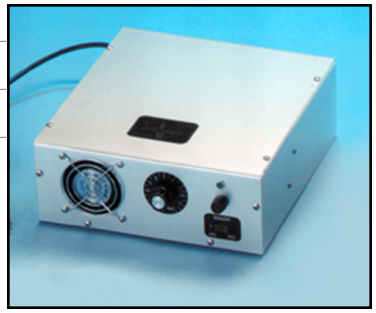
TWT Inc. recommends that an initial supply of replacement products e.g., replacement filters, UV lamps etc. be stored at owners facility at all times. This will insure uninterrupted service and treatment.

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

OZONATOR

The Ozonator is a natural, safe way to purify water in many different applications. Common uses include hot tubs, whirlpool baths, swimming pools, water bottling plants, water vending machines and household water systems. It eliminates the need for chemicals which can be irritating to people and costly to budget.The Ozonator converts Oxygen (O2) into (O3) by the action of the corona discharge system.Ozone is then injected into the water where it destroys viruses, bacteria and many other micro-organisms. taste, odor and color disappear and iron oxide, hydrogen sulphide, lignite and tannin are precipitated out, leaving your water pure and clean.

TWT-15-SW-400	Ozone Generator 0.4 grams/hr. 120V / 60Hz
TWT-15-SW-400-2	Ozone Generator 0.4 grams/hr. 230V / 50Hz
TWT-15-SW-800-1	Ozone Generator 0.8 grams/hr. 120V / 60Hz
TWT-15-SW-800-2	Ozone Generator 0.8 grams/hr. 230V / 50Hz



TWT-15-SW-400

DRYER

This unit is a vacuum dryer that will greatly enhance the ozone production.The SVD-1 dries the input air, therefore generating more oxygen and by default, more ozone. The venturi is used to inject the ozone into the water, and this completes the system needed to purify tour water.

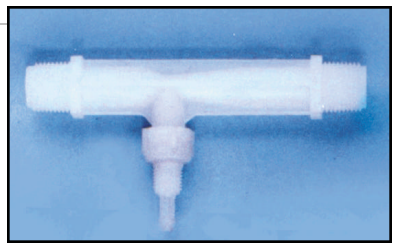
TWT-15-SVD1-1	Vacuum Drier – One-Tube 120V / 60Hz (for SW-400)
TWT-15-SVD1-2	Vacuum Drier – One-Tube 230V / 50Hz (for SW-400)
TWT-15-SVD2-1	Vacuum Drier – Two-Tube 120V / 60Hz (for SW-800)
TWT-15-SVD2-2	Vacuum Drier – Two-Tube 230V / 50Hz (for SW-800)

TWT-15-SVD1-1

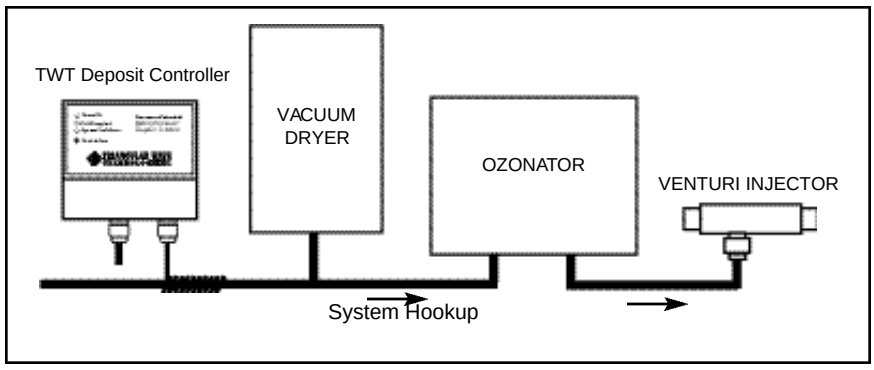
VENTURI

TWT-VI-50	Venturi Injector 1/2"
TWT-VI-100	Venturi Injector 1"

Both the SW-400 and the SVD-1 are easy to install and operate continuously and automatically, using no more current than an ordinary light bulb!.



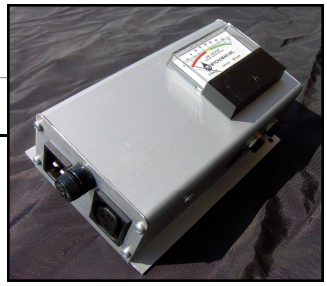
TWT-VI-50



Commercial/Industrial and higher capacity systems available upon request

MONITORING SYSTEM

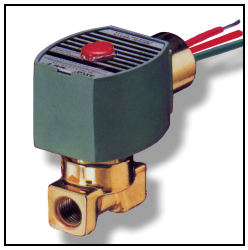
TWT-4-UV/MS-1	Ultraviolet Monitoring System 120 / 60 Hz
TWT-4-UV/MS-2	Ultraviolet Monitoring System 230 / 50 Hz
TWT-4-UV/LD-12	Lite Detective 12 Volt
TWT-4-UV/MS-12E	Lite Detective 12 Volt (Euro Adapter)



TWT-UV/MS-1
This electronic safety device monitors lamp output and triggers the audible alarm when lamp output falls below recommended levels.

SOLENOID VALVE - STOPS the WATER FLOW in the EVENT of a SYSTEM FAILURE

TWT-4-SV500-1	1/2" Solenoid Valve 120 V / 60 Hz
TWT-4-SV500-2	1/2" Solenoid Valve 230 V / 50 Hz
TWT-4-SV750-1	3/4" Solenoid Valve 120 V / 60 Hz
TWT-4-SV750-2	3/4" Solenoid Valve 230 V / 50 Hz
TWT-4-SV1000-1	1" Solenoid Valve 120 V / 60 Hz
TWT-4-SV1000-2	1" Solenoid Valve 230 V / 50 Hz
TWT-4-SV1250-1	1-1/4" Solenoid Valve 120 V / 60 Hz
TWT-4-SV1250-2	1-1/4" Solenoid Valve 230 V / 50 Hz
TWT-4-SV1500-1	1-1/2" Solenoid Valve 120 V / 60 Hz
TWT-4-SV1500-2	1-1/2" Solenoid Valve 230 V / 50 Hz
TWT-4-SV2000-1	2" Solenoid Valve 120 V / 60 Hz
TWT-4-SV2000-2	2" Solenoid Valve 230 V / 50 Hz



Solenoid valves stop the water in the event of a system failure

The Solenoid Shut-Off Valve is a backflow cutoff for use as a safety measure in the event of a system shutdown. Its use is strongly recommended for the medical and dental environments, and anywhere else that the highest degree of disinfection protection is required.

BALLAST UNITS

TWT-4-BM/MZ-1	Ballast for Mini-Zap 120 V / 60 Hz
TWT-4-BM/MZ-2	Ballast for Mini-Zap 230 V / 50 Hz
TWT-4-BM/4-1	Ballast for UV-4 Purifier 120 V / 60 Hz
TWT-4-BM/4-2	Ballast for UV-4 Purifier 200 V / 50 Hz
TWT-4-12V	Ballast for UV-4 Purifier 12 Volt and Mini-zap 12 Volt
TWT-4-24V	Ballast for UV-4 Purifier 24 Volt
TWT-4-BM-250-1IL	Ballast In-Line with Alarm for UV-250 Purifier 120V / 60 Hz
TWT-4-BM-250-2IL	Ballast In-Line with Alarm for UV-250 Purifier 230V / 50 Hz
TWT-4-BE-700-1	Ballast cap & Harness with Alarm for UV-700 Purifier 120V / 60 Hz
TWT-4-BE-700-2	Ballast cap & Harness with Alarm for UV-700 Purifier 230V / 50 Hz
TWT-4-BE-12/15/50-1	Ballast cap & Harness with Alarm for UV-1200/1500/2000/5000 120V-60 Hz
TWT-4-BE-12/15/50-2	Ballast cap & Harness with Alarm for UV-1200/1500/2000/5000 230V-50 Hz
TWT-4-BE-30/60-1	Ballast cap & Harness with Alarm for UV-3000, UV-6000 120V-60 Hz
TWT-4-BE-30/60-2	Ballast cap & Harness with Alarm for UV-3000, UV-6000 230V-50 Hz
TWT-BE-5007-1	Ballast for UV-5007 Purifier 120V / 60 Hz
TWT-BE-5007-2	Ballast for UV-5007 Purifier 230V / 50 Hz
TWT-BE-509	Ballast for Quattra UV-50 Purifier

