



Culligan®

**Culligan®
Iron-Clear® Plus
Automatic
Water Filter
Owners Guide**





Thank You

And Welcome To Your New World Of Better Living With Culligan Water.

This system and its installation must comply with state and local regulations. The System is ONLY to be supplied with cold water.

The Culligan® Iron Cleer® water filter has been tested and certified by WQA against WQA S-200 for the effective reduction of iron up to 1,400 gallons for 10" units and 2,000 gallons for 12" units.



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

For installations in Massachusetts, the Massachusetts Plumbing Code 248 CMR shall be adhered to. Consult your licensed plumber for installation of the system. This system and its installation must comply with state and local regulations. The use of saddle valves is not permitted.

If this is your first experience having filtered, conditioned water in your home, you'll be amazed at the marvelous difference it makes. We promise that you'll never want to be without it again.

Congratulations, too, on selecting one of the "first family" of water filters in the prestigious Culligan Iron-Cleer. With Culligan's many years of knowledge and experience in water treatment, you can be confident that the model you selected has been designed and engineered to provide years of service with a minimum of care and attention.

Products manufactured and marketed by Culligan International Company (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, Culligan Iron-Cleer, Cullar, Filtr-Cleer, Cullneu, Accusoft, Culligan Man and www.culligan.com are trademarks of Culligan International Company or its affiliates.

Attention Culligan Customer:

The installation, service and maintenance of this equipment should be rendered by a qualified and trained service technician. Your local independently operated Culligan dealer employs trained service and maintenance personnel who are experienced in the installation, function and repair of Culligan equipment. This publication is written specifically for these individuals and is intended for their use.

We encourage Culligan users to learn about Culligan products, but we believe that product knowledge is best obtained by consulting with your Culligan dealer. Untrained individuals who use this manual assume the risk of any resulting property damage or personal injury.



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Culligan® Iron Cleer® Plus Filters

Specifications

	10" Iron Cleer	12" Iron Cleer
Control Valve	1" 5-cycle reinforced thermoplastic	1" 5-cycle reinforced thermoplastic
Timer	Electro-mechanical	Electro-mechanical
Overall Conditioner Height	67"	65"
Media Tank Dimensions (D x H)	2 ea. 10" x 54" tanks	2 ea. 12" x 52" tanks
Filter Media Type	1.0 cu. ft. birm	1.5 cu. ft. birm
Underbedding		
G-50	35 lbs.	35 lbs.
Cullsan U	25 lbs.	25 lbs.
Capacity ¹	1400 gallons	2000 gallons
Freeboard ²	21"	18"
Max. Clear Water (Soluble) Iron	10 ppm	10 ppm
Max. Hydrogen Sulfide	5.0 ppm	5.0 ppm
Minimum Alkalinity	100 ppm	100 ppm
pH	7.0 - 8.5	7.0 - 8.5
Service Flow @ Pressure Drop (Clean Bed)		
Normal	5 gpm @ 9 psi	7 gpm @ 10 psi
Maximum ³	6 gpm @ 11 psi	9 gpm @ 14 psi
Operating Pressure	20-60 psi	20-60 psi
Operating Temperature	33-120° F (1-48° C)	33-120° F (1-48° C)
Electrical Requirements	120 Volts/60 Hz	120 Volts/60 Hz
Power Consumption, Continuous/Maximum	3 watts/203 watts	3 watts/203 watts
Drain Flow, Maximum	10 gpm (5.5 gpm min. req.)	10 gpm (8.0 gpm min. req.)
Regeneration Time		
Backwash	5 - 20 minutes	5 - 20 minutes
Fast Rinse	5 - 20 minutes	5 - 20 minutes

1 Capacity based on 4 gpm and 10 mg/L of dissolved iron.

2 Measured from top of media bed to top of inlet fitting.

3 Max flow rates & pressure drop characteristics have not been validated by the Water Quality Association.

The max specified flow rate at which the system will deliver treated water as validated by the Water Quality Association is defined as service flow.



Introduction

Operation

Step 1.

Aeration Operation Service Cycle

In the service cycle, raw water enters the inlet port of the aeration tank and is directed through the inlet diffuser. The oxidation process begins when the water passes through the inlet diffuser and cascades through a head of air. This air/ water contact oxidizes the iron, manganese, hydrogen sulfide in the water. The water is directed toward the bottom of the tank and travels through the pick-up tube. It then passes through the outlet of the aeration tank to the inlet of the filter tank.

Filter Tank Operation Service Cycle

Raw water enters the filter tank through the inlet port of the filter control valve. Upon system demand for filtered water, water is directed to the top of the tank and flows downward through the multimedia filter bed toward the lower distributor. Oxidized iron particles are trapped by the filter bed as the water passes through. Filtered water enters the lower distributor and travels up the distributor tube to the outlet port on the filter valve.

Step 2.

Aeration Operation Air Recharge Cycle

When energized, the air pump sends air through the solenoid valve into one end of the shuttle valve. Once air pressure in the shuttle valve is greater than the water supply pressure at the other end of the shuttle valve, the piston shifts to the open position. In the open position, the bleed-off port discharges excess water and old air to the drain port through a flow restrictor. Simultaneously, the air inlet port opens to provide a direct connection between the air pump and the top of the aeration tank. The air pump runs for a preset period of time recharging the head of air in the aeration tank.

Air Recharge Shut Off

The timer turns power off to the air pump and the solenoid valve at the end of the recharge cycle. The solenoid valve then closes the port between the air pump and the shuttle valve. The port between the shuttle valve and the atmosphere opens and releases air pressure. This allows water pressure to shift the piston to the closed position. With the piston in the closed position, the air recharge inlet port is closed and direct communication between the bleed off tube and the drain port is also closed.

Timer Operation

A timer controls the air recharge cycle and how frequently it occurs. The timer simultaneously energizes the air pump and the solenoid valve. After a preset amount of time, the timer shuts off the air pump and de-energizes the solenoid valve.

