

# Installation and operating manual

## Water softener

Calex 11, Calex 15, Calex 17 and Calex 22

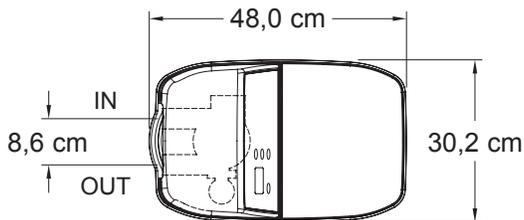


Instructions for installation, operation and  
maintenance of your water softener

# Water Softener Specifications

	Model 11L	Model 15L	Model 17L	Model 22L
Model Code	11L	15L	17L	22L
Rated Softening Capacity (mol @ kg. Salt Dose)	28,4 @ 0,42 45,1 @ 0,84 61,7 @ 1,63	42,9 @ 0,64 73,4 @ 1,4 102,0 @ 3,6	48,7 @ 0,73 79,2 @ 1,54 113,0 @ 4,13	89,0 @ 1,2 154,6 @ 3,4 183,1 @ 5,6
Rated Efficiency (mol/kg. of Salt at Min. Salt Dose)	6,76	6,70	6,67	7,42
Service Flow Rate (m <sup>3</sup> / hr.)	0,9	1,4	1,5	1,8
Pressure Drop at Service Flow Rate (bar)	0,7	0,5	0,6	1,0
Intermittent Flow Rate (lpm) @ 1 bar	18	39	38	30
Amount of High Capacity Resin (liter)	10,4	14,2	16,1	21,8
Min.-Max. Working Pressure (bar)	1,3 - 8,5			
Min.-Max. Operating Temperature (°C)	4 - 49			
Max. Flow Rate (lpm) to Drain during Recharge	7,6			

## Water Softener Dimensions



Model	Nominal Resin Tank Size	Dimension A	Dimension B
11L	20,3 x 48,3 cm	65,4 cm	52,7 cm
15L	20,3 x 63,5 cm	82,2 cm	69,5 cm
17L	20,3 x 63,5 cm	82,2 cm	69,5 cm
22L	22,9 x 88,9 cm	106,7 cm	94,0 cm

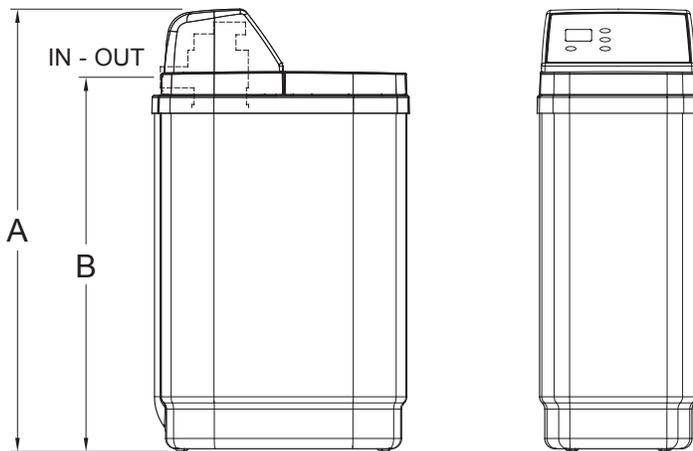


FIG. 1

# Programming the Water Softener

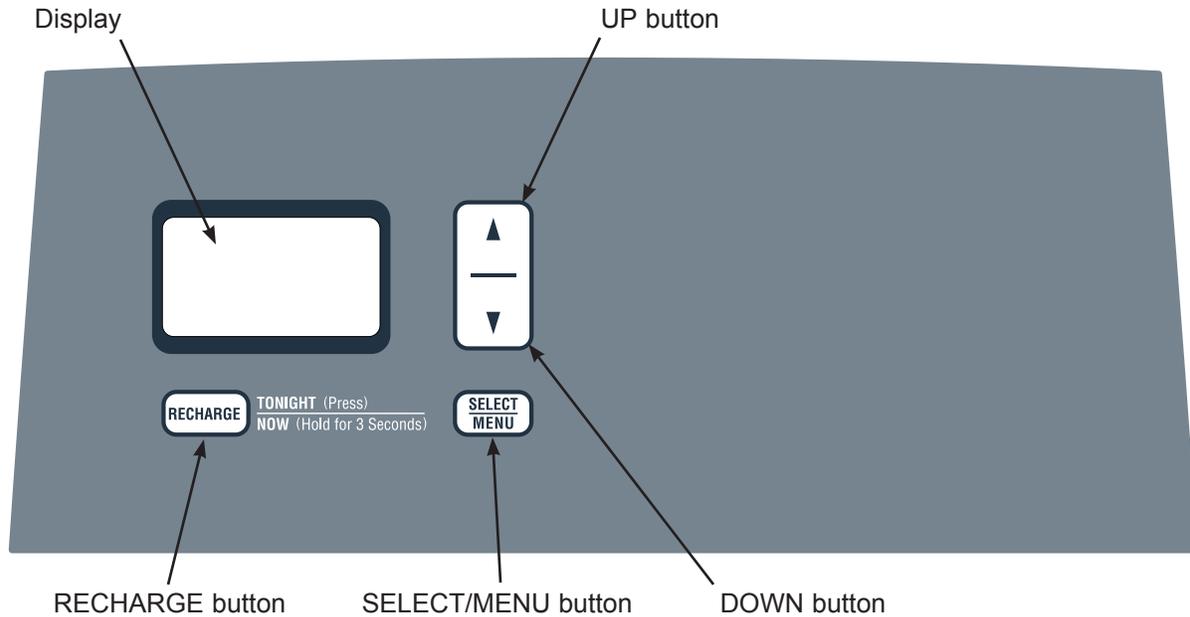


FIG. 2

When the power supply is plugged into the electrical outlet, a model code and a test number (example: J3.0), begin to flash in the faceplate display (See Figure 2). Then, “12:00” and the words “PRESENT TIME” begin to flash.

**NOTE:** If “- - -” shows in the display, press the ▲ UP or ▼ DOWN button until the model code (See table below) shows in the display. Then, press the SELECT/MENU button to set, and change to the flashing “PRESENT TIME” display.

Model	Code
Calex 11L	11L
Calex 15L	15L
Calex 17L	17L
Calex 22L	22L

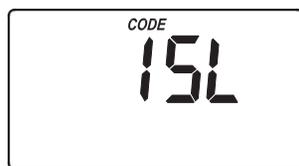


FIG. 2

## A. SET TIME OF DAY

If the words “PRESENT TIME” do not show in the display, press the SELECT/MENU button several times until they do.

