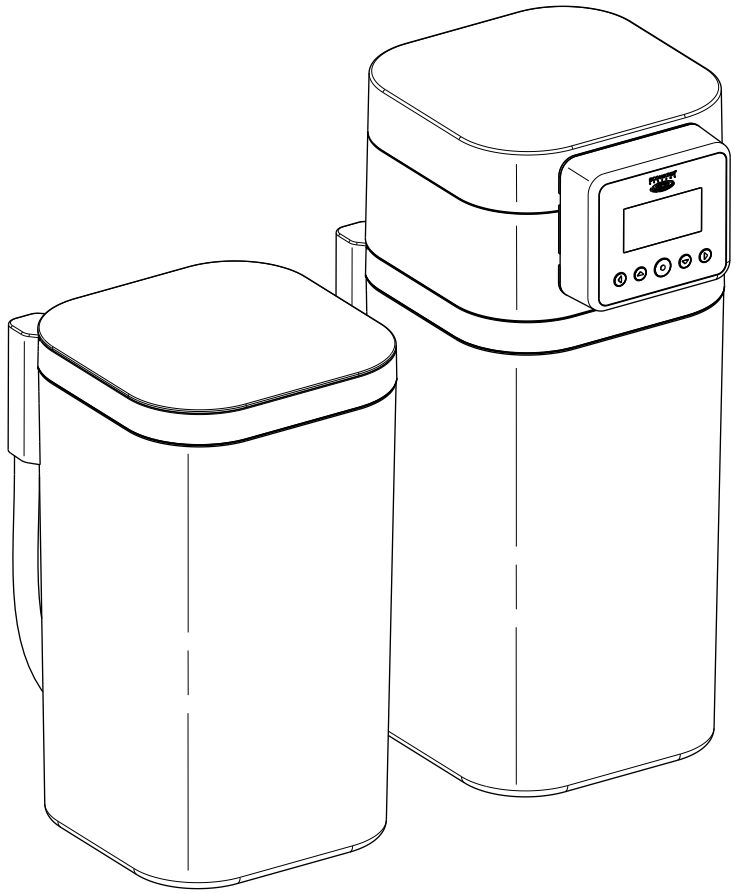
OWNER'S MANUAL

How to operate your EcoWater Systems Water Softener

ECOWATER®
SYSTEMS

Your Water. Perfected.

eVOLUTION Duo+



CE

EcoWater Systems Europe
www.ecowater-europe.com

8011010 (Rev. A 05th Sep 2025)

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SAFETY GUIDES

Follow the installation instructions carefully. Failure to install the EcoWater Systems softener properly **voids the warranty.**

Before you begin installation, read this entire manual. Then, obtain all the materials and tools you will need to make the installation.

Check local plumbing and electrical codes. The installation must conform to them. Provisions are to be foreseen during installation to prevent back-siphonage of non-potable water into the water mains.

Use only lead-free solder and flux for all sweat-solder connections, as required by state and federal codes.

Use care when handling the EcoWater Systems softener. Do not turn upside down, drop, or set on sharp protrusions.

Do not locate the EcoWater Systems softener where freezing temperatures occur. Do not attempt to treat water over 49°C. **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.

When in use, the water softener must be placed on flat and even surface.

The EcoWater Systems softener requires a minimum water flow of 11 liters per minute at the inlet. **Maximum allowable inlet water pressure is 8.6 bar.** If daytime pressure is over 5.5 bar, nighttime pressure may exceed the maximum. Use a pressure reducing valve if necessary (Adding a pressure reducing valve may reduce the flow).

The EcoWater Systems softener works on **24 volt DC** electrical power, supplied by a direct plug-in power supply (included). Be sure to use the included power supply and plug it into a nominal 220-240 V, 50/60 Hz household outlet that is in a **dry location only**, grounded and properly protected by an over current device such as a circuit breaker or fuse. Wall outlet for the power supply must be easily accessible.

This system is not intended to be used for treating water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

This water softener is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

For safety reasons, the end user may open only the salt tank cover and operate the controller screen. Only a qualified service technician may open the tank cover with the controller.

If softener is being used to reduce barium and/or radium 226 and 228, please verify performance by contacting Legend Technical Services, an independent laboartory, at 1-800-949-8220 for testing treated water supply, or check the water testing section of your local phone directory.

This device includes ESD-sensitive PCB areas marked with warning labels.

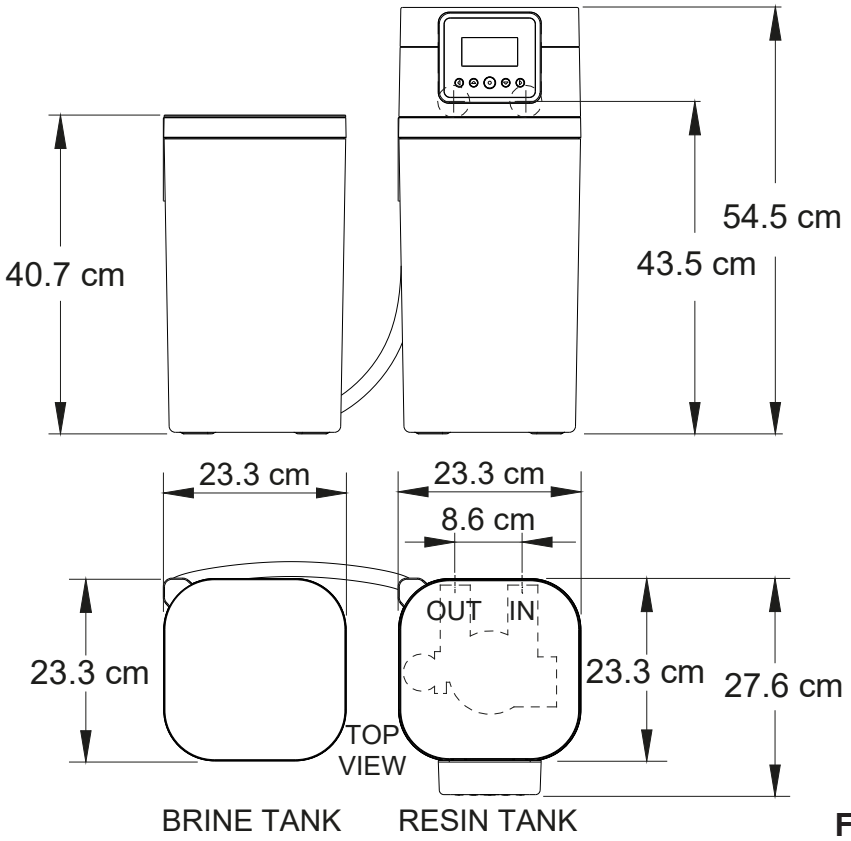
- Access only by trained technicians
- Avoid touching exposed PCBs
- Discharge static by touching a grounded object
- Stay clear of static-prone environments

Improper handling may damage electronic components

European Directive 2012/19/EU requires all electrical and electronic equipment to be disposed of according to Waste Electrical and Electronic Equipment (WEEE) requirements. This directive or similar laws are in place nationally and can vary from region to region. Please refer to your state and local laws for proper disposal of the equipment.

Model	eVOLUTION Duo+
Display code	uc 8a
Rated Softening Capacity (mol @ kg. Salt Dose)	3,8 mol @ 1,2 kg 2,1 mol @ 0,4 kg
Amount of High Capacity Resin	8,35 liters
Nominal Flow Rate	0,9 m3/ h = 15,4 lpm
Pressure Drop at Nominal Flow Rate	0,37 bar
Intermittent Flow Rate (Maximum Flow)	1,9 m3/ h = 31,7 lpm
Pressure Drop at Intermittent Flow Rate (Maximum Flow)	1 bar
Min.-Max. Working Pressure	1,3 - 8,6 bar
Min.-Max. Operating Temperature	4 - 49 °C
Min. Water Supply Flow Rate	11 lpm
Max. Flow Rate to Drain during Recharge	7,6 lpm
Salt Storage Capacity	14 kg
Salt consumption per regeneration	0,4-1,2 kg
Soft water available at max capacity (max salt dose) & 18°dH	1190 liters

Variable Salt Dose: The salt dose is selected by the electronic controls at recharge time based on the amount needed.



Model	Nominal Resin Tank Size
eVOLUTION Duo+	20,3 x 381 cm

FIG. 1

LOCATION REQUIREMENTS

Consider all of the following when selecting an installation location for the water softener.

- Do not locate the water softener where freezing temperatures occur. Do not attempt to treat water over 49ºC. Freezing temperatures or hot water damage voids the warranty.
- To condition all water in the home, install the water softener close to the water supply inlet, and upstream of all other plumbing connections, except outside water pipes. Outside faucets should remain on hard water to avoid wasting conditioned water and salt.
- A nearby drain is needed to carry away recharge discharge (drain) water. Use a floor drain, laundry tub, sump, standpipe, or other options (check your local codes). See “Air Gap Requirements” and “Valve Drain Requirements” sections.
- The water softener works on 24 volt DC electrical power, supplied by a direct plug-in power supply (included). Provide a nearby a 220-240 V, 50/60 Hz electrical outlet, in accordance with national and local codes.
- Always install the water softener between the water inlet and water heater. Any other installed water conditioning equipment should be installed between the water inlet and water softener (See Figure 3 below).
- Avoid installing in direct sunlight. Excessive sun heat may cause distortion or other damage to nonmetallic parts.
- If installing in an outside location, you must take the steps necessary to assure the softener, installation plumbing, wiring, etc., are as well protected from the elements, contamination, vandalism, etc., as when installed indoors.

PLUMBING CODES

All plumbing must be completed in accordance with national, state and local plumbing codes.

AIR GAP REQUIREMENTS

A drain is needed for recharge water (See Figure 2). A floor drain, close to the water softener, is preferred. A laundry tub, standpipe, etc. are other drain options. Secure valve drain hose in place. Leave an air gap of 4 cm between the end of the hose and the drain. This gap is needed to prevent backflow of sewer water into the water softener. Do not put the end of the drain hose into the drain.

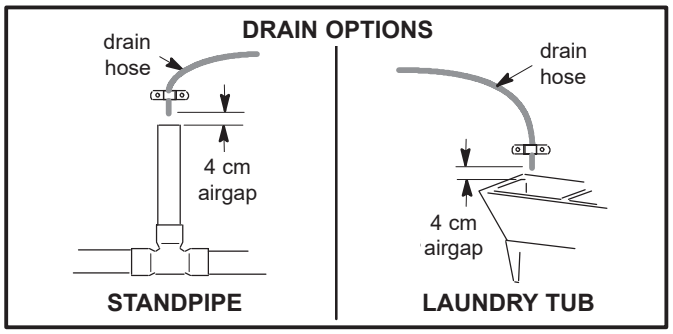


FIG. 2

THE PROPER ORDER TO INSTALL WATER TREATMENT EQUIPMENT

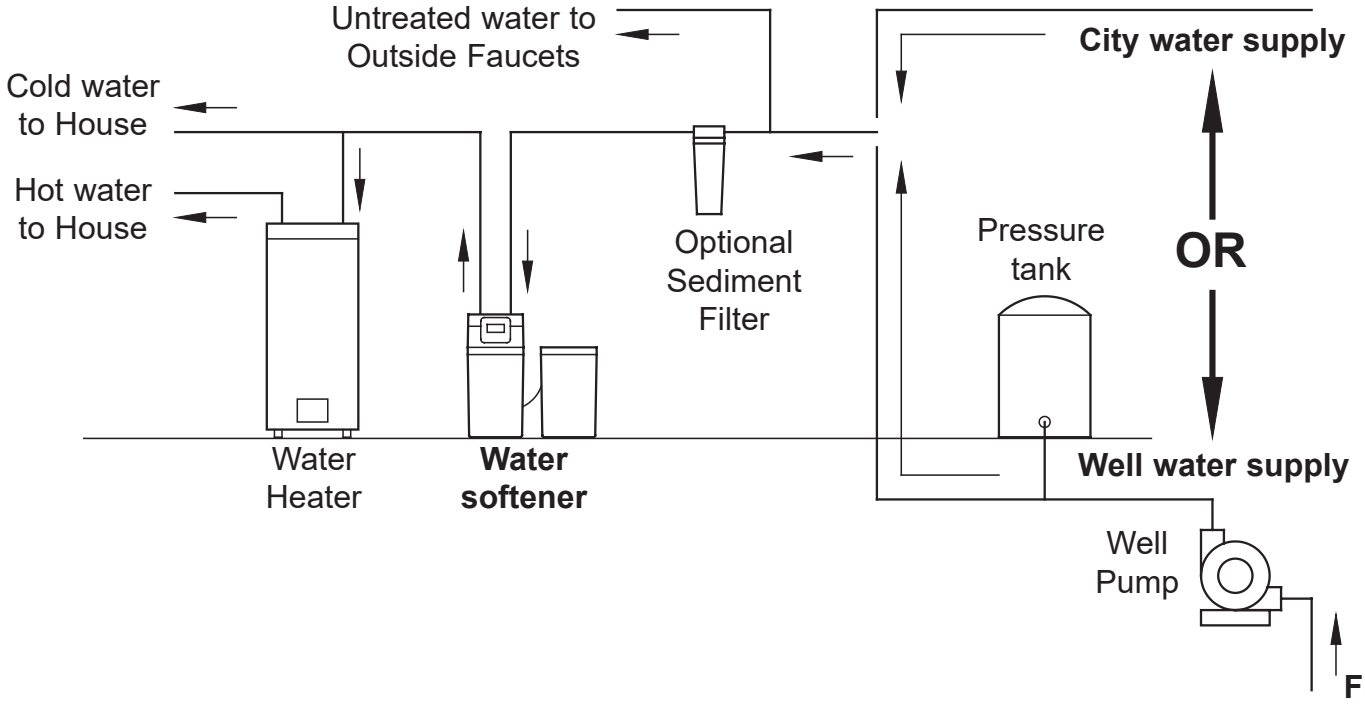


FIG. 3

VALVE DRAIN REQUIREMENTS

Using the flexible drain hose (included), measure and cut to the length needed. Flexible drain hose is not allowed in all localities (check your plumbing codes). If local codes do not allow use of a flexible drain hose, a rigid valve drain run must be used. Purchase a compression fitting (1/4 NPT x 1.25 cm minimum tube) and 1.25 cm tubing from your local hardware store. Plumb a rigid drain as needed (See Figure 5).

NOTE: Avoid drain hose runs longer than 9 meters. Avoid elevating the hose more than 2.5 meters above the floor. Make the valve drain line as short and direct as possible.

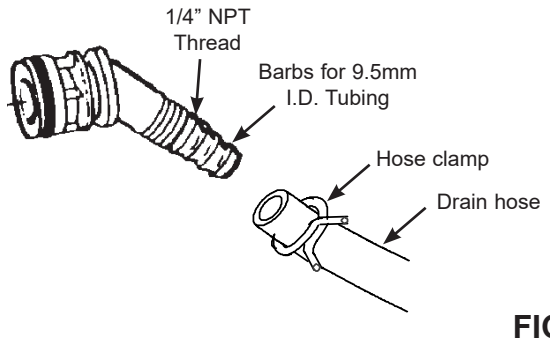


FIG. 4

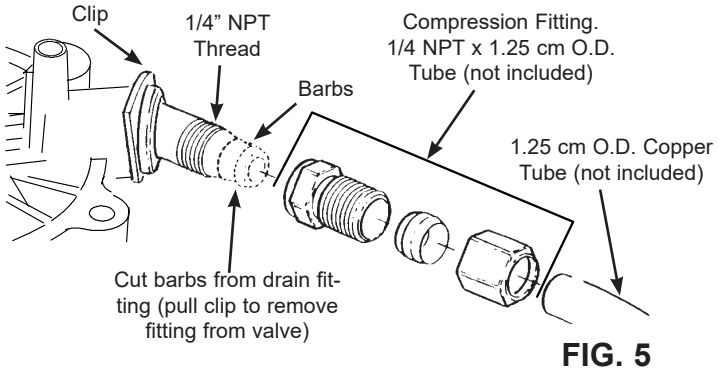


FIG. 5

INLET / OUTLET PLUMBING OPTIONS

Always install either a single bypass valve (provided), as shown in Figure 6, or, if desired, parts for a 3 valve bypass system (not included) can be purchased and assembled, as shown in Figure 7. Bypass valves allow you to turn off water to the softener for maintenance if needed, but still have water in house pipes.

Pipe fittings must be 1.9 cm minimum.

Use:

- Copper pipe
- Threaded pipe
- PEX (Crosslinked Polyethylene) pipe
- CPVC plastic pipe
- Other pipe approved for use with potable water

IMPORTANT: Do not solder with plumbing attached to installation adaptors and single bypass valve. Soldering heat will damage the adaptors and valve.

