

OWNER'S MANUAL



85HE Upflow Softener Manual

(For models after August 2019)



IAPMO R & T Certified
Against NSF/ANSI 44 and
CSA B483.1

- 1. Page 18 of this manual contains important maintenance procedures for the continued proper operation of your unit. These MUST be performed regularly for your warranty to remain valid.**
2. Read all instructions carefully before operation.
3. Avoid pinched o-rings during installation by applying IAPMO certified lubricant to all seals (provided with install kit).
4. This system is not intended for treating water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

U.S.A.

9760 Mayflower Park Drive,
Suite 110
Carmel, IN 46032

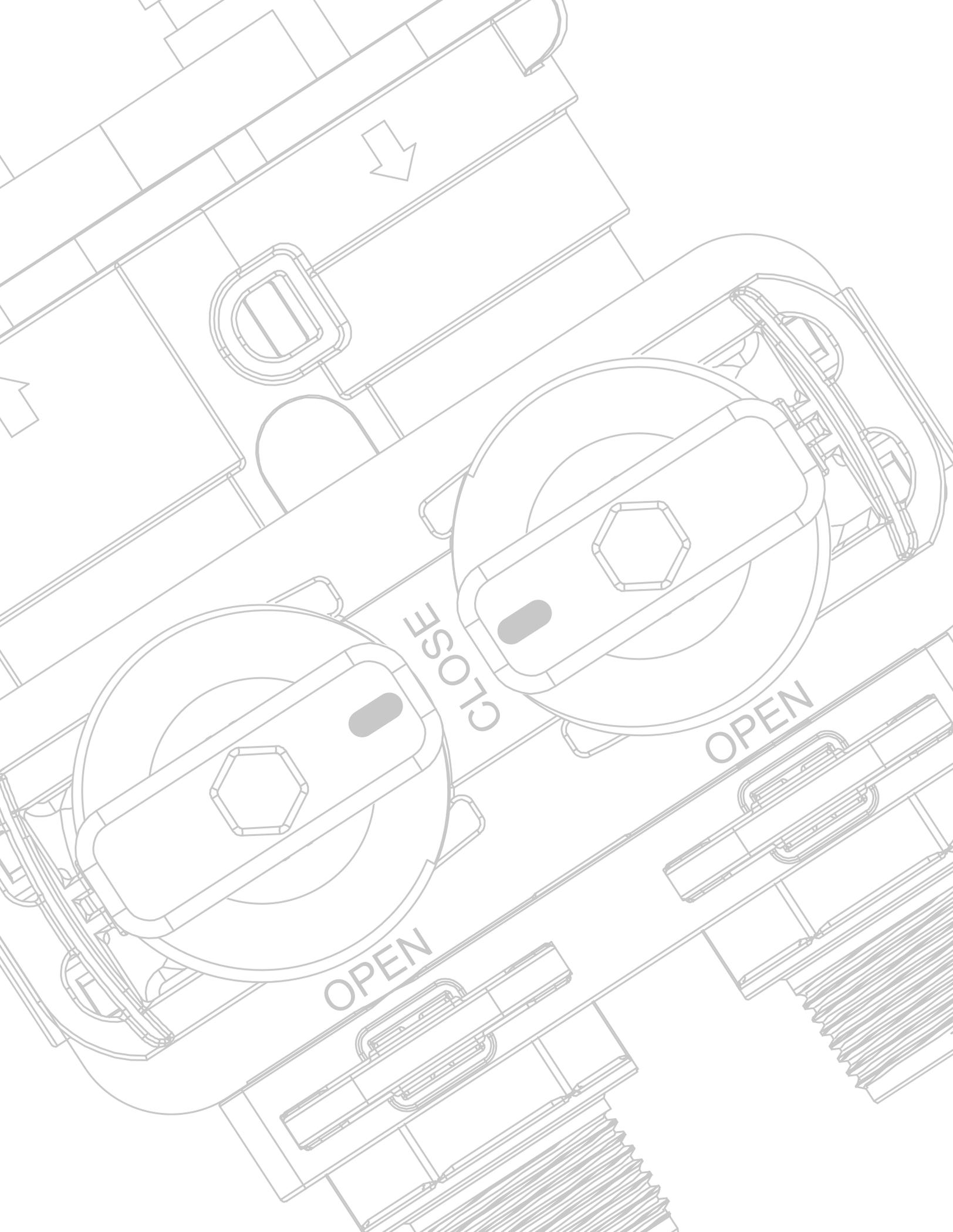
4645 McDowell Rd. W
Suite 106
Phoenix, AZ 85035

56 Lightcap Rd.
Pottstown, PA 19464

Canada

855 Park St.
Unit 1
Regina, SK S4N 6M1

490 Pinebush Rd.
Unit 1
Cambridge, ON N1T 0A5



CLOSE

OPEN

OPEN

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READ THIS PAGE FIRST

BEFORE STARTING INSTALLATION

- ▶ Read this manual thoroughly to become familiar with the appliance and its capabilities before installing or operating. Failure to follow instructions could result in personal injury or property damage. This manual will assist you in getting the most out of your new appliance.
- ▶ Installation must comply with all state, provincial or local regulations. Check with your local public works department for plumbing and sanitation codes. In the event that the codes conflict with any content in this manual the local codes should be followed. Professional installation by a licensed plumber or certified water treatment professional is recommended.
- ▶ **WARNING!** Do not use water that is microbiologically unsafe without adequate disinfection before or after this system.
- ▶ This appliance is capable of operating at temperatures between 40°F and 110°F (4°C - 43°C). Do not use this appliance on hot water supplies.
- ▶ Do not install this appliance where it may be exposed to wet weather, direct sunlight, or temperatures outside of the range specified above.
- ▶ Avoid pinched o-rings during installation by applying IAPMO certified lubricant (provided with install kit) to all seals.
- ▶ This appliance is designed to operate on pressures of 30 psi to 125 psi. If the water pressure is higher than the maximum, use a pressure reducing valve ahead of this appliance.
- ▶ It is not uncommon for sediment, precipitated iron or hardness to be present in water supplies. Precipitated minerals or sediments can cause damage to the seals and piston. This is considered a harsh environment and the seals and piston would not be covered by warranty stated or otherwise.
- ▶ It is recommended to regularly inspect and service the control valve on an annual basis. Cleaning and/or replacement of piston, seals, and or spacers may be necessary depending on the raw water quality. An Annual Maintenance kit is available for this purpose.
- ▶ This publication is based on information available when approved for printing. Continuing design refinement could cause changes that may not be included in this publication. The manufacturer reserves the right to change the specifications referred to in this literature at any time, without prior notice.

NOTES & SAFETY MESSAGES

Watch for the following messages in this manual:

NOTE

Do not remove or destroy the serial number. It must be referenced on request for warranty repair or replacement

NOTE: used to emphasize installation, operation or maintenance information which is important but does not present a hazard.



CAUTION!

Disassembly while under pressure can result in flooding.

CAUTION: used when failure to follow directions could result in damage to equipment or property.



WARNING!

ELECTRICAL SHOCK HAZARD! UNPLUG THE UNIT BEFORE REMOVING THE COVER OR ACCESSING ANY INTERNAL CONTROL PARTS

WARNING: used to indicate a hazard which could cause injury or death if ignored.

HOW YOUR WATER CONDITIONER WORKS

Water softeners remove the problem causing hardness minerals (calcium and magnesium) from your water by exchanging them with harmless sodium ions in a process called ion exchange. Unlike calcium and magnesium, sodium stays dissolved in water and does not form a scale. Sodium also does not interfere with the cleaning action of soaps. Plastic resin beads charged with sodium ions release the sodium and exchange them with the hardness ions. Eventually the resin beads and the softener must then be regenerated. Regeneration is accomplished by rinsing the resin with a salt saturated brine solution that removes the calcium and magnesium from the resin bead while replenishing the sodium. This is why the softener requires a brine tank and salt. The water softener will provide soft water for several days before needing to be regenerated. Your system measures the amount of water used to determine when regeneration is required.

This unit is equipped with an internal automatic bypass which will allow for untreated water to bypass the unit during a regeneration so the home is not without water during this period. Regeneration time is factory set for 2:00 a.m. to minimize the chance of untreated water getting into your system during regeneration. Please try to avoid use of water during this time period or adjust the regeneration time to a suitable time period when water use is at its minimum.

When using a softener to remove both hardness and dissolved iron it is important that it regenerates more frequently than ordinarily would be calculated for just hardness removal. Although many factors and formulas can be used to determine this frequency, it is recommended that the softener be regenerated when it has reached 50–75% of the calculated hardness alone capacity. This will minimize the potential for bed fouling. **Please see the Problem Water Injector kit in subsequent pages in this manual.**

Even when operating a softener on water with less than the maximum of dissolved iron, regular cleanings should be performed. Clean every six months or more often if iron appears in your conditioned water supply. Use resin bed cleaning compounds by carefully following the directions on the container.

Features & Terminology:

Precision Brining: Precision brining means that your conditioner calculates the exact amount of brine required to regenerate saving up to 30% more salt.

When your conditioner regenerates it will display two numbers for capacity: one will be total capacity and the other will be 70 % of capacity. The unit counts down to the end of the 70% then calculates how much of the 30% you used (your reserve) it then adjusts the brine amount accordingly and regenerates that evening. This feature means that your capacity will always be different after every regeneration therefore reducing your salt use.

Soft Water Recharge for High Usage: Should you reach the 70% capacity and then go beyond the 30% before it is time to regenerate, the conditioner will do a quick regeneration to restore limited capacity to get it through the remainder of the day.

System Refresh: If you are away for an extended period of time, stagnant water can cause bacteria growth. To prevent this, the system refresh feature will perform a 10 minute backwash after 7 days of inactivity.

Adjustable Backwash: On clean municipal water supply there is no need to backwash and clean the bed with every regeneration. The 85HE saves a significant amount of water by skipping up to 10 backwash cycles.

Scrolling Diagnostics: By pressing any button to light the LCD display the unit will automatically begin scrolling important information for diagnostic purposes.

Soft Water Brine Tank Refill: Conserves capacity and keeps brine tank cleaner by adding only treated soft water to brine tank rather than raw untreated hard water.

Total Gallons: The total amount of soft water the system can produce between regenerations.

Remaining Gallons: The amount of soft water capacity until the next regeneration is required.

Number of People: In the household as programmed at install.

Reserve Capacity: Calculated as 75 gallons per person.

Estimated Days to Next: Estimation of days to the next regeneration based on current consumption, hardness and capacity.

Last Regeneration: The date of the last regeneration cycle by the conditioner.

Total Regenerations: This is the total number of times the conditioner has regenerated.

Total Gallons: Total gallons treated by the conditioner.

Over Run Total: How many times soft water recharge was required due to high usage.

Current Flow Rate: Will only display if treated water is running otherwise it will read 0.

Peak Flow: Maximum flow that has gone through the conditioner.

Delayed Regen OFF: Generally only used after servicing.

Regen Time: Time of day that the conditioner is scheduled to regenerate.

Refill Time: The current calculated refill time for makeup brine (displays up to 70% of total brine required).

Valve Mode: Current valve setting EG. Softener UF (up flow). You can unlock the board as directed and press the down arrow to stop the scrolling. You can then use the down arrow to go to each of the diagnostics as required.

