

PRODUCT AND INSTALLATION MANUAL

Softener Systems pH Decreasing

MODEL NUMBERS:

Ion-Exchange (Sodium or Potassium Chloride) or Salt Softening Systems:
for pH Decreasing

TT-PH-DN-1054, TT-PH-DN-1354



ENVIRONMENTAL WATER SYSTEMS®
Quality Water Filtration Crafted in the USA Since 1987.

WWW.EWSWATER.COM

Retain this Product & Installation Manual
for Helpful Information

Please Register Your System

Revised 12/01/2017 V: 1.7



SIMPLE STEPS FOR A CORRECT INSTALLATION AND A HAPPY CUSTOMER

1.

Set up system and install it on the main water supply, soft water loop or inlet to the water heater(s)

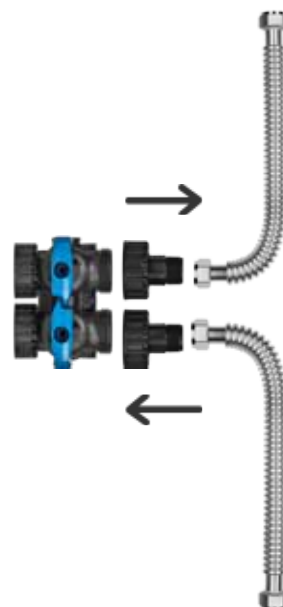
Page 6-7

2.

Use corrugated flexible stainless or some other flexible piping to make the plumbing connections

Page 8

2.

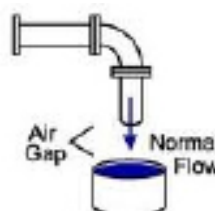


3.

Install a proper drain line with an air gap and connect the brine tank

Page 9 and 10

3.

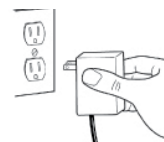


4.

Plug in the transformer into the back of the valve and into a standard outlet and set the time of day

Page 11-12

4.



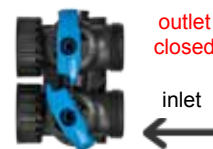
5.

Open inlet on the bypass slowly to fill the tank and begin the start up procedure

Page 13

WARNING: Never add salt until you are finished

5.



6.

Allow system to start itself up and go through regeneration cycles

Page 13-14



6.

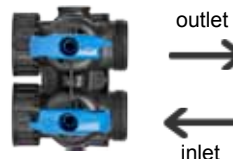


7.

Open outlet on the bypass and put system in service position add salt to the brine tank. Press cycle button and put the system into a full rengereneration.

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7.



Create Happy Customers
Avoid Problems and Callbacks



please see the great information available in this service manual

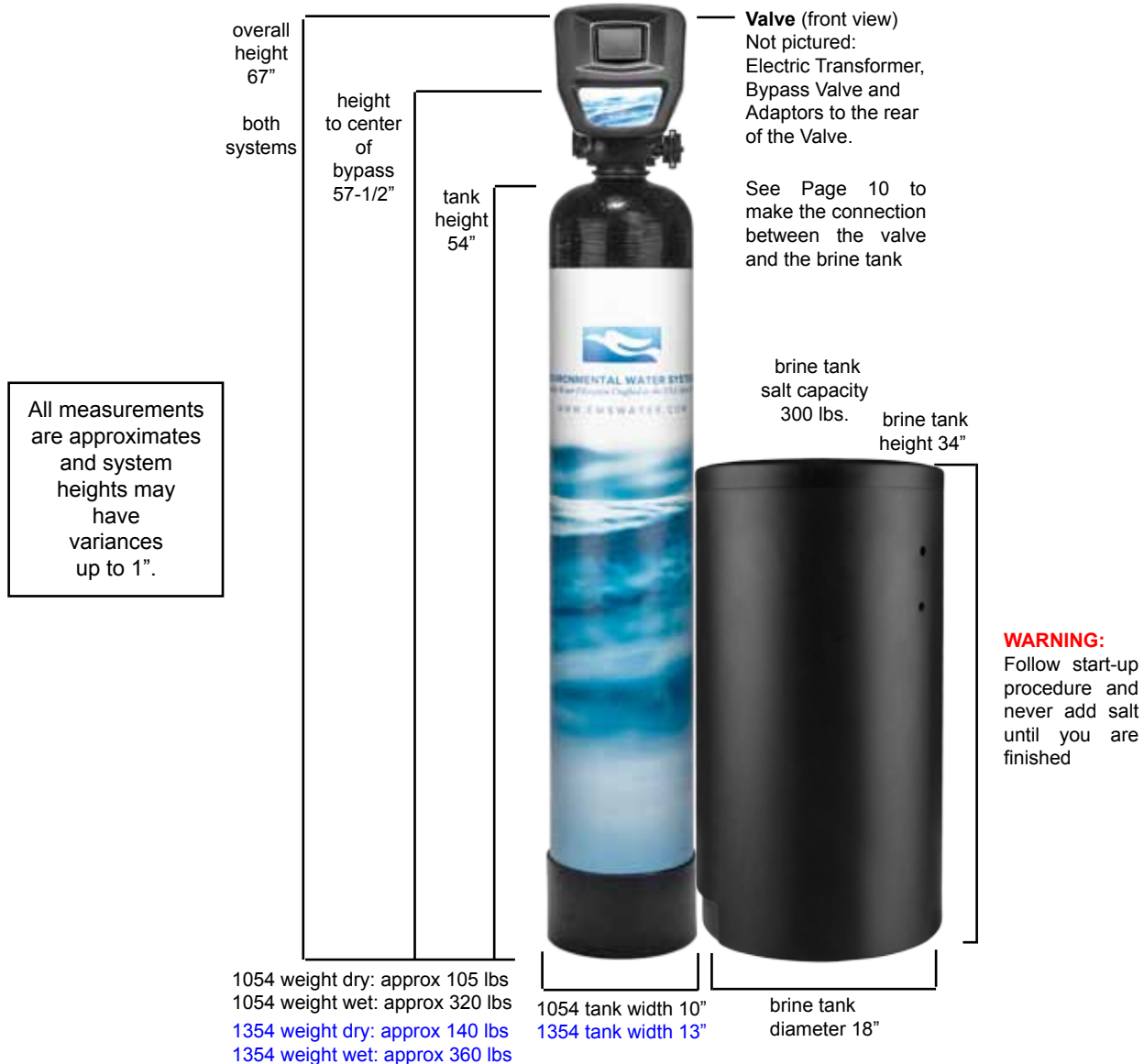
For Illustration Purposes Only:

Tank, valve and all contents (as pictured below) for these systems are delivered fully assembled*.
Brine tank, electric transformer, bypass, and supplied adaptors - some assembly required.

Pictured: TT-PH-DN-1054

Not pictured: TT-PH-DN-1354

depth: minimum 22" needed for proper installation



***Not Supplied:**

Due to variations in installations, length and sizing needed for pipe connections to and from the system (see flexible requirement) and drain line are not supplied

Flexible Connections Required:

Stainless steel corrugated water connectors, PEX or PVC Sch 40 have a flexible capability that may assist with issues where the rough and finish measurements are slightly off or where pressure surges/spikes or back pressure occur. This flexible connection may prevent tank and valve issues where rigid or hard pipe create problems over time. This is a requirement of the tank manufacturer and is stated on the label affixed to every tank. Perform all plumbing according to state or local codes.