TWT-10-WDF-103	Faucet assembly kit
TWT-10-SV-6	Saddle valve assembly
TWT-10-39	Diverter Valve for Mini-Zap
TWT-7-15	Quartz view port disc
TWT-10-VPA	View port assembly kit
TWT-4-2	4 Pin lamp connector
TWT-4-S-2	Starter for the Old Style UV4 / UV250-T8
TWT-4-S-10	Starter for the Old Style UV700-TB
TWT-8-34	Lamp retaining nut for Mini-Zap
TWT-8-17	Lamp / Quartz compression nut for UV4
TWT-8-51	Lamp / Quartz compression nut for UV250 / UV700 / UV1200
TWT-8-53	Lamp / Quartz compression nut for UV1500 / UV2000 / UV5000
TWT-8-301	Lamp / Quartz compression nut for UV3000 / UV6000
TWT-8-9	View port compression nut for UV700 / 1200 / 1500 / 2000 / 3000/ 5000
TWT-11-220	Hub seal for Mini-Zap
TWT-11-9	Housing seal for the Old Style Mini-Zap
TWT-11-3	Quartz sleeve seal for MZ / UV4 / 250 / 700 /1200 / 1500 / 2000 / 3000/ 5000
TWT-11-10	Lamp O-ring for UV3000 / UV6000
TWT-11-324	Quartz sleeve seal for UV3000 / Uv6000
TWT-11-7	Outer Flange Seal for UV5007
TWT-11-6	View port seal & lamp O-ring for UV250 / 700 / 1200 / 1500 / 2000/ 5000
TWT-8-144142	Double bracket for 10" filter housings
TWT-13-20	Mounting Bracket for UV4 System

Custom orders available upon request: Please provide the following written information for UV system and engineering evaluation

Quote upgrades for larger systems:

Plumbing Information:

• Pipe Outside Diameter/ standard sizes only

UV System Pipe Couplings: _____

Threads _____ Flange (*Indicate Size, Bolt Circle, Bolt Size, Number of Bolts*)

System Information:

• Max Flow rate _____ gpm,LPM • Max System Pressure _____ psi

• Preferred Voltage Source _____ 100V / 120V / 220V / 240V

• Water Analysis: ❑ Iron ❑ Sediment ❑ Hardness ❑ Coliform Count

• Pipe Material: Stainless Steel #316 unless otherwise specified

• UV Lamps Wattage _____

System Integration:

UV Purifier Model:		Recommended TWT Deposit Control System:	
TWT-UV-1	**1 GPM**	**TWT-5C8-472**	**For pipes $^{3}/_{4}$-inch or less**
TWT-UV-250	**4 GPM**	**TWT-5C8-473**	**For pipes 1-inch or less**
TWT-UV-700	**8 GPM**	**TWT-5C8-401**	**For pipes $1^{1}/_{2}$-inch or less**
TWT-UV-1200	**12 GPM**	**TWT-5C8-401**	**For pipes $1^{1}/_{2}$-inch or less**
TWT-UV-1500	**12 GPM**	**TWT-5C8-401**	**For pipes $1^{1}/_{2}$-inch or less**
TWT-UV-2000	**12 GPM**	**TWT-5C8-402**	**For pipes 2-inch or less**
TWT-UV-3000	**30 GPM**	**TWT-5C8-402**	**For pipes 2-inch or less**
TWT-UV-5000	**53 GPM**	**TWT-5C8-402**	**For pipes 2-inch or less**
TWT-UV-5007	**220 GPM**	**TWT-5C8-404**	**For pipes 4-inch or less**
TWT-UV-6000	**106 GPM**	**TWT-5C8-404**	**For pipes 4-inch or less**
Quattra 50	**50 GPM**	**TWt-5C8-404**	**For pipes 4-inch or less**

Custom design and upgrades available to meet your industry specific need and application upon request for: UV Systems/UV Lamps/Accessories Information

Pricing for upgrades will be established on a case by case bases

Please remember and please remind your customers, their UV lamps should be changed every 8000 hours or once a year. Filters should be changed every 3 or 4 months.

SAFE DRINKING WATER ANYWHERE...ANY TIME!

The TWT-UV-60 unit is featured above

Triangular Wave Technologies Transportable Water Treatment Systems with Multi-Stage Micro Filtration, UV Disinfection, and Deposit Control

• Military Camps • Disaster Relief • Refugee Camps • Emergency Preparedness
• Remote Construction Projects • Small Community Systems • Environmental Clean-Up Sites

Easy to ship anywhere in the world

The systems are fully self-contained and mounted on aluminum skids. The total dimensions are within allowable limits, making it possible to ship by air-freight to any international airport.

TWT-UV-20	20 GPM	Complete Disinfection System
TWT-UV-40	40 GPM	Complete Disinfection System
TWT-UV-60	60 GPM	Complete Disinfection System
TWT-UV-75	75 GPM	Complete Disinfection System
TWT-UV-200	200 GPM	Complete Disinfection System

Large capacity (GPM) custom sizes available upon request

Typical Flow Rates and Specifications for Triangular Wave Technologies UV-60 Transportable Water Treatment System

Flow Rates

Liters Per –			U.S. Gallons Per –		
Minute	**Hour**	**Day**	**Minute**	**Hour**	**Day**
227	**13,600**	**284,000**	**60**	**3,600**	**75,000**

Total Power Requirements: 8.5 kw; 10 hp

Output will vary depending on water content and length of time the filters have been in use.

Specifications

Pump: centrifugal;10 hp;self-priming;with Y strainer

Automatic Pre-Filter: removes particles down to 25 microns; automated backwash as required;no consumables

Multimedia Filter (1)

5 Micron Centrifugal Cartridge Filter (1)

1 Micron Centrifugal Cartridge Filter (1)

Multimedia Filter: selected media;30 cu.ft.

Backwash Controller: timer driven automatic backwash;manual override

TWT Deposit Control Subsystem (1)

Ultraviolet Radiation Rate: 40,000 microWatt seconds per cm^2 (exceeds NSF Standard 55)

Ultraviolet Source: 3 ~ 122cm (48") tubes; typical 7,000 hours service per lamp

Chlorine Injector (optional): automatically calibrated;manual adjustment

Programmable Logic Controller: 5 millisecond scan rate; up to 900 instructions

Flow Meter: displays rate and total flow per period

Power Supply: 3-phase;550/60 or 380/50 or to customer's specifications

Dimensions: 122cm (L) x 167.7 (W) x 157.5cm (H) ~ (48" x 66" x 62")

Shipping Volume: 3.22 cubic meters (114 cu.ft.)

Weight: Dry ~ 600 kg (132 lbs);dry with media ~ 1500 kg (3300 lbs)

Specifications subject to change without notice:UV-60

Component List

1. Stainless Steel Base Skid
2. One 10 H.P. pump with a 50 ft.Head, self-priming
3. One strainer basket
4. Two 10 micron bag filters
5. One stainless steel 30"carbon filter or One 40"stainless steel carbon filter for UV 40/60
6. One #90 Hurricane 5 micron filter
7. One #90 Hurricane 1 micron filter
8. One UV-5000 disinfection subsystem
9. One chlorine injector (optional)
10. TWT deposit control subsystem

Skid Size

Skid size is approximately 48" x 66", crated, and ready to hook onto inlet and outlet with quick connect couplings. Unit is crated to fit into airplane cargo compartment.

The TWT-UV-40 [40 gallons per minute] and the TWT-UV-60 [60 gallons per minute] are the same in operation, just proportionally larger. It takes just 14 hours for the UV-60 to fill a 50,000 gallon (190 cubic meters) storage bladder.

Preparation and setup instructions, as well as maintenance and operating manuals are supplied with each unit.

TWT Inc. is a global fluid management solutions leader. We will be pleased to assess your requirements and customize a system to meet your specific needs.

For specifications on other TWT transportable systems, contact TWT directly for information

Email:info@triangularwave.com • triwaveinc@aol.com • Website:www.Triangularwave.com

The most economical and efficient way to produce safe drinking water in temporary situations

The TWT-UV-60 Transportable Water Treatment System is an integrated system of exactingly selected components customized to remedy specific water treatment problems in temporary installations, remote areas or crisis situations. First developed for use in military camps related to the 1996 UN peace-keeping mission in Bosnia, the TWT-UV-60 is well suited to a wide range of applications. TWT-UV-60 system is designed to produce safe drinking water, dependably and economically, from a wide range of problem input sources. The self-contained, transportable system filters out contaminants such as heavy metals, pesticides and parasites from any non-salt water source and kills all micro-organisms including virulent bacteria and viruses. It is capable of treating up to 60 gallons of water per minute, (or 75,000 gallons per day), when certain basic conditions are met.

