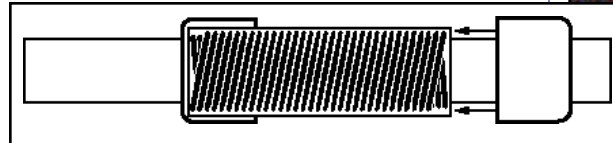
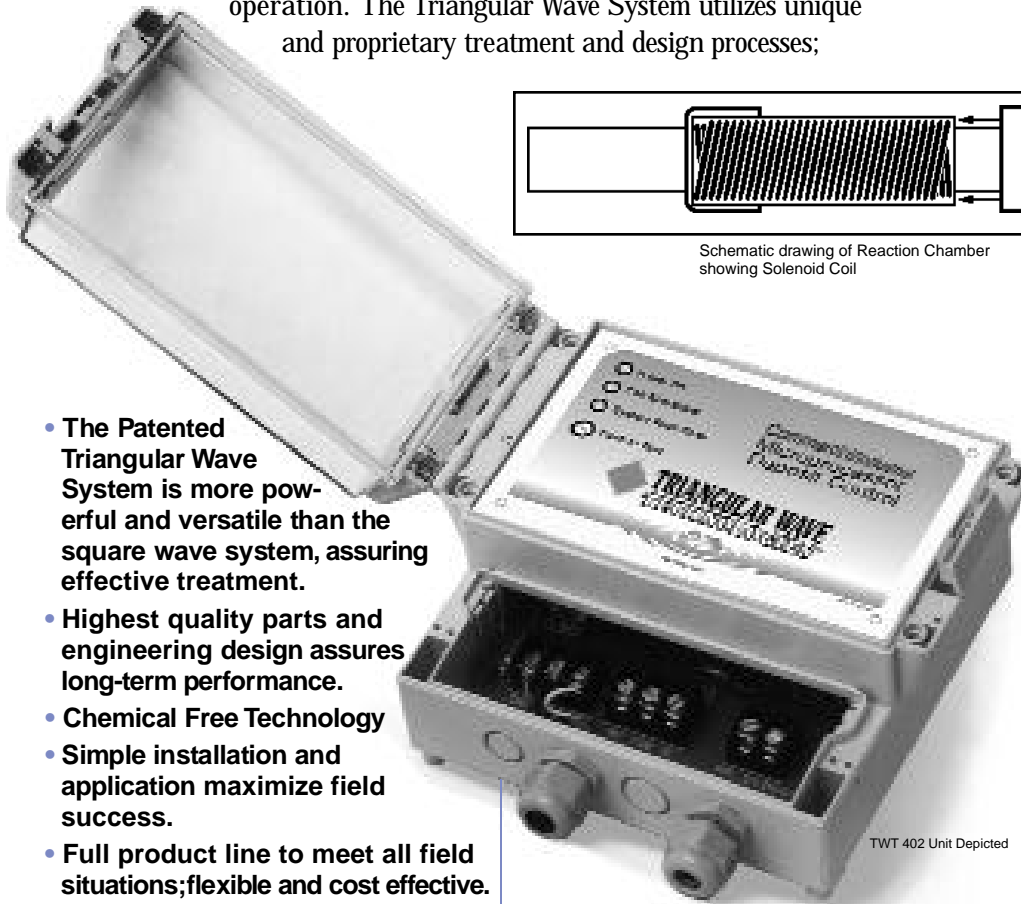


THE TRIANGULAR WAVE TECHNOLOGIES PATENTED DEPOSIT CONTROL SYSTEMS

This State-of-the Art electronic deposit controller provides continual scale and bio-film control in fluid systems resulting in reduced maintenance and more efficient operation. The Triangular Wave System utilizes unique and proprietary treatment and design processes;