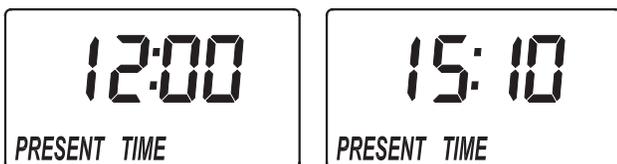


FIG. 3

1. Press the ▲ UP or ▼ DOWN buttons to set the present time. Up moves the display ahead; down sets the time back.

**NOTE:** Press buttons and quickly release to slowly advance the display. Hold the buttons down for fast advance.

2. When the correct time is displayed, press the SELECT/MENU button, and the display will change to show the “Hardness” screen.

## B. SET WATER HARDNESS NUMBER

If you completed the previous step, the word “HARDNESS” should show in the display (See Figure 4). Otherwise, press the SELECT/MENU button several times until it does.

1. Press the ▲ UP or ▼ DOWN buttons to set the hardness of your water supply, in grains per gallon (gpg). The default is 25. See table at the top of the next page for unit conversions.



FIG. 4

# Programming the Water Softener

Hardness Unit	Conversions
French degrees (°f)	gpg = °f x 0,584
	°f = gpg x 1,712
German degrees (°dH)	gpg = °dH x 1,043
	°dH = gpg x 0,959
Parts per million (ppm)	gpg = ppm x 0,0584
	ppm = gpg x 17,12

**NOTE:** If your water supply contains iron, compensate for it by adding to the water hardness number. For example, assume your water is 20 gpg hard and contains 2 ppm iron. Add 5 to the hardness number for each 1 ppm of iron. In this example, you would use 30 for your hardness number.

$$\begin{array}{r}
 20 \text{ gpg hardness} \\
 2 \text{ ppm iron} \times 5 = 10 \\
 \text{(times)} \qquad \qquad \qquad +10 \\
 \hline
 30 \text{ HARDNESS NUMBER}
 \end{array}$$

- When finished setting your water's hardness number, press the SELECT/MENU button, and the display will change to show the "Recharge Time" screen.

## C. SET RECHARGE START TIME

- The softener's default recharge start time is 02:00 (See Figure 5). This is normally a time of day when water is not being used in the household. Hard water bypasses the softener if the household draws water during the recharge cycle. If a different recharge start time is desired, press the ▲ UP or ▼ DOWN buttons to change the time, in 1-hour

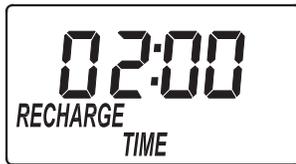


FIG. 5

increments.

- When the desired recharge start time is displayed, press the SELECT/MENU button, and the display will return to the normal run (time of day) screen.

## NORMAL OPERATION



FIG. 6

During normal operation, the present time of day shows in the display.

## OPTIONAL RECHARGE CONTROLS

Sometimes a manually initiated regeneration may be desired or needed. Two examples are:

- You have used more water than usual (house guests, extra washing, etc.) and you may run out of soft water before the next scheduled recharge.
- You did not refill the storage tank with salt before it had run completely out.

Use one of the following two features to begin a regeneration either immediately or at the next preset regeneration start time:

### RECHARGE NOW

To manually start a regeneration cycle, press and hold the RECHARGE button for a few seconds, until "RECHARGE NOW" flashes in the display. The softener begins an immediate regeneration. When



FIG. 7

completed (in about two hours), you will have a new supply of soft water. Once started, you cannot cancel this regeneration.

### RECHARGE TONIGHT

To set a regeneration cycle to begin at the next preset regeneration time, touch (press, but do not hold) the RECHARGE button. "RECHARGE TONIGHT"



FIG. 8

flashes in the display. A regeneration will occur at the next preset regeneration start time. If you decide to cancel this regeneration before it starts, touch the same button once more.

## VACATION NOTE

Calex demand water softeners, as set at the factory, regenerate only while water is being used and softening capacity must be restored. For this reason, the softener will not regenerate when you are away from home for extended periods. However, if you set the "Maximum Days Between Regenerations" feature, the softener will regenerate even when no water is used.

# Electronic Demand Timer Features / Options

## SET MAXIMUM DAYS BETWEEN REGENERATIONS

The default setting allows the timer to control regeneration frequency based on water usage readings from the water meter. It provides the most economical operation.

You can set a maximum time (in days) between regenerations. For example, no more than 3 days will pass without a regeneration occurring if you set “3 day” in the display. This feature can be set from 1 to 15 days.

To change the number of days between regenerations:

1. Press and hold the SELECT/MENU button until “000 - -” shows in the display.
2. Press the SELECT/MENU button once again and the words “Auto RECHARGE” flash in the display.

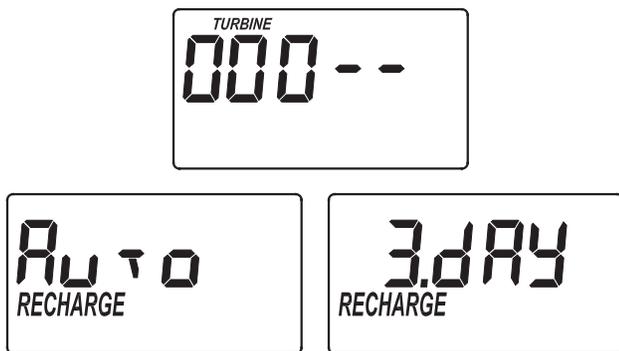


FIG. 9

3. Press the ▲ UP or ▼ DOWN buttons to set the number of days between regenerations.
4. When the desired number of days are displayed, press the SELECT/MENU button several times to advance through the remaining screens and return to the normal operation (time of day) display.

**NOTE:** The unit will recharge after the programmed number of days, even if no water is used during that period. To prevent recharges during vacation, set the maximum days to “Auto” before leaving. You will need to set the number of days again when you return.

## SET 97% FEATURE

When this feature is set ON, the unit will automatically regenerate when 97% of capacity has been used (at any time of day). The factory default setting is OFF.

1. Press and hold the SELECT/MENU button until “000 - -” shows in the display.

2. Press the SELECT/MENU button twice and “97” will flash in the display, alternating with the current setting (either “ON” or “OFF”).

