

WHAT IS IN OUR WATER?

IS YOUR WATER SAFE ENOUGH TO DRINK?

ARE YOU PREPARED?

DO YOU HAVE AN EFFECTIVE WATER TREATMENT SYSTEM?

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

Filtration: The water is filtered to remove lingering sediments, chlorine, heavy metals and organic carbon compounds. The filtering process features a sediment filter, the dual filter media of patented KDF 55 and Granular Activated Carbon, and a final sediment filter.

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

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

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



**New! The All-In-One Potable Water
Protection System TWT-MD-1001/1002/1003**

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

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

WWW.TRIANGULARWAVE.COM

TRIANGULAR WAVE TECHNOLOGIES INC. FLUID MANAGEMENT SOLUTIONS (TWT)

**Chemical-Free Fluid
Management Systems**

**Commercial • Industrial
Residential • Deposit Control**



**Offices • Homes
Factories • Restaurants
Wells • Farms
Agriculture • Laboratories
Medical • Dental**

**State-of-the-Art Water Treatment
Systems for the Control of
Scale Deposits • Biofilm
Corrosion • Algae • Colloids
In Fluid-Fed Equipment**

**Eliminate The Biofilm That
Serves As A Breeding Ground
For Disease Causing Bacteria,
In Pipes, Tubing And Fluid-Fed
Equipment.**

**Conserve Water,
Save Energy...**

**Non-Chemical, Safe,
Cost-Effective Water Treatment**

TWT CLEAN WATER SOLUTIONS FOR THE HOME, OFFICE, RESTAURANTS & FACTORY

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**Protect Your Family, Patrons & Workers with Triangular Wave Technologies
Water Treatment, Purification and Filtration Systems. Your Simple
and Safe Solution for All Your Cooking, Drinking and Serving Needs.**

NON-CHEMICAL • NON-SALT • SAFE AND EFFECTIVE

**Advanced Triangular Wave Technology Gives Safe, Efficient
24/7 Protection For Your Home, Family, Workers and Patrons**

PROTECT AGAINST

- Algae and bacteria threats
- Corrosion of pipes and equipment
- Energy loss and water waste
- Reduce Scale and Lime Deposits
- Reduce Biofilm
- Get the Total Effects of Soft Water Without the salt
- Keep Hot Water Heaters, Boilers, Home Appliances Scale-Controlled, Energy & Water Efficient
- Provides the effects of softened water with out the harsh chemicals by neutralizing calcium hardness effects in water, and leaving in the beneficial minerals
- Improves efficiency of all water-fed appliances and extends their useful life (saves 5% to 30% on water heating bills)
- Safe and maintenance-free
- Pays for itself quickly and provides continuous savings throughout its life
- Guaranteed
- Short Payback Period
- Easy to install, moves when you do

In effect, a clean, bio-film, corrosion-free plumbing system is restored and maintained in a environmentally safe, responsible, and chemical-free manner.



Improve the quality and taste of water at farm, home and office
Why spend hundreds of dollars for bottled water or carry, lift
and store it?

Integrated Technology to Provide Water The Way Nature Intended It!

TWT-FLUID MANAGEMENT SOLUTIONS IMPROVE THE QUALITY & TASTE OF YOUR WATER

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Versatile Fluid Management Products & Systems To Effectively Meet The needs Of The Farming & Poultry Industry

Poultry Farms

Bird Waterers

Treatment and deposit control in water lines and on bell-nipple waterers.
Reduced leakage at valve, leading to drier and more easily handled manure.

Medicators

Deposit control in medication ports in watering systems.

Purification System

Reduction and/or elimination of chlorine (makes the birds hyperactive and panicky) by using the Triangular Wave Deposit Control System with the Triangular Wave IonGuard Purification System; TWT provides a complete, non-chemical solution.



