

RainSoft Division of Aquion Partners, L.P.

2080 East Lunt Avenue

Elk Grove Village, Illinois 60007

847.437.9400

*RainSoft*®  
Water Treatment Systems

**COMPUTERIZED  
"Q2" VALVE™  
WATER TREATMENT SYSTEM**

**Owners  
Manual**

Part No.: 14656  
Rev. 12/01

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# ENJOYING YOUR NEW WATER TREATMENT SYSTEM

You now have the finest Water Treatment System made. It will give you years of soft, crystal-clear water, with only occasional attention.

To make using, operating and maintaining your unit as enjoyable as possible, please read this Owner's Manual. It contains all the information you need, presented in a clear, concise manner.

This unit was shipped from the factory ready for operation and will start delivering filtered, treated water immediately.

## USING CONDITIONED WATER

**AT THE BATHROOM SINK:** Use far less soap! Two or three rubs with soap is enough. After rinsing, you may think that your skin still feels slick or "soapy". Actually, this feeling is not soap at all, but the natural feeling of clean skin! When your skin dries, it will feel soft and moist - like it had a cream lotion treatment!

**IN THE BATH OR SHOWER:** Use a bath mat to guard against slips and falls. With RainSoft water, there is no sticky hard water scum to provide traction.

**IN THE KITCHEN:** Try using less coffee. You'll find less is required, and your coffee will be smooth and rich. If you do dishes by hand, try using a mild, pure soap and see the difference it makes on your hands. If you have an automatic dishwasher, try different cleaning products to find the one that does the best spotless job.

**IN THE LAUNDRY:** Here again, use less cleaning product. If you are now using a detergent, try using a genuine soap.

## OPERATING YOUR UNIT

When your unit is properly set to your water hardness and unit capacity, the only further attention regularly required is the addition of salt. For maximum satisfaction, add salt before the salt container is empty. Two kinds of salt can be used:

1. Water softener block salt is pure salt pressed into the shape of cattle blocks. It is recommended because it is low cost, pure and will not cake. **Caution:** The manufacturer cannot guarantee salt container or components against the dropping of salt blocks. Use a belt to lower blocks into the unit.
2. Rock salt is mined and crushed. It is low cost, but contains impurities which deposit in the salt container and must be cleaned out eventually. Use the largest size rock salt obtainable in your area, preferably Extra Coarse or Coarse Southern Rock salt or Extra Coarse, or Coarse Solar Salt.

DO NOT USE compressed granulated salt products such as "pellets", "ovals", "cubes" or "nuggets", as they will lose their shape and compress into a solid mass. Do not use granulated or flake salt.

Astro owners only: Water softener salt tablets are pure salt pressed into candy mint shape. They are recommended for Astro models only.

From time to time, you may also need to reset the Timer. If you change from Standard to Daylight Savings Time, you may want to reset the timer, just as you do the other clocks in your home. If your water hardness changes, you will need to change the setting of the hardness.

If there is iron in your water, it is wise to provide preventive maintenance by using block salt containing an iron remover. Or, you can add iron remover resin cleaner when you add salt (or more often if necessary) to prevent the treatment media from becoming iron fouled. Use caution and follow instructions carefully if you use a cleaner containing nitric acid or other strong oxidizing agent.

# REGENERATION TIME

## PRESET REGENERATION TIME

The "Q2" valve can be set to your choice of regeneration time. You'll probably want to set the regeneration for a time when it is likely that water will not be used.

In the case of a home, set regeneration for a time when the family is sleeping. In case of a business, set regeneration for a time when the business is unoccupied.

When the "Q2" valve starts a regeneration, it first puts treated water into the salt container. Then it waits 2 hours to dissolve salt and make a salt brine. During this time, the output water is treated, and water can be used. Backwashing will vary from 6.0 to 14.4 minutes. The rest of the cycle takes 63 minutes (units over 48,000 grains in size take longer).

## EXHAUSTION REGENERATION TIME

If the treatment media becomes 90% exhausted **PRIOR TO THE PRESET REGENERATION TIME** (due to unusually high water usage, etc.) a regeneration cycle will start immediately. Treated water will be available for the following 2 hours, up to the limit of the remaining 10% of the unit's capacity.

