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HydroBlend™



INNOVATIVE CUSTOM WATER TREATMENT SOLUTIONS

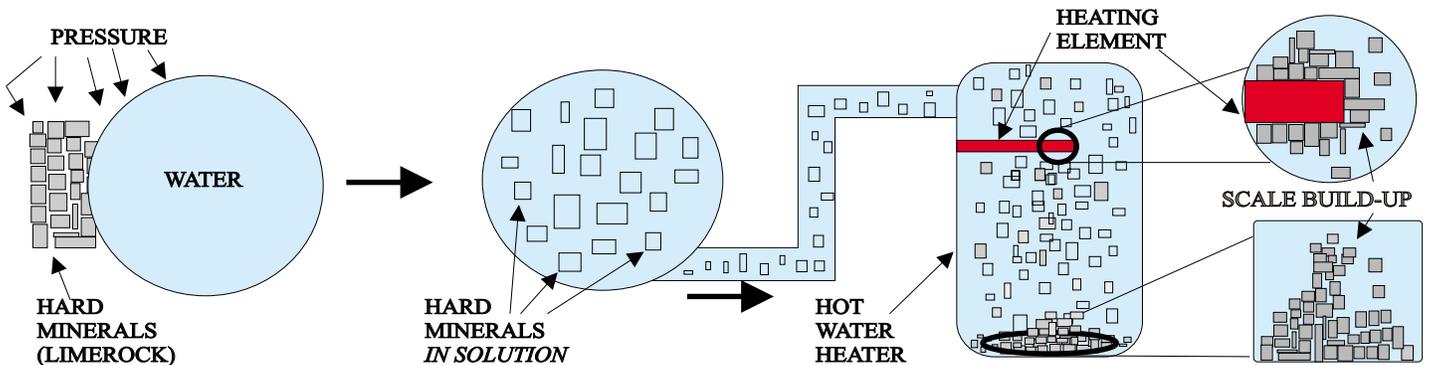
**SOUTHEASTERN FILTRATION**  
& EQUIPMENT SYSTEMS

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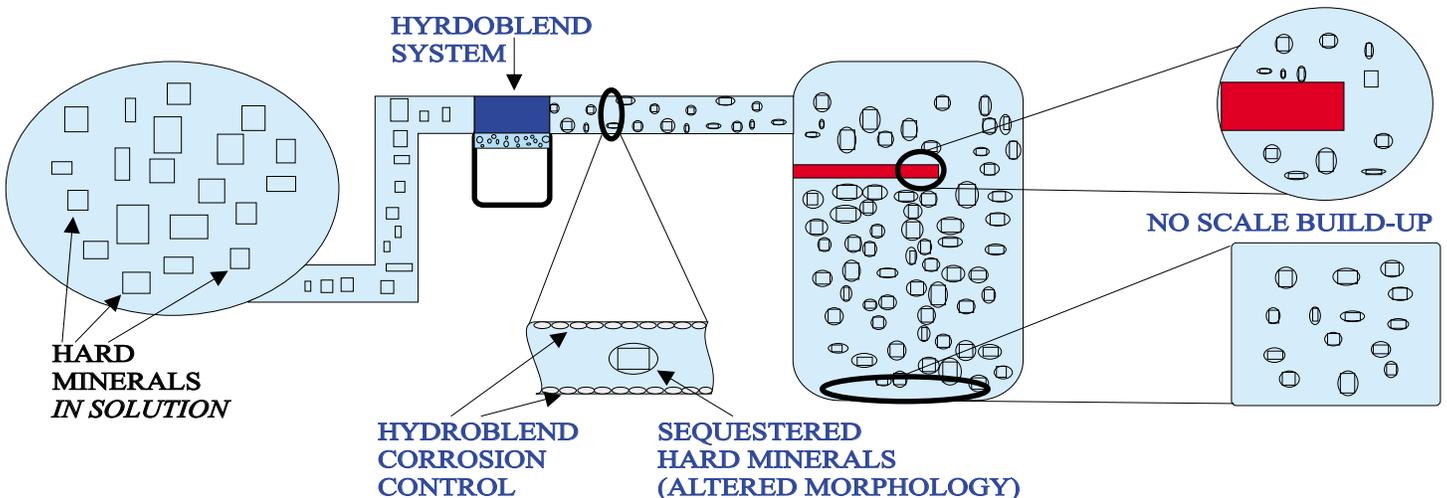
# HARD WATER SCALING