Multi-stage micro-filtration process removes suspended solids and chemical contaminants

First, a self-priming pump draws untreated water through a pre-filtering sediment strainer (24 mesh/730 microns) to remove all large particulate matter down to 25 microns in size.

Second, it goes through a multi-stage multimedia filter which removes particles and chemical matter down to 10 microns, then 5 microns, then 1 micron.

Third, it goes through the TWT Deposit Control System for the control of scale deposits, biofilm, corrosion, algae and colloids.

Finally, the water is disinfected by the UV system after which an ***optional*** chlorine residue can be added for storage purposes.

Three Ultraviolet contact chambers destroy microbiological infestations

The conditioned water passes through three chambers using 254 nanometer wavelength ultraviolet light to completely destroy the DNA in any microbial organisms. The TWT-UV-60, at full flow, provides 40,000 microWatt seconds/cm^2 of radiation, far more than the 26,000 microWatt seconds/cm^2 necessary to exterminate the most resilient bacteria and viruses.

The TWT-UV-60 system is equipped with a fail-safe Sensing Monitor to ensure all output water is fully treated. The monitor automatically sounds an alarm and flashes a warning light if it detects insufficient UV energy irradiating the water as it passes through the UV chambers.

The TWT-UV-60 can be connected either by hooking directly to a water supply output line or by submerging the water intake line directly into the source water. It is easily adapted to the voltage, phase and frequency characteristics of the local environment. Routine functions are managed by a programmable Logic Control.

System Functionality

These systems were originally designed for military use. The design had to be extremely robust physically, in order to stand up to the environment in which it may be used. The purpose of the system is to provide a simple and cost-effective method of providing clean drinking water, free of disease-causing pathogens, from a variety of source waters.The multi-stage filtration system designed into the UV-60 is capable of removing a wide range of particulates from the source water. The purpose of filtration is to remove as much suspended material as possible in order to provide clear water for input to the UV reaction chambers. Clear water is essential for UV disinfection purposes, as suspended particulates in the feed water will diminish the effectiveness of UV absorption. Inadequate UV absorption through the feed water will result in inadequate disinfection.

As part of the multi-stage filtration designed into the UV-60 configuration, carbon filtration will remove small amounts of blood from a water source. Sufficient exposure of these types of cells to the high intensity UV radiation inside the reaction chamber would kill the cells. After the multi-stage filtration system, a TWT Deposit Control System is also integrated into the UV-60, designed to keep scale-forming particulates in solution and flowing through, instead of adhering to the piping interiors and to the UV quartz sleeve. This completely non-chemical water treatment component adds a crucial capability to ensuring that proper UV absorption is maintained and effective UV dosage is delivered.
In addition, by controlling biofilm and biocorrosion within the system, it works to keep the UV-60 functioning efficiently and effectively, reducing energy waste and operating costs.

The UV-60 is designed to be physically tough, capable of providing safe drinking water in a variety of operating environments. The high-intensity UV dose provided in the reaction chambers is sufficient to kill most common pathogens. It is, however, impossible to say that any type of water processing system can remove any and all contaminants that may be present in any particular situation.

Cleans any fresh water source

The Triangular Wave Technologies Portable Water Treatment System serves as a small scale water treatment plant, creating clean, good-tasting water from streams, ponds, lakes, cisterns or contaminated community water supplies. It filters out over 100 contaminants including sediments, mercury, pesticides, giardia cysts and cryptosporidium.

99.9% kill-rate for viruses and bacteria

The PWTS uses ultra-violet light to destroy disease-causing bacteria and viruses including Legionnaires' Disease, Salmonella and Cholera. Its 99.9% kill-rate meets the highest known standards.

Operates automatically

Programmable logic controls allow these systems to function automatically with a high degree of quality assurance and operator convenience. The flow meter displays total output and manual over-ride controls are also included.

Large capacity...fast operation

The TWT-UV-60 has a flow rate of 60 gallons (227 liters) per minute. It takes just 14 hours to fill a 50,000 gallon (190 cubic meters) storage bladder.

Economical to use

The cost of treating water with the TWT-UV-60 is just a fraction of a cent per gallon, comparable with many municipal systems.

Usually less than 4% waste

The TWT-UV-60 discharges only a bare minimum of waste water, approximately 4% or less.

SAFE DRINKING WATER ANYWHERE...ANY TIME!

TWT-UV-60 (60 GPM) Treatment System

Transportable Water Treatment System with Multi-Stage Micro-Filtration, Deposit Control and Ultraviolet Disinfection

Custom upgrades available upon request:

- Systems can be sized to suit virtually any required flow rate
- Designed as turnkey systems to process required GPM of input source water. Output water is of extremely high quality and free from disease-causing pathogens

Input Water
Automatic Pre-Filtration
TWT Deposit Control
Multi-Media Filtration
DE Filter (optional)
Centrifugal Cartridge Finish Filter
TWT Deposit Control
UV Disinfection
Chlorine Residual (optional)
Output Water
Storage (not included)
Covered trailer (optional)
Recirculating line adapter (optional)

TWT-UV-200 (200 GPM) Treatment System

SAFE DRINKING WATER ANYWHERE...ANY TIME!

Military Camps • Disaster Relief • Nursing Homes • Hospitals • Schools • Refugee Camps • Emergency Preparedness • Cholera Epidemics • Remote Construction Projects • Small Community Systems • Environmental Clean-Up Sites • Other Commercial & Industrial Applications Requiring High-Quality, Safe Drinking Water

Email:info@triangularwave.com • triwaveinc@aol.com • Website:www.Triangularwave.com

The basic function of each component is as follows:

Automatic Pre-Filter: a Y strainer design which will separate large particulate matter from the input water stream to approximately 25 microns in size. This pre-filter is critical to the longevity of the down-line filters in this configuration and will allow the down-line filter systems to run much longer between clean-outs. This pre-filter will automatically backwash as required.

TWT Deposit Control System No.1: will condition the raw input water to assist in precipitating suspended solids from the water stream for better filtration.The system will also help prevent scale and bio-film build-up inside the (PWTS) and the down-line filtration housing, leading to longer system life cycle and run times between clean-outs.

Multi-Media–DE Filter–Centrifugal

Cartridge Finish Filter: these components provide all of the necessary fine filtration required to provide exceptionally clear water as input to the primary disinfection system on board.The combination of Multi-Media and *optional* DE Filters will remove all particulates from the input water stream while the Finish Filters will guarantee ultra-clear water (to 1 micron) for introduction to the UV disinfection reactor. The filter configuration will automatically backwash when required and can be manually backwashed if required.

TWT Deposit Control System No.2: If left untreated, scale build-up inside the reaction chamber and on the quartz sleeve 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. This second TWT Deposit Control System will further condition the filtered 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.

UV Disinfection Chamber: the primary 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. The clarity of the input water to the UV chamber is critical to complete disinfection, as cloudy input water may shield some pathogens from the UV rays required for proper processing.The output water is thus disinfected and offers exceptionally high quality for human consumption.

Optional Chlorine Residual is available, depending on the plans for storage of the output water produced by the system. Chlorine residual levels are extremely low and are rarely noticeable in the finished water.Bladder storage (*optional*) is available in order to accumulate drinking water to serve a population during times of crisis. The chlorine residual noted above would be helpful in maintaining pathogen-free drinking water while in storage for extended periods of time.

System recirculating line adapter: an alternative or addition to chlorine residual, this adapter can be integrated (installed) to attach external storage (not included) to system for re-treatment.

TWT (PWTS) transportable potable water treatment systems are ruggedly constructed for exceptional performance and long service life. The systems are fully self-contained and mounted on aluminum skids. Specifications, component list, and skid sizes available with system proposal.

Let TWT custom design a product and/or system to meet your specific application, system integration, and/or retro-fit program needs.

SPARKLING CLEAR ALGAE-FREE WATER FOR POOLS & SPAS

Triangular Wave Technologies Advanced Methods For Pool Management And Control

- Chemical-Free (TWT®) Patented Deposit Control
- IonGuard (ionization) Disinfection
- Ultra-Violet (UV) Purification (optional)

Easy on the Eyes

Gain peace of mind with TWT Enhanced Control Pool Management Systems, the chemical-free, safe and easy way to enjoy your pool and spa season! Your backyard or indoor pool is a place for relaxation. Everyone wants to avoid problems with their pool, and also with the effects of handling, storing, and swimming in harsh chemicals and treated water. The good news is TWT has the solution for both!

