

PRODUCT AND INSTALLATION MANUAL

Residential Softener Series

MODEL NUMBERS:

Softener Systems: Sodium or Potassium Chloride, Ion-Exchange
twin tank systems: TT1054-V2, TT1354-V2
one-in-one cabinet style: RT1035-V2



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

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Retain this Product & Installation Manual
for Helpful Information

Please Register Your System

Revised 10/1/2022 V:2



If you don't read this service guide at least read these 8 simple steps

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 7-9

2.

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

Page 10

3.

Install a proper drain line with an air gap
Connect the brine tank (TT1054 & TT1354 only)

Page 11

4.

Plug in the system into a standard outlet and set the time of day

Page 12-13

5.

Before opening inlet and beginning start up procedure - you must clear the plumbing lines and connections.

Page 13

WARNING: Never add salt until you are finished

6.

After # 5, Open inlet on the bypass slowly to fill the tank and begin the start up procedure (see complete start up procedure)

Page 13-14

7.

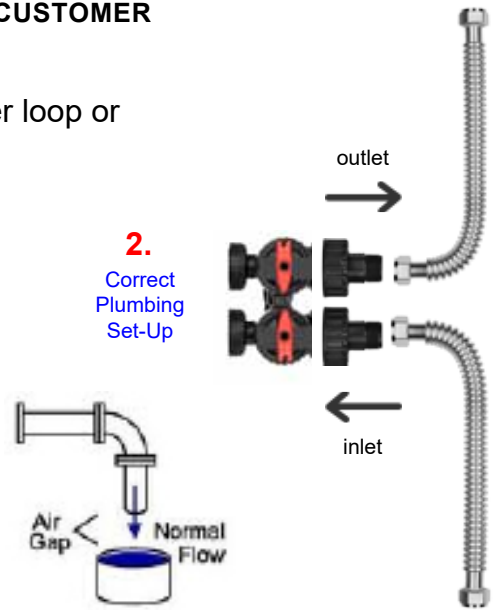
Allow system to start itself up and go through regeneration cycles

Page 15

8.

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 re-generation.

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2. Correct Plumbing Set-Up

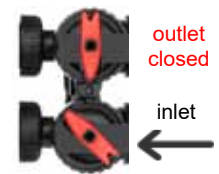
3. Drain Line & Air Gap

4. Set the Time of Day

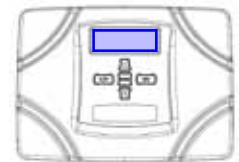
5. Clear Plumbing Lines

- 1. keep inlet & outlet closed,
- 2. turn on the water supply
- 3. go to a tub (best) or nearest faucet (remove aerator)
- 4. run water to clear plumbing lines
- 5. avoid debris from entering installed system

