

cut along dotted line to remove torn outer cover

# **EWS SERIES 1500**

7201801



EcoWater

**SERIES 1500**

Water System

**ECOWATER CUSTOMER . . .** Your EcoWater dealer has assembled, installed, and adjusted the water system to your household's specific needs. Just keep the brine tank filled with salt and the Eco System unit will provide you with a continuous supply of conditioned water. *Check the salt storage level every few weeks*, and always refill the tank before all the salt is gone. Use nugget, pellet, or other **clean** water softener salt. **Do not** use rock salts, or salt with iron removing additives. Iron removing additives release fumes that may corrode and shorten the life of some Eco System unit parts.

Your dealer has set the demand timer to the correct

time and water hardness for your water supply, to provide you with continuous soft water. If electrical power to your house. . . or just to the Eco System unit. . . is interrupted, use the procedures on pages 5 and 6 to reset the time.

*Note:* The timer has a 48 hour (or more) "POWER-OUTAGE MEMORY". When electrical power goes off, the display is blank but the correct time and all other settings are maintained. When power is restored, you have to reset the present time only if the display is flashing. Other settings never need resetting unless a change is desired.

## **ADVANTAGE WARRANTY**

Eco Water Systems, Inc.

**Series 1500 Demand Water System**

EcoWater Systems, Inc., guarantees to the original owner:

1. For a period of **ten (10) years after installation**, the **fiberglass mineral tank** and the **salt tank** will not rust, corrode, leak, burst or in any other manner fail to perform their proper functions.
2. For a period of **one (1) year after installation**, the **valve body, control panel** and **all other parts** will be free from defects in material and workmanship.

If during such respective period a part proves to be defective, upon inspection by EcoWater, EcoWater Systems will, at its sole option, either replace or repair the defective part without charge, except normal shipping and installation charges. During the first year after installation, parts and replacement service necessary to maintain the EcoWater unit in factory operating condition in accordance with specifications published in the owners manual or guide, shall be furnished at absolutely no cost other than normal shipping charges.

### **General Provisions**

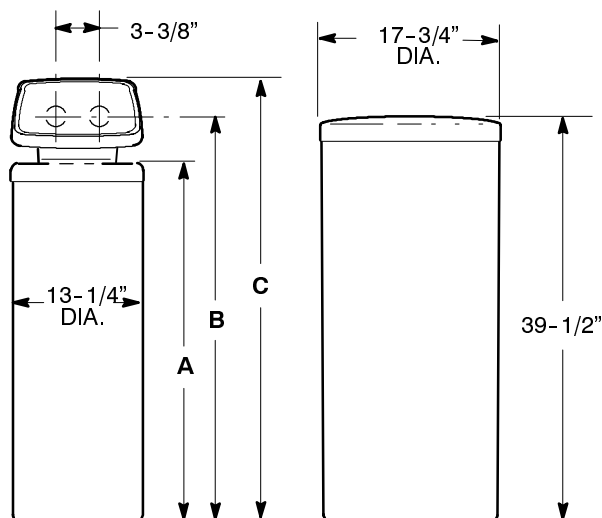
The above warranties are effective **provided** the water conditioner is operated at water pressures not exceeding 125 psi, and at water temperatures not exceeding 120°F; provided further that the water conditioner is not subject to abuse, misuse, alteration, neglect, freezing, accident or negligence; and provided further that the water conditioner is not damaged as the result of any unusual force of nature such as, but not limited to, flood, hurricane, tornado or earthquake. EcoWater Systems, Inc., is excused if failure to perform its warranty obligations is the result of strikes, government regulation, materials shortages, or other circumstances beyond its control.

To obtain warranty service, notice must be given, within thirty (30) days of the discovery of the defect, to your local EcoWater Systems dealer.

**There are no warranties on the water conditioner beyond those specifically described above. All implied warranties, including any implied warranty of merchantability or of fitness for a particular purpose, are disclaimed to the extent they might extend beyond the above periods. The sole obligation of EcoWater Systems, Inc. under these warranties is to replace or repair the component or part which proves to be defective within the specified time period, and EcoWater is not liable for consequential or incidental damages. No EcoWater dealer, agent, representative, or other person is authorized to extend or expand the warranties expressly described above.**

Some states do not allow limitations on how long an implied warranty lasts or exclusions or limitations of incidental or consequential damage, so the limitations and exclusions in this warranty may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state. This warranty applies to consumer-owned installations only.

## DIMENSIONS - SPECIFICATIONS



**1502 ED30 & 1502 ED39**

MODEL	NOMINAL RESIN TANK SIZE	A	B	C
1502 ED30	8" DIA. X 40"	40-1/2"	42-1/2"	47-1/2"
1502 ED39	10" DIA. X 47"	48"	50"	55"

	ED30	ED39
<i>Rated Capacity</i>	see rating decal on the softener	
<i>Service Flow Rate</i>	see rating decal on the softener	
<i>Amount of High Capacity Resin (cu ft)</i>	.77	1
<i>Water Supply Max. Hardness (gpg)</i>	60	80
<i>Water Supply Max. Clear Water Iron (ppm)</i>	4	5
<i>Water Pressure Limits (min./max. psi)</i>	20 - 125	
<i>Max. Water Temperature (°F)</i>	120	
<i>Min. Water Supply Flow Rate (gpm)</i>	3	
<i>Max. Drain Flow Rate (gpm)</i>	1.8	2.3

## ECOWATER DEALER INFORMATION

### **SAFETY GUIDES, INSTALLATION AND OPERATION REQUIREMENTS**

FOLLOW THE INSTALLATION INSTRUCTIONS CAREFULLY. FAILURE TO INSTALL THE UNIT PROPERLY VOIDS THE WARRANTY.

**CHECK LOCAL PLUMBING AND ELECTRICAL CODES. THE INSTALLATION MUST CONFORM TO THEM.** In Massachusetts, plumbing codes of Massachusetts shall be adhered to. Consult with your licensed plumber.

**USE ONLY LEAD-FREE SOLDER AND FLUX** FOR ALL SWEAT-SOLDER CONNECTIONS, AS REQUIRED BY STATE AND FEDERAL CODES.

USE CARE WHEN HANDLING THE UNIT. DO NOT TURN UPSIDE DOWN, DROP, OR SET ON SHARP PROTRUSIONS.

DO NOT LOCATE THE UNIT WHERE FREEZING TEMPERATURES OCCUR. DO NOT ATTEMPT TO TREAT WATER OVER 120°F. **FREEZING, OR HOT WATER DAMAGE VOIDS THE WARRANTY.**

AVOID INSTALLING IN DIRECT SUNLIGHT. EXCESSIVE SUN HEAT MAY CAUSE DISTORTION OR OTHER DAMAGE TO NON-METALLIC PARTS.