## HOW TO SET THE TIMER

The alarm will sound when the unit is first plugged in (a continuous tone). It will also sound after the power is off, and then come back on - if the battery is low

To quiet the alarm, press the yellow button  
**QUIET ALARM.**

1. When the unit is first plugged in, the display window will show a "prompt" letter, ("**S**" for Salt Level as shown at right) indicating that the timer is ready for you to set that function.

Press **SALT LEVEL** (Red)

Press Number of pounds of salt in the salt container (White)

Example: 100 pounds: press "1", then "0", then "0"

Press **ENTER** (Blue)

### **For Astro Units Only:**

Press Number of pounds of salt in the salt container plus 20 pounds (White)

Example: 25 pounds (+20) = 45: press "4", then "5"

Press **ENTER** (Blue)

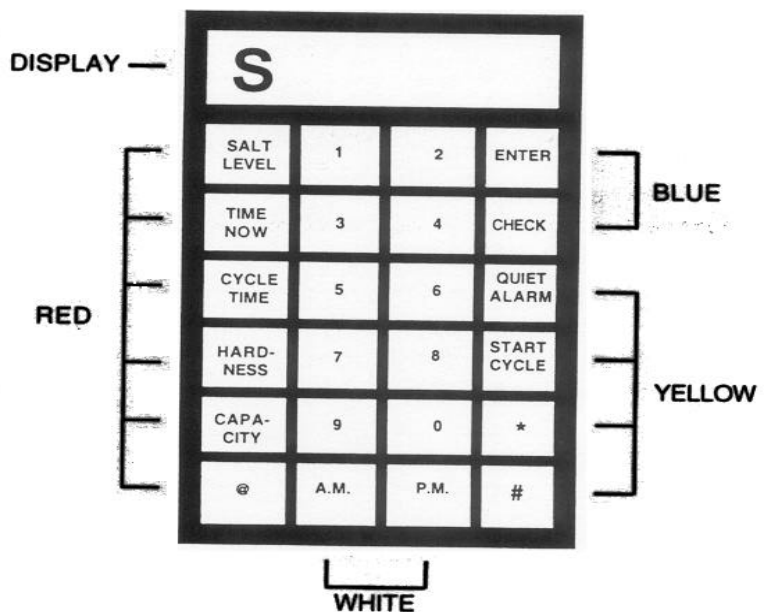
2. After you have done that, the next prompt will appear: "**P**", for Present Time Now.

Press **TIME NOW** (Red)

Press Hour and Minutes - then **AM** or **PM** (White)\*

\*Note: Noon is 12:00 PM, Midnight is 12 AM  
Example: 2:20 PM: Press "2", then "2", then "0", then "PM"

Press **ENTER** (Blue)



3. Then the prompt "**h**" will appear, representing the hour of Cycle Time.

Press **CYCLE TIME** (Red)

Press Hour only - then **AM** or **PM** (White)\*\*

\*\*Note: Noon is 12:00 PM, Midnight is 12 AM

Example: 1:00 AM: Press "1", then "AM"

Press **ENTER** (Blue)

4. Next, a capital "**H**" will appear, representing Hardness of the water supply.

Press **HARDNESS** (Red)

Press Total compensated Hardness of untreated water supply in grains per gallon (White)

(Note: To get "Compensated" Hardness - if there is iron in your water supply, add 5 grains to the hardness for each part per million of iron.)

Example: 15 grains Hardness: Press "1", then "5"

Press **ENTER** (Blue)

5. Finally, the capital letter "**C**" will appear. This stands for the Capacity (size) of the unit in thousand of grains.

Press **CAPACITY** (Red)

Press Size of unit divided by 1000 (White)

Example: 20,000 grain unit, enter "20":  
press "2", then "0".

Press **ENTER** (Blue)

Time Now will appear.

