

ATTACHMENT NO. IX-B: Water Softeners

Potential motion: Move to approve the water softener repairs and adding a system at Capron

Recommended action: Approve the motion.

We are asking the Board to approve improvements on water softener at three buildings. Currently we are using Culligan to service our water softeners and supply salt. Manchester currently leases a water softener and we are paying monthly bills to lease that. The High School has two water softener systems that both are at end of life. One is for the regular water in the school and the other is for drinking water. Capron doesn't have a system at all. We are asking the Board to pay for a water softener system for Manchester so we no longer have monthly bills, replace the two failing systems at the high school, and adding a water softener at Capron. This will improve the water quality and help extend the life of all mechanicals that require the use of water.

	High School	Capron	Manchester	Total
Afforable Water	49,919	27,990	10,885	\$88,794.00
Mr. Goodwater	29,476	7,000	4,600	\$41,076.00
Culligan	34,143.09	7,495.00	6,095	\$47,733.09



**596 N Appleton Rd
Belvidere, IL 61008
815-544-0800**

March 14th, 2022

North Boone High School
6248 N Boone School rd
Poplar Grove, IL 61065

Hi Jim,

Thank you for taking the time to meet with me and discuss your needs. Below you will find information about our Mr. Goodwater 1,200,000 grain Quadplex progressive flow commercial softener. If you have any questions, please let me know.

Thank you
Butch Rosecke

Mr. Goodwater 600,000 grain Quadplex Progressive Flow Commercial Softener®

The Mr. Goodwater Series Softener will remove hardness, iron, and manganese. The unit will automatically regenerate by electronic metering of water usage for the most effective use of salt and water to soften your water. Mr. Goodwater has custom engineered their softeners to give its customers in Northern Illinois the most effective and efficient water treatment equipment available today.

Pricing

Mr. Goodwater 600,000 grain Quadplex Progressive Flow Softener:	\$16890.00
Removal of existing equipment & complete installation:	\$9386.00



**596 N Appleton Road
Belvidere, IL 61008
815-544-0800**

April 14, 2022

North Boone High School
6248 N Boone School rd
Poplar Grove, IL 61065

Hi Jim,

Thank you for taking the time to meet with me and discuss your needs. Below you will find information about our Mr. Goodwater 13x54 Iron filter for the drinking water system. If you have any questions, please let me know.

Thank you
Butch Rosecke

Mr. Goodwater 13x54 Iron Filter

Iron Buster Mixed Media Filters are custom made to your water. Through our site inspection, we will use our years of experience in Northern Illinois to determine the exact media mixture and properly sized equipment to efficiently and effectively treat your water. Our filters will remove iron commonly associated with problem well water. Its innovative design uses a safe, mixed media bed custom tailored to your water. This combination has an air chamber to oxidize and capture the elements that cause stains, odors, and iron bacteria. Iron Buster Mixed Media Filters are environmentally safe – no toxic chemicals like other systems. The result is simply refreshingly good water from every tap, every time.

- Solid-State microprocessor with push - button simplicity on front panel
- Stores system configuration and operating data - even in the event of a power outage
- Fully adjustable regeneration cycle times
- Modular design - extremely easy to service – no screws or bolts
- Environmentally safe – no chemicals
- Low-cost operation
- High quality American made media

Pricing

Mr. Goodwater 13x54 Iron Filter: \$3200.00



**596 N Appleton Rd
Belvidere, IL 61008
815-544-0800**

March 14th, 2022

Capron Elementary
200 N Wooster
Capron, IL, 61012

Hi Jim,

Thank you for taking the time to meet with me and discuss your needs. Below you will find information about our Mr. Goodwater Light Commercial 150,000 grain softener. If you have any questions, please let me know.

Thank you
Butch Rosecke

Mr. Goodwater 150,000 grain Light Commercial Softener®

The Mr. Goodwater Series Softener will remove hardness, iron, and manganese. The unit will automatically regenerate by electronic metering of water usage for the most effective use of salt and water to soften your water. Mr. Goodwater has custom engineered their softeners to give its customers in Northern Illinois the most effective and efficient water treatment equipment available today.

- Advanced, solid-state "system analyzer" (patent pending) monitors and communicates operating modes –even alerts you to low salt conditions
- Solid-State microprocessor with push - button simplicity on front panel.
- Low cost operation
- Extended lithium battery backup
- Engineered for maximum salt savings
- High quality American made media

Pricing

Mr. Goodwater 150k Light Commercial Softener:	\$3800.00
Plumbing work and supplies:	\$3200.00

Includes: Installation



**596 N Appleton Rd
Belvidere, IL 61008
815-544-0800**

March 14th, 2022

Manchester Elementary
3501 Blaine rd
Poplar Grove, IL 61065

Hi Jim,

Thank you for taking the time to meet with me and discuss your needs. Below you will find information about our Mr. Goodwater Light Commercial 150,000 grain softener. If you have any questions, please let me know.