THE SYSTEM REQUIRES A MINIMUM WATER FLOW OF 3 GALLONS PER MINUTE AT THE INLET. **MAXIMUM ALLOWABLE INLET WATER PRESSURE IS 125 PSI.** IF DAYTIME PRESSURE IS OVER 80 PSI, NIGHTTIME PRESSURE MAY EXCEED THE MAXIMUM. USE A PRESSURE REDUCING VALVE IF NECESSARY. (ADDING A PRESSURE REDUCING VALVE MAY REDUCE THE FLOW.)

**THE UNIT WORKS ON 24 VOLT-60 Hz ELECTRICAL POWER ONLY.** BE SURE TO USE THE INCLUDED TRANSFORMER.

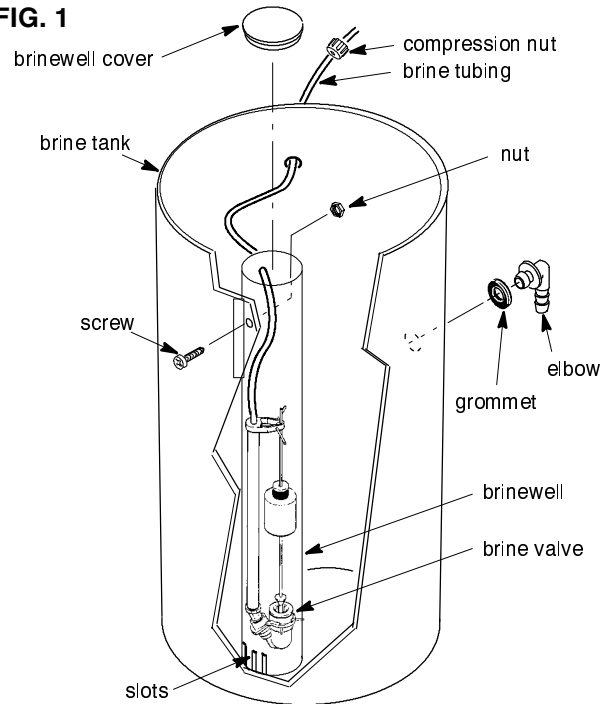
# ECOWATER DEALER INFORMATION

## BRINE TANK ASSEMBLY

1. Locate the brinewell in position and secure with a screw and nut (from parts skin-pack).
2. Lower the brine valve into the brinewell and install the brinewell cover.
3. Insert the grommet into the hole in the tank sidewall. Then, push the hose adaptor elbow into the grommet.

**Do the remaining assembly during installation.**

**FIG. 1**



## INSTALLATION

BE SURE TO READ AND COMPLY WITH ALL GUIDES LISTED ON PAGE 2.

1. Install the installation adaptors, or the optional bypass valve (fig. 2). **Be sure clips hold parts firmly in place.** Pull on the adaptors or bypass valve to insure they are secure.

**Note:** If the optional bypass valve is not used, be sure to install a 3-valve bypass (fig. 3).

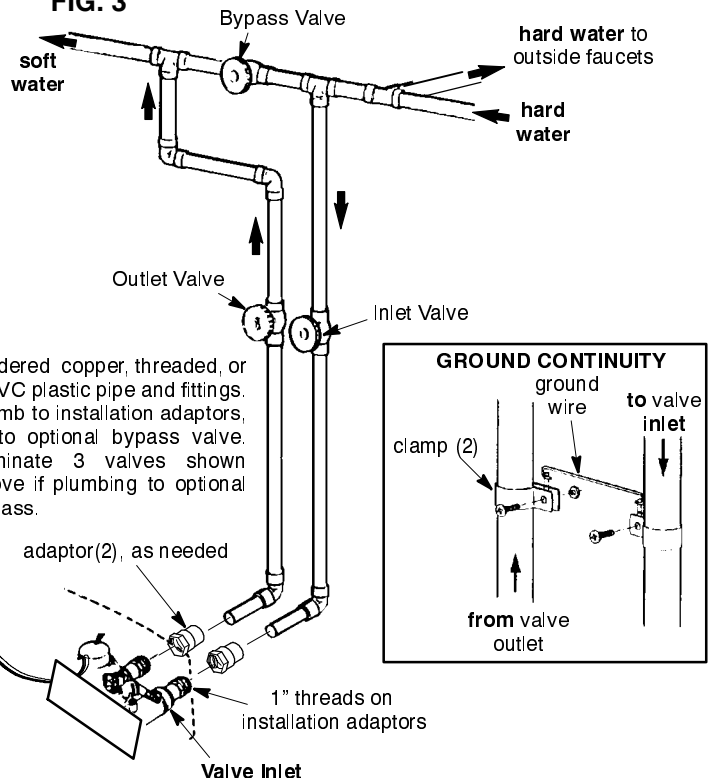
2. Run the **hard water** supply to the **valve inlet**, and **conditioned water** out from the **valve outlet**.

**Note:** Use the copper tubes, nuts and gaskets that are on the skin-pack. You can also plumb directly to the 1" NPT threads on the installation adaptors.

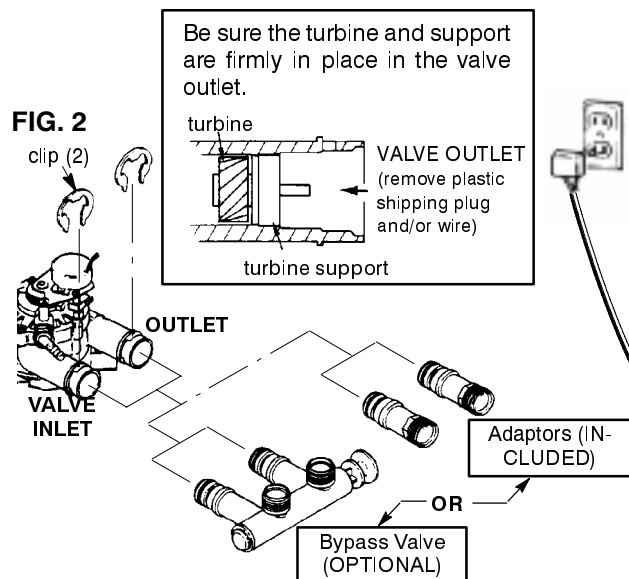
**CAUTION:** Do all soldering, and allow to cool, before connecting pipe to the adaptors or bypass valve.

3. Install the grounding clamps and wire if cold water pipe ground continuity was interrupted.

**FIG. 3**



**FIG. 2**



Soldered copper, threaded, or CPVC plastic pipe and fittings. Plumb to installation adaptors, or to optional bypass valve. Eliminate 3 valves shown above if plumbing to optional bypass.