EcoWater Systems Bypass Valve

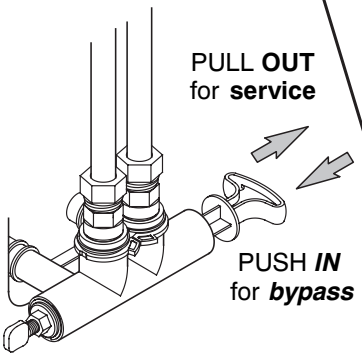
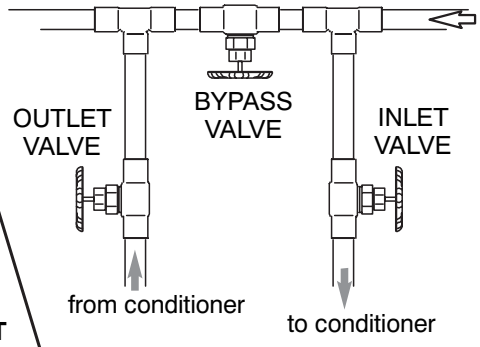


FIG. 6

3 – Valve Bypass



- for **SERVICE:**
  - **Open** the **inlet** and **outlet valves.**
  - **Close** the **bypass valve.**
- for **BYPASS:**
  - **Close** the **inlet** and **outlet valves.**
  - **Open** the **bypass valve.**

FIG. 7

TYPICAL INSTALLATION

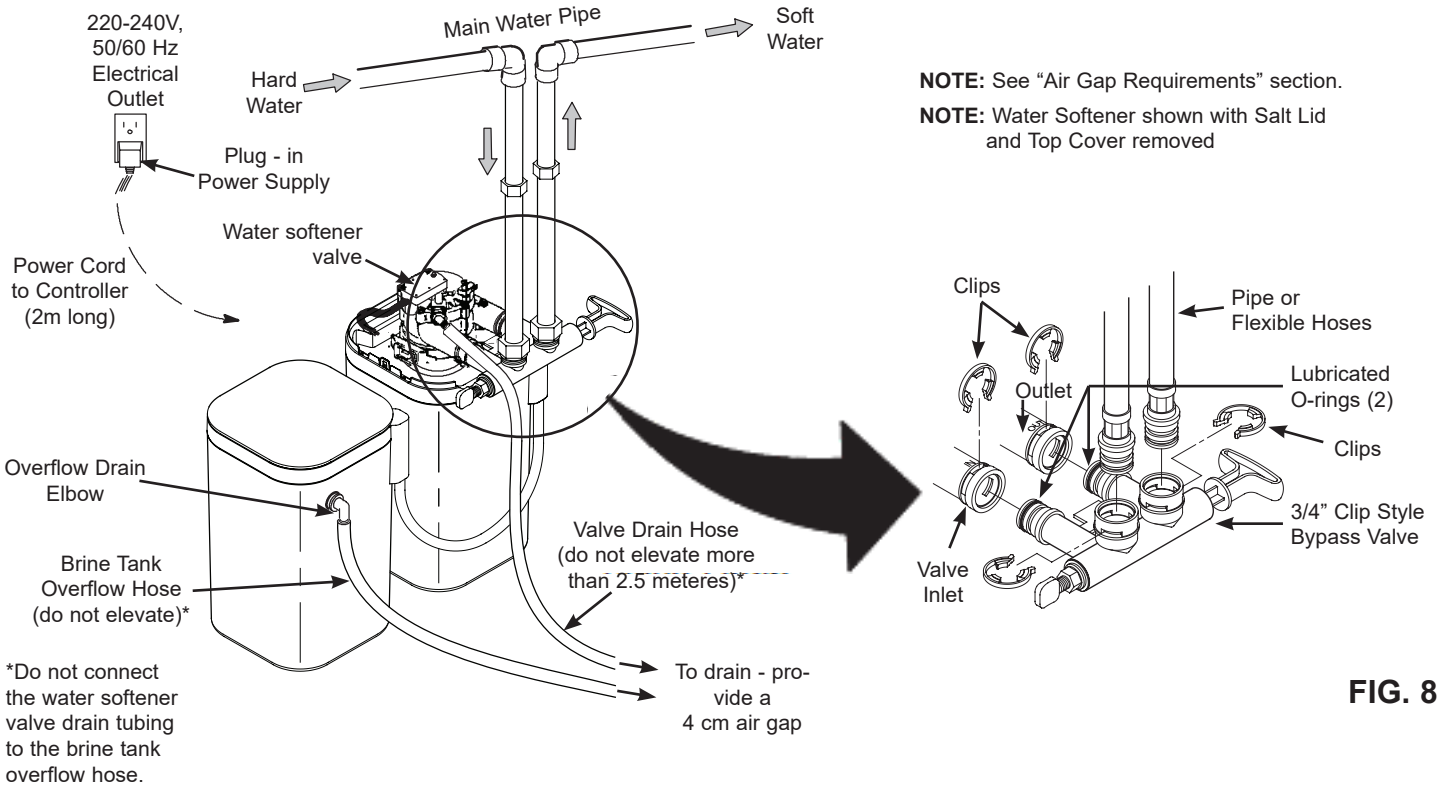


FIG. 8

1. UNPACKING

a. EcoWater Systems eVOLUTION Duo water softeners are shipped in one carton, containing the resin tank assembly, brine tank assembly, controller box, drain tubing, and a bag of parts needed to assemble and install the system.

b. Remove the top cover from the resin tank enclosure and set it aside.

c. To allow easier access to the valve, remove the top enclosure from the resin tank rim, and set it aside.

d. Remove the lid from the brine tank and set it aside. Take out the items that were shipped inside the brine tank (parts bag, bypass, manual) and set them aside.

2. INSTALL BRINE TANK OVERFLOW ELBOW FITTING

a. Slide the brinewell, with brine valve inside and the brinewell cover in place, up and out of the brine tank, and set it aside. This will protect it from being accidentally drilled in the next step.

b. Drill a 2 cm diameter hole in one side of the brine tank, 6 to 8 cm below the rim (See Fig. 9). Locate it on the side most convenient for the particular installation location, but not close to the corner where the brinewell mounts. Remove any drilling debris from inside the brine tank.

c. Install the rubber grommet from the parts bag into the 2 cm diameter hole. Press the larger diameter end of the overflow elbow fitting into the grommet, as shown in Fig. 9.

d. Insert the brinewell back through the hole in the rim. Rotate it so that the brine tube end that extends from a slot in the brinewell lines up with, and will extend through, the rim's corner slot. Slide the brinewell down, making sure it seats properly on the bottom of the brine tank.

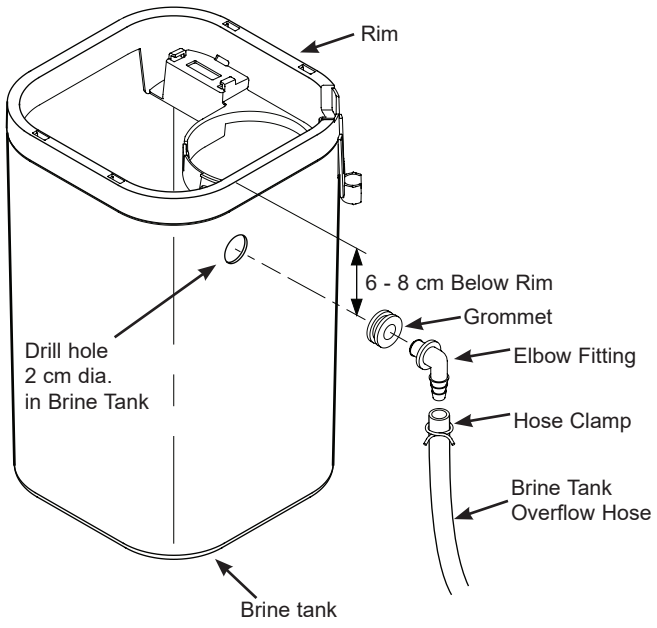


FIG. 9

3. INSTALL BRINE LINE

a. Locate the 50 cm long piece of 7.9 mm O.D. tubing in the parts bag. Connect one end to the valve's nozzle/venturi quick connect fitting (See Fig. 10). Firmly push the tube end as far as it will go into the fitting (1.7 cm). Pull on the tube to make sure it is engaged. Install the included tube bender directly below the nozzle/venturi. Route the tube around the base of the valve, then through the channel in the rim, and push the loose end out through the rim's corner slot.

b. Locate the brine line assembly in the parts bag. It has a quick connect elbow fitting at each end. Insert the end of the brine tube that you installed in the previous step into one quick connect fitting of the brine line assembly (See Fig. 10). Firmly push the tube end as far as it will go into the fitting (1.7 cm). Pull on the tube to make sure it is engaged.

NOTE: A longer brine line assembly is available to order. See the repair parts list of this manual.

c. Orient the connected brine line downward outside the resin tank shroud, and snap it into the clip extending below the rim.

d. Locate the corner guards (2) in the parts bag. Snap a corner guard down onto the rim, covering the tubing connection you just made.

e. Put the top enclosure, that you removed in the "Unpacking" section, back in place over the valve on the rim. Line up the side with an opening to the valve's inlet/outlet ports.

f. Move the brine tank near the resin tank. Locate the brine tube that is part of the brine valve assembly. The end extends through the rim's corner slot. Insert this end into the not-yet-connected quick connect fitting of the brine line assembly. Firmly push the tube end as far as it will go into the fitting (1.7 cm). Pull on the tube to make sure it is engaged.

g. Orient the connected brine line downward outside the brine tank, and snap it into the clip.

h. Snap a corner guard down onto the rim, covering the tubing connection you just made.

i. Put the lid back on the brine tank.

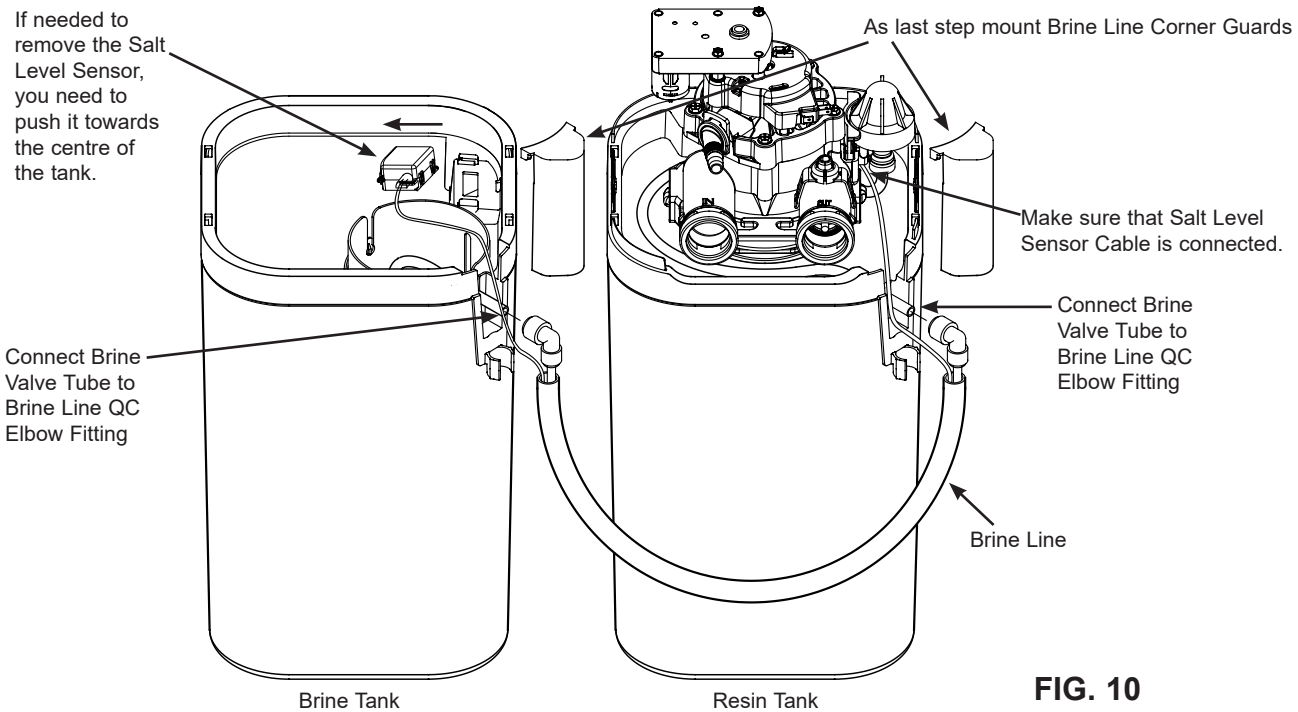


FIG. 10

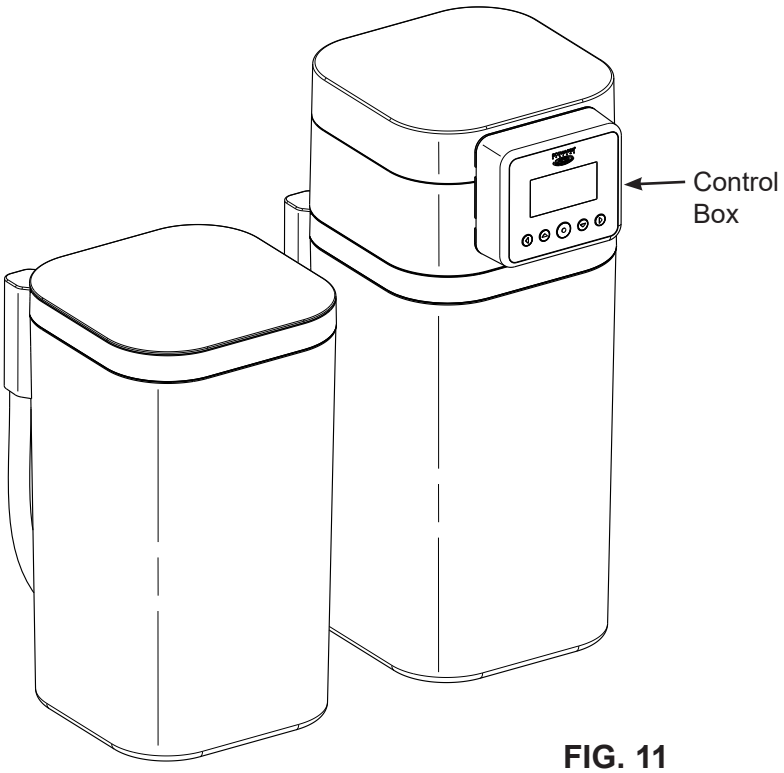


FIG. 11

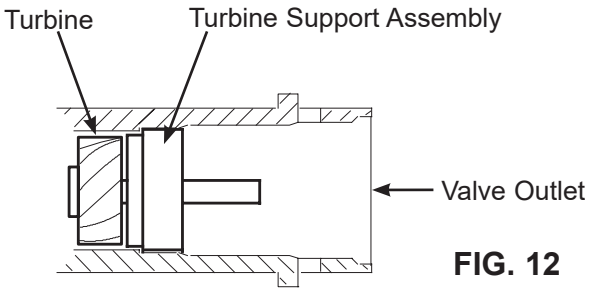


FIG. 12

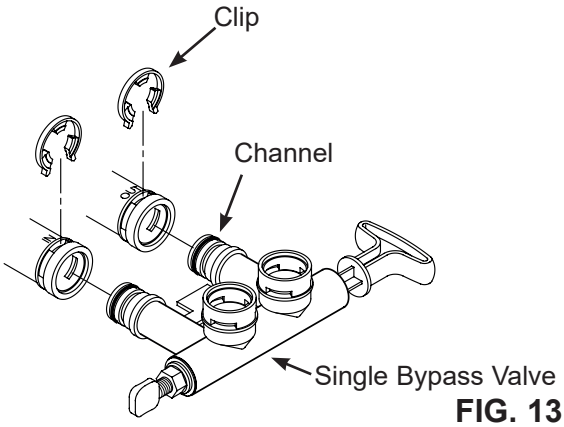


FIG. 13

4. INSTALL CONTROL BOX

a. Lift the control box out of its shipping location inside the top enclosure. Be careful not to strain the wiring connections to the valve.

b. Hang the control box on the top enclosure, front panel facing out, on the side most convenient for the particular installation location. It will not fit above the valve inlet/outlet ports.

5. INSTALL BYPASS VALVE

a. If installing an EcoWater Systems Bypass Valve, put lubricated o-ring seals onto both bypass valve ports (See Figure 8). Carefully slide the bypass valve into the softener valve and install the “C” clips.

b. Visually check and remove any debris from the water softener valve inlet and outlet ports.

c. Make sure the turbine assembly spins freely in the “out” port of the valve (See Figure 12).

d. If not already done, put a light coating of silicone grease, approved for water supplies, on the single bypass valve o-rings.

e. Push the single bypass valve into the softener valve as far as it will go. Snap the two large holding clips into place, from the top down as shown in Figures 13 & 14.

IMPORTANT: Be sure the clips snap firmly into place so the single bypass valve will not pull out.

