

HARD WATER PROBLEMS SOLVED EASILY!

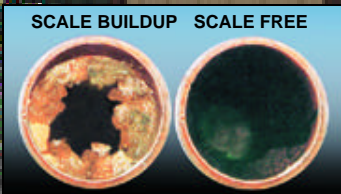
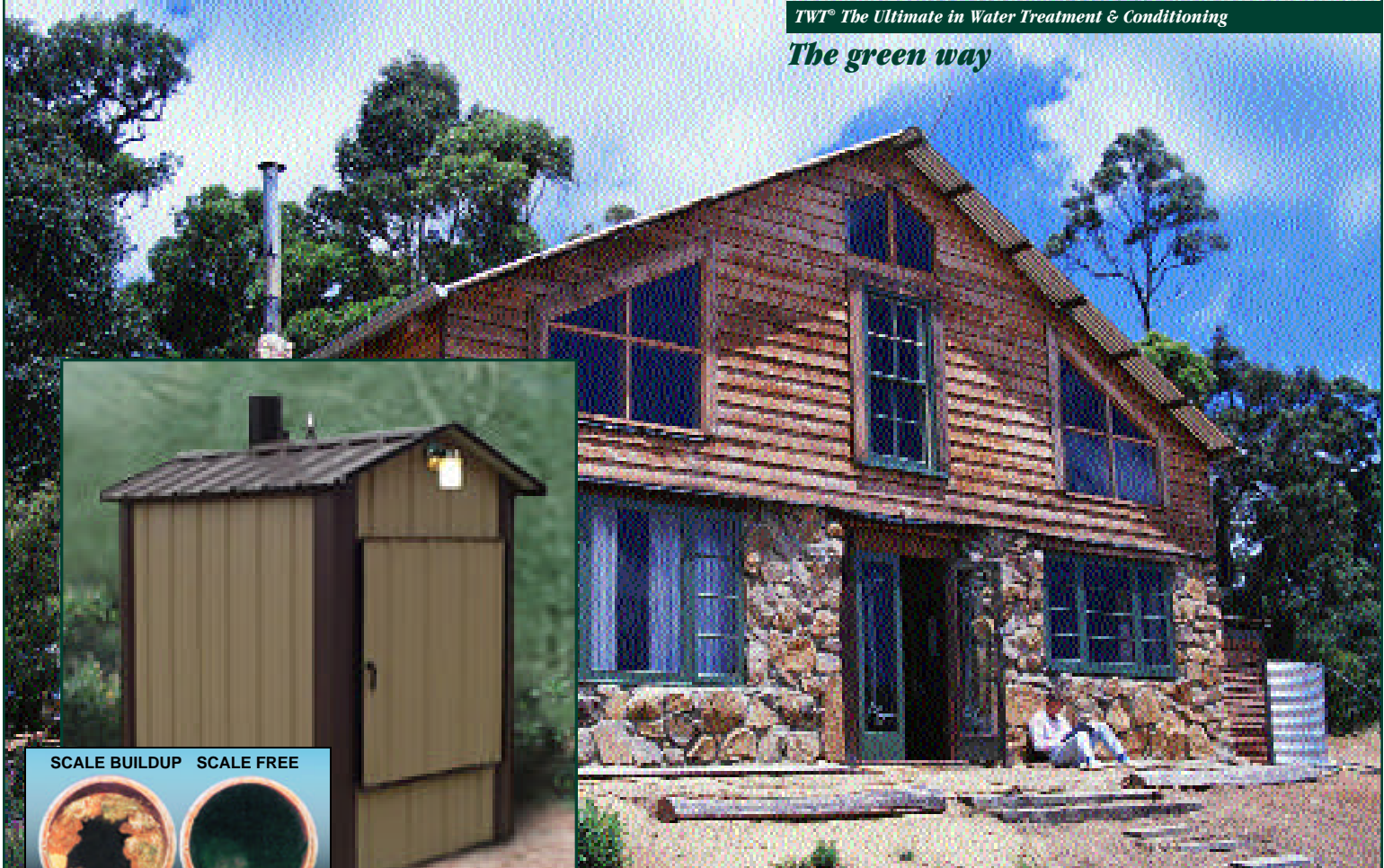
Triangular Wave Patented Deposit Control System (TWT®)
Technologically Advanced Method for Water & Fluid
Management...CHEMICAL-FREE

