

EC4 SERIES Water Treatment System Owner's Manual



RainSoft



The EC4 series is tested and certified by NSF International to NSF/ANSI Standard 44 and CSA B483.1 for the reduction of the claims specified on the Performance Data Sheet.

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Congratulations on your purchase of a RainSoft water treatment system.

This Owner's Manual is designed to assist with the operation, maintenance, and installation of your water treatment system. It is our sincere hope that this manual is clear, concise, and helpful to you as a new owner.

Questions? If you have any questions regarding the installation, operation, or servicing of this system, please contact your local RainSoft Dealer. Your local RainSoft Dealer is familiar with your particular water conditions, and is able to address your concerns promptly and efficiently.

INFORMATION ON WATER TREATMENT SYSTEMS

There are many misconceptions that have been developed about water treatment systems. The most common topic of confusion is the amount of sodium (Na), not table salt (NaCl), that is added to the water from a water conditioner. In reality, ion exchange does replace the hardness ions in your water with sodium ions, but the common misconception is the amount used.

For every one (1) grain of hardness, the exchange process will deliver approximately eight (8) milligrams of sodium per one (1) liter of water. The amount of sodium present in a standard eight (8) ounce glass of treated water, that was 10 grains hard prior to treatment, would be around 19 milligrams of sodium. This is an insignificant amount of sodium considering a typical slice of white bread has about 140 milligrams.

Another common misconception that needs mentioning is the amount of salt used by the conditioner to regenerate the system. In the past, water conditioners used more salt to regenerate, but that was due to old technology and standards. Water conditioners do use salt for regeneration, but the amount of salt varies by water consumption and hardness levels. Fortunately, today's technology allows us to dispense just the right amount of salt for maximum efficiency, based on your individual water consumption needs.

APPLICATION LIMITATIONS

On hardness levels of 60 grains and higher, the system may not achieve a hardness of less than 1 grain; due to high Total Dissolved Solids, some bleed through is possible. Bleed through can also be caused by sodium levels higher than 1,000 parts per million. In either case, your system can be programmed to minimize these effects. See your RainSoft Dealer for details.

Chlorine or Chloramine levels on municipality treated water should not exceed four (4) parts per million.* When Chlorine or Chloramine levels are four (4) parts per million* or greater, it can have adverse effects on your system. In applications where high levels are a concern, pre-filtration is necessary to reduce the Chlorine or Chloramine to an acceptable level. See your RainSoft Dealer for details.

When this system is installed on water with Ferrous iron, also known as clear water iron, the maximum range of removal is based on local water conditions. The range is generally two (2) to 10 parts per million. Your equipment may require special programming, along with an additive to the brine tank, to maximize the equipment's ability to remove iron. See your RainSoft Dealer for details.

*Maximum disinfectant level of Chlorine or Chloramine recommended from the EPA.

OPERATIONAL SPECIFICATIONS

Plumbing:	3/4 inch to 1 1/4 inch I.D.
Drain Line:	1/2 inch I.D.
Water Pressure:	20 psi - 120 psi (1.38 bar - 6.89 bar)
Operating Temperatures:	40 - 100°F (4.4 - 37.8°C)

Electrical Requirements

A properly grounded alternating current supply (110 VAC 60 Hz) is required for the operation of this system. Please check the power supply for the correct voltage requirements.

Bypass Valve

The bypass valve enables you to bypass the system in situations of emergency leaks in the equipment, service calls.

Helpful Tip: Another common misconception of water treatment systems is the idea that soft water will produce clear ice cubes. Cloudy or white, hazy ice cubes are caused by air that is slowly being released from the water during the freezing process, which has nothing to do with the performance of your system.

Important Note: This system may be installed on well water or municipality treated water supplies.

Important Note: Most municipality treated water supplies contain chlorine as a disinfectant. Many municipalities also inject ammonia into the water supply, creating chloramine.

Important Note: Iron fouled resin is not eligible for warranty replacement.

Important Note: This system requires the use of the included power supply (24 VDC).

Important Note: The manually operated bypass valve enables the conditioner to be isolated from the water service line for maintenance and service. It also maintains the continuity of the water supply when the conditioner is disconnected.

OPERATIONAL SPECIFICATIONS continued

Existing Plumbing Conditions

Plumbing should be free from lime and/or iron buildup. Piping that contains large amounts of lime and/or iron should be replaced.

Additional Specifications

- Do not install this system where water is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.
- This system must be installed in accordance with all applicable state and local laws and regulations.
- The Commonwealth of Massachusetts Plumbing Code 248 CMR shall be adhered to. A licensed plumber shall be used for this installation.
- This system must be installed in an area not affected by extreme heat, cold or the elements. The selected installation area must be adequate for easy service and accessibility.
- This system is designed to treat cold water only. The installation must be on a cold water supply.

DATA CHART FOR ION-X 2000 V RESIN

Model	Tank Size (inches)	Cation Exchange Resin (cu. ft.)	Max. Service Flow (gpm)	Drain Flow (gpm)	psi Drop	High Salting	Medium Salting	Low Salting	Efficiency*
EC4 50 V	8 x 44	0.5	10	1.5	11.9	14,628 @ 7.5 lbs.	12,736 @ 5.0 lbs.	5,665 @ 1.5 lbs.	3,777 @ 1.5 lbs.
EC4 50 CV	8 x 44	0.5	10	1.5	13.1	14,628 @ 7.5 lbs.	12,736 @ 5.0 lbs.	5,665 @ 1.5 lbs.	3,777 @ 1.5 lbs.
EC4 75 V	8 x 44	0.75	8.6	1.5	11.7	21,492 @ 11.2 lbs.	19,104 @ 7.5 lbs.	8,498 @ 2.25 lbs.	3,777 @ 2.25 lbs.
EC4 75 CV [†]	8 x 44	0.75	9.2	1.5	14.4	21,942 @ 11.2 lbs.	19,104 @ 7.5 lbs.	8,498 @ 2.25 lbs.	3,777 @ 2.25 lbs.
EC4 100 V	10 x 44	1.0	10.0	2.0	10.8	35,560 @ 15.0 lbs.	30,838 @ 10.0 lbs.	12,740 @ 3.0 lbs.	4,247 @ 3.0 lbs.
EC4 100 CV [†]	10 x 44	1.0	10.0	2.0	11.2	35,560 @ 15.0 lbs.	30,838 @ 10.0 lbs.	12,740 @ 3.0 lbs.	4,247 @ 3.0 lbs.
EC4 100S V	10 x 35	1.0	10.0	2.0	10.8	35,560 @ 15.0 lbs.	30,838 @ 10.0 lbs.	12,740 @ 3.0 lbs.	4,247 @ 3.0 lbs.
EC4 100S CV	10 x 35	1.0	10.0	2.0	11.2	35,560 @ 15.0 lbs.	30,838 @ 10.0 lbs.	12,740 @ 3.0 lbs.	4,247 @ 3.0 lbs.

*The conditioners are efficiency rated according to NSF/ANSI 44. The efficiency of the conditioner is valid only at the stated salt dosage.

Higher or lower pressure will affect the efficiency of the system.

[†]Only the following models are certified in the State of California: EC4 75 CV and EC4 100 CV. All other models are not certified in the State of California for the purpose of making health claims.

PRODUCT CERTIFICATION INFORMATION

The EC4 Series is tested and certified by NSF International to NSF/ANSI Standard 44 and CSA B483.1 for the specific performance claims as verified and substantiated by test data. Please refer to the performance data sheets for specific reductions claims

Products also evaluated by NSF International and determined to possess weighted average lead content of $\leq 0.25\%$ and complies with lead content requirements for "lead free" plumbing as defined by California, Vermont, Maryland, and Louisiana state laws and the U.S. Safe Drinking Water Act.

Water treatment devices sold to retail consumers in California, accompanied by certain health claims, must be registered to California State Water Resources Control Board. Models EC4 75 CV and EC4 100 CV are registered in California. All other models are not registered in the State of California for the purpose of making health claims.

Important Note: The supplied test strip only tests for hardness. A reduction of hardness is also an indication that barium and radium are being reduced*.

* Only the following models are registered for barium and radium reduction in the State of California: EC4 75 CV and EC4 100 CV. All other models are not registered in the State of California for the purpose of making health claims.

INSTALLATION INSTRUCTIONS

1. Safety Precautions

- To prevent an accident and/or injury, do not hoist the unit over your shoulder. Use a hand truck to transport the unit.
- Do not lay the unit on its side.
- Wear safety glasses and work gloves during installation

2. Test the Raw Water

- If water contains iron, manganese or hydrogen sulfide, a separate iron removal system is suggested to be installed prior to the conditioner, consult with your local dealer.

3. Check the Water Pressure

- Use a pressure gauge to confirm that the water pressure does not exceed 120 psi. If the water pressure does exceed this limit, install a pressure regulator on the inlet pipe of the unit. The minimum water pressure for a conditioner is 20 psi. 60 psi is the optimum operating pressure.

4. Locate a Site for the System

- There are three primary requirements needed for a site: the main water source, an air-gap drain and a grounded electrical connection. Locate the system as close to these items as practical. Drain lines over 50 feet long, may need to be increased in size to allow proper flow.
- Place the system in the desired location. The location should have a level, smooth, and clean surface.
- If the system is located outdoors, protect the unit from direct sunlight. Direct sunlight can damage the fiberglass and other system components. If necessary, build a box or shed. In some installation environments you may choose to partially bury the system. This is done primarily for aesthetics, however this will add stability to the system as well.
- We do recommend all systems installed outdoors include the valve weather cover.

5. Install the Valve Head

- Remove the cap plug from the tank.
- Lubricate the riser pipe O-ring and tank O-ring with the Dow 111 silicone-based lubricant or equivalent.
- Attach the supplied upper basket to the bottom of the control valve; twist to lock in place. Do not use if water contains any amount of iron.
- Align the upper basket with the riser pipe and slowly lower the control valve onto the riser pipe, using a twisting motion.
- Align the control valve with the tank. Push down on the control valve and continue to turn it clockwise until the valve O-ring seals against the tank (see figure 1).