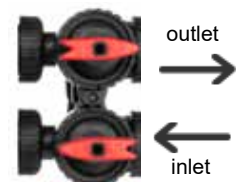
6. Start-Up Fill Slowly



7. REGEN to Flush System



8. Service Position



Avoid Problems and Callbacks and Create Happy Customers



please see the great information available in this service manual

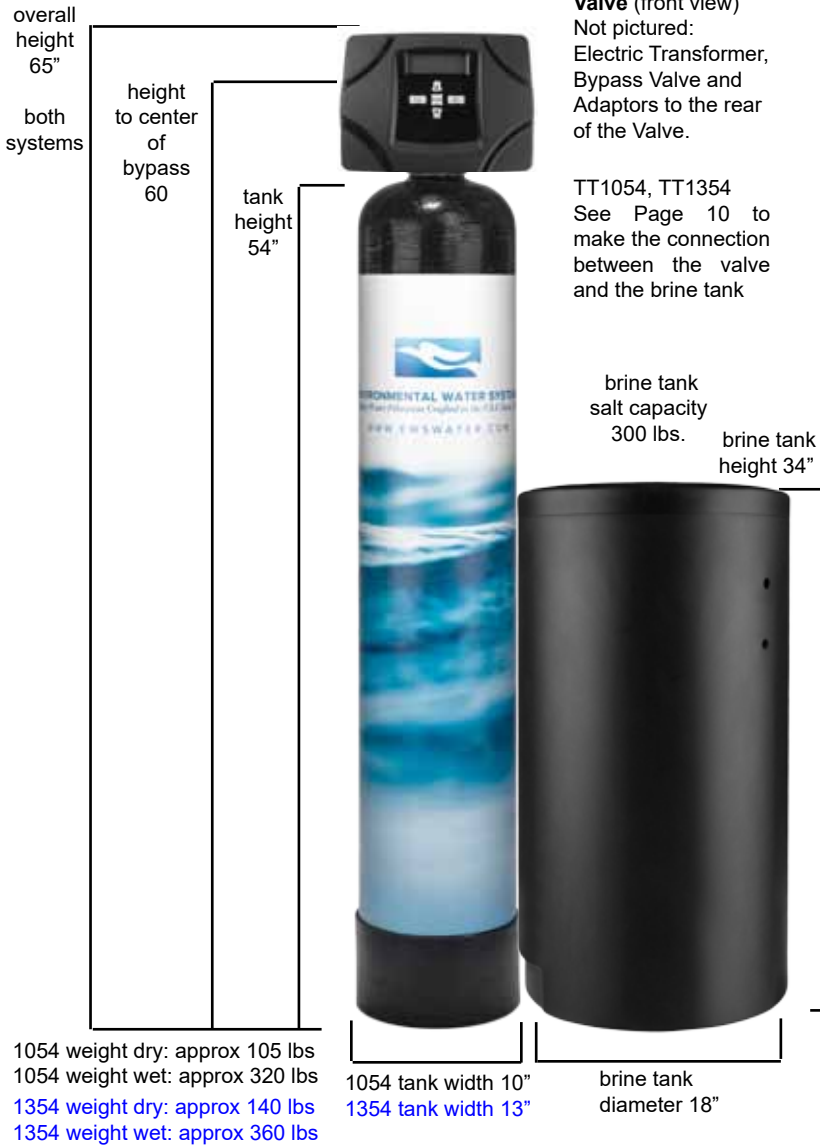
For Illustration Purposes Only:

Tank, valve and all contents (as pictured below) for these systems are delivered fully assembled*.
 Brine tank (1054, 1354 only), electric transformer, bypass, and supplied adaptors - some assembly required.

Pictured: TT1054

Not pictured: TT1354

depth: minimum 22" needed for proper installation



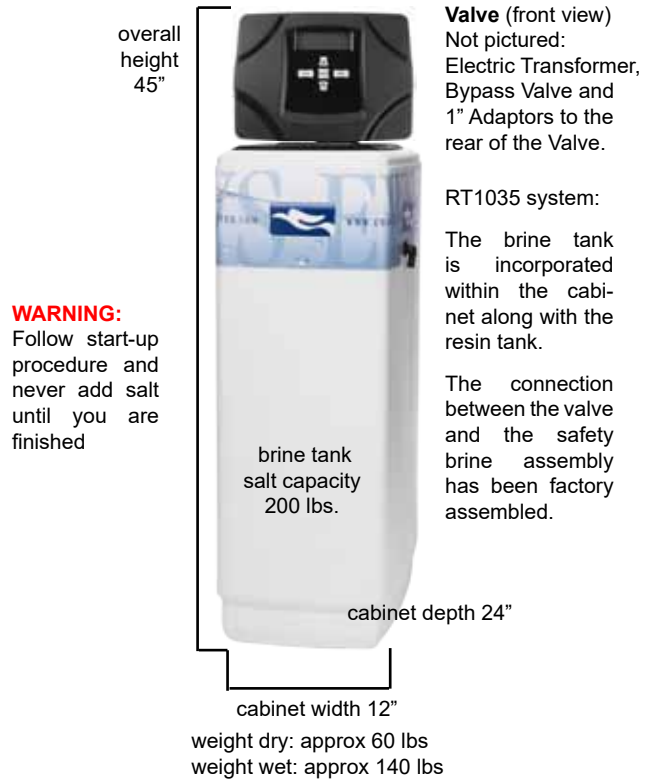
All measurements are approximates and system heights may have variances up to 1".

