

# TWT® Factory Engineered & Assembled Reaction Chambers

To address magnetic pipe applications • When a protected environment is needed  
• When on-site solenoid wrap is not applicable

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

To use in conjunction with the TWT Deposit Control Systems when required, Triangularwave Technologies, Inc. has developed a line of factory-wrapped wire coil

Reaction Chambers to address magnetic pipe environments. –Typically, wire coil should not be installed on any magnetic pipe, such as steel, galvanized steel, ductile iron, or cast iron. If a coil is applied to such a pipe, the pipe becomes a shield and prevents the wave energy from entering the fluid path. The TWT Reaction Chambers solve this problem by providing an easily installed section of non-magnetic pipe to provide the proper pipe material for the Deposit Control System to work as designed. The TWT Reaction Chambers are fully sealed, protecting their layers of factory-wrapped coil. The PVC, Stainless Steel and the Industrial Reaction Chamber systems are designed and manufactured to meet the highest quality specifications.

## TWT® INDUSTRIAL PVC REACTION CHAMBERS



TWT Industrial PVC Reaction Chambers are factory wrapped and assembled with bulkhead connectors and conduit ready for each installation. (PVC =Schedule 40 – Schedule 80 available upon request )

## TWT® INDUSTRIAL STAINLESS STEEL REACTION CHAMBERS



TWT Industrial Stainless Steel Reaction Chambers are factory wrapped and assembled with bulkhead connectors and conduit ready for each installation.

### TECHNICAL DATA

**TWT-IRC-075** 3/4" Pipe X 12" Long Industrial **PVC** Reaction Chamber for use with TWT-5C8-472 or TWT-5C8-473 Deposit Control System

**TWT-IRC-01** 1" Pipe X 12" Long Industrial **PVC** Reaction Chamber for use with TWT-5C8-473 or TWT-5C8-401 Deposit Control System

**TWT-IRC-01.5** 1.5" Pipe X 12" Long Industrial **PVC** Reaction Chamber for use with TWT-5C8-401 or TWT-5C8-402 Deposit Control System

**TWT-IRC-02** 2" Pipe X 12" Long Industrial **PVC** Reaction Chamber for use with TWT-5C8-402 Deposit Control System

**TWT-IRC-03** 3" Pipe X 15" Long Industrial **PVC** Reaction Chamber for use with TWT-5C8-403 Deposit Control System

**TWT-IRC-04** 4" Pipe x 18" Long Industrial **PVC** Reaction Chamber for use with TWT-5C8-404 Deposit Control System

**TWT-IRC-06** 6" Pipe x 18" Long Industrial **PVC** Reaction Chamber for use with TWT-5C8-406 Deposit Control System

**TWT-IRC-08** 8" (\*Custom) Industrial **PVC** Reaction Chamber for use with TWT-5C8-408 Deposit Control System

### TECHNICAL DATA

**TWT-ISRC-075** 3/4" Pipe X 12" Long Industrial **PVC** Reaction Chamber for use with TWT-5C8-472 or TWT-5C8-473 Deposit Control System

**TWT-ISRC-01** 1" Pipe X 8" Long Industrial **PVC** Reaction Chamber for use with TWT-5C8-473 or TWT-5C8-401 Deposit Control System

**TWT-ISRC-01.5** 1.5" Pipe X 12" Long Industrial **PVC** Reaction Chamber for use with TWT-5C8-401 or TWT-5C8-402 Deposit Control System

**TWT-ISRC-02** 2" Pipe X 12.5" Long Industrial **PVC** Reaction Chamber for use with TWT-5C8-402 Deposit Control System

**TWT-ISRC-03** 3" Pipe X 18" Long Industrial **PVC** Reaction Chamber for use with TWT-5C8-403 Deposit Control System

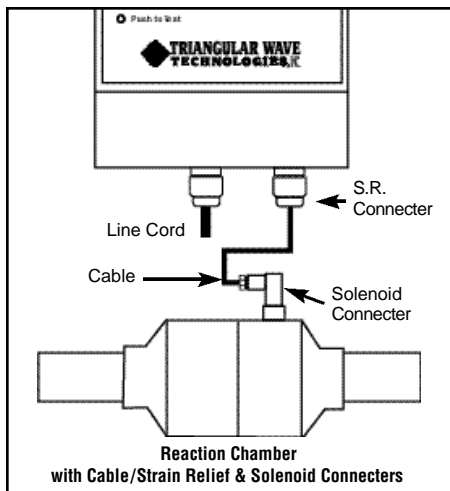
**TWT-ISRC-04** 4" Pipe x 18" Long Industrial **PVC** Reaction Chamber for use with TWT-5C8-404 Deposit Control System

**TWT-ISRC-06** 6" Pipe x 18" Long Industrial **PVC** Reaction Chamber for use with TWT-5C8-406 Deposit Control System

**TWT-ISRC-08** 8" (\*Custom) Industrial **PVC** Reaction Chamber for use with TWT-5C8-408 Deposit Control System

Customized sizes 10" and above available upon request: contact your distributor or TWT for additional information.

When you have purchased a reaction chamber with cable and connectors with your controller unit, the correct strain relief connector for the controller is furnished with the cable for the reaction chamber. The strain relief connector on the controller (pipe solenoid) should be removed and replaced with the strain relief connector provided with the reaction chamber cable. The two wires should be connected to the coil terminals in the controller housing as illustrated.