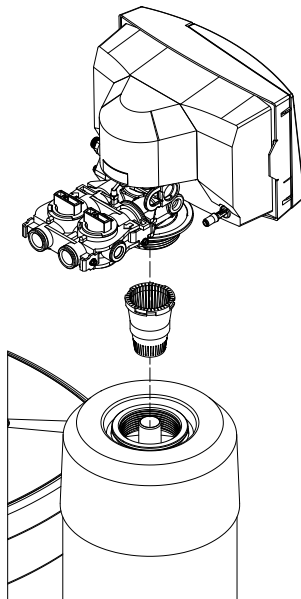


Figure 1

Important Note: For Massachusetts Residents Only: The Commonwealth of Massachusetts Plumbing Code 248 CMR shall be adhered to. A licensed plumber shall be used for this installation.

Important Note: Water pressure often spikes higher at night. We recommend adding a pressure regulator if your daytime pressure reading is higher than 80 PSI.

Helpful Tip: The drain may be a floor drain, a sewer trap, utility sink, vent stack, dry well, etc., depending on local plumbing codes.

Important Note: The system can only be installed outdoors in climates that do not reach freezing levels.

Important Note: Do not over-tighten the valve to the tank.

6. Turn Off the Water and Drain the Plumbing

- Turn off the water at the meter or the pressure tank.
- To drain the plumbing system, open all faucets in the house and flush the toilets. The water will drain out of the lowest faucet or outlet.
- Do not sweat pipes with water in them or while attached to the system; steam will damage the plastic parts in the valve.
- Do not point the soldering torch directly at the mineral tank or control valve. These composite materials will last a lifetime, but cannot withstand the intense heat from a torch.
- Avoid short connections of pipe between the system and the water heater. If you cannot avoid a short connection, move the system to another location. As a last resort, install a heat trap or check valve. If this causes “water hammer”, install a water hammer suppressor.
- If available, run an untreated water line to outside faucet or provide a hose connection on untreated line prior to system.

7. Provide Untreated Water for Irrigation or Outdoor Watering

- If available, run an untreated water line to outside faucet or provide a hose connection on untreated line prior to system.

8. Install the Pipe Connector (Yoke) to the Bypass Valve

- Once the plumbing is complete, connect the yoke to the bypass valve (see figure 2).

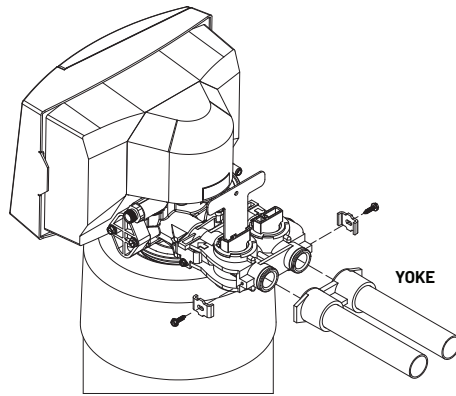


Figure 2

- Support all plumbing connected to the yoke.
- Connect the raw water supply to the inlet pipe connection of the yoke. When looking at the front of the system, the inlet is the pipe connection on the right side of the valve (see figure 3). The arrow molded into valve indicates the direction of flow.

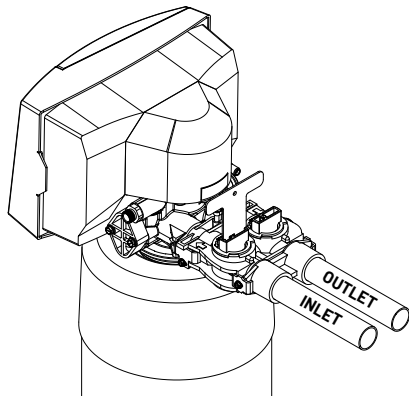


Figure 3

- Connect the treated water pipe to the outlet pipe connection on the yoke. When looking at the front of the system, the outlet is the pipe connection on the left side of the valve (see figure 3). The arrow molded into the valve indicates the direction of flow.
- Ensure that the bypass valve is in bypass position. The valve handles should be perpendicular to the pipes (see figure 4).

Helpful Tip: This procedure will allow air to enter the plumbing system.

Important Note: Short connections of pipe may allow hot water to back up into the system. Recommend at least 10 linear feet or three (3) linear meters of pipe between Conditioner and Water Heater.

Important Note: The bypass valve is not designed to withstand heat from soldering or twisting from the attached threaded connections.

Important Note: Too much weight on the plumbing connections will cause a leak.

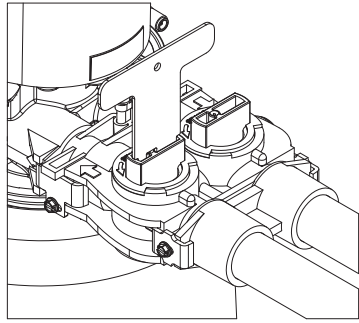


Figure 4

9. Install the Drain Line and Air Gap (Air Gap Not Supplied)

- For all drain lines, use at least a 1/2 inch I.D. line.
- Connect the drain line to the drain outlet on back of the valve, opposite the inlet connection (see figure 5). A fitting is required to connect the female pipe thread to the drain line. Run the drain line to the air gap.

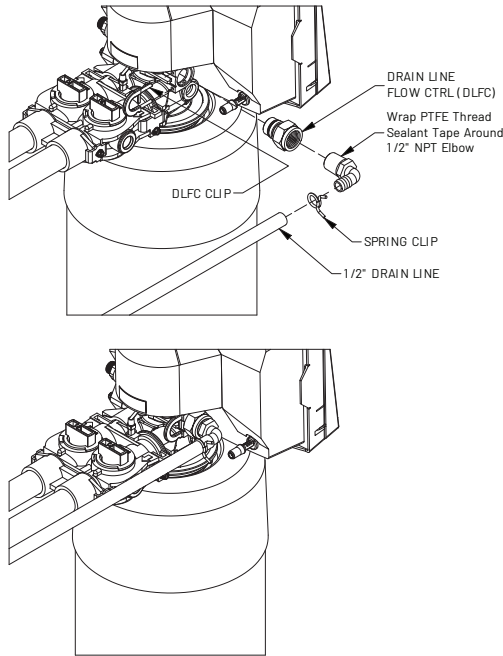


Figure 5

- The air gap should be installed between the end of the drain line and the drain to prevent possible back siphoning (see figure 6).

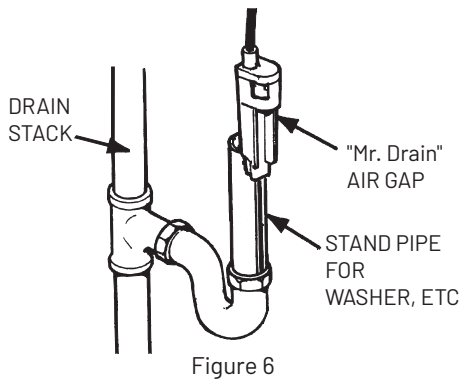
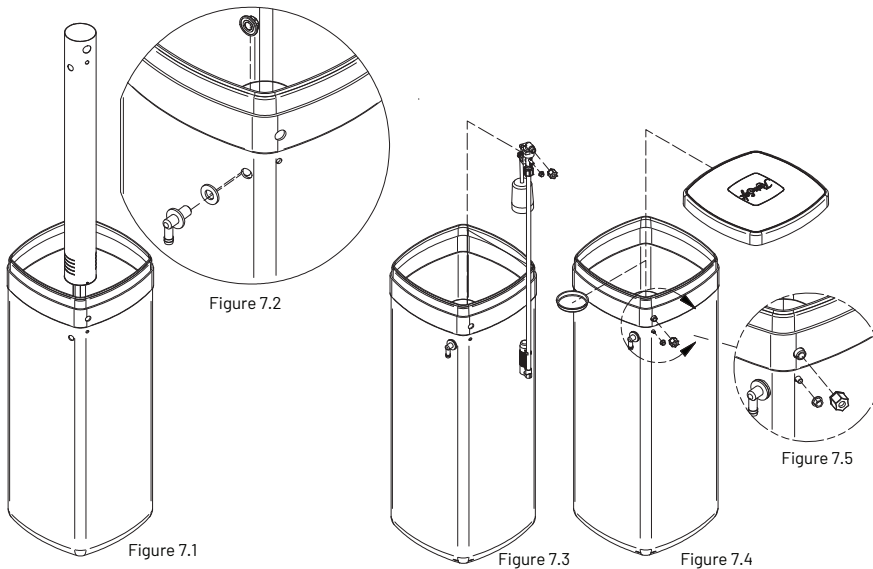


Figure 6

Important Note: The air gap should be two times the diameter of the drain line or a minimum of two inches. Please check your local plumbing codes to ensure compliance.

10. Install the Brine Safety Float

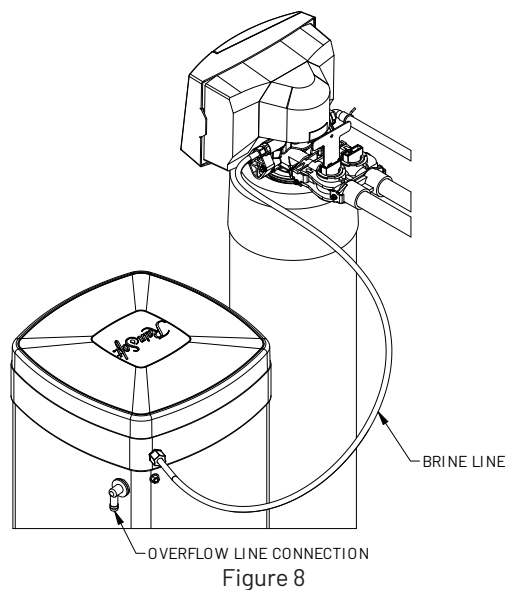
- Insert the brine well into the brine tank (see figure 7.1)
- Attach the brine well to the brine tank with the overflow elbow (see figure 7.2).b
- Insert the safety float into the brine well. The top of the safety float should be about 5 inches from the overflow elbow (see figure 7.3)



Figures 7.2, 7.3, 7.4, and 7.5

11. Install the Brine Line

- Slide the brass compression nut over the end of the brine line, followed by the ferrule and tube support. Attach the brine line to the brass fitting on the right side of the valve (see figure 8).
- Insert a tube support into the other end of the brine line and push the brine line into the brine safety float elbow. Use a locking clip to secure the connection (see figure 8).