Miller Turkey Farm:

10,000 Bird Facility • 6,000 Gallons of Water Per Day • 50 Grains of Water Hardness

Turkey Farm Reduces Harmful Biological Build-ups with Triangular Wave System

The Miller Turkey Farm raises approximately 10,000 turkeys during each growing cycle. A growing cycle is 17 weeks from the time they receive the turkey chicks. Maintaining the turkeys optimum health and growth results in the Millers maximizing their operation. Profits were being lost when a certain percentage of the birds would not survive until the end of the 17 week cycle, and others would not reach their full weight.

Hard water was one problem that the Millers knew was costing them turkeys and, ultimately, dollars. The deposits from their water source would quickly leave scale build-up on the bell nipple waterers and coat them with a thick white crust, restricting drinking water for the turkeys. The deposits also clogged the medicators that are used for disease prevention. Even with regular cleaning, the restricted flow in the systems took its toll on the turkeys, as they received inadequate water and medication.

The scale also was a breeding ground for bacterial growth, which increased the chances of infection and other unhealthy situations. A strong ammonia odor from the barns was evidence of waste and bacteria. Mr. Miller estimates that their annual loss was about 10 percent of their turkeys. Much of the loss can be attributed to the scale and bacteria problems caused by the hard water.

In 1996, a Triangular Wave System was installed on the main water supply line to the farm. The scale build-ups on the bell nipple watering system began to disappear, and cleaning became unnecessary. In addition, the strong ammonia odor on the farm was greatly reduced. As evidence of the positive effect of the Triangular Wave System, the mortality rate of the turkeys dropped by half. Furthermore, the turkeys at maturity are heavier and healthier.

The Triangular Wave System eliminated the severe scale problem, and that means the Millers sells more turkeys, and heavier turkeys.

TWT installations have eliminated the scale and biofilm, as well as the need for the sodium and chlorine treatment of the water.



The methods employed resulted in the following benefits:

- **Saves salt and other chemical additive costs**
- **Saves equipment maintenance costs**
- **Saves chemical handling costs**
- **Saves electricity costs**
- **Produces healthier products**
- **Reduces mortality rates**
- **Produces higher profit margin**
- **Improves food conversion rates**

TWT-FLUID MANAGEMENT SOLUTIONS

IMPROVE THE QUALITY & TASTE OF YOUR WATER

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Shank's Inc./Chicken farm egg laying facility

**250,000 Bird Facility • 9,600 Gallons of Water Per Day
• 21 Grains of Water Hardness**

The Shank's Hen House egg laying operation has been run by the Shank family for many years. Roy Shank is the present owner. During most of those years, they had problems with the water supply, which is very hard. Their initial treatment included a large filter and a water softener. On a typical day of operation, workers would walk among the cages to remove culls and replace nipple waterers which had become encrusted with scale. Each worker would carry a pocketful of waterers. The entire process took several hours per day. Then they would be ready for the day's work of crating and stacking the eggs.

When Mr. Shank was first introduced to the Triangular Wave Deposit Control System in 1998, he wanted to replace the water softener, save the entire backwash water, and not have to buy and store salt. He was quite concerned that without the softener they would be right back where they had been before the softener was installed. They installed the TWT Deposit Control System to replace the water softener and also to protect the

ultraviolet disinfection systems in use from scale buildup on the quartz tubes in those UV units (buildup on the quartz sleeves reduces the ability of the UV to be effective). They were cautious and reduced the water softener usage gradually over a 30-day period, decreasing its cycles every week until it was totally bypassed. The TWT system has performed beyond all expectations.

- ***They have not used any salt.***
- ***They have not experienced any problems with the nipple waterers.***
- ***The plumbing system and UV disinfection systems have operated flawlessly since installation of the TWT system.***
- ***They have reduced the time spent walking among the cages to minutes instead of hours.***
- ***They have increased the size of their flock from 245,000 birds to 325,000 birds, a 30% increase with no extra help.***

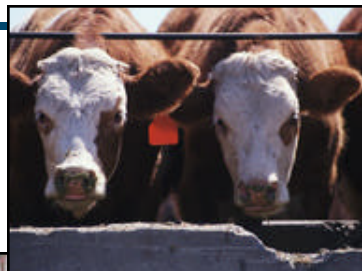
Mr. Shank recently told a group of visitors that... "without the TWT Deposit Control System I would not be able to stay in business, and that is not an exaggeration."