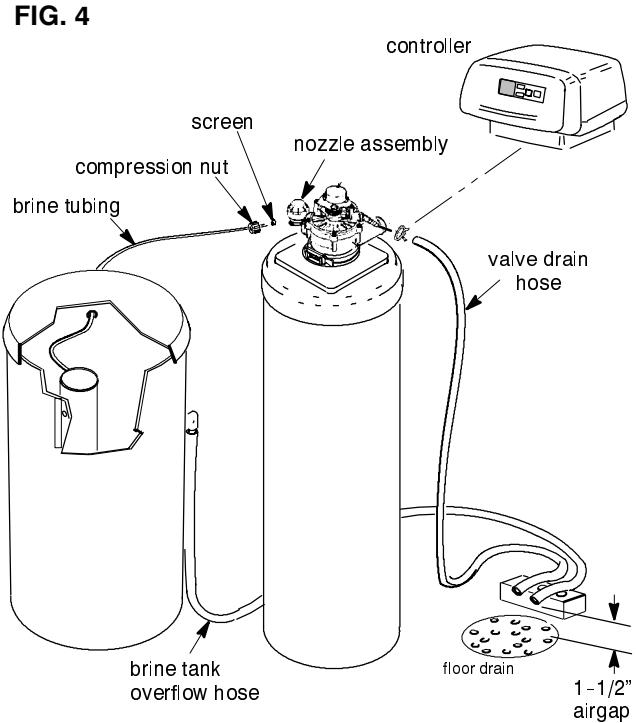
## ECOWATER DEALER INFORMATION

### INSTALLATION (continued)

- Run the valve and brine tank overflow drain hoses (fig. 4). Secure the valve drain hose to the drain fitting with the included hose clamp. Provide a minimum 1" air gap at the floor drain, sump, standpipe, laundry tub, or other approved drain. If you need to elevate the valve drain hose to get to the drain point, do not raise more than 8' above the floor. The *gravity* overflow hose must be lower than the drain fitting along the entire run.

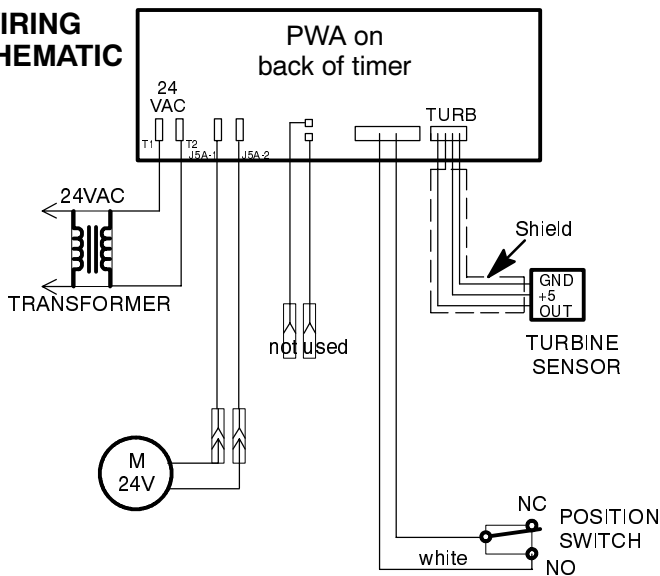
Note: Flexible drain hose is not allowed by some state or local codes. A fitting (1/4" NPT x 1/2" O.D. tube, part no. 0504574) is available from EcoWater for adapting copper tubing to the valve drain fitting.

- Route the brine valve tubing out of the brine tank and connect to the nozzle assembly. Place the included (on skin-pack) screen in the end of the tubing, and use the compression nut to fasten.
- Hold the controller assembly over the valve assembly and connect wiring to the valve motor and switch (see diagram below). Fasten the sensor housing in place on the valve outlet port.
- Lower the controller assembly onto the tank and lock the bottom cover into slots in the shroud cover.
- Connect the power cable to the transformer and plug into a 120V - 60Hz electrical outlet.



- Open nearby faucets and advance (use **CHARGE** button) the softener valve to backwash position to vent air from the tank. Turn on the water supply and allow the softener to fill. When water at nearby faucets runs smooth, with no more air bubbles, close the faucets and advance the softener valve to "service".
- Check your installation work for leaks.
- Make all timer settings, page 5.
- Sanitize the unit following procedures below, and use "Recharge Now" to start a recharge.
- Fill the brine tank with clean water softener salt.
- Install the brine tank cover.

### WIRING SCHEMATIC

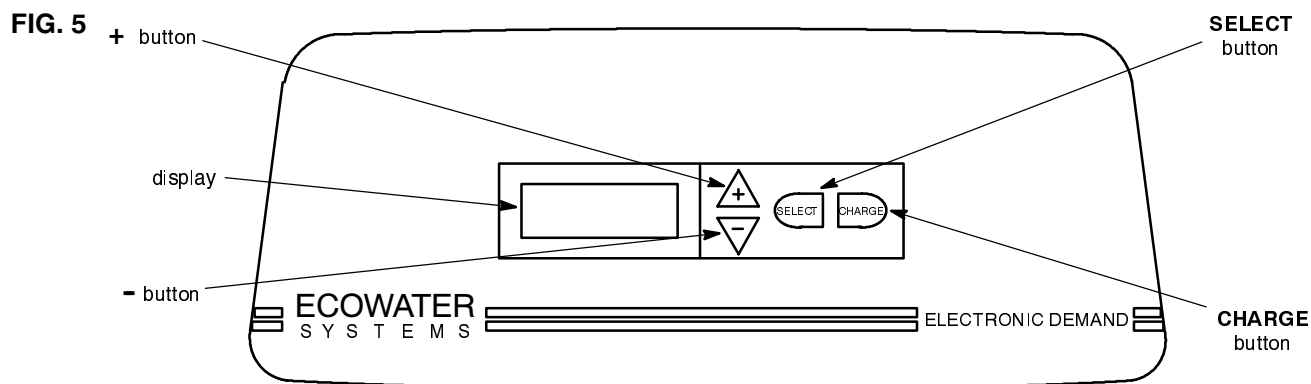


### DISINFECTING THE SOFTENER

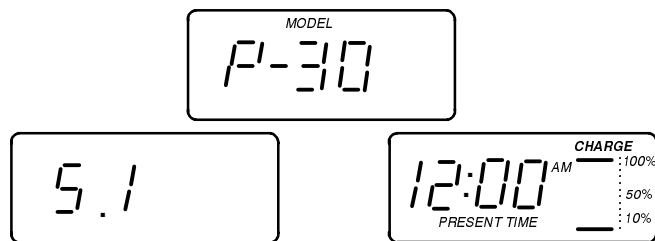
Care is taken at the factory to keep your softener clean and sanitary. Materials used to make the unit will not infect or contaminate your water supply, and will not cause bacteria to form or grow. However, during shipping, storage, installing and operating, bacteria could get into the unit. For this reason, sanitizing as follows is suggested when installing.