Drain Line Air Gap Required and Spring Check Highly Recommended:

Please see information for proper drain line installation in the Product and Installation Guide

For Illustration Purposes Only:
Corrugated flexible stainless not supplied

Complete setup, install and startup of these systems can be found in this Product and Installation Guide

CAUTION: If installing other equipment in addition to this System - Contact customer service for proper order of installation

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For additional installation information and videos, troubleshooting and questions & answers - please visit www.ewswater.com
or email the EWS crew @ customerservice@ewswater.com or call us @ 702.256.8182
during normal business hours, Monday through Friday from 8am to 4:30pm pacific standard time

COMPLIANCES, CALIFORNIA COMPLIANCES, PRODUCT GUIDELINES, FACTORY PREPARATION,
PRODUCT PERFORMANCE AND GENERAL TERMS AND STANDARD CONDITIONS OF SALE ARE
AVAILABLE UPON REQUEST OR PUBLISHED ON WWW.EWSWATER.COM



CAUTION: Read and follow the information in this manual to minimize the risk of electric shock or personal injury.

IMPORTANT! If you are unsure about the installation of your system, contact EWS customer service or consult a professional plumber.

IMPORTANT! This system must be installed in compliance with applicable state and local codes, law, and regulations.

Instructions Before Using

Before beginning installation, read all instructions completely. Then obtain all the materials and tools needed for installation. Handle all components of the system with care. Do not drop, drag or turn components upside down.

WARNING: Failure to setup, install and startup the system correctly in any manner voids the warranty.

CONNECTIONS: Perform installation according to state and local plumbing codes.

REQUIRED: Use of flexible stainless steel connections is required (as code applicable) to connect unit to water supply. Allows flexibility for tank expansion under pressure (see installation section in this manual).

WARNING: Use of teflon tape is the only sealant to be used on threaded drain and adaptor connections. Do not use pipe dope or pipe joint compound.

EXISTING PLUMBING: Condition of existing plumbing should be free of lime &/or iron buildup. Pipe(s) and/or water heaters should be replaced if any heavy buildup exists. Pre-existing conditions will effect the performance of this system.

ELECTRICAL: All Systems in this guide (USA versions) use 24 volt transformer for electrical power. Always use the supplied power cord and transformer. Plug power cord into a 110/115/120 volt, grounded and unswitched outlet. If outside, follow code for protected outlet and GFI. Be sure electric outlet and transformer do not come in contact with water.

CAUTION: Plumber installed jumper between inlet and outlet connections may be required to maintain the plumbing system ground. Properly ground system to conform with all codes and ordinances.

INSTALLATION LOCATION:

- Install system in a protected area.
- Always connect the system to the main water supply pipe feeding the entire home before the water heater(s).
- Do not install in direct sunlight. Heat from sun may cause damage. Protect from sun, rain, wind, etc.
- See "Where to Install the System" on page 6 of this manual for complete information.

WATER TEMPERATURE:

WARNING: Any water over 110°F, thermal expansion of any water heater or where any hot or heated water comes back or flows through the system over 110°F at any time voids the warranty. Do not expose system to freezing temperatures which causes equipment damage and voids the warranty.

PRESSURE: Minimum inlet water pressure is 20 psi. Maximum inlet water pressure is 75 psi. Use (PRV) pressure reducing valve if necessary to prevent high pressure and problem pressure surges above 75 psi.

WARNING: Pressure exceeding, surging or spiking above 75 psi or any negative pressure voids the warranty.



CAUTION:

- Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection. Well water needs to be properly and completely tested before the specification of any filtration and treatment system(s).
- Test water periodically to verify that the system is performing satisfactorily.

UNPACKING AND INSPECTION - Check the system components for damage or missing parts.

WHERE TO INSTALL THE SYSTEM

- Place system on the main water supply, soft water loop or inlet to the water heater(s) in order to soften water based on preference or need.
- Place the system where you want to install the unit. Whether inside or outside, make sure the unit is level and on a firm base.
- A standard grounded and unswitched 110/115/120v electrical outlet is needed to plug in the transformer. If outlet is over 9 feet away use 18 gauge extension cord to connect up to 100 feet away. Do not exceed 100 feet. Do not cut or splice original equipment.
- Do not install the system where it would block access to the water heater, or access to the main water shutoff, water meter, or electrical panels. Always connect the system prior to the water heater(s).
- Install the system in a place where damage is least likely to occur if any unforeseeable issue arises. System should be in an accessible location and be visible in order to visually monitor system and routinely check clock operation and valve controls.

CAUTION: Installing other equipment in addition to this System? Softeners (if applicable) always go after the filtration system. Any questions? Please contact EWS for proper order of installation.

WARNING: Softeners use sodium or potassium chloride (salts) and product water may cause warranty issues with appliances, fixtures, finishes, pools, spas and heaters.
Softeners may be banned or restricted from usage due to the brine discharge. Local codes may apply.

DRAIN LOCATION

- Place the system as close as possible to a vented sewer drain with a "P" trap or some other drain location.
- *Highly Recommended:* Install a non-restrictive spring check valve in drain line within the first 2' of the drain port to prevent possible back flow. (see below when a non-restrictive spring check valve is required)

REQUIRED: Air gap with proper ventilation is a requirement. Similar to any washing machine, this system must have a minimum of a 1" air gap on the drain to prevent back flow of drain water or gases into the system

REQUIRED: Expand drain line to 1" ID and install a non-restrictive spring check valve in drain line within the first 2' of the drain port if drain line exceeds 20' in total length, or drain line flows over 5' above the height of the drain port, or if drain line is being routed outside.

CAUTION: Never install drain line smaller than 3/4" in diameter. Never restrict drain line or drain water flow.

WARNING: Due to softener brine discharge never drain outside to plants or property.
Softeners may be banned or restricted from usage due to the brine discharge. Local codes may apply.
Brine discharge may be harmful to septic systems. Check with your local provider

OUTSIDE INSTALLATION

- Install the system where it will not be exposed to direct sunlight or subject to temperatures outside of the limits stated in "Instructions Before Using" on Page 5 in this manual. The system is weather resistant but not weather-proof and it is a requirement to protect the system from outside elements and weather exposure.

- Follow all instructions found on Page 5 in this manual and all information, requirements, cautions and hints stated on this page.

■ **Helpful Hint to Protect your System:**

If an outside installation is preferable or needed, simply purchase an inexpensive plastic shed at a big box store that can be easily assembled on site and house the system. If applicable, insulation can be applied to reduce heat or cold. If applicable, holes can be made to run pipes, drain line and/or electrical. Any other method you choose is fine as long as the system is protected in a similar manner. Sorry, but nice plants, trees and shrubs are not a protection method.

WARNING: Do not bury any softener system, tank or brine tank.