Solenoid Valve Operation

The solenoid valve is a three-way valve having ports that connect to the air pump, shuttle valve and the atmosphere. In the service cycle, the solenoid valve is de-energized and closes the port to the air pump, providing a positive shut-off to the pump. This prevents water from backing up into the air pump and damaging the pump. In the air recharge cycle, the solenoid valve closes the port to the atmosphere and opens the port from the air pump.



Introduction (cont.)

Shuttle Valve Operation

In the service position, water pressure holds the shuttle valve piston in the closed position, trapping the airhead in the aeration tank and closes the air recharge inlet port and drain port. During air recharge cycle, air pressure is greater than the water pressure and forces the shuttle valve piston in the open position. The shuttle valve has an internal pressure relief valve that will relieve pressure (greater than 100 psi) that may build up in the aeration tank. This precautionary function protects components from failure due to excessive pressure.

Step 3.

Filter Tank Operation - Backwash Cycle

Reversing the flow of water through the filter bed and backwashing dirty water to the drain cleans the filter bed. Raw water enters the filter control valve through the inlet port and is directed down the distributor tube and out the lower distributor at the bottom of the tank, flowing upward through the multimedia filter bed toward the top of the tank into the control valve. Water is then directed through a specific flow restrictor and out the drain port to be discharged to drain.

Step 4.

Filter Tank Operation - Rinse Cycle

The rinse cycle packs the clean filter bed. Raw water enters the control valve through the inlet port and is directed downward through the filter bed into the bottom distributor, up the distributor tube into the control valve. Water is then directed through a specific flow restrictor and out the drain port to be discharged to drain.

Operation Of Aeration Pump

The Iron-Cleer® system introduces air into the aeration tank and bleeds off the old head of air automatically. The exchange of the air into the aeration tank is controlled independently of the recharge frequency of the filter media tank, allowing the air to be exchanged on a more frequent basis. During an air exchange cycle, the air compressor pumps fresh air into the aeration tank and the air eliminator solenoid exhausts the old air.

Advantages Over Other Systems

1. No chemicals or salt.
2. No air injectors, venturis, or micronizers.
3. No floats to regulate air volume in aeration tank which "foul" from iron.
4. Two-tank system consisting of a pressurized aeration tank and multi-media depth filter.
5. 110V aeration pump to recharge aeration tank.
6. Can be used on shared wells, municipal water supplies or with buried pressure tanks without additional equipment.
7. Better filtration results.



Operating Conditions

The concentration limits listed below reflect the maximum individual limit that each contaminant was tested for separately without any interference of other contaminants in the influent water.

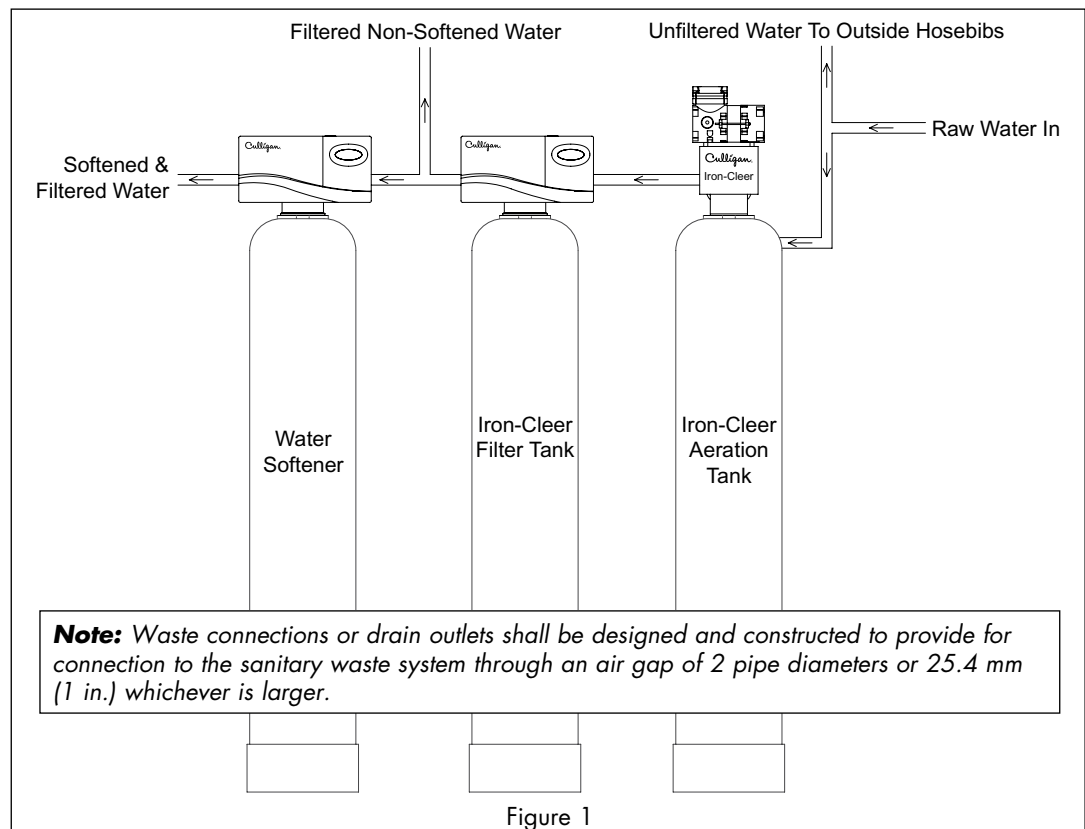
In reality, however, we know that these contaminants may be present in combination which may limit the filter's ability to remove these contaminants in higher concentrations. In some cases, individual sellers of this equipment have had success removing higher concentrations of contaminants - iron, for example - above the limitations we have listed. If you are considering the installation of this system for the reduction/removal of iron, manganese and/or hydrogen sulfide beyond the printed operating conditions below, we recommend that you consult the manufacturer for proper application. Installation of this system under these circumstances may void part(s) and/or all of the system warranty.

pH — The pH level of the influent water must be 6.5 - 8.5. A pH level of 7.0 - 8.5 is optimal for iron reduction and a pH level of 6.5 - 7.5 is optimal for hydrogen sulfide reduction.