System Bypass: All systems come with a manual bypass valve allowing you to bypass the system, allowing raw untreated water to be used in your home for any reason such as system servicing.

Flow Rate Info:

At the stated service flow rates, the pressure drop through these devices will not exceed 15 psig.

Peak flow rates are intended for intermittent use only (10 minutes or less) and are for residential applications only. Do not use peak flow rate for commercial applications or for a continuous rate when treated water supplies are geothermal heat pump, swimming pool, etc.

For satisfactory operation, the pumping rate of the well system must equal or exceed indicated backwash flow rate.

Feed Water Parameters:

Maximum Iron** = 2.0 ppm ferrous (clear water iron)

Maximum Hydrogen Sulfide = 0.0 ppm

Maximum Manganese = .75 ppm

pH = 6.5 to 8.5 with no iron present or 6.5 to 7.5 with iron present

****See Maintenance Section.**



Do not use where the water is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the unit.

UNPACKING / INSPECTION

Be sure to check the entire unit for any shipping damage or parts loss. Also note damage to the shipping cartons. Contact the transportation company for all damage and loss claims. If you purchased a one-piece cabinet model the unit comes fully assembled. **The manufacturer is not responsible for damages in transit.**

Small parts required to install the softener are in the small parts box. To avoid loss of the small parts, keep them in the parts bag until you are ready to use them.

What is included with your conditioner?

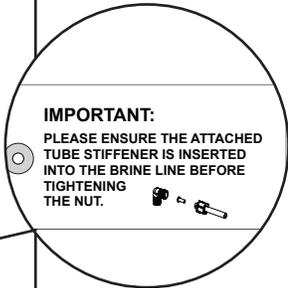
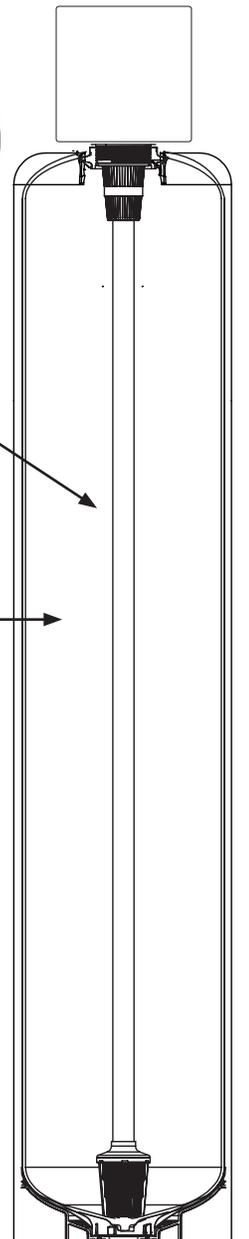
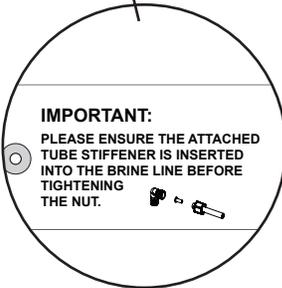
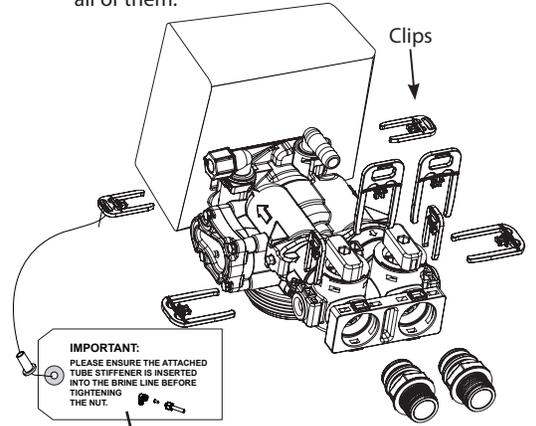
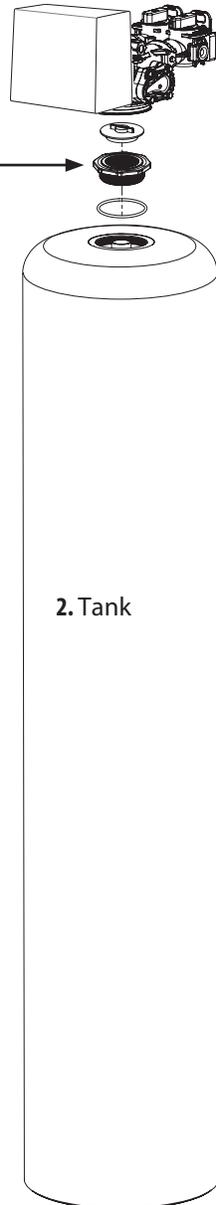
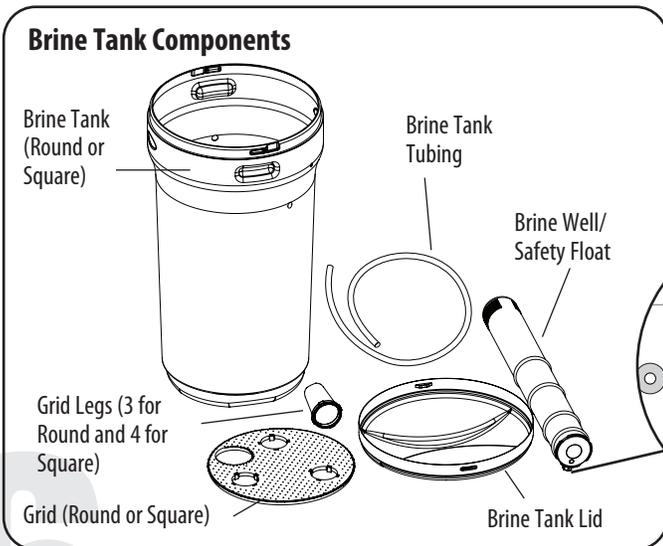
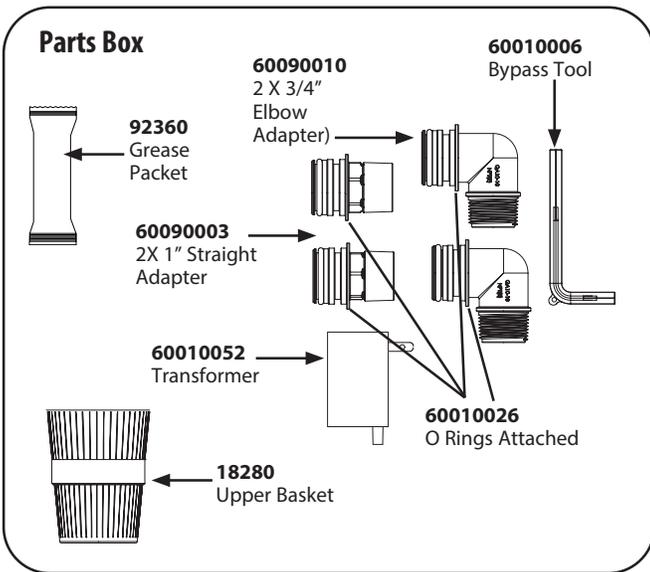
- Control Valve*
- Fiberglass Pressure Tank
- Parts Box
- Owners Manual
- Drain Hose & Clamp
- Brine Tank Assembly
- Media Box - a media box is provided for larger systems due to weight.

*All units (75, 100, 150, 200) are preassembled with the control valve installed on the tank; no assembly required.

1. Control Valve

Model 300 will get Adaptor and Oring Shown

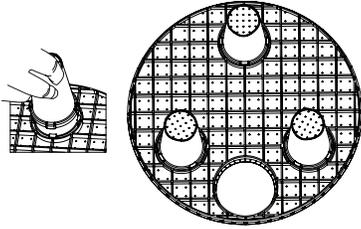
There are 8 red quick connect clips Please check to make sure you have all of them.



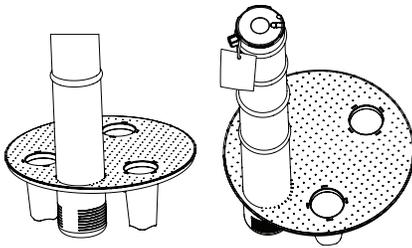
NOTE
Due to transportation and climatic conditions all connections, including the valve to the tank, need to be checked at time of installation and tightened if necessary.

BRINE TANK ASSEMBLY

a) Attach the three brine grid legs to grid plate. The legs will snap on to the tabs of the salt plate making a "clicking" sound. Square brine tanks have four legs.

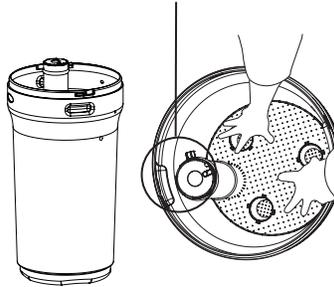


b) Insert the brine well assembly inside the grid plate in the hole provided.

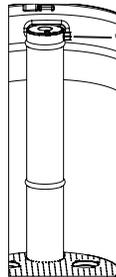


c) Drop the brine grid with brine well inside the brine tank such that the nut fitting faces the hole on the brine tank. Then press the grid down evenly inside the brine tank until the brine grid legs touches the bottom of the brine tank.

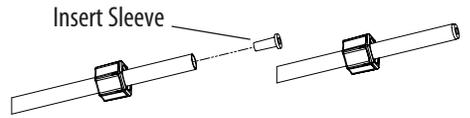
IMPORTANT: IT IS IMPORTANT TO ALIGN THE HANDLE TO THE BRINE WELL AS SHOWN



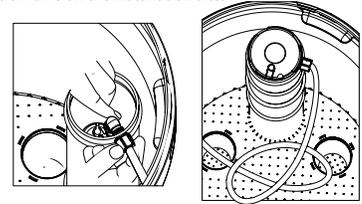
The hole in the brine tank should line up with the brine line as shown



d) Take the brine tube and insert the nut and plastic sleeve as shown below.



e) Insert the tube in the float assembly elbow and hand tighten the nut. In many cases the brine line already comes installed from the factory. Leave the other end of the brine line tube inside the brine tank until you are ready to connect to the control valve on the installation site.



f) Once at the installation site, pull the other end of the brine tube from the hole on the brine tank. The completed assembly is shown below.



NOTE

Resin Cleaner

An approved resin cleaner **MUST** be used on a regular basis if your water supply contains iron.

See Res-Up® Feeder Installation Instructions in subsequent pages in this manual.

CHECK VALVE TYPE AND VALVE SERIAL

Check to make sure Valve Type is Upflow (UF) (left Sticker shown below). The right Sticker shows the serial # of the control valve. The middle sticker is a dataplate which provides information of Serial # and Date of Manufacture of complete system. Both Serial # labels are important for troubleshooting.

Please record these numbers on the back page of this manual for future reference.



Valve Serial # _____



Complete System Serial # _____

NOTE

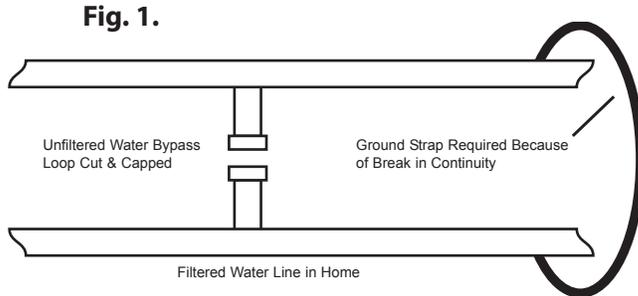
For cabinet models the labels are usually located under salt lid area.