WARNING: Due to softener brine discharge never drain outside to plants or property.
Softeners may be banned or restricted from usage due to the brine discharge. Local codes may apply.
Brine discharge may be harmful to septic systems. Check with your local provider

INSTALLATION

1. Turn off gas or electric supply to the water heater(s).
2. Turn off the main water supply.
3. Open a hot and cold faucet to drain house water pipes.

NOTE: Keep those hot and cold faucets open until these instructions tell you to close. Keep bypass closed.

4. Move the assembled system into installation position and check that Valve is securely fastened to the Tank.

CAUTION: Factory assembly of Valve to Tank connection is performed according to specifications. However in transportation, delivery and movement to the installation position this connection may have loosened. It is important to make sure this connection is tight and if necessary hand-tighten only in a clockwise direction to ensure this connection.

NOTE: System has a self-leveling base which can compensate for any slight floor pitch. Refer to "Instructions Before Using" on page 5 and "Where To Install The System" on page 6.

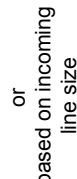
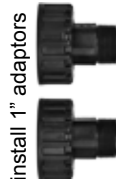
5. VALVE PARTS AND FINAL ASSEMBLY:

- a. Locate the Bypass Valve:
Connect Bypass to the Valve.

NOTE: Make sure blue levers are facing up and bypass is in the closed position



- b. Locate the 1" or 1-1/2" MNPT Adaptors:
Select the proper sized Adaptor for your incoming and outgoing water lines
Connect the Adaptors to the Bypass.



WARNING:
Always keep inlet and outlet of bypass closed until instructed to open

NOTE: The most common incoming main water line sizes are from 3/4" up to 1-1/4" where the 1" adaptor is a correct application. With an incoming line size of 1-1/2" (1-1/4" based on flow rate needs), select and use the larger 1-1/2" adaptor.

WARNING: All connections: Do not use pipe joint compound or pipe dope. Use Teflon tape only on all external pipe threads.

WARNING: All connections: Hand tighten only. Do not overtighten. Make sure o-ring and white retainer ring are in place.

CAUTION: All connections: Check that all surfaces are clean of any debris before inserting Bypass into the Valve and the Adaptors into the Bypass.

- c. Locate the Electric Transformer:
Connect Transformer to the Valve

NOTE: Input into the Valve is just like those used in computer laptops and many electronic devices.

The cord is represented in white for illustration purposes only



Locate the input jack on the lower right side or the drain side of the valve. A flashlight will help to find the input. Insert firmly and do not plug the other end into an outlet until instructed to do so towards the end of installation.



NOTE:

There should be no extra parts or boxes. Other than the adaptors you did not use, please make sure there are no extra parts or boxes lying around. Once filled with water correcting something can be a problem.

ok we are ready to make the plumbing connections

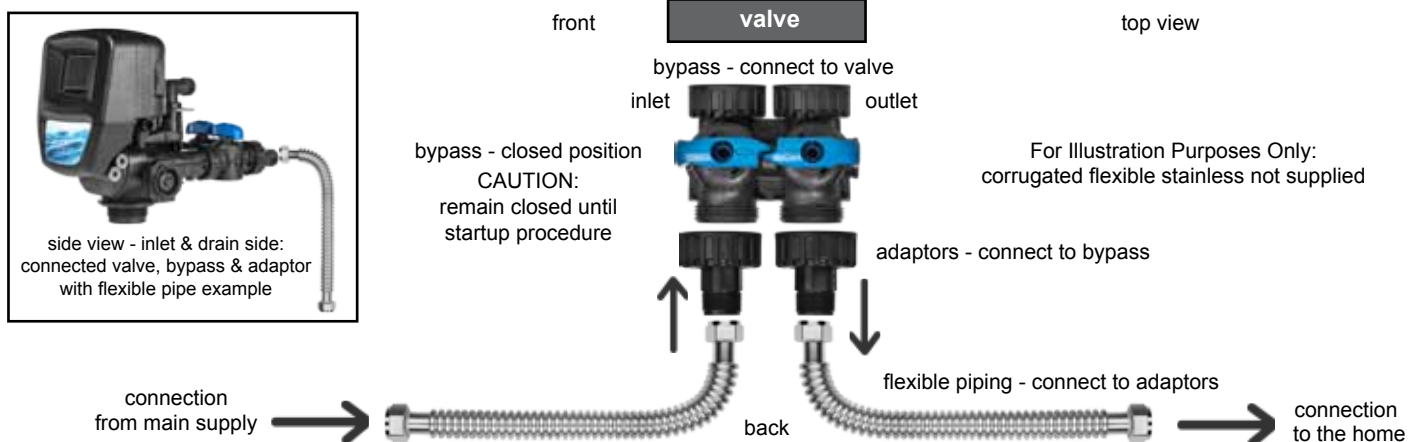
6. Locate water line or pipe to be cut and make sure of direction of water flow.

CAUTION: Do not cross-connect or plumb backwards. Make sure of the direction of water flow from cut pipe to be connected.

7. Plumb Inlet and Outlet Connections to and from the system.

REQUIRED: Use stainless steel corrugated flexible water connectors, PEX or PVC Sch 40 unless restricted by local plumbing code.

WARNING: Be sure the incoming water supply is connected to the inlet port of the valve.
Note: the valve and bypass are marked with arrows indicating the proper flow direction.



Stainless steel corrugated flexible water connectors, PEX or PVC Sch 40 have a flexible capability that will assist with the installation where the rough plumbing and finish measurements are slightly off.

WARNING: Do not force valve and bypass to meet the plumbing. This will cause stress between tank neck and valve connections which will result in leak issues under pressure.

WARNING: Do not use pipe joint compound or pipe dope. Use Teflon tape only on all external pipe threads.

CAUTION: Allow for a gentle curve when using flexible connections to avoid a rigid connection. Support inlet and outlet plumbing in some manner (use pipe hangers) to keep the weight off of the valve fittings.

CAUTION: An operating and maintained pressure reducing valve (PRV) may be required on the main water line and prior to the system to regulate pressure. If applicable, a check valve on the main supply before the system or a check valve on the outlet side of the the system (water heater will require expansion tank) to prevent backflow and excessive head pressure may be required. Location of system on the lowest or highest floor or where home is located at the bottom or top of a hill may create head pressure or pressure variances.

WARNING: Any pressure on the system exceeding, surging or spiking above 75 psi and any negative pressure due to vacuum break voids the warranty.



WARNING: If making a soldered copper installation, do all sweat soldering before connecting pipes to the bypass valve, adaptors or drain line. Torch heat will damage plastic parts.
EWS and tank manufacturer require use of stainless steel corrugated flexible water connectors.

WARNING: When turning threaded pipe fittings onto plastic fittings, use care not to cross-thread, strip threads and/or over-tighten.

WARNING: Use Teflon tape only on all external pipe threads. Do not use pipe joint compound or pipe dope.

CAUTION: Support inlet and outlet plumbing in some manner (use pipe hangers) to keep the weight off of the valve fittings.

A word about the proper installtion of a drain line. It appears simple, however if simple mistakes are made it can create many problems associated with this or any system. Please read the instructions below to avoid any issues.