**(You can use water during regeneration, but it will be untreated raw water. You should avoid using hot water during regeneration, because you don't want untreated water mixing with all the treated hot water in your water heater.)**

If you would like to check your settings:

<b>PRESS</b>	<b>DISPLAY SHOULD READ</b>
<b>SALT LEVEL</b> and the <b>CHECK</b> .	<b>S</b> Number of pounds of salt.
<b>CYCLE TIME</b> and then <b>CHECK</b> .	<b>h</b> hour of regeneration
<b>HARDNESS</b> and then <b>CHECK</b> .	<b>H</b> Hardness
<b>CAPACITY</b> and then <b>CHECK</b> .	<b>C</b> Size of unit ÷ 1000

To reset any function at any time, simply press the appropriate buttons. A new setting automatically erases the previous setting.

NOTE: Always reset **SALT LEVEL** (even if salt tank is empty). Timer will not function properly if **SALT LEVEL** is zero (0).

## SETTING THE TIMER FOR PROBLEM WATER

If the hardness of the raw water is greater than 30 grains, softness of the effluent can be maximized by setting the regeneration to start at 60%, 70%, or 80% of the unit's capacity.

Follow the directions below.

(If, at any time, you get an "ERROR" display, simply repeat the procedure)

### STARTING CAPACITY:

press  
press  
press

**CAPACITY** (Red button). "**C**" is displayed  
\* (Yellow button). "**CP**" is displayed  
60, 70 or 80 (White buttons)...  
for example: 70%: press "7", then "0".  
**ENTER** (Blue button)

NOTE: To return to the original starting capacity percent (33%) press "CAPACITY", then "\*", then "0", then "ENTER".

If there is a great deal of iron (over 3 ppm), or sediment in the water, increase the backwashing time to 15, 20, 25 or 30 minutes. Follow the directions below.

(If, at any time, you get an "ERROR" display, simply repeat the procedure)

### BACKWASH TIME:

press  
press  
press

**CYCLE TIME** (Red button). "**h**" is displayed  
\* (Yellow button). "**hb**" is displayed  
15, 20, 25 or 30 (White buttons)...  
for example: 20 minutes: press "2", then "0".  
**ENTER** (Blue button)

NOTE: To return to the original backwash time, press "CYCLE TIME", then "\*", then "0", then "ENTER".

### TO CHECK SETTINGS:

#### PRESS

**CAPACITY**, then \*, then CHECK.  
**CYCLE TIME**, then \*, then CHECK.

#### DISPLAY SHOULD READ

**CP** + % of CAPACITY to start regeneration.  
**hb** + minutes of backwash time.

**NOTICE TO INSTALLER: IF THE ABOVE OPTIONS ARE UTILIZED; WRITE DOWN THE REGENERATION CAPACITY PERCENT AND BACKWASH TIME ON THE BLACK AND WHITE LABEL BELOW AND AFFIX THE LABEL TO THE TOP OF THE MOTOR COVER.**

SUPPLEMENTARY INSTRUCTIONS FOR RESETTING THE TIMER FOR PROBLEM WATER CONDITIONS:	
1. Press "CAPACITY" (Red)	1. Press "CYCLE TIME" (Red)
2. Press * (Yellow)	2. Press * (Yellow)
3. Press ___ then ___ (White)	3. Press ___ then ___ (White)
4. Press "ENTER" (Blue)	4. Press "ENTER" (Blue)

# UNDERSTANDING YOUR EQUIPMENT

## ALARM TONES

### LOW-SALT ALARM

Each regeneration, the approximate amount of salt used is calculated and subtracted from the amount you originally set into the memory of the timer. When the salt level in the timer-memory drops below 30 pounds, an **intermittent beep** sounds at the conclusion of regeneration.

To silence the alarm, press **QUIET ALARM**.

Add salt to the salt container and set the timer for the new salt level.

### SET-TIMER ALARM

A **continuous** alarm tone will sound when:

- The unit is first plugged in, or
- The electricity was off over 72 hours, the battery became exhausted and the electricity came back on.

In either case, silence the alarm by pressing **QUIET ALARM**, then set the timer.

## DIAGNOSTICS

Your RainSoft "Q2" timer has several useful diagnostic features.