On the Dairy Farm

Dairy Farms/Water Quality Problems:

Stock Water: Deposit control and better taste for hard water used for cow watering. Dairy cows need between 15 and 35 gallons per head per day for drinking and barn needs; many cows are "fussy" about the water they drink. The more water they drink the more milk they produce. Deposit control means that waterers do not scale up and leak, and that the lines are clean.

Clean-up Water: Treated water usually requires less chemical additives. Iron in the water is bound up with the scale minerals and taken out of the "chemistry"; the result is easier clean-up using fewer chemicals to remediate the iron effects. Field experience has shown that water supplies with E. coli contamination showed a zero count after treatment by the Triangular Wave System. Further testing is underway to verify these results. TWT Deposit Control Systems work continuously to keep your water feed lines clear, clean, and well maintained, significantly reducing biofilm and resulting bacteria, and providing easy flow access to the water supply for your livestock.



TWT-FLUID MANAGEMENT SOLUTIONS IMPROVE THE QUALITY & TASTE OF YOUR WATER

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Hog Raising Operations

Versatile Fluid Management Products & Systems
To Effectively Meet The Needs Of The Hog Raising Industry

Animal Waterers

Deposit reduction and/or control in the water nozzles and valves, which can stick opened or closed, either wasting water or preventing the hogs from obtaining the water they need.

Pen Cooling Mister's

Deposit control in the water nozzles, allowing proper misting and dispersion.

Water Wall Curtain Cooling System

The temperature in hog facilities is very important. If the animals get too hot they suffocate. To help control cost of operation and lower air conditioning costs, a water wall curtain is used. This is a system that uses a heavy plastic panel (plastic curtain) like in cold storage warehouses. This water wall has a header applying streams of recycled water to the wall. The water collects in a trough at the bottom. As the water streams down the wall curtain, the water cools air that is coming through the slits in the curtain. This does two things: it cleans the air and drops the air temperature. Triangular Wave system would prevent scale deposits on the header nozzles and on the wall curtain itself.

Waste Management

Waste management is a huge cost and a large problem. Water is used to flush the floor and . . . The waste is directed to troughs and eventually where it is lagooned for liquid application to fields. Triangular Wave Systems can prevent clogging lines, pumps, sensors, etc.

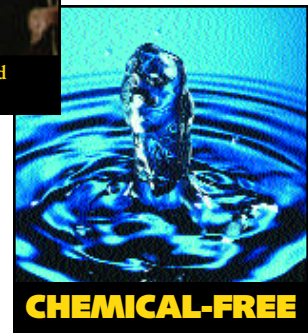
Hog Watering System

Many of the health problems of the hogs stem from the water chemistry. Triangular Wave Systems offer deposit control and better taste. Hogs will drink more, improving their health & viability, increasing the herd, and improving the end quality.

Visit the TWT website home page and click on Ultraviolet Disinfection Systems for additional information beneficial to the hog raising industry.



Enhance watering & cooling system and improve hog raising operations



IN THE HOME



Water The Way Nature Intended It!

BENEFITS OF THE PATENTED TRIANGULAR WAVE SYSTEMS

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PREVENTS SCALE BUILD-UP

- Scale particles in the water receive an enhanced surface charge that causes them to repel each other and from the walls of the equipment

ELIMINATES TOXIC CHEMICALS

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

REDUCES CORROSION

- Reduces bio-corrosion by preventing the formation of bio-growth on vessel surfaces where bacteria can attack the metal