- Use a pail or hose to fill the brine tank with about 3 gallons of water.
- Remove the brinewell cover and pour about 1-1/2 oz. (2 to 3 tablespoons) of common household bleach into the softener brinewell. Clorox, Linco, BoPeep, White Sail, Eagle, etc. are brand names of bleach readily available. **Replace the brinewell cover.**
- Start an automatic regeneration to draw the bleach into and through the softener, and to the drain.

## SETTING THE TIMER



When the transformer is plugged in, a “beep” will sound, followed by the factory set model code for a few seconds. Then, a test number (example: 5.1) shows, followed by a 12:00 AM present time display.



**MODEL CODE:** The timer is factory set to the correct code for your model (P-30 for 1502 ED30, or P-39 for

1502 ED39). Do the following to check the code, or to change it if the incorrect code shows.

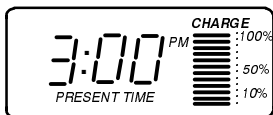
- a. Press SELECT and *hold* for 3 seconds.
- b. Again, press SELECT and *hold* for 3 seconds to display the factory set P code.
- c. If needed, use the (  $\Delta$  ) button to set the correct P code. If you pass by the correct code, use the (  $\nabla$  ) button. **Be sure to set the correct code, or the softener will operate on incorrect timing.**

When you are certain the correct code appears, press SELECT. If you changed the code, a test number (example: 5.1) will show again for a few seconds, followed by a flashing 12:00 AM. The present time shows if no code change was made, and if one was previously set. The charge bar will show 0% until after the first regeneration (see page 6).

**TIMER SETTINGS REQUIRED**...upon installation, and after an extended power outage (see Power Outage Memory, page 1).

● **SOUND “BEEPER”**- A “beeper” sounds while pressing buttons for timer setup. One beep signals a change in the faceplate display. Repeated beeps means the timer will not accept a change from the button you have pressed, telling you to use another button. For example, while setting the hardness number, the beeper sounds repeatedly when the display reaches 1 using the (  $\nabla$  ) button, or 125 using the (  $\Delta$  ) button.

**1. SET THE PRESENT TIME:** Use the (  $\Delta$  ) or (  $\nabla$  ) buttons to set the present time of day, being sure AM or PM shows, as applicable. Press (  $\Delta$  ) to move the display ahead; press (  $\nabla$  ) to move the time backward. **NOTE:** Each press of a button changes the time by 1 minute. Holding a button in changes the time by 32 minutes each second.



**2. SET WATER HARDNESS:** Press the SELECT button once to display a flashing 15 and HARDNESS. Set the grains per gallon hardness of your water supply (determined by water analysis, or call your local water department). Use the (  $\Delta$  ) button to advance the number; use the (  $\nabla$  ) button to reduce the number. Each press of a button changes the display by 1, between 1 and 25. From 25 to 125, the display changes 5 at a time. Hold a button in for fast number change. **NOTE:**

To compensate for iron in the water, add 5 to the hardness number for each 1 ppm of iron.

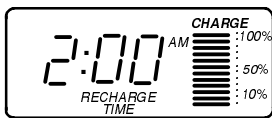


**NOTE: TO RESET THE PRESENT TIME, IF FLASHING AFTER A POWER OUTAGE, DO STEP 1.** Then, press SELECT 4 times to steady the display. All other settings are retained by the timer.

## SETTING THE TIMER

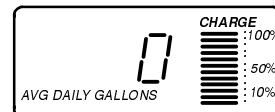
### 3. SET RECHARGE (REGENERATION) TIME:

Press SELECT to display a flashing 2:00 AM, and RECHARGE TIME. At this setting, the softener begins recharge, or regeneration, at 2:00 AM., ending no later than 4:30 AM. This is a good time in most households because water is not being used. (If hot water is used while the softener is regenerating, the water heater will refill with hard water.) To select a different recharge start time, use the (▲) or (▼) button.



### 4. Press SELECT to display AVERAGE DAILY

GALLONS (no adjustments), and press SELECT once more to return the present time of day.



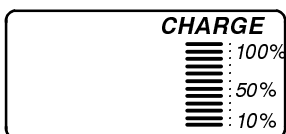
5. Press the CHARGE button and hold for 3 seconds until RECHARGE begins to flash in the display, starting a recharge. This recharge **draws the bleach** (see step 12, page 4) through the softener to **sanitize** it and to purge any air remaining in the resin tank assembly.



## FEATURES

### CHARGE BAR DISPLAY

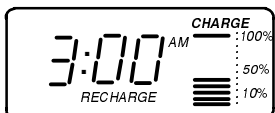
The charge bar is continually displayed, and shows at a glance the percentage of conditioned water capacity remaining. After a recharge, or regeneration, the charge bar returns to the 100% charge position.



NOTE: When electrical power is applied to the timer, the charge bar is at 0% until after the initial regeneration in step 5 above.

### FLASHING "RECHARGE"

While the softener is in a recharge cycle, the word "RECHARGE" flashes in the display until the unit returns to conditioned water service.



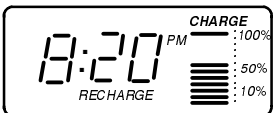
### FLASHING "RECHARGE TONIGHT"

When the faceplate computer determines a recharge is needed to restore conditioned water capacity, it initiates "RECHARGE TONIGHT". At the next programmed recharge start time, the recharge cycle will begin. Flashing RECHARGE then replaces the flashing RECHARGE TONIGHT.



### INITIATING EXTRA RECHARGES

1. **RECHARGE NOW:** Press and hold the CHARGE button for 3 seconds, until RECHARGE begins to flash in the display. A recharge begins immediately.



To assure an adequate supply of conditioned water, at times of unusual or unexpected high water use demand, use the RECHARGE NOW feature. For example, if you have guests and the charge bar is at or below 50%, you

could deplete conditioned water capacity before the next recharge is automatically initiated. To be sure this will not happen, use RECHARGE NOW to restore 100% conditioned water capacity.

2. **RECHARGE TONIGHT:** Press and immediately release the CHARGE button. RECHARGE TONIGHT will flash in the display. When this feature is set, the Eco System Unit will regenerate at the next programmed start time. This feature is beneficial to assure a sufficient supply of conditioned water for an expected heavy water usage the next day.

To cancel a recharge when RECHARGE TONIGHT is flashing, press and immediately release the CHARGE button.

### PROGRAM MEMORY

If electrical power to the softener goes off, the time display is blank, but the faceplate timer keeps the correct time for at least 2 days. When electrical power comes on again, you have to reset the present time only if the display is flashing. The MODEL CODE, HARDNESS and RECHARGE TIME never need resetting unless a change is desired.

Even if the timer is incorrect, after a long power outage, the unit works as it should to keep your water conditioned. However, regenerations may occur at the wrong time of day until you reset the timer to the correct time of day. To reset present time, see step 1 on page 5.