Correct Assembly

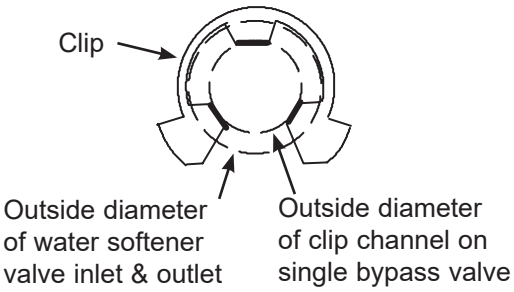
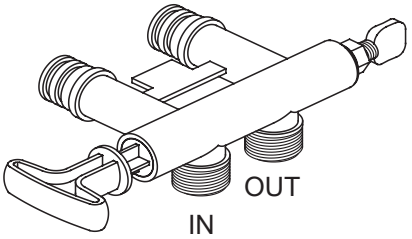


FIG. 14

NOTE: Be sure all 3 tabs of the clip go through the matching holes on the water softener valve inlet or outlet, and fully into the channel on the single bypass valve. Make sure that the tabs are fully seated.

ALTERNATE BYPASS VALVE INSTALLATION



If connecting to floor level plumbing, install the bypass valve turned downward, as shown.

FIG. 15

6. TURN OFF WATER SUPPLY

a. Close the main water supply valve near the well pump or water meter.

b. Shut off the electric or fuel supply to the water heater.

c. Open high and low faucets to drain all water from the house pipes.

NOTE: Be sure not to drain water from the water heater, as damage to the water heater elements could result.

7. INSTALLING THREE-VALVE BYPASS

If installing a 3-valve bypass system, plumb as needed using Figure 7 as a guide. When installing sweat copper, be sure to use lead-free solder and flux, required by federal and state codes. Use pipe joint compound on outside pipe threads.

8. COMPLETE INLET & OUTLET PLUMBING

Measure, cut, and loosely assemble pipe and fittings from the main water pipe to the inlet and outlet ports of the water softener valve. Be sure to keep fittings fully together, and pipes squared and straight.

Be sure **hard water** supply pipe **goes to** the **valve inlet side**.

NOTE: Inlet and outlet are marked on the water softener valve. Trace the water flow direction to be sure hard water is to inlet.

IMPORTANT: Be sure to fit, align and support all plumbing to prevent putting stress on the water softener valve inlet and outlet. Undue stress from misaligned or unsupported plumbing may cause damage to the valve.

Complete the inlet and outlet plumbing for the type of pipes you will be using.

9. COLD WATER PIPE GROUNDING

The house cold water pipe (metal only) is often used as a ground for the house electrical system. The 3-valve bypass type of installation, shown in Figure 7, will maintain ground continuity. If you use the plastic bypass, continuity is broken. To restore the ground, do either step **16a** or **16b** following.

a. Install the EcoWater Systems ground clamp kit (not included) across the inlet and outlet copper pipes (See Figure 16A).

b. Install a #4 copper wire across the removed section of main water pipe, securely clamping at both ends (See Figure 16B) – parts not included.

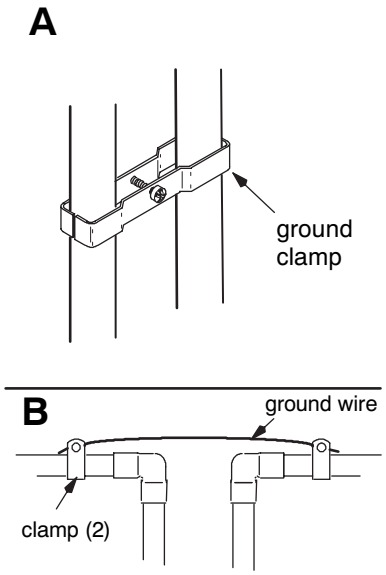


FIG. 16

10. INSTALL VALVE DRAIN HOSE

a. Measure, cut to needed length and connect the 9.5 mm drain line (provided) to the water softener valve drain fitting. Use a hose clamp to hold the hose in place.

IMPORTANT: If codes require a rigid drain line see "Valve Drain requirements" section.

b. Run the drain hose (or a rigid line) to the floor drain. Secure drain hose. This will prevent "whipping'' during recharges. **Be sure to provide a 4 cm minimum air gap to prevent possible sewer water backup.** See "Air Gap Requirements" section.

NOTE: In addition to a floor drain, you can use a laundry tub or standpipe as a good drain point for this hose. Avoid long drain hose runs, or elevating the hose more than 2.5 meters above the floor.

11. INSTALL BRINE TANK OVERFLOW HOSE

a. Connect a length of 1/2" I. D. hose to the brine tank overflow elbow and secure in place with a hose clamp.

b. Run the hose to the floor drain, or other suitable drain point **no higher than the drain fitting** on the tank. If the tank overfills with water, the excess water flows to the drain point.

12. PRESSURE TESTING FOR LEAKS, PROGRAMMING THE CONTROLLER & RINSING THE MEDIA

To prevent excessive air pressure in the EcoWater Systems softener and plumbing system, do the following steps EXACTLY in order:

a. Fully open two or more **conditioned** cold water faucets nearby the EcoWater Systems softener.

b. Place the bypass valve(s) in **bypass** position**c**. Fully open the main water supply valve. Watch until the flow from the opened faucets becomes steady, with no spurting or air bubbles.

d. After about three minutes, open a hot water faucet for one minute, or until all air is expelled.

e. Close all faucets and check your plumbing work for leaks.

f. Make sure the softener's valve drain hose is hooked up and the open end directed to a floor drain, laundry tub or other suitable type of drain.

g. Make sure the softener's bypass valve is in the **bypass** position.

h. **Install and plug in the power supply:** Remove the power supply from its packaging and snap the appropriate modular plug (Europe or UK) into place. At the other end of the wires are two small connectors. Plug these into the power wire harness coming from the back of the electronic control board. Plug the power supply into an electrical outlet.

i. **Program the electronic controller:** Follow the Setup Procedure on Pages 9-11 to program the electronic controller with basic operating information, such as time and water hardness. After completing the setup procedure, continue with "j. Start a recharge", below.

j. **Start a recharge:** From the rolling status screens, press the SELECT (○) button to display the **Main menu**. Make sure **Recharge** is highlighted, then press SELECT (○). Press DOWN (▾) to scroll to **Recharge now**, then press SELECT (○) twice. You should hear the valve motor run as the softener begins recharging. Use the RIGHT (▸) button to advance the valve to the **backwash** position.

k. Once the unit is in backwash, place bypass valve(s) into the **service** position, as follows:

(1) SINGLE BYPASS VALVE: **Slowly** move the valve stem toward **service** position, pausing several times to allow the unit to pressurize slowly.

(2) 3-VALVE BYPASS: Fully close the **bypass** valve and open the **outlet** valve. **Slowly** open the **inlet** valve, pausing several times to allow the unit to pressurize slowly.

l. Let the softener complete the backwash and fast rinse cycles (takes 10-12 minutes). When the recharge cycle ends, the softener valve returns to the service position.

13. ADD WATER AND SALT TO THE BRINE TANK

a. Using a pail or garden hose, add about 10 liters of water into the brine tank. DO NOT pour into the brinewell.

b. Add salt to the brine tank. It is recommended to fill the brine tank no more than 1/2 full. Level the salt when finished adding. You can use most water conditioner salts, but it must be clean. Recommended nugget, pellet or coarse solar salts hwave less than 1% impurities.

NOTE: See page 27 for additional information on salt.

14. SANITIZING THE ECOWATER SYSTEMS Softener

Care is taken at the factory to keep your EcoWater Systems softener clean and sanitary. However, during shipping, storage, installing and operating, bacteria could get into the unit. For this reason, sanitizing as follows is suggested* when installing.

a. Remove the brinewell cover and pour about 40 ml (2 to 3 tablespoons) of common household bleach into the softener brinewell. Replace the brinewell cover.

b. Make sure the bypass valve is in the **service** position.

c. **Start a recharge:** From the rolling status screens, press the SELECT (○) button to display the **Main menu**. Make sure **Recharge** is highlighted, then press SELECT (○). Press DOWN (▾) to scroll to **Recharge now**, then press SELECT (○) twice. You should hear the valve motor run as the softener begins recharging. This recharge draws the sanitizing bleach into and through the softener. Any air remaining in the unit is purged to the drain.

d. After the recharge has completed, fully open a cold water faucet, downstream from the softener, and allow 190 liters of water to pass through the system. This should take at least 20 minutes. Close the faucet.

15. RESTART THE WATER HEATER

Turn on the electric or fuel supply to the water heater, and light the pilot, if applies.

NOTE: The water heater is filled with hard water and, as hot water is used, it refills with conditioned water. In a few days, the hot water will be fully conditioned. To have fully conditioned hot water immediately, wait until the recharge (Step 12) is complete, then drain the water heater until water runs cold.

*Recommended by the Water Quality Association. On some water supplies, the EcoWater Systems unit may need periodic disinfecting.

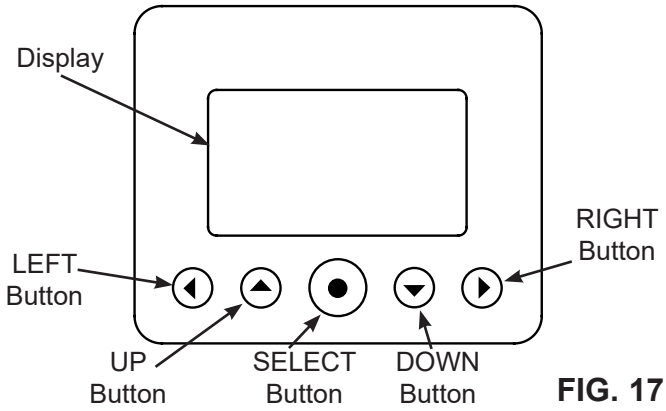


FIG. 17

SETUP PROCEDURE

When the EcoWater Systems water softener is plugged in for the first time, a beep sounds and the display briefly shows a logo, followed by model information. Next, a series of “wizard” screens prompts you to enter basic operating information:

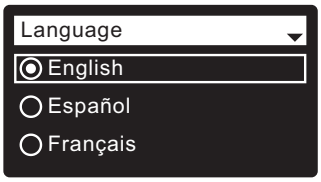


FIG. 18

1. **LANGUAGE** If the desired language already has a dot next to it (See Figure 18), go to Step 2. Otherwise, press the softener’s DOWN (▼) or UP (▲) buttons to scroll to the desired language, then press the SELECT (O) button to choose it.
2. Press the SELECT (O) button to advance to the next “wizard” screen.

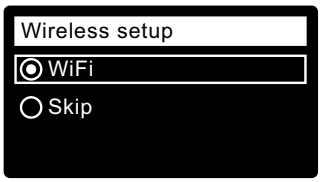


FIG. 19

NOTE: Before starting Wireless Setup, download the Ecowater EU Hydrolink Home™ app from the App Store (iOS) or Google Play (Android), create an account, and log in.

3. **WIRELESS SETUP** Use the SELECT (O) button to choose WiFi. The softener display will change to show “See connection instructions”.

FIG. 20

NOTE: If desired, WIreless setup can also be done after the rest of the **Setup Procedure** (Steps 8-18) has been completed. From the **Main menu**, scroll down to the **Advanced settings** menu and select **Wireless setup**.

4. After logging into your **Hydrolink Home™** account, tap **Connect** to add a device, then **Setup Device**.

FIG. 21

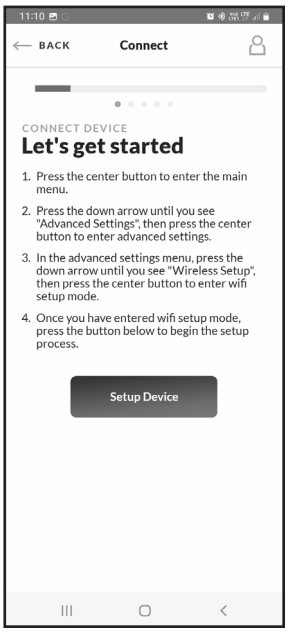


FIG. 22

5. Once the device is found, tap **Yes** to set up the device and begin connecting to WiFi.

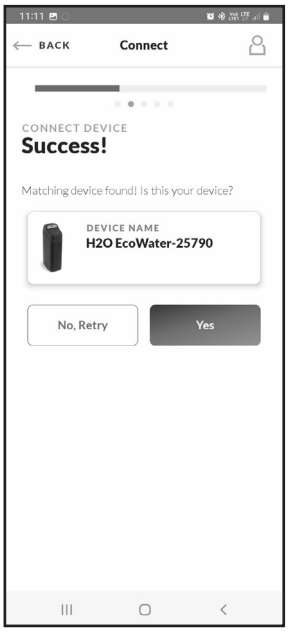


FIG. 23

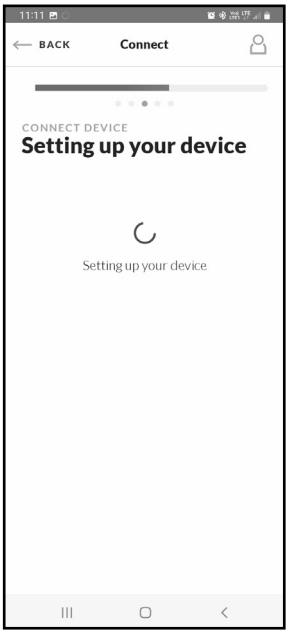


FIG. 24

6. Select the home's wireless network and enter WiFi password, then tap **Connect device to network**.

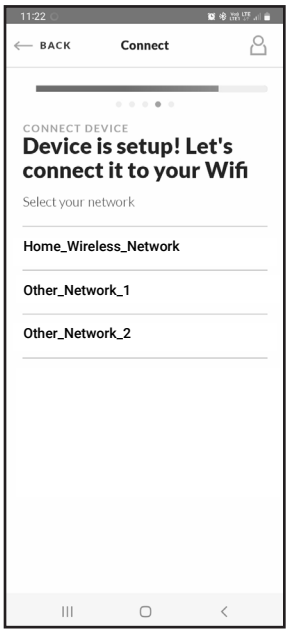


FIG. 25

FIG. 26

7. When the device successfully connects to the network, you'll hear a beep and see the following message on the app. Tap the button (O) to continue.

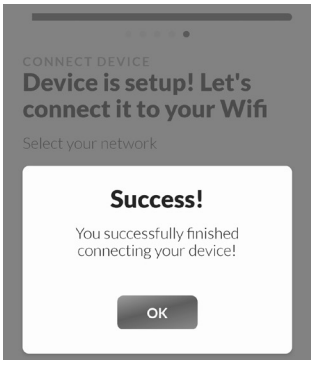


FIG. 27

FIG. 28

From here you can continue customizing your settings, or choose to skip and configure later.

NEW WI-FI ROUTER?

If You replace your local Wi-Fi router, a previously connected system will not automatically connect to the new router. From the **Main menu**, scroll down to the **Advanced settings** menu, select **Wireless setup**, and repeat the above wireless setup procedure to connect your system to the new router.

Finish Setting up the Softener

8. Once you have connected the Wi-Fi system press the SELECT (O) button to advance to the next "wizard" screen.

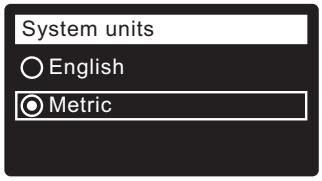


FIG. 29

9. **SYSTEM UNITS** If the desired system already has a dot next to it (See Figure 29), go to Step 10. Otherwise, press the DOWN (▼) or UP (▲) buttons to scroll to the desired system, then press the SELECT (O) button to choose it.
10. Press the SELECT (O) button.

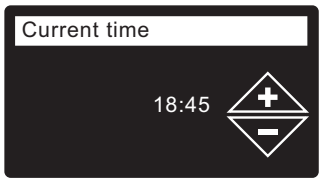


FIG. 30

11. **CURRENT TIME** Press the DOWN (▼) or UP (▲) buttons to set the current time (See Figure 30). Hold the button down to rapidly advance. Be sure that AM or PM is correct. If the system units were set to metric in Step 9, the clock will be in 24-hour format.
12. Press the SELECT (O) button.

FIG. 31

13. **HARDNESS** Press the UP (▲) or DOWN (▼) buttons to set the value of your water's hardness (See Figure 31).

NOTE: Do not increase the hardness setting to compensate for iron in your water. The electronic control compensates automatically after you set the iron level in Step 15, below.

14. Press the SELECT (O) button.

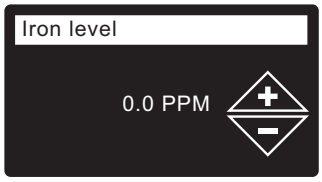


FIG. 32

15. **IRON LEVEL** Press the UP (▲) or DOWN (▼) buttons to set the value for iron in your water (See Figure 32).