Thank you
Butch Rosecke

Mr. Goodwater 150,000 grain Light Commercial Softener®

The Mr. Goodwater 150,000 Light Commercial Softener will remove hardness, iron, and manganese. The unit will automatically regenerate by electronic metering of water usage for the most effective use of salt and water to soften your water. Mr. Goodwater has custom engineered their softeners to give its customers in Northern Illinois the most effective and efficient water treatment equipment available today.

- Advanced, solid-state "system analyzer" (patent pending) monitors and communicates operating modes –even alerts you to low salt conditions
- Solid-State microprocessor with push - button simplicity on front panel.
- Low-cost operation
- Extended lithium battery backup
- Engineered for maximum salt savings
- High quality American made media

Pricing

Mr. Goodwater 150k Light Commercial Softener:	\$3800.00
Plumbing work:	\$800.00

Includes: Removal of existing equipment

Affordable Water Inc
214 W. Menomonie Street
Belvidere, IL 61008
315-544-1021



Estimate 1024

ADDRESS

6248 NORTH BOONE SCHOOL
ROAD
POPLAR GROVE, IL 61065
815-765-3322

DATE
04/13/2022

TOTAL
\$10,885.00

EXPIRATION
DATE
05/15/2022

SALES REP

Josh

DATE	DESCRIPTION	QTY	RATE	AMOUNT
	WATER SOFTENER			
	WATER SOFTENER 21x72 simplex, 2" clack control. 24x50 salt container.	1	10,405.00	10,405.00
	PLUMBING CHARGE			
	PLUMBING CHARGE install new bypass 1 1/2" ball valves (3)	1	480.00	480.00

Price includes tax, coupons, install. (manchester school)

TOTAL

\$10,885.00

THANK YOU.

Accepted By

Accepted Date

Please send us your email address to avoid a \$3.00 billing fee starting February 1, 2022.

Email: _____

PLEASE CONTACT THE OFFICE AT 815-544-1021 IF YOU HAVE ANY BILLING QUESTIONS. THANK YOU.

Affordable Water Inc
 214 W. Menomonie Street
 Belvidere, IL 61008
 815-544-1021



Estimate 1052

ADDRESS
 248 NORTH BOONE SCHOOL
 ROAD
 POPLAR GROVE, IL 61065
 815-765-3322

DATE
 04/13/2022

TOTAL
 \$27,990.00

EXPIRATION
 DATE
 05/15/2023

SALES REP
 josh

DATE	DESCRIPTION	QTY	RATE	AMOUNT
01/31/2022	COMMERCIAL 21"x62" duplex 2" progressive flow clack water softners (7 cubic ft per tank) 1 salt container	1	17,935.00	17,935.00
	PLUMBING CHARGE 2" copper pre fab headers, ball valves, unistrut, pvc drains	1	4,670.00	4,670.00
	LABOR LABOR 2 plumber, 2 service techs hourly	20	220.00	4,400.00
	system controller	1	985.00	985.00

ppron elementary,

Install two 21x62 commercial water softners. Cost includes rough in work to be able to install water softners. Systems will be installed in 2" copper in and out. Drains will be hard piped to existing floor drain. Prices includes all materials, labor and install.

TOTAL

\$27,990.00

THANK YOU.

Accepted By

Accepted Date

Please send us your email address to avoid a \$3.00 billing fee starting February 1, 2022.

Email: _____

PLEASE CONTACT THE OFFICE AT 815-544-1021 IF YOU HAVE ANY BILLING QUESTIONS. THANK YOU.

Affordable Water Inc
 214 W. Menomonie Street
 Belvidere, IL 61008
 815-544-1021



Estimate 1047

ADDRESS
 248 NORTH BOONE SCHOOL
 ROAD
 POPLAR GROVE, IL 61065
 815-765-3322

DATE
 04/15/2022

TOTAL
 \$5,180.00

**EXPIRATION
 DATE**
 05/15/2023

SALES REP
 josh

DATE	DESCRIPTION	QTY	RATE	AMOUNT
	IRON REMOVAL SYSTEM			
	13x54 pro series chem free iron breaker	1	2,950.00	2,950.00
	DECHLORINATOR			
	10x54 backwash carbon sulfur system	1	2,230.00	2,230.00

(north boone high school)

system quoted is to replace existing culligan units that feed filtered water to drinking fountains and so forth. Existing units are low on filter media due to age and wear and tear. Systems also have suffered damage to internal wear items. New system will be 50% larger in capacity. There is a existing plumbing leak along with a faulty inline check valve that will all be replaced at the time of install for the price stated above. price includes tax, labor, removal of existing. Systems are in stock and available to be completed with in 48 hour's of approval. feel free to contact me direct with any questions at 815 721 7583, joshua durham, commercial manager.

TOTAL

\$5,180.00

THANK YOU.

Accepted By

Accepted Date

Please send us your email address to avoid a \$3.00 billing fee starting February 1, 2022.

Email: _____

PLEASE CONTACT THE OFFICE AT 815-544-1021 IF YOU HAVE ANY BILLING QUESTIONS. THANK YOU.