BEFORE INSTALLATION

Make sure you have a copy of your most recent water test results. If your water has not been tested previously, your professional installer can obtain a water sample bottle to be sent to one of our facilities for a free analysis. **It is important that this product not be installed until you have this information.**

In all cases where metal pipe was originally used and is later interrupted by poly pipe, the Noryl bypass valve - or an approved ground clamp with physical separation and no less than #6 copper conductor - must be used for continuity, to maintain proper metallic pipe bonding.



MECHANICAL:

Do not use petroleum based lubricants such as petroleum jelly, oils or hydrocarbon based lubricants. Use only 100% silicone lubricants (grease packet provided in parts kit). All plastic connections should be hand tightened only. Teflon tape may be used on connections that do not use an O-ring seal. Do not use pliers or pipe wrenches except where indicated by nut shape (eg. pipe adapters) All plumbing must be completed according to local codes. Soldering connections should be done before connecting any pieces to the pipe as excessive heat can damage them.

Tools Required for Installation:

- ▶ Two adjustable wrenches
- ▶ Additional tools may be required if modification to home plumbing is required.
- ▶ Plastic inlet and outlet fittings are included with the conditioner. To maintain full valve flow, 3/4" or 1" pipes to and from the conditioner fittings are recommended. You should maintain the same, or larger, pipe size as the water supply pipe, up to the conditioner inlet and outlet.
- ▶ Use copper, brass, or PEX pipe and fittings.
- ▶ Some codes may also allow PVC plastic pipe.

NOTE

We recommend installation only be completed by a competent installer or plumbing professional to insure this product is installed in accordance with local plumbing codes.

NOTE

All government codes and regulations governing the installation of these devices must be observed.



CAUTION!

If the ground from the electrical panel or breaker box to the water meter or underground copper pipe is tied to the copper water lines and these lines are cut during installation of the Noryl bypass valve and/or poly pipe, an approved grounding strap must be used between the two lines that have been cut in order to maintain continuity. The length of the grounding strap will depend upon the number of units being installed and/or the amount of copper pipe being replaced with plastic pipe.

See Fig. 1.

NOTE

Check your local electrical code for the correct clamp and cable size.

NOTE

If a severe loss in water pressure is observed when the conditioner unit is initially placed in service, the conditioner tank may have been laid on its side during transit. If this occurs, back-wash the conditioner to "reclassify" the media.

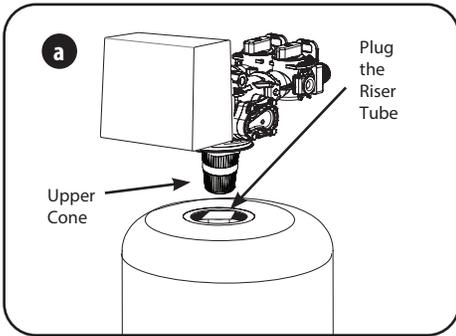
NOTE

Due to transportation and climatic conditions all connections including the valve to the tank need to be checked at time of installation and tightened if necessary.

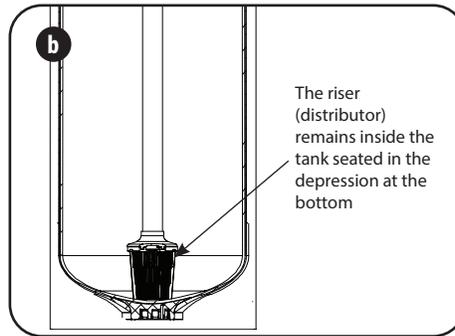
PREPARATIONS

Media Installation (When Necessary). When larger units cannot be loaded due to weight restrictions, media will be shipped pre-measured in separate containers. Follow the steps below for proper media loading.

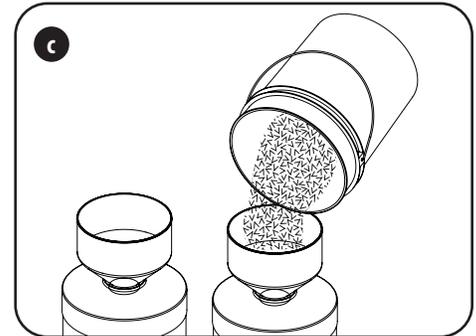
CAUTION!
The unit should be depressurized before installing or replacing media



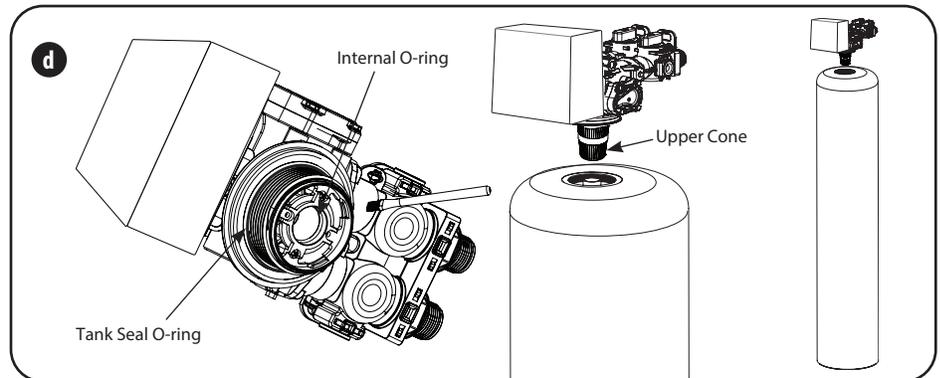
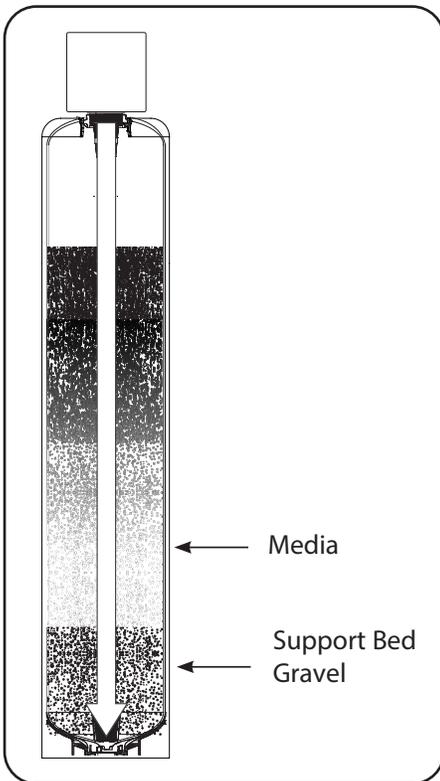
a) Temporarily plug the open end at the top of the riser (distribution) tube with tape.



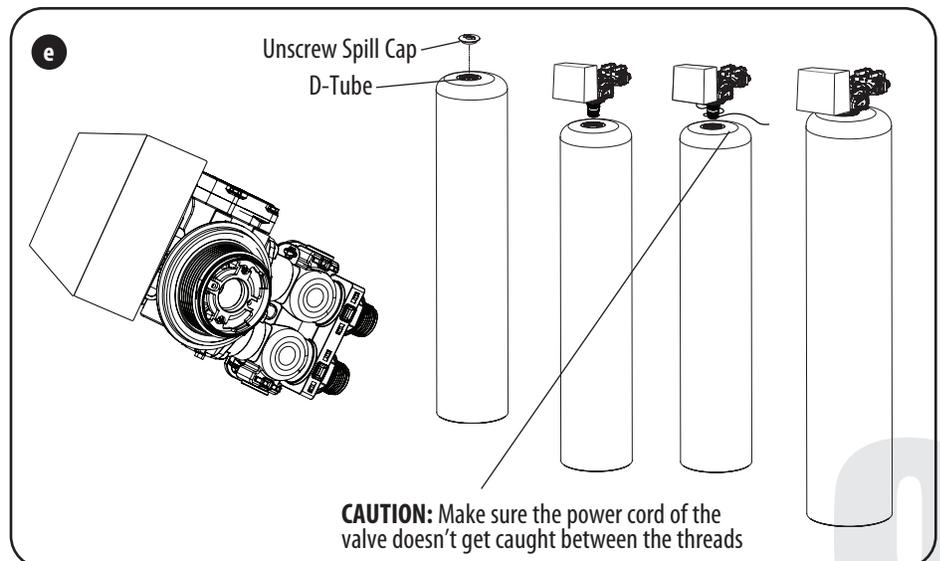
b) Ensure the bottom of the riser tube remains seated in the depression at the bottom of the tank. Fill tank one quarter full of water to protect distribution tube during gravel installation.



c) Fill the gravel support bed first. A large funnel (sold separately part #99003) makes filling the tank much easier. Tip: You can make a funnel using a 1 gallon (4 litre) container by cutting the bottom off. Slowly add the gravel and level it by shaking the tank. Depending on the type of system, add the resin or media next, leveling it in the same manner.



d) Apply the supplied lubricant (silicone grease part #92360) to the internal o-ring at the bottom of the control valve. Attach the upper cone to the control valve. Apply lubricant to larger o-ring on the bottom of the valve that seals with the tank threads.



e) Remove tape from top of riser tube. Carefully position valve over riser tube, inserting riser into the internal o-ring. Turn the valve onto the threads of the tank until secure. **Note: Make sure the quick connect power cord is not yet connected to prevent the cord getting caught between the threads of the tank and valve.**

CAUTION!
Make sure that the unit is de-pressurized before conducting this task.

CAUTION!
DO NOT use petroleum based lubricants as they will cause swelling of O-ring seals.