16. Press the SELECT (○) button. The screen will show “Setup complete!” (See Figure 33).

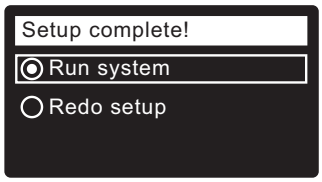


FIG. 33

17. If, at this point, you want to go back and make changes, press the DOWN (▾) button to scroll to **Redo setup**, then press the SELECT (○) button twice to repeat the “wizard” screens.

18. If no changes are desired, make sure **Run system** has a dot next to it (See Figure 33) and press the SELECT (○) button. The unit begins normal operation.

NORMAL OPERATION

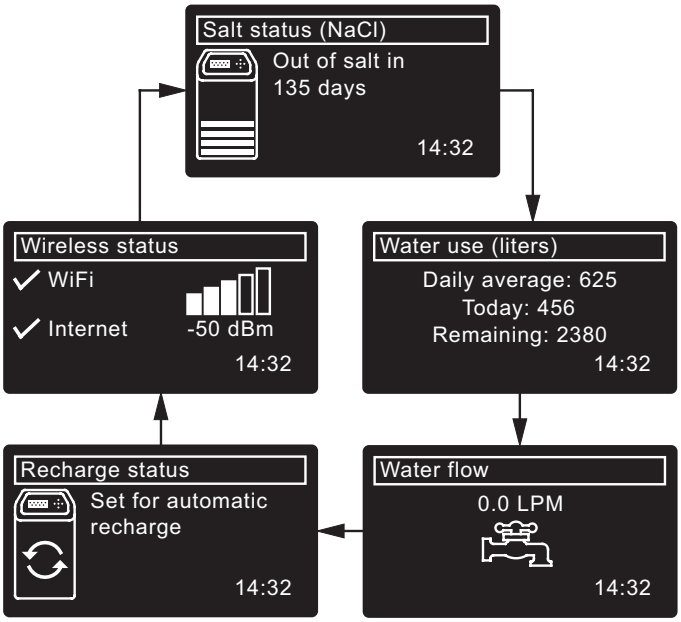
Softener STATUS SCREENS

During normal operation, the EcoWater Systems softener’s display shows up to five status screens. Page 17 explains how individual screens can be turned on or off. Each is shown for six seconds, in a rolling sequence (See Figure 34).

In the “Wireless status” screen, the check marks indicate the following:

✓ **WiFi** - The softener is connected to a Wi-Fi router.

✓ **Internet** - The softener is connected to a Wi-Fi router which is connected to the internet.



*Water remaining before the next recharge.

FIG. 34

Pressing the softener’s RIGHT (▸) button manually advances to the next screen in the sequence. Pressing the LEFT (◂) button manually returns to the previous status screen. If no buttons are pressed for 30 seconds, the automatic rolling sequence resumes.

OTHER MESSAGES, ALERTS & REMINDERS

The softener status screens described in the previous section will not be displayed in a rolling sequence when one of the following items is displayed:

- **Recharge status** (Displayed during recharges, showing valve position and time remaining)
- **Add salt** or **Out of salt** (See Page 30)
- **Current time** setting screen instead of status screens indicates time has been lost, perhaps after a long power loss. Set the time (See Page 18).
- **Service reminder** (See Page 27)
- **Error detected** (Contact your dealer for service)

FLASHING DISPLAY

The softener’s display will flash on and off when one or more of the following conditions occurs:

- Salt needs to be added
- Time needs to be set (Time has been lost)
- Service is overdue (Service reminder)
- Error condition

The flashing will stop after any key is pressed. However, it will start again at Midnight if the underlying condition (e.g. low salt level) has not been addressed.

LONG DISPLAY SCREEN MESSAGES

Most messages in the softener’s display screens are short enough to be shown as a single line. Longer messages will be truncated (See Figure 35 for an example) until you highlight them.

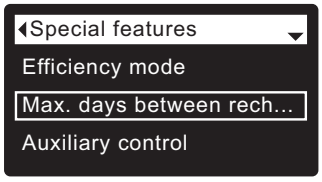


FIG. 35

One second after being highlighted, the viewing box expands (See Figure 36) to show the entire message. After three seconds the view resets (Figure 35).

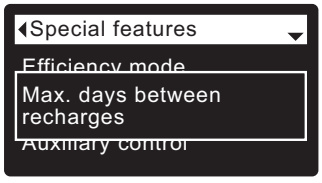


FIG. 36

MAIN MENU

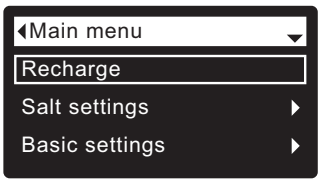


FIG. 37

During normal operation (status screens rolling), press the softener's SELECT (O) button to display the Main menu (See Figure 37). This menu and its subsidiary screens are used to control these operations:

- **Recharge** (See Page 18)
- **Salt settings**
  - **Low salt alarm** (See Page 17)
  - **Salt type** (See Page 17)
- **Basic settings**
  - **Current time** (See Page 18)
  - **Hardness** (See Page 19)
  - **Iron level** (See Page 19)
  - **Recharge time** (See Page 19)
  - **Alarm beep** (See Page 19)
  - **Rolling screens** (See Page 20)
- **User preferences**
  - **Language** (See Page 20)
  - **Time format** (See Page 21)
  - **Volume units** (See Page 21)
  - **Hardness units** (See Page 21)
  - **Weight units** (See Page 21)
- **System information**
  - **Model information** (See Page 22)
  - **Wireless information** (See Page 22)
  - **Water available** (See Page 22)
  - **Daily avg. water used** (See Page 22)
  - **Water used today** (See Page 22)
  - **Total water used** (See Page 22)
  - **Current water flow** (See Page 22)
  - **Days powered up** (See Page 22)
  - **Last recharge** (See Page 22)
  - **Total recharges** (See Page 22)
- **Advanced settings**
  - **Cycle times**
    - **Backwash time**① (See Page 24)
    - **Extra backwash time**② (See Page 23)
    - **2nd backwash (On/Off)** (See Pages 23-24)
    - **2nd backwash time** (See Pages 23-24)
    - **Fast rinse time**① (See Page 24)
    - **Extra fast rinse time**② (See Page 23)
  - **Special features**
    - **Efficiency mode** (See Page 25)
    - **Max. days between recharges** (See Page 25)
    - **Auxiliary control** (See Page 26)
    - **Chemical feed volume**③ (See Page 26)
    - **Chemical feed timer**③ (See Page 26)
    - **97% feature** (See Page 25)
    - **Service reminder** (See Page 27)
  - **Troubleshooting**
    - **Diagnostics** (See Page 27)
    - **Setup changes** (See Page 28)
    - **SLS calibration** (See Page 28)
  - **Wireless setup** (See Pages 12-13)

① Only on refiners.

② Only on conditioners.

③ Only displayed if Auxiliary control is set to Chemical feed.

LOCKOUT FEATURE

A "lockout" feature is available to prevent user modification of parameters that affect softener performance. The unit is shipped from the factory with the lockout feature off. After programming is complete, the lockout feature can be turned on to prevent changes to the following:

- **Hardness**
- **Iron level**
- **Backwash time**
- **Extra backwash time**
- **Second backwash (On/Off)**
- **Second backwash time**
- **Extra fast rinse time**
- **Fast rinse time**
- **Efficiency mode**
- **Max days between recharges**
- **Auxiliary control**
- **Chemical feed volume**
- **Chemical feed timer**
- **97% feature**
- **Service reminder**
- **Setup changes**
- **SLS calibration point 0**
- **SLS calibration point 1**

To turn on the lockout feature:

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.
2. Press the DOWN (▾) button to scroll through the menu options until **Advanced settings** is highlighted.
3. Press the SELECT (○) button to display the Advanced settings menu.
4. Press the DOWN (▾) button to scroll through the menu options until **Troubleshooting** is highlighted.
5. Press the SELECT (○) button to display the Troubleshooting menu.
6. Press the DOWN (▾) button to scroll through the menu options until **Setup changes** is highlighted.
7. Press the SELECT (○) button to display the Setup changes menu (See Figure 38).

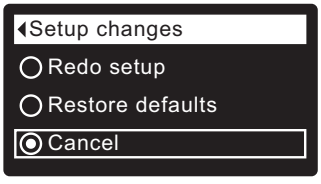


FIG. 38

8. Press the RIGHT (▸) button. A flashing padlock icon will appear, as shown in Figure 39.

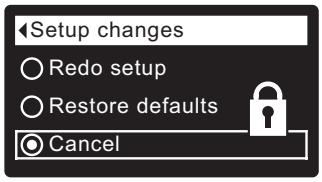


FIG. 39

9. Press the SELECT (○) button.
10. Press the LEFT (◂) button three times to return to the rolling status screens.

When the lockout feature is on, the flashing padlock icon will appear in any screen that would normally be used to change a parameter in the list to the left. For example, the **Hardness** screen will look like Figure 41, instead of Figure 40.

FIG. 40

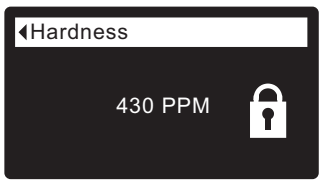


FIG. 41

Another indicator that the lockout feature is on is the **Model Information** screen. This screen appears on power-up, and can also be displayed from the System Information menu (See Page 21). If the lockout feature is on, there will be a non-flashing padlock icon in the upper right corner (See Figure 42).

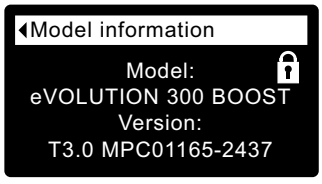


FIG. 42

To turn off the lockout feature:

1-7. Go to the **Setup changes** screen (Figure 39) by following Steps 1-7 at left.
8. Press the RIGHT (▸) button. The flashing padlock icon will disappear, as shown in Figure 38.
9. Press the SELECT (○) button.
10. Press the LEFT (◂) button three times to return to the rolling status screens.

LOW SALT ALARM

Use this feature to program when the electronic control will display a low salt alarm. The number of days can be customized, or the feature can be turned off. The default is 20 days.

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.

2. Press the DOWN (▼) button to scroll through the menu options until **Salt settings** is highlighted (See Figure 43).

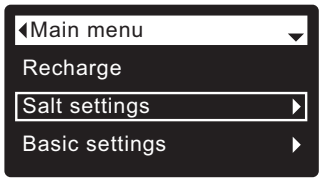


FIG. 43

3. Press the SELECT (○) button to display the Salt settings menu (See Figure 44).

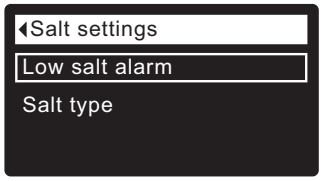


FIG. 44

4. Make sure **Low salt alarm** is highlighted.

5. Press the SELECT (○) button to display the Low salt alarm screen (See Figure 45).

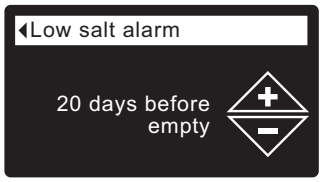


FIG. 45

6. Press the DOWN (▼) or UP (▲) buttons to change the number of days. Set the number of days to provide enough time to purchase salt and avoid running into hard water. Setting the number of days below 1 turns the alarm feature off.

7. Press the SELECT (○) button. The display will go back to the Salt settings menu (Figure 44).

8. Press the LEFT (◀) button twice to return to the rolling status screens.

SETTING SALT TYPE

Use this feature to program the electronic control with which type of salt is used. The default is NaCl. Selecting KCl increases fill time 25% and brine/slow rinse times 12%.

1-3. Go to the **Salt settings** menu by following Steps 1-3 in “Low Salt Alarm” at left.

4. Press the DOWN (▼) button to scroll through the menu options until **Salt type** is highlighted.

5. Press the SELECT (○) button to display the Salt type menu (See Figure 46).

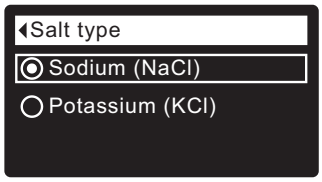


FIG. 46

6. If the desired salt type already has a black dot next to it (See Figure 46), go to Step 7. Otherwise, press the conditioner’s DOWN (▼) or UP (▲) buttons to scroll to the other salt type, then press SELECT (○) to choose it.

7. Press the SELECT (○) button. The display will go back to the Salt settings menu.

8. Press the LEFT (◀) button twice to return to the rolling status screens.

RECHARGING THE Softener

This feature may be used to assure an adequate supply of conditioned water at times of unusually high water use. For example, if you have guests and the "Water available" screen (See Page 22) is at or below 50%, you could deplete conditioned water capacity before the next automatic recharge. Initiating a manual recharge will restore 100% conditioned water capacity after complete.

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.

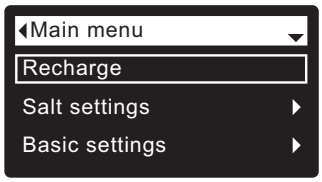


FIG. 47

2. Make sure **Recharge** is highlighted (See Figure 47).

3. Press the SELECT (○) button to display the Recharge menu (See Figure 48).

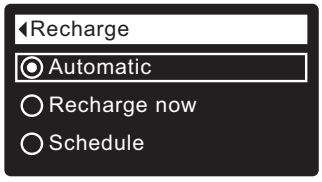


FIG. 48

4. If the desired option already has a dot next to it (See Figure 48), go to Step 5. Otherwise, press the DOWN (▾) or UP (▴) buttons to scroll to the desired option, then press SELECT (○) to choose it.

- **Automatic** cancels a manually scheduled recharge (if it has not already begun) and lets the electronic control determine when to recharge next.
- **Recharge now** begins a recharge immediately after the SELECT (○) button is pushed again in Step 5.
- **Schedule** sets a recharge to begin at the preset recharge time (set according to the instructions on Page 21).

5. Press the SELECT (○) button. If **Recharge now** is selected, the display immediately goes to the Recharge status screen (See Figure 49). If **Automatic** or **Schedule** are selected, the display goes back to the Main menu (Figure 47).

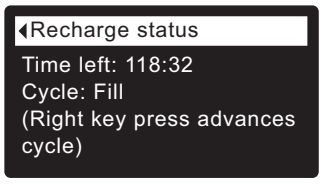


FIG. 49

6. Press the LEFT (◂) button (twice from the Recharge status screen) to return to the rolling status screens.

SETTING THE CURRENT TIME

When the softener's electronic control is first powered up, a "wizard" screen prompts you to set the current time (See Pages 12-14). To change the time at a later date, such as after a long power loss:

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.

2. Press the DOWN (▾) button to scroll through the menu options until **Basic settings** is highlighted (See Figure 50).

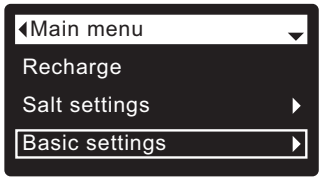


FIG. 50

3. Press the SELECT (○) button to display the Basic settings menu (See Figure 51).

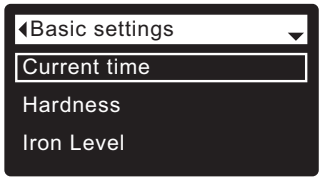


FIG. 51

4. Make sure **Current time** is highlighted.

5. Press the SELECT (○) button to display the Current time screen (See Figure 52).

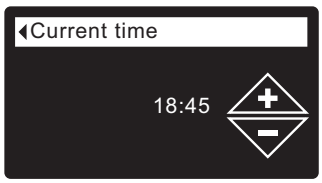


FIG. 52

6. Press the UP (▴) or DOWN (▾) buttons to change the time. Hold the button down to rapidly advance. Be sure that AM or PM is correct (unless softener is set for a 24-hour clock).

7. Press the SELECT (○) button. The display will go back to the Basic settings menu (Figure 51).

8. Press the LEFT (◂) button twice to return to the rolling status screens.

NOTE: On Wi-Fi connected systems, the current time will be updated and maintained automatically via Wi-Fi.

SETTING RECHARGE TIME

When the softener's electronic control is first powered up, the default time for starting an automatic recharge is 02:00 (2:00 a.m.). This is a good time in most households because water is not being used. To change this time:

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.