Your Simple and Safe Solution



TWT® The Ultimate in Water Treatment & Conditioning

The green way



**OUT DOOR WOOD BURNING
WATER BASED HEATING SYSTEM**

When the TWT systems are properly installed, the treated water maintains the ability to control deposits throughout the System. The effects of the triangular wave treatment last downstream

- **Eliminates Deposits in Outdoor Heating System Pipes, Fixtures and Equipment**
(Softens and removes hard scale build-up around plumbing fixtures)
- **Reduces Negative Effects of Hard Water**
- **Removes Existing Scale on Heat Exchangers Over Time, Which Improves Heat Transfer for Greater Efficiency**
- **Salt and CHEMICAL-FREE Water Conditioning**
- **Pennies Per Day to Operate**
- **Cost Effective**
- **Easy to follow application & installation manual**

TWT® PATENTED DEPOSIT CONTROL TECHNOLOGY

Versatile Fluid Management System To Effectively Meet The Needs Of Any Application

- Control Scale Deposits/ Bacteria Corrosion / Algae/ Colloids In All Fluid Based Systems
- Improve Operating Efficiency And Life Cycle Of Equipment

The TWT Deposit Control System is an advanced method for controlling scale and bio-fouling. It is applicable with once through and recirculating HVAC, Cooling Towers, Heat Exchangers, Boilers, Chillers, Spray Systems, Pumps, Induction Furnaces, and Process Cooling Systems, as well as agricultural, industrial processing, wastewater, and other fluid based systems.

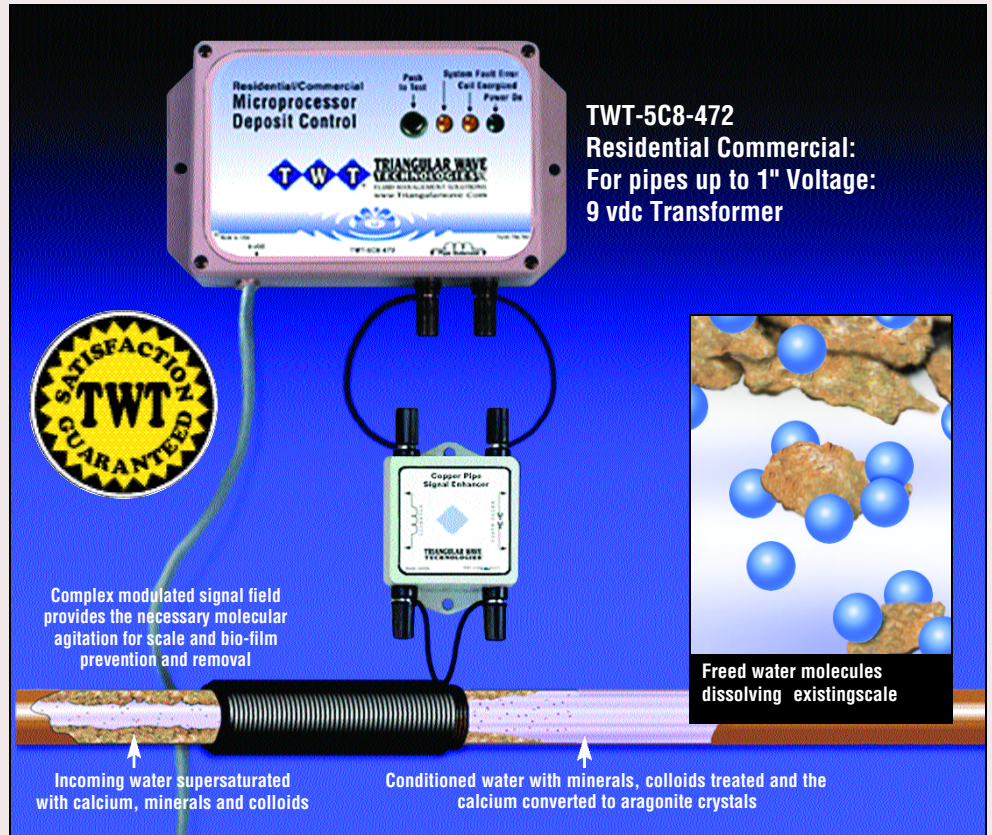
The electronic deposit control technology uses a signal coil that is wrapped around a pipe in the plumbing system being treated. The signal coil produces an extremely small time-varying magnetic field inside the pipe. The resulting induced, oscillating electric field provides the necessary molecular agitation for chemical-free scale prevention and removal.