Affordable Water Inc
 214 W. Menomonie Street
 Belvidere, IL 61008
 815-544-1021



Estimate 1050

ADDRESS

248 NORTH BOONE SCHOOL
 ROAD
 POPLAR GROVE, IL 61065
 815-765-3322

DATE
 04/13/2022

TOTAL
 \$44,739.00

EXPIRATION
 DATE
 05/15/2022

P.O. NUMBER

north boone high school

SALES REP

josh

DATE		DESCRIPTION	QTY	RATE	AMOUNT
01/25/2022	COMMERCIAL	24"x72" clack 2" progressive flow triplex (10 cubic ft, 320,000 grain per tank)	1	29,034.00	29,034.00
	system controller	System controller	1	1,720.00	1,720.00
	PLUMBING CHARGE	PLUMBING materials including prefab copper headers with full port ball valves, unions, unistrut, hangers, hard pipe drains, insulation.	1	6,485.00	6,485.00
	LABOR	LABOR (2 plumbers 2 technicians)hourly	30	220.00	6,600.00
	REMOVAL	REMOVAL OF UNIT (includes disposal) existing culligan softners	1	900.00	900.00

Existing culligan csm softners have several issues. systems are in need of changing of resin, along with complete rebuild or replacement of brunermatic valves. tank #2 has a faulty control board, control panels for these are obsolete meaning if you replace one you have to update them both. cost of these are very expensive. 3" brunermatic controls are on back order at this time. The cost of repairing these at this time would be well over half the cost of new equipment. Due to availability of replacement items we are unwilling to repair these at this time. I have attached the cost of a complete system replacement. New system would be split into three tanks that would come on line as needed. Systems will be able to soften and filter out iron much more efficiently with new technology. Operating cost along with maintenance cost will be much less with new system. Equipment comes with a 5 year structural warranty. Price includes the cost of the job start to finish, material, labor, removal.

TOTAL

\$44,739.00

THANK YOU.

Accepted By

Accepted Date

Please send us your email address to avoid a \$3.00 billing fee starting February 1, 2022.

Email: _____

PLEASE CONTACT THE OFFICE AT 815-544-1021 IF YOU HAVE ANY BILLING QUESTIONS. THANK YOU.



6421 Material Ave. • LOVES PARK, ILLINOIS 61111-4249
PH: 815-968-7511 • FAX: 815-968-7515
www.rockvalleyculligan.com

To: North Boone High School
17823 Popular Grove Rd.
Popular Grove, IL.

Date: April 15, 2022

Attn: Jim Nolan

From: Tom Fuller

Reference: New Water Softener System

Schedule: Straight time project 2022

Scope:
Provide Purchase pricing for a New Culligan Water Softener System
Provide pricing for installation & startup

Costs:
Purchase of a New Culligan Duplex CSM Water Softener System.
Culligan Model # CSM450-3MAD \$ 23,695.00

Includes:

- * 2 New GBE Digital Electronic Controllers
- * 2 New 3" E-Coated Steel Control Valves
- * 2 New 30" x 60" Epoxy Lined Carbon Steel Tanks
- * 30ft³ Cation Resin
- * Intercommunication
- * Battery Backup for EPROMM
- * Alarm Capabilities
- * Data Output
- * 1 Year Factory Warranty!

Professional Installation \$ 4,650.00

- * Professional installation
- * All pipe & fitting to complete
- * Removal of old system for disposal
- * System Programming & startup



6421 Material Ave. • LOVES PARK, ILLINOIS 61111-4249
PH: 815-968-7511 • FAX: 815-968-7515
www.rockvalleyculligan.com

**New Culligan HE 10" Sulfur Cleer
Culligan Model # 3505 installed \$ 3,260.30**

**New Culligan HE 10" Carbon Filter
Culligan Model # 2661 installed \$ 2,537.79**

Terms: Net 30; EFT, check, or cash only.
Delivery: 4 – 6 weeks after approval and release
Exclusions: Insulation, sales tax, line isolation valve, electrical work of any kind.
Expiration: Quoted pricing valid for 30 days



6421 Material Ave. • LOVES PARK, ILLINOIS 61111-4249
PH: 815-968-7511 • FAX: 815-968-7515
www.rockvalleyculligan.com

To: Capron Elementary School
200 Wooster St.
Capron, IL.

Date: April 15, 2022

Attn: Jim Nolan

From: Tom Fuller

Reference: New Water Softener System

Schedule: Straight time project 2022

Scope:
Provide Purchase pricing for a New Culligan Water Softener System
Provide pricing for installation & startup

Costs:

Purchase of a New Culligan CTM Water Softener System.
Culligan Model # CTM150DF-2 \$ 4,895.00

Includes:

- * GBE Digital Electronic Controller
- * New Culligan CTM Control Valve
- * New 18" x 65" FRP Mineral Tank
- * 5ft³ Cation Resin
- * Internal Flow Meter
- * New 24" x 50" Brine Tank
- * 3 Year Limited Factory Warranty!

Installation & Startup \$ 2,600.00

Terms: Net 30; EFT, check, or cash only.

Delivery: 4 – 6 weeks after approval and release

Exclusions: Insulation, sales tax, line isolation valve, electrical work of any kind.