Super Sparkling Water

The Enhanced Control Pool Management System works with your existing pool filter and pump systems to control deposits and purify the water, killing and removing harmful bacteria and algae, and preventing corrosion and deterioration of your pipes and equipment. Reduce your chemical treatments and maintenance efforts by 80% or more, and make your swimming experience safe, fun, and environmentally friendly.

- ***Reduce the need for chlorine and get the same results with TWT chemical-free treatment & conditioning systems***
- ***Protect the investment in your pool/spa from the harsh effects of chemicals***
- ***Enhance water quality, and improve operating efficiency and equipment life cycle.***

TWT
TRIANGULAR WAVE TECHNOLOGIES, INC.
FLUID MANAGEMENT SOLUTIONS
www.Triangularwave.Com

COMMON PROBLEMS WITH CONVENTIONAL POOL TREATMENT SYSTEMS

- ***Algae and bacteria growth, corrosion, scale and bio-film accumulation in water lines and equipment***
- ***Deterioration of water lines and equipment from harsh chemicals***
- ***High electrical costs from operating inefficient (heating and pumping equipment)***
- ***Use of chemicals (chlorine, bromine, etc.)***
- ***Labor costs for cleaning, maintenance, and supervision***
- ***Complaints related to harsh chemical odors (usually from chlorine) and resulting irritation of the eyes and mucous membrane, as well as bleached swim wear, hair discoloration, etc.***

Each of these problems can be addressed with TWT's Enhanced Control Pool Management Systems, consisting of TWT Deposit Controllers, Reaction Chambers, and IonGuard Purification Subsystems with Copper/Silver Electrodes and/or Ultra-Violet.These highly effective systems and methods of maintenance work in three ways:

- ***The deposit control microprocessor with the attached reaction chamber produces an electromagnetic field through which the re-circulated pool water flows for treatment***
- ***The IonGuard system provides disinfection of the water***
- ***The Ultra-Violet provides purification***

The TWT Enhanced Control Pool Management System offers pool maintenance owners & firms an opportunity to reduce their material and labor costs, lessen the storage and handling of the chemicals now used. ***In combination with the pool's filter and pump systems***, the complete TWT system augments the chemical treatment normally applied by controlling the habitats where bacteria, algae, and bio-film grow. When these habitats are uniformly controlled and/or eliminated, the pool maintainer can reduce the usage and handling of harsh chemicals, and use less labor in the performance of his (contracted) services if provided.

ALGAE AND BACTERIA GROWTH

Bacteria and algae must attach to something (such as pipes, equipment or pool walls) to feed and reproduce. The triangular wave electromagnetic field generated by the patented TWT Deposit Controller prevents this attachment by keeping bacteria and algae dispersed in the water. With the contaminant's "in solution", the IonGuard Purification Unit and/or UV goes to work, killing the algae and bacteria by producing copper and silver ions, a proven and safe method for control. This "chemical-free" method of treatment produces no negative effects on people, no damage to equipment, and no pollution of the environ-ment. It is the safest known deposit control and purification method for controlling algae and bacteria, and eliminates side-effects.


Sparkling clear water without harsh chemicals

CORROSION, SCALE AND BIOFILM ACCUMULATION IN LINES AND EQUIPMENT

The TWT Enhanced Control Pool Management System attacks this problem by causing contaminant's to repel from each other and from the surfaces of pipes and equipment, with its enhanced surface charge on particles in the water. Bio-corrosion is prevented because biofilm, its home, is never given the opportunity to form on the surfaces.

DETERIORATION OF LINES AND EQUIPMENT FROM HARSH CHEMICALS

Many of the chemicals used in water treatment (chlorine especially) cause PVC pipes to become brittle, resulting in the need for extensive maintenance and/or replacement.These chemicals also reduce the useful life of the rest of the equipment in the system.

HIGH ELECTRICAL COSTS (HEATING AND PUMPING EQUIPMENT)

The electricity required for heating pools and pumping water can be a considerable expense. As the TWT Enhanced Control Pool Manage- ment System reduces scaling and corrosion in the heating elements, the elements work more efficiently, reducing electrical costs for heating the water. Similarly, many pool, spa and decorative water feature operators feel the need to operate their pumps continuously to enhance the filtration process and produce clear water. As the TWT Enhanced Control Pool Manage- ment System eliminates clouding contaminant's, the use of the pumps to obtain satisfactory levels of clarity can be greatly reduced, usually to 1/3 or less of a routine operation. Additionally, as the corrosion and scale are eliminated, the pumps operate more efficiently, resulting in reduced electricity costs, as with the heating elements.

CHEMICAL USE (CHLORINE, ETC.)

While necessary, chlorine treatment of swimming pools is not only costly, but also objectionable in terms of practical, aesthetic and health considerations. As a chemical, chlorine has a corrosive effect on pool lines and equipment, resulting in periodic replacement. Although chlorine has been the accepted standard for treating water (and in fact a minimum residual level of chlorine is required in commercial pools), smaller amounts will create other problems. Alternatively, the TWT Enhanced Control Pool Management System will enable desired reduction in chemical treatment, while maintaining appropriate levels of purification.

LABOR COSTS FOR CLEANING, MAINTENANCE AND SUPERVISION

The TWT Enhanced Control Pool Management System allows routine pool maintenance to be accomplished more quickly and efficiently, allowing the maintenance company to service more pools and accounts with existing staff levels. The TWT units are maintenance-free.The IonGuard unit requires only routine inspection and periodic changes of the electrodes (usually annually depending upon usage). However, in contrast to the frequent tasks of traditional pool maintenance, the tasks associated with the TWT systems are minimal. This reduced maintenance permits reduced labor costs per pool.

COMPLAINTS RELATED TO ODOR (CHLORINE, FISHY SMELL, ETC.)

The chemical odor and other unpleasant odors are removed. Perhaps more significant than the odor control benefit, the treated water produced by the swimming pool systems (although not recommended for drinking) is actually rendered to an acceptable level for drinking, in case of accidental ingestion. Finally, the cost savings on chemicals, electricity, labor, increased life cycles of equipment and other uses is sufficient enough to pay for the system in 18 months or less. In contrast to current pool maintenance programs, the system will result in significant cost savings. More importantly, it will provide swimmers with a clean, odorless and healthier swimming environment.

Clearly, in comparison to traditional pool maintenance programs, the TWT Enhanced Control Pool Management System will result in significant cost savings and increased profits.

THERE ARE THREE BASIC CAUSES OF WATER/FLUID RELATED PROBLEMS

SCALE

Problems:
- *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*

ADVERSE WATER CHEMISTRY

Problem:
- *General corrosion*

Biofilm

Problems:
- *Loss of heat transfer efficiency*
- *Biocorrosion (both general and local)*
- *Sludge*
- *Disease and odors*
- *Bacteria, Algae, Fungus, etc.*

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 cooling water environment*

MATERIALS THAT DEPOSIT ON EQUIPMENT AND CAUSE WATER/FLUID PROBLEMS

Materials may be animal, vegetable, mineral, or corrosive water chemistry. The sources of the materials include: pollution; wind borne dirt, bacteria, and algae; chemical additives; and process components themselves. Some of the materials can grow; such as bacteria, algae, fungus, etc

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.

- ***Removal involves physical or chemical cleaning; filtration; ion exchange; softening; demineralization, reverse osmosis.***
- ***Control involves adding chemicals or ozone, or electronically conditioning the water.***

BENEFITS OF THE PATENTED TRIANGULAR WAVE SYSTEM

Prevents Scale Build-up Throughout the Fluid System

Scale particles and colloids in the water receive a treatment that causes them to remain suspended and away from the surfaces of the equipment.The effect of the Triangular Wave Systems lasts for many days; allowing the treatment to be continuously effective throughout the water system, when in operation.

Saves Energy

Energy savings of 2% to 30% are possible, because without scale pipe surfaces are less rough, pumps run more efficiently, and heat transfer is more efficient.

Saves Water

Water that would typically bleed off is used more, and water savings could be up to 50% or more.

ELIMINATES NEED FOR TOXIC CHEMICALS

- ***No recurring chemical expense.***
- ***No handling and storage of hazardous chemicals on site.***

REDUCES CORROSION THROUGHOUT THE FLUID SYSTEM

Reduces biocorrosion by preventing the formation of biofilm on vessel surfaces where bacteria can attack the metal.With higher concentration ratios and higher TDS, the pH will be higher and there will be much less tendency for corrosion. The long lasting Triangular Wave Treatment effect helps control corrosion throughout the fluid system.