Iron — This system is rated for a maximum of 10 ppm of ferrous (clear water) and/or ferric (red water) iron. Consult the factory if iron bacteria is present.

Hydrogen Sulfide — Often referred to as rotten egg odor, hydrogen sulfide will be reduced significantly on water supplies containing less than 5 ppm. Consult the manufacturer if hydrogen sulfide concentrations is greater than 5 ppm.

Organic Matter (Tannins) — The presence of organic matter such as tannins will prevent the oxidation process of converting the dissolved element, such as iron or manganese, to a non-soluble precipitate or solid substance, allowing it to be filtered out. The Iron-Clear® is not designed to remove organic bound iron.





Power Loss

The AccuSoft® circuit board is equipped with a Hi-Cap Capacitor and EEPROM memory chip. The capacitor is capable of maintaining the time, for at least two days, in the event of a power outage. The EEPROM ensures that the individual programming parameters of your filter are not lost.

If the power outage lasts long enough to drain the Hi-Cap Capacitor, the control will flash "12:00 PM" when power is returned to the control. The unit will continue to keep time from the moment power is restored, and will initiate a full regeneration at the preset regeneration time. The time of day will need to be reset in order to return the regeneration to its preset time.

If you live in an area where power outages occur with a regular frequency, a battery backup option is available for ensuring that the time of day is properly maintained. Contact your Culligan Dealer for more information.

Regeneration

To initiate a regeneration at the preset time, press the "REGEN" button. The "REG" light will light. To initiate an immediate regeneration, press and hold the "REGEN" button for at least three seconds. The "REG" will light and blink. An immediate regeneration will also occur if a power outage has lasted for more than three hours and the Immediate Regeneration option is chosen. Ask your Culligan Dealer about this feature.

A regeneration at the Time of Regeneration will occur if so signaled by the Soft-Minder meter. The "REG" enunciator on the display will also be lit.

Service

Culligan's Iron-Cleer® water filter is equipped with a self diagnostic program to insure optimal operation of your water filter. Should service become necessary, a phone icon will appear in the display. If this condition occurs, call your local Culligan Dealer for assistance. The phone icon and error code will be the only items displayed when service is required on the control.

Familiarization



Familiarization (cont.)

Modes of Operation

Manual Regeneration

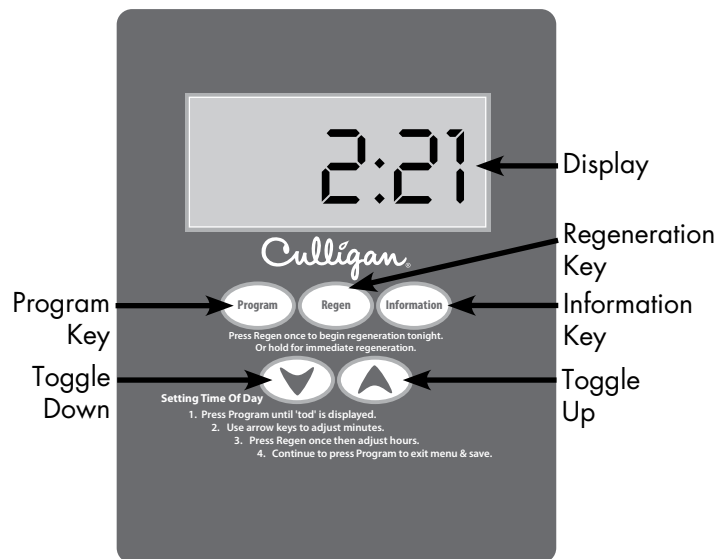
Pressing and holding the regen button for 3 seconds will initiate an immediate regeneration. The beeper is to give one beep at the start of manual regeneration (when the motor starts to turn). In delay mode, pressing and releasing the regen button will light the regen icon for regeneration to occur at the set delay time. Pressing and releasing the regen button again will turn off the regen icon.

Power Loss

The AccuSoft® circuit board is equipped with a Hi-Cap Capacitor and EEPROM memory chip. The capacitor is capable of maintaining the time, for at least one day, in the event of a power outage. The EEPROM ensures that the individual programming parameters of your softener are not lost.

If the power outage lasts long enough to drain the Hi-Cap Capacitor, the control will flash "12:00 PM" when power is returned to the control. The unit will continue to keep time from the moment power is restored, and will initiate a full regeneration at the preset regeneration time. The time of day will need to be reset in order to return the regeneration to its preset time.

If you live in an area where power outages occur with a regular frequency, a battery backup option is available for ensuring that the time of day is properly maintained. Contact your Culligan Dealer for more information.



Display	Back-lit LCD display.
Program Key	Depress to enter and move through the programming steps.
Regeneration Key	Press and hold the key for three (3) seconds to initiate an immediate regeneration. When pressed during programming the time of day, this key will allow the user to toggle between the hours and minutes setting of timing program segments.
Information Key	Each time depressed, the Information key will display statistical information such a flow rate, time of day. Use with the Toggle Down key to display other statistical information.
Toggle Down Key	In the programming mode this key will move the user through the programming function in a descending mode. If depressed for greater than three seconds, the rate at which the display scrolls through data will increase.
Toggle Up Key	In the programming mode this key will move the user through the programming function in an ascending mode. If depressed for greater than three seconds, the rate at which the display scrolls through the data will increase. This key will also allow the user to manually step through the cycles of regeneration.



The Culligan® AccuSoft® Plus circuit board controls all of the filter functions. These settings are programmed at the time of installation. The following is a list of all the microprocessor functions, in the event that any of the settings need to be adjusted.

REGEN EFFICIENCY MODE	TODAY'S AVG DAILY WATER USAGE	SOFTWATER REMAINING
BACKWASH GALLONS	BRINE RINSE LITERS	FAST RINSE/ REFILL FLOW RATE GPM LPM

Programming

Display Icons

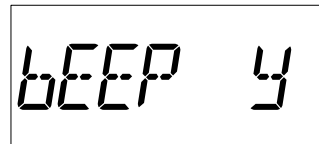
The display is to be backlit and have the icons as shown below.