Expiration: Quoted pricing valid for 30 days



6421 Material Ave. • LOVES PARK, ILLINOIS 61111-4249
PH: 815-968-7511 • FAX: 815-968-7515
www.rockvalleyculligan.com

To: Manchester Grade School
3501 Blaine Rd.
Popular Grove, IL.

Date: April 15, 2022

Attn: Jim Nolan

From: Tom Fuller

Reference: New Water Softener System

Schedule: Straight time project 2022

Scope:
Provide Purchase pricing for a New Culligan Water Softener System
Provide pricing for installation & startup

Costs:
Purchase of a New Culligan High Efficiency Water Softener System.
Culligan Model # HE150-1.5 \$ 5,095.00

Includes:

- * GBE Digital Electronic Timer
- * New High Efficiency 1.5" Control Valve
- * New 18" x 65" FRP Mineral Tank
- * 5ft³ Cation Resin
- * Internal Flow Meter
- * New 24" x 50" Brine Tank
- * 1 Year Factory Warranty!

Professional Installation \$ 1,000.00

- * Professional installation
- * All pipe & fitting to complete
- * Removal of old system for disposal
- * System Programming & startup

Terms: Net 30; EFT, check, or cash only.

Delivery: 4 – 6 weeks after approval and release

Exclusions: Insulation, sales tax, line isolation valve, electrical work of any kind.

Expiration: Quoted pricing valid for 30 days



Markets Served:

Clinics
Educational Facilities
Energy / Power
Food / Beverage Production
Food Service / Restaurants
Grocery
Healthcare / Hospitals / Bio-Pharmaceutical
Hospitality / Lodging
Manufacturing
Municipal Drinking Water
Oil / Gas

The Culligan Side Mount (CSM™) Series WATER SOFTENER SYSTEM

Efficient and Scalable Heavy-Duty Water Treatment System

Use Culligan® equipment to help meet the highest standard of water quality at your facility. The Culligan® Side Mount heavy-duty softener reduces hard water contaminants*, even for large flow volume applications, reducing scale buildup that can affect equipment performance. The Culligan®-exclusive Smart Controller allows you to efficiently set up and manage your water treatment. Using optional accessories, monitor water usage data, such as the flow rate and volume, and regenerate the system as needed, saving resources and money.

The CSM softener is part of the Culligan® Commercial and Industrial Solutions that combine durable and efficient equipment, systems experience, and technical experts who understand your unique requirements. From planning your system to installing your water treatment equipment, Culligan® Commercial and Industrial Solutions offer options that help deliver the quality of water to meet your needs. Contact Culligan® today to learn more about the CSM softener system.

CULLIGAN® COMMERCIAL & INDUSTRIAL ADVANTAGES:

- Simple System Integration
- Global Product Platform
- Flexible Configurations
- Quick Delivery / Easy Installation
- Exclusive Culligan Advanced Electronics
 - Historical Operating Data
 - Alarm Recognitions
 - US Standard and Metric Readings
 - Remote Monitoring Options
 - Telemetry Options

*Contaminants may not necessarily be in your water.



PRE-TREATMENT SOLUTIONS.

SYSTEM SPECIFICATIONS

Warranty

Culligan's CSM water softeners are backed by a limited 1-year warranty against defects in material, workmanship and corrosion. In addition, softener tanks are warranted for a period of 5 years.[†]

[†] See printed warranty for details. Culligan® will provide a copy of the warranty upon request.

Some localities have corrosive water. A softener cannot correct this condition, so its printed warranty disclaims liability for corrosion of plumbing lines, fixtures, or water-using equipment. If you suspect corrosion, your independently operated Culligan® dealer has equipment to help control the problem.

System Specifications

Specification	US	Metric
Inlet Pressure (dynamic)	30–100 psig	210–690 kPa
Power Voltage Frequency Phase	120 Volts 50/60Hz	
Feed Water Temperature	40–120° F	4–49° C
Turbidity Chlorine Ion	5 NTU, max. ² 1 mg/L, max. ² 5 mg/L, max. ²	

¹ 120 Volt/24 Volt CU/LUL listed Transformer Included.

² See media specification for details.



Certified by IAPMO R&T against NSF/ANSI 372, CSA B483.1 and NSF/ANSI 61 for material safety and structural integrity requirements. Not certified for contaminant reductions by IAPMO R&T. The skid mounted systems have not been certified by IAPMO R&T.