Water is the universal solvent. It dissolves everything it comes in contact with, whether it is as "hard" as iron or as "soft" as acid in the air (acid rain). Because of this, the water we use is usually saturated with many dissolved minerals. Mineral saturated water is water that has been in contact with minerals for a prolonged period of time, usually under pressure, and has dissolved as much minerals as it can hold in solution. The amount of dissolved minerals depends on the water source (ground, surface, or municipal supply) and the water chemistry such as pH, oxygen content, temperature, along with other factors. Any change made to the water chemistry will affect the water's ability to hold these minerals in solution.

When water is heated, its ability to hold calcium carbonate (limescale or hardness) in solution is decreased. This causes limescale deposits in hot water heaters and other water fed equipment. A pressure change, such as water through a faucet or spray head, will cause calcium carbonate to come out of solution and form hard water scale deposits. Water which has been treated in municipal water systems is subject to the same conditions.



Removing scale causing minerals is usually accomplished by water softening and reverse osmosis. This type of treatment however is not always cost effective since the up-front costs are high and the equipment must be correctly applied, installed, set up, and maintained. Sequestering (binding up) the dissolved scale causing minerals has proven to be an effective treatment. A sequestering agent (polyphosphate) is added to the water which binds with the scale causing minerals and keeps them in solution, thus preventing hard water scale.



# HYDROBLEND™ - The proven Solution.

**HYDROBLEND™** is a unique composition blended to exhibit superior limescale (calcium carbonate) prevention and corrosion control. It is superior in the treatment of scaling caused by hard water minerals, plus controls staining caused by the precipitation of iron and manganese. **HYDROBLEND™** utilizes the same principals of preventing scale build-up and corrosion control as polyphosphates. However, this is accomplished without any of the problems which often plague the use of common polyphosphates.

**HYDROBLEND™** is utilized as a solid block in cartridge form, exposing a predetermined amount of surface area, from which accurate dissolution rates can be predicted. The system feeds a controlled, consistent amount of **HYDROBLEND™** into the water stream by way of a specially designed media delivery head (MDH), which diverts water into the cartridge sump, dissolving a predetermined amount of **HYDROBLEND™**. This system allows accurate feed rates and predictable treatment volumes unlike standard polyphosphate treatments. The media delivery heads are designed to treat water flows from as low as .1 gpm to as high as 50 gpm.

**HOT WATER APPLICATIONS** - The most important advantage in using **HYDROBLEND™** instead of standard polyphosphates is that unlike polyphosphates, **HYDROBLEND™** is not affected by high temperatures, retaining its full ability to alter the morphology (shape) of scale causing minerals. This provides the greatest amount of scale prevention available. Moreover, **HYDROBLEND™ will remove existing scale** once formed in pipes and water fed equipment, plus provide corrosion control in high temperature equipment.

When compared to the cost of standard water softening equipment, **HYDROBLEND™** provides effective corrosion control (which softeners aggravate) and scale prevention, at a fraction of the cost and maintenance. Since the **HYDROBLEND™** systems work on water volume, not time, there is no waste with its use. When it has dissolved, you simply replace it. A simple glance at the clear or translucent housing lets one know when replacement is needed. **HYDROBLEND™** systems require no electricity, maintenance, or guess work.