2. Press the DOWN (▼) button to scroll through the menu options until **Basic settings** is highlighted (See Figure 53).

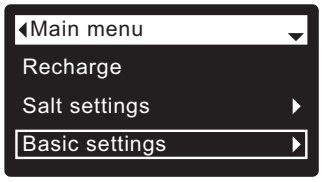


FIG. 53

3. Press the SELECT (○) button to display the Basic settings menu (See Figure 54).

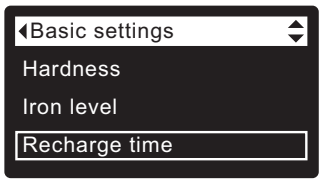


FIG. 54

4. Press the DOWN (▼) button to scroll through the menu options until **Recharge time** is highlighted.

5. Press the SELECT (○) button to display the Recharge time screen (See Figure 55).

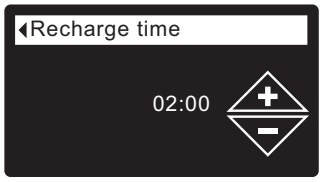


FIG. 55

6. Press the UP (▲) or DOWN (▼) buttons to change the recharge time in 1 hour increments. Hold the button down to rapidly advance. Be sure that AM or PM is correct (unless softener is set for a 24-hour clock).

7. Press the SELECT (○) button. The display will go back to the Basic settings menu (Figure 54).

8. Press the LEFT (◀) button twice to return to the rolling status screens.

SETTING HARDNESS

When the softener's electronic control is first powered up, a "wizard" screen prompts you to enter your water's hardness (See Pages 12-14). To change it:

1-3. Go to the **Basic settings** menu by following Steps 1-3 in "Setting Recharge Time" at left.

4. Press the DOWN (▼) button to scroll through the menu options until **Hardness** is highlighted.

5. Press the SELECT (○) button to display the Hardness screen (See Figure 56).

1 grain = 1°dH
10 ppm = 1°f

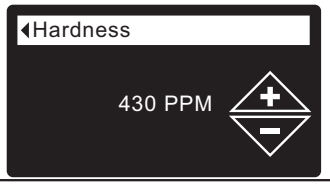


FIG. 56

6. Press the UP (▲) or DOWN (▼) buttons to set the value for your water's hardness. Hold the button down to rapidly advance.

> **NOTE:** Do not increase the hardness setting to compensate for iron in your water. The electronic control compensates automatically after you set the iron level, below.

7. Press the SELECT (○) button. The display will go back to the Basic settings menu.

8. Press the LEFT (◀) button twice to return to the rolling status screens.

SETTING IRON LEVEL

When the softener's electronic control is first powered up, a "wizard" screen prompts you to enter your water's iron level (See Pages 12-14). To change:

1-3. Go to the **Basic settings** menu by following Steps 1-3 in "Setting Recharge Time" at left.

4. Press the DOWN (▼) button to scroll through the menu options until **Iron level** is highlighted.

5. Press the SELECT (○) button to display the Iron level screen (See Figure 57).

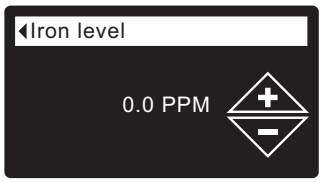


FIG. 57

6. Press the UP (▲) or DOWN (▼) buttons to set the value for iron in your water. Hold the button down to rapidly advance.

7. Press the SELECT (○) button. The display will go back to the Basic settings menu.

8. Press the LEFT (◀) button twice to return to the rolling status screens.

SETTING ALARM BEEP

When the softener's electronic control is first powered up, a "wizard" screen prompts you to enter your water's iron level (See Pages 12-14). To change:

1-3. Go to the **Basic settings** menu by following Steps 1-3 in "Setting Recharge Time" at left.

4. Press the DOWN (▼) button to scroll through the menu options until **Alarm beep** is highlighted.

5. Press the SELECT (○) button to display the Alarm beep screen (See Figure 58).

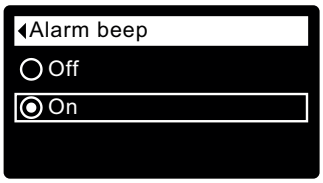


FIG. 58

6. If the desired option already has a dot next to it, go to Step 7. Otherwise, press the DOWN (▼) or UP (▲) buttons to scroll to the desired option, then press SELECT (○) to choose it.

7. Press the LEFT (◂) button (twice from the Recharge status screen) to return to the rolling status screens.

MODIFYING ROLLING SCREENS

During normal softener operation, up to five status screens are shown in sequence (See "Conditioner/ Refiner Status Screens" on Page 14). When the softener's electronic control is first powered up, the default is to show all five. You can turn on/off individual screens*:

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.

2. Press the DOWN (▾) button to scroll through the menu options until **Basic settings** is highlighted (See Figure 59).

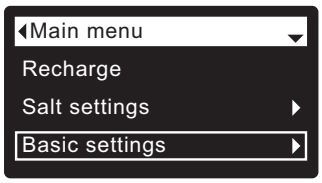


FIG. 59

3. Press the SELECT (○) button to display the Basic settings menu (See Figure 60).

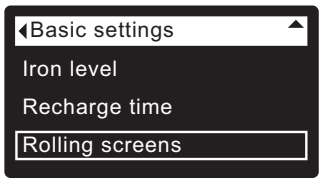


FIG. 60

4. Press the DOWN (▾) button to scroll through the menu options until **Rolling screens** is highlighted.

5. Press the SELECT (○) button to display the Rolling screens menu (See Figure 61).

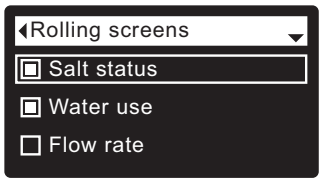


FIG. 61

6. Press the DOWN (▾) or UP (▴) buttons to scroll through the list. Items with a black square next to them will be displayed during normal operation.

7. To un-select a screen, make sure its name is highlighted in a box. Then press the SELECT (○) button. The black square will disappear. Pressing SELECT (○) again makes the black square reappear and re-selects the highlighted item. At least one screen must be selected/highlighted.

8. When selections are complete, exit this menu by pressing the LEFT (◂) button. The display will go back to the Basic settings menu (Figure 60).

9. Press the LEFT (◂) button twice to return to the rolling status screens.

*This does not include service reminders, errors, alerts or Recharge status screens.

SETTING THE LANGUAGE

When the softener's electronic control is first powered up, a "wizard" screen prompts you to set the language (See Pages 12-14). To change the softener's language:

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.

2. Press the DOWN (▾) button to scroll through the menu options until **User preferences** is highlighted (See Figure 62).

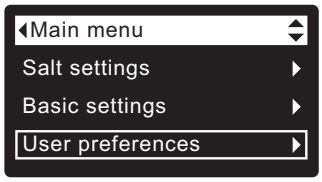


FIG. 62

3. Press the SELECT (○) button to display the User preferences menu (See Figure 55).

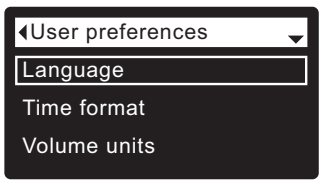


FIG. 63

4. Make sure **Language** is highlighted.

5. Press the SELECT (○) button to display the Language menu (See Figure 64).

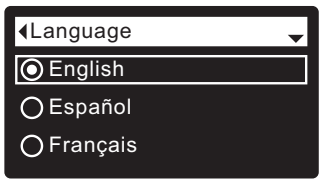


FIG. 64

6. If the desired language already has a dot next to it (See Figure 64), go to Step 7. Otherwise, press the DOWN (▾) or UP (▴) buttons to scroll to the desired language, then press SELECT (○) to choose it. The choices are: English, Spanish, French, Italian, German, Dutch, Polish, Russian, Hungarian, Turkish, Lithuanian, Greek, Romanian, Czech, Slovak, Bulgarian, Serbian or Croatian.

7. Press the SELECT (○) button. The display will go back to the User preferences menu (Figure 63).

8. Press the LEFT (◂) button twice to return to the rolling status screens.

TO SET THE Softener TO ENGLISH IF ANOTHER LANGUAGE IS DISPLAYED:

From the rolling status screens, press SELECT (○). Press DOWN (▾) three times, then press SELECT (○) twice. Press UP (▴) to scroll to **English** at the top of the list, then press SELECT (○) twice. Press LEFT (◂) twice to exit all menus.

SETTING TIME FORMAT

Use this feature to select a 12-hour (AM/PM) or 24-hour clock.

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.
2. Press the DOWN (▼) button to scroll through the menu options until **User preferences** is highlighted.
3. Press the SELECT (○) button to display the User preferences menu.
4. Press the DOWN (▼) button to scroll through the menu options until **Time format** is highlighted.
5. Press the SELECT (○) button to display the Time format menu (See Figure 65).

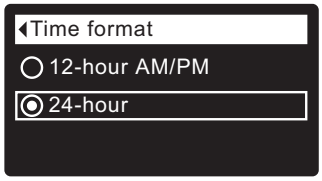


FIG. 65

6. If the desired time format already has a dot next to it (See Figure 65), go to Step 7. Otherwise, press the DOWN (▼) or UP (▲) buttons to scroll to the other time format, then press SELECT (○) to choose it.
7. Press the SELECT (○) button. The display will go back to the User preferences menu.
8. Press the LEFT (◀) button twice to return to the rolling status screens.

SETTING VOLUME UNITS

Use this feature to select gallons or liters as volume units.

1-3. Go to the **User preferences** menu by following Steps 1-3 in "Setting Time Format" above.

4. Press the DOWN (▼) button to scroll through the menu options until **Volume units** is highlighted.
5. Press the SELECT (○) button to display the Volume units menu (See Figure 66).

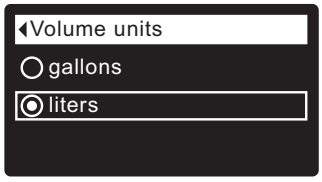


FIG. 66

6. If the desired volume unit already has a dot next to it (See Figure 66), go to Step 7. Otherwise, press the DOWN (▼) or UP (▲) buttons to scroll to the other volume unit, then press SELECT (○) to choose it.
7. Press the SELECT (○) button. The display will go back to the User preferences menu.
8. Press the LEFT (◀) button twice to return to the rolling status screens.

SETTING HARDNESS UNITS

Use this feature to select grains or parts per million (ppm) as hardness units.

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.
2. Press the DOWN (▼) button to scroll through the menu options until **User preferences** is highlighted.
3. Press the SELECT (○) button to display the User preferences menu.
4. Press the DOWN (▼) button to scroll through the menu options until **Hardness units** is highlighted.
5. Press the SELECT (○) button to display the Hardness units menu (See Figure 67).

1 grain = 1°dH
10 ppm = 1°f

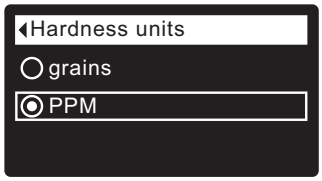


FIG. 67

6. If the desired hardness unit already has a dot next to it (See Figure 67), go to Step 7. Otherwise, press the DOWN (▼) or UP (▲) buttons to scroll to the other hardness unit, then press SELECT (○) to choose it.
7. Press the SELECT (○) button. The display will go back to the User preferences menu.
8. Press the LEFT (◀) button twice to return to the rolling status screens.

SETTING WEIGHT UNITS

Use this feature to select pounds or kilograms as weight units.

1-3. Go to the **User preferences** menu by following Steps 1-3 in "Setting Hardness Units" above.

4. Press the DOWN (▼) button to scroll through the menu options until **Weight units** is highlighted.
5. Press the SELECT (○) button to display the Weight units menu (See Figure 68).

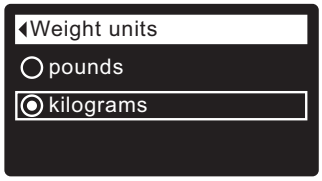


FIG. 68

6. If the desired weight unit already has a dot next to it (See Figure 68), go to Step 7. Otherwise, press the DOWN (▼) or UP (▲) buttons to scroll to the other weight unit, then press SELECT (○) to choose it.
7. Press the SELECT (○) button. The display will go back to the User preferences menu.
8. Press the LEFT (◀) button twice to return to the rolling status screens.

SYSTEM INFORMATION

Use these features to look up the following information about the softener and its operations:

- **Model information** (model number and software version)
- **Wireless information**
- **Water available** (conditioned water ready for use)
- **Daily average water used**
- **Water used today**
- **Total water used** (explained in Step 6, below)
- **Current water flow**
- **Days powered up**
- **Last recharge**
- **Total recharges**

To display one of these screens:

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.
2. Press the DOWN (▾) button to scroll through the menu options until **System information** is highlighted (See Figure 69).

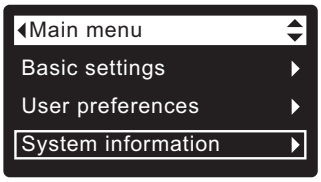


FIG. 69

3. Press the SELECT (○) button to display the System information menu (See Figure 70).

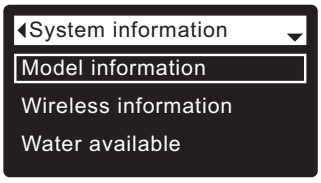


FIG. 70

4. Press the DOWN (▾) button to scroll through the menu options until the desired option is highlighted (See list at the top of this column).
5. Press the SELECT (○) button to display the desired information screen (See Figures 71-80).
6. The **Total water used** screen (See Figure 76) shows the volume of water used since it was last reset (it works like the trip odometer in a car). To reset the value to 0, press the RIGHT (▸) button while this screen is displayed.
7. When finished viewing an information screen, press the SELECT (○) button. The display will go back to the System information menu (Figure 70). It will also exit automatically if no buttons are pressed for four minutes.
8. Press the LEFT (◂) button twice to return to the rolling status screens.

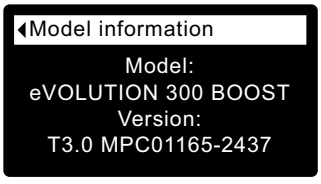


FIG. 71

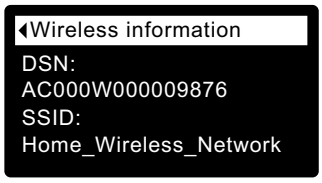


FIG. 72

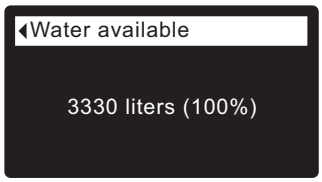


FIG. 73

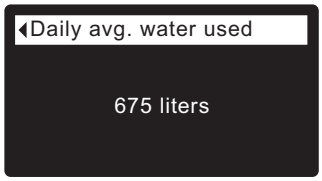


FIG. 74

FIG. 75

FIG. 76

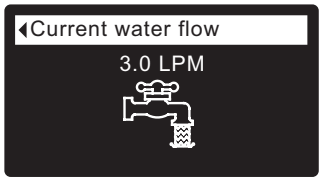


FIG. 77

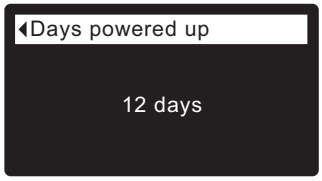


FIG. 78

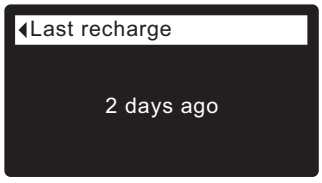


FIG. 79

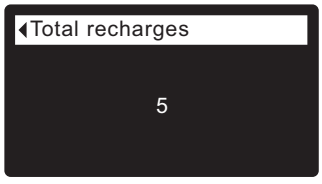


FIG. 80

CYCLE TIMES (Conditioner Models)

See following page for Refiner cycle times

Use these features to change the following conditioner operations:

- **Extra backwash time**
- **Second backwash (On/Off)**
- **Second backwash time**
- **Extra fast rinse time**

To display these screens:

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.

2. Press the DOWN (▼) button to scroll through the menu options until **Advanced settings** is highlighted (See Figure 81).

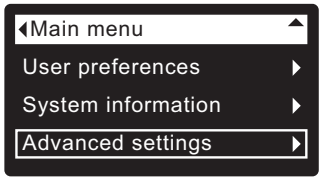


FIG. 81

3. Press the SELECT (○) button to display the Advanced settings menu (See Figure 82).

FIG. 82

4. Make sure **Cycle times** is highlighted.

5. Press the SELECT (○) button to display the Cycle times menu (See Figure 83).

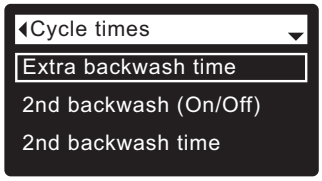


FIG. 83

6. Press the DOWN (▼) button to scroll through the menu options until the desired option is highlighted (See list at the top of this column).

7. Press the SELECT (○) button to display the desired cycle time screen (See Figures 84-87).

8. **See the right column on this page for specific instructions on each cycle time screen.**

9. Press the SELECT (○) button. The display will go back to the Cycle times menu (Figure 83).

10. Press the LEFT (◀) button three times to return to the rolling status screens.

8a. **Extra backwash time**: The backwash time during regeration is determined by the electronic controller. However, if you experience salty tasting water after regeneration, you may want to increase it. Press the UP (▲) button to add minutes, up to 15, of extra backwash time (See Figure 84).