You can check it at any time for the following:

Capacity in Gallons  
Gallons used since last regeneration  
Gallons used before last regeneration  
Hours since last regeneration  
Salt used last regeneration

### Press

- \* and then 1
- \* and then 2
- \* and then 3
- \* and then 4
- \* and then 5

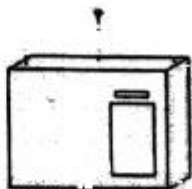
## HOW TO REGENERATE MANUALLY

If you anticipate an excess use of water, and a reading of diagnostic 2 indicates a possibility of exhaustion (compare amount used, diagnostic \* - with total capacity, diagnostic \* - 1) you may want to regenerate manually, to assure a fully regenerated unit to supply its maximum capacity. Simply press **START CYCLE**. A full regeneration will start immediately.

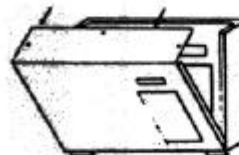
## BATTERY BACK-UP

If your electricity goes off, all information in the timer memory is maintained, if your battery is fresh. If your battery is exhausted, or in low condition, the dots on the display will flash continuously. The battery should be replaced every year, to assure proper operation. Use only a good brand of alkaline battery.

**HOW TO REPLACE BATTERY:** First unplug unit Then:



**Remove 3 screws from top.**



**Swing cover forward.**

Replace battery, close cover and replace 3 screws into top. Plug unit in and set timer.

## CONDITIONS THAT MIGHT OCCUR

(Note: See also "How to set the timer for problem water:", page 5)

### 1. **CONDITION: HARD WATER** ( Water may be **rusty** without being **hard**. See 2.)

#### **Possible causes**

- a. UNIT NOT REGENERATING OFTEN ENOUGH
- b. Water used during regeneration
- c. No Salt
- d. Caked Salt
- e. Not plugged in
- f. Slow Flow (drippy faucet, slow-filling toilet, reverse osmosis unit) not rotating flowmeter.

#### **Cure**

- INCREASE setting of HARDNESS
- Check CYCLE TIME (Did you reset for Daylight Savings Time?)
- Refill salt container
- Remove caked salt and refill with proper salt
- Plug in and set Timer correctly
- Check for leaks. Increase toilet refill flow.  
Increase setting of HARDNESS

### 2. **CONDITION: RUSTY WATER**

- a. If the water is rusty **and** hard, the cause is generally the same as that which is causing hard water.
- b. If the water is rusty but **soft**, these are the likely reasons why:
  - 1. **Iron deposits in your pipes and hot water heater** are being dissolved by the soft water. No immediate cure (unless you wish to clean your entire plumbing system with acid). Soft water will eventually clean out the system.
  - 2. **Your hot water heater may need to be drained.** A heater acts as a collector of sludge. This sludge should be drained off, from the valve at the bottom of the heater, once a month - or more often if necessary. Heater may also be rusty inside.
  - 3. **You may have soft brass valves in your home.** Some alloys of brass will color soft water - turn in yellow. No cure - just let the first gallon of colored water run down the drain.
  - 4. **Your city water supply may have unusually high iron.** This can be caused by:
    - (a) Hydrants being flushed,
    - (b) Storage tank being flushed,
    - (c) Repairs on water mains causing agitation of iron sludge in mains, or
    - (d) City water treatment plant not functioning properly.

The water from your outside sprinkling faucets may be yellow. It is best not to use water when this condition exists. To do so will cause the treatment resin to become iron clogged. Check with your city water department.

- 5. **Iron content of your water may have increased.** It is not unusual for well water to increase in iron content. Consult your dealer for recommendations.



### 3. CONDITION: WATER SMELLS OR TASTES BAD

- a. **Magnesium anode rod in hot water heater.** Causes "rotten-egg" odor in hot water, under some conditions. Cure: Remove rod from heater.
- b. **Contaminated well.** Cure: Have your well sterilized.

### 4. CONDITION: LOW WATER PRESSURE

- a. **Clogged strainer or sink faucet.** Unscrew and clean strainer.
- b. **Low pressure from pump.** Check pressure at an outside sprinkler tap. Call your well man and/or city water department.
- c. **Valve in plumbing system partially closed or defective.**

### 5. CONDITION: SALTY WATER

Soft water normally has a "flat" taste, due to the limestone and iron being removed. Do not confuse this "flat" taste with saltiness.