## **HYDROBLEND™ WORKS IN THREE UNIQUE WAYS**

- 1) It acts as a scale inhibitor by distorting the almost perfect cube shape of calcium carbonate as it precipitates out of solution. By distorting the uniform shape, it will not allow the calcium carbonate to build up (deposit) on itself. It will also over time remove existing scale in the system.
- 2) It is a sequestrant to iron and manganese in that it prevents these minerals from forming oxides (rust) and precipitating out of solution, thus eliminating the red & black staining caused by iron and manganese.
- 3) It combines with the calcium carbonate in the water forming a protective film of calcium phosphate on the inside of pipes and water fed equipment which acts as a deterrent to corrosion and scale. This microfilm does not increase in thickness as it is continually washed off and replaced.

***INNOVATIVE SOLUTIONS TO WATER PROBLEMS***

# APPLICATIONS FOR HYDROBLEND™

**WATER HEATERS & BOILERS** - Prevention of scale build-up on heating elements, walls, and bottoms of water heaters is a must. According to the US Bureau of Standards, *1/4" of scale build-up on heating elements requires 55% more energy to attain the same temperature.* This translates into real dollars wasted with an inefficient water heater, not to mention the added expense of repairing and replacing overworked water heaters due to scale build-up. **HYDROBLEND™** will not only prevent scale build-up but also remove existing scale.

**DISHWASHERS** - Typically, dishwashers require chemical flushing to remove scale deposits that form inside the machine. This chemical flushing cannot rid the **BOOSTER HEATER** of unwanted deposits. Spotting associated with hard water will also be eliminated without the use of expensive water treatment.

**STEAM EQUIPMENT, COMBI-OVENS, COFFEE MACHINES** - Food service equipment, especially those generating steam are constantly plagued with scale build-up reducing efficiency and life. Since **HYDROBLEND™** is suitable in applications up to 200° F, hard water no longer threatens equipment.

**ICE MACHINES** - Prevents scale build-up on evaporator plates. Prevents bridging (ice frozen together) which is common in ice bins - makes hard clear ice. Reduced energy costs as bin stays full.

**R.O. SYSTEMS** -Precipitated calcium carbonate forms a tenacious scale on R.O. membranes when softeners are not used prior to the membranes, resulting in loss of ability of water to pass through the membrane, and a subsequent reduction in performance. **HYDROBLEND™** prevents calcium carbonate and silica fouling without the use of added, expensive, water softening equipment.

**CORROSION CONTROL** - By forming a microfilm coating inside pipes **HYDROBLEND™** protects plumbing from aggressive water. This prevents lead leaching from solder used to join copper pipes and protects these pipes from forming leaks due to corrosive water.

**IRON / MANGANESE STAINING** - When exposed to air, iron & manganese ions will oxidize and come out of solution leaving unsightly red-brown stains. **HYDROBLEND™** sequesters these ions keeping them from oxidizing and staining fixtures. Furthermore, it protects water softeners from iron fouling.

**HOMES** - There are many benefits to using **HYDROBLEND™** in residential applications. It provides "soft" water by sequestering hard minerals and protects plumbing, appliances, and fixtures from scale build-up. Also prevents iron & manganese staining. Provides corrosion control in aggressive water areas and is a natural post treatment for acid neutralizers.

**MISTING SYSTEMS** - Misting systems used in either agricultural or temperature control applications are susceptible to scale build-up and clogging of the fine misting heads. This also applies to foggers and drip irrigation.

**COOLING TOWERS** - This equipment is notorious for having scale problems. **HYDROBLEND™** will significantly reduce this problem on the tower and clean the scale that has been allowed to build up thereby increasing the life of the cooling tower.