8. Plumb rigid tubing only (PVC recommended if code applicable) directly to the 1" MNPT drain fitting.

NOTE: Make sure o-ring and grey clip are in place to secure drain fitting.
Drain adaptor can swivel.

WARNING: Do not use vinyl tubing or any hose type material and clamps for the drain line.

HINT: Install a union on the drain line in order make any service or need to disconnect easier in the future.



9. Connect and route the drain line to a vented sewer drain with a "P" trap or some other drain location. Installation with an air gap is required.

HIGHLY RECOMMENDED: Install a non-restrictive spring check valve in drain line within the first 2' of the drain port to prevent possible back flow. (see below when a non-restrictive spring check valve is required)

REQUIRED: Air gap with proper ventilation is a requirement.
Similar to any washing machine, this sytem must have a minumum of a 1" air gap on the drain to prevent back flow of drain water or gases into the system

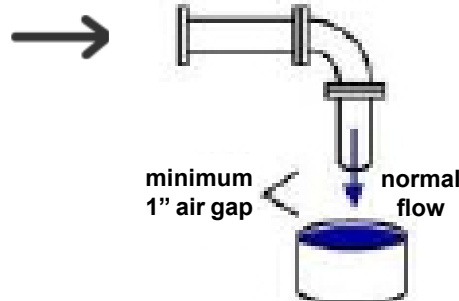
REQUIRED: If drain line exceeds 20' in total length, or drain line flows up over 5' above the height of the drain port, or if drain line is being routed outside, expand drain line to 1" ID *and* install a non-restrictive spring check valve in drain line within the first 2' of the drain port

CAUTION: Never install drain line smaller than 3/4" in diameter.
Never restrict drain line or drain water flow.

NOTE: Secure (clamp, tie or wire) installed drain line near drain point to prevent movement and avoid any possible water damage.

NOTE: If using a sink, floor drain or any other drain point, an air gap is required and the drain point needs to be capable of draining water away 2.4 gpm (bath tub) or up to 4 gpm (see drain fitting flow rates for all systems on page 18) for up to 20 minutes up to every 10 days to avoid water damage.

CAUTION: Ventilation, Attics and Crawl Spaces: Air gap and proper air flow and ventilation is necessary to prevent any back up or cross contamination into system. Be aware attics and crawl spaces can restrict air flow. Do not enclose or cover up drain point. It would be best if you can see the water flowing from the drain line into the drain point. (see illustration above)



INFORMATION FOR AN OUTSIDE DRAIN LINE:

WARNING: Due to softener brine discharge never drain outside to plants or property.

Brine discharge may be harmful to septic systems. Check with your local provider

Softeners may be banned or restricted from usage due to the brine discharge.
Local codes may apply.

WARNING:

FOLLOW START-UP PROCEDURE. NEVER ADD SALT UNTIL YOU ARE FINISHED.

- Place brine tank 6" from softener resin tank.
- Connect the safety brine assembly (see illustration) found in the brine tank to the 3/8" plastic compression (Jaco) fitting, then pass the tubing through the hole provided in the brine tank and connect to brass compression fitting on side of valve.

CAUTION: Make sure both connections are tight to prevent air in the brine line



WARNING:

Do not exceed connecting distance determined by the length of 3/8" OD poly tube provided.

- Install at barbed connection on brine tank side, minimum 5/8" OD tubing (not supplied) to a suitable drain.

WARNING:

This is a gravity fed tank drain, in any event that could cause an overflow of the brine tank.

NOTE:

All these systems use variable upflow brining. Regenerate only what you need which saves salt, saves amount of water in a brine discharge during regeneration and makes the system more efficient.

Unlike other softners - water level will only be about 1" to 2" on the bottom of the brine tank

RECOMMENDED:

Softener Salt - Sodaum Chloride

Potassium Chloride marketing:

If you think or heard this was a no-salt alternative, think again...! It is another salt.

It is more expensive, it still creates the environmentally unfriendly brine discharge and oxygen starving algae blooms in water and there is a physican's warning statement on the bag based on your health issues.

WARNING:

Potassium Chloride may clog the brine injectors sooner and more frequently and can create more bricking of the brine tank then regular sodium chloride.

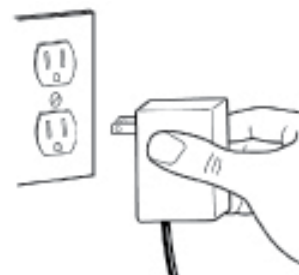
WARNING:

FOLLOW START-UP PROCEDURE.
NEVER ADD SALT UNTIL YOU ARE FINISHED.

INSTALL ELECTRICAL CONNECTION

10. Connect electrical power by plugging the transformer into a standard grounded and unswitched 110/115/120v electrical outlet.
- If outlet is over 9 feet away use 18 gauge extension cord to connect up to 100 feet away. Do not exceed 100 feet. Do not cut or splice original equipment.

If you haven't already done so from Page 7, 5c. Plug outlet from transformer into the input on the valve. The input is in a protected area to avoid any damage from water. See input location on the valve on Page 7



NOTE: POWER CONSUMPTION Power consumption is that of a radio alarm clock or a doorbell.

CAUTION: If the home's plumbing system is copper (or any metal) then it may be necessary to install a jumper. Install a jumper between the incoming and outgoing pipes before and after the flexible stainless connections to maintain the continuity of the systems' ground. Properly ground system to conform with all codes and ordinances.

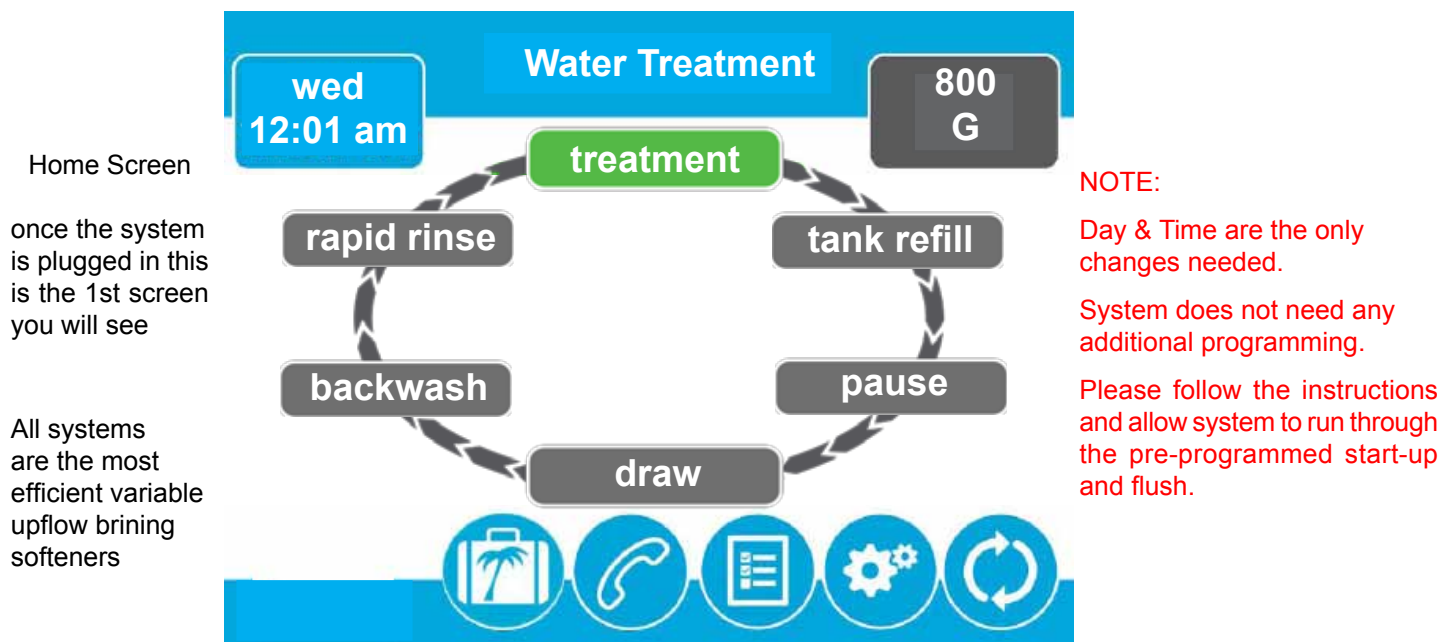
touch screen home page and what you see when the system is on