12. Install the Brine Overflow Line (indoors)

- Run a 1/2 inch I.D. brine overflow line from the overflow elbow on the side of the brine tank to an approved drain (see figure 8).

13. Attach the Electrical Connection

- Insert the barrel plug from the DC power supply into the mating jack in the back of the control box .
- Plug the DC power supply into a 110 VAC 60 Hz outlet.

Important Note: Systems 250 & 400 use a larger brine tank than the one shown. "SS" systems use a similar tank but half the size of the one shown.

Important Note: The brine overflow line must not be higher than the overflow elbow on the brine tank. (This is a gravity overflow.)

Overflow Line connection is only used if brine valve fails.

SYSTEM START UP

1. Turn on the Water and Check for Leaks

- Close all faucets and turn the water back on at the water meter or pressure tank.
- Check for leaks. If a leak is present, drain the plumbing again before soldering.

2. Flush the Remaining Debris from the System

- Open the cold water faucet on your bathtub.
- Allow the system to flush the remaining dirt and debris into the bathtub, until the water runs clear.
- Open all remaining faucets and allow the plumbing to release any trapped air in the system.
- Close all of the faucets.

3. Open the Bypass Valve

- Move the bypass valve handles to the service position. The valve handles should be parallel to the pipes (see figure 9).
- Open a cold water tap and allow the appliance to flush for 20 minutes or until approximately 100 gallons has passed through the appliance.

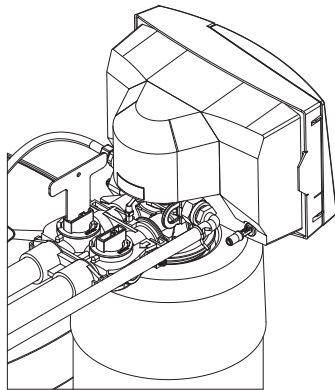


Figure 9

4. Flush the Hot Water Heater

- Run hot water in the bathtub until the water tests soft.

5. Add Salt to Brine Tank / Control Settings

- See Salt Requirements before filling your brine tank with salt.
- Once the brine tank is full of salt, remember to increase the salt level in the EC4 Control Head. Go to Customer Settings on Screen (Press the Down Arrow).
Salt Lvl : # (lbs / KG)
- Refer to the Level # on the side of the brine tank to calibrate current amount of salt in tank. Weight shown is a reference per the level.
- When using Block Type Salt, please review Stacking Figures on page 12 for correct and incorrect stacking methods of Salt.

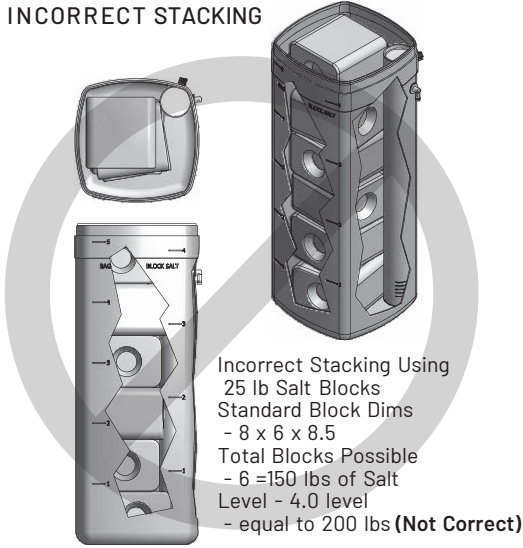
Helpful Tip: It is common for new systems to have some color in the water. The color should disappear after you completely flush the system.

Important Note: Not all Bag Salt or Solar Salt are the same size and consistency. The level is a guide to help the EC4 Control distinguish how much salt is remaining in Tank.

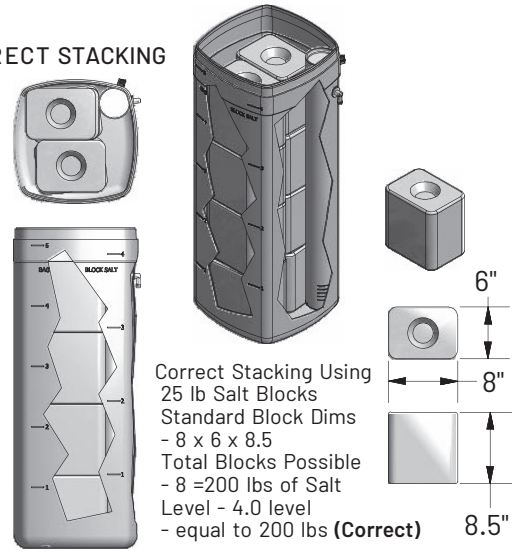
Important Note: Systems 250 & 400 use a larger brine tank than the one shown. "SS" systems use a similar tank but half the size of the one shown.

STACKING BLOCK SALT - 25 lbs BLOCKS

INCORRECT STACKING

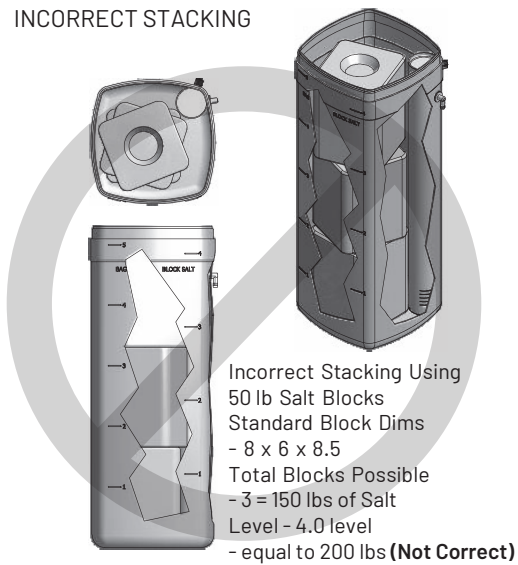


CORRECT STACKING

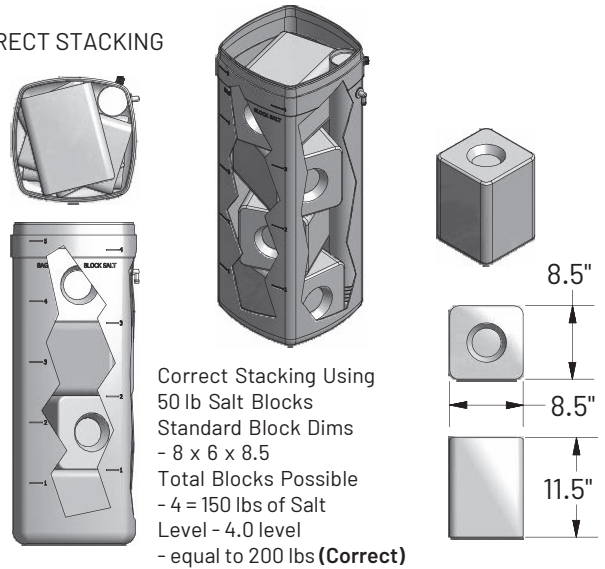


STACKING BLOCK SALT - 50 lbs BLOCKS

INCORRECT STACKING



CORRECT STACKING



SALT REQUIREMENTS

Two salt types are recommended for water conditioners:

- **Block Salt:** Water conditioner block salt is low in impurities, and will not cake in the salt container.
- **Bag Salt:** Bag salt (Sodium Chloride) may be described on the packaging as pellet, flake, crystal, or solar Salt.
- Any of these salts are fine to use with your water conditioner system as long as they are clean, high purity and labeled specifically for use with water softeners.

MAINTENANCE REQUIREMENTS

Resin Cleaners

It is always wise to provide preventative maintenance for your system. If small amounts of iron are present in your water, use a salt containing iron remover or add RainSoft water conditioner cleaner to the salt tank when adding salt. If an excessive amount of iron is present in your water, we recommend the installation of an iron filter before the conditioner. See your RainSoft Dealer for details.

Sanitize the Conditioner

It is common from to sanitize your Resin tank from time to time, especially if any long periods of low water use is experience in the Home. To do so;

Mix a 3/4 cup of common (unscented) 5.25% household bleach with one (1) quart of water. Pour this solution into the brine well.

Initiate a manual regeneration. The solution is drawn into the conditioner during the regeneration process. See "Manual Regeneration"

After the system has completed a manual regeneration, the conditioner will be sanitized and ready for use.

Cleaning the Regeneration Valve

The regeneration valve body is designed to last a lifetime, but from time to time it may be necessary to clean and lubricate the moving parts. Your water quality and the amount of regenerations necessary will affect this maintenance schedule. Your local RainSoft Dealer is knowledgeable in the different water qualities and will have the necessary parts to complete this service.

Testing Your Water

If you are relying on this system for barium and radium reduction, we recommend testing your water periodically (2 times a year) with a hardness test strip (supplied) to ensure that the system is performing properly, and that hardness, barium, and radium are being reduced*. Additional hardness test strips are available at no charge from RainSoft. Please call 1-800-860-7638 for your free two year supply.

In between testing, you can easily monitor the system's performance in the shower or while washing your hands. The feeling of soft water should be present on your skin..

Important Note: Salt used for melting ice, such as rock salt, is typically high in impurities and should not be used, since dirt can clog the brine system. Very fine, granulated salt is also not recommended. The use of granulated salt may cause service problems.

Salt Blocks sold as cattle licks should not be used, since these may be high in impurities.

You can also use potassium chloride instead of sodium chloride. Potassium chloride is usually available only in bags and sold specifically for this purpose. Consult your RainSoft Dealer before use of potassium.

Important Note: Do not pour undiluted bleach into the water conditioner.

Helpful Tip: Resin cleaner will prevent the treatment media from becoming iron fouled. We recommend that this service be performed every three years or earlier if necessary.

Important Note: If you use a cleaner containing nitric acid or other strong oxidizing agents, please use caution and follow instructions carefully.