Custom LCD Display

Six standard 12-segment alpha-numeric characters, a decimal separating the first and second character, a colon separating the second and third character positions, AM, PM, REGEN, EFFICIENCY MODE, TODAY'S, AVG DAILY, WATER USAGE, SOFTWATER, REMAINING, %, MINS, BACKWASH, BRINE RINSE, FAST RINSE, REFILL, GALLONS, LITERS, FLOW RATE, GPM, LPM Icons

A further description of each programming setting and the corresponding display is outlined below. For a display that has an icon that is displayed solid for the 2 second time period prior to bringing up the settings, the settings menu can be reached prior to the two second time out by pressing the "+" or "-" key.

- Beeper Setting** - This setting is used to turn the beeper on or off for each key press actuation. The display will show "bEEP X" where X is either "Y" or "N". The "Y" or "N" will be toggled with the "Up" and "Down" keys. Setting the Beep option to "N" will only disable the beeper for key press actuation. The beeper will still be active for error and alarm codes.

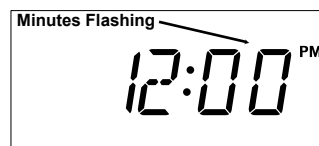


Pressing the "Program" key will save the setting and move to the next programming step.

- Time of Day** - This setting is used to program the current time of day. When in this step the display will first show "tod" for two seconds.

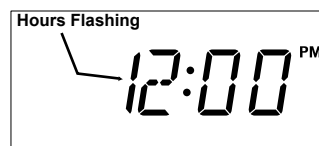


After "tod" is displayed, "12:00 PM" will display (or the current set time if already programmed) and the minutes will flash. The minutes are adjusted with the "Up" or "Down" key until the correct value is displayed.



Press the "Regen" key to flash the hours. Adjust with the "Up" or "Down" key until the correct time is displayed.

Pressing the "Program" key will move to the next programming step. Pressing "Regen" will move back to the minutes adjust.



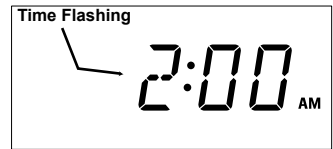


Programming (cont.)

- **Time of Regeneration** - This setting is used to program the time at which a regeneration is to occur in the delay mode, or in immediate mode with time clock backup on. The display will first show "tor" for two seconds.

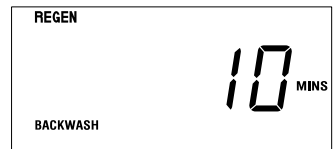
After "tor" is shown the display will then show the default of 2:00 AM (or the current programmed time of regeneration if already set). The time can be adjusted in 30 minute increments by pressing the "Up" or "Down" keys.

Pressing the "Program" key will save the setting and move to the next programming step.



- **Cycle 1 Time (Backwash)** - This setting is used to program the backwash cycle. The time of the cycle is kept in minutes. The display will show the "Backwash" and "Mins" icons and the cycle time in the right most digits. Adjust the value with the "Up" or "Down" keys.

Pressing the "Program" key will save the setting and move to the next programming step.



- **Cycle 2 Time (Pause)** - This setting is used to set the time in minutes for cycle 2. This cycle is usually brine draw / slow rinse for softeners and a settling time for filters. The display will show the "BRINE RINSE" and "MINS" icons and the cycle time in the right most digits. Adjust the value with the "Up" or "Down" keys.

Pressing the "Program" key will save the setting and move to the next programming step.



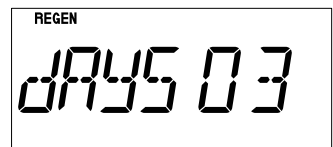
- **Cycle 3 Time (Fast Rinse)** - This setting is used to set the time in minutes for cycle 3. This cycle is usually fast rinse for softeners and filters. For softener applications it may include the refill operation. The display will show the "FAST RINSE", "/", "REFILL" and "MINS" icons for 4-cycle valves or "FAST RINSE" and "MINS" icons for 5-cycle valves and filters with the cycle time in the right most digits. Adjust the value with the "Up" or "Down" keys.

Pressing the "Program" key will save the setting and move to the next programming step.



- **Regeneration Interval** - This setting is used to set the days between regeneration in time clock mode. It is also active in meter mode if the time clock backup DIP switch # 10 is set to on. The display will show "REGEN" icon and "days" as well as the numbers to change. Adjust the value with the "Up" or "Down" keys.

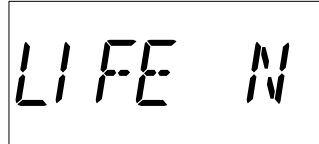
Pressing the "Program" key will save the setting and move to the next programming step.





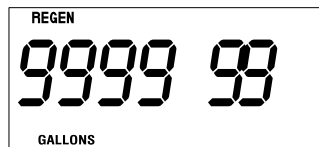
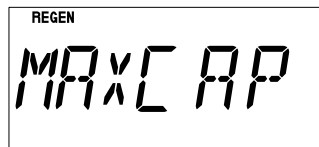
Programming (cont.)

- **Filter Media Life (Change Media)** - This setting is used in Filter Mode ONLY with flow meter attached. It enables or disables an alarm code ("CHANGE MEDIA") that indicates the end of life for the filter media. The display will show "LIFE" in the left most characters and toggle between "Y" and "N" in the right most character with the "+" and "-" keys. If "NO" is selected, the alarm is disabled and the 'Total Capacity' setting will be treated as it is in Flow Meter Mode (softener). If "YES" is selected, the alarm is enabled and will sound when the 'Total Flow/Life of Unit' statistic = 'Total Capacity' setpoint, indicating that it is time to change the filter media.



Pressing "Program" key will save and advance to the next step.