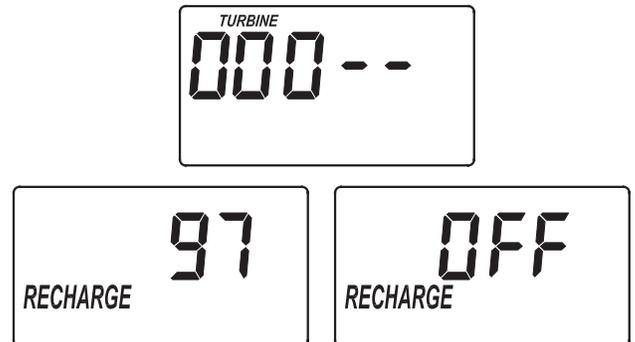


FIG. 10

3. Use the ▲ UP or ▼ DOWN buttons to toggle the setting between “ON” and “OFF”.
4. When the desired setting (“ON” or “OFF”) is flashing, press the SELECT/MENU button several times to advance through the remaining screens and return to the normal operation (time of day) display.

## 12 OR 24 HOUR CLOCK

The timer has been factory preset to display a 24 hour clock. If you prefer, you may change this to display a 12 hour clock.

1. Press and hold the SELECT/MENU button until “000 - -” shows in the display.
2. Press the SELECT/MENU button three times and “24 hr” will flash in the display.

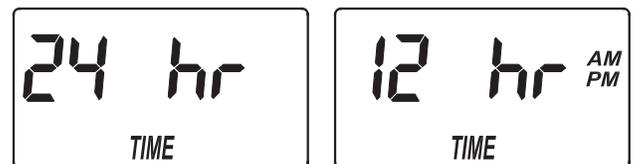


FIG. 11

3. Use the ▼ DOWN button to change to a 12 hour clock display.
4. Press the SELECT/MENU button several times to advance through the remaining screens and return to the normal operation (time of day) display.
5. To change back to a 24 hour clock, follow Steps 1 through 4, above, except use the ▲ UP button in Step 3.

# Electronic Demand Timer Features / Options

## ADJUST BACKWASH TIME AND RINSE TIME

The timer can be changed to allow different backwash and fast rinse times, if so desired. Each of these can be adjusted from 0 to 30 minutes.

1. Press and hold the SELECT/MENU button until "000 - -" shows in the display.
2. Press the SELECT/MENU button four times and "bA- " will flash in the display.

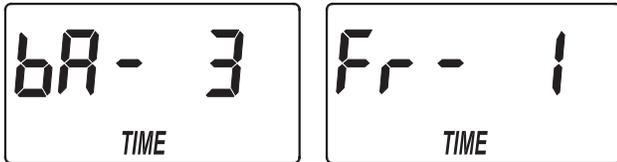


FIG. 12

3. Use the ▲ UP or ▼ DOWN buttons to set the number of minutes desired for backwash.
4. Press the SELECT/MENU button again and "Fr- " will flash in the display.
5. Use the ▲ UP or ▼ DOWN buttons to set the number of minutes desired for fast rinse.
6. Press the SELECT/MENU button to return to the normal operation (time of day) display.

## POWER OUTAGE MEMORY

If electrical power to the softener's control is lost, internal memory will maintain most settings such as the hardness and recharge time. However, unless the power outage was very brief, the clock's present time will need to be reset. During a power outage, the display will be blank and the softener will not recharge. When electrical power is restored:

1. Check the display.
- 2a. If the present time is displayed steadily (not flashing), the controller did not lose time and you do not need to reset the clock.
- 2b. If a time is flashing in the display, then the clock needs to be reset to the correct present time. See "Set Time of Day" on page 2. The flashing display is to remind you to reset the clock. If you do not reset the clock, then recharges will most likely occur at the wrong time of day.

**NOTE:** If the softener was recharging when power was lost, it will finish the cycle when power returns.

## AUXILIARY OUTPUT

The electronic controller's auxiliary output is used to operate a chlorine generator. It provides a 28V DC, up to 300 mA, current from terminal J4 on the electronic control board (see schematic below). This current is on during the brine draw portion of the softener's regeneration cycle.

## Wiring Schematic

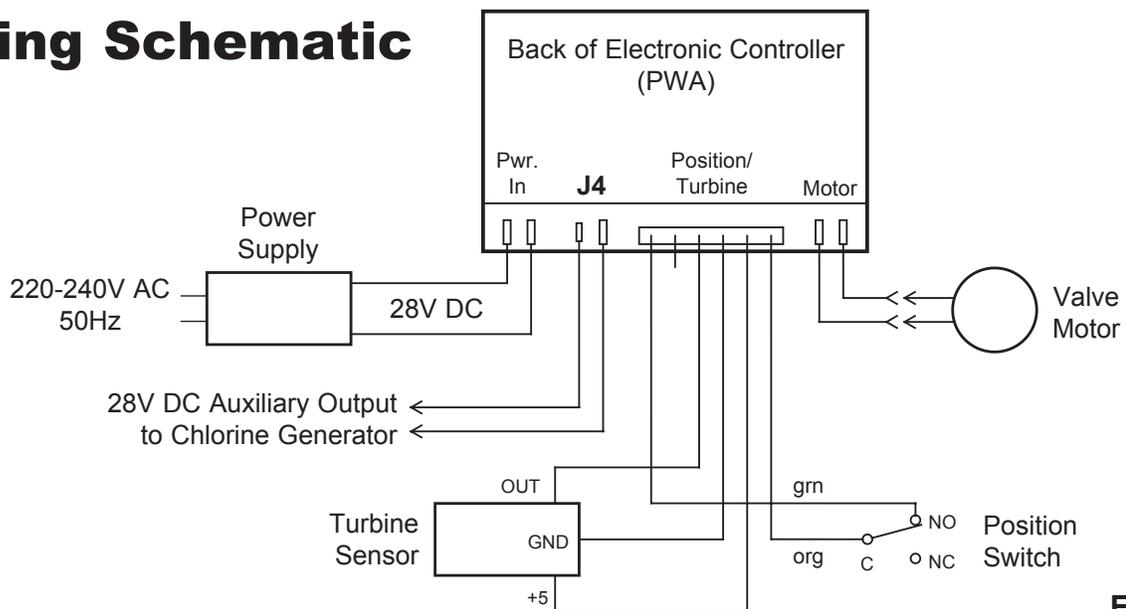


FIG. 13

# Bypass Blending Valve

The bypass blending valve works as a typical push-pull bypass valve, but has the added ability to finely adjust hardness of the treated water leaving the water softener. If slightly harder water is desired than is normally output by the water softener, this bypass blending valve can divert a small stream of hard water before it enters the water softener and blend it with the exiting softened water. The amount of water diverted is controlled by turning a blend adjusting knob on the end cap of the valve stem (See Figure 14).