CAUTION
WEAR DUST MASK

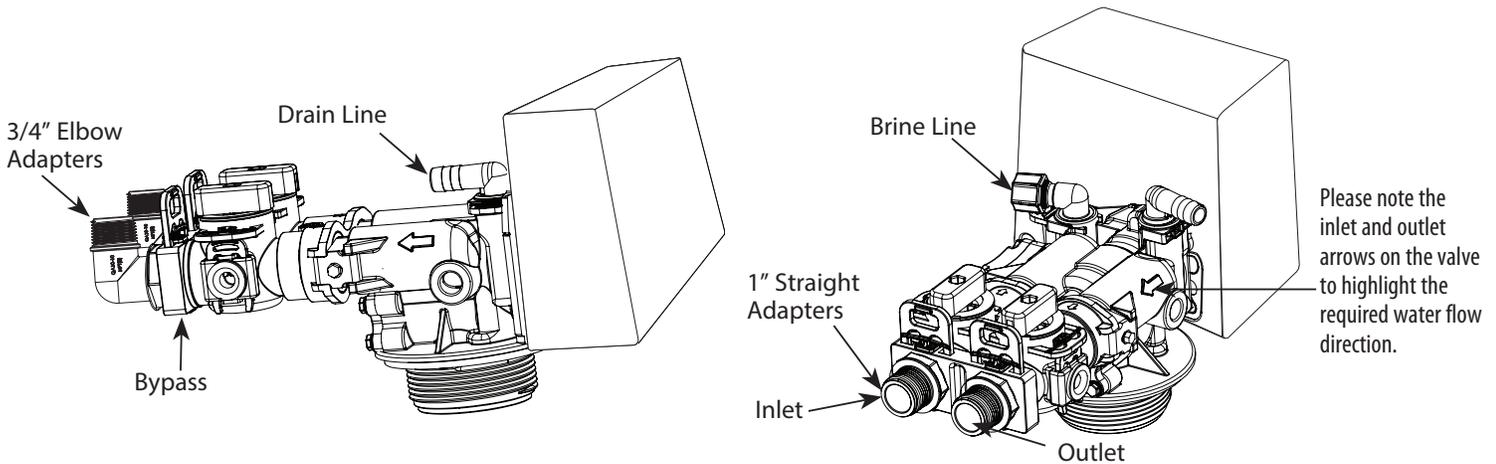
PREPARATIONS

Planning Your Installation

Select the location of your conditioner tank with care. Various conditions that contribute to proper location include:

1. All installation procedures must conform to local and state or provincial plumbing codes.
2. Outside faucets used to water lawns and gardens should supply untreated water. A new water line is often required to be connected to supply untreated water to the inlet of the water conditioner and to the outside faucets. Where required by local plumbing codes, a check valve may need to be installed.
3. Locate conditioner as close as possible to the water supply source.
4. Locate conditioner as close as possible to a floor or laundry tub drain and 120 volt AC electrical outlet.
5. Locate conditioner in correct relationship to other water conditioning equipment. If closer than 10 feet please install check valve in accordance with local plumbing codes.
6. Conditioners should be located before the water heater in the supply line. Temperatures above 110°F (43°C) will cause damage to conditioners.
7. Do not install a conditioner in a location where freezing temperatures occur. Freezing may cause permanent damage to this type of equipment and will void the factory warranty.
8. Allow sufficient space around the unit for easy servicing.
9. Keep the conditioner out of direct sunlight. The sun's heat may soften and distort plastic parts.

INSTALLATION STEPS



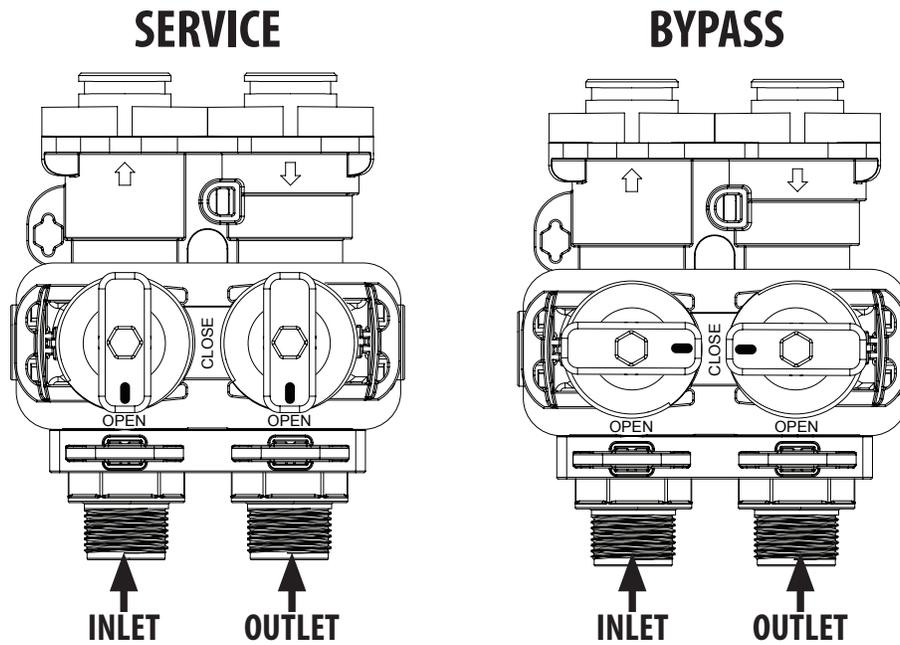
1. Make sure the bypass is attached securely to the control valve. Connect the supplied straight or elbow plumbing adaptors to the bypass with red clips. Connect the inlet and outlet of the water conditioner to the plumbing of the house. The control valve must not be submitted to temperatures above 43°C (110°F). When sweat fittings are used, to avoid damaging the control valve, solder the threaded copper adaptors to the copper pipe and then, using Teflon tape, screw the assembly into the bypass valve.
2. Apply Teflon Tape to threaded connections. Do not use pipe thread compound as it may attack the material in the valve body.
3. Connect Conditioner to the homes plumbing. Any solder joints near the valve must be done before connecting any piping to the valve. Always leave at least 6" (152 mm) between the valve and joints when soldering pipes that are connected to the valve. Failure to do this could cause damage to the valve.
4. **Drain Line connection:** Attach 1/2" ID, 5/8" OD drain hose to the drain line fitting. Run the drain line to a floor drain or a laundry drain. Complete any necessary plumbing.

INSTALLATION STEPS

5. Using the Allen Key (included), place the unit in the bypass position. Slowly turn on the main water supply. At the nearest cold treated water tap, remove the faucet screen, open the faucet and let water run a few minutes or until the system is free of any air or foreign material resulting from the plumbing work.

Manual Water Bypass

In case of an emergency, such as conditioner maintenance, you can isolate your water conditioner from the water supply using the bypass valve located at the back of the control. In normal operation the bypass is OPEN with the ON/OFF knobs in line with the INLET and OUTLET pipes - see **SERVICE** diagram below. To isolate the conditioner, simply rotate the knobs as indicated to the CLOSE position until they lock - see **BYPASS** diagram below. You can continue to use your water related fixtures and appliances as the water supply is bypassing the conditioner. However, the water you use will be untreated. To resume treated service, open the bypass valve by rotating the knobs back to the open position. **Please make sure bypass knobs are completely open otherwise the unconditioned water could enter through the valve.**



6. Make sure there are no leaks in the plumbing system before proceeding. Close the water tap when water runs clean.

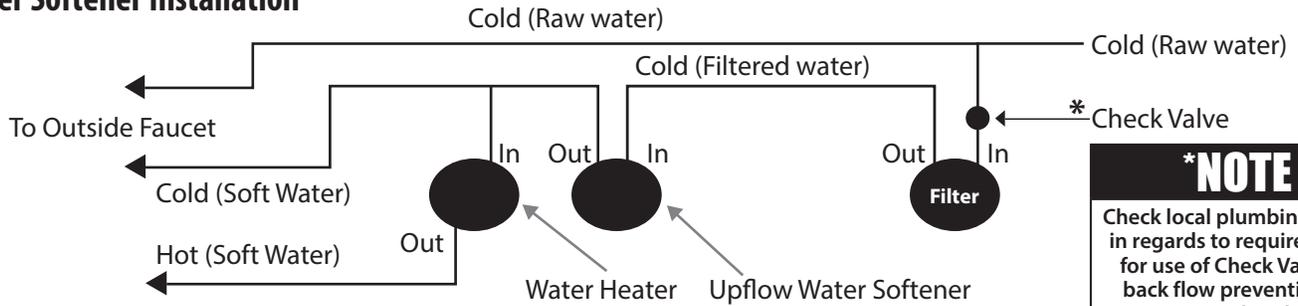
NOTE

If the plumbing system is used as the ground leg of the electric supply, continuity should be maintained by installing ground straps around any nonconductive plastic piping used in installation.
- See page 8

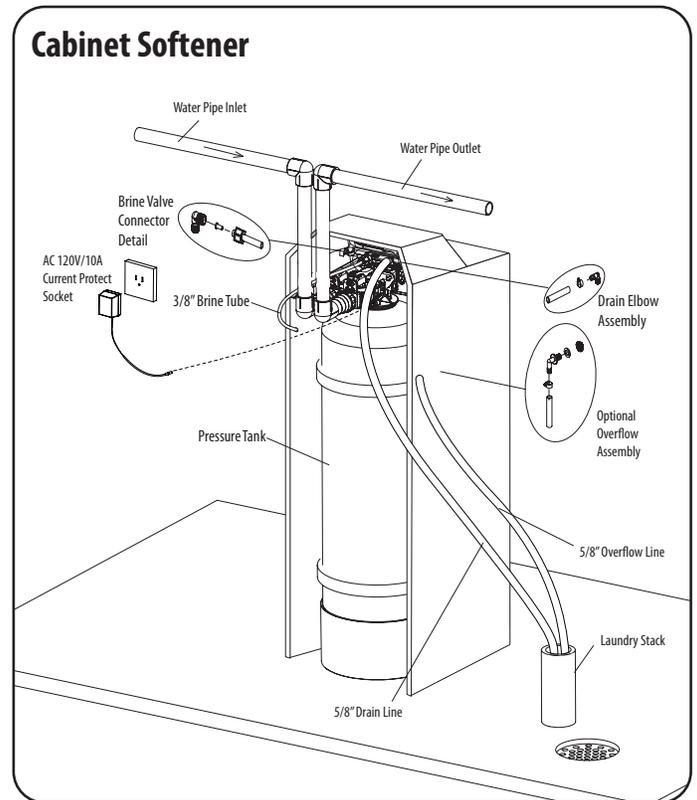
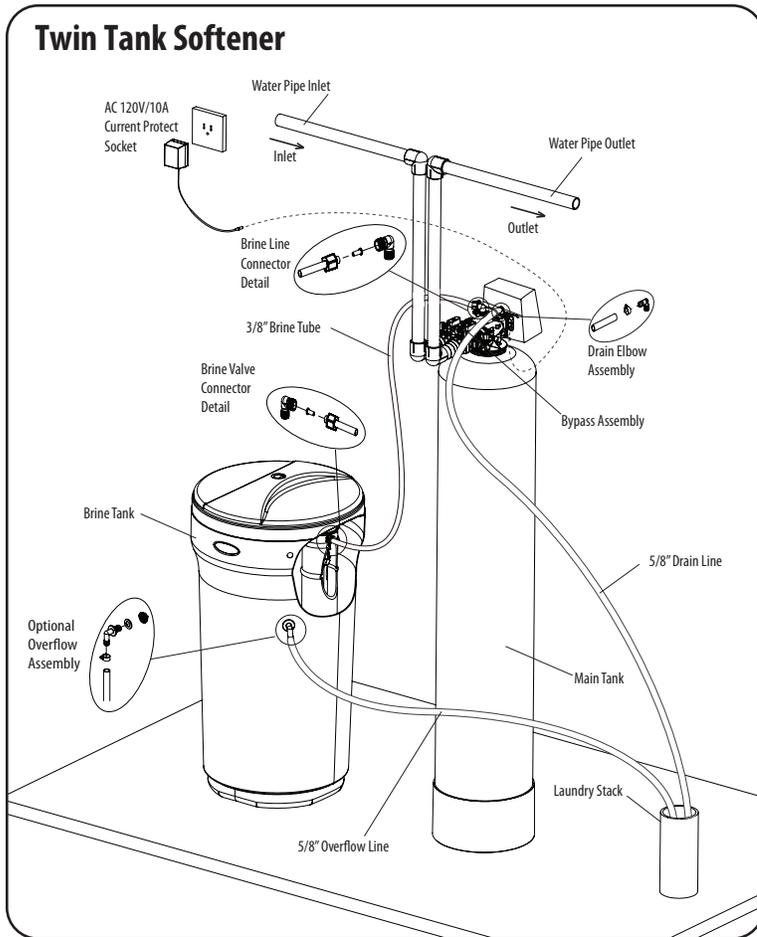
WATER SOFTENER INSTALLATION

Connect Softener to the House Plumbing Any solder joints near the valve must be done before connecting any piping to the valve. Always leave at least 6" (152 mm) between the valve and joints when soldering pipes that are connected to the valve. Failure to do this could cause damage to the valve.