- **Total Capacity Set Point (Max Capacity)** - This setting is used to program a value that corresponds to the maximum capacity that can be expected from a unit before it is completely exhausted (no reserve). This setting will only appear if a flow meter is connected to the circuit board. The display will show the "REGEN" icon and "MAXCAP" for two seconds and then display the "REGEN" and "GALLONS" or "LITERS" icons (depending on DIPswitch #7 setting) and the setting numbers to adjust. Adjust the value with the "Up" or "Down" keys.


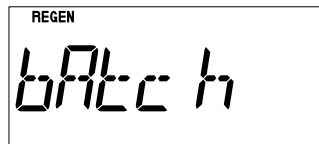


When the capacity used equals this total capacity setting with the "Life" feature off, the control will regenerate either immediately or at the time of regen based on the "hidden programming menu" setting.

With the "Life" feature on, the control will use this setting to trigger the "Change Media" alarm.

Pressing the "Program" key will save the setting and move to the next programming step.

- **Batch Set Point** - This setting is used to set the trip point for regeneration when in flow meter operation. It will only appear if a flow meter is connected. The programmed setting displays the actual set point to trigger regeneration. The display will show the "REGEN" icon and "bAtCh" for two seconds and then display the "REGEN" and "GALLONS" or "LITERS" icons (depending on dip#7 setting) and the setting numbers to adjust. Adjust the value with the "Up" or "Down" keys.



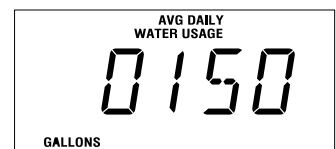
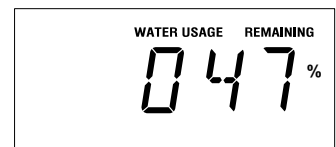
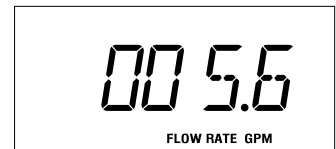
Pressing the "Program" key will save the setting and move to the next programming step.



Statistic Functions

The statistical functions are reached by pressing the "Information" key. Repetitive presses of the "Information" key will cycle through the standard statistics mode until cycled back to time of day display. Once either of the Information menus is entered the information shown for each display is outlined below:

- **Flow Rate** - This display will only show if the flow meter is attached to the control. The display shall show the current flow rate of the water passing through the control. The display will show the "Flow Rate" and "GPM" icons and the current flow rate passing through the flow meter for as long as the "-" key or "Information" key is not pressed.
- **Capacity Remaining (%) (standard statistics)** - This display will only show if the flow meter is attached to the control. The display shows the percent capacity remaining before regeneration will be triggered. The display will show the "Water Usage", "Remaining" and "%" icons.
- **Today's Water Usage** - This display will only show if the flow meter is attached to the control. The display will show the accumulated flow of water for the current day. The value is to start totalizing at 12:00 AM and reset to 0 at 11:59:59 PM. The display will show the "Today's", "Water Usage" and "Gallons" icons and the total days flow.
- **Average Daily Water Usage** - This display will only show if the flow meter is attached to the control. The display will show a running 7-day average of daily water usage. The display will show the "Avg Daily", "Water Usage" and "Gallons" icons and the averaged flow value.





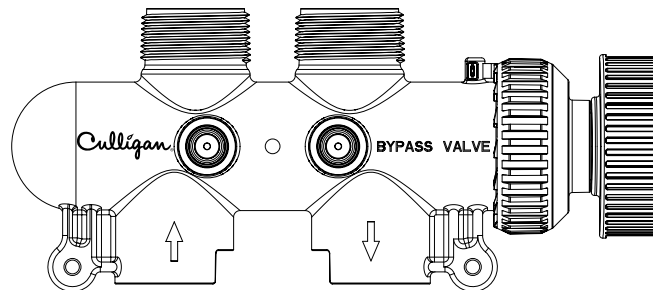
When and How to Bypass Your Water Conditioner

Normally, all water except outside lines passes through the water conditioner. There are times when the water conditioner should be bypassed, using the Cul-Flo-Valv® Bypass, or a 3-way bypass valve. You should bypass:

1. If lines to outside faucets do not bypass the water conditioner, and you do not want to waste conditioned water on lawn sprinkling or other outside uses.
2. If you are going away on vacation and want to save salt by not having the unit recharge while you're away.

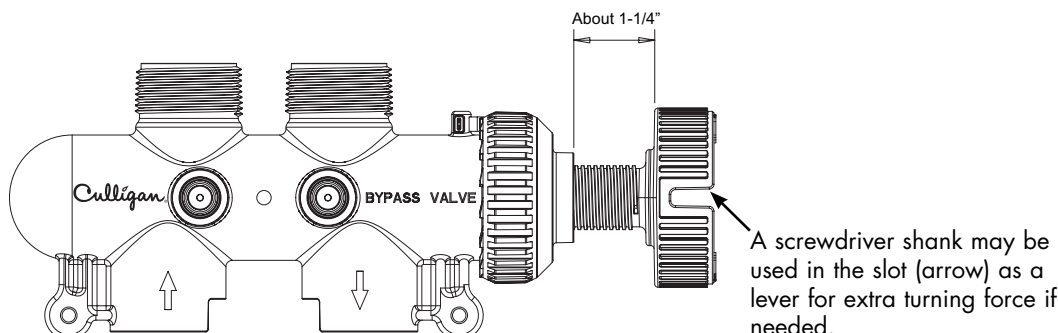
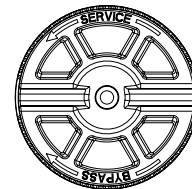
Bypass Valve

In the back of Culligan water conditioners is a push-button Cul-Flo-Valv® Bypass. To bypass unit, simply turn the blue knob clockwise. To return to soft water service, reverse the procedure - turn the blue knob counter-clockwise.