1. When the bypass valve is in service position (normal softener operation), with handle pulled all the way out (See Figure 14), **increase hardness** of treated water by turning the blend adjusting knob **counterclockwise** up to 6 turns from the fully closed position. While adjusting this knob, hold the bypass valve handle to prevent the stem from rotating.
2. Do not continue to turn the knob counterclockwise beyond 6 turns from the fully closed position, as this would eventually pull the screw's internal o-rings out of their seat and water would leak from the bypass valve.
3. **Decrease hardness** of treated water by turning the blend adjusting knob **clockwise** while holding the bypass handle. When the knob will not turn any more, hard water is no longer being blended with treated water.
4. Once the desired hardness is achieved, the adjustment knob may be locked in place by tightening the hex nut clockwise against the end cap using an adjustable wrench. Hold the bypass valve handle to prevent the stem from rotating, or else use another wrench to grip the stem on the flats between the end cap and the bypass valve body. Loosen the hex nut (turn it counterclockwise) before readjusting the hardness or closing the diversion path for servicing (see next step)
5. If the water softener is to be serviced or disconnected from the bypass valve, the blend adjusting knob must be turned all the way clockwise to close the diversion path and prevent water leaking from the softener valve inlet of the bypass valve.

## SERVICE POSITION (Normal Softener Operation)

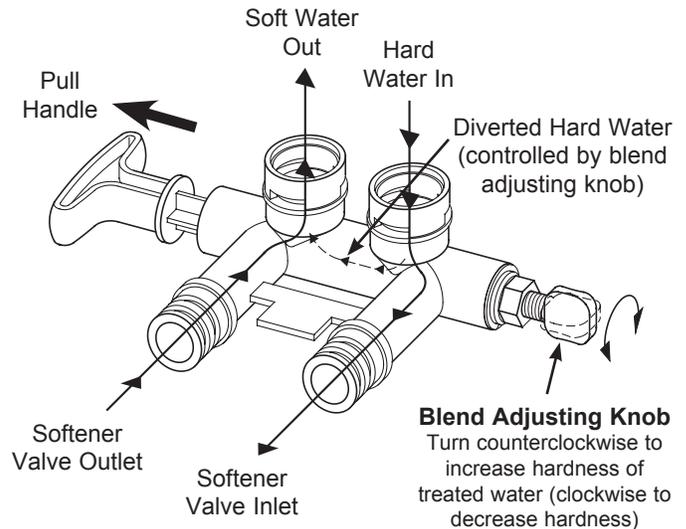


FIG. 14

## BYPASS POSITION

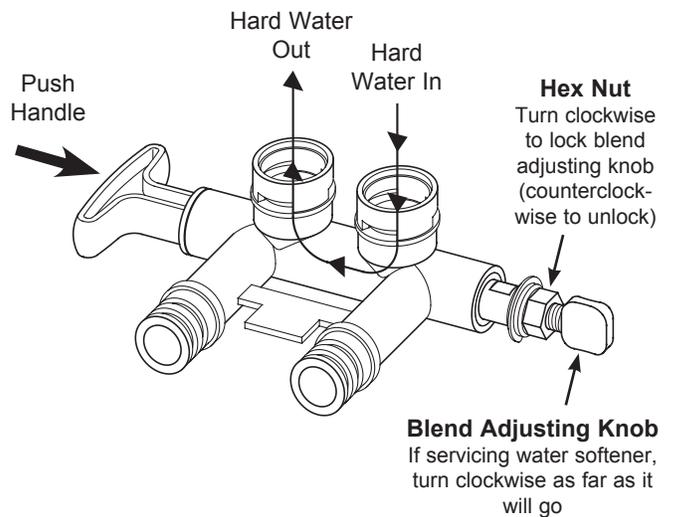


FIG. 15

# Water Softener Maintenance

## REFILLING WITH SALT

Brine (salt dissolved in water) is needed for every regeneration. The water for making brine is metered into the salt storage area by the softener valve and timer. If the water softener uses all the salt before more is added, hard water will result. Lift the brine tank lid and check the salt level every week. Be sure that the brinewell cover is on when adding salt.

**NOTE:** In humid areas it is best to keep the salt level less than half full and refill more often.

**RECOMMENDED SALT:** Cube, pellet, coarse solar, etc., water softener salt is recommended. This type of salt is high purity evaporated crystals, sometimes formed and pressed into briquets. It has less than 1% insoluble (not dissolvable in water) impurities. Clean, high grade rock salts are acceptable, but may require frequent brine tank cleaning to remove the "sludge" residue (insolubles) collecting at the bottom of the tank.

**SALT NOT RECOMMENDED:** Rock salt high in impurities, block, granulated, table, ice melting, or ice cream making salts, etc., are not recommended.

**SALT WITH IRON REMOVING ADDITIVE:** Some salts have an additive to help a water softener handle iron in the water supply. Although this may help keep the resin bed clean, it may also release corrosive fumes that will weaken and shorten the life of some water softener electronic parts.

## BREAKING A SALT BRIDGE

Sometimes a hard crust or salt "bridge" forms in the brine tank. This is usually caused by high humidity or the wrong kind of salt. When the salt bridges, an empty space forms between the water and the salt. Then salt will not dissolve in the water to make brine. Without brine, the resin bed is not recharged and hard water will result.

If the storage tank is full of salt, it is difficult to tell whether there is a salt bridge. A bridge may be underneath loose salt. The following is the best way to check for a salt bridge:

Salt should be loose all the way to the bottom of the tank. Hold a broom handle, or like tool, up to the softener, as shown in Figure 16. Make a pencil mark on the handle 25 to 50 mm below the top of the rim. Then, carefully push it straight down into the salt. If a hard object is felt before the pencil mark is even with the top, it is most likely a salt bridge. Carefully push into the bridge in several places to break it. **Do not try to break the salt bridge by pounding on the outside of the salt tank. You may damage the tank.**

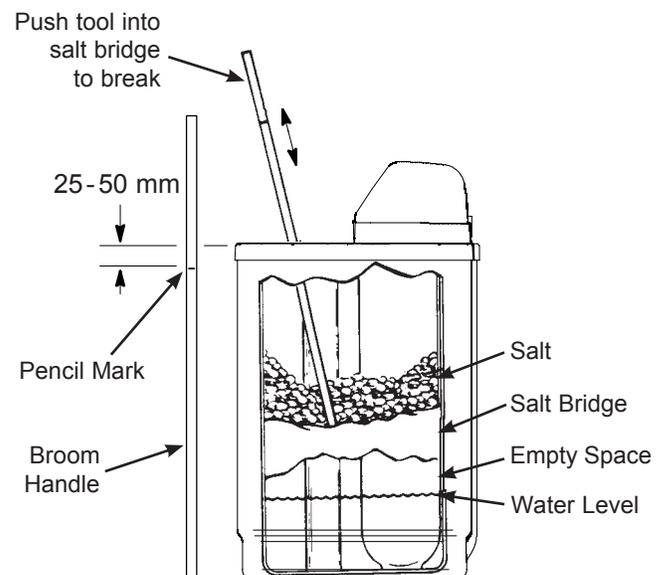


FIG. 16

# Water Softener Maintenance

## CLEANING THE NOZZLE & VENTURI

A clean nozzle & venturi (See Figure 17) is necessary for the water softener to work properly. This small unit creates the suction to move brine from the brine tank into the resin tank. If it should become plugged with dirt, silt, sand, etc., the water softener will not work and hard water will result.