AN OVERVIEW OF THE REGENERATION PROCESS

Your RainSoft EC4 Water Conditioner performs a periodic regeneration cycle to clean mineral bed and restore its capacity. How often it regenerates depends on your water use, incoming water hardness, and several other factors, but 1 - 2 regenerations per week can be typical. An automatic regeneration will never occur more than once a day, and the Regen Time is set to occur when you are unlikely to be using water (Default setting is 2:00 AM). Here is an overview of the regeneration process.

Regen Process:

Cycle 1: Brine Tank Fill

The first step in preparation for the regeneration is the addition of water to the brine tank. The amount of salt the conditioner uses in the regeneration relates to the amount of water added in the brine tank. The salt in the tank will dissolve into the water to the point of saturation. Many softeners add a fixed amount of water to the brine tank at the end of each regeneration cycle. With that type of unit, the water sits in the tank until the next regeneration, usually for several days.

Your EC4 conditioner uses a sophisticated and efficient approach called "proportional brining." The EC4 continually monitors your water use and determines when a regeneration is to be ran. If regeneration is scheduled, the EC4 Control motor will move the valve to the brine refill position about two hours before the scheduled time of regeneration. You may hear the motor run and some water flowing at this time. Because the EC4 knows how much water you have used, the control will calculate the exact amount of salt that you will need to restore the system capacity. Then 2 hours before the time of regen, the control will start to fill just enough water to the brine tank to dissolve the quantity of salt calculated.

EXAMPLE: If a regeneration is set for 2:00 AM that night, the system start to regenerate at 12:00 AM. The EC4 Valve start cycle 1. Once cycle 1 is complete, the Valve will return to the home position during cycle 2. During this time, your conditioner will continue to provide treated water to your home.

CYCLE 2: Brine Make Up / Service

Once cycle 1 is complete and the brine tank has water, the valve returns to home position and runs the time set for cycle 2. This time is adjustable, but two hours provide the optimum solution. This gives the salt plenty of time to dissolve and ensures that an accurate salt dose is used. The system is still providing treated water to your home during this cycle.

CYCLE 3: Backwash

Once cycle 2 is complete, the valve moves to the backwash position for the start of the actual regeneration of the system a little after the set Regen Time. In the backwash position, the drain is in the open position, allowing water in the pressure tank to flow in reverse. With water flowing from the bottom up, lifting and cleaning the mineral bed inside the pressure tank. This removes any dirt or particles that have accumulated on the top of the mineral bed. The remaining regeneration cycles, all the water flowing through the tank will go to the drain to allow for water movement. When using water in the home during this regeneration process, untreated water is available to the house bypassing thru the valve until the regeneration process is complete.

CYCLE 4: Brine Draw / Slow Rinse

Now that the system has completed cycle 3 and backwashed for the set time, the valve moves to the brine draw position. In this position, the valve creates a vacuum to pull the brine solution out of the brine tank. The brine solution flows down slowly through the mineral bed. This is the ion exchange process, when the hardness ions that have attached to the softening resin exchange with the positively charged sodium ions from the brine solution and sending the hardness ions to the drain. After all the brine is drawn out of the brine tank, the system continues to slowly rinse the mineral bed, allowing time for all the resin beads to be recharged and rinse out any excess brine.

CYCLE 5: Fast Rinse

With the brine solution fully rinsed out, the valve then moves to its final regeneration process cycle 5. Water flows top to bottom, quickly flowing water through the bed for a final fast rinse. This settles the mineral bed back down and serves as a final cleaning rinse. Upon completion of cycle 5, the valve will return to the home position ending the regeneration process.

NOTE: The entire regeneration cycle, from backwash to fast rinse, takes one to two hours in most cases.

When to use the Manual Regeneration Option:

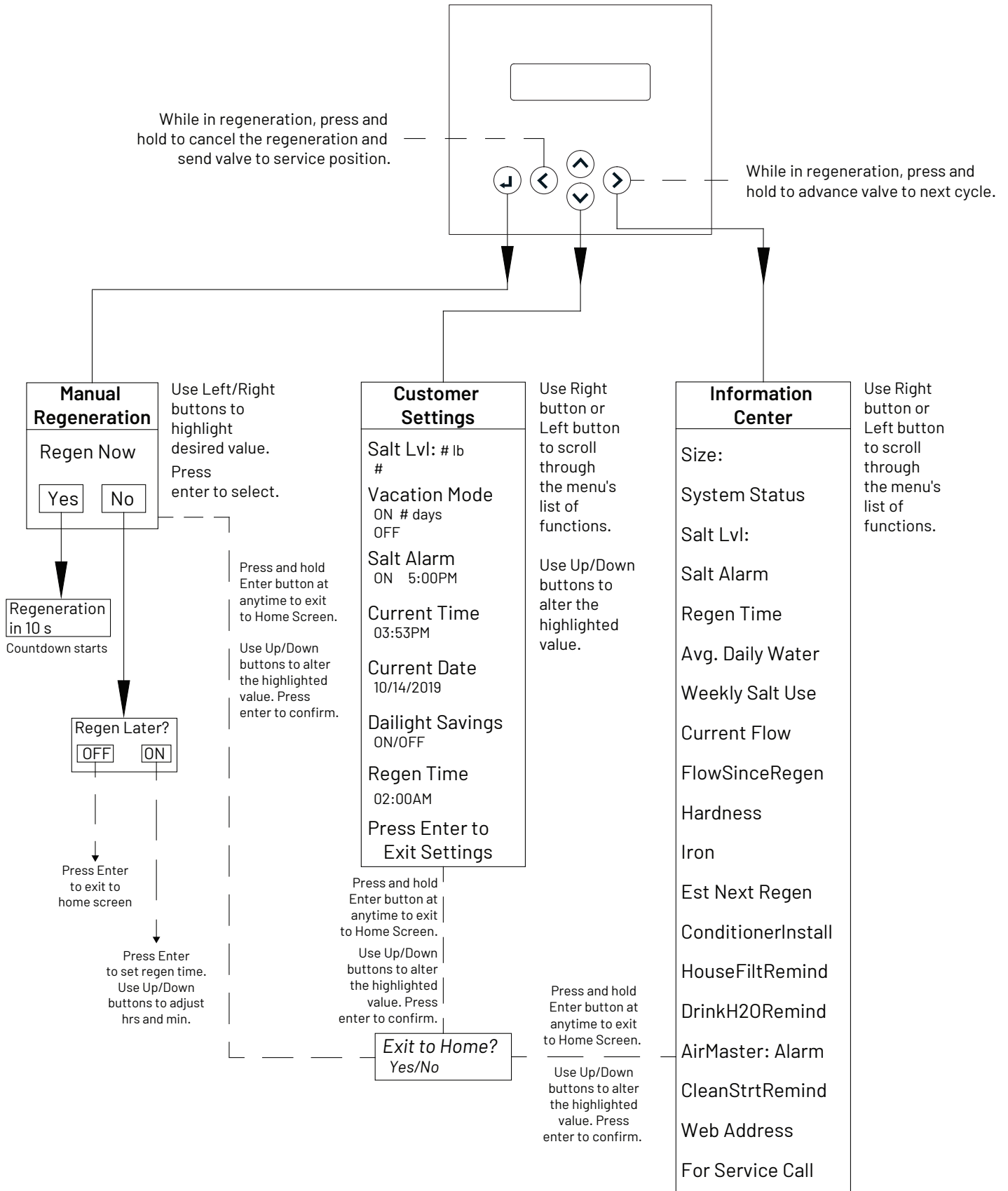
The EC4 Control has a manual regeneration mode available "Regen Now." See the "How to Initiate a Manual Regeneration" in this manual on how start a manual regeneration. An example of when to use a manual regeneration would be if you ran out of salt in your brine tank and hard water is flowing in your home. Fill the brine tank with Salt (See Add Salt to Brine Tank in the manual) then run a manual regen, or schedule one for later in the evening to complete a full regeneration of your system.

EC4 DISPLAY / HOME SCREEN

The EC4 Display / Home Screen displays the current conditions of your EC4 System. Press any button to turn on the display light. The normal operation of the display will scroll between the following information:

- Day of the Week, current Date, and Time.
- Capacity Remaining Bar and % Remaining: This bar indicates the percent of capacity the softening media has remaining to treat your homes water. When the set capacity setting is exceeded (Default 70%), the Softener will schedule a regen for the next scheduled regen time.
- System Status: Normal or Alarm, Alarm will indicate current Alarm situation will be identified on screen. Press any button on display when Audible alarm is active to postpone alarm.
- Current Water Flow: This will only be show when water is flowing through the outlet of the valve and an alarm is not active.
- Regen Scheduled: This will display only if a regen is triggered to occur, displaying the time scheduled regeneration time. Regen scheduled will replace the Capacity Bar.

CUSTOMER SETTING FLOWCHART



CUSTOMER SETTINGS

The Customer Settings customers to make changes to the EC4 Conditioner settings. Setting changes included:

To access **Customer settings**, press any button to light display. When the display is lit, press the **Customer Settings (Down Button)**.

Use the **left** or **right** buttons to scroll to the parameter you wish to modify. Using the Up and Downs buttons to adjust values.

To exit the Customer Settings function at any time, press the **Enter key** to save settings or navigate to end of settings using the **right button**.

Salt Level: Salt Lvl: [# lb /kg] [#level]

Level control that sets the level of salt in the brine tank ensuring the system is able to monitor salt usage.

- After Filling Brine Tank with bag salt, block salt, Adjust level to on EC4 Control to level indicated on the side of the brine tank using the Up and Down Button.
- Block scale uses the 1-4 level on side of brine tank, the Bag salt uses the 1-5 scale.

Vacation Mode: [OFF] / [ON - 2 Days]

Off / On setting, this will be used when you are planning on being away for extended time with little water use. Upon return, the EC4 Conditioner will complete a full regen for fresh water to the home.

- Use the **Up or Down Button** to select "ON".
- If you selected "ON", press the Right Button. The computer will display: Days Away - 2 Days.
- Use the **Up and Down** buttons to change the number of days away.

Salt Alarm: [OFF] / [ON - 5:00 PM]

Off / On setting that will enable an audio alarms to sound when the system has low salt. The Audio alarm will only for one (1) hour during the time set.

- Use the **Up or Down Button** to select "OFF".
- If you chose to keep the alarm "ON", press the Right Button. Use the **Up and Down** buttons to change the alarm time, if desired.