Bypassed

To BYPASS, turn the blue knob clockwise (see directional arrow on end of knob) until the knob stops as shown. **DO NOT OVERTIGHTEN!**



Soft Water

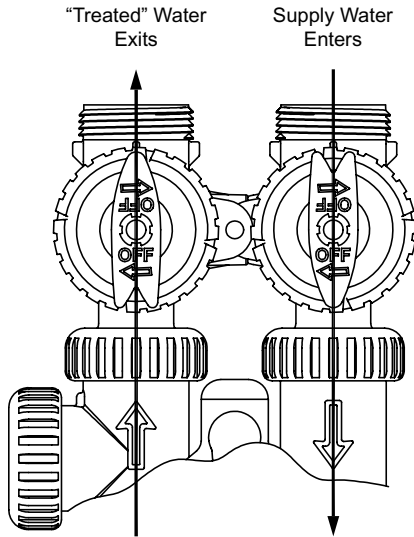
To return to SERVICE, turn the blue knob counter-clockwise (see directional arrow on end of knob) until the knob stops as shown. **DO NOT OVERTIGHTEN!**



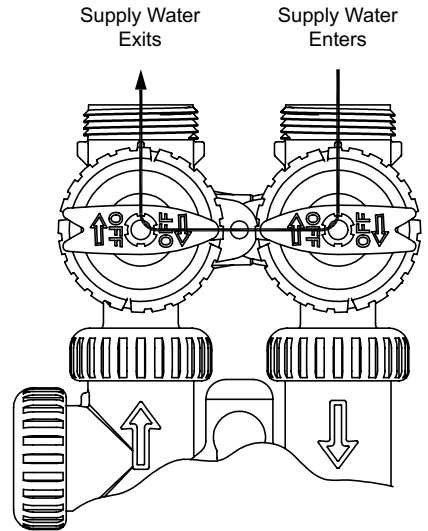
When and How to Bypass Your Water Filter (cont.)

Aeration Tank Bypass Valve

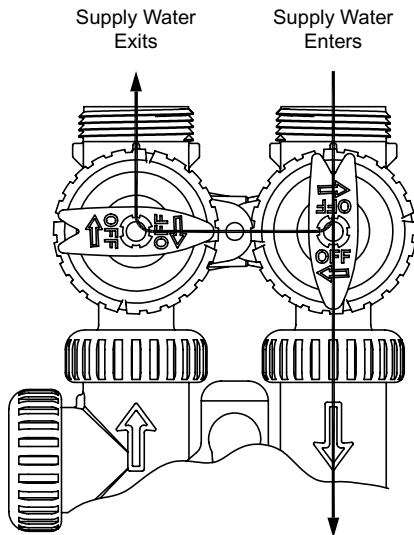
Normal Operation



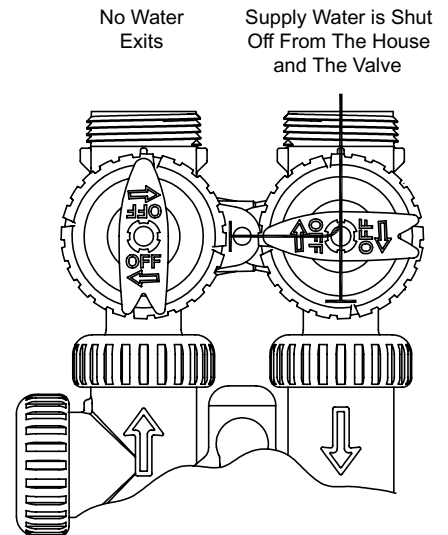
Bypass Operation



Diagnostic Mode



Shut-Off Mode





If you unexpectedly experience problem water, make these simple checks before calling your Culligan dealer. One of the following conditions may be the reason for your interruption of service.

Important

If any of the following conditions is found, the water filter should be manually recharged according to instructions on page 5 after you have corrected the problem.

Power Supply

Check your power supply cord. Is it plugged fully into the electric outlet? Be certain that the outlet is not controlled by a wall switch which has been turned off. Reset conditioner to proper time of day and then plug in.

Blown Fuse

Check the house fuse or circuit breaker panel. Replace a blown-out fuse or reset an open circuit breaker.

Power Failure

Any interruption in your power supply or time changes - such as daylight savings - will disrupt your filter's recharge schedule by causing the timer to run off-schedule. Reset timer to proper time of day.

Bypass Valves

Check to see if they are in the proper position. Cul-Flo-Valv[®] Bypass, if used, should be in the "Service" position. If hand valves are used, see that inlet and outlet valve are opened and that the bypass valve is closed.

No Water

If you aren't getting any water flow at all, make sure your water supply is working. Open a tap ahead of the filter (outside tap) to see if you have any water pressure. If you have water pressure, check the bypass valve. If it is in the Service position, put it into the bypass and call your Culligan dealer for service.

Increased Usage

Guests, family additions, new water-using appliances, etc., all will result in more water usage and will require more capacity from your filter. You can reprogram your recharging schedule by following the directions on pages 7 - 9. Call your Culligan dealer for advice and save a service call.

Things to Check Before You Call for Service



Recommended Preventative Maintenance

The Culligan Iron Clear water filter has been designed to provide a good, consistent service life. Because of the nature of problem water, we recommend that the local Culligan dealer provide regular maintenance/service contracts for the proper operation of your systems. The water filter service begins with a multi point inspection of your water filter system in an effort to uncover any and all problems that may exist. Listed below is a recommended list of maintenance items to be inspected at a minimum of once a year (or more frequently depending on the raw water quality).