- *Polarity changes from positive to negative many thousands of times per second.*
- *Frequency varies, the range of frequencies is wide enough to affect the water and the materials in the water.*
- *Amplitude varies, this means that the water molecules and the materials in the water are being subjected to a wide range of field forces.*

The entire Triangular Wave Signal is repeated 30 times each second. When the current reaches the solenoid, a constantly changing electro-magnetic field is formed. That field induces a constantly changing voltage in the fluid. This process ensures proper fluid treatment results and increased operational efficiency. The Triangular Wave Deposit Control System uses a Current Source as the drive circuit to the pipe solenoid. A Current Source generator is able to sense the increased impedance and maintain the strong conditioning.

- *One time cost vs. recurring monthly chemicals= better profit margin.*
- *Labor costs for maintaining the systems will be reduced.*
- *Costs to replace corroded parts like heat exchanger tube bundles, etc. will be reduced.*
- *Less downtime for equipment repairs and maintenance=increased production.*
- *Increased heat transfer from non-scaled tube surfaces=significant energy savings.*

When the TWT systems are properly installed the effects of the Triangular Wave Technology Treatment Last Downstream Enhancing water quality, and improve operating efficiency and life cycle of equipment. Triangular Wave



How TWT Deposit Control Technology System Work:

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 removed in the same way. The effects are immediate and long lasting down stream.

Technologies systems use technologically advanced methods to restore and maintain a clean, corrosion-free delivery system in an environmentally safe and chemical-free manner...The result is clean pipes, tubing and equipment with no bio-film and reduced bacterial contamination.



The build up of scale deposits is a common and costly industrial problem. The higher costs of maintaining and cleaning fluid-fed equipment can be attributed to the continuous cleaning of scaled surfaces or to the increased energy and operating costs due to the poor conductivity of the fluid pipe. For example, with every 1/4" of scale, 40% more energy will be needed to heat the water. Furthermore,

scale deposits narrow the inner diameter of piping, increasing the amount of energy required to pump the water through the system.

Why does scale occur?:

The source of scaling problems lies in hard water which contains excess ions such as calcium and

magnesium. Because of the inverse solubility laws, these mineral ions precipitate as hard water is heated, resulting in the deposition of scales on heat transfer surfaces.

TWT Operating Principals:

The TWT System utilizes a principal of molecular agitation to neutralize the dissolved calcium that causes hardness and lime scaling. Molecular agitation uses resonant energy forces, which develop on charged particles moving through an electrical impulse induction field, to change the molecular surface energy states of dissolved minerals. Dissolved mineral surface energy states, a quantum function, determine the subsequent precipitated crystalline structures created. In this case, the doubly positive ionic calcium is treated so that neutral aragonite crystal instead of lime scale crystal precipitation results.

The signal from the TWT system circuitry flows to a solenoid coil (reaction chamber) wound around the pipe being treated. This coil develops the frequency modulated electrical impulse induction field that immediately neutralizes the hardness, or functionally "softens" the water. The field penetrates the piping to its center, with the modulation component acting on the passing water and dissolved mineral molecules.