To get access to the nozzle & venturi, remove the softener's top cover. Put the bypass valve(s) into the bypass position. Be sure the softener is in the service cycle (no water pressure at the nozzle & venturi). Then, holding the nozzle & venturi housing with one hand, turn the cap to remove it. Do not lose the o-ring seal. Lift out the screen support and screen. Then, remove the nozzle & venturi. Wash the parts in warm, soapy water and rinse in fresh water. If needed, use a small brush to remove iron or dirt. Be careful not to scratch, misshape, etc., surfaces of the nozzle & venturi. Also, check and clean the gasket and flow plug(s) if dirty.

Carefully replace all parts in the correct order. Lubricate the o-ring seal with silicone grease and put in place. Install and tighten the cap, by hand only. Do not overtighten, which could break the cap or housing. Put the bypass valve(s) into service (soft water) position.

## RESIN BED CLEANING

If the water supply contains clear water iron, regular resin bed cleaning is needed to keep the bed from coating with iron. Use resin bed cleaner, following directions on the container. Clean the resin every six months, or more often if iron appears in the conditioned water supply.

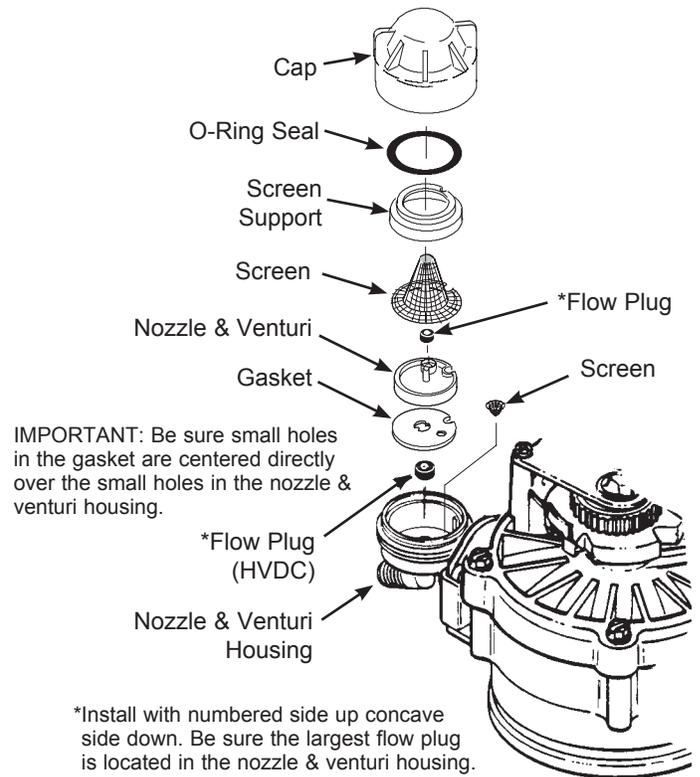


FIG. 17

# Troubleshooting

## TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	CORRECTION
<b>No soft water</b>	No salt in the storage tank.	Add salt (See Page 7) and then initiate a "Recharge now," as shown on Page 3.
	Salt is "bridged."	Break salt bridge (See Page 7) and then initiate a "Recharge now," as shown on Page 3.
	If display is blank, power supply may be unplugged at wall outlet, power cable leads may be disconnected from the electronic control board, fuse may be blown, circuit breaker may be popped, or power supply may be plugged into a switched outlet which is "off."	Check for power loss due to any of these and correct. When power is restored, if the time is flashing in the display, it means time was lost during the outage. Set the current time (See Page 2). Other settings such as hardness are retained in memory during a power loss.
	Manual bypass valve(s) in bypass position.	Place bypass valve(s) in service position.
	Dirty, plugged or damaged nozzle & venturi.	Take apart, clean and inspect the nozzle & venturi assembly, as shown on Page 8.
	Valve drain hose plugged or restricted.	Drain hose must not have any kinks, sharp bends, or be raised too high above the softener.
<b>Water hard sometimes</b>	Bypassed hard water being used during recharge, due to current time or recharge time settings being incorrect.	Check the current time displayed. If not correct, refer to "Set Current Time" on Page 2. Check the recharge time, as described on Page 3.
	Hardness number setting is too low.	Referring to "Setting Hardness" on Page 2, check the current hardness setting and increase if needed.
	Hot water being used when softener is recharging.	Avoid using hot water during recharges, because water heater refills with hard water.
	Increase in actual hardness of water supply.	Have unsoftened water sample tested. Referring to Page 2, check the current hardness setting and increase if needed.
<b>Motor stalled or clicking</b>	Motor malfunction or internal valve fault causing high torque on motor.	Contact your dealer for service.
<b>Error code E1, E3 or E4 displayed.</b>	Fault in wiring harness, connections to position switch, switch, valve or motor.	Contact your dealer for service.
<b>Error code E5 displayed.</b>	Electronic control malfunction.	Contact your dealer for service.

### TROUBLESHOOTING - INITIAL CHECKS

**Always make these initial checks first:**

1. Is display blank? Check power source.
2. Is Error code displayed? If so, go to "Automatic Electronic Diagnostics" on the next page.
3. Is correct time displayed? If not, recharges occur at the wrong time. Set current time (See Page 2.)
4. Is there salt in the brine tank? If not, refill.
5. Is salt "bridged" (See Page 7)?
6. Are plumbing bypass valve(s) in service position?
7. Are inlet and outlet pipes connected to the water softener inlet and outlet respectively?

8. Is valve drain hose free of kinks and sharp bends, and not elevated over 2 meters above the floor.
9. Is the brine tube connected?
10. Check the hardness setting (See "Setting Hardness on Page 2). Be sure it is correct for the household's water supply. Perform a hardness test on a raw water sample to compare with the setting.
11. Perform a hardness test on a softened water sample to determine whether a problem exists.

If no problem is found after making the initial checks, proceed to "Manually Initiated Electronic Diagnostics" on the next page.