When system is plugged in the screen will light up and both the upper right and left boxes will be blinking.

NOTE: Do not worry this is normal and they will stop blinking once the time is set (left) and the system is run through the start up (right).

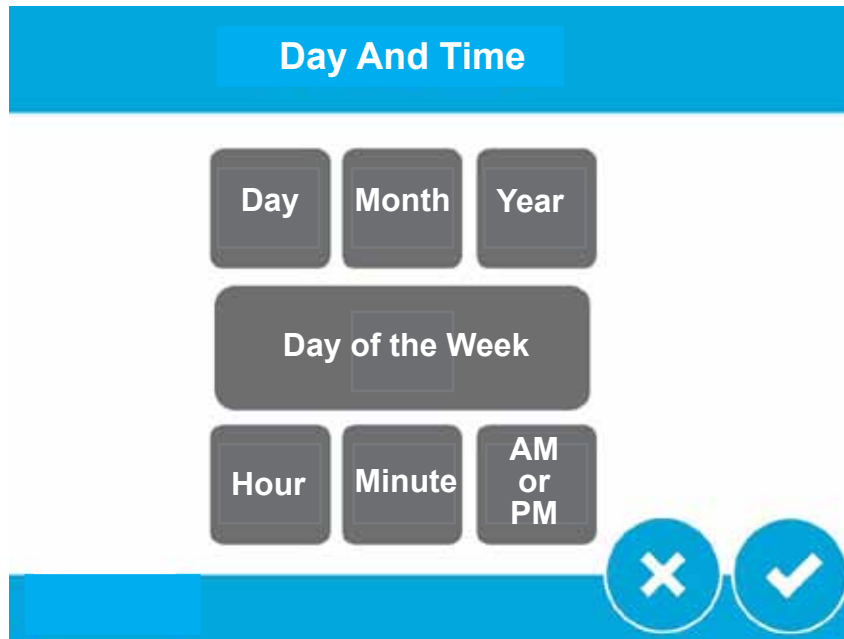
NOTE: Similar to any smart phone you must be directly in front of the screen to see. Taller units may require a step ladder to see the screen properly.

Press and hold the screen briefly so the screen reads your touch properly. Just like a new smart phone, it may take a moment to adjust to the screen.



ok, lets, set the clock

11. Touch the box in the upper left hand corner where a day & time are blinking.
The Day And Time screen will appear






NOTE:

Day & Time are the only changes needed.

System does not need any additional programming.

Please follow the instructions and allow system to run through the pre-programmed start-up and flush.

- | | |
|--|--|
| Touch the Day button. | Using the down  or up  arrows adjust to the correct day |
| Touch the Month button | Using the arrows adjust to the correct month |
| Touch the Year button | Using the arrows adjust to the correct year |
| Note: Day of the Week will adjust automatically | |
| Touch the Hour button | Using the arrows adjust to the correct hour |
| Touch the Minute button | Using the arrows adjust to the correct minute |
| Touch the AM or PM button | Using the arrows adjust to the correct am or pm setting |
| Press the Check Mark in the lower right corner  | and return to the home screen |

CLEAR THE PLUMBING LINES AND CONNECTIONS

12. **1** - Keep the inlet and outlet closed to and from the system
2 - Turn on main water supply
3 - Go to a tub (best) or the nearest faucet, remove aerator and run water through the plumbing system and through your plumbing connections before opening the inlet to the system or beginning the start up procedure
4 - Now that lines have been cleared, shut off water to the tub or faucet and follow start up procedures

CAUTION:

Debris may be present in the lines from closing and opening the main supply or from plumbing connections made prior the system. We want to prevent any debris from entering the valve and causing damage to the piston, spacers and seals. **

** Debris in the valve can cause a leak to the drain (similar to a leak in a faucet or shower valve where the water does not shut off completely) which can require additional service or the purchase of new parts.

now it's time to fill the tank and flush the system

start up procedure - fill the tank and flush the system

13

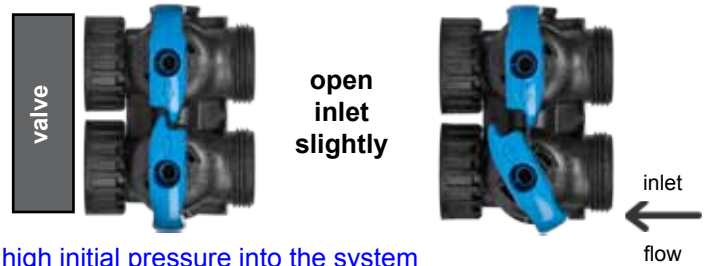
WARNING: FOLLOW START-UP PROCEDURE. NEVER ADD SALT UNTIL YOU ARE FINISHED.

FILL THE TANK - SLOWLY

13. Main water supply is open, plumbing lines have been flushed and tub or faucet is closed (Step #12)

Open the inlet **SLIGHTLY** on the bypass as shown

CAUTION: Open slowly to prevent rapid flow and high initial pressure into the system



START UP TO FLUSH THE SYSTEM

14. Press the **Cycle** button in the lower right corner.



Screen will change

Press the now button

now



Regeneration

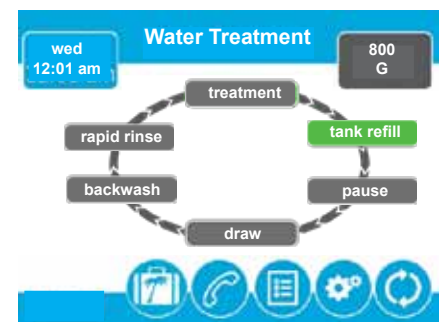
now

at regen time



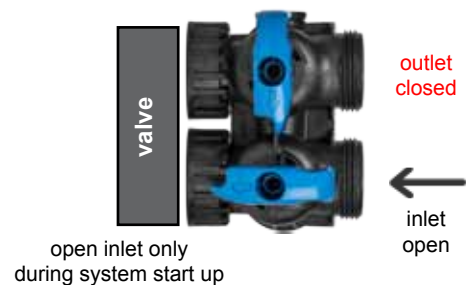
Screen will read **tank fill** in green box

tank refill



15. **OPEN THE INLET ON THE BYPASS SLOWLY** (inlet into the open position)