Current Time: [12:00 PM] or [24:00]

To set the current time of day.

- Press the **Right** button to move between Hours & Minutes, Use the **Up and Down** buttons to change the value.

Current Date: [Month/Day/Year] or [Day/ Month/Year]

To set the current Day of Year.

Press the **Right** button to move between Month /Day /Year. Use the **Up and Down** buttons to change the values.

Daylight Savings: [ON] / [OFF]

On / Off setting that will automatically adjust for daylight savings time in applicable areas.

- Use the **Up or Down** button to select "OFF".

Regen Time: [02:00 AM] or [02:00]

Enter the time of day that the EC4 will enter into regeneration and treated water will not be available. Default setting is 2:00 AM

- Use the **Up or Down** button to change the hour of regeneration.

To exit the **Customer Settings**, press the **Enter** button, or continue **Right** button to exit settings.

Important Note: Installer settings can change the units of measure. Available settings are:

- Gallons / Grains / AM:PM
- Liters / TH / 24:00
- Liters / PPM / 24:00

Discuss this options with your RainSoft Dealer / Installer.

Important Notes: After setting the vacation mode, the computer will provide a 16 hour delay for your convenience. If water use is detected after the 16 hour delay, the vacation mode is deactivated.

One day prior to the scheduled return, the system will regenerate at the normal regeneration time. This feature will ensure a fresh conditioner bed upon your arrival

Helpful Tip: Your system is designed to alert you when the salt tank needs to be refilled. Select an alarm time that is most convenient for you.

Helpful Tip: If auto daylight savings time is "ON", the system will automatically adjust the clock in the spring and fall. Only set the daylight savings time to "OFF" if daylight savings time is not observed in your area.

Important Note: When you exit the Customer Settings, the EC4 will automatically save any changes that have occurred.

HOW TO INITIATE A MANUAL REGENERATION

Press any key to on the control to wake up the display. Press the **Enter / Regen** button to enter Regen Menu.

The computer will display: Regen Now ?

Select **"Yes"**, press the **Enter / Regen** button. The display will start a 10 second count down to begin full regeneration. To cancel manual regeneration, during the 10 second count down, press **any button** to stop the manual regen. When the count down ends, the Regeneration Process will begin. It is best to complete the Regeneration Process fully, however you can step each stage of the Regen process if initiated in error by pressing and holding the **Right Arrow** button.

To initiate a Regen Later?

Follow the same steps from above, however, press the **Right Arrow** button to select **"No"**, press the **Enter / Regen** button. **"Regen Later"? OFF** is displayed. Use the **Up or Down** button to **"ON"**, **Right Arrow** button over to the displayed time. The time listed is the time the EC4 Regen is set to. Using the Up or Down buttons you can adjust the time for the regen later. Press **Enter / Regen** button to confirm Regen Later time.

To cancel Regen Later, follow same steps as above entering Regen Now Mode and turn the Regen Later Option from "On" to "Off".

SYSTEM ALARMS

Your system is equipped to alert you for alarm situations: When Alarm is active, your EC4 will display the Alarm Status on the Main Screen.

Salt Alarm if "ON" the alarm will sound at the time set for low salt, no salt conditions. When the alarm is active you have the option to silence the alarm by postponing the alarm for 10 of days as a reminder to add more salt. Once more salt is added to brine tank, increase your salt level over 0.5 to end low salt condition.

Service Alarm was set for systems that require routine maintenance. These alarms can be postponed for 10 of days. Contact your local RainSoft Dealer when service alarms are active to schedule a service.

Other Alarms - If issue with the motor is detected by the valve control, an alarm will activate. This alarm can be postponed for 10 days, but please contact your local RainSoft Dealer immediately for a service.

INFO CENTER

The Information Center provides general information about your EC4 System. To access this information, press the Right Arrow button from the Home screen.

Important Note: The Information Center is a display only mode and will not allow any changes to the settings or current service run data.

Size: listing the Model / Size / Type of media

System Status: listing current status of the EC4.

Salt Lvl: listing the current amount of salt and level

Salt Alarm: status of salt alarm Off / On & time set.

Regen Time: displays current time set for regeneration.

Avg Daily Water: average water use in per day averaged over 28 day period.

Weekly Salt Use: average weekly salt used per week averaged over 4 week period.

Current Flow: showing current flow rate of water thru outlet.

Important Note: The average water use will be accurate 7 days after start up.

Flow Since Regen: total water used since last regeneration.

Hardness: listing the water hardness setting in EC4.

Iron: listing the water iron setting in EC4

Est Next Regen: the estimated number of days until the next regeneration, based on water use and history.

Important Note: Adjustment to the Regen Later time will not change the Regen Time programmed in customer settings.

Helpful Tip: Regen Later Timing planning. The Regen process starts two hours before the set time. Example - Regen Later ON set for 3:00 AM. Regen process will start at 1:00 AM.

Helpful Tip: To silence the alarms, press any key.

Helpful Tip: Disabling the alarm is not required if you add salt before the selected number of postponement days. Please refer to the "Customer Settings" on page 16 for instructions on adding salt.

Important Note: The Information Center is a display only mode and will not allow any changes to the settings or current service run data.

Important Note: The average water use will be accurate seven (7) days after start up.

Important Note: Current Flow and Flow since last regen are live functions and will count up as the water is used and flowing.

Important Note: Next Regen estimate is based on water consumption. It may take 14 days after start up to provide an accurate estimate.

INFO CENTER continued

Vacation Mode: listing days remaining if active.

Conditioner Install: listing the date of EC4 installation.

House Filter Service Reminder (if enabled): listing the months remaining before service is required.

Drinking Water Service Reminder (if enabled): listing the months remaining before service is required.

AirMaster Service Reminder (if enabled): listing the months remaining before service is required.

CleanStart Service Reminder (if enabled): listing the months remaining before service is required.

Web Address: web site for more info www.rainsoft.com.

For Service Call: Programmed RainSoft Service Providers phone number.

To exit the Information Center, press and hold the Enter Button at any time then select "YES" to exit or continue to press right button, to end of selections to exit automatically.

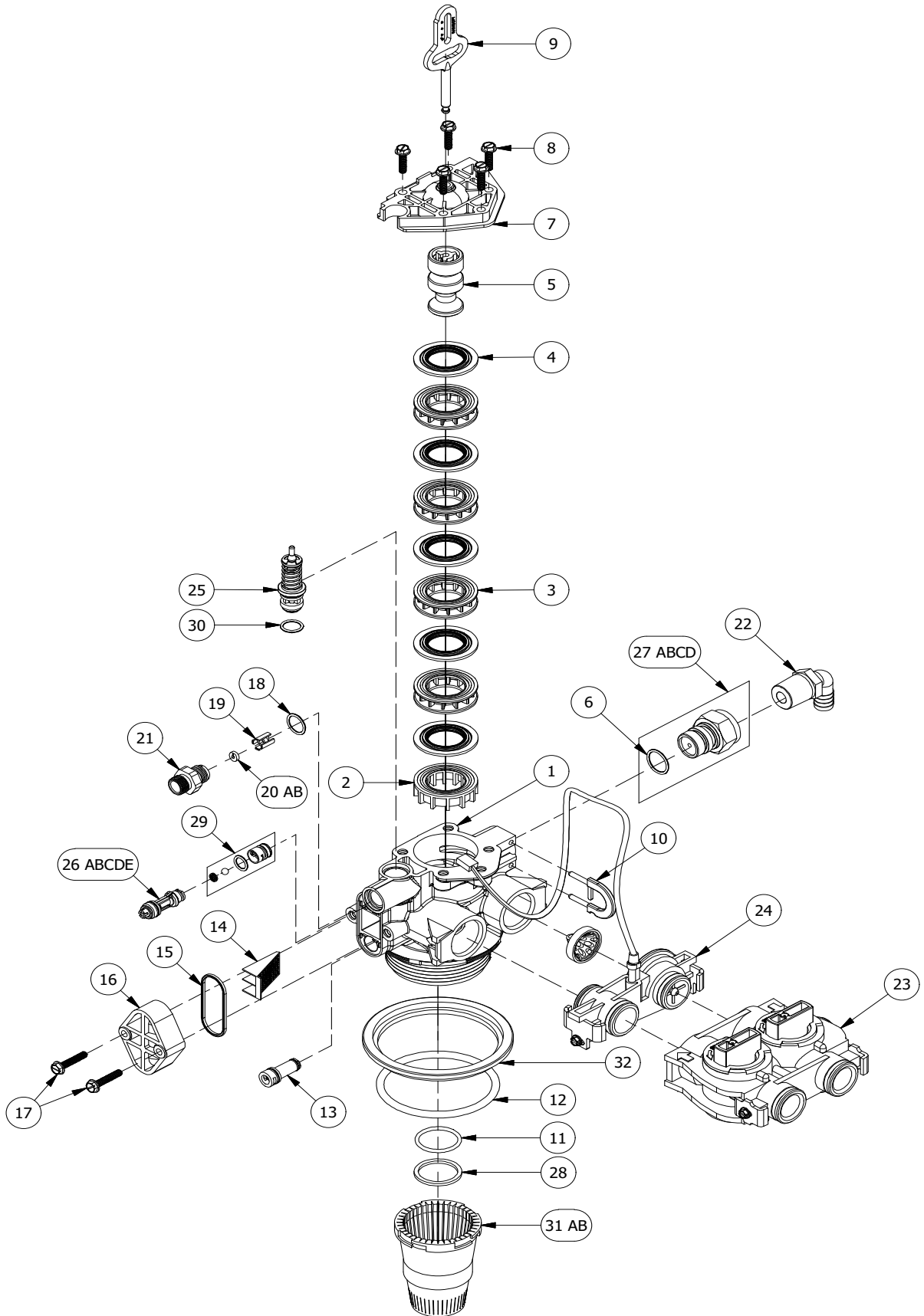
Important Note: Accessory Systems Service Reminders interval settings by the installers based on incoming water conditions and recommend product specifications. Not all accessory items require service reminders, not all accessory items are available. Inquire to your local RainSoft Dealer for more information.