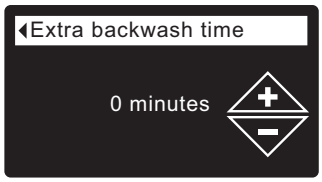


FIG. 84

8b. **Second backwash (On/Off)**: If the desired option already has a dot next to it (See Figure 85), go to Step 9. Otherwise, press the DOWN (▼) or UP (▲) buttons to scroll to the other option, then press SELECT (○) to choose it. Setting this feature On adds a second backwash and rinse at the beginning of the recharge cycle. Default is Off. Set this feature On if your water supply contains a lot of sediment or iron.

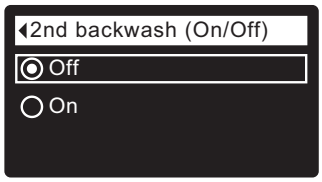


FIG. 85

8c. **Second backwash time**: Press the UP (▲) or DOWN (▼) buttons to change the second backwash time. Hold the button down to rapidly advance. The time can be set from 0 to 30 minutes (See Figure 86).

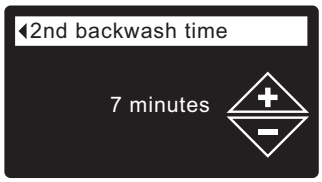


FIG. 86

8d. **Extra fast rinse time**: The fast rinse time during regeration is determined by the electronic controller. However, if you experience salty tasting water after regeneration, you may want to increase it. Press the UP (▲) button to add minutes, up to 15, of extra fast rinse time (See Figure 87).

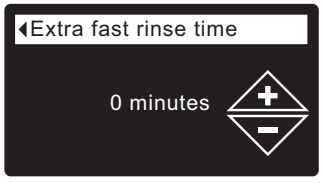


FIG. 87

SPECIAL FEATURES

Use these features to change the following operations:

- **Efficiency mode**
- **Maximum days between recharges**
- **Auxiliary control** (described on Page 25)
- **Chemical feed volume*** (described on Page 25)
- **Chemical feed timer*** (described on Page 25)
- **97% feature**
- **Service reminder** (described on Page 26)

To display one these screens:

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.
2. Press the DOWN (▼) button to scroll through the menu options until **Advanced settings** is highlighted (See Figure 88).

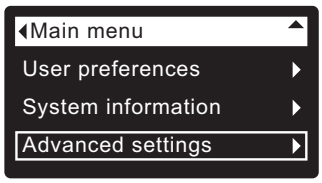


FIG. 88

3. Press the SELECT (○) button to display the Advanced settings menu (See Figure 89).

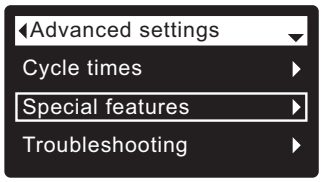


FIG. 89

4. Press the DOWN (▼) button to scroll through the menu options until **Special features** is highlighted.
5. Press the SELECT (○) button to display the Special features menu (See Figure 09).

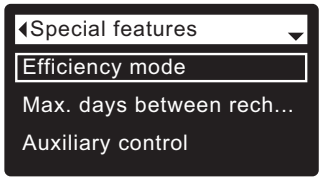


FIG. 90

6. Press the DOWN (▼) button to scroll through the menu options until the desired option is highlighted (See list at the top of this column).
7. Press the SELECT (○) button to display the desired special feature screen (See Figures 91-93).
8. **See the right column on this page for specific instructions on each cycle time screen.**
9. Press the SELECT (○) button. The display will go back to the Special features menu (Figure 90).
10. Press the LEFT (◀) button three times to return to the rolling status screens.

*Only displayed if Auxiliary control is set to Chemical feed.

8a. **Efficiency mode**: If the desired efficiency mode already has a dot next to it (See Figure 91), go to Step 9. Otherwise, press the DOWN (▼) or UP (▲) buttons to scroll to the desired efficiency mode, then press SELECT (○) to choose it.

- **Salt efficient** limits available salt doses to maintain 4000 grains/lb. of salt efficiency. Units may recharge more frequently.
- **Auto adjusting** is the default. It automatically adjusts salt doses to target a 3-4 day interval between recharges. Recommended.
- **High capacity** is for applications where very low "bleed" (less than 1.5 ppm) of hardness can be tolerated. Such applications include water for boilers. This setting will consume higher quantities of salt.

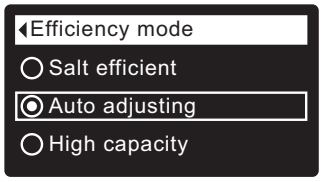


FIG. 91

8b. **Maximum days between recharges**: Press the UP (▲) or DOWN (▼) buttons to change the number of days (See Figure 92). The feature can be set from 1 to 15 days. Setting the number of days below 1 turns the feature off and defaults to automatic control of recharging.

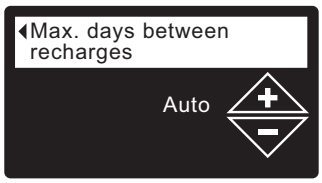


FIG. 92

8c. **97% feature**: If the desired option already has a dot next to it (See Figure 93, go to Step 9. Otherwise, press the DOWN (▼) or UP (▲) buttons to scroll to the other option, then press SELECT (○) to choose it. If this feature is On, the softener will automatically recharge when 97% of capacity is used, at any time of day. Default is Off.

FIG. 93

AUXILIARY CONTROL

The electronic control has an auxiliary output which can control external devices in a water treatment system. The signal is 24V DC, current draw 500 mA maximum. The Auxiliary Output terminals are located on the electronic control board (See Schematic on Page 35).

For more details on the use of auxiliary controlled equipment in water treatment systems, consult the EcoWater Systems “Problem Water Guide.”

To select an auxiliary control mode:

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.
2. Press the DOWN (▼) button to scroll through the menu options until **Advanced settings** is highlighted.
3. Press the SELECT (○) button to display the Advanced settings menu.
4. Press the DOWN (▼) button to scroll through the menu options until **Special features** is highlighted.
5. Press the SELECT (○) button to display the Special features menu (See Figure 94).

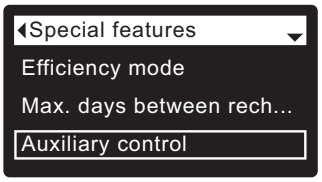


FIG. 94

6. Press the DOWN (▼) button to scroll through the menu options until **Auxiliary control** is highlighted.
7. Press the SELECT (○) button to display the Auxiliary control menu (See Figure 95).
8. If the desired option already has a dot next to it (See Figure 95), go to Step 9. Otherwise, press the DOWN (▼) or UP (▲) buttons to scroll to the desired option, then press SELECT (○) to choose it.
   - **Off** is the default. The 24V DC output is always off.
   - **On:** The 24V DC output is always on.
   - **Chlorine** can be used to drive a chlorine generator, which produces chlorine, as brine water passes through it, to sanitize the resin during recharges.
   - **Bypass:** Turns 24V DC on during the entire regeneration cycle (when the conditioner’s valve is in bypass and hard water is going to the house).
   - **Chemical feed:** Can be used to run a chemical feed pump. If chosen, the chemical feed volume and timer must be set, as detailed at right)
   - **Water use:** Turns 24V DC on when the conditioner’s turbine indicates water flow. Could drive an air pump for iron or sulfur oxidation.
   - **Fast Rinse:** Turns 24V DC on during the fast rinse portion of the regeneration cycle.
9. Press the SELECT (○) button. The display will go back to the Special features menu (Figure 94).
10. Press the LEFT (◀) button three times to return to the rolling status screens.

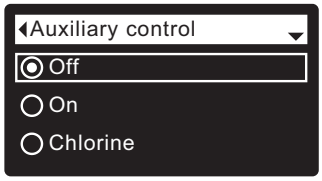


FIG. 95

CHEMICAL FEED

If the auxiliary control mode has been set to **Chemical feed**, as described in the previous section, two additional lines (**Chemical feed volume** and **Chemical feed timer**) will appear on the Special features menu.

To set these values:

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.
2. Press the DOWN (▼) button to scroll through the menu options until **Advanced settings** is highlighted.
3. Press the SELECT (○) button to display the Advanced settings menu.
4. Press the DOWN (▼) button to scroll through the menu options until **Special features** is highlighted.
5. Press the SELECT (○) button to display the Special features menu (See Figure 94).
6. Press the DOWN (▼) button to scroll through the menu options until **Chemical feed volume** or **Chemical feed timer** is highlighted.
7. Press the SELECT (○) button to display the Chemical feed volume or Chemical feed timer menu (See Figures 96 & 97).

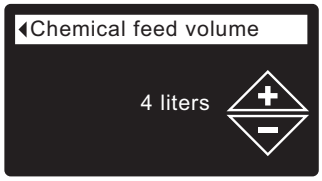


FIG. 96

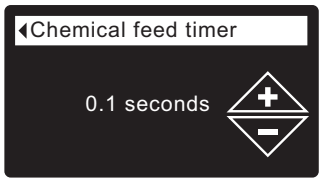


FIG. 97

8. Press the UP (▲) or DOWN (▼) buttons to change the value. Hold the button down to rapidly advance.
   - **Chemical feed volume** is the amount of water which will pass through the softener between each activation of the chemical feed equipment.
   - **Chemical feed timer** is how long the output to the chemical feed equipment is energized each time it is activated.
9. Press the SELECT (○) button. The display will go back to the Special features menu (Figure 94).
10. Press the LEFT (◀) button three times to return to the rolling status screens.

SERVICE REMINDER (set / reset)

Use this feature to program the number of months (up to 24) before a “Service overdue” message will appear instead of the rolling status screens (See Figure 98).

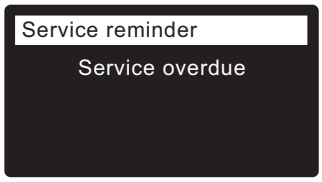


FIG. 98

This message also appears on the remote. This will be a reminder to call your dealer for service. Once programmed, this feature displays the number of months and days left until the service reminder.

Once the “Service overdue” message has appeared, dealers performing service clear it by setting the number of months until the next service reminder. Set or reset the service reminder as follows:

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.
2. Press the DOWN (▼) button to scroll through the menu options until **Advanced settings** is highlighted.
3. Press the SELECT (○) button to display the Advanced settings menu.
4. Press the DOWN (▼) button to scroll through the menu options until **Special features** is highlighted.
5. Press the SELECT (○) button to display the Special features menu (See Figure 99).

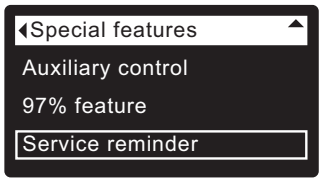


FIG. 99

6. Press the DOWN (▼) button to scroll through the menu options until **Service reminder** is highlighted.
7. Press the SELECT (○) button to display the Service reminder screen (See Figure 100).

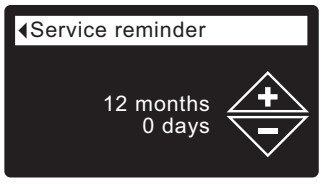


FIG. 100

8. Press the UP (▲) or DOWN (▼) buttons to set the number of months until the service reminder appears. Repeatedly pressing the DOWN (▼) button until the display reads “Off” turns this feature off and zeros the number of months and days.
9. Press the SELECT (○) button. The display will go back to the Special features menu (Figure 99).
10. Press the LEFT (◀) button three times to return to the rolling status screens.

DIAGNOSTICS

This feature allows a service technician to check the operating state of individual components in the softener (e.g. valve position) to troubleshoot problems. **If an error code is displayed in place of the rolling status screens, call your dealer for service.**

To view the Diagnostics screen:

1. If an error code is displayed, skip Steps 2-7 and go directly to Step 8.
2. To display the Diagnostics screen from any of the rolling status screens (when an error code is not displayed), press the SELECT (○) button to display the **Main menu**.
3. Press the DOWN (▼) button to scroll through the menu options until **Advanced settings** is highlighted.
4. Press the SELECT (○) button to display the Advanced settings menu.
5. Press the DOWN (▼) button to scroll through the menu options until **Troubleshooting** is highlighted.
6. Press the SELECT (○) button to display the Troubleshooting menu (See Figure 101).

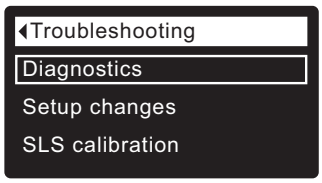


FIG. 101

7. Make sure **Diagnostics** is highlighted.
8. Press the SELECT (○) button to display the Diagnostics screen (See Figure 102).

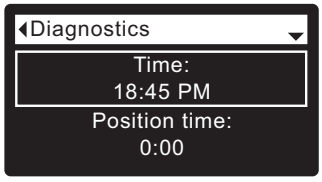


FIG. 102

9. Press the DOWN (▼) or UP (▲) buttons to scroll through the list. The following items are displayed:
   - **Time** (current)
   - **Position time** (counts down the time remaining in the current valve position)
   - **Current position** (of the valve: service, fill, brine, backwash, fast rinse or moving)
   - **Requested position** (of the valve)
   - **Motor state** (on or off)
   - **Valve position switch** (open or closed)
   - **Turbine count** (if changing, indicates water flow)
   - **Salt level sensor** (distance reading of sensor)
   - **Tank light switch** (open or closed)
   - **RF module** (detected or not)
   - **Error code** (call for service if a number is displayed)

10. When finished viewing the Diagnostics screen, press the SELECT (○) button. The display will go back to the Troubleshooting menu.
11. Press the LEFT (◂) button three times to return to the rolling status screens (or error code screen if an error condition exists).

SETUP CHANGES

This feature allows a service technician to repeat the setup procedure (See Pages 12-14) or restore the softener's default operating values.

1. From any of the rolling status screens, press the SELECT (○) button to display the **Main menu**.
2. Press the DOWN (▾) button to scroll through the menu options until **Advanced settings** is highlighted.
3. Press the SELECT (○) button to display the Advanced settings menu.
4. Press the DOWN (▾) button to scroll through the menu options until **Troubleshooting** is highlighted.
5. Press the SELECT (○) button to display the Troubleshooting menu (See Figure 101).
6. Press the DOWN (▾) button to scroll through the menu options until **Setup changes** is highlighted.
7. Press the SELECT (○) button to display the Setup changes menu (See Figure 103).

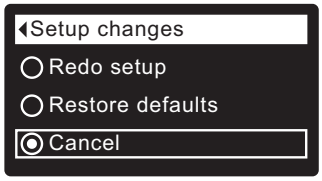


FIG. 103

8. If the desired option already has a dot next to it (See Figure 103), go to Step 9. Otherwise, press the DOWN (▾) or UP (▴) buttons to scroll to the desired option, then press SELECT (○) to choose it.
- **Redo setup** allows you to select a different model code (intended to be used for upgrades or retrofits of existing softener). Model codes are listed on Page 3.
- **Restore defaults** will reset all customizable settings to their default values and take you through the "wizard" screen setup procedure (See Pages 12-14).
- **Cancel** will return to the Troubleshooting menu (Figure 101).

9. Press the SELECT (○) button.

SLS CALIBRATION

This feature is used by a service technician replacing a salt level sensor. A replacement salt level sensor is shipped from the factory with numerical values for two calibratioin points, and these values must be entered into the controller. Instructions for this procedure are supplied with the replacement salt level sensor.

NOTE: Do not change the numerical values of the SLS calibration points unless installing a replacement salt level sensor.

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 104).