Examples of Softener Applications

- Food and Beverage—Improved taste
- Educational Facilities—Boiler and cooling tower make-up water for scale reduction and improved energy costs
- Restaurants—For dishwashing, cleaning material savings, scale reduction
- RO Softener / DI Pretreatment
- Car washes—Quality results, detergent and water heating savings, scale reduction
- Apartment buildings, assisted living facilities and hotels—Quality water for laundry, dishwashers, boilers
- Grocery / Retail—Quality water for aesthetics and help extend equipment life

Standard Features

- Single, Multiple Tank Configurations – Hardness removal capacities up to 900,000 grains per tank Continuous flow rates up to 201 gpm per tank
- Culligan's Smart Controller – More control over your equipment with programming and monitoring capabilities typically found in more expensive PLC controls A variety of add-on options for advanced instrumentation and communication let you easily customize the system to help meet your needs
- Telemetric Capability
- Regeneration initiation by choice or combination of time clock, meter or Aqua-Sensor® inputs
- Culligan's Multiport Valve – Our guided perimeter-designed diaphragm valves are built with reinforced rubber components to resist damage from particulates in the water and ensure smooth operation free of water hammer. The inside and outside surfaces of the valve are electro-coated to deter

Optional Features & Accessories

- Corrosion resistant brine system construction for long life
- Skid Mounted – fully pre-piped and wired systems for single point field utility connection of inlet, outlet, drain and power supply
- Patented Progressive Flow – Culligan's Smart Controller can monitor flow demands bringing additional softening tanks on-line or offline as flows increase or decrease
- ASME Code Tanks
- Brine Reclaim – reduces operating costs
- Patented Aqua-Sensor® Control – initiates regeneration only when needed based upon water hardness, automatically adjusts to changes in raw water hardness and water consumption
- Flow Measuring Devices – are available for direct connection to the Culligan® Smart Controller for volume based regeneration initiation
- Remote Display
- RS232, RS485, Modbus PLC Output

corrosion. The valve was designed with serviceability in mind; accessibility for installation and maintenance won't be an issue.

• Corrosion resistant tanks – Made of low carbon steel with epoxy interior lining and finish coat painted exterior

CSM Water Softener System

Model	Resin Qty. (ft ³ /L)	Pipe Size (in/mm)	Flow Rates (gpm/lpm)		Tank Size*** (in/mm)	
			Continuous*	Peak**	Softener	Brine****
150-2	5	2	67	94	20 x 54	24 x 50
	142	50.8	253.6	355.8	508 x 1,372	610 x 1,270
210-2	7	2	76	102	24 x 54	24 x 50
	198	50.8	287.7	386.1	610 x 1,372	610 x 1,270
300-2	10	2	84	112	30 x 60	30 x 50
	283	50.8	317.9	423.9	762 x 1,524	762 x 1,270
300-3	10	3	152	210	30 x 60	30 x 50
	283	76.2	575.3	794.9	762 x 1,524	762 x 1,270
450-2	15	2	79	106	30 x 60	30 x 50
	425	50.8	299	401.2	762 x 1,524	762 x 1,270
450-3	15	3	135	192	30 x 60	30 x 50
	425	76.2	511	726.7	762 x 1,524	762 x 1,270
600-2	20	2	94	125	36 x 60	39 x 48
	566	50.8	355.8	473.1	914 x 1,524	991 x 1,219
600-3	20	3	183	252	36 x 60	39 x 48
	566	76.2	692.7	953.8	914 x 1,524	991 x 1,219
750-2	25	2	97	129	42 x 60	42 x 48
	708	50.8	367.1	488.3	1,067 x 1,524	1,067 x 1,219
750-3	25	3	201	267	42 x 60	42 x 48
	708	76.2	760.8	1010.6	1,067 x 1,524	1,067 x 1,219
900-2	30	2	96	127	42 x 60	42 x 48
	850	50.8	363.4	480.7	1,067 x 1,524	1,067 x 1,219
900-3	30	3	193	259	42 x 60	42 x 48
	850	76.2	730.5	980.3	1,067 x 1,524	1,067 x 1,219

*Flow rate at a 15 psi pressure loss

**Flow rate at a 25 psi pressure loss

***Dimensions are diameter by tank height.

****Brine systems are optional.

Flow rates shown are per tank.

Low flow channeling (flow rates less than 0.5 gallons per minute per cubic foot of resin) may cause hardness leakage into effluent.

CSM product formerly sold under the Bruner label.

www.culligan.com • 866-787-4293

For over 80 years, Culligan® has made better water. Our global network, comprised of 800+ dealers and international licensees in over 90 countries, is dedicated to addressing your water-related problems. As a worldwide leader in water treatment, our sales representatives and service technicians are familiar with the local water conditions in your area. Being global and local position us to deliver customized solutions to commercial and industrial water issues that affect your business and your bottom line.

All trademarks used herein are registered trademarks of Culligan International Company.

Products manufactured or marketed by Culligan and its affiliates are protected by patents issued or pending in the United States and other countries.

Culligan reserves the right to change the specifications referred to in this literature at any time, without prior notice.



Markets Served:

- Clinics
- Educational Facilities
- Energy / Power
- Food / Beverage Production
- Food Service / Restaurants
- Grocery
- Healthcare / Hospitals / Bio-Pharmaceutical
- Hospitality / Lodging
- Manufacturing
- Municipal Drinking Water
- Oil / Gas

The Culligan® High Efficiency (HE) Series WATER SOFTENER SYSTEM

Reduce Operating Costs and Improve Efficiency with a Smart Choice

The High Efficiency (HE) softener with patented technology delivers improved efficiency to reduce operating costs. The HE softener reduces hard water contaminants*, reducing scale build-up that affect equipment performance. With the Culligan® Smart Controller, the softener adjusts to influent water conditions and regenerates based on need. Customers can also monitor their water treatment system performance, consumable usage, and maintenance needs, at a single site or across multiple ones 24 hours a day.