Water Softener Installation

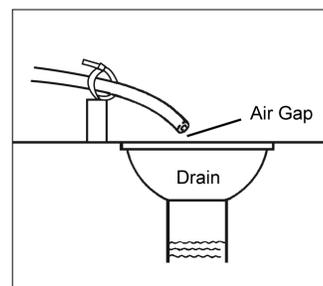


***NOTE**
Check local plumbing codes in regards to requirements for use of Check Valve or back flow prevention or vacuum breaker



NOTE
Waste connections or drain outlet shall be designed and constructed to provide for connection to the sanitary waste system through an air-gap of 2 pipe diameters or 1 inch (22 mm) whichever is larger.

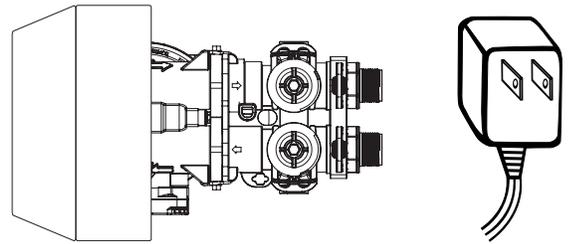
CAUTION!
Never insert drain line directly into a drain, sewer line, or trap. Always allow an air gap between the drain line and the wastewater to prevent the possibility of sewage being back-siphoned into the conditioner.



START-UP & PROGRAMMING

The control valve is controlled with simple, user-friendly electronics displayed on an LCD screen. When power is connected, the screen will show the following information in sequence:

- Date & Time
- Regeneration Days (time interval between backwashes)
- Remaining Days (days left before next backwash)
- Regeneration Time (Time of day when backwash starts)
- Last Regeneration Date (Last date when system backwashed)
- Current Flow Rate (GPM) (flow rate of water being currently used)
- Peak Flow Rate (GPM) (Max recorded flow rate of the water)



STEP 1. ADD WATER TO BRINE TANK

Open the brine tank /cabinet salt lid and fill with water until there is approximately 1" (25mm) of water above the grid plate. If there is no grid plate fill the tank with 3" (75mm) of water. **Do not add salt to the brine tank at this time.**

STEP 2. CHECK PLUMBING CONNECTIONS

Verify that the bypass valve is still in the bypass position, and turn on the main water supply.

Check for any leaks in the new plumbing connecting to the unit. Open the nearest faucet, after the unit, and let the water run for a few minutes to clear out any debris that may entered the plumbing during installation. **Notice: If the faucet has a screen it should be removed to allow debris to flush out of the plumbing.**

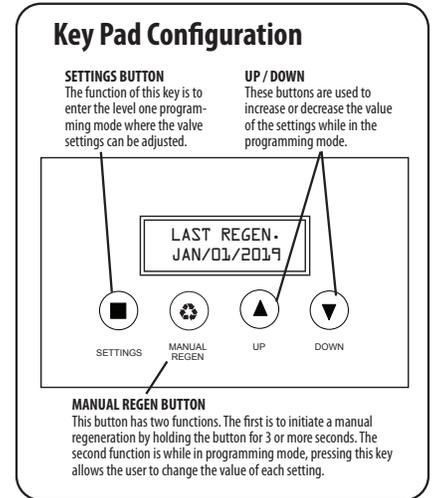
STEP 3. START THE UNIT

3a Plug the transformer into a dedicated outlet (do not use an outlet that is controlled by a light switch), and connect the unit to power.

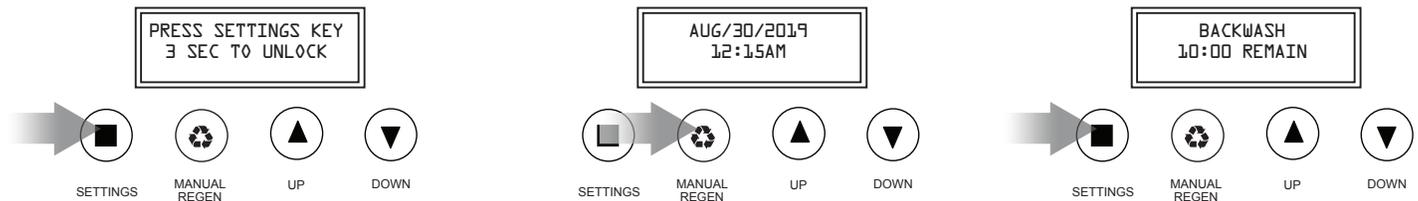
3b Press and hold the **MANUAL REGEN** button to start a manual regeneration and advance the valve into the next regeneration position. If the **PCB** is locked the **SETTINGS** button will need to be held down for 3 seconds, and the **PCB** will unlock.

3c With the bypass inlet partially open and the valve in brine, the unit will purge the air in the tank and in the valve out through the drain line. When water is coming out of the drain line the bypass inlet can be fully opened. Let the unit brine for several minutes or until a steady stream of water appears at the drain.

3d Advance to the refill position and allow the unit to refill to 1 inch above the grid board or 3 inches of water in cabinet models (this may require manually advancing the unit through its cycles more than once). Allow the unit to return to service then continue with programming.



STEP 4. PROGRAMMING YOUR CONDITIONER



1. The display will read "PRESS SETTINGS KEY [SETTINGS] 3 SEC TO UNLOCK".
2. After 3 seconds, the display will beep confirming unlock.

3. Press and hold **MANUAL REGEN** [MANUAL REGEN] to start Manual Regeneration process

4. The display will read time remaining. **ALLOW TO FINISH FULL CYCLE.**

START-UP & PROGRAMMING (CONTINUED)

STEP 4. PROGRAMMING YOUR CONDITIONER

This unit is factory set for the correct size. You are required to program the date, the time, the number of people in the home and the correct hardness setting. Please review **Compensated Hardness Calculation** before entering the hardness number from your water analysis.

Calculating Compensated Hardness for Water where Iron or Manganese is Present

From your water analysis.

Iron x 4 = grains of hardness and or Manganese x 8 = grains of hardness. These numbers can be found on your water analysis report, and the equivalent grains of hardness should be added to your total hardness number. The new sum of these numbers is the hardness to be entered during programming below.

EG

Iron = 0.5 ppm x 4 = 2.0 gpg

Mang = 0.3 x 8 = 2.4 gpg (always round up) = 3.0 gpg

Hardness = 15 gpg + 2.0 (compensated iron) + 3.0 (compensated manganese) = 20 gpg
enter 20 as the hardness when programming below.

Iron _____ x 4 + Manganese x 8 _____ + Hardness = Total Hardness _____ **(Enter this amount)**

PRESS SETTINGS KEY
3 SEC TO UNLOCK



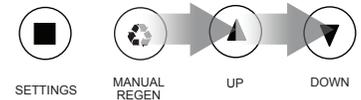
1. The display will read "PRESS SETTINGS KEY 3 SEC TO UNLOCK".
2. After 3 seconds, the display will beep confirming unlock.

AUG/30/2019
12:15AM



3. Press **SETTINGS** until you hear a beep.

TIME OF DAY
12:15AM



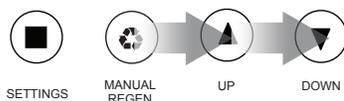
4. Now press **UP** or **DOWN** to change the hour value to current time.

TIME OF DAY
12:15AM



5. Press **SETTINGS** once to highlight the next value.

TIME OF DAY
12:15AM



6. Now press **UP** or **DOWN** to change the minute value to current time.

TIME OF DAY
12:15AM



7. Press **SETTINGS** once to highlight the next value.

TIME OF DAY
12:15PM



8. Now press **UP** or **DOWN** to change the AM/PM values to current time.

YEAR
2018



7. Press **SETTINGS** once to highlight the value.

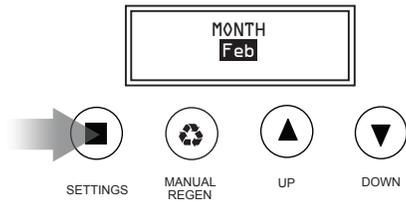
YEAR
2018



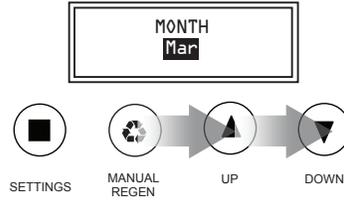
8. Now press **UP** or **DOWN** to change the YEAR value to current year.

START-UP & PROGRAMMING (CONTINUED)

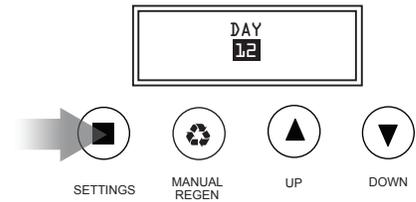
PROGRAMMING: - CONTINUED



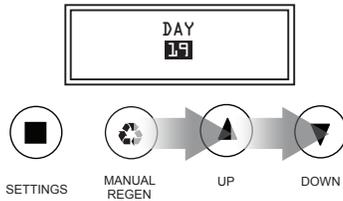
9. Press **SETTINGS** (■) once to highlight the current month.



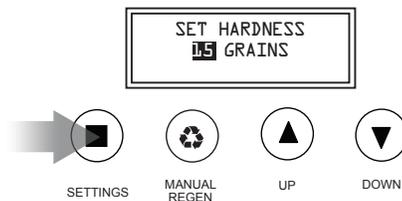
10. Now press **UP** (▲) or **DOWN** (▼) to change the MONTH value to desired month.



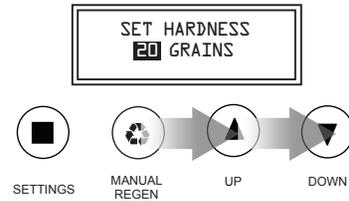
11. Press **SETTINGS** (■) once to highlight DAY #.



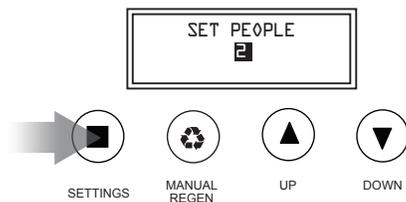
12. Now press **UP** (▲) or **DOWN** (▼) to change the DAY value to desired day.



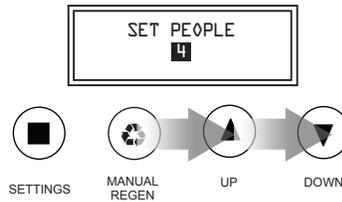
13. Press **SETTINGS** (■) once to highlight value.



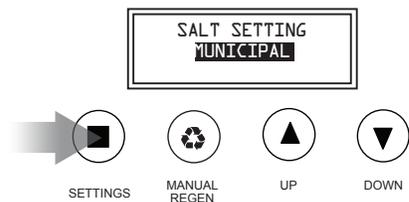
14. Now press **UP** (▲) or **DOWN** (▼) to change HARDNESS value.