1. When the bypass valve is in service position (normal softener operation), with handle pulled all the way out (See Figure 104), **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)

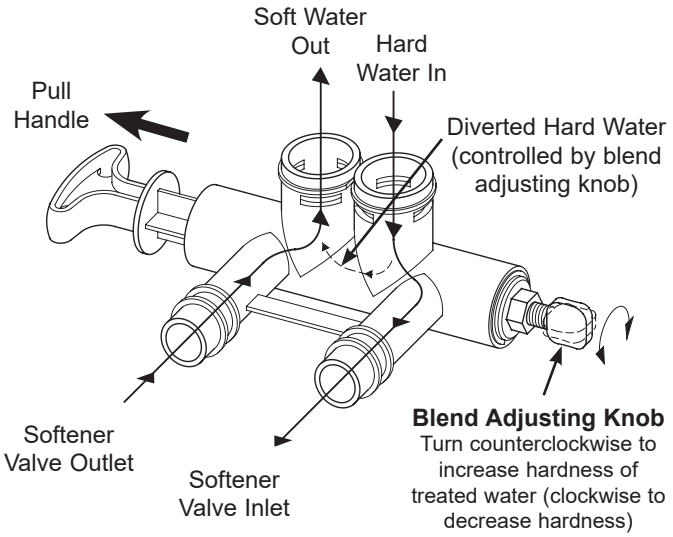


FIG. 104

BYPASS POSITION

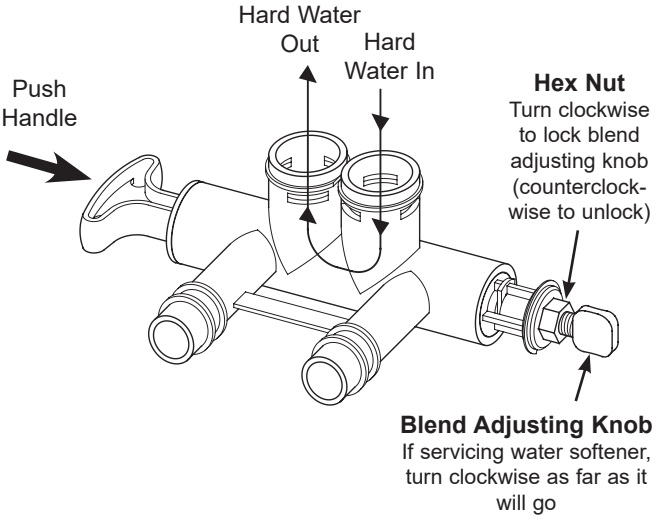


FIG. 105

ADDING SALT

If the softener uses all the salt before more is added, hard water will result. EcoWater eVOLUTION series models have automatic salt level sensing. Your Wi-Fi account can also be used to monitor salt. The softener salt status screen has an optional display of the estimated number of days until salt is depleted ("Out of salt in X days"). The softener can also be programmed to display a Low Salt Alarm a certain number of days before salt is estimated to run out (See Page 17) or Alarm beep (See page 19).

Be sure that the brinewell cover is on when adding salt.

RECOMMENDED SALT: Cube, pellet, coarse solar, etc., water conditioner 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.

POTASSIUM CHLORIDE: If you choose potassium chloride (KCl) salt as a regenerant:

1) Make sure "Salt type" on the electronic control is set to "KCl", as shown on Page 14.
2) Place only one bag of potassium chloride (KCl) into your softener at a time. The salt storage tank should never contain more than 25 kg of KCl.

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 EcoWater Systems 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 106. Make a pencil mark on the handle 3 - 5 cm 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.**

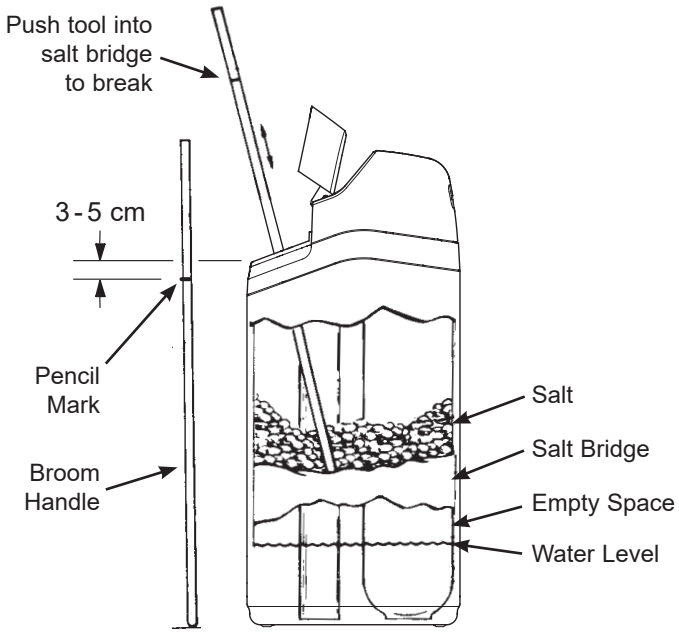


FIG. 106

CLEANING THE NOZZLE & VENTURI

A clean nozzle & venturi (See Figure 107) is necessary for the EcoWater Systems 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 EcoWater Systems 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 (conditioned water) position.

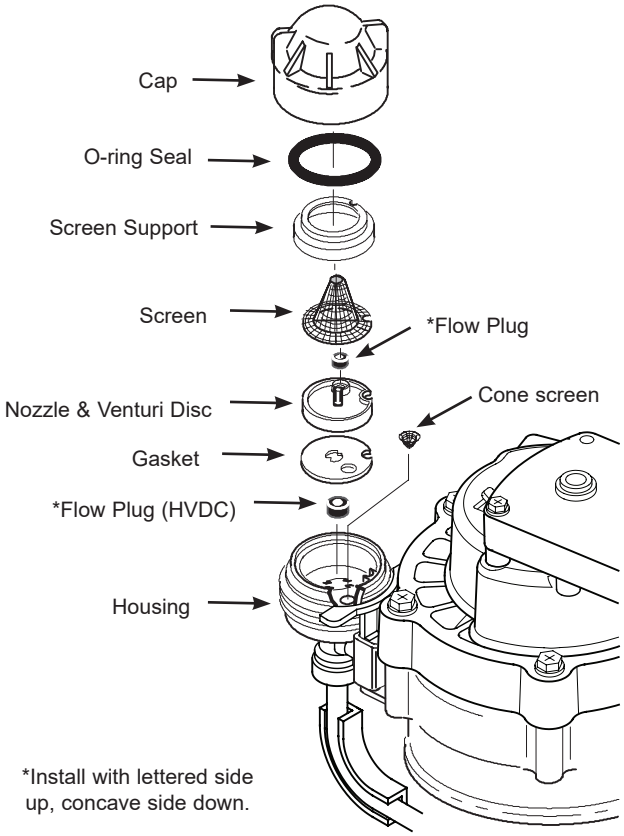


FIG. 107

Important: Be sure small hole in the gasket is centered directly over the small hole in the nozzle & venturi housing. Be sure the numbers are facing up.

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, available from EcoWater Systems, following directions on the container. Clean the resin every six months, or more often if iron appears in the conditioned water supply.

RELIEVING WATER PRESSURE WITH THE BYPASS VALVE(S)

CAUTION: Always relieve water pressure in the EcoWater Systems softener, as described below, before removing parts from the valve or resin tank.

DE-PRESSURIZE

1. Put bypass valve(s) into **Bypass** position.
2. Place softener valve in **Fill** position by performing Steps 1 & 7 of Manual Advance Recharge procedure on Page 34.

PRESSURIZE

1. Put bypass valve(s) into **Service** position.
2. Return softener valve to **Service** position by performing Steps 10-16 of Manual Advance Recharge procedure on Page 34.

ALTERNATE METHODS:

3-VALVE BYPASS (See Figure 108)

DE-PRESSURIZE

1. Close the INLET valve.
2. Open HOT and COLD conditioned water house faucets.
3. Close the OUTLET valve and open the BYPASS valve.
4. Close all house faucets.

PRESSURIZE

1. Open HOT and COLD house faucets.
2. Close the BYPASS valve and open the OUTLET valve.
3. **Slowly**, open the INLET valve.
4. Close all house faucets.

ECOWATER SYSTEMS BYPASS VALVE

(See Figure 109)

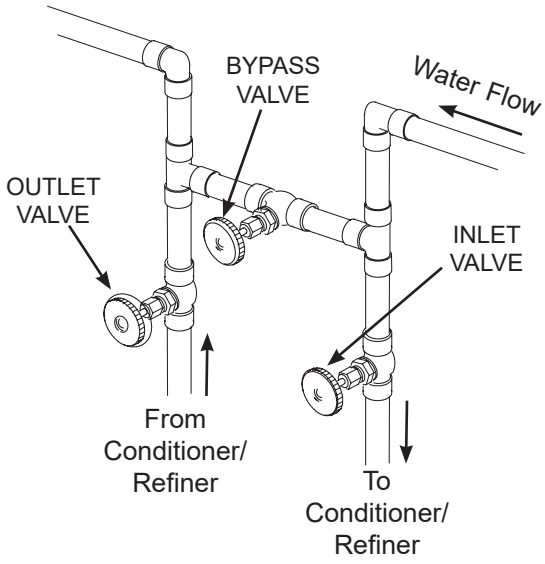
DE-PRESSURIZE

1. Close the house main water supply valve.
2. Open HOT and COLD conditioned water house faucets.
3. Push the bypass valve handle to **Bypass** position.
4. Optional: For hard water bypass to house faucets, reopen the main water supply valve.

PRESSURIZE

1. Open main water supply valve if it is closed.
2. Open HOT and COLD house faucets.
3. Pull the bypass valve handle to **Service** position.
4. Close all house faucets.

3-Valve Bypass



For **Service**
Close Bypass Valve.
Open Inlet & Outlet Valves.

For **Bypass**
Open Bypass Valve.
Close Inlet & Outlet Valves.

FIG. 108

EcoWater Systems Bypass Valve

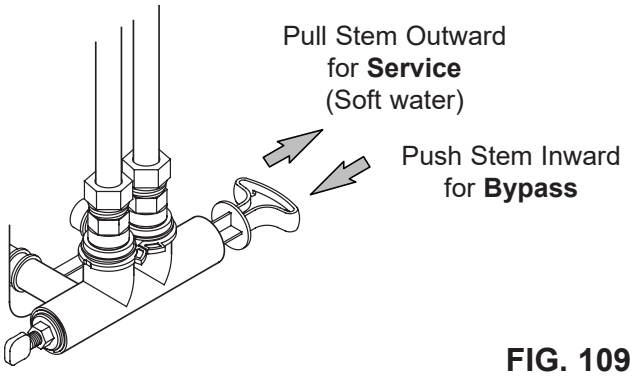


FIG. 109

TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	CORRECTION
Cannot set some conditioner/ refiner parameters and display shows a padlock icon:	Lockout feature is on.	Turn off the lockout feature (See Page 15).
No soft water	No salt in the storage tank.	Add salt (See Page 29) and then initiate a "Recharge now," as shown on Page 18.
	Salt is "bridged."	Break salt bridge (See Page 29) and then initiate a "Recharge now," as shown on Page 20.
	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 display shows the "Current Time" setting screen (Figure 52 on Page 18), it means time was lost during the outage. Set the current time. Other settings such as hardness are retained in memory during a power loss.
	Bypass valve(s) in bypass position.	Referring to Figure 6 on Page 5, 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 30.
	Valve drain hose plugged or restricted.	Drain hose must not have any kinks, sharp bends, or be raised too high above the softener (See Page 5).
Water hard sometimes	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 18. Check the recharge time, as described on Page 19.
	Hardness number setting is too low.	Referring to "Setting Hardness" on Page 19, check the current hardness setting and increase if needed.
	Hot water being used when conditioner/ refiner 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 19, check the current hardness setting and increase if needed.
	Turbine is not turning freely.	Check turbine, as described on Page 33.
Motor stalled or clicking	Motor malfunction or internal valve fault causing high torque on motor.	Contact your dealer for service.
Error code E1, E3 or E4 displayed.	Fault in wiring harness, connections to position switch, switch, valve or motor.	Contact your dealer for service.
Error code E5 displayed.	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 18.)
4. Is there salt in the brine tank? If not, refill.
5. Is salt "bridged" (See Page 29)?
6. Are plumbing bypass valve(s) in service position (See Figure 6 on Page 5)?
7. Are inlet and outlet pipes connected to the EcoWater 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 (See Fig. 10 on Page 7)?
10. Check the hardness setting (See "Setting Hardness on Page 19). 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 conditioned water sample to determine whether a problem exists.

If no problem is found after making the initial checks, proceed to "Troubleshooting - Manual Diagnostics" and "Manual Advance Recharge Check" on the next two pages.

AUTOMATIC ELECTRONIC DIAGNOSTICS

This softener has a self-diagnostic function for the electrical system (except for input power and/or water meter). The controller monitors electronic components and circuits for correct operation. If a malfunction occurs, an **Error code** is displayed (See Figure 110).

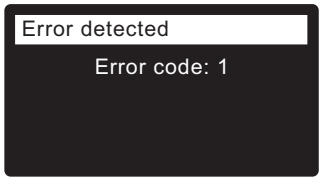


FIG. 110

The troubleshooting chart on the previous page shows the error codes that could appear, and the possible malfunctions for these codes.

When an error code appears in the display, pressing SELECT (○) will display the **Diagnostics** screen (See Page 26), so a service technician can further isolate the problem.

REMOVING ERROR CODE

1. Unplug power supply from electrical outlet.
2. Correct problem.
3. Plug power supply back in.
4. Wait for eight minutes while controller operates valve through an entire cycle. The error code will return if the problem was not corrected.

TROUBLESHOOTING - MANUAL DIAGNOSTICS

1. Display the **Diagnostics** screen, following the procedure on Page 26.
2. Press the DOWN (▼) or UP (▲) buttons to scroll through the list. The following items are displayed:

- **Time** (current)
- **Position time** (counts down the time remaining in the current valve position)
- **Current position** (of the valve: service, fill, brine, backwash, fast rinse or moving) See "Manual Advance Recharge Check" on next page for position verification.
- **Requested position** (of the valve)
- **Motor state** (on or off)
- **Valve position switch** (open or closed)
- **Turbine count** (indicates water flow) See following section for turbine diagnostics.
- **Salt level sensor** (distance reading of sensor)
- **Tank light switch** (open or closed)
- **RF module** (detected or not)
- **Error code**

CHECKING THE TURBINE

1. Display the **Diagnostics** screen, following the procedure on Page 26.
2. Press the DOWN (▼) button to scroll through the list until **Turbine Count** is displayed (See Figure 111).

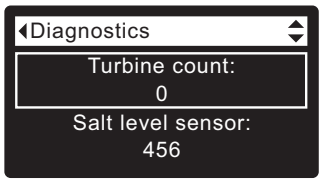


FIG. 111

3. A steady display of "0" (zero) indicates no water flow through the meter (i.e. no conditioned water being used).
4. Open a nearby conditioned water faucet.
5. The number in the display should count upward from 0 and reset for each gallon of flow (at 200 on some models, for example). 1 gallon = 3.78 liters.
6. If the display reading does not change with the faucet open, pull the wire harness from the valve outlet port (See Figure 112).

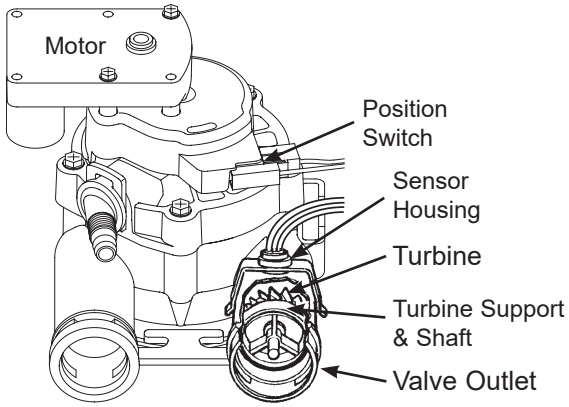


FIG. 112

7. Pass a small magnet back and forth in front of the sensor.
8a. If the displayed **Turbine Count** does count upward with each pass of the magnet, disconnect the outlet plumbing and check the turbine for binding.
8b. If the displayed **Turbine Count** does not count upward with each pass of the magnet, the sensor is probably faulty.

TROUBLESHOOTING - MANUAL ADVANCE RECHARGE CHECK

This check verifies proper operation of the position switch, gear motor, brine tank fill, brine draw, recharge flow rates, and other controller functions. Always make the Initial Checks (See Page 32) and the Manual Diagnostics (See Page 33) first.

1. Display the **Diagnostics** screen, following the procedure on Page 26.

2. Press the DOWN (▼) button to scroll through the list until **Valve position switch** is displayed (See Figure 113).

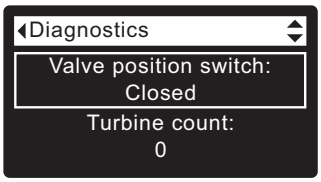


FIG. 113

3. Verify that when the switch plunger is down (into one of the detents on the valve motor cam), this screen reads **Open**. When the valve cam is rotating (for example, after Step 7, below) , the switch plunger will be up and this screen should read **Closed**.

4. Press the UP (▲) button to scroll through the list until **Current position** is displayed (See Figure 114).

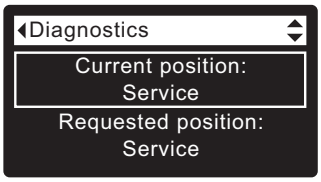


FIG. 114

5. Verify that the valve position indicator on the motor cam agrees with the position displayed on the screen

6. Remove the brinewell cover.

7. With the Diagnostics screen displayed, press the RIGHT (▶) button once to advance the valve from **Service** to **Fill**.

8. Shine a flashlight into the brinewell and observe fill water entering the tank.

9. If water does not enter the tank, look for an obstructed nozzle / venturi, fill flow plug or brine tube (See Figure 107 on Page 30).

10. After verifying fill, press the RIGHT (▶) button once to move the valve into **Brine***. A slow flow of water to the drain will begin. Verify brine draw from the brine tank by shining the flashlight into the brinewell to observe a noticeable drop in the liquid level.

* If the 2nd Backwash option is set (See Page 23), the valve will enter backwash and fast rinse before brine.