The HE softener is part of the Culligan® Commercial and Industrial Solutions that combine durable and efficient equipment, systems experience, and technical experts who understand your unique requirements. From planning your system to installing your water treatment equipment, Culligan® Commercial and Industrial Solutions offer options that help deliver the quality of water to meet your needs. Contact Culligan® today to learn more about the HE softener system.

CULLIGAN® COMMERCIAL & INDUSTRIAL ADVANTAGES:

- Simple System Integration
- Global Product Platform
- Flexible Configurations
- Quick Delivery / Easy Installation
- Exclusive Culligan Advanced Electronics
 - Historical Operating Data
 - Alarm Recognitions
 - US Standard and Metric Readings
 - Remote Monitoring Option

*Contaminants may not necessarily be in your water.



PRE-TREATMENT SOLUTIONS.

SYSTEM SPECIFICATIONS

Warranty

Culligan's HE water softeners are backed by a limited 1-year warranty against defects in materials, workmanship, and corrosion. The plastic conditioner tank has a 5-year warranty. See printed warranty for details. †

Some localities have corrosive water. A softener cannot correct this condition, so its printed warranty disclaims liability for corrosion of plumbing lines, fixtures, or water-using equipment. If you suspect corrosion, your independently operated Culligan® dealer has equipment to help control the problem.

† See printed warranty for details. Culligan® will provide a copy of the warranty upon request.

Examples of Softener Applications

- RO / DI Pretreatment
- Apartment buildings, assisted living facilities and hotels — Quality water for laundry, dishwashers, boilers
- Office buildings — For heating plant pretreatment, tenant convenience, general housekeeping
- Restaurants — For dishwashing, cleaning material savings, scale reduction
- Car washes — Quality results, detergent and water heating savings, scale reduction
- Grocery / Retail — Quality water for aesthetics and help extend equipment life

Standard Features

- Single or Multiple Tank Configurations — Hardness removal capacities up to 235,000 grains per tank
- Culligan's Smart Controller — More control over your equipment with programming and monitoring capabilities typically found in more expensive PLC controls a variety of add-on options for advanced instrumentation and communication let you easily customize the system to help meet your needs
- Regeneration initiation by choice or combination of time clock, flow meter or Aqua-Sensor
- Corrosion Resistant Positive Motor-Driven Regeneration Valve — Motor driven piston is reliable under server water conditions, resists dirt, iron and turbidity
- Corrosion Resistant Tanks — Made from fiberglass reinforced polyester
- Under-drain design enhances softening capacity and reduces pressure loss
- Multi-Poppet Design — Allows for easy service and increases durability and valve life
- Flow Meter
- Electronic By-Pass - The softener can be by-passed electronically either from the unit or from the remote monitor and automatically goes back into service after a pre-set time.
- Internally blocked Progressive Flow Systems
- Tested and certified by WQA against NSF/ANSI 372, CSA B483.1 and NSF/ANSI/CAN Standard 61 for material requirements
- The Control Enclosure complies with UL 50/50E and UL 746C standards for a NEMA 3R Enclosure Rating

Optional Features & Accessories

- Dubl-Safe Brine System for softeners — Positive overflow protection Automatic refill control is backed up by shutoff float valve to reduce chance of overflow
- Patented Aqua-Sensor® Control — Initiates regeneration only when needed based upon water hardness. Automatically adjusts to changes in raw water hardness and water consumption
- Skid Mounted System
- Remote Display
- RS232, RS485, Modbus PLC Output

System Specifications

Specification	US	Metric
Pipe Size, All Units	1.5"	
Maximum Operating Pressure	20–125 psig	135–860 kPa
Power Voltage Frequency Phase	24 50/60 Hz ¹	
Feed Water Temperature	33–120° F	0–48° C
Power Consumption	22 Watts	
Vacuum	None ²	
Turbidity	5 NTU, max. ³	
Chlorine	1 mg/L, max. ³	
Iron	5 mg/L	

1 120 Volt/24 Volt CUU/UL listed Transformer Included.

2 Tank warranty is void if subject to vacuum.

3 See media specification for details.

4 Influent Hardness upflow systems — limit 30 gpg

HE Water Softener System

Model			Resin Qty. (ft ³ /L)	Flow Rates (gpm/lpm)		Tank Size ^{***} (in/mm)	
Upflow	Downflow	Progressive Flow		Continuous*	Peak**	Softener	Brine****
HE 1.5 UF 060	HE-060	HE 1.5 PF 060	2	25.1	31.5	14 x 47	18 x 38
			56.6	95.0	119.2	356 x 1,194	457 x 965
HE 1.5 UF 090	HE-090	HE 1.5 PF 090	3	26.6	35.2	16 x 53	24 x 40
			85	100.7	133.2	406 x 1,346	610 x 1,016
HE 1.5 UF 120	HE-120	HE 1.5 PF 120	4	23.3	31.8	16 x 65	24 x 40
			113.3	88.2	120.4	406 x 1,651	610 x 1,016
HE 1.5 UF 150	HE-150	HE 1.5 PF 150	5	27.2	35.8	18 X 65	24 X 50
			141.6	103.0	135.5	457 X 1,651	610 X 1,270
HE 1.5 UF 210	HE-210	HE 1.5 PF 210	7	28	37.4	21 X 62	24 X 50
			198.2	106.0	141.6	533 X 1,575	610 X 1,270

*Flow rate at a 15 psi pressure loss.