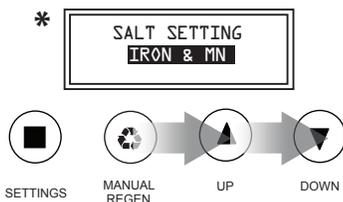
15. Press **SETTINGS** (■) once to highlight value.



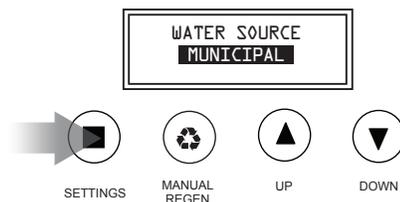
16. Now press **UP** (▲) or **DOWN** (▼) to change # of PEOPLE.



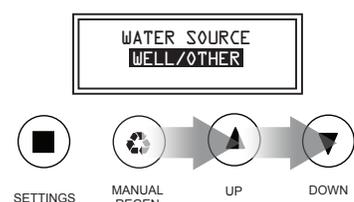
17. Press **SETTINGS** once to highlight salt setting



18. Now press **UP** (▲) or **DOWN** (▼) key to change **SALT SETTING*** value (See 'CHOOSING YOUR SALT SETTING' - pg. 16. For problem water set to **IRON & MN****)

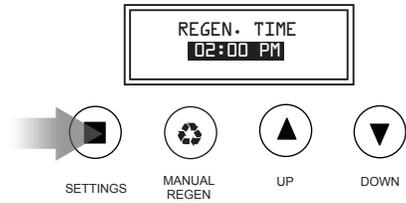


19. Press **SETTINGS** once to highlight Water Source

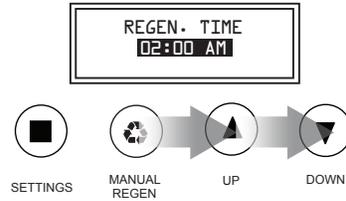


20. Now press **UP** (▲) or **DOWN** (▼) key to change **WATER SOURCE** value
For problem water set to **WELL/OTHER**
For clean, city water choose **Municipal**.

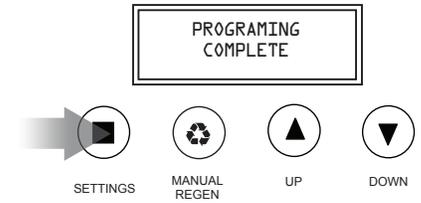
START-UP & PROGRAMMING (CONTINUED)



21. Press **SETTINGS** (■) once to highlight value.



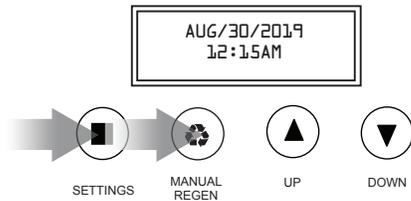
22. Now press **UP** (▲) or **DOWN** (▼) keys to change REGEN. TIME.



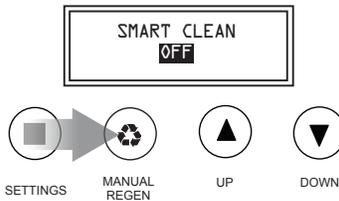
21. Press **SETTINGS** (■) once to COMPLETE PROGRAMING.

SETTING SMART CLEAN (For models after August 2019)

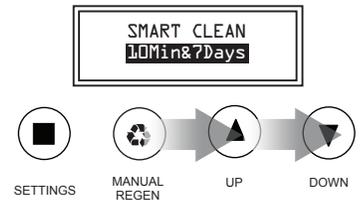
Smart Clean can be selected if you want to automatically have the system perform a short backwash and rinse cycle after 7 days of non-use. This helps prevent bacteria growth from stagnant water. This mode is also recommended for filters as certain types of filter media can 'cement' or harden during long periods of non-use. If you are concerned about the extra water usage then turn vacation mode off.



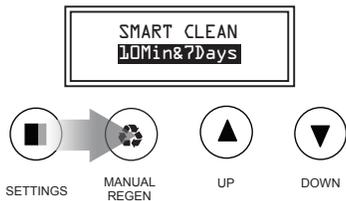
1. To set SMART CLEAN, press & hold **SETTINGS** (■) and **MANUAL REGEN** (♻️) until you hear a beep.



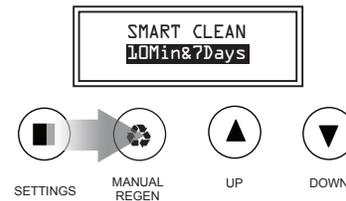
2. Press **MANUAL REGEN** (♻️) until SMART CLEAN setting appears.



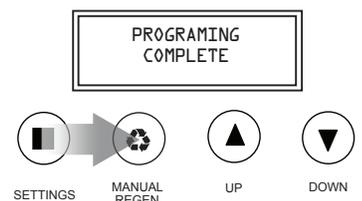
3. Now press **UP** (▲) or **DOWN** (▼) keys to enter Minutes & Days setting.



4. Press **MANUAL REGEN** (♻️) to enter minutes setting. Now press **UP** (▲) or **DOWN** (▼) to change Minutes.



4. Press **MANUAL REGEN** (♻️) to enter Days setting. Now press **UP** (▲) or **DOWN** (▼) to change Days.



4. Press **MANUAL REGEN** (♻️) once to **COMPLETE PROGRAMING**.

*CHOOSING YOUR SALT SETTING

Choose ***HIGH EFFICIENCY** to minimize salt usage. Your system will regenerate a little more often but your salt usage can be reduced by 20% compared to the **STANDARD** setting.

Choose **STANDARD** when you need to maximize your capacity but still operate the system with good efficiency.

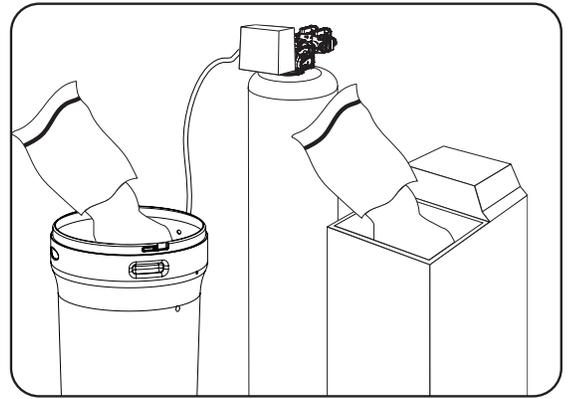
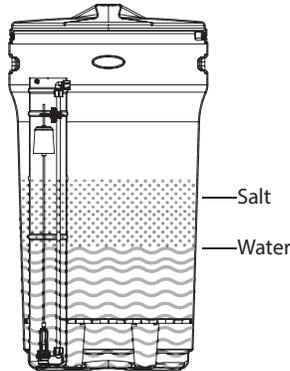
Choose ****IRON & MN** if you have problem water containing Iron, Manganese or hardness in excess of 50 gpg. The high salt setting will be needed since these minerals are more difficult to clean out of the resin bed. Note: A resin cleaner will also need to be periodically added to the brine tank to insure proper operation.

See **Maintenance Section**.

START-UP & PROGRAMMING (CONTINUED)

*Add Salt to the Brine Tank/ Cabinet

Put 40 kgs of crystal water conditioner salt in the brine tank. The unit will automatically fill the water to the correct level when it regenerates.



**Start-up and
programming
complete.**

**Unit is now
operational.**

***NOTE**

RESIN CLEANER

An approved resin cleaner **MUST** be used on a regular basis if your water supply contains iron.

See page 20 - Res-Up® Feeder Installation Instructions

NOTE

NEW SOUNDS

You may notice new sounds as your water conditioner operates. The regeneration cycle lasts approximately 1.5 hours to 3.0 hours depending on the specific model. During this time, you will hear water running intermittently to the drain.

PLUMBING SYSTEM CLEAN-UP

The following procedures are guidelines only but have proven successful in most instances. Under no circumstances should any procedure outlined below be followed if contrary to the appliance manufacturer's instructions. Should there be any questions concerning the advisability of performing a procedure, it is strongly recommended the manufacturer's authorized service outlet be consulted prior to performing the procedure.

Water Heater

If the water heater has been exposed to both iron and hardness for a long period of time, replacement of the heater tank maybe the only practical solution to prevent continued staining originating from this source. After completing the installation of the conditioner, clean the water heater by following these instructions:

1. Shut off energy supply to water heater and close heater inlet water valve.
2. Drain hot water tank completely. Open inlet water valve allowing heater tank to be refilled with iron-free water. Continue flushing until water runs clear to drain.
3. If, after approximately 30 minutes flushing, water does NOT clear, terminate flushing operation. Refill hot water heater with water and pour approximately 1/2 gallon of household bleach into top of heater tank. Allow bleach solution to stand in tank for 20 to 30 minutes. Flush tank.
4. Turn energy supply back on.

NOTE

If water does not clear in approximately 10 minutes, water heater should probably be replaced.

Dishwasher

Dishwashers may have scale build up due to prolonged exposure to hard water effecting the factory rated performance.

Toilet Flush Tanks

Pour 4 to 6 ounces of resin mineral cleaner Pro-Rust Out or other suitable cleaner that contains a mild acid, such as CLR, into flush tanks and bowls and let stand. When installation is completed, flush toilets several times with conditioned water. If stains or deposits return check that lines are connected to treated water. Repeat procedure until water is clear at drain.

MAINTENANCE INSTRUCTIONS AND SCHEDULE

Service Schedule

- The seals and spacers along with the piston assembly should be inspected/cleaned or replaced annually or as required depending on the inlet water quality and water usage. See inspection and replacement of **Piston Assembly and Seal and Spacer Kit in Maintenance Guide section.**
- The injectors should be cleaned/inspected or replaced annually or as required depending on the water quality and use. See **Clean Injector Assembly in Maintenance Guide section.**
- Your inlet water quality and water consumption will determine how often the media should be replenished or replaced. Check with your water treatment expert on the media bed change frequency.
- Maintenance Kit (60010565) should be used for servicing control valve on an annual basis or as required. The maintenance kit consists of piston assembly, seals and spacers, injectors.

Maintenance of your new water conditioner requires very little time or effort but it is essential. Regular maintenance will ensure many years of efficient and trouble-free operation.

Care of Your Conditioner

To retain the attractive appearance of your new water conditioner, occasionally clean it with a mild soap solution. Do not use abrasive cleaners, ammonia or solvents. Never subject your conditioner to freezing or to temperatures above 43°C (110°F).

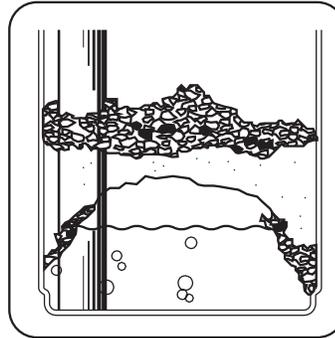
FAILURE TO FOLLOW MAINTENANCE INSTRUCTIONS AND SCHEDULE WILL RESULT IN THE UNIT FAILING TO OPERATE PROPERLY AND VOID

YOUR WARRANTY.

Bridging

Humidity or the wrong type of salt may create a cavity between the water and the salt. This action, known as “bridging”, prevents the brine solution from being made, and prevents your water from being softened.