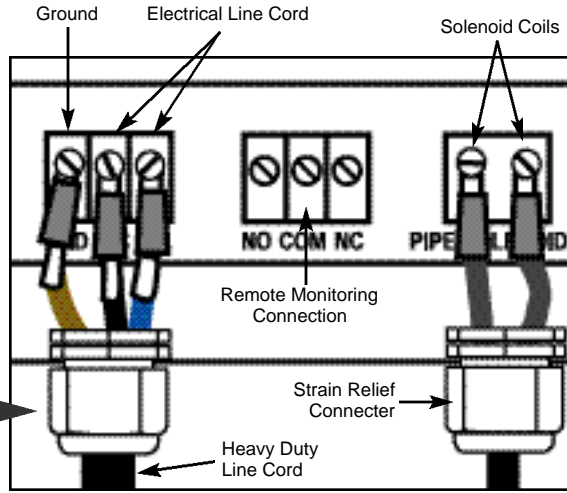
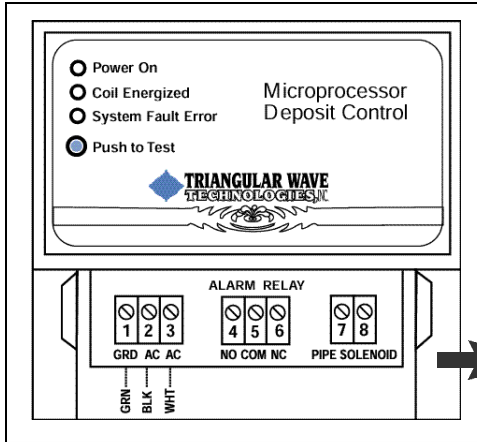


Schematic rendering of industrial reaction chamber hookup



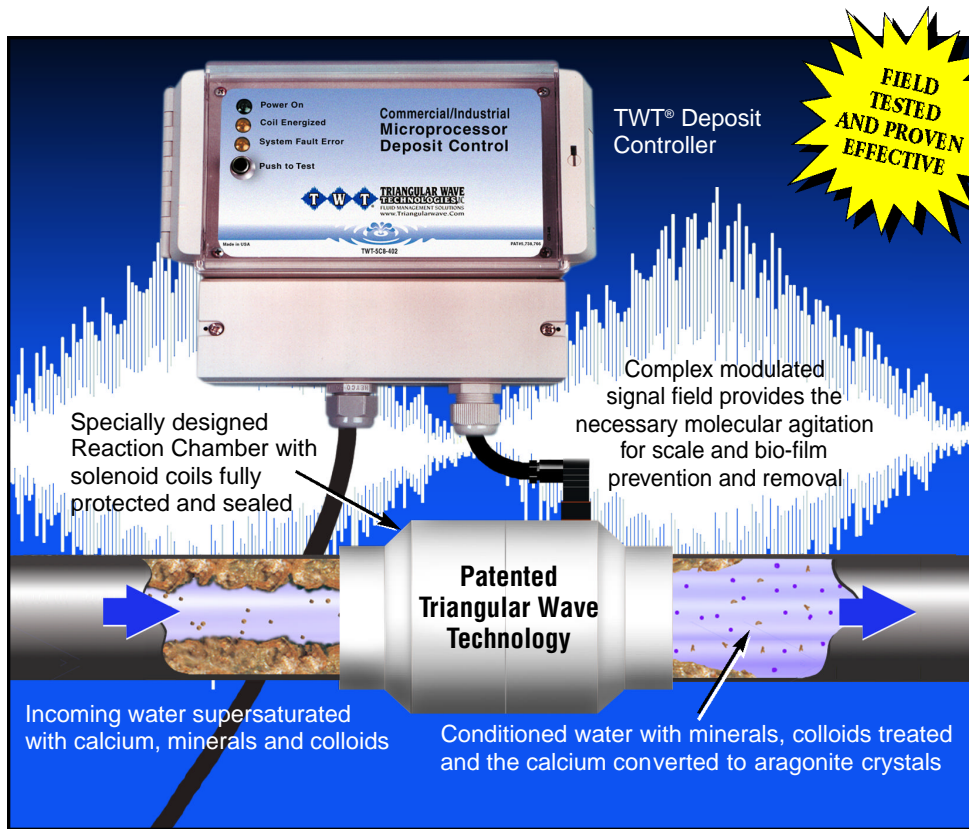
# TWT® deposit controller/Reaction Chamber Application guidelines

## TWT Deposit Controller Terminal Hookup



## TWT Deposit Control Unit

The controller is supplied with a wiring kit and a strain relief connector for the solenoid coil wires. This strain relief will provide a water resistant seal for the two coil wires. You should rotate the compression ring counter clockwise to release pressure on the seal. Feed the two wires through the provided holes and tighten the compression ring. Connect the two wires to the coil terminals in the controller housing as illustrated (refer to winding instructions in owners installation manual). A standard installation will not require access to the main control circuit board, because all connections are available in the wiring terminal. The control circuit is accessed by removing the front panel of the TWT unit.



Schematic rendering of reaction chamber with TWT Deposit Controller

## How TWT Deposit Controller and Reaction Chamber 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.



**The TWT® Deposit Control System will give many years of service if installed properly. Please read all instructions carefully (owners installation manual) before assembling the system.**

The unit is provided with a line cord. The cord should remain unplugged until the installation is complete. Mount the unit to a supporting structure using the base mounting flange, and case mounting kit supplied.

Install two mounting feet to the top rear of controller case with screws supplied.

Place one of the mounting brackets on the top corner over the locating tab on each side of the unit, attach the brackets with screws provided. The two bottom mounting holes are located inside the controller in the terminal hookup area.

You need to remove the front panel to locate the mounting holes at the bottom corners of the case. With the brackets in place you have a method to fasten all four corners of the controller to an appropriate surface.

The TWT Deposit Controller and Reaction Chamber, should be installed as close together as possible. (distance from controller to reaction chamber should not exceed 100 feet)