CONTROLS ALGAE AND BACTERIA

Bacteria and algae must attach to something before they can feed and reproduce. The Triangular Wave System keeps the bacteria, algae, and their food dispersed in the water, off of surfaces, and away from their biofilm breeding ground. Biofilm forming bacteria have a life span of about two to four hours. Therefore, biofilm forming bacteria will die too, because they are unable to attach to the equipment surfaces.

SHORT PAYBACK PERIOD

The combined reduction of water and chemical costs is enough to pay for the Triangular Wave System in as little as 9-18 months.

THE PAYBACK PERIOD CAN BE FURTHER REDUCED, BECAUSE:

- ***Labor costs for maintaining the chemical systems will be reduced.***
- ***Labor costs to clean the vessel surfaces will be reduced.***
- ***Costs to replace corroded parts will be reduced.***
- ***Hidden costs associated with production shutdown will be reduced.***
- ***Equipment life will be extended.***

The Triangular Wave System requires no maintenance. There is little electrical current flow in an electromagnetic system.

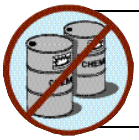
LIFE CYCLE COST SAVINGS

Cost savings continue long after the payback period is over. The Triangular Wave Deposit Control System will operate effectively for many years.

COMPATIBILITY AND VERSATILITY

The Triangular Wave System is compatible with all fluid based systems - residential, light commercial, commercial, and industrial. The Triangular Wave System solenoid coils and reaction chambers can be system integrated to deal with any system or construction configurations; and still provide the same maximum fluid conditioning.

The Triangular Wave System gives owners the positive benefits of soft water without the harmful salts



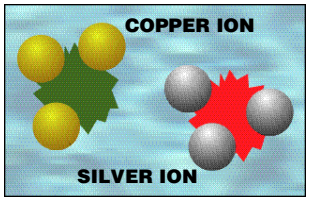
Eliminate toxic chemicals & salts
No recurring chemical expenses
No handling and storage of hazardous chemicals on site
No hazardous salt contamination

Reduces the need for chlorine and get the same results with TWT "Chemical-Free" conditioning.

The TWT® IonGuard 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. The TWT® IonGuard Purification System releases controlled amounts of copper/silver ions into the water to kill algae, biofilm, fungi and other microorganisms. It is well-documented fact that copper & silver ions kill algae, bacteria, viruses and even Legionnaire's Disease. These ions provide long term, nontoxic purification and prevent any recontamination.They maintain a continuous disinfection process automatically while allowing you to reduce chemical usage dramatically. This will prevent plugged water passages and severe deterioration of piping & metal surfaces.

HOW IONS ATTACK MICROBES

Ions are electrically charged atoms (An ion is merely an electronically charged atom or group of atoms. An atom acquires this charge by gaining or losing electrons. Negatively charged electrons are one of the three major subatomic particles, the others being protons, which have a positive charge, and neutrons, which have no charge). With copper-silver ionization, copper ions target algae, while silver ions kill bacteria and viruses.The ions bind with the debris and are removed in the pool filtering process.Ions in the Triangular Wave System are positively charged; algae, bacteria and other particles in the water are negatively charged.The positive to negative attraction allows the ions to attach to the organisms, penetrate their cell walls, and kill them.The IonGuard 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 PVC housing designed for easy access.



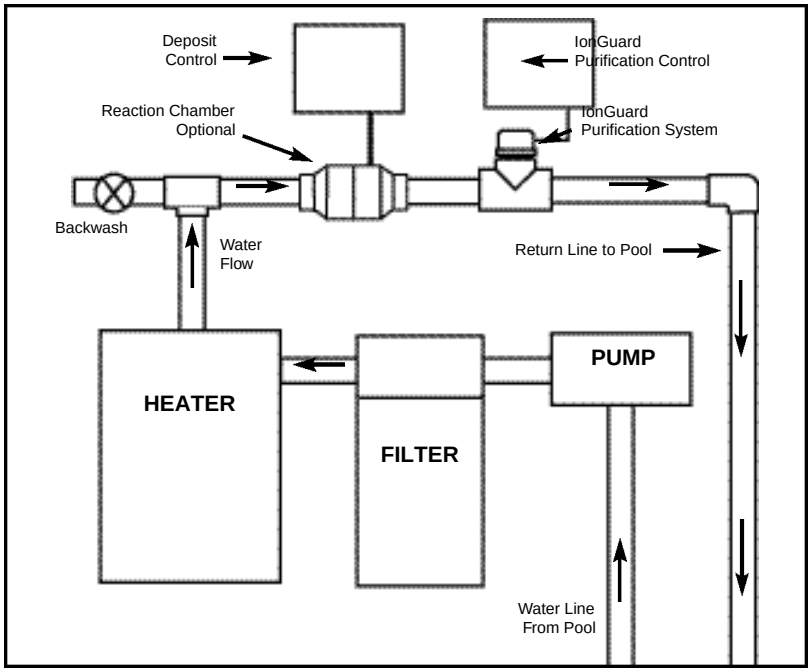
When the system is used in conjunction with a filter, the dead bacteria with the silver ion attached will be large enough for the filter to remove. Normal filter backwashing will then remove the dead particles.The criteria for copper and silver in water are as follows:The EPA standard for drinking water is 1.0 ppm (parts per million) maximum for copper and 50 ppb (parts per billion) maximum for silver. The system is programmed so that a water test showing 0.25 ppm to 0.35 ppm copper automatically provides the proper ratio of silver.This will produce drinking water quality in any water system treated.* The TWT treatment requires no chemicals in its function of controlling algae and bacteria.

A"current source" generator powers the IonGuard Purification System. Other manufacturers use "voltage source" generators to power their ionization units. In all ionization units, copper and silver ions plate off of the electrodes and enter the water. Over time, the electrodes will become smaller, and the gap between the electrodes will become larger. TWT's current source

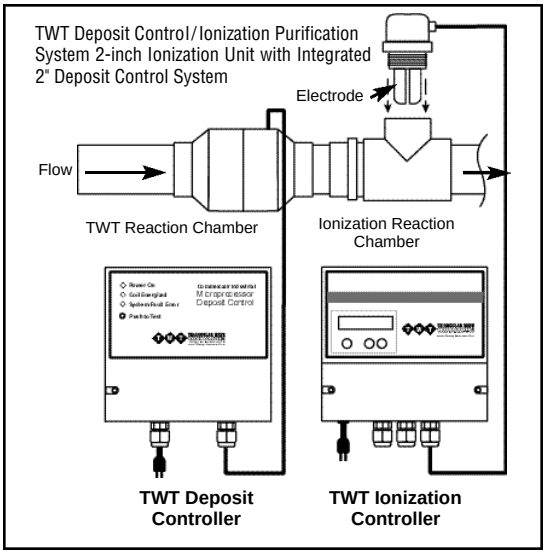
IonGuard Disinfection System

generator will automatically compensate for the change in gap size, while voltage source generators must be manually inspected and adjusted.The current source generators in the TWT IonGuard Systems offer trouble free operation. We recommend that the IonGuard Purification System be installed downstream of a TWT Deposit Control System.The Deposit Controller will keep the IonGuard System electrodes free of scale and other deposits for more effective results. At the same time, the Deposit Control System will help eliminate scale and biofilm deposits throughout the entire water system.

Without the TWT Deposit Control System in place, ionization electrodes may develop either a layer of scale or oxidation. In either case, it is necessary to periodically clean the electrodes with an acid solution.The TWT Deposit Control System eliminates the need for such periodic cleaning.



Typical installation overview of pool/spa equipment room. TWT products (sizes) will vary according to pool size and volume of water. See section B5 of TWT catalog for additional information.



The TWT Deposit Control System will keep the IonGuard System electrodes free of scale and other deposits for more effective results. At the same time, the Deposit Control System will help eliminate scale and biofilm deposits throughout the entire water system.

Triangular Wave Technologies Solves These Common Problems With Its Deposit Control & Ionguard Purification and/or Ultra-Violet Systems

UV IS AN EFFECTIVE WAY TO ELIMINATE CONTAMINANTS COMMONLY FOUND IN POOLS

Without proper disinfection, swimming pools, wading pools, water parks and water rides can cause the following symptoms on bathers:

- **Burning eyes**
- **Itchy skin**
- **Swimmer's ear**
- **Upset stomach**

In the past, the disinfection of choice for pool applications has been chlorine. However, with the use of chlorine, disinfection by-products (DBP's), such as chloramines and trihalomethanes (THMs), lead to the above discomforts for bathers.To reduce the level of DBP's, ultraviolet (UV) light systems are now being used as a supplemental disinfection method to chlorination.