NOTE: This cycle allows air to be purged from system while initially filling the tank



check the system regeneration and you are almost done

Keep the inlet to the bypass open and make sure the outlet is still closed
Allow the system to start up and go through the regeneration cycles:

16. Check to see if water is entering the brine tank.

NOTE: Water flow rate is slow at .25 gpm so wait until you see water covering the bottom of the brine tank

NOTE: During normal operation, water level will only be about 1" to 2" on the bottom of the brine tank

tank refill

Once you see water in the brine tank

Press the Advance Button



Allow the screen to change to pause

pause

Press the Advance Button again



Allow screen to change to draw

draw

Allow system to go into Brine Draw for 1 or 2 minutes

Observe that water is leaving the brine tank

Press the Advance Button



Allow screen to change to backwash

backwash

Allow system to go into the backwash for 10 minutes.

After the 10 minute backwash cycle allow the system to go into rapid rinse

Allow the system to rapid rinse for 10 minutes

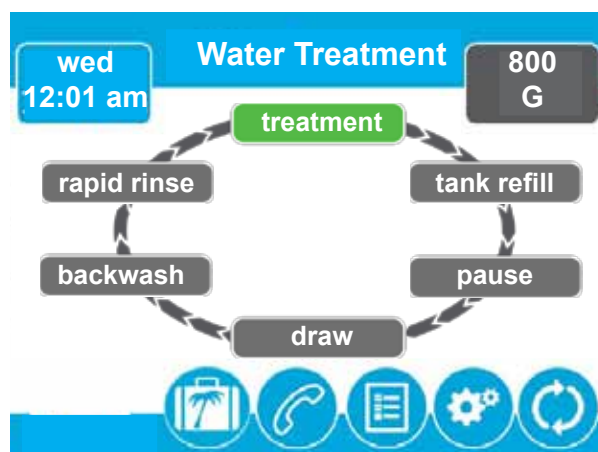
rapid rinse

Once the rapid rinse cycle is finished, the system will go back to the home screen.
Go to Steps 17 to 20. on Page 15

System will now go back to the Home Screen
and is ready for service

NOTE:
Upper right box will read a gallon reserve .
for example 800 G.

The valve is metered and the system will regenerate
when the reserve gallons are used or on the 10th day
at 2am, which ever comes first.



time to put the system in service and check your work

17. OPEN OUTLET ON THE BYPASS

SYSTEM IN FINAL SERVICE POSITION

open inlet & outlet
system is in service position



18. Add salt to the brine tank. System is ready to use

RECOMMENDED: Softener Salt - Sodium Chloride

WARNING:

Potassium Chloride may clog the brine injectors sooner and more frequently and can create more bricking of the brine tank than regular sodium chloride.

19. Press Cycle Button and begin a complete regeneration

Go to Step #20 and do your final checklist



20. Final Checklist

- check all connections,
- pressure not to exceed 75 psi,
- make sure system was not installed backwards
- using the proper flexible piping
- make sure drain is correctly installed and drain water was running clear.



NOTE: PRE-EXISTING CONDITIONS, OLDER HOMES, HEAVY SEDIMENT

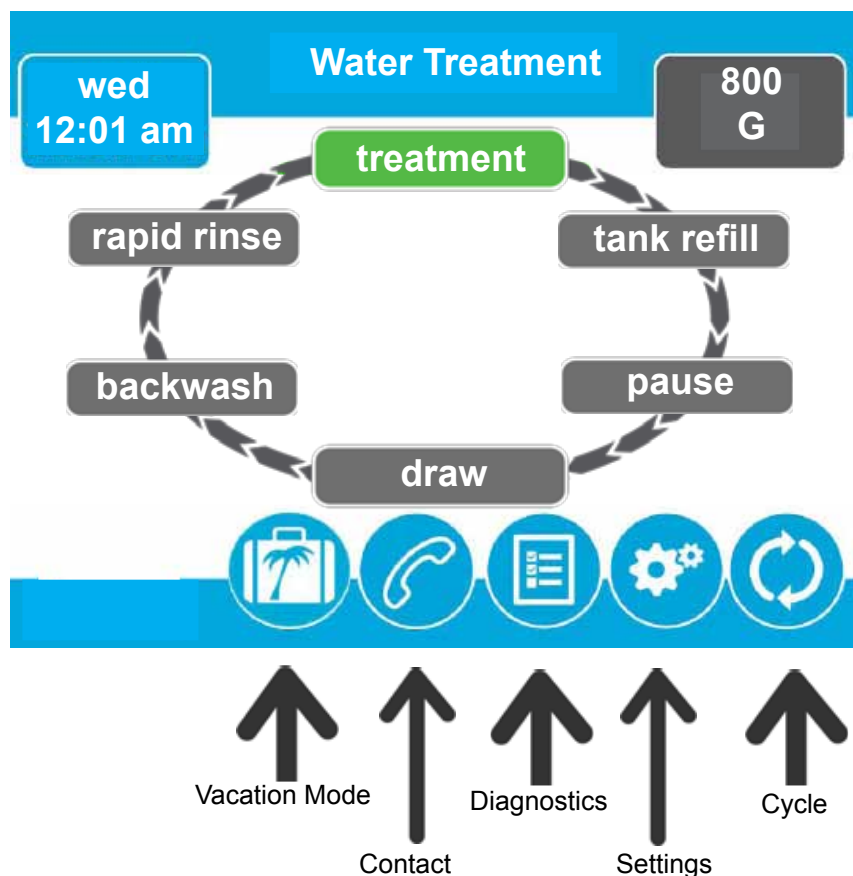
If home is a year or more old, it is highly recommended that all water heaters or tankless on-demand heaters be flushed and that all dishwashers, washers and any other water appliances be cleaned of any existing residue.

Please review Page 5 "Instructions Before Using" for existing plumbing and pre-existing conditions that will effect the performance of this system.

WARNING:



Failure to follow these procedures can result in poor performance, clogged brine injector, salt bridging, debris in the system, the system's valve, the home, and/or resin being expelled. Expelled resin will cause immediate short and long term issues with the system's valve, and will enter pipes and the fixtures or appliances within the home.



Vacation Mode:

Press the button and Vacation Mode will be in the upper right box. The system will not regenerate until the button is pressed again and the upper right box returns to the normal setting.

Note:

Press the button upon your return. The upper right screen will return to factory preset reserve and will regenerate when meter knows you have used that water or on the 10th day whichever comes first.

Recommended:

Upon return from vacation, press Recycle button to begin a regeneration to refresh the softener for you.

Contact: Press the button and a new screen appears with EWS customer service contact information.

Diagnostics: Press the button and new screen appears with your current flow rate, a peak flow rate the system has encountered and the amount of gallons that have passed through the system.
Note: Flow rate may determine if a leak is occurring in your home.

