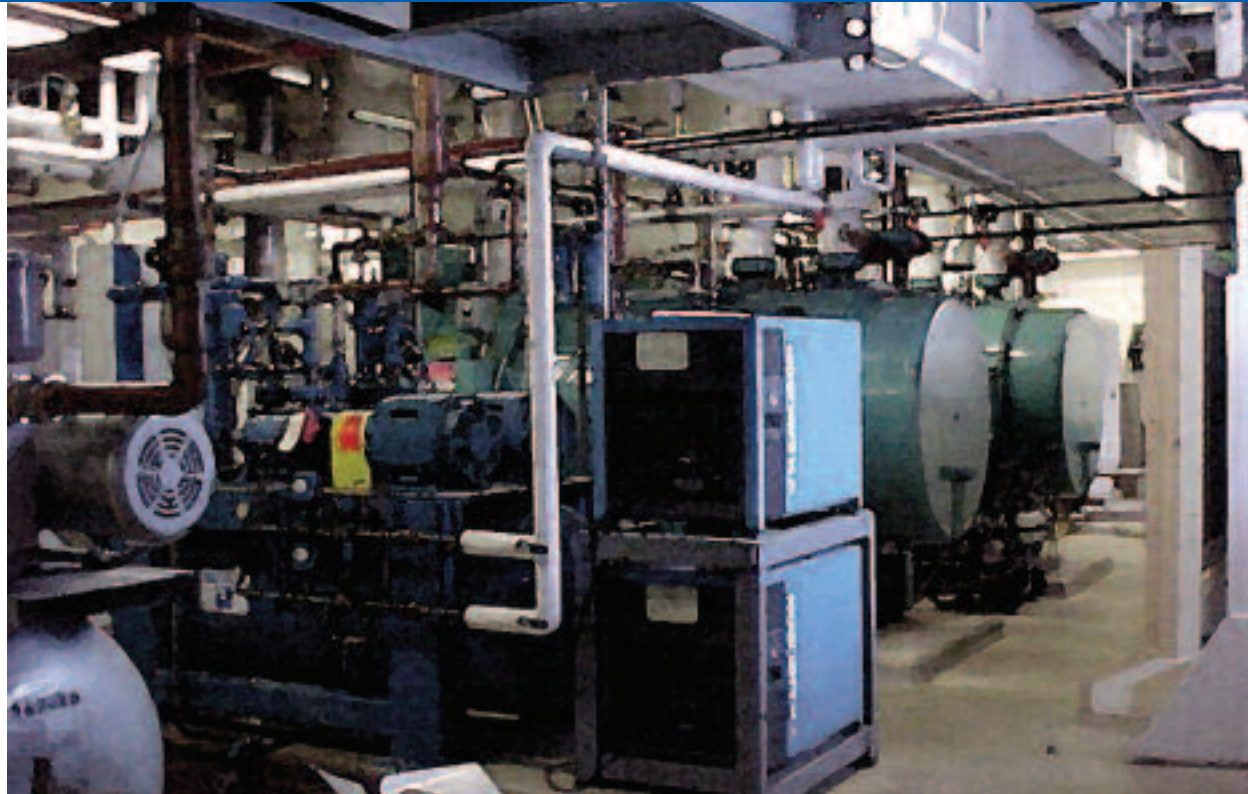




*Culligan®
Commercial
Products and
Services for Boiler
Pretreatment*



Trust The Water Experts® to Save You Money!

Reduce your utility bills

The more scale in your boiler, the higher the energy consumption. Even a small reduction of scale thickness can reduce your utility bills.

Save money on chemicals

Treating water with only chemicals can be expensive. Softening the make-up water reduces your dependence on costly chemicals.

Lower operating, maintenance and repair costs

Excessive blowdowns waste energy, water, and chemicals. Pretreated water can increase the number of cycles of concentration before a blowdown is needed, saving operating and maintenance costs as well as reducing costly repairs.

Reduce corrosion and increase equipment life span

Most water is naturally corrosive. Left untreated it can reduce the life span of your boiler and other water-using equipment. Pretreated water can increase the useful life of your boiler and other equipment.

Your local Culligan® Water Expert works as your partner to determine the correct pretreatment process for your boiler make-up water. Starting with a water analysis and your system's requirements, Culligan can offer you a treatment option suited specifically for your needs. Cost saving benefits include:

Reduction in Utility Bills

The more scale in your boiler, the higher the energy consumption. Even a small reduction of scale thickness can reduce your utility bills.

