



Technical Data Sheet

AquaSolve®

The eco-friendly solution to hard water.

Models M8408-COM, M8410-COM

Flow Rates: 12 gpm and 20 gpm (45 lpm to 76 lpm)

Connection size: 1" (25 mm)

The AquaSolve Anti-Scale System provides protection from scale formation on internal plumbing surfaces. The AquaSolve system may be installed at the point-of-entry to a building to treat both hot* and cold water, or it can be located directly before a water heater, boiler, or other hot water-using device that requires protection from the ill effects of hard water.

AquaSolve prevents scale by transforming dissolved hardness minerals into harmless, inactive microscopic crystal particles. These crystals stay suspended in the water and are passed to drain, thereby having a greatly reduced ability to react negatively like dissolved hardness does. The system requires very little maintenance, no backwashing, no salt, and no electricity. Typical hardness problems, especially build-up of scale in pipes, water heaters, boilers and on fixtures are no longer a concern.

AquaSolve is not a water softener or a chemical additive (like anti-scalants or sequestrants). It is a scale prevention device with proven third party laboratory test data and years of successful residential and commercial applications. AquaSolve is the one water treatment device that effectively provides scale protection and is a great salt-free alternative to water softening (ion exchange) or scale sequestering chemicals.



M8408-COM

M8410-COM

Features

- Chemical-free scale prevention and protection – converts hardness minerals to harmless, inactive microscopic crystals making AquaSolve an effective alternative technology to a water softener for the prevention of scale due to water hardness
- Virtually maintenance free - no control valve
- Uses environmentally friendly technology by using no salt or other chemicals to constantly add, no electricity and no wastewater
- Improves efficiency of all water using appliances – both hot** and cold
- Simple sizing & installation – all you need to know is pipe size and the peak flow rate
- Perfect system for towns or communities where water softeners are banned or restricted
- For high-flow applications, install multiple tanks in parallel
- AquaSolve does not remove minerals or add sodium to the water supply
- AquaSolve can be installed as pre-treatment to commercial reverse osmosis systems (contact your PVI Representative for further details)

WARNING

Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.



Systems are certified through WQA against NSF/ANSI Standard 61, CSAB483.1, and to 372 for Lead Free compliance.

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PVI product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact PVI Technical Service. PVI reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on PVI products previously or subsequently sold.

Models

Model	Ordering Codes	Max. Flow Rate	Connections
M8408-COM	144896	12 gpm	2-way bypass valve 1"
M8410-COM	144898	20 gpm	2-way bypass valve 1"

Replacement Media

Model	Timing
M8408-COM-RM	Media should be replaced every 3 years
M8410-COM-RM	Media should be replaced every 3 years

Specifications

AquaSolve scale prevention system shall be installed on the main water service pipe just after it enters the building, but after other whole building water safety devices (backflow preventers or pressure reducing valves), to effectively address water hardness concerns. A system may also be installed further down-stream to protect specific equipment or areas within a plumbing system. The system shall be plumbed with a bypass valve to allow isolation of tank(s) and to allow the bypass of untreated water usage in the event that service or media replacement be necessary. The installation area should be suitable in size for the tank(s) to be serviced without encumbrance and sit upright on a flat level surface.

The system must operate in an upflow manner and does not require additional water to backwash, flush, or regenerate once put into service. The system does not require any chemical additives and does not require electricity for operation.

The AquaSolve systems are complete, self-contained, loaded with media, and ready to use. A simple inlet and outlet connection is all that is required for installation. Please review operating pressures, temperatures and water chemistry limitations to ensure compatibility.

Standards

Independent scientific testing has confirmed Template Assisted Crystallization (TAC) technology provides scale reduction of over 95+%. Testing was conducted under protocol based on DVGW W512 test to assess control of scale formation.

Feed Water Chemistry Requirements

pH	6.5-8.5
Hardness (maximum)	30 grains (513 ppm CaCo3)*
Water Pressure	15 psi to 150 psi (1.03 to 10.34 bar)
Temperature	40°F to 100°F (5°C to 38°C)
Free Chlorine	< 2 ppm
Iron (maximum)	0.3 ppm**
Manganese (maximum)	0.05 ppm**
Copper	1.3 ppm***
Oil & H2S	Must be Removed Prior to AquaSolve
Total Phosphates	< 3.0 ppm
Silica (maximum)	20 ppm****
TDS	1500 mg/l*****

NOTICE

Water known to have heavy loads of dirt and debris may require pre-filtration prior to AquaSolve.

*Systems using AquaSolve technology are effective at controlling lime-scale formation inside the plumbing system at influent hardness levels up to 75 grains per gallon (1282 mg/l) of calcium carbonate. Due to variances in water chemistry, 30 grains per gallon is a recommended hardness maximum due to potential aesthetic issues related to soft scale residue formation outside of the plumbing system. Testing should be performed to determine proper application where hardness levels exceed 30 grains per gallon.