If you suspect salt bridging, carefully pound on the outside of the plastic brine tank or pour some warm water over the salt to break up the bridge. This should always be followed by allowing the unit to use up any remaining salt and then thoroughly cleaning out the brine tank. Allow four hours to produce a brine solution, then manually regenerate the conditioner .



CAUTION!

Liquid brine will irritate eyes, skin and open wounds - gently wash exposed area with fresh water. Keep children away from your water conditioner.

Cleaning of your Brine / Salt tank

Salt tanks will build up sludge (undissolved salt) in the bottom of them that will continue to increase as time goes by. Every 2 - 3 years the salt tank should be cleaned out completely and restarted using the original start-up instructions.

Checking the Salt Level

Check the salt level regularly. Remove the lid from the cabinet or brine tank, make sure salt level is always above the brine (water) level.

Adding Salt to the Brine Tank/Cabinet

Use only clean salt labeled for water conditioner use, such as crystal, pellet, nugget, button or solar. The use of rock salt is discouraged because it contains insoluble silt and sand which build up in the brine tank and can cause problems with the system's operation. Add the salt directly to the tank, filling no higher than the top of the brine well.

NOTE : THE SALT LEVEL SHOULD ALWAYS BE ABOVE THE WATER LEVEL AT ALL TIMES.

CAUTION!

Incorrect start-up, water above the salt level (not enough salt in tank) will affect the units capacity and result in hardness slippage. Should either of these situations happen, or the unit fails to regenerate for any other reason, please first correct the problem. Then regenerate the unit manually two times in a row to restore the reserve capacity and bring the media bed back up to specification.

MAINTENANCE INSTRUCTIONS AND SCHEDULE

Resin Cleaner

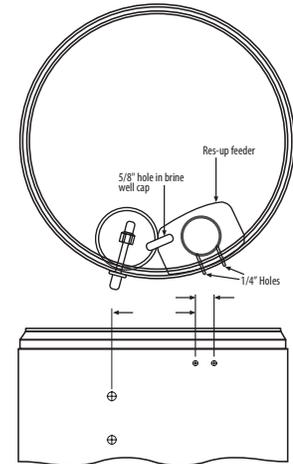
An approved resin cleaner **MUST** be used on a regular basis if your water supply contains iron. The amount of resin cleaner and frequency of use is determined by the quantity of iron in your water (consult your local representative or follow the directions on the resin cleaner package).

AUTOMATIC RESIN CLEANER SOLUTION FEEDER INSTALLATION INSTRUCTIONS (OPTIONAL)

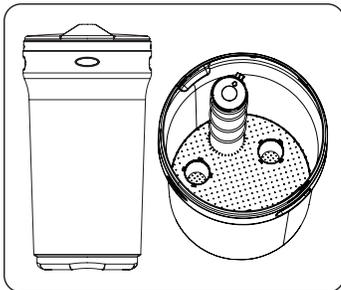
Res-Up Feeders attach to your brine tank and automatically dispense the Res-Up cleaner into the brine solution where it cleans the resin during the regeneration cycle.

The feeder hooks onto the inside of your brine tank and feeds cleaning solution into your brine well. You must maintain the level of cleaner in the feeder for proper operation. A Res-Up feeder is essential if your raw water contains measurable amounts of iron.

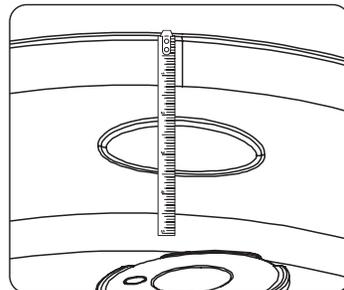
Res-Up Feeder Bottle (Chemical sold Separately)
The 12 cc feeder (Part # 33010) is for conditioners up to 64,000 grains (2 ft3 of resin).
The 30 cc feeder (Part # 33018) is for larger conditioners over 64,000 grains.
Pro-Res Care Chemicals
Item #45147 Pro-ResCare - Gallon
Item #45148 Pro-ResCare - Quart



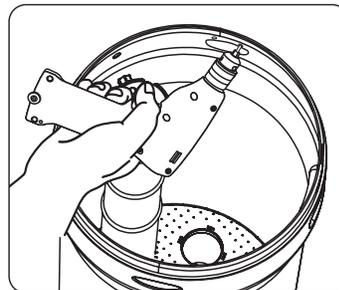
Installing a Res-Up Feeder



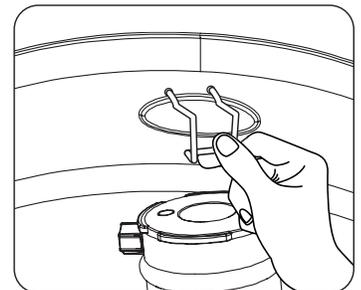
1. Install the grid and brine well inside the tank.



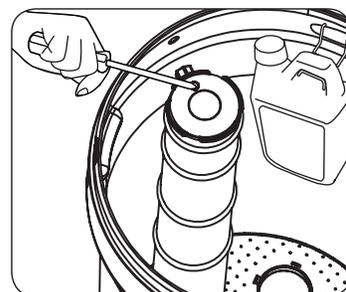
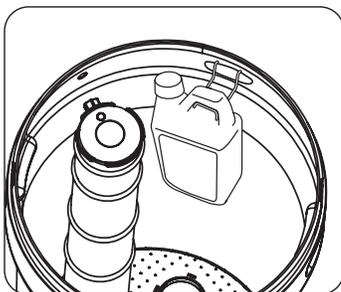
2. Measure 2 inches from the top of the tank beside the oblong molding.



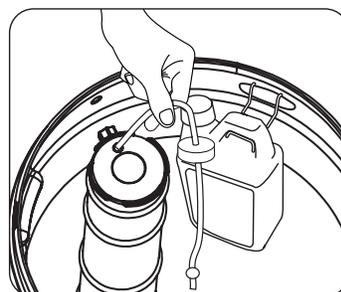
3. Mark the location of the holder and drill.



4. Install the holder and the Res Care Solution



5. Take off the small hole cover on the Brine Well lid.

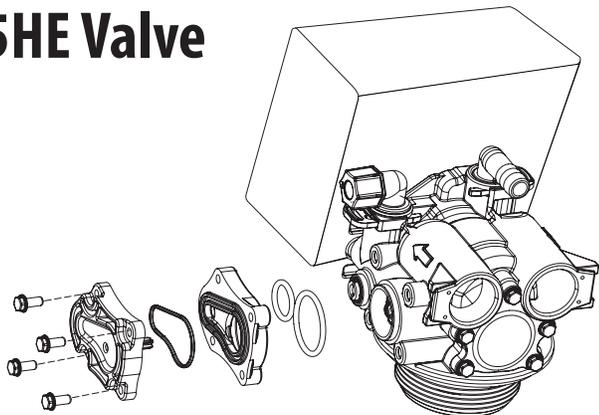


6. Take off the cover of the Res Care bottle. Insert the wick, making sure it touches the bottom of the bottle. Insert the other end of the tube completely into the hole in the brine well cap. Automatic feeding will start in a few hours.

PROBLEM WATER INJECTOR KIT

IMPORTANT! If the water source this water softener is being applied on is not municipal water and contains up to 1.5 mg/l/ppm of ferrous (Clear Water) iron and/or up to .75 mg/l/ppm of manganese, the enclosed **Problem Water Injector Kit** needs to be installed into the control valve following these instructions. You will need to make **3 programming changes**. In the main user settings: **1. Salt Setting** set to Iron/MN. **2. Water Source** set to Well/Other. **3. Iron & MN capacity** requires additional adjustments see instructions below. **FAILURE TO DO THIS WILL RESULT IN UNSATISFACTORY OPERATION OF THIS EQUIPMENT AND VOID ANY IMPLIED PERFORMANCE WARRANTY.**

85HE Valve

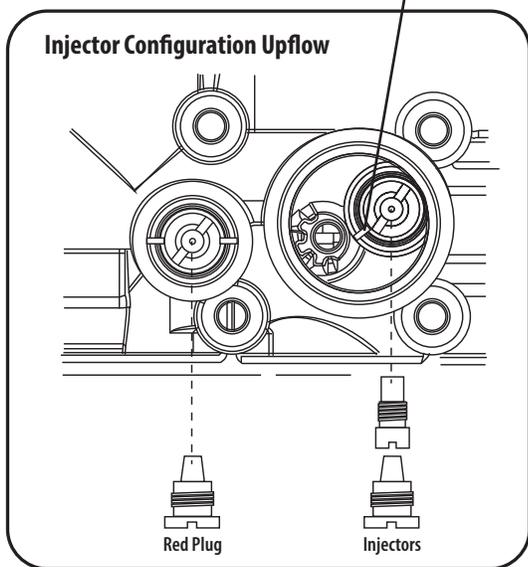


Replace injectors with correct number and color corresponding to your equipment size.

***NOTE:** Remember to properly lubricate ALL O Rings with Silicone Lubricant - supplied.

Size Ft ³	Color
75	#1 WHITE
100	#1 WHITE
150	#1 WHITE
200	#2 BLUE
250	#2 BLUE
300	#3 YELLOW

IMPORTANT
The injector cage must be lined up and inserted properly to avoid crushing when the injector cap is re-installed. Markings on the cage and valve body must line up.



CAUTION!
DO NOT over tighten injectors. Snug tight only.

Programming Change Required

Change the iron/MN capacity settings in the second level programming from 2,500 grains per pound of salt to 2,100 grains per pound of salt.

PRESS SETTINGS KEY
3 SEC TO UNLOCK

CODE: 100



- The display will read "PRESS SETTINGS KEY 3 SEC TO UNLOCK".
- After 3 seconds, the display will beep confirming unlock.
- Press & hold **DOWN** (triangle down).
- Enter code 100 using **UP** (triangle up). Press **MANUAL REGEN** three times to accept code.

IRON & MN
2100 GRAINS



- Press **MANUAL REGEN** to advance past IRON & MN LBS to IRON & MN GRAINS.
- Press **DOWN** (triangle down) to change 2500 to 2100. Press **MANUAL REGEN** until past PROGRAMMING COMPLETE.