11. If the unit does not draw brine, check for:
- Dirty or defective nozzle / venturi (See Page 30)
- Nozzle / venturi not seated on the gasket or gasket not sealing properly
- Restriction in valve drain, causing back pressure (bends, kinks, elevated too high, etc.)
- Obstruction in valve or brine tubing
- Internal valve fault (obstructed outlet disc, wave washer faulty etc.)

12. With the Diagnostics screen displayed, once again press the RIGHT (▶) button to advance the valve to **Backwash**.

13. Look for a fast flow of water from the drain hose. If flow is slow, check for a plugged top distributor, backwash flow plug or drain hose

14. With the Diagnostics screen displayed, once again press the RIGHT (▶) button to advance the valve to **Fast rinse**.

15. Again, look for a fast flow of water from the drain hose. Allow the unit to rinse for several minutes to flush out any brine that may remain from the brine cycle test.

16. With the Diagnostics screen displayed, once again press the RIGHT (▶) button to return the valve to the **Service** position.

IMPORTANT: Always return the valve to the **Service** position before exiting this procedure.

OTHER SERVICE

Hard Water Bypass (Hard water “bleeds” into conditioned water supply):

1. Faulty inlet disc, seal or wave washer (See Pages 36 through 39).
2. Missing or faulty o-ring(s) at valve connection to riser pipe.

Water Leaks from Drain Hose during service:

1. Faulty inlet disc, seal or wave washer.
2. Faulty o-ring on inlet disc shaft.
3. Faulty outlet disc, seal or wave washer.

Flooded Salt Tank:

1. Nozzle / venturi plugged.
2. Faulty valve seals.
3. Restricted or plugged backwash / fast rinse controls.
4. Restricted or plugged drain line.

Water Has Salty Taste:

1. House water pressure low. Adjust well pump.
2. Partially restricted valve drain hose, top distributor, backwash flow plug, resin tank internal riser pipe, or bottom distributor.
3. Backwash and fast rinse times have been reduced from default settings.
4. Wrong model code.

WIRING SCHEMATIC

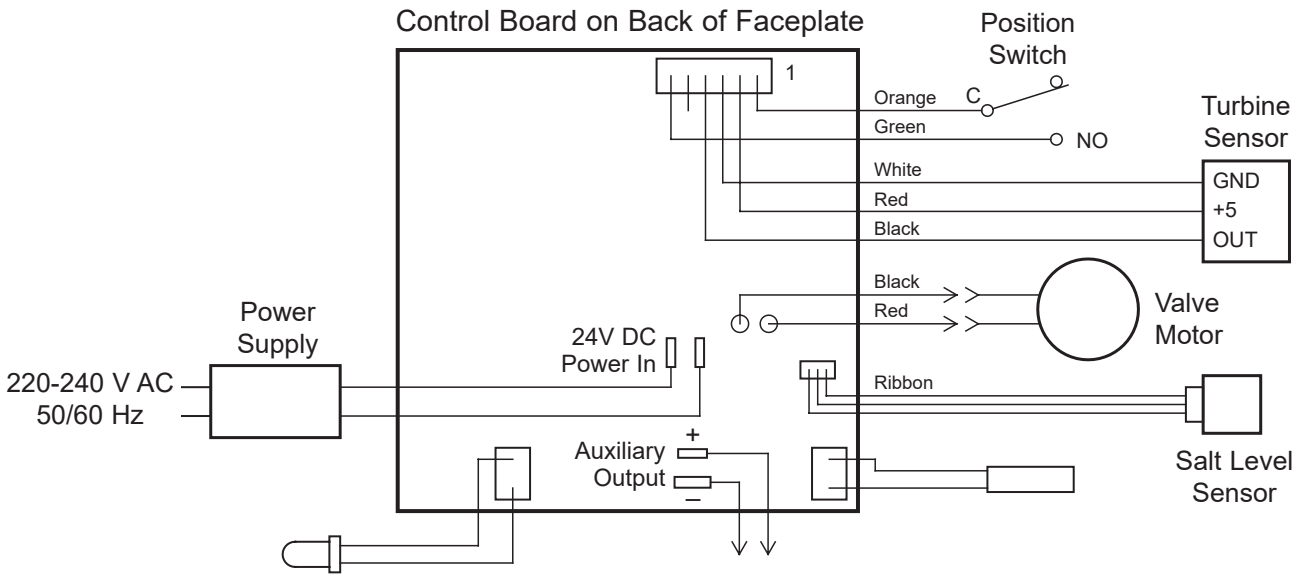
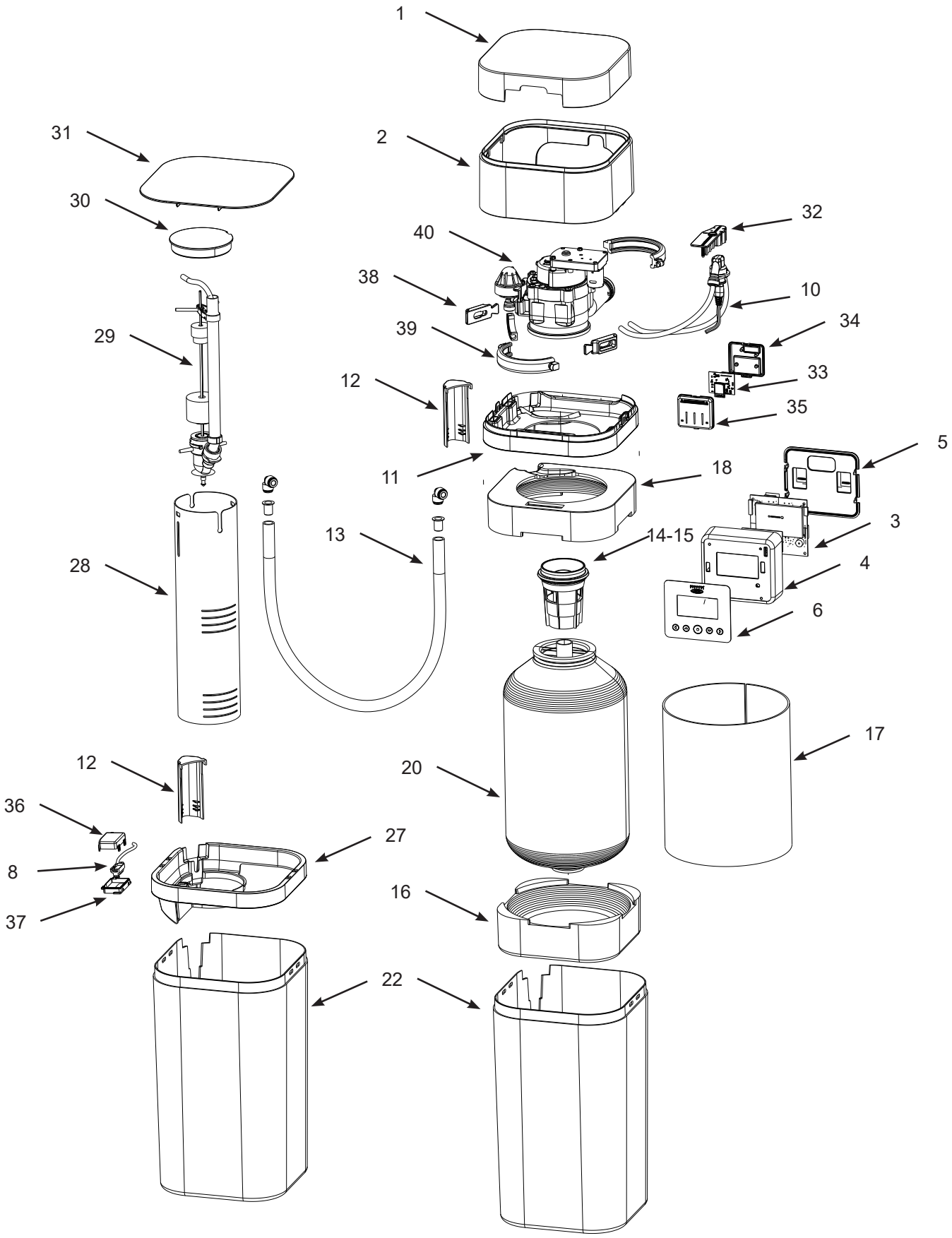


FIG. 115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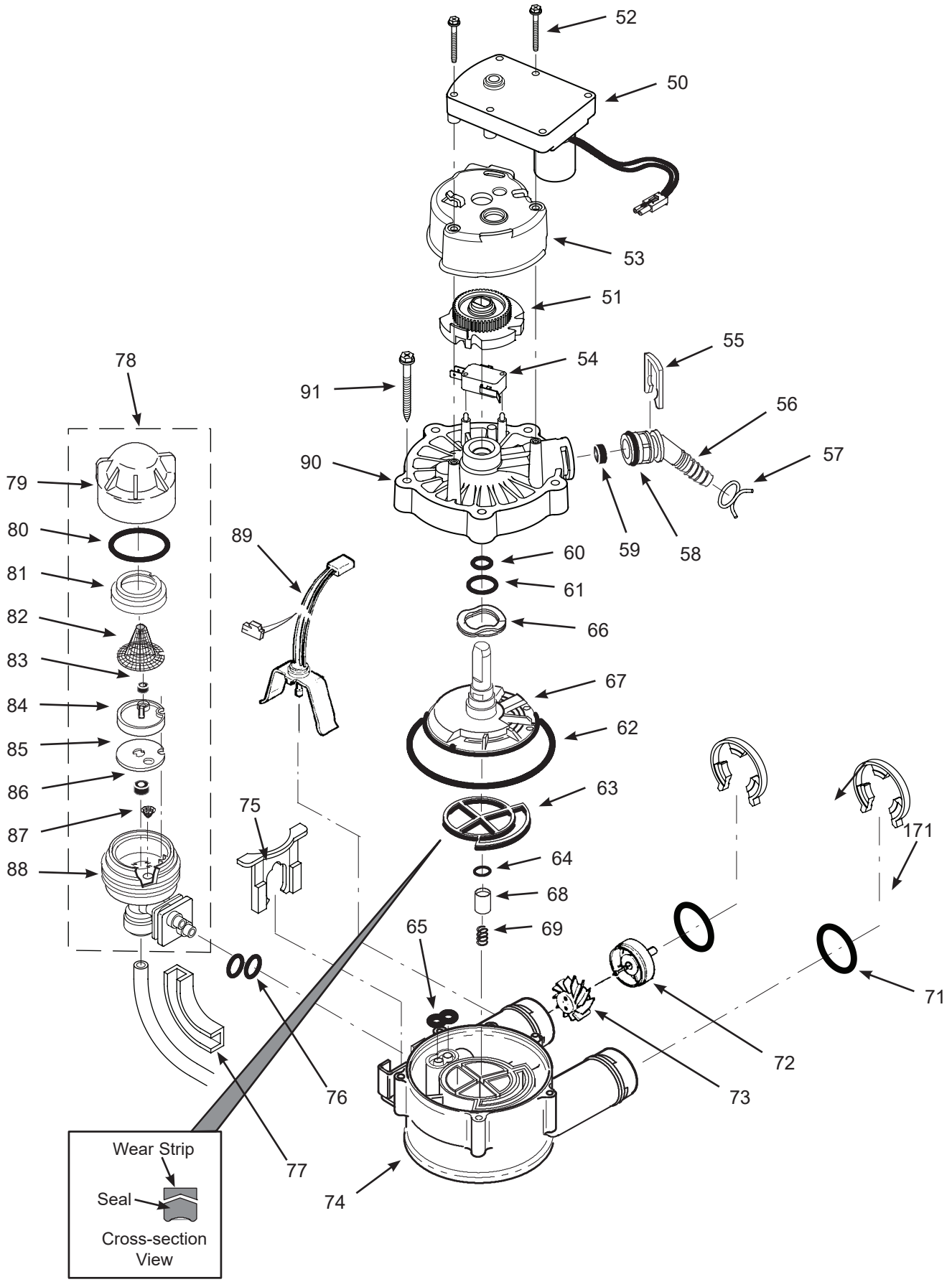
Key No.	Part No.	Description
1	8010951	Cover, Lid, Resin Tank
2	8010950	Cover, Top, Resin Tank
■	7366130	Power Supply, 24V DC
■	7250826	Power Cord
3	7381554	Repl. Electronic Control Board (PWA)
4	8010959	Controller Box, Front
5	8010960	Controller Box, Back
6	8010961	Faceplate Decal
–	7331177	Tank Neck Clamp Kit (includes Key Nos. 8 & 9)
8	↑	Salt Level Sensor, Short Range (also incl. in Repl. Faceplate Asm.)
9	↑	Cable, Salt Level Sensor (also incl. in Repl. Faceplate Asm.)
10	7365867	Tube, 7.94 mm O.D. x 50 cm long
11	8010949	Rim, Resin Tank
12	8010974	Tubing Guard (2 req.)
13	8011011	Brine Line Assembly, 76 cm long
	8011014	Brine Line Assembly, 206 cm long ✱
■	7378535	Elbow Fitting, 6.35 mm to 7.94 mm Quick Connect (2 incl. in Key No. 13)
■	8011053	Brine Tube, 6.35 mm O.D. x 74 cm long (included in Key No. 13)
■	8011051	Sheath for Brine Line Assembly, 19 mm O.D. x 82 cm long (included in Key No. 13)
■	7170254	O-Ring, 20.6 x 27.0 mm
■	7170296	O-Ring, 73.0 x 82.6 mm
14	7388108	Top Distributor
15	7265025	Filter Screen
16	8010952	Insulation, Resin tank, Bottom
17	8010953	Insulation, Resin tank, Foil
18	8010954	Insulation, Resin tank, Top
19	8010959	Controller Box, Front

Key No.	Part No.	Description
–	7377474	Resin Tank Assembly (includes Key Nos. 17-20)
■	↑	O-Ring, 73.0 x 82.6 cm
■	↑	Riser Pipe Assembly
20	↑	Resin Tank, 20.3 x 38.1 cm
21	8010021	Ion Exchange Resin
22	8010948	Brine Tank or Resin Tank Shroud
–	7331258	Overflow Hose Adaptor Kit (includes Key Nos. 24-26)
24	↑	Hose Clamp
25	↑	Adaptor Elbow
26	↑	Grommet
27	8010956	Rim, Brine Tank
28	8010929	Brinewell
29	8010930	Brine Valve Assembly
30	0500283	Cover, Brinewell
31	8010957	Lid, Brine Tank
32	7382241	Chlorine Generator Kit ✱
■	7327631	Blending Bypass Valve, 3/4", Clip Style
–	8010963	WiFi Box, ASM
33	↑	Modul WiFI
34	↑	WiFi Box, Backplate
35	↑	WiFi Box, Frontplate
■	↑	WiFi cable
36	8010967	Salt Level Sensor, Frontplate
37	8010968	Salt Level Sensor, Backplate
38	7116713	Clip
39	7113626	Clamp
40	8010969	Valve

■ Not illustrated

✱ Not included with softener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Wear Strip
Seal
Cross-section
View

Key No.	Part No.	Description
–	7397864	Motor, Cam & Gear Kit, 3/4” (includes Key Nos. 50-53)
50	↑	Motor
51	↑	Cam & Gear
52	↑	Screw, #6-19 x 3.5 cm (2 req.)
53	↑	Motor Mount
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	↑	Repl. Rotor Seal
64	↑	O-Ring, 9.5 x 14.3 mm
65	↑	Seal, Nozzle & Venturi
66	7082087	Wave Washer
67	7199232	Repl. 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

Key No.	Part No.	Description
71	7337571	O-Ring, 23.8 x 30.2 mm, pack of 4
–	7113040	Turbine & Support Assembly, including 2 O-Rings (See Key No. 72) & 1 ea. of Key Nos. 72 & 73
72	↑	Turbine Support & Shaft
73	↑	Turbine
74	7082053	Valve Body
75	7373878	Retainer, Nozzle & Venturi
76	7342649	O-Ring, 6.4 x 9.5 mm, pack of 2
77	7381994	Bender, for 7.94 mm O.D. Tubing
78	8010923	Nozzle & Venturi Assembly (includes Key Nos. 79-88)
79	↑	Cap
80	↑	O-Ring, 28.6 x 34.9 mm
81	↑	Screen Support
82	↑	Screen
83	↑	Flow Plug, 0.83 lpm
84	↑	Nozzle & Venturi Disc, White
85	↑	Gasket
86	↑	Fill Flow Plug, 0.57 lpm
87	↑	Cone Screen
88	↑	Housing Asm., Nozzle & Venturi w\Quick Connect
■	7298913	Repl. Nozzle, Venturi & Gasket Kit (includes Key Nos. 76, 80, 84, 85 & 87)
89	7309803	Wire Harness, Sensor
90	7337466	Valve Cover
91	7342657	Screw, #10-14 x 5 cm, pack of 5

■ Not illustrated

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