Schematic drawing of Reaction Chamber showing Solenoid Coil

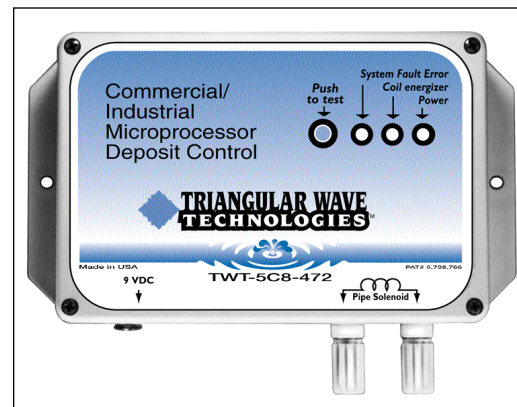
- The Patented Triangular Wave System is more powerful and versatile than the square wave system, assuring effective treatment.
- Highest quality parts and engineering design assures long-term performance.
- Chemical Free Technology
- Simple installation and application maximize field success.
- Full product line to meet all field situations; flexible and cost effective.

Microprocessor Based Technology for all Commercial/Industrial Applications

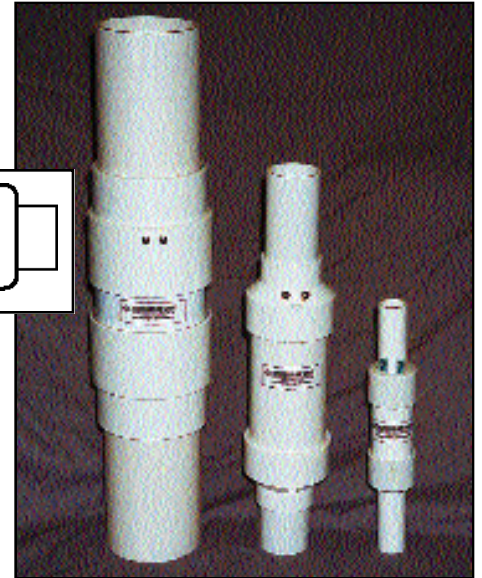
- Cooling Towers
- Heat Exchangers
- Boilers / Water Heaters
- Condensers and Chillers
- Commercial Irrigation
- Public Swimming Pools
- Public Display Water Fountains
- Humidifiers
- Steam Cleaning Systems
- Spray Systems
- All Fluid Based Applications

The *Triangular Wave System* represents a significant breakthrough in electromagnetic technology. The triangular wave has made possible the use of electromagnetic technology in all size applications from residential to large commercial and industrial systems.

Triangular Wave Technologies Microprocessor Model 472



The Triangular Wave System controls mineral and biological deposits, as well as corrosion in all fluid based systems. Once installed on the pipe, or as part of a bypass or reaction chamber system, the Triangular Wave System provides continuous and reliable water treatment. Pipe sizes range from 1/2 inch to 16 inches.



Triangular Wave Technologies, Inc. has developed Reaction Chambers constructed of sturdy PVC piping (or other appropriate material) fully sealing and protecting its two layers of factory wrapped wire coil.

Sizes Range: 1", 2", 4", 6" and 8".

Triangular Wave Technologies Total Water Control Systems

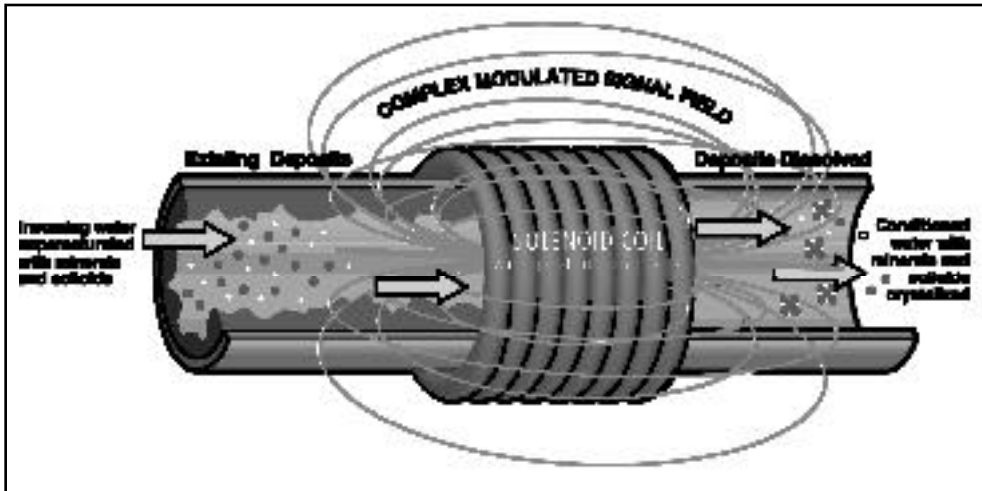
Triangular Wave Technologies Automatic Side Stream (bypass) Deposit Control System. The bypass system is easy to install and monitor. It is designed to operate on a continuous duty cycle with low energy usage. The bypass system is easily retrofitted to most facilities and requires limited space to accommodate physical equipment.