### AVERAGE DAILY GALLONS

If you want to know the average gallons of water your household uses each day, press the SELECT button 4 times to display this figure. The average daily gallons is based on your past 7 days of water usage. The figure adjusts daily at midnight. Press SELECT once more to return the present time, or it will return automatically in 4 minutes.



## FEATURES

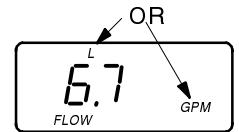
**The following features and options are selected or observed in a SECONDARY TIMER MODE.  
TO ENTER THE SECONDARY MODE, Press SELECT and hold for 3 seconds.**

**1. Gallon (or Liter) Total Count:** This is a measure of all water that has passed through the softener since installation. The display will total up to 99,999 gallons before beginning over at 0.

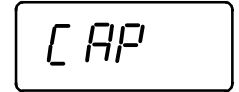
NOTE: When in this display, the total can be returned to 0 by pressing the (▽) button.



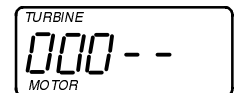
**2. Flow Rate, Gallons (or Liters) Per Minute:** Press SELECT once more to access this display. The display shows the flow rate, in gallons (or liters), passing through the unit. If all water using appliances and faucets are off, the display will be at 0. This display indicates positive water meter turbine operation.



**3. Operating Capacity:** Press SELECT to view the current operating capacity of the softener. The display alternates between CAP and, for example 15400. Upon installation, capacity shown is the medium operating level of the unit. After that, depending on water usage, the actual grains capacity last recharged displays.



**4. Valve Switches, Turbine, and Motor Diagnostic:** Press SELECT again for this diagnostic display. For additional information on this display, please see page 26.



**5. 12 or 24 Hour Clock:** Press SELECT to display a flashing 12 hour (or 24 hour). When “12 hour” is set, the present time and recharge time displays are shown in standard clock time... 1 to 12 PM, 1 to 12 AM. Military time, 0100 (1:00 AM) to 0000 (midnight), is shown when “24 hour” is set. Use the (△) or (▽) buttons to set the desired clock.

**6. Gallons or Liters Measure:** Press SELECT to show either GALLON or LITER flashing. If GALLON is selected, all water flow rate and usage displays are shown in gallons or gallons per minute. If LITER is selected, the same displays are shown in liters or liters per minute. The (△) or (▽) button is used to change this display.

**7. Maximum Days Between Recharges:** Press SELECT to display AUTO, or 1 day, 2 day, etc., through 15 days. The AUTO setting allows the faceplate computer to control all recharges, with intervals based on water usage. AUTO provides the most economical Eco System Unit operation. To set a maximum time (in days) between recharges, use the (△) or (▽) button. For example, if you select 5 day in the display, the timer will assure that no more than 5 days will pass without a recharge.

NOTE: If the 24 hour clock is selected (step 5, page 17), an alternating OFF / 97 displays when SELECT is pressed again. This feature is mainly for the European market, which requires immediate recharge when 97% of the unit capacity is used. To select this feature, press the SELECT button to display ON.

**8. Backwash Minutes:** Press SELECT and a flashing MIN. / BACKWASH time shows in the display. The default time is 7 minutes. The (△) and (▽) buttons are used to change this time, if desired, up to a maximum of 30 minutes.

NOTE: The length of each stage (fill, brining/brine rinse, backwash, fast rinse) of the recharge cycle is automatically controlled by the faceplate computer. This time is computed based on water usage, water hardness, size of the Eco System Unit resin bed, etc. *Although the lengths of backwash and fast rinse are changeable, only a qualified technician should adjust the times.*

**9. 2nd Backwash:** Press SELECT again to display 2ND BACKWASH / OFF. Two backwash cycles are beneficial on some water supplies, especially if it has high sediment or iron content. When selected, a backwash and fast rinse cycle will follow the fill cycle of recharge. Then, the normal recharge sequence (brining, brine rinse, backwash, fast rinse) resumes. To select the 2nd backwash, press the (△) button to display ON, or press the (▽) button to change from ON to OFF.

**10. Rinse Minutes:** Press SELECT and a flashing MIN. / RINSE time shows in the display. The default time is 3 minutes. The (△) and (▽) buttons are used to change this time up to a maximum of 30 minutes.

□ The minimum time adjustment available is 1 minute.

► Press SELECT once more to return the present time display.



## SERVICE

### **ELECTRONIC CHECKOUT**

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ALWAYS MAKE THE INITIAL CHECKS FIRST

#### **INITIAL CHECKS:**

**1.** Does the time display show the correct time of day?

*...If display is blank, check power source to the softener.*

*...If time is flashing, power was off for over 2 days. The unit resumes normal operation, when power returns, but regenerations occur at the wrong time.*

*...If an error code shows in the display (example: Err03), go to AUTOMATIC ELECTRONIC DIAGNOSTICS, below.*

**2.** Plumbing bypass valve(s) must be in **service** position (all the way open or closed, as applies).

**3.** Inlet and outlet pipes must connect to the softener inlet and outlet respectively.

**4.** Is the transformer plugged into a “live”, grounded wall outlet, and the power cable fastened securely?

**5.** The valve drain hose must be free of kinks and sharp bends, and not elevated over 8’ above the floor.

**6.** Is there salt in the brine tank?

**7.** Is the brine tubing connected? See FIG. 4, page 4.

**8.** Press the SELECT button 2 times to display the hardness setting. Be sure it is the correct setting for the household’s water supply. -- Make a hardness test of the raw water and compare with the hardness setting. Also test a conditioned water sample to verify if a problem exists. --Press SELECT twice more to return the present time display.

**9.** Be sure the correct model code shows (see page 5).

If you do not find a problem after making the initial checks, do **MANUAL INITIATED ELECTRONIC DIAGNOSTICS**, and the **MANUAL ADVANCE REGENERATION CHECK**, pages 9 and 10.

### **AUTOMATIC ELECTRONIC DIAGNOSTICS**

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The faceplate computer has a self-diagnostic function for the electrical system (except input power and water meter). The computer monitors electronic components and circuits for correct operation. If a malfunction occurs, an error code appears in the faceplate display.

The chart below shows the error codes that could appear, and the possible defects for each code.

While an error code appears in the display, all faceplate buttons are inoperable except the SELECT button. SELECT remains operational so the service person can make the **MANUAL INITIATED ELECTRONIC DIAGNOSTICS** to further isolate the defect, and check the water meter.

CODE	POSSIBLE DEFECT	
	MOST LIKELY ▶	▶ LEAST LIKELY
Err 01 Err 02 Err 03 Err 04	wiring harness or connection to position switch / switch / motor inoperative / valve defect causing high torque	
Err 05	faceplate	

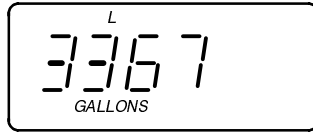
#### **PROCEDURE FOR REMOVING ERROR CODE FROM FACEPLATE:**

1. Unplug transformer----- 2. Correct defect----- 3. Plug in transformer----- 4. Wait for 6 minutes. The error code will return if the defect was not corrected.