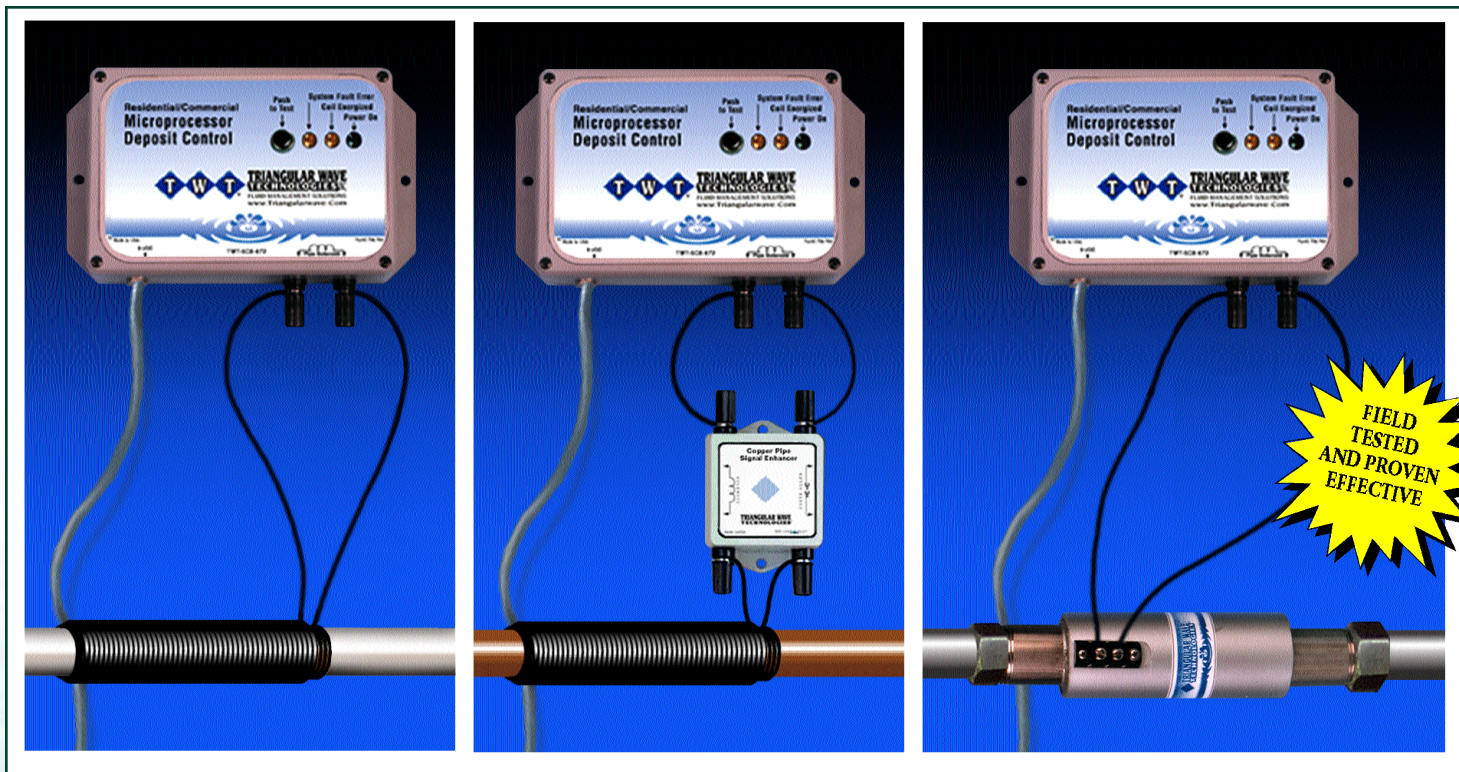
TWT® THE COMPETITIVE EDGE!

HARD WATER PROBLEMS SOLVED EASILY!

Triangular Wave Patented Deposit Control System (TWT®) Technologically Advanced Method for Water & Fluid Management...**CHEMICAL-FREE**

Your Simple and Safe Solution

Deposit control system installation: For maximum results follow these simple application guidelines.



TWT-5C8-472 Solenoid Coil Wrap on PVC Pipe Application:
PVC/Plastic pipes require NO copper pipe signal enhancer or reaction chamber

TWT-5C8-472 Solenoid Coil Wrap with a CSE Copper Pipe Signal Enhancer Application:
Copper pipe signal enhancer is required for copper pipe applications only

TWT-5C8-472 with Stainless Steel or PVC Reaction Chamber Application:
Magnetic pipes (steel/iron) require a reaction chamber

Deposit control system installation: Heating system application guidelines for enhanced results

OUT DOOR WOOD BURNING WATER BASED HEATING SYSTEM

TWT-5C8-472 are packaged & shipped with a 9 volt transformer, solenoid coil and operations manual

Two deposit control systems suggested for maximum efficiency:
One (1) unit on the incoming water line of the wood burning system and one (1) unit on the out going water line to the facility.
(Depending on water quality and conditions pre-filtration should be considered)

Triangular Wave Technologies, Inc.