** Just as with conventional water softening media, AquaSolve media needs to be protected from excess levels of certain metals that can easily coat the active surface, reducing its effectiveness over time. Public water supplies rarely, if ever, present a problem, but if the water supply is from a private well, confirm that the levels of iron (Fe) and manganese (Mn) are less than 0.3 mg/L and 0.05 mg/L, respectively.

***Pursuant to the EPA drinking water standards, the copper concentration permitted is up to 1.3 ppm. Typically originating from new copper plumbing, high levels of copper can foul AquaSolve media. For applications with copper concentration greater than 1.3 ppm, please consult Watts Water Quality Technical Service. To further minimize any problem with excess copper, avoid applying excessive flux on the inner surfaces of the pipe and use a low-corrosivity water soluble flux listed under the ASTM B813 standard.

****AquaSolve media does not reduce silica scaling. While silica tends to have a less significant effect on scale formation than other minerals, it can act as a binder that makes water spots and scale residue outside the plumbing system difficult to remove. This 20 ppm limitation is for aesthetic purposes.

*****All other contaminants must meet the requirements of the USEPA Safe Drinking Water Act. Specific Mineral and Metal MCL's, identified in Watts published Feed Water Chemistry Requirements, supersedes the USEPA SDWA.

NOTICE

Anytime AquaSolve systems are installed above the ground floor of a building it is recommended that a vacuum relief valve also be installed to protect against tank collapse in the event the plumbing system is drained. If a vacuum relief valve is not used then the system should be placed in bypass anytime the plumbing system is drained. The EDP code for the suggested vacuum relief valve is 0556031 (not included). The vacuum relief valve should be installed on the outlet of the system.

NOTICE

Spotting May Occur on External Plumbing Surfaces

AquaSolve media systems perform best in single pass potable water applications with NO additional chemical additives. Depending on hardness, soft scale spotting may occur. Soft scale spots in most cases can be easily wiped down with a damp cloth and will not form hard scale deposits. A Point of Use (POU) Water Softener should be used on mandatory spotfree applications (e.g. glass stemware, dishware).

Dimensions

Model	A	B	C	D	E
M8408-COM	47.5"	46.0"	11.1"	1.5"	2.0"
M8410-COM	58.0"	56.5"	12.0"	1.5"	2.0"

The overall height and the height of the fitting varies due to material variations and assembly tolerances. Please allow additional clearances above the tank for making connections.

Peak Flow Rates – Weights

	M8408-COM	M8410-COM
Maximum Flow	12 gpm / 45.4 lpm	20 gpm / 75.7 lpm
Dry Weight	36 lbs / 16 kgs	49 lbs / 22 kgs
Service Weight	108 lbs / 49 kgs	182 lbs / 83 kgs

Exceeding maximum flow can reduce effectiveness and void warranty. Pressure drop at peak flow rate is less than 14 psi at 80°F feed water.

NOTICE

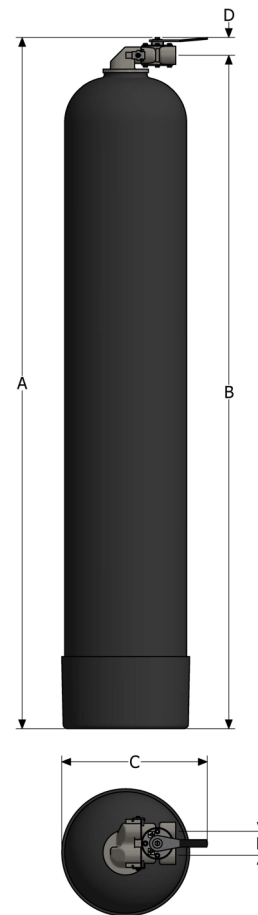
The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

WARNING

Using AquaSolve with other water treatment equipment.

Due to the unique properties of the media, there are some unique requirements for using AquaSolve in conjunction with filtration or other forms of water treatment.

1. AquaSolve must be the last stage in the treatment chain. Do not install any filters after AquaSolve or before any devices for which scale prevention is required. POU filters, e.g. carbon, RO or Ultraviolet (UV) are exempt from this requirement.
2. Do not apply any other antiscalants before or after AquaSolve.
3. The addition of soaps, chemicals, or cleaners, before or after AquaSolve treatment, may reverse its anti-scale treatment effects and/or create water with a heavy residue or spotting potential. Any adverse conditions caused by the addition of soaps, chemicals, or cleaners are the sole responsibility of the end user.
4. AquaSolve is not a water softener and does not soften the water - water treatment chemistry (e.g. antiscalants, sequestrants, soaps, chemicals or cleaners etc...) will most likely have to be changed to be compatible with AquaSolve treated water. Laundry and ware-washing chemistry will likewise require adjustments.



Watts Regulator Co. • 815 Chestnut Street • N. Andover, MA 01845

T: (817) 335-9531 | Toll Free: (800) 784-8326 | PVI.com