Settings: Press the button and a new screen appears indicating the default regeneration of every 10 days, the time of that regeneration of 2:00 am and the factory preset of 25 grains. You can adjust the number of days between regeneration and what time you want that regeneration occur as long as there is no conflict with any other system(s).

You can also adjust the grains of hardness down based on softer water or up to 40 grains**.

****NOTE:** If your local water is 40 grains of hardness or more call customer service to adjust the grains of hardness and the corresponding salt setting to properly adjust the system for harder water.

Cycle: Press the button and a new screen appears that allows you to manually regenerate your system.

There are many features that can be accessed to adjust the system.
Please contact EWS Customer Service for more information.



Home: Press and return to the Home screen



Advance: Press and advance to the next cycle



X : Press and go back to the previous screen



Check: Press and Ok the setting or change and moves to the next screen

CONDITIONS	APPLICATIONS
Source Water - Test Results	Based on Test Results
Pre-Treatment: Coliform/Bacterial/E-Coli microorganism problems, decaying vegetation, organic bonding, Iron/manganese bacteria Tannins (yellow) Pre-treatment is the primary need to disinfect, break down organic bonds and/or add oxygen to water. To remove iron, manganese, pre-filter, balance pH and/or generally prepare the water for consumption additional filtration is used to minimize water issues for use in the home.	Chlorination/Chemical Feed <i>(as needed)</i> Ozonation UV (only safeguard, not a solution)
Oxidation/aeration <i>(as needed)</i> <i>location or sequence of tank may vary</i> Low supply water flow and/or pressure	Storage tank and Equipment Booster Pump (Need minimum of 40 psi & 8 gpm (or 12 gpm for all 1354 tank systems)
Iron Removal <i>(as needed)</i>: Iron (red or pinkish) Manganese (black or brownish) Hydrogen sulfide (rotten egg smell)	High Purity - High Oxidation Media Systems
Pre-Sediment Filtration <i>(as needed)</i>: Silt, dirt, heavy particulate matter <i>location or sequence of unit may vary</i>	3-micron Self Cleaning System or (pictured) 5-micron Pre-Sediment Cartridge Unit (not a whole home filter)
pH Balancing <i>(as needed)</i>: Low pH, less then 6.6, corrosive, acidic water High pH, more then 8.6, corrosive, basic water <i>location or sequence of unit may vary</i>	Custom Blended pH Increasing Reagent System (pictured) pH Decreasing Ion-Exchange
Point of Entry Filtration <i>(as needed)</i>: Chlorine, VOC's, herbicides, pesticides, solvents, dyes, fuels, odor, taste, clarity Softeners strictly soften water and have their application. However, softeners replace valuable calcium and magnesium minerals (non-contaminants) with sodium or potassium chloride. The resultant water may be of lesser water quality, has warranty issues with other products and may be legally restricted due to the damaging brine discharge. The EWS Series of appliances is applicable up to 30 grains of hardness and is an alternative. EWS/CWL system can be installed at the main service line and a softener after the EWS/CWL system or on the hot side (supply line the heater(s) based on the preference of the consumer or water condition.	CWL Series - Filtration only EWS Series - Filtration and Conditioning vs. Softening
Point of Use Filtration <i>(as needed)</i>: Dependent upon test results, removal and/or safeguard, as applicable Both types of systems have their advantages, capabilities, and in the case of reverse osmosis, some disadvantages. EWS, Inc. can provide either system correctly specified for the application and with UV disinfection options.	Various Drinking Water Systems or (pictured) Reverse Osmosis Units



All systems should be correctly applied and installed based on water issues, concerns and/or consumer preference.
Contact EWS Customer Service if you have any questions.

Adaptor 1": Most Common
Direct threaded attachment to the bypass for 3/4" up to 1-1/4" main water lines



Adaptor 1-1/2":
Direct threaded attachment to the bypass for 1-1/4" up to 1-1/2" lines requiring greater flow rates



Bypass:
Direct threaded attachment to the back of the valve. No tools or plumber installed bypass needed. Shown in closed position



Valve - Outlet Side



Valve - Inlet Side



Drain Adaptor (DLFC)
1054 - 2.4gpm
1354 - 4gpm
All Systems: brine draw 45 minutes @ .25 gpm

Drain (grey) Clip:
Secures drain adaptor to valve drain port

Note: drain line to properly air gapped location is not supplied by EVWS

**Front View;
Touch Screen Valve**
2.5" valve base: all systems



**Riser Distribution ORing
Valve Tank ORing
Upper Valve Screen**

Electric:
12 volt plug & play transformer with 9' cord
Note: Valve consumes the power equal to a doorbell

Tank Wrap:
eco-cover for tank with contact information and information important for the proper application of the system.



Note - Freeboard:
Top 1/3 of tank is empty for proper lift of resin bed during regeneration of the system

Softener Resin:
EWS upgraded high percent-age cross-link anion resin specifically designed for pH decreasing
1054 systems: 1.5 cu.ft.
1354 systems: 2.5 cu.ft.



Underbed:
Specific pea gravel materials for proper water and back-wash flow and distribution
20 lbs. for 1054 systems
30 lbs. for 1354 systems



Riser:
Food & beverage rated pvc water distribution riser with lower screen



self leveling base

Tank:
10" x 54" (pictured, most common used in all softener systems)
Food & beverage grade, non-corrosive, one-piece, blow-molded polyethylene interior with structured fiberglass outer laminate.
2.5" opening: all systems
(not shown 13" x 54" tank - same height, 3" wider)

complete brine valve and float assembly, air check, brine tank overflow and brine line found in all salt brine tanks

Brine Tank Cover



Brine Tank
34" x 18" 300 lbs salt capacity , all systems

Brine Line
from safety brine valve to valve brine port

Safety Brine Valve Assembly



Tank Overflow

Float Assembly

Air Check

Notification:

This warranty is referenced by EWS, Inc. in all literature, addressed in General Terms and Standard Conditions of Sale, and is published in its entirety in all EWS, Inc. product manuals, websites, and in all service guides supplied with all product.

Limited Warranty:

EWS, Inc., a Nevada corporation, hereby warrants all products to the original consumer purchaser to be free from defects in material and workmanship as stated in the following paragraphs:

- All residential point of use: countertop filtration, in-line filtration, undercounter drinking water filtration, shower filtration, residential reverse osmosis, and canister and filter cartridge point of entry pre-sediment and/or filtration units or systems for one year from date of purchase.
- All residential point of entry: pH decreasing and softener (resin and ion-exchange) systems, Environmental (EWS) Water Systems, Iron Removal units, CWL whole-home (filtration media) systems, pH increasing reagent (sacrificial media) units for 10 years on the tank and riser, 10 years on the ICN conditioner(s) (if applicable) and 5 years on the valve body and electronics from date of purchase.
- All commercial systems: Dependent on specification and application, please consult with EWS, Inc. upon specification.
- All filtration medias, resins, cartridges, uv lamps, and/or membranes are not covered by any warranty. Filter media, resin, cartridge, uv lamp, and/or membrane replacement or maintenance schedule will vary and must be replaced, as necessary, as determined by usage and local water conditions.
- Any wear and tear parts or any parts damaged in shipping, installation or application are not covered under warranty.