**Flow rate at a 25 psi pressure loss.

***Dimensions are diameter by tank height.

****Brine systems are optional.

Flow rates shown are per tank.

Low flow channelling (flow rates less than 0.5 gallons per minute per cubic foot of resin) may cause hardness leakage into effluent.

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The Culligan High Efficiency 1.5-60UF, HE 1.5-90UF, HE 1.5-120UF, HE 1.5-150UF and HE 1.5-210UF Softeners have been tested and certified by WQA against NSF/ANSI Standard 372 for low lead compliance, NSF/ANSI/CAN 61 for material safety and CSA B483.1 for material safety and structural integrity. Not certified for contaminant reduction.

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Products manufactured or marketed by Culligan and its affiliates are protected by patents issued or pending in the United States and other countries. Culligan reserves the right to change the specifications referred to in this literature at any time, without prior notice.

Culligan's 100% Satisfaction Guarantee ensures that your Culligan Dealer will address your water problems. If you are not fully satisfied with a Culligan Product within 30 days after your purchase, we will give you a full refund—no questions asked. Dealer participation may vary.



The Culligan® Top Mount Series WATER SOFTENER SYSTEM

Superior Flow. Superior Savings. Superior Water for Commercial and Industrial Needs.

The Culligan® Top Mount (CTM) Series softener models use the latest control valve technology to offer superior flow rates and long-lasting performance for commercial and industrial applications. The top-mounted control minimizes the system's footprint and is constructed of a corrosion-resistant, heavy duty plastic tested in extreme operating conditions to service all types of problem water (high chloramines, heavy iron, etc.). The CTM valve and system also carry certification for testing and passing the highest drinking water standards. The CTM includes integrated vacuum breakers and pressure relief valves to protect the system in addition to possessing an integrated flow meter for highly accurate reporting. Each CTM operates with a Culligan® Smart Controller which provides users access to the Culligan® technology platform of intercommunicating systems, remote monitoring and water and energy saving accessories.

The CTM Softener Series forms part of the Culligan® Commercial and Industrial product portfolio that has been offering durable, high-quality equipment to the world for over 80 years. For those customers who need a more customized solution Culligan's application engineering and project management team will provide professional, technical expertise through the initial project scope to the expedited delivery and start-up process. Our expansive dealership network will provide aftermarket support and technical expertise and trusted service to users in every market. Contact Culligan® today to learn more about the CTM and other water treatment products.

Markets Served:

Clinics
Educational Facilities
Energy / Power
Food / Beverage Production
Food Service / Restaurants
Grocery
Healthcare / Hospitals / Bio-Pharmaceutical
Hospitality / Lodging
Manufacturing
Municipal Drinking Water
Oil / Gas

CULLIGAN® ADVANTAGES:

- Global Product Platform with Flexible Modular Configurations
- Simple Integration into Existing Systems
- Quick Delivery & Installation
- Exclusive Culligan Features
 - Universal Electronic Controller
 - Aqua-Sensor®, Progressive Flow and Other Operational Cost-Saving Technology
 - Remote Monitoring Capabilities with Multiple Alarm Recognitions
 - Cloud Storage for Historical Data
 - U.S. Standard and Metric Readings with Multiple Interface Languages for Programming Interface



PRE-TREATMENT SOLUTIONS.

SYSTEM SPECIFICATIONS

Warranty

Culligan's CTM Water Softeners are backed by a limited **3-year warranty** against defects in material, workmanship and corrosion. In addition, softener tanks are warranted for a period of 5 years.†

† See printed warranty for details. Culligan® will provide a copy of the warranty upon request.

Some localities have corrosive water. A softener cannot correct this condition, so its printed warranty disclaims liability for corrosion of plumbing lines, fixtures, or water-using equipment. If you suspect corrosion, your independently operated Culligan® dealer has equipment to help control the problem.

System Specifications

Specification	US	Metric
Operating Pressure for CTM	50 dynamic psi-125 psi	345 - 862 kPa
Operating Pressure for CTM 2.0	30 dynamic psi-125 psi	207 - 862 kPa
Power Voltage Frequency	120 Volts ¹ 50/60Hz	
Feed Water Temperature	40–120° F	4-49° C
Vacuum	None ²	None ²
Turbidity Chlorine Iron	5 NTU, max. ³ 1 mg/L, max. ³ 5 mg/L, max. ³	

¹ 120 Volt/24 Volt cUL/UL listed Transformer Included.

² FRP tank warranty is void if subject to vacuum

³ See media specification for details.