WATER AND FLUID MANAGEMENT SOLUTIONS

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



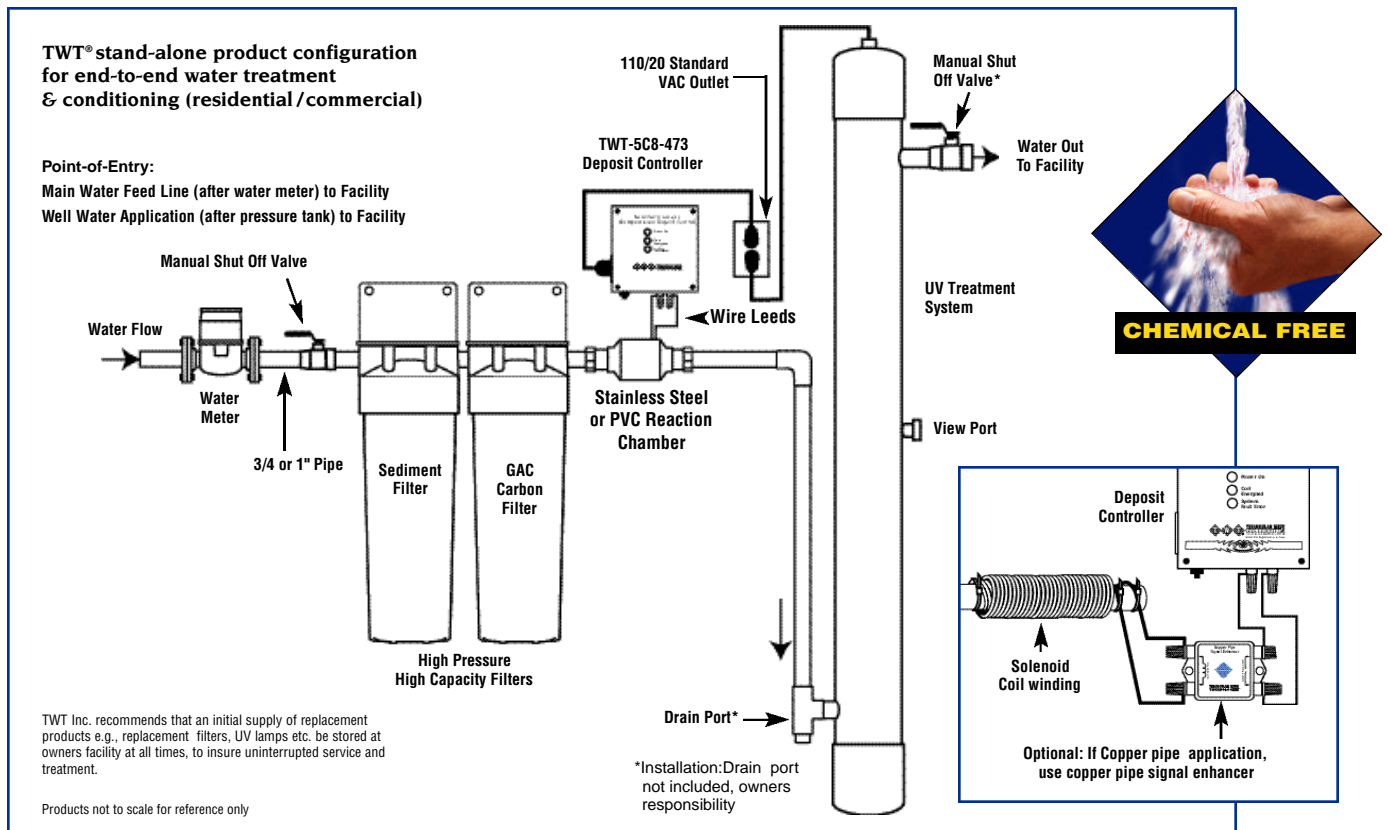
- **FILTRATION • DEPOSIT CONTROL**
 - **DISINFECTION • PURIFICATION**
- Recurring Revenue Product Line**

Triangular Wave Technologies, Inc. products & systems enhance product lines, allow you to enter new markets, broaden customer satisfaction, and add more dollars to your bottom line.

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, TWT has the versatile, efficient, cost-effective methods to solve your fluid management problems end to end.

- *Controls scale, bio-film & corrosion*
- *Enhance operating efficiency & life cycle of equipment*
- *The only products & systems that pay for themselves*

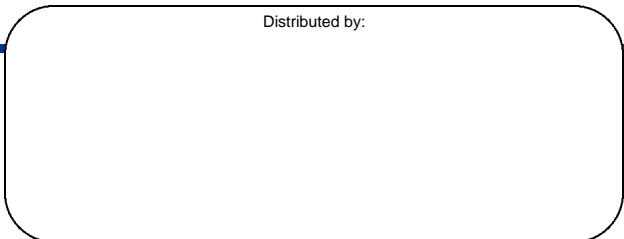
SAVES WATER & ENERGY



DON'T WAIT...Contact us today for a free consultation! And for information on what TWT system will meet your specific application needs!

Visit our website: www.Triangularwave.com to view our catalog and product line

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