Sizes Range: 1", 2", 4" and 6".



These systems are light weight and easy to manage with few trades and outside support. Can be upgraded to include filtration and ionization for total fluid control.

The Patented Triangular Wave System!



The **Triangular Wave System** is an advanced method for controlling scale and bio-fouling. It is applicable with once-through and recirculating HVAC, heating, process cooling, agricultural, industrial processing, wastewater, and other fluid based systems. The **Triangular Wave System** is a wire coil that forms a solenoid around the fluid pipe. The solenoid is energized by a power supply that **constantly changes the polarity, frequency and amplitude** of the current being sent to the solenoid. When the current reaches the solenoid, a constantly changing electromagnetic field is formed. That field induces a constantly changing voltage in the fluid.

When the Triangular Wave System treats water or other fluids, several things happen.

1. The hydrogen bonds between water molecules are broken and more water molecules are freed to hydrate scale ions and colloidal particles.
2. The scale ions dissolved in the water are agitated, they collide, and form scale molecules that join together to form crystals.
3. The colloidal particles in the water receive an enhanced surface charge, possibly from the freed water molecules. The enhanced surface charge is great enough for the colloidal particles to repel each other and the sides of the equipment, and stay suspended in the fluid.

Calcium carbonate (CaCO_3) is the primary constituent of scale in water systems. Calcium and carbonate ions enter the water as parts of other molecules that dissolve in the water. The ions join to form calcium carbonate when they precipitate out of solution at a surface of the equipment.



Solenoid Coil wrapped around pipe.

The calcium and carbonate ions are "hydrated" when they are dissolved in the water. This means the ions are surrounded by water molecules that are attracted to the ions by the electrical charge. The main culprit in most scale problems is the supersaturated solution. There is so much scale causing mineral in the solution that ions are only partially hydrated. The scale causing minerals such as calcium and magnesium ions are unstable and "barely hanging in water" in a supersaturated solution.

The **induced molecular agitation** in the Triangular Wave electronic deposit control system causes the unstable mineral ions to collide with each other and precipitate. Impurities in the water such as alumina or silica provide initial nucleation sites for further precipitation of adjacent mineral ions. A **snow ball effect** starts, resulting in the growth of many crystals, each consisting of numerous mineral ions. This enables crystal salts to become large in size and float with water; thus they do not stick to the metal services, because the crystals do not have the charges at the surface anymore. As the byproduct of the above mentioned precipitation and snowball effect of mineral particles, **freed water molecules** become available to dissolve existing scales.



Removes scale and prevents further scaling throughout your water system.

Benefits of the Triangular Wave Systems:

- Prevents Scale Build up on Pipes and Equipment Surfaces
- Reduces or Eliminates the use of Dangerous Toxic Chemicals
- Reduces Corrosion
- Controls Algae and Bacteria
- Highly Cost Effective
- Savings in water expenses
- Savings in chemical expenses
- Savings in maintenance
- Savings in energy expenses
- Pays for itself in as little as 9 to 18 months
- Extends the useful life of capital equipment
- Positive Environmental/Health & Safety Impact
- Conservation and preservation of water



For additional information about our complete line of deposit control systems or our Residential Product Line contact your distributor:

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