Examples of Softener Applications

- Food and Beverage—Improved taste
- Educational Facilities—Boiler and cooling tower make-up water for scale reduction and improved energy costs
- Restaurants—For dishwashing, cleaning material savings, scale reduction
- RO / DI Pretreatment
- Car washes—Quality results, detergent and water heating savings, scale reduction
- Apartment buildings, assisted living facilities and hotels—Quality water for laundry, dishwashers, boilers
- Grocery / Retail—Quality water for aesthetics and help extend equipment life

- Light industry—For process and make-up water, boiler and cooling system pretreatment, general housekeeping
- Office buildings—For heating plant pretreatment, tenant convenience, general housekeeping

Standard Features

- Single or Multiple Tank Configurations available for hardness removal capacities up to 600,000 grains per tank
- Continuous flow rates up to 82 gpm per tank. Peak flow rates up to 109 gpm per tank
- Corrosion-resistant control valve body certified to drinking water applications
- Integrated flow meter, vacuum breaker and pressure relief valve
- Downflow regeneration-type controllers available with your choice of initiation (time clock, meter or Aqua-Sensor® inputs)
- Telemetric data capabilities with remote monitoring

- No special tools required for servicing
- Robust piston-valve technology uses retained, radial seals in the body for improved longevity and reliability. Ideal for challenging water conditions
- Control complies with cUL, CE, UL

Optional Features & Accessories

- 1.5" or 2" Flow adapters are available to provide every CTM unit the flexibility to use different inlet pipe sizes with minimal impact to flow rates
- Patented Progressive Flow—Culligan's Smart Controller can monitor flow demands bringing additional softening tanks on-line or offline as flows increase or decrease
- Brine Reclaim—reduces operating costs by recycling and making efficient use of brine during regeneration
- Aqua-Sensor® Control—initiates regeneration only when needed based upon water hardness, automatically adjusts to changes in raw water hardness and water consumptions

- Remote Display
- RS232, RS485, Modbus PLC Output, BacNET, Ethernet, Profinet

Culligan® Top Mount (CTM) Water Softener System

CTM Family Group *	Media Qty. (ft ³ / liters)	Pipe Size** (in / mm)	Service Flow Rates		Tank Size***	
			Continuous**	Peak**	Softener	Brine****
			gpm @ 15 psi drop lpm @ 103 kPa drop	gpm @ 25 psi drop lpm @ 172 kPa drop	(in / mm)	(in / mm)
CTM-60	2	1.5" & 2"	51	69	14 x 47	24 x 40
	57	25.4 & 50.8	193	261	356 x 1194	610 x 1016
CTM-90	3	1.5" & 2"	57	75	16 x 53	24 x 50
	85	25.4 & 50.8	216	284	406 x 1346	610 x 1016
CTM-120	4	1.5" & 2"	55	72.5	16 x 65	24 x 50
	113	25.4 & 50.8	208	274	406 x 1651	610 x 1270
CTM-150	5	1.5" & 2"	59	76	18 x 65	24 x 50
	142	25.4 & 50.8	223	288	457 x 1651	610 x 1270
CTM-210	7	1.5" & 2"	65	85	21 x 62	24 x 50
	198	25.4 & 50.8	246	322	553 x 1575	610 x 1270
CTM-300	10	1.5" & 2"	70	95	24 x 72	30 x 50
	283	25.4 & 50.8	265	360	610 x 1829	762 x 1270
CTM-450	15	1.5" & 2"	76	104	30 x 72	30 x 50
	425	25.4 & 50.8	288	394	762 x 1829	762 x 1270
CTM-600	20	1.5" & 2"	82	109	36 x 72	39 x 48
	567	25.4 & 50.8	311	413	914 x 1829	991 x 1219

CTM, CTM 2.0 Water Softeners and all CTM Valves, not tested and certified by WQA for structural integrity (except CSA models) or contaminant reduction. Skid mounted systems not tested and certified by WQA. *See www.wqa.org for select list of models that are CSA B483.1 certified.



Certified by IAPMO R&T against NSF/ANSI 372, CSA B483.1 and NSF/ANSI/CAN 61 for material safety and structural integrity requirements. Not certified for contaminant reductions by IAPMO R&T. The skid mounted systems have not been certified by IAPMO R&T. CTM 2.0 valves and models are not certified by IAPMO R&T

*Each Family Group includes the following control type options:
- Downflow with hard water bypass
- Multi-tank with no hard water bypass

** Depending on choice of 1.5" or 2" flow adapters. Flow rates shown are per tank using a 2" flow adapter. Flow rates may be slightly lower when using the 1.5" flow adapter. Low flow channeling (flow rates less than 0.5 gpm per cubic foot of resin) may cause hardness leakage into effluent

*** Dimensions are diameter by tank height

**** Brine Systems are optional. Size shown is size most commonly selected



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For over 80 years, Culligan® has made better water. Our global network, comprised of 800+ dealers and international licensees in over 90 countries, is dedicated to addressing your water-related problems. As a worldwide leader in water treatment, our sales representatives and service technicians are familiar with the local water conditions in your area. Being global and local position us to deliver customized solutions to commercial and industrial water issues that affect your business and your bottom line.

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