CONCERNS AND EFFECTS OF CHLORINE AND CHLORAMINES

Chlorine disinfection requires additional chemicals and periodic testing to maintain the proper pH balance. But, the addition of chlorine to water lowers the pH of the water. Chlorine works best within a range of 7.2 to 7.8, outside this range, the pool bather begins to show skin and/or eye irritation. As the pH drops with additionalchlorine, another chemical, such as soda ash, is added to raise the pH. Adding more chlorine – again requiring additional chemicals to maintain the desired pH of 7.5 – created chloramines, which results in further eye irritation and respiratory problems for bathers and gives off the strong chlorine odor common at indoor pool complexes.

In addition, corrosion to metal components of the pool– ladders, handrails, and other unpainted metal surfaces is directly caused by chloramines.

ULTRAVIOLET TECHNOLOGY IS A SOLUTION

To stop the vicious cycle of adding chemicals, UV is a solution. UV treatment, in addition to deposit control, will lower the amount of chlorine and other chemicals, while preventing adverse effects on the pH balance of the pool. Ultraviolet light will not only lower chemical costs, it will also reduce chloramines up to 80%, thus eliminating the strong chlorine odor.

BENEFITS OF ULTRAVIOLET IN SWIMMING POOLS

#1– Lower contaminant levels

One advantage of using UV in a pool or spa application is the level of disinfection it creates against viruses, bacteria, cysts and protozoa. The disinfection is made without affecting the taste, odor or pH balance in the pool. A properly sized uv system will disinfect the entire volume of a pool in six hours or less with a turnover rate at a minimum of three times a day. The UV system is a constant disinfection so delivering a safe chemical-free barrier against unfound fecal accidents in a fraction of the time required for chlorine.

#2– Removal of chloramines

An additional advantage of using UV light in a pool application is the reduction of chloramines. The interaction between free chlorine and organic matter forms chloramines. It is the concentration where the chlorine odor and bather systems begin. Ultraviolet light photosynthesizes chloramines, breaking them down into salts.

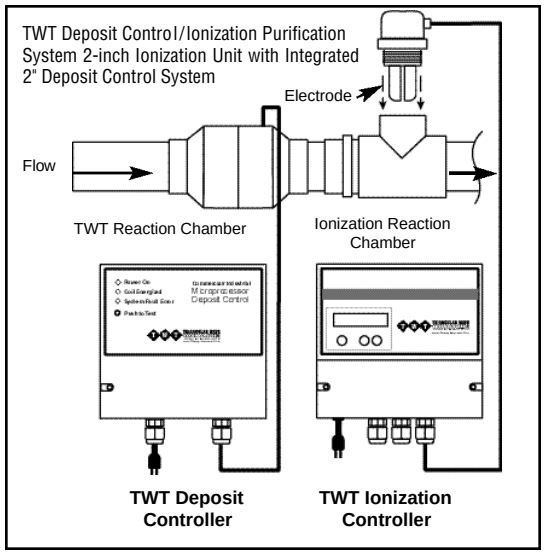
HOW WELL DOES ULTRAVIOLET LIGHT REDUCE CHLORAMINES?

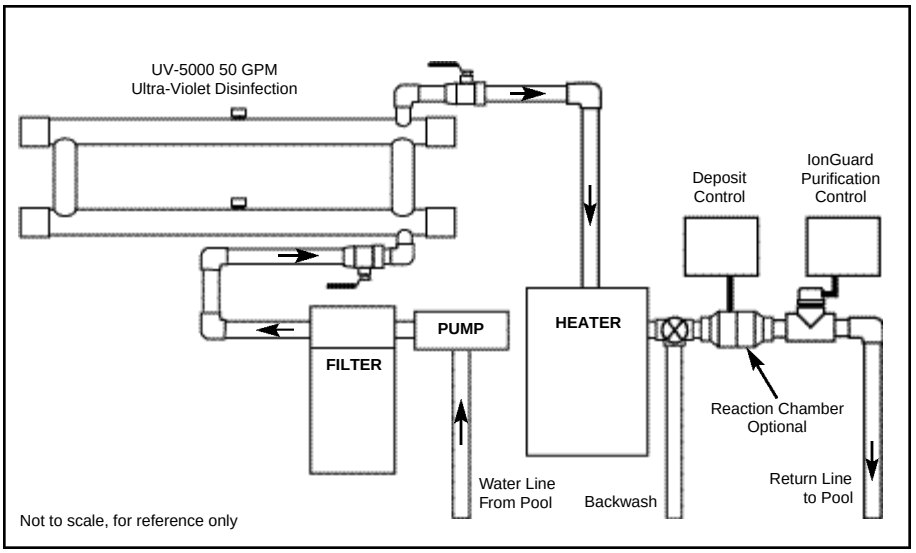
UV reduces chloramines up to 85%. Such a reduction lessons the chlorine odor and lowers the corrosion rate on the system allows for the reduction of chlorine use by over 50%, cutting chemical costs in half for both chlorine and soda ash for disinfection and pH adjustments.

The combination of the Ultra-Violet system, TWT Deposit Control system and the IonGuard Ionization system will eliminate the need for chemicals

PLACEMENT OF A UV SYSTEM

The placement of a UV system is shown (see illustration below).





Typical installation overview of pool/spa equipment room.TWT products (sizes) will vary according to pool size and volume of water. See sections B3 and B5 of TWT catalog for additional information.

Optional:
IonGuard Ionization, Purification and TWT® Deposit Control Technology All-In-One Package Unit.

Suggested System Integration / TWT Reaction Chamber & Deposit Control Units

In order to ensure the greatest level of performance and satisfaction in your work with the TWT products & systems, we recommend that you contact our engineering staff, who will be pleased to work closely with you to determine the optimal application and installation for your specific needs.

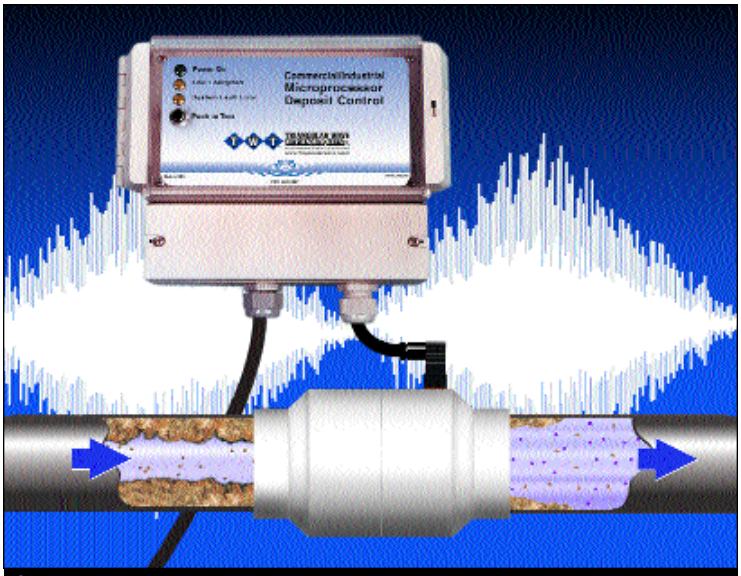
Please Note:

System design, and system component assembly can vary based on TWT engineering review, water conditions, application, and/or customer specific needs

1. DEPOSIT CONTROL (CHEMICAL-FREE)

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.



Complex modulated signal producing magnetic field inside the pipe. The resulting induced, oscillating electric field provides the necessary molecular agitation for scale and biofilm prevention and removal.

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 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 sleeve 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 filtered 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.

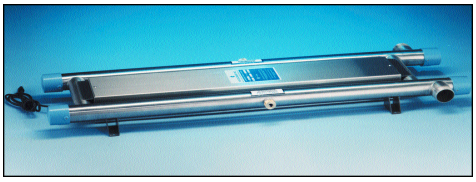
TWT REACTION CHAMBER:

The TWT Reaction Chamber is part of the patented TWT Deposit Control Technology. 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.

2. DISINFECTION/PURIFICATION:

Ultra-Violet (optional):

The UV disinfection technology used in the system provides 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.


UV-5000

IONIZATION–for bacteria, algae, fungus control in Pools & Spas

IONGUARD PURIFICATION SYSTEM:

The IonGuard 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 (Pool Environments).The IonGuard 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 (integrate with TWT deposit control technology for enhanced results).