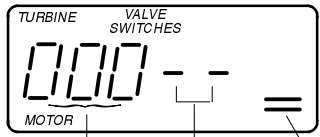
## SERVICE

### TROUBLESHOOTING, MANUAL INITIATED ELECTRONIC DIAGNOSTICS

1. To enter diagnostics, press the SELECT button and *hold* for 3 seconds to display the gallons or liters of water used since installation.



2. Continue to press SELECT until the following display shows.



WATER METER - see **A**  
 SWITCHES - see **B**  
 VALVE CYCLE POSITION indicator bars - see **C**

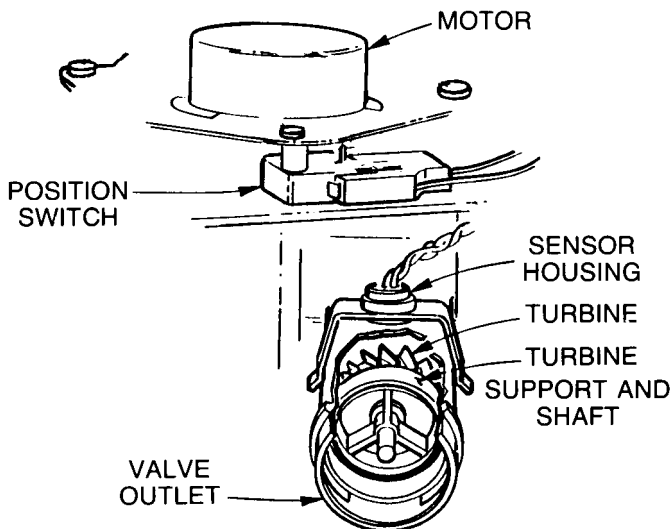
**A.** The first 3 digits indicate water meter operation as follows.

000 (steady) = conditioned water not in use...no flow through the meter.

**-open a nearby CONDITIONED WATER faucet-**

000 to 151 (continual) = repeats display for each gallon of water passing through the meter.

If you don't get a reading in the display, with a faucet open, pull the sensor housing from the valve outlet port. Pass a small magnet back and forth in front of the sensor. You should get a reading. If you **do get a reading**, disconnect the outlet plumbing and check the turbine for binding. If you **don't get a reading**, the sensor is probably defective.



Use the recharge button to manually advance the valve into each cycle and check correct switch operation (step **B**), and observe the valve position indicator bars (step **C**).

**B.** The letter (P) and dash or dashes indicate position switch operation. The letter shows if the switch is closed. A dash shows when the switch is open.

NOTE: *The position switch is closed when the plunger is depressed, open when extended.*

CORRECT SWITCH DISPLAYS	VALVE CYCLE STATUS
- -	valve in service, fill, brining, backwash or fast rinse position
- P	valve rotating from one position to another

**C.** When advancing the valve through the recharge cycles, the charge bar indicates valve positioning as follows.

INDICATOR BARS	VALVE CYCLE POSITION
bar(s) flashing	valve moving , 1 position to another
no bars	service
1 bar	fill
2 bars	brining and brine rinse
3 bars	backwash
4 bars	fast rinse

**D.** While in this diagnostic screen, the following information is available and may be beneficial. This information is retained by the computer from the first time electrical power is applied to the faceplate.

...Press (  $\Delta$  ) to display the number of days this faceplate has had electrical power applied.

...Press (  $\nabla$  ) to show the number of regenerations initiated by this faceplate since power was first applied. (NOTE: Resets to 0 if model code is changed).

**E.** Press SELECT several times until the present time display returns.

## SERVICE

### **TROUBLESHOOTING, MANUAL ADVANCE REGENERATION CHECK**

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This check verifies proper operation of the motor, brine tank fill, brine draw, regeneration flow rates, and other controller functions. *Always make the initial checks, and the manual initiated diagnostics first.*

**NOTE:** A steady time (not flashing) must show in the display.

**1.** Press the CHARGE button and hold for 3 seconds. RECHARGE begins to flash as the softener enters the fill cycle of regeneration. Remove the brinewell cover and, using a flashlight, observe fill water entering the tank.

**a.** If water does not enter the tank, look for an obstructed nozzle and venturi, fill flow plug or brine tubing.

**2.** After verifying fill, press CHARGE to move the valve into brining\*. A slow flow of water to the drain will begin. Verify brine draw from the brine tank by shining the flashlight into the brinewell and observing a noticeable drop in the liquid level.

\*If the 2ND BACKWASH option is set, the valve will enter backwash and fast rinse before brining.

**NOTE:** Be sure water is in contact with the salt, and

not separated by a salt bridge.

**a.** If the unit does not draw brine, check for...

...dirty or defective nozzle and venturi

...nozzle and venturi not seated on the gasket, or gasket defective

...restriction in valve drain, causing a back-pressure (bends, kinks, elevated too high, etc.), installation step 4, page 4

...obstruction in brine valve or brine tubing

...inner valve failure (obstructed outlet disc, wave washer defective, etc.)

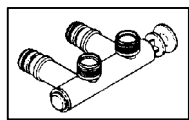
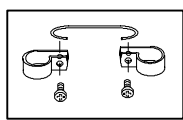
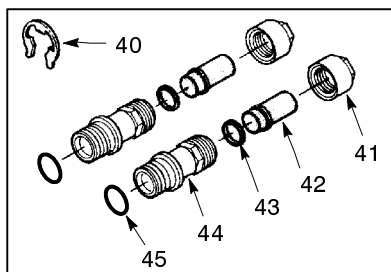
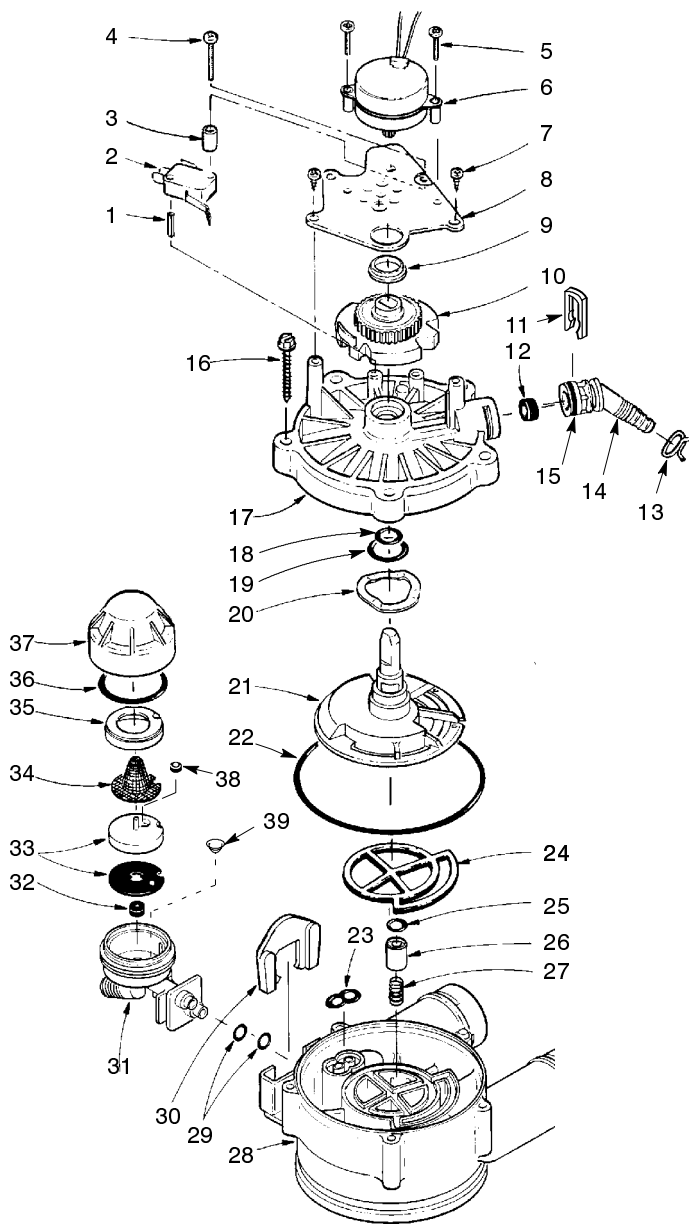
**3.** Again press CHARGE to move the valve into backwash. Look for a fast flow of water from the drain hose.