# Troubleshooting

## AUTOMATIC ELECTRONIC DIAGNOSTICS

This water softener 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 display.

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

While an error code appears in the display, all buttons are inoperable except the SELECT/MENU button. SELECT/MENU remains operational so the service person can perform the Manual Initiated Electronic Diagnostics, see below, to further isolate the problem.

## TO REMOVE AN ERROR CODE:

1. Unplug the power supply.
2. Correct the problem.
3. Plug the power supply back in.
4. Wait for at least 8 minutes while the timer operates the valve through an entire cycle. The error code will return if the problem was not corrected.

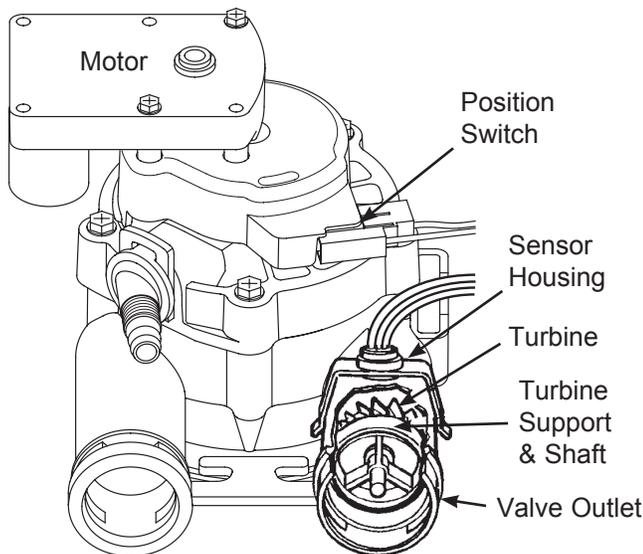


FIG. 18

## MANUALLY INITIATED ELECTRONIC DIAGNOSTICS

Use the following procedures to advance the water softener through the regeneration cycles to check operation.

Lift off the Salt Hole Cover, remove the top cover faceplate assembly by unlocking the tabs and lifting, to observe cam and switch operation during valve rotation.



FIG. 19

1. Press and hold SELECT/MENU for 3 seconds until "000" shows in the display.
2. The first 3 digits indicate water meter operation as follows:

000 (steady) = Soft water not in use, and no flow through the meter.

OPEN A NEARBY SOFT WATER FAUCET.

000 to 199 (continual) = Repeats for each gallon of water passing through the meter.

**NOTE:** If you don't get a reading in the display with faucet open, pull the sensor from the valve outlet port. Pass a small magnet back and forth in front of the sensor. If you get a reading in the display with the magnet, unhook the in and out plumbing and check the turbine for binding (See Figure 18).

3. The last 2 digits in the display indicate POSITION switch operation as follows:

Correct Switch Displays	Valve Cycle Status
--	Valve in service, fill, brining, backwash or fast rinse position.
- P	Valve rotating from one position to another.

4. Use the RECHARGE button to manually advance the valve into each cycle and check correct switch operation.

continued on next page

# Troubleshooting

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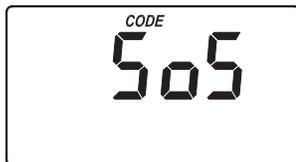
5. While in this diagnostic screen, the following information is available and may be beneficial for various reasons. This information is retained by the computer from the first time electrical power is applied to the electronic controller.
  - a. Press the ▲ UP button to display the number of days this electronic control has had electrical power applied.
  - b. Press the ▼ DOWN button to display the number of regenerations initiated by this electronic control since the model code number was entered.
6. Press the SELECT/MENU button and hold in for 3 seconds until the model code shows in the display. This code identifies the softener model. If the wrong number shows (see table on Page 1), the softener will operate on incorrect programming.
7. To change the code number - Press the ▲ UP or ▼ DOWN button until the correct code shows.
8. To return to the present time display, press the SELECT/MENU button. **If the model code was changed, make all timer settings.**

**NOTE:** If the electronic control is left in a diagnostic display (or a flashing display when setting times or hardness), present time automatically returns if a button is not pressed within 4 minutes.

## RESETTING TO FACTORY DEFAULTS

To reset the electronic controller to its factory default for all settings (time, hardness, etc.):

1. Press the SELECT/MENU button and hold it until the display changes twice to show "CODE" and the flashing model code.
2. Press the ▲ UP button (a few times, if necessary) to display a flashing "SoS".



**FIG. 20**

3. Press the SELECT/MENU button, and the electronic controller will restart.
4. Set the present time, hardness, etc., as described on pages 2 & 3.

## MANUAL ADVANCE REGENERATION CHECK

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

**NOTE:** The electronic control display must show a steady time (not flashing). If an error code shows, first press the SELECT/MENU button to enter the diagnostic display.

1. Press the RECHARGE button and hold in for 3 seconds. RECHARGE begins to flash as the softener's valve advances from the service to fill position. Remove the brinewell cover and, using a flashlight, observe fill water entering the tank. If water does not enter the tank, look for an obstructed nozzle, venturi, fill flow plug, brine tubing, or brine valve riser pipe.
2. After observing fill, press the RECHARGE button to move the softener's valve into the brine position. A slow flow of water to the drain will begin. Verify brine draw from the brine tank by shining a flashlight into the brinewell and observing a noticeable drop in the liquid level. This may take 15 to 20 minutes.

**NOTE:** Be sure water is in contact with the salt, and not separated by a salt bridge (See "Breaking A Salt Bridge" section).

If the water softener does not draw brine, check for (most likely to least likely):