Silver & Copper Electrodes


Electrode Housing Unit

END-TO-END FLUID TREATMENT AND CONDITIONING

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 con ditioning. 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 man agreement 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

Control Scale Deposits/Bacteria Corrosion Algae/Colloids In Your pools & spas. Eliminate the biofilm that serves as a breeding ground for disease– causing bacteria, collecting in your pipes, tubing and equipment.

Don't wait...contact us today (info@Triangularwave.com) for the Dealer/Distributor near you and/or for information on what TWT system will meet your specific application needs!

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

The proper application in applying an IonGuard Purification System is to determine the proper power supply control unit and electrode set to support the pool, spa & HVAC treatment system.For water volume up to 30,000 gallons, the 0.5 amp unit is suggested. For larger water volumes, refer to ***Tables below*** to determine the ionization current needed.

After the current needed has been determined, then the electrode set that will provide the rated current in the water in question is selected. Measure the water conductivity reading and refer to ***Tables below*** to determine the electrode size needed to support the current in the tested water. Conductivity readings should be taken and submitted with all purchase orders for proper product application and installation verification.

Low cost conductivity meters may be purchased on line. At present we have available three IonGuard power supply control units*, the 0.5 amp model TWT-5C8-277, 1.25 amp model TWT-5C8-278 and the 2 amp model TWT-5C8-279. Larger Ionization current will be needed for pools, spas & HVAC with larger volumes of water.Additional IonGuard Systems may be added in series to obtain the necessary requirements.

Example: 60,000 gallon pool water, conductivity is 1.3 ms/cm, From: Table 1, 60,000 gallon pool will need 1.0 amp IonGuard current. Table 2 for 1.0 amp current and 1.3 ms/cm, one 3-inch electrode set will be needed.

Note: Only one TWT deposit control system necessary per pool

Table 1: Choose Ionization Current by Pool Volume (power supply control unit)

Pool Volume in Gallons	*Then: Ionization Current Amps required*	*Number of IonGuard Systems*		
		0.5 Amps	*1.25 Amps*	*2 Amps*
Less Than 30,000	0.5	1	–	–
30,000 - 40,000	1.0	–	1	–
40,000 - 80,000	1.0	–	1	–
80,000 -120,000	1.5	–	_	1
120,000 -160,000	2.0	–	–	1
160,000 -240,000	3.0	–	1	1

* For larger pools or special situations contact Triangular Wave Technologies, Inc.

Table 2: Choose Electrode Size by Conductivity

Conductivity MS/CM	*And: Ionization amp*	*Then: Electrodes*
1.0	0.5	3"
0.9	0.5	3"
0.8	0.5	3"
0.7	0.5	3"
0.638	0.5	3"
0.5	0.5	6"
0.4	0.5	6"
0.3	0.5	6"
0.2	0.5	6"
0.169	0.5	6"
1.4	1.0	6"
1.3	1.0	6"
1.275	1.0	6"
1.1	1.0	6"
1.0	1.0	6"
0.9	1.0	6"
0.8	1.0	6"
0.7	1.0	6"
0.6	1.0	6"
0.5	1.0	6"
0.4	1.0	6"
0.3375	1.0	6"
0.2	1.0	(2) 6"
0.169	1.0	(2) 6"

Custom orders: Larger amp control units available upon request

Note: TWT Inc. recommends that an initial supply of replacement electrodes be stored at owners facility at all times, for cleaning and maintenance. This will enhance the life cycle of the electrodes .

Table 3: Power Supply Control Unit Size

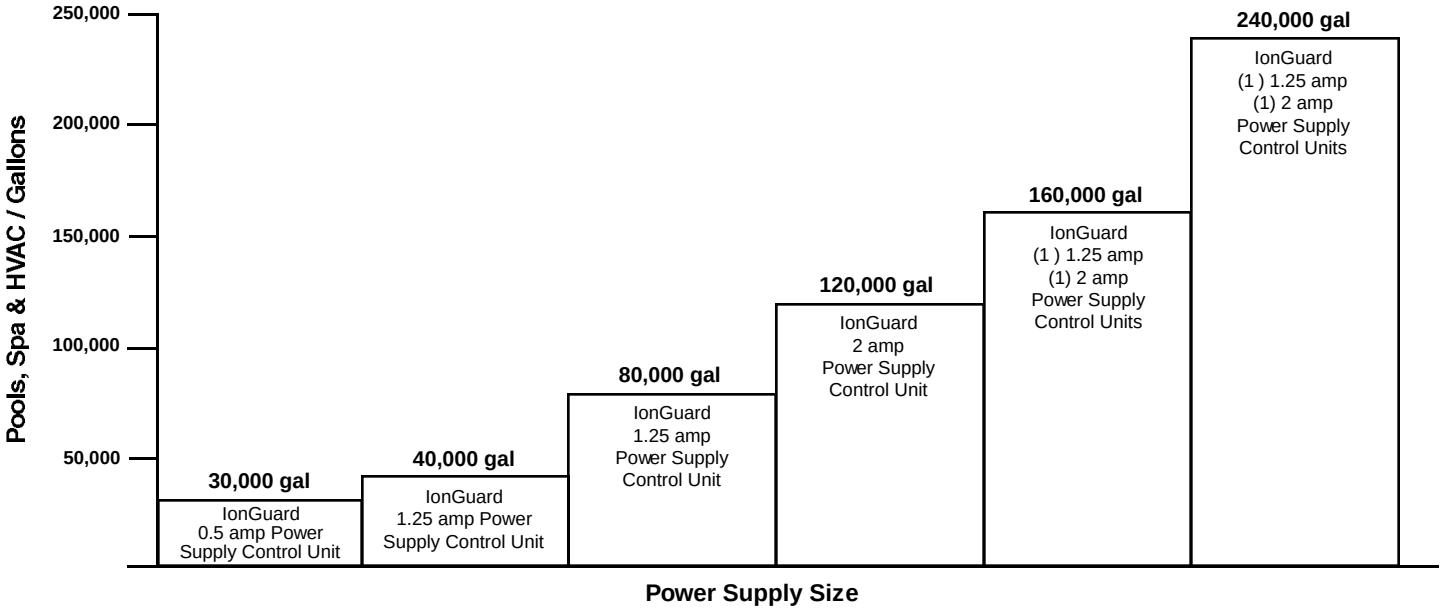
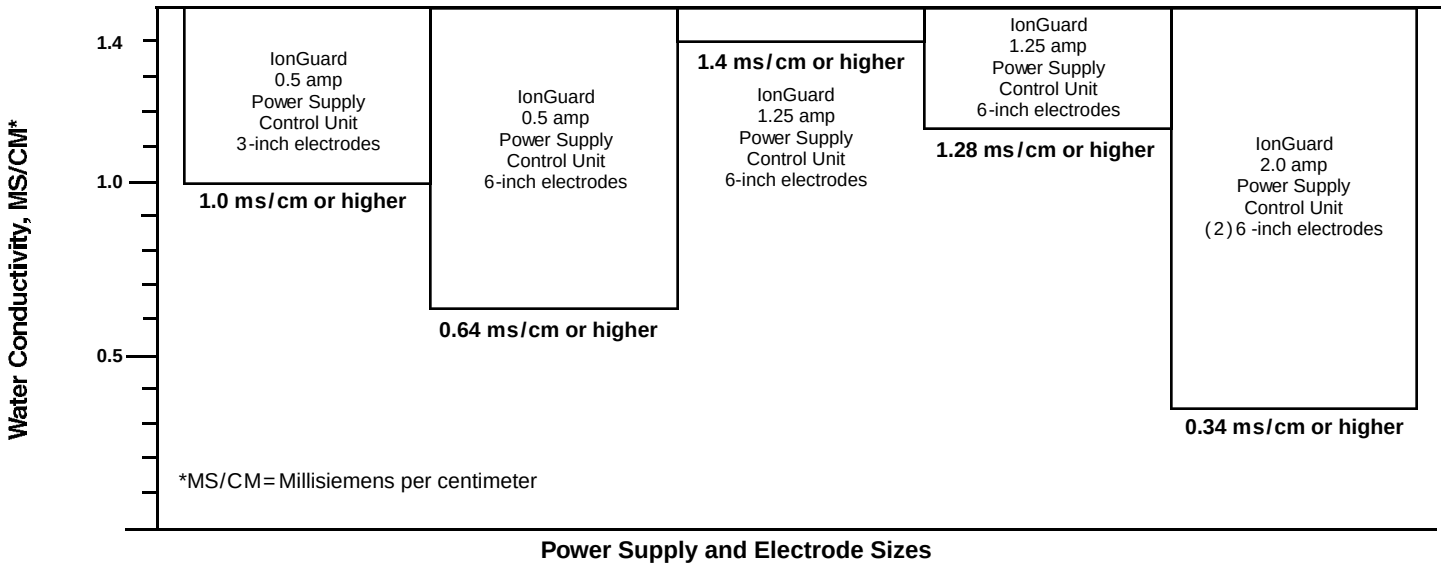


Table 4: Power Supply and Electrode Sizes



TWT® IonGuard Ionization and Purification Systems for Pools, Spas & HVAC

System Consists of: TWT *Control Unit* & TWT ID *Electrode Installation Kit*

Treat your algae, bacteria, scaling, deposit, corrosion and oxidation problems with efficient, environmentally-friendly ***Triangular Wave Technologies Chemical-Free Pool Management Systems.*** Reduce your chemical treatment and maintenance efforts by 80% or more, and make your swimming experience safe, fun, and environmentally responsible.