**a.** If flow is slow, check for a plugged top distributor, backwash flow plug or drain hose.

**4.** Press CHARGE to move the valve to fast rinse position. Again look for a fast drain flow. Allow the unit to rinse for several minutes to flush out any brine that may remain from the brining cycle test.

**5.** To return the valve to service position, press CHARGE ONCE AGAIN.

## REPAIR PARTS

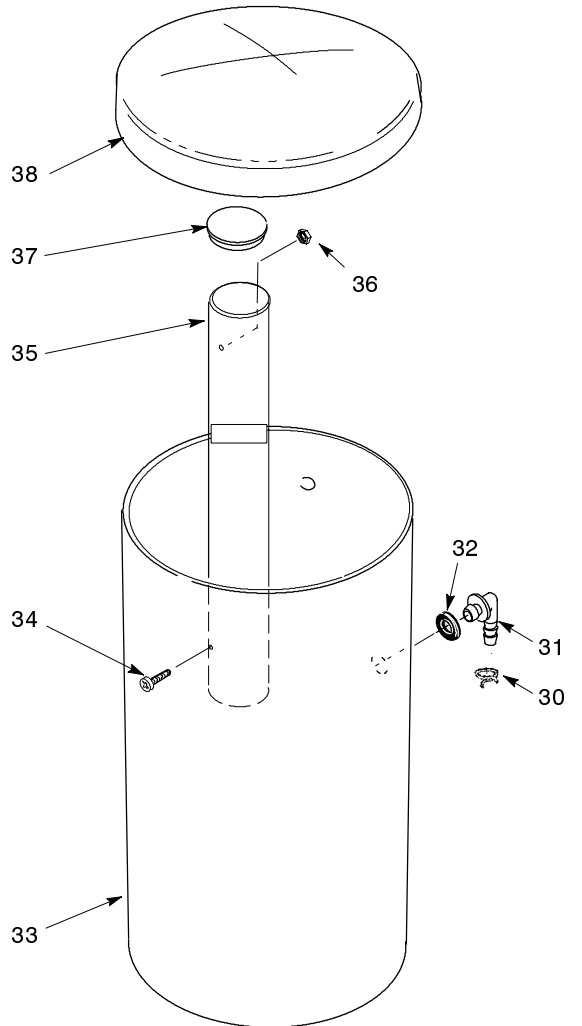
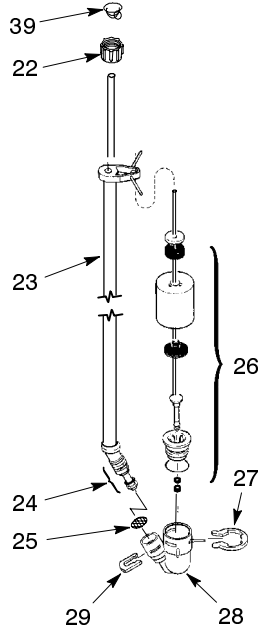
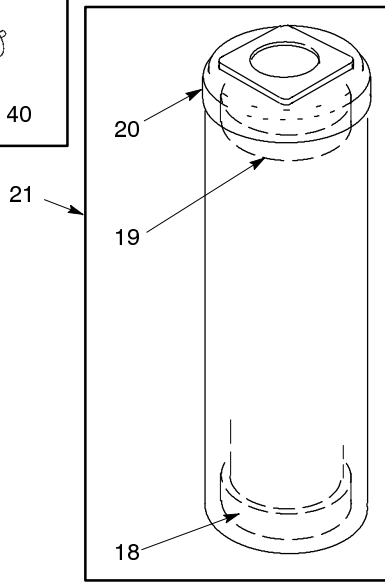
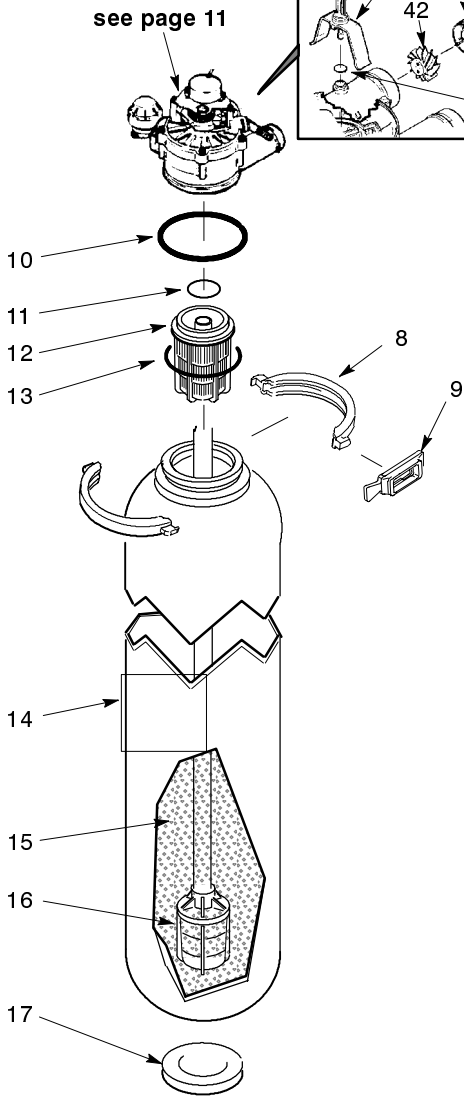
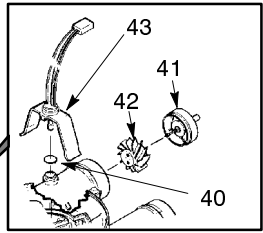
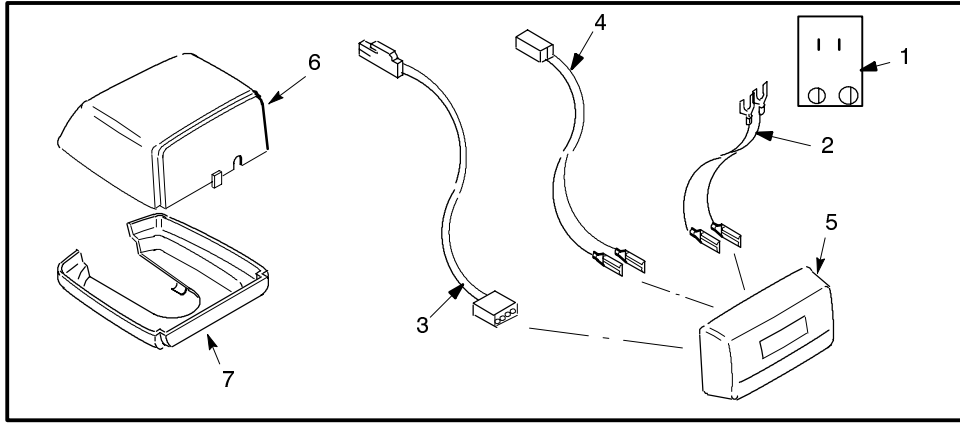