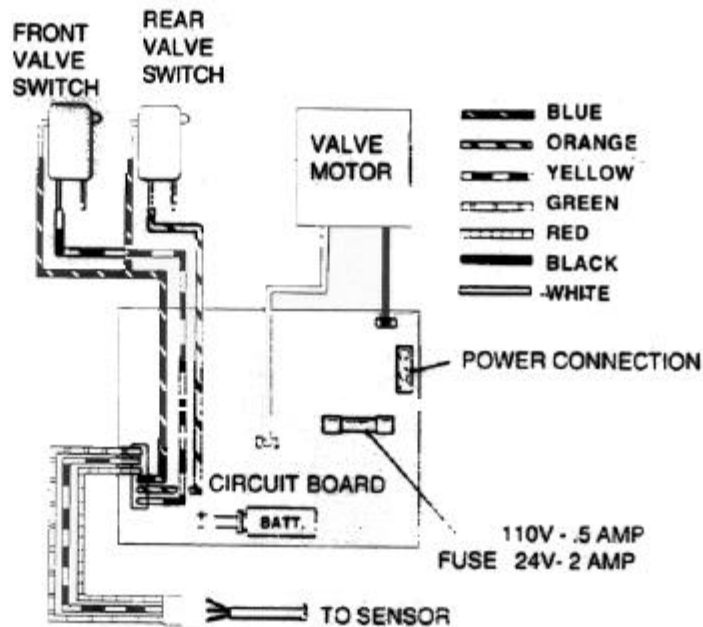
**IF WATER IS REALLY SALTY, OPEN COLD WATER FAUCET, TAKE SAMPLE OF SALTY WATER, AND RUN UNTIL SALTINESS DISAPPEARS. DO NOT USE HOT WATER. IF HOT WATER IS SALTY, TAKE SAMPLE. RUN COLD WATER FIRST UNTIL NOT SALTY, THEN DRAIN WATER FROM BOTTOM OF HEATER.**

### 6. CONDITION: WATER RUNNING FROM DRAIN LINE

Unit is regenerating. Allow unit to complete regeneration. Reset timer to correct time if necessary.

### 7. CONDITION: NO TIME DISPLAYED

Plug out or fuse blown. Replace fuse. (See "How to Replace Battery, Pg. 7)



**IF YOU REQUIRE SERVICE ON YOUR RAINSOFT  
PRODUCT, PLEASE CALL YOUR LOCAL DEALER.**

**IF THERE IS DAMAGE TO PERSONAL PROPERTY DUE  
TO PRODUCT MALFUNCTION PLEASE FOLLOW  
THESE INSTRUCTIONS:**

- 1. DO NOT REPAIR UNIT.**
- 2. DO NOT REPAIR DAMAGED PROPERTY OR MERCHANDISE.**  
Damaged property or merchandise should be preserved "as is" for inspection by a properly credentialed Factory Representative. (Not a dealer or agent of dealer.)
- 3. NOTIFY CUSTOMER SERVICE-DAMAGE CLAIM DEPARTMENT,** Elk Grove Village, immediately by calling 1-800-860-7638 or 847-437-5539, followed by a confirming letter sent by registered mail to:  
  
CUSTOMER SERVICE-DAMAGE CLAIM DEPARTMENT  
RAINSOFT DIVISION OF AQUION PARTNERS L.P.  
2080 E. LUNT AVENUE  
ELK GROVE VILLAGE, ILLINOIS 60007
- 4. A FACTORY REPRESENTATIVE** will examine damage and determine liability of company.

**POSITIVELY NO CLAIMS WILL BE HONORED BY FACTORY UNLESS THE  
ABOVE PROCEDURE IS FOLLOWED!**

Benefits will be provided by various types of RainSoft equipment when installed and operated according to manufacturer's recommendations. Operational, maintenance and replacement requirements are essential for the product to perform as advertised. All claims based on best available information at time of printing. Manufacturer makes no representations as to the suitability of this equipment for a particular application. Buyer relies entirely on 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 Partners L.P. Any non-RainSoft product may be covered by the manufacturer of that product, and is not covered by the RainSoft warranty. Aquion Partners L.P. does not warrant that your RainSoft product and the non-RainSoft product will perform properly when used together, and assumes no liability therefore.