TROUBLESHOOTING GUIDE

Symptom	Cause	Solution
1. The system fails to regenerate automatically	<ol style="list-style-type: none"> 1. The power supply is plugged into intermittent or dead power source. 2. The system is not counting gallons. 	<ol style="list-style-type: none"> 1. Connect to a constant power source. 2. Call your RainSoft Dealer for service.
2. The system regenerates at the wrong time	<ol style="list-style-type: none"> 1. The computer is not set properly. 2. The time is off due to daylight savings. 3. The maximum system capacity has been exceeded. 	<ol style="list-style-type: none"> 1. Reset the time of day/hour of regeneration. 2. Verify that auto daylight savings time is set to "ON". 3. Limit water usage until the regeneration is complete.
3. Poor water quality	<ol style="list-style-type: none"> 1. The raw water has changed. 2. The bypass valve is open. 3. The power supply is disconnected. 	<ol style="list-style-type: none"> 1. Call your RainSoft Dealer for a new water analysis. 2. Close the bypass valve. 3. Plug in the power supply.
4. Loss of water pressure	<ol style="list-style-type: none"> 1. Low pressure to the unit. 	<ol style="list-style-type: none"> 1. Bypass the system. If the problem still exists after bypass, it is not related to a RainSoft product. (Check your water distribution system.) If the problem is resolved after bypass, call your RainSoft Dealer for service.
5. Excessive water in the brine tank and/or salty water	<ol style="list-style-type: none"> 1. The drain line is plugged/restricted. 2. The brine valve is dirty. 3. Low inlet pressure. 4. The injector is plugged. 	<ol style="list-style-type: none"> 1. Check the water flow to the drain. Check for crimps in the drain line. Call your RainSoft Dealer for service. 2. Call your RainSoft Dealer for service. 3. Call your RainSoft Dealer for assistance. 4. Call your RainSoft Dealer for service.
6. The system fails to use salt	<ol style="list-style-type: none"> 1. The drain line is plugged/restricted. 2. The injector is plugged. 3. Low inlet pressure. 4. No water in the brine tank. 	<ol style="list-style-type: none"> 1. Check the water flow to the drain. Check for crimps in the drain line. Call your RainSoft Dealer for service. 2. Call your RainSoft Dealer for service. 3. Call your RainSoft Dealer to increase the inlet pressure. It must be a minimum of 20 psi. 4. Call your RainSoft Dealer for service.
7. Constant flow to the drain	<ol style="list-style-type: none"> 1. Foreign material in the valve. 2. Excessive water pressure. 	<ol style="list-style-type: none"> 1. Call your RainSoft Dealer to clean the valve. 2. Install a pressure regulator.

If the troubleshooting guide did not resolve the symptom, please contact your local RainSoft Dealer for service. If you cannot locate your local RainSoft Dealer, please contact RainSoft Customer Service at 1-800-860-7638 or logon to www.rainsoft.com for the name and location of your nearest authorized Dealer.

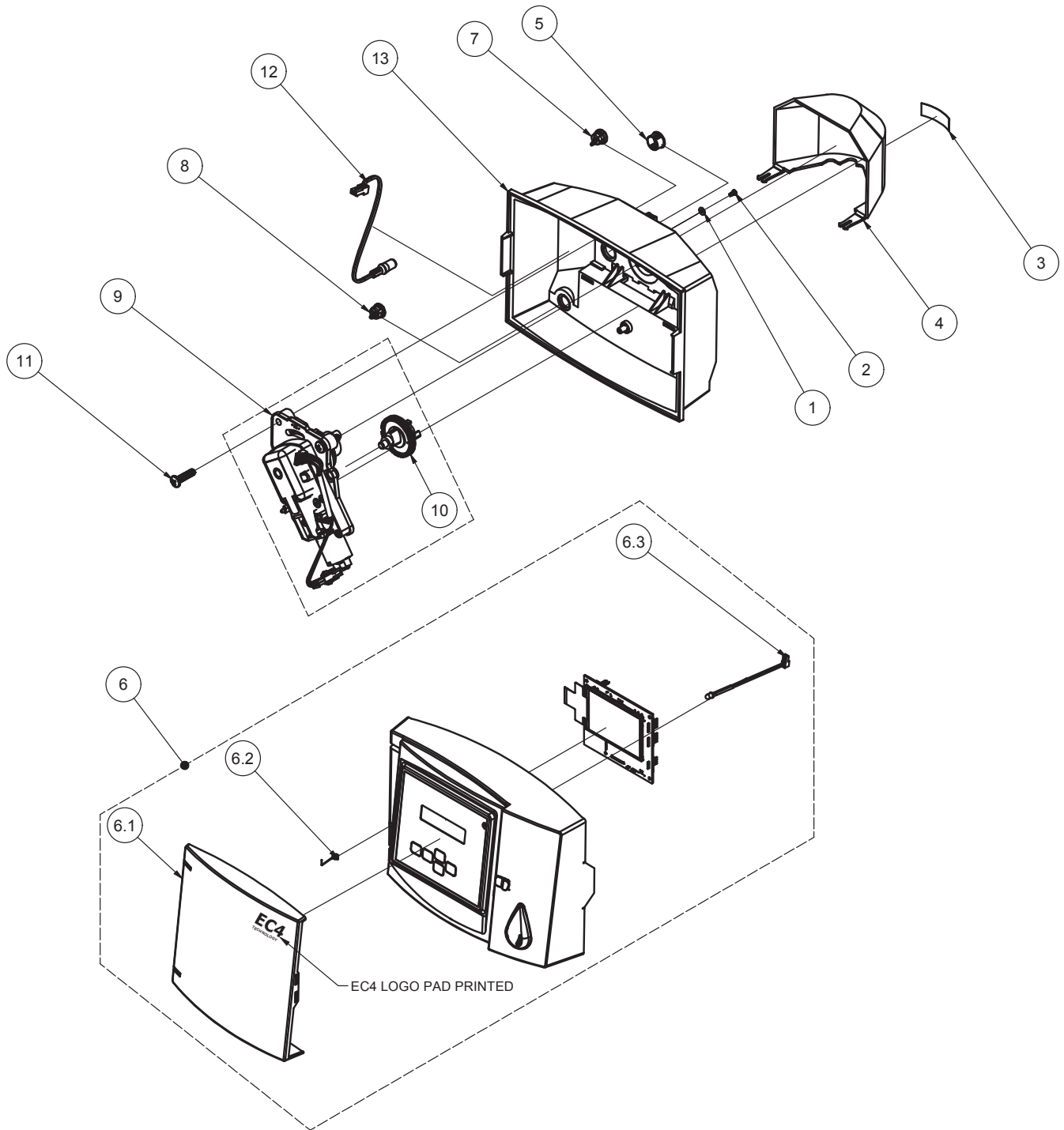
VALVE EXPLODED VIEW



VALVE PARTS LIST

Item	Quantity	Part Number	Description
1	1	17863	COMPOSITE VALVE BODY
2	1	17864	SPACER END
3	4	17865	INTERNAL SPACER
4	5	17866	INTERNAL SEAL
5	1	18160	RETAINER & DOWN FLOW PISTON
6	1	13328	O-RING - 017
7	1	17869	END PLUG ASSEMBLY
8	5	17870	10-24 X .812 SCREW HEX WASHER HEAD
9	1	17871	PISTON ROD
10	1	17887	RETAINER DRAIN
11	1	17888	O-RING - 121
12	1	17889	O-RING - 336
13	1	17617	INJECTOR PLUG ASSEMBLY
14	1	17948	INJECTOR SCREEN
15	1	17949	INJECTOR SEAL
16	1	17950	INJECTOR CAP
17	2	17951	SCREW HEX WASHER HEAD 10-24 X 1.0
18	1	17958	O-RING - 015
19	1	17953	RETAINER BLFC BUTTON
20A	1	17954	FLOW CONTROL WASHER 0.25 GPM
20B	1	19610	REFILL FLOW CONTROL 0.5 GPM COMPOSITE
21	1	17957	ADAPTER BLFC 0.25 GPM
22	1	17939	1/2 NPT X 1/2 BARB POLY ELBOW
23	1	17557	COMPOSITE BYPASS VALVE
24	1	17558	TURBINE METER ASSEMBLY WITH CABLE
25	1	17812	REFILL SHUT-OFF ASSEMBLY
26a	1	17893	C-INJECTOR #00 ASSEMBLY PURPLE
26b	1	17947	C-INJECTOR #0 ASSEMBLY RED
26c	1	18194	C-INJECTOR #1 ASSEMBLY WHITE
26d	1	19318	C-INJECTOR #2 ASSEMBLY BLUE
26e	1	19393	C-INJECTOR #3 ASSEMBLY YELLOW
27a	1	17991	1.5 DRAIN LINE FLOW CONTROL ASSEMBLY
27b	1	17992	2.0 DRAIN LINE FLOW CONTROL ASSEMBLY
27c	1	17994	3.0 DRAIN LINE FLOW CONTROL ASSEMBLY
27D	1	18286	4.0 DRAIN LINE FLOW CONTROL ASSEMBLY
28	1	18445	RISER PIPE RETAINER O-RING
29	1	19739	CHECK BALL CAGE ASSEMBLY
30	2	13329	O-RING - 014
31A	1	17941	DIFFUSER UPPER BASKET 1 X .008 RED
31b	1	18985	DIFFUSER UPPER BASKET 1 X .02 WHITE
32	1	19328	TANK RETAINER SEAL

CONTROL PARTS LIST



CONTROL VALVE PARTS LIST

Item	Sub Item	Quantity	Part Number	Description
1		1	18265	#4 FLAT WASHER 18-8 S.S.
2		1	51919	SCREW #4-20 X 1/4IN, PHIL PAN PLASTITE
3		1	51827	RAINSOFT USA COUNTED LABEL
4		1	51902	REAR COVER GEN5 & GEN6
5		1	71611	HOLE PLUG .625 DIA HOLE
6		1	52594	EC4 HYBRID FRONT HOUSING PCB ASSY
	6.1	1	52490	GEN6 DOOR EC4
	6.2	1	51907	SPRING FRONT HOUSING DOOR
	6.3	1	4006975	AMBIENT LIGHT SENSOR - CABLE ASSEMBLY
7		1	72134	HEYCO SR5P4 4 LEAD
8		1	72250	HEYCO SR 4K-4 BUSHING (.500 DIA HOLE)
9		1	51921	RPS SOFTENER VALVE MOTOR ASSY
10		1	17501	BRINE GEAR / CAM
11		2	51918	SCREW 1/4-20 X 1IN PHIL PAN SS
12		1	51912	WIRE HARNESS 1 POWER 24 VDC
13		1	52491	GEN6 REAR HOUSING WITH INSERTS