Product performance may vary based on local water conditions, proper product specification and application, proper plumbing application, setup, installation, startup, maintenance and/or usage. To ensure proper operation, follow all setup, installation, start-up and maintenance procedures as detailed in all service guides.

Not intended for use where water is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after unit(s). The contaminants or other substances removed or reduced by these and any other water filtration or treatment devices are not necessarily in your water. To confirm the presence of any primary and secondary contaminants, have your water supply completely analyzed by an independent and approved facility or if applicable, contact your local water utility for information.

Aesthetic, non-health related, or constituents without set federal standards may be part of water testing but are insufficient to determine proper application of any water filtration or treatment device.

EWS, Inc. will replace, free of charge, during the warranty period, any part which proves defective in material and/or workmanship under proper product and plumbing specification and application, normal and proper installation, use, service and proper care as published in detail in all service guides included with product. Wear and tear parts such as pistons, spacers & seals are not covered under warranty. Labor charges are excluded from any warranty service or repair and are not the responsibility of EWS, Inc. Shipping charges may apply to delivered replacement parts or materials. Charges may also apply for the cost of any replacement media, resin, cartridges, uv lamp and/or membrane from any warranty service or repair. Information can be obtained at any time through a local dealer, distributor, representative or direct from EWS, Inc. and/or on-line at: www.ewswater.com. Replacement parts can be obtained from your local dealer, distributor, online or contractor.

This warranty is the exclusive warranty granted by EWS, Inc. and is in lieu of all other warranties of merchantability and fitness for a particular purpose and is further limited to defective parts replacement only. Labor charges and/or damage incurred in setup, installation, and startup, or repair, or replacement, as well as, incidental and consequential damages connected therewith, are excluded, and are not the responsibility of, and will not be paid by EWS, Inc.

This warranty is void for any damages due to improper product and/or plumbing specification and/or application, misuse, abuse, neglect, accident, acts of nature, action of any military or civil authorities, improper handling and transportation, or improper setup, installation, and/or startup, or any violation of instructions furnished by EWS, Inc., or any replacement parts other than genuine parts or replacements supplied by EWS, Inc.

This warranty is not a warranty of merchantability, fitness, taste, aesthetics, and/or performance that may be subject to improper product and/or plumbing specification and/or application, misuse, abuse, neglect, accident, acts of nature, action of any military or civil authorities, improper handling and transportation, or improper setup, installation, and/or startup, or any violation of instructions furnished by EWS, Inc.

This warranty is not a warranty of merchantability, fitness, taste, aesthetics, and/or performance that may be personal and of subjective opinion and that does not relate to the performance of any system.

Warranty Information and the Purchaser's Responsibility

Keep a record of the purchase receipt and/or installation receipt. Purchaser is required fill out warranty registration form(s) on applicable product(s) and register all product by either online @ www.ewswater.com, telephone, postal delivery, fax, e-mail (either register@ewswater.com or information provided to customerservice@ewswater.com). **Failure to do so voids the warranty unless restricted by state regulations.**

Privacy: EWS, Inc. does not sell, show or make available any information on any consumer in our database. This database is to ensure, if needed, proper warranty service, and good customer service for years to come. Please see our privacy policy published in our website at www.ewswater.com.

Know Your Water:

- If on a municipal system, large or small, it is your right as a consumer to have access to the most recent test results and to expect adherence to federal guidelines, as well as any state or local requirements. Any problems should be reported to the appropriate agencies. Please acquire those municipal test results to become an informed consumer.

- If on an individual well, have your water completely and independently tested. Local code may require a simple test for coliform bacteria to approve a well, however you may be unaware of potential problems for you and/or your home. A local water salesman is looking to close a sale and is going to test for hardness minerals and a few simple and obvious issues, which may or may not be contamination problems. Their solution is almost always the same and yet may provide no resolution to any true problems. Obtain our "Guide for the Private Well Owner" on our website; www.ewswater.com. Review our section on well water testing and applications in our complete catalog with your local distributor, dealer, or our representative or visit our website.

• WARNING:

Some restrictions apply to the use of softeners. Contact your local municipal water district or Gov't Agency. Brine discharge is already restricted on, or may be a problem for, septic applications and waste water treatment facilities. Since some states have already restricted softeners to metered valves to prevent excessive brine discharge, EWS, Inc. only provides metered valving in its line of softeners.

Restrictions or an outright ban may also apply to hot-side only, salt-exchange tanks or services. Local water dealers and other organizations do not inform consumers of these issues and believe these rules are unenforceable. The consumer is ultimately responsible.

Softeners may also provide warranty issues with pools and spas, certain other products and finishes. Softened water should not be used for drinking, cooking, pets or plants and is usually bypassed or "looped away" from the cold side of the kitchen sink. Reverse osmosis, which also has its drawbacks and issues with other products and materials, may be used to remove the salt from the water that the softener put in at the kitchen sink, yet may be misapplied for the actual local water conditions.

Any problems of water quality, or the fitness of any EWS, Inc. product that is associated with any mechanical, construction, application, installation, and/or environmental issue(s) (ie: flow rates, line pressure, piping materials, broken supply lines, changing water conditions; well or municipal water quality, et. al.), known or unknown, of the home or facility will not be considered by EWS, Inc. until such issue(s) have been resolved.

Responsibility for the proper product and/or plumbing specification, application and/or installation of any device manufactured by EWS, Inc. lies with the consumer, their builder contractor, plumbing sub-contractor and any other installer of choice. Items do not specify and/or install themselves. EWS, Inc. has provided many sources to acquire information on the proper application of systems and their installation prior to any purchase. EWS, Inc. manufactures a complete product line of point of use water filtration systems and point of entry filtration, softening and/or conditioning systems and/or appliances.

EWS, Inc. and the distributors of EWS, Inc. will stand behind the warranties of materials and workmanship. However, EWS, Inc. and the distributors of EWS, Inc. and the Environmental Water Systems Product Line do not bear any responsibility for improper applications of product and/or improper installation. It is for this reason that EWS, Inc. provides complete information on all product for your understanding, specification, application and selection, and proper plumbing application and installation.

To obtain warranty service support, contact your local dealer or contractor from whom you obtained the product or contact EWS, Inc., Customer Service, via phone, fax, or email.

The EWS, Inc./Environmental Water System Product available through:

Authorized Kitchen & Bath Showrooms, Appliance Showrooms, Building & Plumbing Wholesale Supply Locations and their building, plumbing, HVAC and service contractors, and Authorized Online Distributors.

EWS is a Proud Contributor and Sponsor of Organizations Dedicated to Improving Health, Well-Being and the Environment

- Heart • Lung & Respiratory • Allergy & Asthma • Dermatology & Skin • Digestive: Crohn's & Colitis •
- Oceans • Inland Water Ways • Wetlands • Forestry • Soil • Air •



ALL FILTRATION PRODUCT PROUDLY MADE & ASSEMBLED IN THE USA



ENVIRONMENTAL WATER SYSTEMS®
Quality Water Filtration Crafted in the USA Since 1987.

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