IonGuard Ionization & Purification System for Pools, Spas & HVAC Applications

TWT-5C8-277 – IonGuard Ionization/Purification System for the Control of Algae & Bacteria. 0.5 Amp control unit (for pipes up to 2" or less) Designed to treat water volume upto to 30,000 gallons

TWT-5C8-278– Ionization/Disinfection System for the control of Algae/Bacteria. 1.25 Amp control unit (for pipes up to 4" or less) Designed to treat water volume upto to 80,000 gallons

TWT-5C8-279– Ionization/Disinfection System for the control of Algae/Bacteria. 2 Amp control unit (for pipes up to 6" or less) Designed to treat water volume upto to 160,000 gallons

◀ Universal power supply ▶

All-In-One Package Unit–IonGuard Ionization, Purification and TWT® Deposit Control Technology

TWTDCI-5C8-377– Integrated Ionization & Deposit Control System–0.5 Amp Control Unit (for pipes up to with 1 1/2" or less. Designed to treat water volume up to to 30,000 gallons

TWTDCI-5C8-378– Integrated Ionization & Deposit Control System–1.25 Amp Control Unit (for pipes up to with 2" or less. Designed to treat water volume up to to 80,000 gallons

TWTDCI-5C8-379– Integrated Ionization & Deposit Control System–2 Amp Control Unit (for pipes up to with 3" or less. Designed to treat water volume up to to 160,000 gallons

TWT-IDK-0265115– ID Electrode Installation Kit: TWT-RE-02456 3" Electrode,/ 1 1/2" PVC Tee / T-Cap and Conduit

TWT-IDK-0265122– ID Electrode Installation Kit: TWT-RE-0255 3" Electrode,/ 2" PVC Tee / T-Cap and Conduit

TWT-IDK-0265123– ID Electrode Installation Kit: TWT-RE-0262 6" Electrode,/ 3" PVC Tee / T-Cap and Conduit

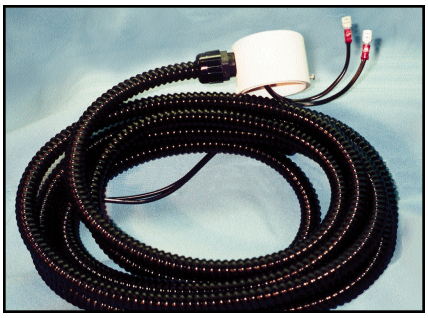
TWT-IDK-0265124– ID Electrode Installation Kit: TWT-RE-0262 6" Electrode,/ 4" PVC Tee /T-Cap and Conduit

TWT-IDK-0265126– ID Electrode Installation Kit: TWT-RE-0262 6" Electrode,/ 6" PVC Tee / T-Cap and Conduit

TWT-RE-0245
3" Replacement Electrodes

TWT-IRE-0255
6" Replacement Electrodes

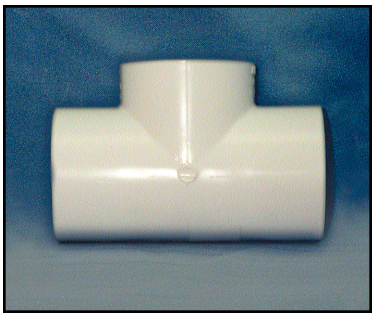
TWT-IRE-0262
6" Replacement Electrodes



TWT-ID-0251– Tee-Cap and Conduit for TWT-RE-0245 Replacement Electrodes

TWT-ID-0257– Tee-Cap and Conduit for TWT-RE-0255 Replacement Electrodes

TWT-ID-0263– Tee-Cap and Conduit for TWT-RE-0262 Replacement Electrodes



TWT-ID-0351
1 1/2" Tee PVC (Schedule 40)

TWT-ID-0357
2" Tee PVC (Schedule 40)

TWT-ID-0363
3" Tee PVC (Schedule 40)

TWT-ID-0369
4" Tee PVC (Schedule 40)

TWT-ID-0375
6" Tee PVC (Schedule 40)

TWT Ultra Violet Disinfection & Purification System for Pools, Spas & HVAC Applications

And/or TWT-UV-5000 50 GPM System
- Rated Flow: 50 Gallons per minute • Maximum Flow: 77 Gallons per minute
- Electrical Supply: 120V/60 Hz 3 Amp • Plumbing: 2 1/2" N.P.T. In-Out
- Size: 50"L x 13"W x 8"H • Weight: 46 lbs • Body: 316 Stainless Steel

See section B3 for TWT® Deposit Control Systems

TWT-UV100-6 System (100 GPM) Commercial UV Disinfection System
- Alarm System – Fail Safe • Rated Flow: 79 liters per minute (100 GPM)
- UV Dose @ Flow & 70%T 37 mJ/cm^2 (37,000 µwsec/cm 2)
- Electrical: 100-240V / 50-60 Hz (Universal) • Other voltage sources available upon request (must specify)
- Lamp Power: 65 W
- Number of Lamps: 6 • Maximum Operating Temp: 37º C (98.6º F)
- Maximum Operating Pressure: 125 psi – 8.6 bar (tested to 500 psi)
- Plumbing: 2" MNPT (3" optional)
- Size: L 117 cm x W 21 cm x H 27 cm
- L 46 in x W 8 in x H 10.5 in
- Weight: 41 kg (90 lbs) with controller
- Chamber Material: 316L SS

Custom Orders: Multiple units may be used for larger pools.

TWT® IONGUARD IONIZATION, PURIFICATION AND TWT® DEPOSIT CONTROL TECHNOLOGY ALL-IN-ONE PACKAGE UNIT (optional system applications)

Kit Number	Pipe Application	Unit in Kit	Water Volume in Gallons
TWT-SPK01-1	1" inch	4	SPAS
TWT-SPK02-1.5	1 1/2" inch	4	30,000
TWT-SPK03-2	2"	4	40,000 to 80,000
TWT-SPH04-3	3"	4	90,000 to 120,000
TWT-SPK05-4	4"	5	130,000 to 160,000
TWT-SPK06-6	6"	7	160,000 to 240,000

Kit components are configured according to application requirements.
Review TWT trade ad TA158 on CD#6 for additional information.

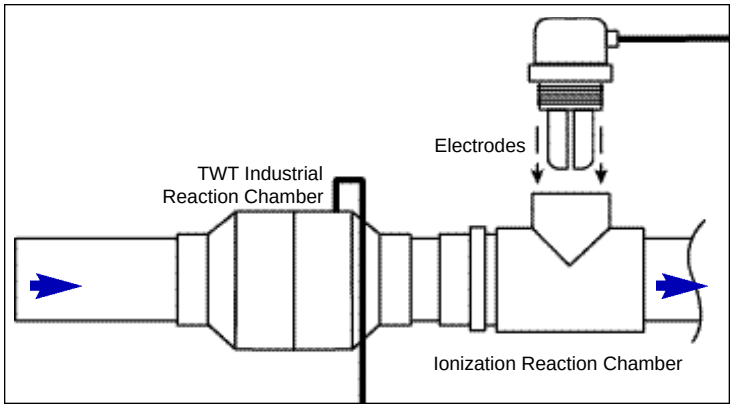
Larger volume and pipe size applications:

TWT IonGuard and Deposit Control products can be integrated to meet almost any application and treatment requirements.

Quotation (RFQ): Request for Quote

Kits are available to meet your specific application, volume and treatment requirements upon request.

TWT Deposit Control & Ionization Application



Suggested System Integration / TWT Reaction Chamber & Deposit Control Units

In order to ensure the greatest level of performance and satisfaction in your work with the TWT products & systems, we recommend that you contact our engineering staff, who will be pleased to work closely with you to determine the optimal application and installation for your specific needs.