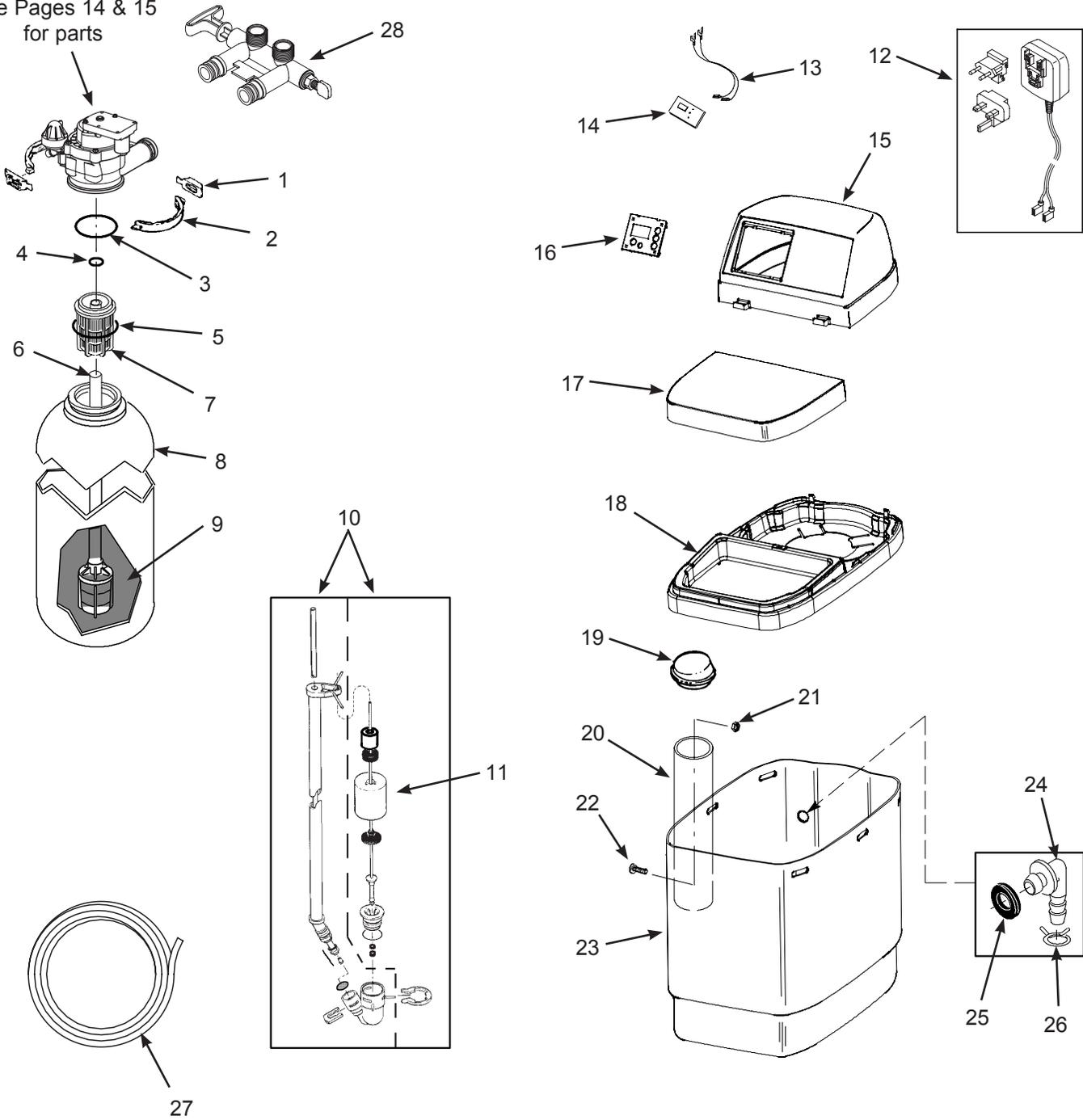
- Dirty or plugged nozzle and venturi, see "Cleaning the Nozzle and Venturi" section.
- Nozzle and venturi not seated on the gasket, or gasket deformed.
- Valve seals leaking.
- Restriction in valve drain, causing a back-pressure (bends, kinks, elevated too high, etc.). See "Install Valve Drain Hose" section.
- Obstruction in brine valve or brine tubing.

**NOTE:** If water system pressure is low, an elevated drain hose may cause back pressure, stopping brine draw.

3. Press the RECHARGE button to move the softener's valve into the backwash position. Look for a fast flow of water from the drain hose. Check that the drain can adequately handle the flow and volume. An obstructed flow indicates a plugged top distributor, backwash flow plug, or drain hose.
4. Press the RECHARGE button to move the softener's valve into the fast rinse position. Again look for a fast drain flow. Allow the softener to rinse for a few minutes to flush out any brine that may remain in the resin tank from the brining cycle test.
5. To return the softener's valve to the service position, press the RECHARGE button.