Pictured: RT1035

Specialty system for condos or townhomes based on limited space and water usage or strictly to the inlet supply for one water heater

Note: Cabinet style may vary.

depth: minimum 18" 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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 Outside Installation (where applicable)

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 Open Outlet Side of Bypass

 Put Salt in the Brine Tank

 Put System into Regeneration before leaving

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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

	<p>CAUTION: Read and follow the information in this manual to minimize the risk of electric shock or personal injury.</p> <p>IMPORTANT! If you are unsure about the installation of your system, contact EWS customer service or consult a professional plumber.</p> <p>IMPORTANT! This system must be installed in compliance with applicable state and local codes, law, and regulations.</p>
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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 on any plastic parts.

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 12 volt transformer for electrical power. Always use the supplied power cord and transformer. Plug power cord into a standard 110/115/120 volt, grounded and unswitched outlet. If outside, follow code for protected outlet and GFI. Be sure electric outlet, transformer and valve board component 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 AND OUTSIDE INSTALL WARNING:

Always connect the system to the main water supply pipe feeding the entire home before the water heater(s). See "Where to Install the System" on page 8 of this manual for complete information.


WARNING: Install system in a protected area. Do not install in direct sunlight or exposure to the elements. Heat from sun may cause damage. Properly protect from sun, rain, wind, and all exposure.

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.

	<p>CAUTION:</p> <ul style="list-style-type: none"> • 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.
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location and setup

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

WHERE TO INSTALL THE SYSTEM

- Place system on the main water supply in order to supply filtered water to the entire home.
- 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 16 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 AND THE REQUIRED AIR GAP

- 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 - PROTECT THE SYSTEM FROM HEAT, SUNLIGHT AND THE ELEMENTS

■ 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 7 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. System must not be in sun or rain and must be protected from the elements.

■ Follow all instructions found 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. Holes can be made to run pipes, drain line and/or electrical and insulation can be applied to reduce heat or cold. If applicable, Any other method you choose is fine as long as the system is protected in a similar manner.

Sorry, but placement under an eave or overhang or the use of 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.

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: 1054 & 1354 systems only have a self-leveling base to compensate for any slight floor pitch. Refer to "Instructions Before Using" on page 7 and "Where To Install The System" on page 8.

5. VALVE PARTS AND ASSEMBLY:

a. CONNECT BYPASS TO THE VALVE

Bypass has inserted o-ring and retainer ring. Hand tighten until you reach the stop.
See **WARNINGS** and the **CAUTION** below

NOTE: Make sure red levers are facing across and bypass is in the closed position

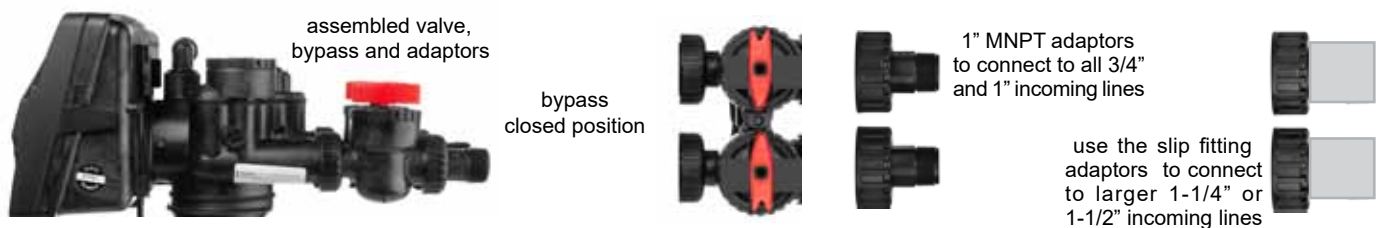


- b. Locate the 1" MNPT or Slip Fitting Adaptors:
Select the proper sized Adaptor for your incoming and outgoing water lines