DEMAND INITIATED

WATER TREATMENT SYSTEM

CALIFORNIA PERFORMANCE DATA SHEET

EC4 75 CV DEMAND INITIATED TREATMENT SYSTEM

- Service Flow Rate = 9.2 Gpm (34.8 Lpm)
- Drain Flow Rate: 1.5 Gpm (5.7 Lpm)
- PSI drop @ Flow Rate: 15.0 Psi (1.1 Kgf/ cm²)
- Operating PSI of Supply: 20 psi - 120 psi (1.47 - 8.45 Kgf/cm²)
- Operating Temperature: 40°F - 100°F (4.4°C - 38°C)
- Electrical: 24 VDC 50/60 Hz (computer)
- Salt per Regeneration: variable
- Salt Efficiency: 4,400 grains/lbs. Salt @ 2.25 Lbs. Dosage

CAPACITY AND SALT SETTINGS

CAPACITY	SALT
9,900 GRAINS	@ 2.25 LBS. OF SALT
21,300 GRAINS	@ 7.5 LBS. OF SALT
26,100 GRAINS	@ 11.2 LBS. OF SALT

LIST OF CONTAMINANTS REDUCED

CONTAMINANT	USEPA MCL
BARIUM*	2 PPM
RADIUM 226/228*	5 PCI/L

NSF/ANSI STANDARD 44 TEST CONDITIONS: 35 ± 5 psi, 65 ± 10°F, pH 7.5 ± 0.5 at service flow rate
 *HARDNESS WAS USED AS A SURROGATE FOR BARIUM AND RADIUM REDUCTION CLAIMS PER NSF/ANSI STANDARD 44.

SOFTENING PERFORMANCE TEST

CHALLENGE	AVERAGE INFLUENT LEVEL	AVERAGE EFFLUENT LEVEL
HARDNESS	335 PPM	8 PPM

NSF/ANSI STANDARD 44 TEST CONDITIONS: 35 ± 5 psi, 65 ± 10°F, pH 7.5 ± 0.5 at service flow rate

ADDITIONAL NOTES

- THE LIST OF SUBSTANCES WHICH THIS TREATMENT DEVICE REDUCES DOES NOT NECESSARILY MEAN THAT THESE SUBSTANCES ARE PRESENT IN YOUR WATER SUPPLY.
- ACTUAL RESULTS MAY VARY DUE TO LOCAL WATER CONDITIONS.
- AN EFFICIENCY RATED WATER SOFTENER IS A DEMAND INITIATED REGENERATION SOFTENER, WHICH ALSO COMPLIES WITH SPECIFIC PERFORMANCE SPECIFICATIONS INTENDED TO MINIMIZE THE AMOUNT OF REGENERATE BRINE AND WATER USED IN ITS OPERATION AND WILL ACHIEVE A RATING OF NOT LESS THAN 3,350 GRAINS OF TOTAL HARDNESS EXCHANGE PER POUND OF SODIUM CHLORIDE SALT AND SHALL NOT DELIVER MORE SALT THAN ITS LISTED RATING. THE EFFICIENCY IS MEASURED BY A LABORATORY TEST DESCRIBED IN NSF/ANSI 44. THE TEST REPRESENTS THE MAXIMUM POSSIBLE EFFICIENCY THAT THE SYSTEM CAN ACHIEVE. OPERATIONAL EFFICIENCY IS THE ACTUAL EFFICIENCY ACHIEVED AFTER THE SYSTEM HAS BEEN INSTALLED AND IS TYPICALLY LESS THAN THE TESTED EFFICIENCY DUE TO INDIVIDUAL APPLICATION FACTORS INCLUDING WATER HARDNESS, WATER USAGE, AND OTHER CONTAMINANTS THAT REDUCE THE SOFTENERS CAPACITY.
- A WATER SOFTENER IS NOT INTENDED TO BE USED FOR TREATING WATER THAT IS MICROBIOLOGICALLY UNSAFE OR OF UNKNOWN QUALITY WITHOUT ADEQUATE DISINFECTION BEFORE AND AFTER THE SYSTEM.
- EFFICIENCY OF THE CONDITIONER IS VALID ONLY AT THE STATED SALT DOSAGE.

THE SYSTEM SHOULD BE INSTALLED IN AN AREA NOT AFFECTED BY EXTREME HEAT, COLD, OR THE ELEMENTS.

THIS SYSTEM MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL LAWS AND REGULATIONS.

DO NOT INSTALL SYSTEM WHERE WATER IS MICROBIOLOGICALLY UNSAFE OR OF UNKNOWN QUALITY WITHOUT ADEQUATE DISINFECTION BEFORE OR AFTER THE SYSTEM.

THE SYSTEM CONTAINS AN ION-EXCHANGE MEDIA FOR REMOVING LISTED CONTAMINANTS AND MUST BE REGENERATED PERIODICALLY. PLEASE REFER TO THE OWNERS MANUAL TO DETERMINE THE FREQUENCY OF REGENERATIONS.

PLAIN, WHITE BLOCK SALT IS RECOMMENDED FOR THIS SYSTEM. IF BLOCK SALT IS NOT AVAILABLE, A CLEAN, COARSE OR EXTRA COARSE BAG SALT MAY BE USED. DO NOT USE GRANULATED SALT. CONSULT YOUR RAINSOFT DEALER FOR POTASSIUM CHLORIDE USE.

YOUR LOCAL DEALER IS AVAILABLE FOR SERVICE AND WARRANTY PART REPLACEMENTS.

CALIFORNIA STATE WATER RESOURCE CONTROL BOARD REGISTRATION NUMBER 1803

SEE THE OWNERS MANUAL FOR GENERAL OPERATION AND MAINTENANCE REQUIREMENTS.

SEE WARRANTY CARD FOR SPECIFIC WARRANTY INFORMATION.

IMPORTANT NOTICE

READ THIS PERFORMANCE DATA SHEET AND COMPARE THE CAPABILITIES OF THIS UNIT WITH YOUR ACTUAL WATER TREATMENT NEEDS. IT IS RECOMMENDED THAT BEFORE PURCHASING A WATER TREATMENT UNIT, YOU HAVE YOUR WATER SUPPLY TESTED TO DETERMINE YOUR ACTUAL WATER TREATMENT NEEDS.



Tested and certified by NSF International to NSF/ANSI Standard 44 and CSA B483.1 For the reduction of the claims specified on the performance data sheet.



DEMAND INITIATED

WATER TREATMENT SYSTEM

CALIFORNIA PERFORMANCE DATA SHEET

EC4 100 CV DEMAND INITIATED TREATMENT SYSTEM

- Service Flow Rate = 10.0 Gpm (37.8 Lpm)
- Drain Flow Rate: 2.0 Gpm (7.6 Lpm)
- PSI Drop @ Flow Rate: 12.0 Psi (0.9 Kgf/cm²)
- Operating PSI of Supply: 20 psi - 120 psi (1.47 - 8.45 Kgf/cm²)
- Operating Temperature: 40°F - 100°F (4.4°C - 38°C)
- Electrical: 24 VDC 50/60 Hz (computer)
- Salt per Regeneration: variable
- Salt Efficiency: 4,750 grains/lbs. Salt @ 3.0 Lbs. Dosage

CAPACITY AND SALT SETTINGS

CAPACITY	SALT
14,200 GRAINS	@ 3.0 LBS. OF SALT
30,500 GRAINS	@ 10.0 LBS. OF SALT
34,500 GRAINS	@ 15.0 LBS. OF SALT

LIST OF CONTAMINANTS REDUCED

CONTAMINANT	USEPA MCL
BARIUM*	2 PPM
RADIUM 226/228*	5 PCI/L

NSF/ANSI STANDARD 44 TEST CONDITIONS: 35 ± 5 psi, 65 ± 10°F, pH 7.5 ± 0.5 at service flow rate
 *HARDNESS WAS USED AS A SURROGATE FOR BARIUM AND RADIUM REDUCTION CLAIMS PER NSF/ANSI STANDARD 44.

ADDITIONAL NOTES

- THE LIST OF SUBSTANCES WHICH THIS TREATMENT DEVICE REDUCES DOES NOT NECESSARILY MEAN THAT THESE SUBSTANCES ARE PRESENT IN YOUR WATER SUPPLY.
- ACTUAL RESULTS MAY VARY DUE TO LOCAL WATER CONDITIONS.
- AN EFFICIENCY RATED WATER SOFTENER IS A DEMAND INITIATED REGENERATION SOFTENER, WHICH ALSO COMPLIES WITH SPECIFIC PERFORMANCE SPECIFICATIONS INTENDED TO MINIMIZE THE AMOUNT OF REGENERATE BRINE AND WATER USED IN ITS OPERATION AND WILL ACHIEVE A RATING OF NOT LESS THAN 3,350 GRAINS OF TOTAL HARDNESS EXCHANGE PER POUND OF SODIUM CHLORIDE SALT AND SHALL NOT DELIVER MORE SALT THAN ITS LISTED RATING. THE EFFICIENCY IS MEASURED BY A LABORATORY TEST DESCRIBED IN NSF/ANSI 44. THE TEST REPRESENTS THE MAXIMUM POSSIBLE EFFICIENCY THAT THE SYSTEM CAN ACHIEVE. OPERATIONAL EFFICIENCY IS THE ACTUAL EFFICIENCY ACHIEVED AFTER THE SYSTEM HAS BEEN INSTALLED AND IS TYPICALLY LESS THAN THE TESTED EFFICIENCY DUE TO INDIVIDUAL APPLICATION FACTORS INCLUDING WATER HARDNESS, WATER USAGE, AND OTHER CONTAMINANTS THAT REDUCE THE SOFTENERS CAPACITY.
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- EFFICIENCY OF THE CONDITIONER IS VALID ONLY AT THE STATED SALT DOSAGE.

