A WATTS Brand

Technical Data Sheet

AquaSolve™

The eco-friendly solution to hard water.

Models M8414TM-COM and M8416TM-COM

Connection Sizes: 2" (50mm)
Flow Rates: 50 gpm to 75 gpm (189 lpm to 284 lpm)

The AquaSolve Scale Control System provides protection from scale formation on internal plumbing surfaces. The AquaSolve system may be installed at the point-of-entry to a building, 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 commercial applications. AquaSolve is the one water treatment device that effectively provides scale protection and is a great alternative to water softening (ion exchange) or scale sequestering chemicals.

Notes

The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

M8416TM-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 “green” 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 and 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 reverse osmosis (AquaSolve should be the last stage in treatment unless a point-of-use system is being used down stream).

Models

Model	Maximum Flow Rate
M8414TM-COM	50 gpm (189 lpm)
M8416TM-COM	75 gpm (284 lpm)

Connections

Inlet Connection 2" (50mm) PVC FNPT
Outlet Connection 2" (50mm) PVC FNPT

2 inch Flex connectors are furnished and must be used in installation.

Replacement Media

Model	Timing
M8414TM-COM-RM	Media should be replaced every 3 years
M8416TM-COM-RM	Media should be replaced every 3 years

Feed Water Chemistry Requirements

pH	6.5-8.5
Hardness (maximum)	75 grains (1282 ppm CaCO3)
Water Pressure	15psi to 100psi (1.03 bar to 6.9 bar)
Temperature	40°F to 100°F (5°C to 38°C)
Chlorine	< 2 ppm
Iron (maximum)	0.3 ppm
Manganese (maximum)	0.05 ppm
Copper*	1.3 ppm
Oil & H2S	Must be Removed Prior to ScaleNet
Silica (maximum)	20 ppm

AquaSolve media does not reduce silica scaling. Silica 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.

*Warning

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 PVI 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.

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 access control of scale formation.

Specifications

An AquaSolve scale control 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 downstream 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 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.

Multi-tank systems shall be installed in parallel with PVC/CPVC manifold to meet peak flow rate requirements.

Notes

Not for use on closed loop systems.

It is very important to use flexible connections on the inlet and outlet plumbing. The tanks expand and contract with water pressure fluctuations. Flexible connectors will prevent plumbing and tank leaks.

Anytime AquaSolve systems are installed above the ground floor of a building it is recommended that a vacuum breaker also be installed to protect against tank collapse in the event the plumbing system is drained. If a vacuum breaker is not used then the system should be placed in bypass anytime the plumbing system is drained. The vacuum breaker should be installed on the outlet of the system.

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

Weights

	OF1465-50TM		OF1665-75TM	
Dry Weight	66 lbs.	30 kgs.	75 lbs.	34 kgs.
Service Weight	400 lbs.	181 kgs.	480 lbs.	218 kgs.

Maximum Service Flow (gpm) vs. Water Temperature

Continuous Duty Systems:

	40°F	45°F	50°F	55°F	60°F	65°F	70°F
M8414TM-COM	40	44	48	50	50	50	50
M8416TM-COM	45	51	56	59	63	69	75

Maximum entering water temperature 110°F.

Intermittent Duty Systems:

M8414TM-COM	50 GPM at all temperatures
M8416TM-COM	75 GPM at all temperatures

Intermittent duty is defined as less than 2 hours of Maximum Flow per 24 hour period. Higher Flow rates can be achieved by combining systems in an array.

Maximum Flow Rate

Models	gpm	lpm	Δp
M8414TM-COM	50	189	<10 psi
M8416TM-COM	75	284	<10 psi

Exceeding maximum flow can reduce effectiveness and void warranty. Pressure drop at peak flow rate is less than 10 psi. Pressure drop reading taken with inlet and outlet gauges installed at a common elevation and 80 degree feed water.

Notes

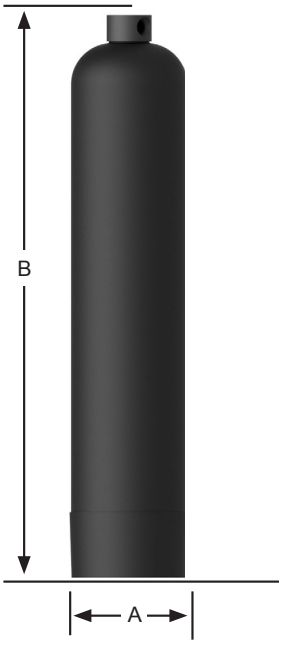
The information above shows flow rate data for our large single tanks (50gpm & 75gpm), for high-flow applications with AquaSolve utilize multiple tanks, plumbed in parallel, to meet flow rates from 100 gpm up to and above 1000gpm or more. An example of a multi-tank AquaSolve system is shown on the right.

*2 inch Flex Connectors must be installed horizontally not vertically in the water pipe line.

Dimensions

Models	A	B
M8414TM-COM	14 in	73.1 in
M8416TM-COM	16 in	73.1 in

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



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