CONNECT THE ADAPTORS TO THE BYPASS

Adaptors have inserted o-ring and retainer ring. Hand tighten until you reach the stop.
See **WARNINGS** and the **CAUTION** below

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



NOTE: The most common adaptor for incoming main water line sizes 3/4" up to 1" where the 1" MNPT adaptor is a correct application. Incoming line size of 1-1/4" up to 1-1/2" select and use the larger slip fitting adaptor for flow rates up to 37 gpm.

NOTE: Additional connections needed for the slip fitting adaptors are not supplied by EWS.

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.



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.

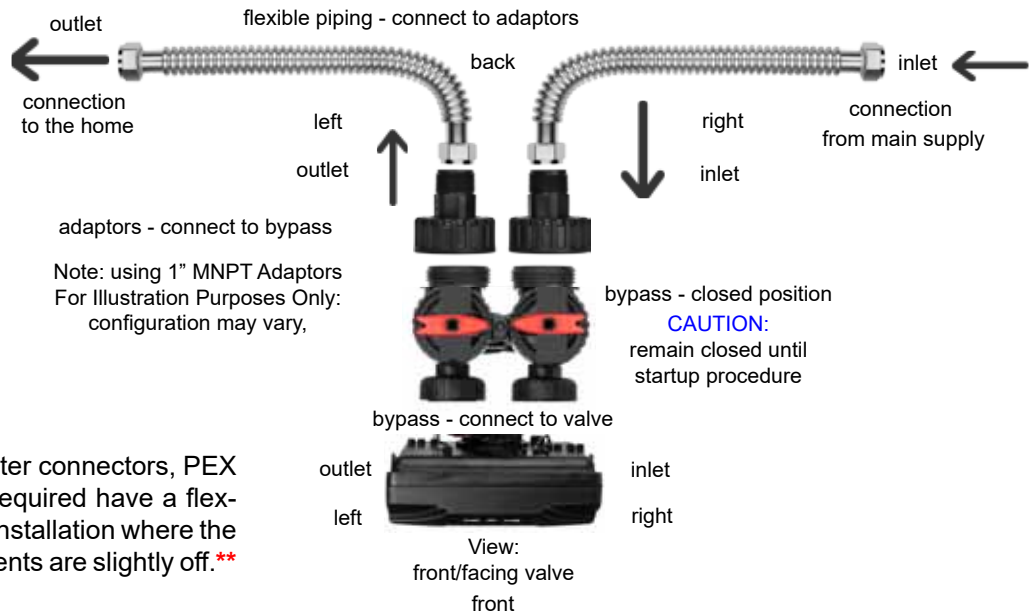
CAUTION: Do not cross-connect or plumb backwards. Make sure of the direction of water flow from cut pipe to be connected.

7. **PLUMB INLET AND OUTLET CONNECTIONS TO AND FROM THE SYSTEM**



For Illustration Purposes Only:
configuration may vary,
corrugated flexible stainless not supplied

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



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

WARNING: Do not plumb backwards. Be sure the incoming water supply is connected to the inlet port of the valve. Make sure of the direction of water flow supplied from home connected to system is actual main supply. Note: the valve is clearly marked with arrows indicating the proper flow direction.

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.

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.

WARNING: When installing valve onto tank (1465 or larger systems) and/or turning threaded pipe fittings onto plastic fittings, use care not to cross-thread, strip threads and/or over-tighten.

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.

CAUTION: Maintain grounded plumbing. If the home's plumbing system is copper (or any metal) then it may be necessary to 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.

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

PLUMB THE DRAIN LINE WITH AN AIR GAP

8. Plumb rigid tubing only (PVC recommended if code applicable) directly to the 3/4" NPT drain fitting.

NOTE: Make sure o-ring and red 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.