"Even on small boilers, the prevention of scale formation can produce substantial energy savings."
"Energy Tip Sheet # 7," U.S. Department of Energy

"Removing calcium and magnesium or other deposit-forming materials from the feed water before it enters the boiler system is the best way to prevent scaling."
Energy Efficiency Handbook, Council of Industrial Boiler Owners. Burke, VA.

A Culligan® water treatment process including any combination of filtration, reverse osmosis and softening can dramatically reduce the problems associated with boiler scale (calcium and magnesium), silica scale and iron deposits.

Cost Savings on Chemicals

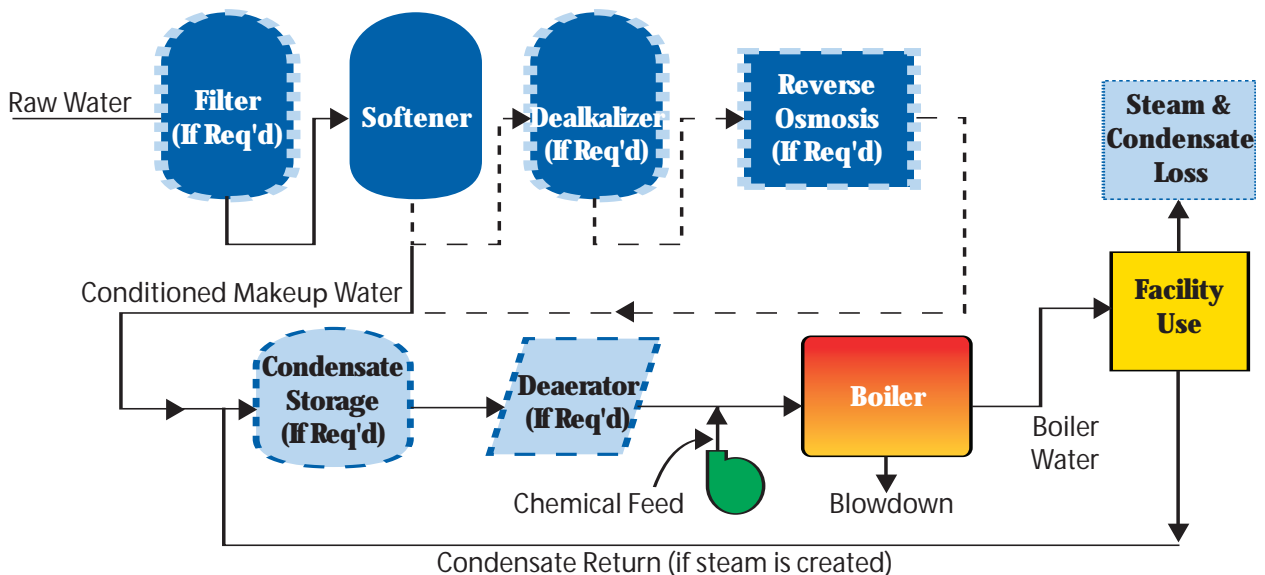
Treating water with only chemicals can be expensive. Softening the make-up water reduces your dependence on costly chemicals, as well as reducing the amount of chemicals in your wastewater.

"The building engineer has reported numerous times how much less scale build-up we have been getting since switching over to soft water. We are using less chemical treatment which is a large savings and we are not having the problems with the boiler that we have had in the past."
Director, Eldercare Facility. Spokane, WA

A Culligan® water treatment system will reduce hardness to less than 1 grain per gallon (gpg). While not eliminating the need for chemical control, it will greatly reduce the amounts required.

Thickness of Scale in Inches	Loss of Efficiency	Gas Wasted per 1,000 Cu. Ft.	Therms Saved
1/64	4%	40 Cu. Ft.	41.4
1/32	7%	70 Cu. Ft.	72.8
1/16	11%	110 Cu. Ft.	114.4
1/8	18%	180 Cu. Ft.	187.2
3/16	27%	270 Cu. Ft.	280.8
1/4	38%	380 Cu. Ft.	395.2
3/8	48%	480 Cu. Ft.	499.2

Typical Boiler Treatment Process Loop



Lower Operating, Maintenance and Repair Costs

Excessive blowdowns waste energy, water, labor, and chemicals. Pretreated water can increase the number of cycles of concentration before a blowdown is needed, saving operating and maintenance costs as well as reducing costly repairs.