HBW

SC-610

SC-605

SC-1.5

SC-1.0

# HYDROBLEND™

## SYSTEM SPECIFICATIONS

UNIT	WATER FLOW GPM	WATER VOLUME TREATED	LINE SIZE	MAX. PRES. TEMP.	SHIPPING DEMENSION	SHIP WEIGHT	REPLACEMENT CARTRIDGES	SPECIFIC APPLICATIONS
SC-605	1-20	40,000 gal.	3/4" 3/8" 1/4"	125 psi 85° F	5 1/4x5 1/4x7 1/2	4 lbs	RSC-5-PHOS-HW	Residential, commercial, consistent water flow rates, 3/4" unit minimum 3 gpm flow rate required.
SC-610	5-20	80,000 gal.	3/4"	125 psi 85° F	5 1/4x5 1/4x12	6 lbs	RSC-10-PHOS-HW	Consistent water flow rates of 5 gpm or higher needed. Otherwise percentage of product remains unused.
HBW	2-20	65,000 gal.	3/4"	200 psi 200° F	5 1/4x5 1/4x12	6 lbs	RSC-10-PHOS-HW	High temperature feed water unit. Commercial dishwasher applications were booster heaters are used.
SC-PF	0-10	Feed rate dependent.	3/4" 1/2" 3/8"	140 psi 140° F	9x4 1/4x4 1/4	3 lbs	RSC-PF-PHOS-HW	Low-flow pressure fed unit. Feed rate pre-set at factory. Used in steamer, combi-ovens, low flow applications.
SC-1.0	7.5 MIN. FLOW	500,000 gal.	1"	80 psi 80° F	7 1/2x7 1/2x15 1/2	21 lbs	RSC-1.5-PHOS-HW	Commercial high water usage with minimum continuous flow rates ranging from 5 to 10 gpm.
SC-1.5	15 MIN. FLOW	500,000 gal.	1 1/2"	80 psi 80° F	7 1/2x7 1/2x15 1/2	21 lbs	RSC-1.5-PHOS-HW	Commercial high water usage with minimum continuous flow rates of 15 gpm.
FA605-TW	1-20	40,000 gal.	3/4"	125 psi 85° F	10x5 1/4x15	9 lbs	RSC-5-PHOS-HW SD-510	Residential, commercial use where light sediment removal is needed. Filter element replacement required.
FA605-STW	1-20	40,000 gal.	3/4"	125 psi 85° F	10x5 1/4x15	9 lbs	RSC-5-PHOS-HW SD-140ST	Residential, commercial use where heavy sediment removal is needed. Washable filter screen / purge valve
FA605-WH	1-20	40,000 gal.	3/4"	125 psi 85° F	15x5 1/4x15	12 lbs	RSC-5-PHOS-HW SD-2010 SD-510	Residential, commercial use where moderate sediment removal is needed. Filter element replacement required.
FA610-TW	5-20	80,000 gal.	3/4"	125 psi 85° F	10x5 1/4x15	11 lbs	RSC-10-PHOS-HW SD-510	Commercial use where light sediment removal is needed. Filter element replacement. 5 gpm min. flow rate.
FA610-TR	5-20	80,000 gal.	3/4"	125 psi 85° F	15x5 1/4x15	13 lbs	RSC-10-PHOS-HW SD-2010 SD-510	Commercial use / moderate sediment removal is needed. Filter element replacement. 5 gpm min. flow rate.
FA610 EHT-TW	2-20	65,000 gal.	3/4"	200psi 200° F	10x5 1/4x15	11 lbs	RSC-10-PHOS-HW SD-510 HOT	High temperature feed water unit. Light sediment removal. Filter replacement needed. Booster heaters.

**CUSTOM DESIGNED SYSTEMS AVAILABLE UPON REQUEST**

EQUIPMENT BENEFITING FROM USING

# HYDROBLEND™

**WATER HEATERS**

**COMBI-OVENS**

**STEAM EQUIPMENT**

**COFFEE MACHINES**

**BOILERS**

**FAUCETS/SINKS**

**COOLING TOWERS**

**PLUMBING**

**DISH MACHINES**

**WATER SOFTENERS**

**BOOSTER HEATERS**

**R.O. SYSTEMS**

**ICE MACHINES**

**MISTING SYSTEMS**

**AUTOCLAVES**

**DISTILLERS**

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