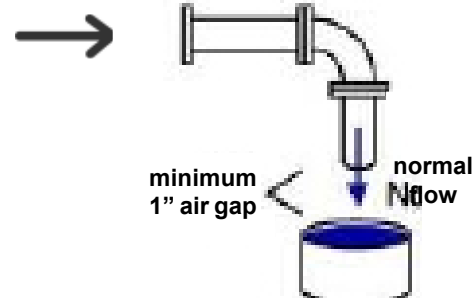
9. Connect and route the drain line to a vented sewer drain with a "P" trap or some other drain location. Installation with an air gap is required.

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 minimum 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 up to 2.4 gpm (or 2.4 gpm for 1035, or 4 gpm for 1354 systems) for up to 20 minutes 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.

TT1054 and TT1354 systems only:

- 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.



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

- 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.

RECOMMENDED:
Softener Salt - Sodium 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 physician'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 than regular sodium chloride.

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



RT1035 system:
The brine tank is incorporated within the cabinet along with the resin tank and the connection between the valve and the safety brine assembly has been factory assembled.

NOTE:
Cabinet style may vary.

installation Instructions - all systems - electrical connections

INSTALL ELECTRICAL CONNECTION

10. Plug system into a standard grounded, unswitched 110/115/120v electrical outlet.
If outlet is over 15 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.

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

CAUTION: Maintain the ground to the plumbing system for the home.
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.

screen and what you see when the system is on

WHEN YOU PLUG THE SYSTEM IN:

Blue Backlight and Home Screen

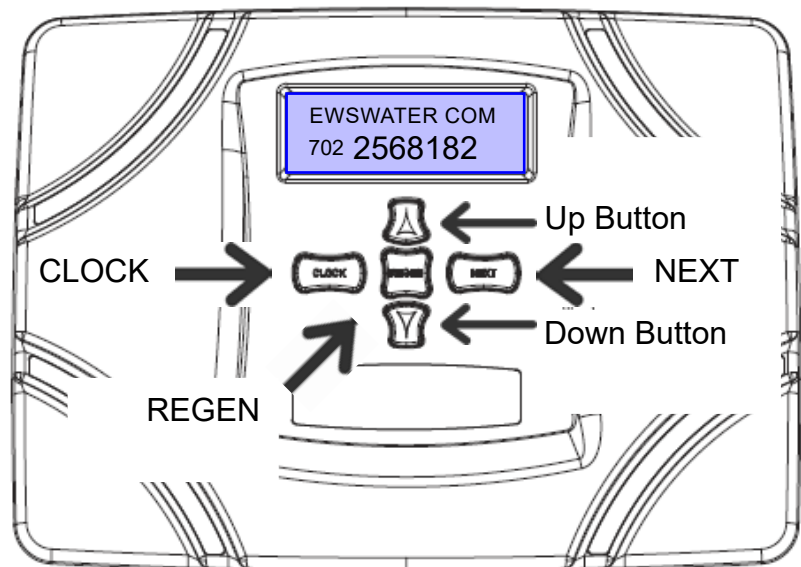
Display reads: our company name and website address across the top and the customer service contact

BLUE:
Home Screen and Clock Settings, Time of Day and # of Days to Regen.

GREEN:
The step in the cycle, Softening (returning to service from Regen) and other programming

Energy Savings Backlight Control:

The Blue Backlight is set to energy saving mode. The light will turn off after 5 minutes of keypad inactivity or 30 seconds after water usage. Touch any button and the backlight will light up.



Features of this Valve:

Power backup continues to keep time and the passage of days for a minimum of 48 hours in the event of power failure.

A regeneration can be triggered immediately by pressing the Regen button for five seconds.

When the system begins to regenerate, the display will change to include information about the steps in process and the time remaining for that step to be completed. The current cycle display will alternate with the total regen time remaining screen for the regeneration step. The system runs through the steps automatically and will reset itself to provide treated water when the entire process has been completed.