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Key No.	Part Number	Part Description
1	7077472	Expansion Pin
2	7030713	Switch
3	7117816	Spacer
4	7070412	Screw, #4-24 x 1-1/8"
5	7131755	Screw, #6-20 x 7/8" (2)
6	7132989	Motor
7	0900857	Screw, #6-20 x 3/8" (2)
8	7117808	Motor Plate
9	0503288	Bearing
10	7113927	Cam and Gear
11	7142942	Clip (drain)
12	0501228	Flow Plug, #18 (1502 ED30)
	7092618	Flow Plug, 2.0 (1502 ED39)
13	0900431	Hose Clamp
14	7024160	Drain Hose Adaptor
15	7170327	O-ring, 5/8" x 13/16"
16	7074123	Screw, #10-14 x 2 (5)
17	7085263	Valve Cover
18	7170238	O-ring, 7/16" x 5/8"
19	7170212	O-ring, 3/4" x 15/16"
20	7082087	Wave Washer
21	7199232	Rotor & Disc
22	7170246	O-ring, 3-3/8" x 3-5/8"
23	7081764	Seal (nozzle & venturi)
24	7134224	Rotor Seal
25	7170204	O-ring, 3/8" x 9/16"
26	7092642	Plug (drain seal)
27	7129889	Spring
28	7082053	Valve Body
29	7170319	O-ring, 1/4" x 3/8" (2)
30	7081201	Retainer (nozzle & venturi)
31	7081104	Nozzle & Venturi Housing
32	1148800	Flow Plug, .3 gpm
33	7187772	Nozzle & Venturi -Gasket Kit
	7163663	Gasket only
34	7146043	Screen
35	7167659	Screen Support
36	7170262	O-ring, 1-3/16" x 1-3/8"
37	7081188	Cap
38	0521829	Flow Plug, .1 gpm (1502 ED30)
	7084607	Flow Plug, .15 gpm (1502 ED39)
39	7095030	Cone Screen
40	7116713	Clip (2)
41	0507369	Installation Nut (2)
42	0507615	Installation Tube (2)
43	7170335	Washer (2)
44	2207800	Installation Adaptor (2) - includes key no. 45
45	7170288	O-ring, 15/16" x 1-3/16" (2)
46	7112997	Ground Clamp Kit
47	7129871	Bypass Valve (optional - not included)
■	7187065	Nozzle & Venturi Assem. (1502 ED30)
	7137507	Nozzle & Vent. Assem. (1502 ED39)
■	7129716	Seal Kit (incl. key nos. 18, 19, 22 - 25)
■	7125982	Repl. Valve (includes key nos. 16 - 28)

# REPAIR PARTS



## REPAIR PARTS

Key No.	Part Number	Part Description
1	7095373	Transformer, 24V - 10VA
2	7132840	Power Cable
3	7130767	Wire Harness (switch)
4	7157395	Wiring Adaptor, Motor
5	7201924	Faceplate-Timer Asm. (1502 ED30) *
	7201932	Faceplate-Timer Asm. (1502 ED39) *
6	7096468	Controller Top Cover
7	7168663	Controller Base Cover
8	7176292	Clamp Section, 2 req.
9	7088033	Clamp Retainer, 2 req
10	7170296	O-ring Seal, 2-7/8" x 3-1/4"
11	7170254	O-ring, 13/16" x 1-1/16"
12	7077870	Top Distributor
13	7170270	O-ring Seal, 2-3/4" x 3"
14	7113058	Resin Tank, 8" dia. x 40" (1502 ED30)
	7092202	Resin Tank, 10" dia. x 47" (1502 ED39)
15	0502272	Resin, 1 cu ft (53 lbs) ☐
	0501741	Resin, 1/2 cu ft ☐
16	7105047	Repl. Distributor
17	1184700	Spacer (1502 ED30)
18	7141205	Tank Support
19	7096955	Tank Support (1502 ED30)
	7096963	Tank Support (1502 ED39)

☐ 1502 ED30 uses 3/4 cu ft (40 lbs),  
1502 ED39 uses 1 cu ft

\* Faceplates are factory programmed with the correct model code. Be sure to order the correct part number for the model number on the softener rating decal.

Key No.	Part Number	Part Description
20	7096913	Top Cover
21	7114818	Shroud Kit (includes key nos. 18 - 20)
22	1202600	Nut-Ferrule
23	7113016	Tubing Assembly, B.V.
24	7095470	Brine Tube
25	7131365	Screen
26	7113008	Float, Stem & Guide
27	1205500	Clip
28	7092252	Brine Valve Body
29	7080653	Clip
■	7116488	Brine Valve Assembly (includes 23 - 29)
30	0900431	Hose Clamp
31	1103200	Hose Adaptor
32	9003500	Grommet
33	7114800	Brine Tank
34	0900712	Screw, #6-32
35	7100819	Brinewell
36	0900706	Nut, #6-32
37	0500283	Brinewell Cover
38	7101611	Brine Tank Cover
39	7171349	Screen
40	9000803	O-ring Seal
41	2204101	Turbine Support
42	7117858	Turbine
43	7235559	Sensor Housing