Test Water	Feed	Product
Hardness		
Iron		
Hydrogen Sulfide		
Chlorine		
TDS		
Other		
Comments:		
Bypass Valve		
Bypass in Service or Bypass?		
Condition of bypass valve		
Operation OK?		
Control Valve		
Condition of Seal Pack		
Condition of Solenoid Valve		
Condition of Motor:		
Condition of Flow Control		
Condition of Switches:		
Condition of Check Valve		
Condition of Shuttle Valve		
Condition of Compressor	Output PSI	
Control settings	Before	After
Check /reset Circuit Board		
Check time of regeneration		
Time delay relay setting "On Time" in seconds		
Time delay relay setting "Off Time" in minutes		
Backwash minutes		
Fast Rinse minutes		
Cycle control	Test Cycle	OK?
	Backwash	
	Fast rinse	
Media Tank		
Freeboard inches:		
Media Condition		



Troubleshooting Guide

Complaint	Problem	Cause	Solution
Iron bleed-through or staining.	A. Inadequate backwash of filter	1. Plugged drain line flow control	1. Call your Culligan dealer for service.
		2. Insufficient water supply from well.	2. Check for minimum specified flow and pressure requirements of filter system.
		3. Plugged aeration tank inlet diffuser or pick-up tube.	3. Call your Culligan dealer for service.
		4. Media bed fouled.	4. Call your Culligan dealer for service.
	B. Fails to regenerate	1. Interrupted electrical service.	1. Assure continuous electrical supply (check plug, breaker, fuses, etc.).
		2. Faulty circuit board.	2. Replace circuit board.
		3. Faulty drive motor.	3. Replace drive motor.
		4. Circuit board set incorrectly.	4. Reset circuit board.
	C. Water contaminant levels are greater than limits established by Culligan.	1. It is not uncommon for local water conditions to change.	1. Call your Culligan dealer for service.
	D. Inadequate aeration	1. Loss of air through inlet check valve.	1. Call your Culligan dealer for service.
		2. Loss of air through air leak.	2. Call your Culligan dealer for service.
		3. Faulty aeration pump.	
		a. Electrical failure	a. Assure permanent electrical service (check plug, breaker, fuses, terminal block on control valve, etc.).
b. Pneumatic failure		b. Call your Culligan dealer for service.	
c. Damp environment		c. Call your Culligan dealer for service.	
4. Air loss through high demand.		4. Call your Culligan dealer for service.	
E. Exceeding recommended filter system flow rate.	1. Service flow rate demand is higher than filter system design flow rate.	1. Call your Culligan dealer for service.	
F. Regeneration during service flow demand.	1. Time of day set incorrectly.	1. Call your Culligan dealer for service.	
G. Raw water bleeding through filter.	1. Internal control valve leak.	1. Call your Culligan dealer for service.	



Troubleshooting Guide (cont.)

Complaint	Problem	Cause	Solution
Water leaking from relief valve.	A. Dirt lodged under seat of valve.	1. Pressure has exceeded rating on relief valve and caused valve to open	1. Call your Culligan dealer for service.
	B. Faulty or defective relief valve		1. Call your Culligan dealer for service.
Water is effervescent	A. This can be expected when water is aerated under pressure.	1. Water supply has been naturally aerated under well system pressure. As water is released to the atmosphere, air molecules separate from the water molecules.	1. This natural phenomenon will typically dissipate to the atmosphere in a matter of seconds. If preferred, water can be drawn and stored in an open container prior to use (i.e. fill a pitcher and store in the refrigerator for cool, fresh drinking water).
Loss of pressure	A. See complaint #1, problem A & B		
Air spurting at outside or non-filtered water fixtures.	A. Inlet check valve not sealing.	1. Improper installation location.	1. Call your Culligan dealer for service.
		2. Foreign material preventing check valve.	2. Call your Culligan dealer for service.
		3. Worn or faulty check valve.	3. Call your Culligan dealer for service.
Air spurting from filtered water fixtures.	A. Reduced pressure in distribution system.	1. Service flow demand is greater than water supply available from well pump system.	1. Repair or replace well pump system.
		2. Water flow is restricted by supply piping and/or water treatment equipment.	2. Call your Culligan dealer for service.
Loss of media through drain line.	A. New filter backwashed during first 24 hours after installation.	1. New filter media is shipped in a dry condition and must soak for 24 hours to become fully saturated before a backwash cycle.	1. Clean drain line flow control, control valve body, seals, spacers and piston assemblies
	B. Air passing through filter during backwash.	1. Excess air accumulated in aeration tank from aeration pump.	1. Call your Culligan dealer for service.
		2. Excess air accumulated in filter system from water supply or well pump.	2a. Repair well pump system.
			2b. If the cause was due to temporary loss of water main pressure; the problem will most likely correct itself with the return of continuous pressure.
Excessive noise during regeneration.	A. Howling or whistling noise during regeneration cycle.	1. Inadequate drain line size.	1. Call your Culligan dealer for service.
		2. Drain line is vibrating against other pipes, conduits, pipe hangers, heat ducts, floor joists, etc.	2. Call your Culligan dealer for service.



Troubleshooting Guide (cont.)

Complaint	Problem	Cause	Solution
Water is running to drain continuously.	A. Control valve is stuck in regeneration cycle.	1. Electrical service to control(s) has been interrupted.	1. Assure continuous electrical service is available. (check plug, breaker, fuse, etc.)
		2. Faulty circuit board.	2. Replace circuit board..
		3. Faulty drive motor.	3. Call your Culligan dealer for service.
		4. Foreign material lodged in piston.	4. Call your Culligan dealer for service.
Blue green staining.	A. Corrosive water condition in copper distribution piping system.	1. Low pH condition of the raw water supply.	1. Call your Culligan dealer for service.
		2. In rare occasions, highly aerated water in combination with a specific water supply can create a slightly corrosive condition.	2. Call your Culligan dealer for service.
Compressor doesn't run.		1. Compressor unplugged.	1. Plug it in.
		2. Relay settings incorrect.	2. Call your Culligan dealer for service.
		3. Bad relay.	3. Call your Culligan dealer for service.
Compressor run with excessive noise.		1. Dead head pressure is 65 psi.	1. Call your Culligan dealer for service.
		2. Dead head pressure is 65 psi.	2. Call your Culligan dealer for service.
Compressor runs continuously.		1. Incorrect relay settings	1. Call your Culligan dealer for service.
		2. Bad relay.	2. Call your Culligan dealer for service.



Performance Data Sheet

Culligan® 10" and 12" Iron-Clear® Water Filters

Important Notice — Read this data sheet and compare the capabilities of the unit to your actual water treatment needs. Culligan recommends that you have your water supply tested to determine these needs before purchasing a water treatment unit.