CONTROLS ALGAE AND BACTERIA

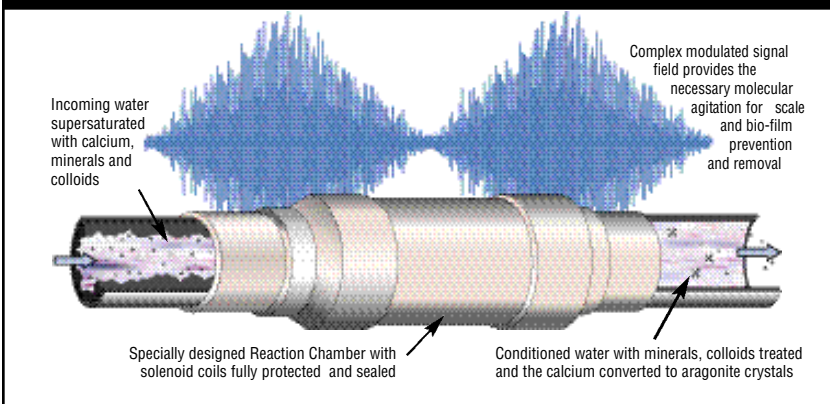
- Bacteria and algae must attach to something before they can feed and reproduce. The Triangular Wave System keeps the bacteria, algae, and their food dispersed in the water, off of surfaces, and away from their biofilm breeding ground
- Eventually the biofilm will die, too

SHORT PAYBACK PERIOD

- The combined reduction of water, chemical and energy costs is enough to pay for the Triangular Wave System in as little as 9 to 18 months
- One time cost vs. recurring monthly chemical = **better profit margin**
- The Triangular Wave System requires little or no maintenance
- There is little electrical current flow through the electromagnetic system
- Reduces energy costs use through improved heat transfer efficiency
- Increased heat transfer from non-scaled tube surfaces = **significant energy savings**
- Easy interface with facility management hardware and software systems for centralized management

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.

Patented Triangular Wave Technologies Deposit Control



Using modern integrated circuitry and signal processing techniques, the patented TWT Deposit Control technology works by producing a complex frequency-modulated waveform. This creates a deionizing effect, induced by physical means, which increases the solubility of the minerals, and colloids in the liquid and changes the shape, size and texture of the calcium carbonate crystals. By this reaction, the minerals, colloids and crystals lose their adhesive properties and remain in suspension in the liquid. Pre-existing scale is taken back into solution and in the same way. The effects are immediate and long lasting down stream.

WHAT IS IN YOUR WATER?

Over 500 billion pounds of hazardous chemical waste are improperly disposed of every year.

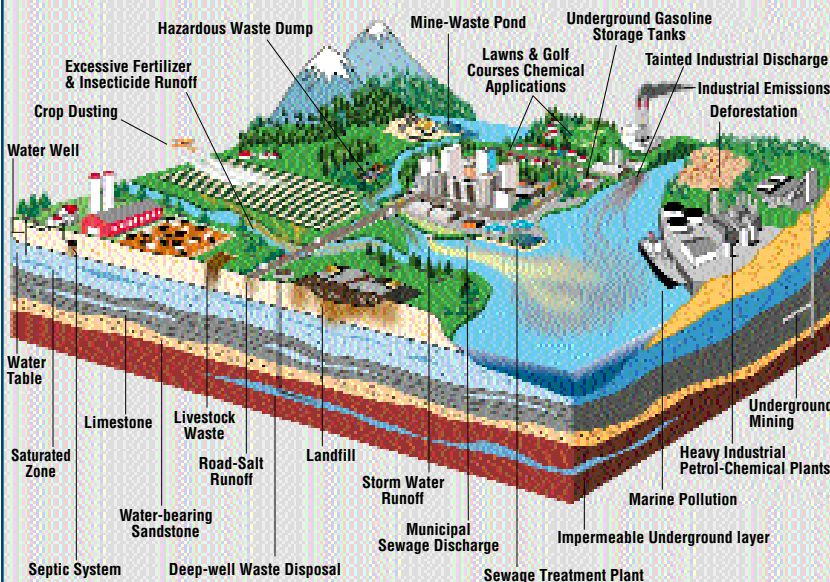
Every day, 50 billion gallons of liquid hazardous waste are disposed at 26,000 disposal sites, 85% are located above aquifer. Some chemicals, such as TCE are too toxic, a single gallon can contaminate a years worth of drinking water for 3800 people.