SALT SETTING
IRON & MN

WATER SOURCE
MUNICIPAL



- Now press **UP** (triangle up) or **DOWN** (triangle down) to change **SALT SETTING** value for problem water set to **IRON & MN**
- For problem water set to **WELL/OTHER**

WATER SOURCE
WELL/OTHER



- Now press **UP** (triangle up) or **DOWN** (triangle down) to change **WATER SOURCE** value for problem water set to **WELL/OTHER**

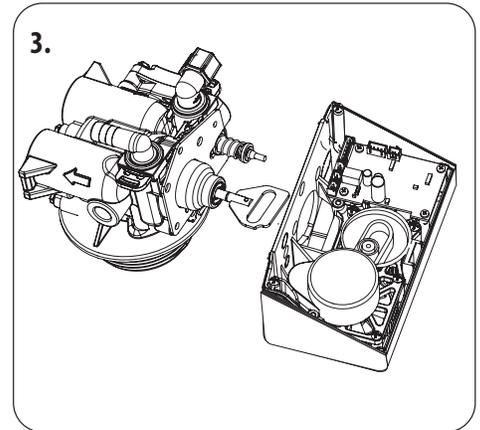
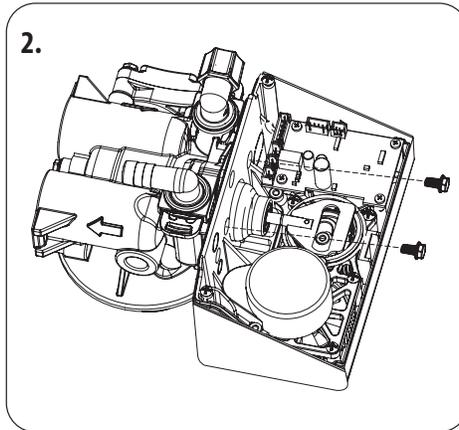
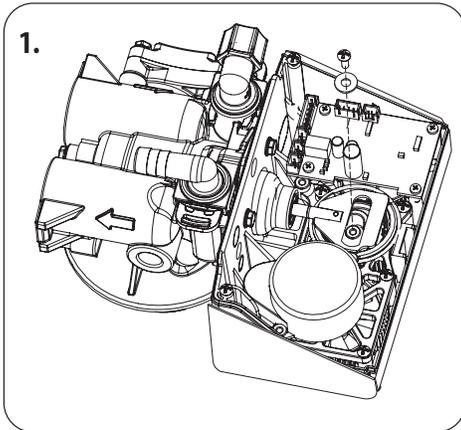
IMPORTANT
This change is necessary to compensate for the injector conversion

TROUBLESHOOTING GUIDE

Problem	Possible Solutions
<p>** IMPORTANT ** Before attempting any troubleshooting, be sure to test the water or have the water tested. The tests should include the raw water, the hot treated water, and the cold treated water.</p>	
<p>Delivers untreated water</p>	<p>Bypass is closed sending raw water past the unit - Return bypass valve to the open position to service the home - See 'Manual Water Bypass'</p>
	<p>Bypass loop in the homes plumbing - Close outlet valve only on conditioner bypass, open nearest conditioned water line. If no water flow, then there is not a bypass in the plumbing. If there is water flow, then there is a hidden bypass in the plumbing (contact plumber).</p>
	<p>No salt or low salt level - Fill salt to above the water level in the salt tank. Low salt will affect the conditioners capacity. - See 'Maintenance'</p>
	<p>Not programmed correctly for current application - Verify programming is set to correct hardness level and amount of people in the home (if necessary). - See 'Start Up and Programming'</p>
<p>Excessive water in the salt tank</p>	<p>Refer to Maintenance, Cleaning the Injectors and Cleaning the Salt Tank</p>
<p>Not regenerating automatically, not metering water flow</p>	<p>Check diagnostics for last regeneration - See How Your Conditioner Works Open nearest conditioned water outlet and check if gallons is counting down on meter. If not metering - Contact an authorized service representative.</p>
<p>Not using salt</p>	<p>Injectors or injector screen plugged - Clean and/or replace injectors and screen - See 'Maintenance' Salt Bridged in salt tank - See 'Maintenance'</p>
<p>Not regenerating automatically - Alarms</p>	<p>Caused by a power outage or brown out during regeneration – unplug power for 30 seconds then re-connect if alarm continues - Contact your dealer if necessary.</p>
<p>Unit regenerates but does not use salt</p>	<p>Clean and or replace injectors - See 'Maintenance'</p>
	<p>Drain line flow control is plugged – Clean drain line flow control to ensure there are no kinks, or restrictions in the drain line.</p>
<p>Using too much salt or more salt than expected</p>	<p>Check programming – Is the unit set properly for salt efficiency, is the programming correct for hardness and people - See 'Start Up and Programming'</p>
<p>Alarms after regeneration</p>	<p>Caused by a power outage or brown out during regeneration – unplug power for 30 seconds then reconnect if alarm continues - Contact an authorized service representative.</p>
	<p>Corroded or damaged rear circuit – replace circuit. Contact authorized service representative.</p>
<p>Discolored water</p>	<p>Result of city / town supply being contaminated – check with local authority to see if there has been water main activity in your area. If there has been, manually regenerate the unit a couple of times in a row to clear the color. If there hasn't been, Contact an authorized service representative.</p>
<p>Discolored water</p>	<p>Iron Bleed through – if there are small amounts of iron in your raw water supply eventually it will build up in the resin and could result in bleed through. – review settings to compensate for iron in the water - See 'Start Up and Programming' - Contact your dealer or local plumbing supply store to obtain an approved resin cleaner. Use resin cleaner to clean the resin as directed. For permanent maintenance if required add in an automatic feeder - See Automatic Resin Cleaner Solution Feeder</p>
<p>Excessive pressure loss</p>	<p>Check unit specifications - peak or continuous service flow rates maybe exceeding capacity causing the unit to be restrictive due to size - See 'Unit Specifications' - Contact authorized service representative if necessary.</p>

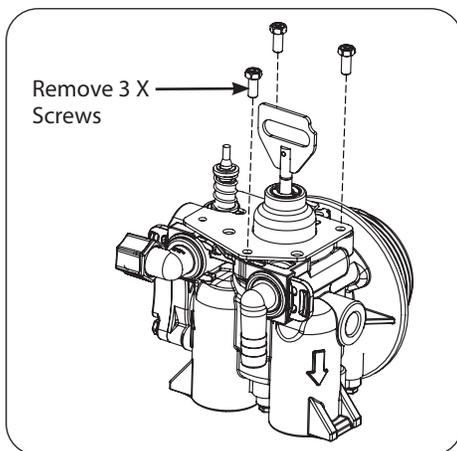
MAINTENANCE GUIDE

TIMER REMOVAL

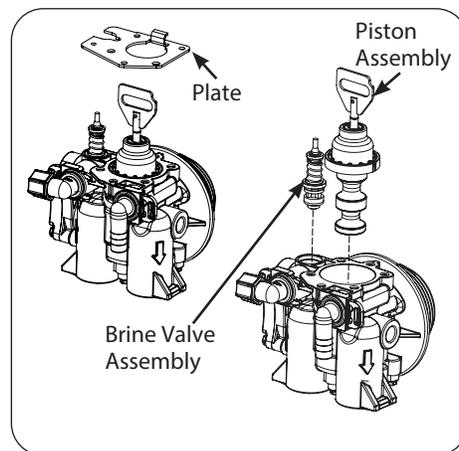


1. Remove screw & washer from piston rod link
2. Remove 2 bolts securing powerhead to body
3. Remove powerhead from body

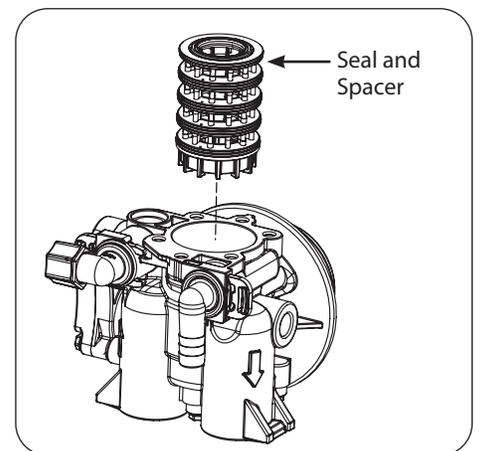
INSPECTION AND REPLACEMENT OF PISTON ASSEMBLY AND SEAL AND SPACER KIT



1. Follow steps 1 to 3 of Timer Removal above.
2. Remove three screws from the plate on the valve body.



3. Remove the plate from the valve body and pull the Piston Assembly from the valve. The brine valve assembly can also be removed in this stage.
4. Remove the seal spacer assembly, grease it with silicone lubricant (# 92360) and put back in.

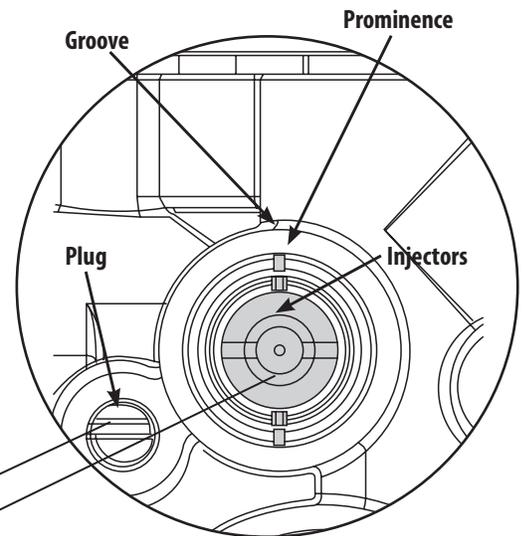
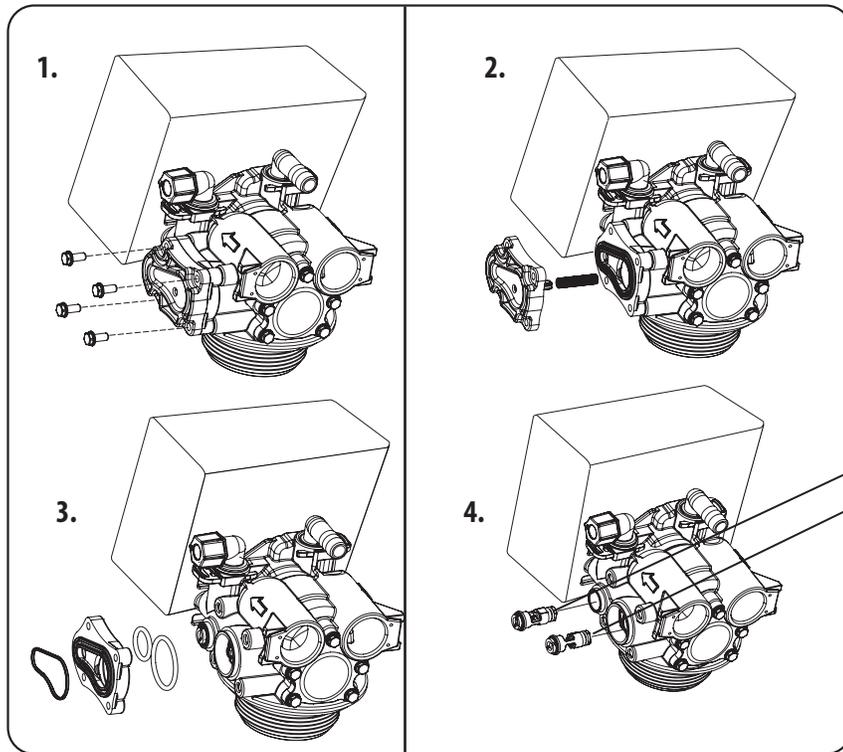


5. Replace piston assembly followed by timer assembly.
6. Replace the piston assembly and reverse following steps in this section

CAUTION!

DO NOT use petroleum based grease products.

CLEAN INJECTOR ASSEMBLY



PLEASE NOTE: Make sure the two prominences on the injector are aligned to the grooves on the valve body.

1. Remove four screws of the injector cap.
2. Pull the Injector Cap Out
3. Remove the injector assembly, oring and screen,
4. Clean the injectors and replace cap

IMPORTANT WARRANTY AND MAINTENANCE INFORMATION

Please have the information below filled out and available when calling in for parts or warranty:

Model number:
Serial number:
Valve Serial number:
Date installed:
Installed by:

Additional notes:

Toll Free: 1-877-288-9888
www.canaturewg.com