Culligan knows the more informed you are about your water treatment system, the more confident you will be about its performance. It's because of this more than sixty years of commitment to our customers that Culligan is providing this Performance Data Sheet to its customers.

Manufacturer Culligan International Company

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 www.culligan.com

Substance Reduction

Model	Substance	USEPA SDWA* MCL (MG/L)	Percent Reduction	Average Influent Concentration Level	Average Effluent Concentration Level
10" Iron-Clear	Iron	0.3 mg/L	99%	9.82 mg/L	< 0.1
12" Iron-Clear	Iron	0.3 mg/L	99%	9.82 mg/L	< 0.1

* United States Environmental Protection Agency Safe Drinking Water Act

Testing Conditions

Capacity:	1,400 gallons (10" Iron-Clear)	Pressure:	60 psi
	2,000 gallons (12" Iron-Clear)	Acidity:	Non-Corrosive
Temperature:	63°F - 73°F	Rated Pressure Drop @ 5 gpm:	9 psi (10" Iron-Clear)
Flow Rate:	5 gpm (10" Iron-Clear)	Rated Pressure Drop @ 7 gpm:	10 psi (12" Iron-Clear)
	7 gpm (12" Iron-Clear)		
pH:	8.0		

Operating Conditions

Water Pressure Limits: 20 - 60 psi
 Temperature Limits: 33 - 120°F
 Electrical Characteristics: 120V/60 Hz 3 Watts continuous



Systems tested and certified by WQA against WQA S-200 for the effective reduction of iron.

This system has been tested according to NSF/ANSI 42 for the reduction of iron. The concentration of iron in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system as specified in NSF/ANSI 42.

Testing was performed under laboratory conditions, actual results may vary.

Performance Indicator: If water flow decreases or a noticeable odor returns, the filter should be reconditioned. If conditions do not improve, contact your local Culligan Man. He can determine if your filter requires servicing.

Regeneration Frequency: Regeneration frequency will vary depending upon water conditions.

Refer to your Installation and Operation Instructions, Parts List and Printed Warranties for more specific product information. To avoid contamination from improper handling and installation, your system should only be installed and serviced by your Culligan Man. Performance may vary based on local water conditions. The substances reduced by this product are not necessarily in your water.

Buyer Signature _____ Date _____



Important Data on Your Water Filter

It is advisable to have the salesperson or installer fill in the information below for your future reference. If this has not been done, please ask for it, as it is necessary if you contact your dealer.

Identification

Model Name _____ Catalog No. _____

Control Model No. _____ Control Serial No. _____

Date of Installation _____ Tank Serial No. _____

Settings

Time of Recharge: _____ a.m. _____ p.m.

Regeneration Interval _____ days (Time clock models)

Number of people in household _____

Water Analysis

Total Hardness _____ (gpg) Total Iron _____ (ppm)

Hydrogen Sulfide _____ (ppm)

Other _____

Records and Data



Culligan Limited Warranty

Culligan® Iron-Clear® Automatic Water Filters

You have just purchased one of the finest water conditioners made. As an expression of our confidence in Culligan International Company products, your water conditioner is warranted to the original end-user, when installed in accordance with Culligan specifications, against defects in material and workmanship from the date of original installation, as follows:

For a period of ONE YEAR

For a period of FIVE YEARS

For a period of TEN YEARS

The entire conditioner

The AccuSoft® circuit board

**The control valve body, excluding internal parts
The conditioner tank**

If a part described above is found defective within the specified period, you should notify your independently operated Culligan dealer and arrange a time during normal business hours for the dealer to inspect the water conditioner on your premises. Any part found defective within the terms of this warranty will be repaired or replaced by the dealer. You pay only freight from our factory and local dealer charges.

We are not responsible for damage caused by accident, fire, flood, freezing, Act of God, misuse, misapplication, neglect, oxidizing agents (such as chlorine, ozone, chloramines and other related components), alteration, installation or operation contrary to our printed instructions, or by the use of accessories or components which do not meet Culligan specifications, is not covered by this warranty. Refer to the specifications section in the Installation and Operating manual for application parameters.

Our product performance specifications are furnished with each water conditioning unit. **To the extent permitted by law, Culligan disclaims all implied warranties, including without limitation warranties of merchantability and fitness for particular purpose; to the extent required by law, any such implied warranties are limited in duration to the one-year period specified above for the entire conditioner.** As a manufacturer, we do not know the characteristics of your water supply or the purpose for which you are purchasing a water conditioner. The quality of water supplies may vary seasonally or over a period of time, and your water usage rate may vary as well. Water characteristics can also differ considerably if your water conditioner is moved to a new location. For these reasons, we assume no liability for the determination of the proper equipment necessary to meet your requirements, and we do not authorize others to assume such obligations for us. Further, we assume no liability and extend no warranties, express or implied, for the use of this product with a non-potable water source. **Our obligations under this warranty are limited to the repair or replacement of the failed parts of the water conditioner, and we assume no liability whatsoever for direct, indirect, incidental, consequential, special, general, or other damages.**

Some states do not allow the exclusion of implied warranties or limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Similarly, some states do not allow the exclusion of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Consult your telephone directory for your local independently operated Culligan dealer, or write Culligan International Company for warranty and service information.

Culligan International Company

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(847)430-2800
www.culligan.com



You Get Your Water Expert, The Culligan Man®

We're here to provide you with fast, dependable service, making sure any problems you have are taken care of. The Culligan Man has been around for over seventy years, delivering dependable service all along. That's why people say "Hey, Culligan Man!"® Because we're the water experts. And that's who you want taking care of your water.

The Culligan Promise

At Culligan, we understand that a water quality improvement system is an investment in your family's well-being. That's why our 1,350 independently operated dealers worldwide don't just sell products; they sell water quality you can count on. We stand behind our products with written limited warranties and our unequaled Culligan service. No matter where you live, you can depend on Culligan expertise to work for you — today and tomorrow.

**With Culligan
You Get
More Than
A Quality
Product**