# Water Softener Exploded View

**Valve Assembly**  
See Pages 14 & 15  
for parts



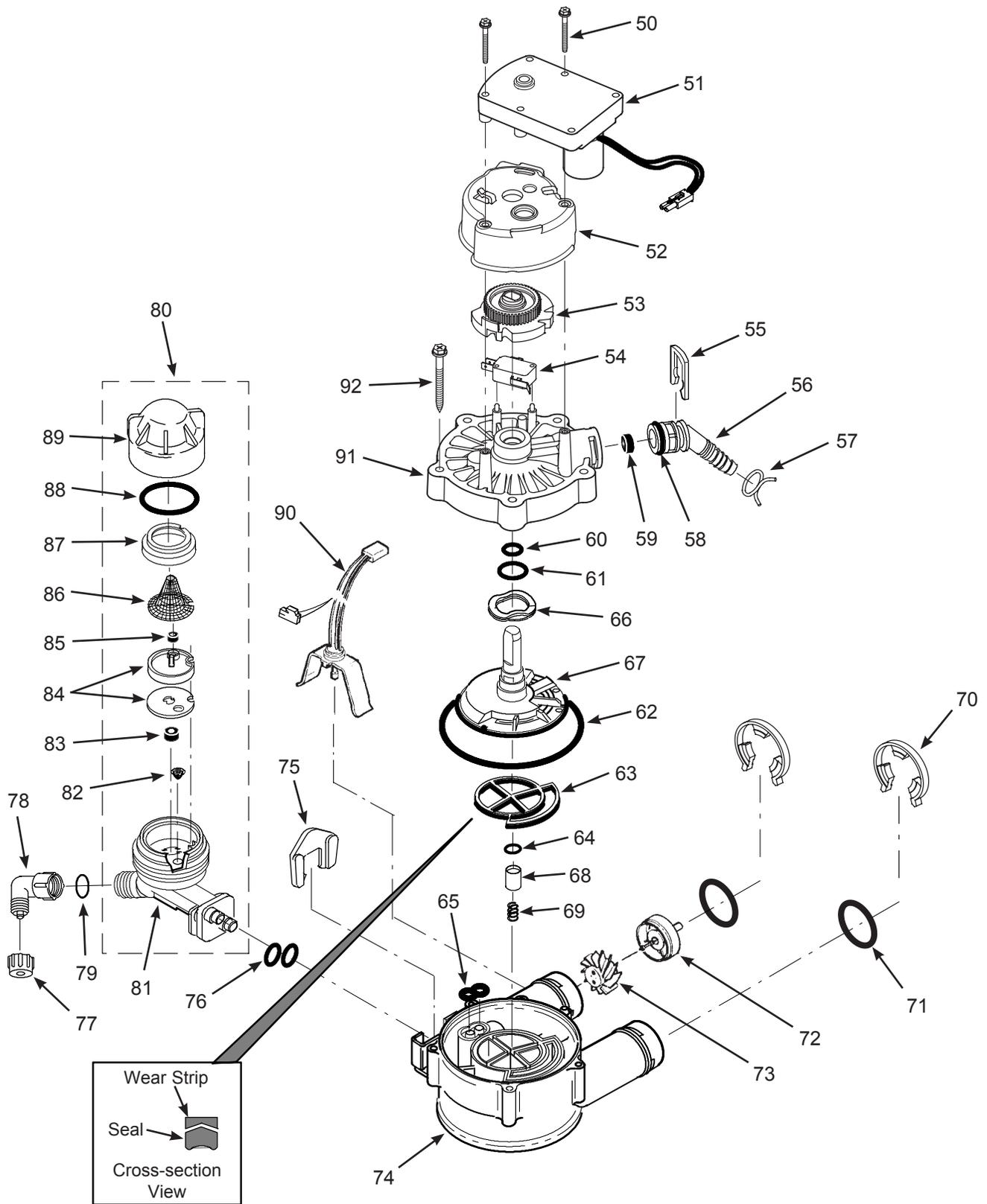
# Water Softener Parts List

Key No.	Part No.	Description
–	7331177	Tank Neck Clamp Kit (includes 2 ea. of Key Nos. 1 & 2)
1	↑	Retainer, Clamp (2 req.)
2	↑	Clamp Section (2 req.)
–	7112963	Distributor O-Ring Kit (includes Key Nos. 3-5)
3	↑	O-Ring, 73.0 mm x 82.6 mm
4	↑	O-Ring, 20.6 mm x 27.0 mm
5	↑	O-Ring, 69.9 mm x 76.2 mm
6	7105047	Repl. Bottom Distributor
7	7077870	Top Distributor
8	7256377	Resin Tank, 20.3 cm dia. x 48.3 cm, Model 11L
	7264037	Resin Tank, 20.3 cm dia. x 63.5 cm, Model 15L & 17L
	7328904	Resin Tank, 22.9 cm dia. x 88.9 cm, Model 22L
9	RMH-001	Resin, per liter
	304737	Resin, 25 liter bag
10	7310139	Brine Valve Assembly, Model 11L
	7310163	Brine Valve Assembly, Model 15L & 17L
	7310202	Brine Valve Assembly, Model 22L
11	7269508	Float, Stem & Guide Assembly, Model 11L
	7293395	Float, Stem & Guide Assembly, Model 15L & 17L
	7327568	Float, Stem & Guide Assembly, Model 22L

Key No.	Part No.	Description
12	7337490	Power Supply, 28V DC, with Snap-in Plugs for Europe & UK
13	7250826	Power Cord
14	7340265	Repl. Timer (PWA), Models 11L & 17L
	7285821	Repl. Timer (PWA), Models 15L & 22L
15	7294838	Top Cover (order decal below)
■	7302160	Faceplate Decal
16	7266754	Control Panel
17	7294846	Salt Lid
18	7295054	Rim
19	7155115	Cover, Brinewell
20	7106962	Brinewell, Model 11L
	7263099	Brinewell, Model 15L & 17L
	7109871	Brinewell, Model 22L
–	7331672	Brinewell Mounting Hardware Kit (includes Key Nos. 21 & 22)
21	↑	Wing Nut, 1/4-20
22	↑	Screw, 1/4-20 x 1.6 cm
23	7339573	Repl. Brine Tank, Model 11L
	7302259	Repl. Brine Tank, Model 15L & 17L
	7302275	Repl. Brine Tank, Model 22L
–	7331258	Overflow Hose Adaptor Kit (includes Key Nos. 24-26)
24	↑	Adaptor Elbow
25	↑	Grommet
26	↑	Hose Clamp
27	7139999	Drain Hose, 6 meters
28	7328051	Bypass Valve Assembly, 3/4", including 2 O-Rings (See Key No. 71)

■ Not illustrated

# Valve Assembly Exploded View



# Valve Parts List

Key No.	Part No.	Description
50	7338111	Screw, #6-19 x 3.5 cm (2 req.)
51	7281291	Motor
52	7337474	Motor Mount
53	7284964	Cam & Gear
54	7030713	Switch
-	7331185	Drain Hose Adaptor Kit (includes Key Nos. 55-59)
55	↑	Clip, Drain
56	↑	Drain Hose Adaptor
57	↑	Hose Clamp
58	↑	O-Ring, 15.9 x 20.6 mm
59	↑	Flow Plug, 7.6 lpm
-	7129716	Seal Kit (includes Key Nos. 60-65)
60	↑	O-Ring, 11.1 x 15.9 mm
61	↑	O-Ring, 19.1 x 23.8 mm
62	↑	O-Ring, 85.7 x 92.1 mm
63	↑	Rotor Seal
64	↑	O-Ring, 9.5 x 14.3 mm
65	↑	Seal, Nozzle & Venturi
66	7082087	Wave Washer
67	7199232	Rotor & Disc
-	7342665	Drain Plug Kit, 3/4" (includes Key Nos. 64, 68 & 69)
68	↑	Plug, Drain Seal
69	↑	Spring
70	7337563	Clip, 3/4", pack of 4
71	7337571	O-Ring, 23.8 x 30.2 mm, pack of 4

Key No.	Part No.	Description
-	7113040	Turbine & Support Assembly, including 2 O-Rings (See Key No. 71) & 1 ea. of Key Nos. 72 & 73
72	↑	Turbine Support & Shaft
73	↑	Turbine
74	7082053	Valve Body
75	7081201	Retainer, Nozzle & Venturi
76	7342649	O-Ring, 6.4 x 9.5 mm, pack of 2
77	1202600	Nut - Ferrule
78	7120526	Elbow
79	7292323	O-Ring, 4.8 x 11.1 mm
80	7238450	Nozzle & Venturi Assembly, (includes Key Nos. 75, 76 & 81-89)
81	7081104	Housing, Nozzle & Venturi
82	7095030	Cone Screen
83	1148800	Fill Flow Plug, 1.1 lpm
84	7187772	Nozzle & Venturi Gasket Kit
	7204362	Gasket Only
85	0521829	Flow Plug, .38 lpm
86	7146043	Screen
87	7167659	Screen Support
88	7170262	O-Ring, 28.6 x 34.9 mm
89	7199729	Cap
90	7309803	Wire Harness, Sensor
91	7337466	Valve Cover
92	7342657	Screw, #10-14 x 5 cm, pack of 5
-	7290957	Repl. Nozzle, Venturi & Gasket Kit (includes Key Nos. 76, 82, 84 & 88)