THE SYSTEM SHOULD BE INSTALLED IN AN AREA NOT AFFECTED BY EXTREME HEAT, COLD, OR THE ELEMENTS.

THIS SYSTEM MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL LAWS AND REGULATIONS.

DO NOT INSTALL SYSTEM WHERE WATER IS MICROBIOLOGICALLY UNSAFE OR OF UNKNOWN QUALITY WITHOUT ADEQUATE DISINFECTION BEFORE OR AFTER THE SYSTEM.

THE SYSTEM CONTAINS AN ION-EXCHANGE MEDIA FOR REMOVING LISTED CONTAMINANTS AND MUST BE REGENERATED PERIODICALLY. PLEASE REFER TO THE OWNERS MANUAL TO DETERMINE THE FREQUENCY OF REGENERATIONS.

PLAIN, WHITE BLOCK SALT IS RECOMMENDED FOR THIS SYSTEM. IF BLOCK SALT IS NOT AVAILABLE, A CLEAN, COARSE OR EXTRA COARSE BAG SALT MAY BE USED. DO NOT USE GRANULATED SALT. CONSULT YOUR RAINSOFT DEALER FOR POTASSIUM CHLORIDE USE.

YOUR LOCAL DEALER IS AVAILABLE FOR SERVICE AND WARRANTY PART REPLACEMENTS.

CALIFORNIA STATE WATER RESOURCE CONTROL BOARD
REGISTRATION NUMBER-1802

SEE THE OWNERS MANUAL FOR GENERAL OPERATION AND MAINTENANCE REQUIREMENTS.

SEE WARRANTY CARD FOR SPECIFIC WARRANTY INFORMATION.

IMPORTANT NOTICE

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Tested and certified by NSF International to NSF/ANSI Standard 44 and CSA B483.1 For the reduction of the claims specified on the performance data sheet.



DEMAND INITIATED

WATER TREATMENT SYSTEM

CALIFORNIA PERFORMANCE DATA SHEET

EC4 150 CV
DEMAND INITIATED TREATMENT SYSTEM

- Service Flow Rate = 10.4 Gpm (39.4 Lpm)
- Drain Flow Rate: 2.0 Gpm (7.6 Lpm)
- PSI Drop @ flow rate: 15.0 Psi (1.1 Kgf/cm²)
- Operating PSI of Supply: 20 psi - 120 psi (1.47 - 8.45 Kgf/cm²)
- Operating Temperature: 40°F - 100°F (4.4°C - 38°C)
- Electrical: 24 VDC 50/60 Hz (computer)
- Salt per Regeneration: variable
- Salt Efficiency: 4,750 grains/lbs. Salt @ 4.5 Lbs. Dosage

CAPACITY AND SALT SETTINGS

CAPACITY	SALT
21,400 GRAINS	@ 4.5 LBS. OF SALT
45,800 GRAINS	@ 15 LBS. OF SALT
51,800 GRAINS	@ 22.5 LBS. OF SALT

LIST OF CONTAMINANTS REDUCED

CONTAMINANT	USEPA MCL
BARIUM*	2 PPM
RADIUM 226/228*	5 PCI/L

NSF/ANSI STANDARD 44 TEST CONDITIONS: 35 ± 5 psi, 65 ± 10°F, pH 7.5 ± 0.5 at service flow rate
 *HARDNESS WAS USED AS A SURROGATE FOR BARIUM AND RADIUM REDUCTION CLAIMS PER NSF/ANSI STANDARD 44.

SOFTENING PERFORMANCE TEST

CHALLENGE	AVERAGE INFLUENT LEVEL	AVERAGE EFFLUENT LEVEL
HARDNESS	335 PPM	8 PPM

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- AN EFFICIENCY RATED WATER SOFTENER IS A DEMAND INITIATED REGENERATION SOFTENER, WHICH ALSO COMPLIES WITH SPECIFIC PERFORMANCE SPECIFICATIONS INTENDED TO MINIMIZE THE AMOUNT OF REGENERATE BRINE AND WATER USED IN ITS OPERATION AND WILL ACHIEVE A RATING OF NOT LESS THAN 3,350 GRAINS OF TOTAL HARDNESS EXCHANGE PER POUND OF SODIUM CHLORIDE SALT AND SHALL NOT DELIVER MORE SALT THAN ITS LISTED RATING. THE EFFICIENCY IS MEASURED BY A LABORATORY TEST DESCRIBED IN NSF/ANSI 44. THE TEST REPRESENTS THE MAXIMUM POSSIBLE EFFICIENCY THAT THE SYSTEM CAN ACHIEVE. OPERATIONAL EFFICIENCY IS THE ACTUAL EFFICIENCY ACHIEVED AFTER THE SYSTEM HAS BEEN INSTALLED AND IS TYPICALLY LESS THAN THE TESTED EFFICIENCY DUE TO INDIVIDUAL APPLICATION FACTORS INCLUDING WATER HARDNESS, WATER USAGE, AND OTHER CONTAMINANTS THAT REDUCE THE SOFTENERS CAPACITY.
- A WATER SOFTENER IS NOT INTENDED TO BE USED FOR TREATING WATER THAT IS MICROBIOLOGICALLY UNSAFE OR OF UNKNOWN QUALITY WITHOUT ADEQUATE DISINFECTION BEFORE AND AFTER THE SYSTEM.

THE SYSTEM SHOULD BE INSTALLED IN AN AREA NOT AFFECTED BY EXTREME HEAT, COLD, OR THE ELEMENTS.

THIS SYSTEM MUST BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE STATE AND LOCAL LAWS AND REGULATIONS.

DO NOT INSTALL SYSTEM WHERE WATER IS MICROBIOLOGICALLY UNSAFE OR OF UNKNOWN QUALITY WITHOUT ADEQUATE DISINFECTION BEFORE OR AFTER THE SYSTEM.

THE SYSTEM CONTAINS AN ION-EXCHANGE MEDIA FOR REMOVING LISTED CONTAMINANTS AND MUST BE REGENERATED PERIODICALLY. PLEASE REFER TO THE OWNERS MANUAL TO DETERMINE THE FREQUENCY OF REGENERATIONS.

PLAIN, WHITE BLOCK SALT IS RECOMMENDED FOR THIS SYSTEM. IF BLOCK SALT IS NOT AVAILABLE, A CLEAN, COARSE OR EXTRA COARSE BAG SALT MAY BE USED. DO NOT USE GRANULATED SALT. CONSULT YOUR RAINSOFT DEALER FOR POTASSIUM CHLORIDE USE.

YOUR LOCAL DEALER IS AVAILABLE FOR SERVICE AND WARRANTY PART REPLACEMENTS.

CALIFORNIA STATE WATER RESOURCE CONTROL BOARD
REGISTRATION NUMBER-1801

SEE THE OWNERS MANUAL FOR GENERAL OPERATION AND MAINTENANCE REQUIREMENTS.

SEE WARRANTY CARD FOR SPECIFIC WARRANTY INFORMATION.

IMPORTANT NOTICE

READ THIS PERFORMANCE DATA SHEET AND COMPARE THE CAPABILITIES OF THIS UNIT WITH YOUR ACTUAL WATER TREATMENT NEEDS. IT IS RECOMMENDED THAT BEFORE PURCHASING A WATER TREATMENT UNIT, YOU HAVE YOUR WATER SUPPLY TESTED TO DETERMINE YOUR ACTUAL WATER TREATMENT NEEDS.



Tested and certified by NSF International to NSF/ANSI Standard 44 and CSA B483.1 For the reduction of the claims specified on the performance data sheet.

LIMITED LIFETIME WARRANTY

For as long as you own the equipment

RainSoft Division of Aquion, Inc. believing its

WATER TREATMENT SYSTEM

to be of exceptional quality, hereby warrants said equipment to its first purchaser at retail as follows:

The treatment tank, valve, salt container, electrical components and resins Ion-X 2000 and Ion X-100 are warranted against defects in manufacture for the lifetime of the first purchaser at retail.

This warranty begins at the time the equipment is first connected for use, and is contingent upon the return of a signed owner's registration card.

This warranty does not require replacement of the entire unit. If the equipment does not perform properly, you should request service from the dealer that sold you the equipment. If you are not satisfied, you should notify our Customer Service Manager. If we are not able to arrange local servicing, you should send the defective part(s) (or, if you prefer, send the entire unit,) directly to the manufacturer, freight prepaid, with proof of purchase and a copy of this warranty. The defective part(s) (or entire unit) will either be repaired or new RainSoft part(s) furnished, for a nominal charge to cover labor, handling, packing and the increase, if any, in the retail price of the part(s) since the date of purchase. Genuine RainSoft parts must be used. Failure to use genuine RainSoft parts will void the warranty and certifications.

This warranty does not include labor charges, and does not cover installation, transportation, or any other claims or torts. Some states do not allow the exclusion or limitation of incidental or consequential damages, so parts of 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. You also have implied warranty rights. In the event of a problem with warranty service or performance, you may be able to go to a small claims court, a State court, or a Federal District Court.

This warranty is void if equipment is not installed and operated according to instructions. It does not apply to damage caused by abuse, accident, neglect, freezing, fire, or other abnormal conditions beyond the company's control. This warranty is void on any part from which the manufacturing date has been removed or made illegible.

Benefits will be provided by various types of RainSoft equipment when installed and operated according to the manufacturer's recommendations. Operational, maintenance and replacement requirements are essential for the product to perform as advertised. All claims are based on the best available information at the time of printing. Manufacturer makes no representations as to the suitability of this equipment for a particular application. Buyer relies entirely on the dealer's recommendations in the purchase of this equipment.

Independent RainSoft dealers may include, together with your RainSoft product, a product or component that is not manufactured by RainSoft or their parent company, Aquion, Inc. Any non-RainSoft product may be covered by the manufacturer of that product, and is not covered by the RainSoft warranty. Aquion, Inc. does not warrant that your RainSoft product and the non-RainSoft product will perform properly when used together, and assumes no liability therefore.

RainSoft Division of Aquion, Inc.
101 S. Gary Avenue
Roselle, IL 60172 USA

Valves and Equipment manufactured after May 1, 2009



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