Every year, 100 billion gallons of liquid hazardous waste are absorbed into groundwater supplies.

Of the 1,000 EPA Priority waste sites in the U.S., less than 20 have been cleaned up since the EPA's inception.

Of the 700 chemicals that have already been found in drinking water, most water companies test for less than 30.

This much we know... If we put toxic chemicals into or on the ground, they will eventually end up in the groundwater we drink.



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



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



Improve the quality and taste of water at farm, home and office
Why spend hundreds of dollars for bottled water?
Do you really want to carry, lift and store bottled water?

Triangular Wave Technologies All-In-One Deposit Control & Purification Systems

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TWT-MD-1003 – 8 GPM

System consists of a Deposit Controller TWT-5C8-401 • TWT Reaction Chamber • UV-700 Disinfection System • TWT-MUC Filtration System
Specifications: Factory assembled and mounted 42" H x 36" L x 8" D • Weight 40 lbs.



TWT-MD-1002 – 4 GPM

Triangular Wave Technologies Fluid Management System. System consists of a Deposit Controller TWT-5C8-472 • TWT Reaction Chamber • UV-250 Disinfection System and TWT-MUC Filtration System
Specifications: Factory assembled and mounted 24" H x 26.5" W x 8" D • Weight 30 lbs.



TWT-MD-1001 – 1 GPM

Triangular Wave Technologies Water Fluid Management System. System consists of a Deposit Controller TWT-5C8-471 • TWT Reaction Chamber • UV-4 Disinfection System and TWT-MUC Filtration System
Specifications: Factory assembled and mounted 24" H x 22" W x 8" D • Weight 25 lbs.

This unique fluid management system is a compact, self-contained, wall mounted unit for the treatment of water in the office, home, factory, restaurant, wells, farm, agriculture, laboratories and medical/dental environments. System includes:

TWT Water Filtration Subsystems

- Filtration: The water is filtered to remove lingering sediments, chlorine, heavy metals and organic carbon compounds. The filtering process features a sediment filter, the dual filter media of patented KDF 55 and Granular Activated Carbon and a final Carbon Block Filter.
- TWT Deposit Control and Reaction Chamber Subsystem to prevent scale and biofilm deposits from forming on the water system components and surfaces. It conditions the water before it enters the waterlines feeding the equipment and instruments: The bacteria and scale particles in the water remain suspended and unable to attach to the waterline walls or medical, dental and laboratory instruments.
- TWT Ultraviolet Disinfection Subsystem to kill bacteria and biofilm. The ultraviolet subsystem is designed to kill 99.9% of any remaining bacteria and viruses by disrupting the DNA of the microbes with UV light rays. The result is virtually disease and pathogen-free water.

Factory Assembled & Mounted Fluid Management Systems

Applies all the needed elements for maximum fluid protection, management, and peace of mind in one simple packaged solution. State-of-the-art TWT Filtration, Microprocessor Deposit Controller, Reaction Chamber, and UV Disinfection units are combined to provide a start-to-finish answer to simplified prevention, treatment and management of water line contamination dangers. TWT solutions are scalable to fit the volume you need—ask us to specify the system that works best for you!



Home



Medical/Dental/Laboratory



Office



Farm

Let TWT help you custom design your own fluid management system to meet your industry-specific application

We sincerely thank you for your time and interest in our products, and look forward to being a valued part of your operation.

Visit Triangular Wave Technologies, Inc.'s comprehensive website, the valuable technical resource for all involved in water and fluid management...

WWW.TRIANGULARWAVE.COM



BRINGING YOU THE BEST IN FLUID MANAGEMENT SOLUTIONS