“We now have much less downtime. Our blowdowns have been reduced from once per day to once per week on the lower section and once per day on the upper section. We no longer see scaling and thus have not had to clean the boiler tubes.”

Maintenance Director, Bakery. Bay Shore, NY

“We know that deposition is a major problem in the operating of hot water generating equipment. Deposition or the accumulation of material on the boiler services that can cause overheating as well as circulation restriction. Both conditions frequently result in unscheduled outages. Therefore, pretreatment of boiler feed water is a must. Our boiler has been operating efficiently with little-to-no unscheduled maintenance.”

Facility Manager, Multi-billion dollar paper manufacturer. Putnam, CT

By removing the hardness with a Culligan® water treatment system, you will have less sludge built up in your boiler. Your blowdowns will be less frequent. You will use less chemicals, conserve water by having higher cycles of concentration, incur less downtime and unexpected repairs.

Reduction in Corrosion and an Increase in Equipment Life Span

Most water is naturally corrosive. Left untreated, it can reduce the life span of your boiler and other water-using equipment. Pretreated water can increase the useful life of your boiler and other equipment.

“It got to the point we were routinely scheduling replacement of equipment. It’s been over a year, and we haven’t had to think once about replacing a boiler unit since Culligan’s equipment was installed.”

Building Supervisor, 280-unit apartment complex.

Water becomes more aggressive at higher temperatures and therefore tends to corrode the boiler system. Corrosion impacts the life of a boiler. There are many factors. Some of the more important include high oxygen content, high dissolved solids, low pH, and high temperature.

Culligan® water treatment processes can reduce both the dissolved solids in the feed water and the alkalinity. Combined with proper chemical treatment it can also help maintain proper pH.

Typical Boiler Problems and Culligan® Solutions

Note – Culligan water treatment solutions should be combined with a proper chemical treatment plan.

Problem	What It Costs You	How To Solve It	Culligan Solution
Scale Formation	Wastes chemicals and energy. Causes restrictions in piping and boiler tubes. Increases maintenance costs and shortens product life.	Remove water hardness	Water softeners or combination of softeners, filters, and reverse osmosis
Frequent Boiler Blowdowns	Wastes chemicals, energy, and labor increasing utility and operating costs.	Remove alkalinity Remove Total Dissolved Solids (TDS)	<ul style="list-style-type: none"> • Dealkalizers (preceded by water softeners) will reduce alkalinity amount. • Reverse osmosis (may be preceded by carbon filtration and water softening) will reduce TDS levels.
Suspended Solids and Turbidity	Forms sludge - wasting energy and chemicals, while increasing maintenance and shortening product life	Remove sediment	Depth and/or Carbon Filters

Just say “Hey Culligan Man!”®

Let your local commercial water expert provide an onsite consultation to determine your cost savings.



Business Comes Full Circle With Culligan

Local Service You Can Depend On

Trust the Water Experts for local continuing service after the sale with over 800 dealers in the US and Canada. As your partner, your local Culligan Man® is there for you after installing the equipment, with a regular service plan to make sure that the Culligan® equipment operates at peak efficiency.

Product Innovation and Technical Expertise

Since 1936, Culligan has been the leader in product innovations with our products proudly made in the USA under an ISO 9001 quality system. Extensive factory training gives your local Culligan® service technician the expertise to properly install, service, and maintain your equipment.

Water Testing Analysis

Your local Culligan® Commercial Expert can test your water through our very own NELAP* Accredited Analytical Laboratory. Committed to quality and service, Culligan's lab uses EPA approved methods for the highest quality water analysis available. Even after the initial water analysis to determine the correct pretreatment method, regular water testing can monitor any changes in water conditions that might affect equipment or operations.

Water Done Right Every Time

Your local Culligan® Commercial Expert can provide you with an AutoCAD compatible CD-ROM. In addition to specific product specifications, the CD-ROM includes our exclusive CAAP® program. With CAAP, your Culligan expert or a specifying engineer can input your exact water conditions and operating parameters to correctly size and select the equipment you need.

“Hey Culligan Man!”

Culligan
Trust the Water Experts®

www.culligan.com™

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* The Culligan Analytical Laboratory is certified by the State of Illinois EPA to be compliant with the National Environmental Laboratory Accreditation Program (NELAP) standards. The lab is also certified by the States of California, Iowa, New York, Texas, and Wisconsin.

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