While the valve is transferring to a new cycle step, the display will flash. The parameter display will identify the destination cycle step and the display will read the cycle and the time in that cycle. Once the valve reaches the cycle step, the display will stop flashing and the display will count down the time remaining in that cycle.

During any cycle, you can advance to the next cycle after the display stops flashing and begins the countdown by pressing the Regen button until you see the display change.

To check the time of day, press the Next button, press again to see the # of Days to Regen and press again to return to home screen

ok, lets, set the clock

IMPORTANT - CLEAR THE PLUMBING LINES AND CONNECTIONS BEFORE START-UP

11. **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

WARNING:

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.

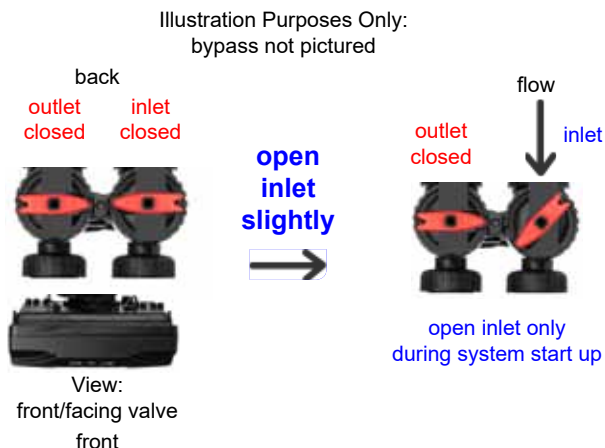
start up procedure - fill the tank slowly

FILL THE TANK - SLOWLY

12. Main water supply is open, plumbing lines have been flushed (Step #11) and tub or faucet are closed

Open the inlet slightly on the bypass as shown

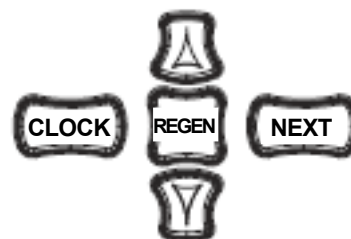
CAUTION:
Open slowly to prevent rapid flow and high initial pressure into the system



SET THE TIME OF DAY

13.
 - a. Press CLOCK button, until it reads time - hour - set - blinking hour with blinking am or pm
 - b. Adjust the hour UP or Down for correct hour & am or pm, Press Next and display reads time - minutes - set with blinking minutes
 - c. Adjust the minutes UP or Down for correct minutes, Press NEXT and display returns to the home screen

To check time of day from the Home Screen, press Next button.
If no buttons are pressed for 5 minutes display will go back to home screen.



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

14. **AFTER SETTING THE TIME
SLOWLY OPEN THE INLET ALL THE WAY**

CAUTION:
Open inlet slowly and keep outlet closed.

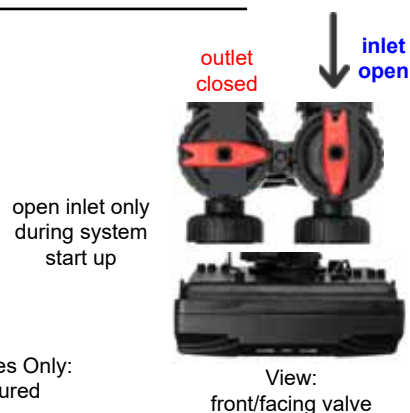


Illustration Purposes Only:
bypass not pictured

15. **START UP AND CHECK THE REGENERATION CYCLES**

- a. Press and Hold the REGEN Button until the screen turns GREEN and reads PREFILL

NOTE: Make sure water is flowing slowly into the brine tank
Check your connections to the brine tank, *go to next step*

PREFILL

- b. Press REGEN Button to read SOFTENING,
Go to next step once display stops flashing

SOFTENING

- c. Press REGEN Button to read RINSE,
Go to next step once display stops flashing

RINSE

0:30 MIN

- d. Press REGEN Button to read REGEN DRAW

NOTE: Make sure water is leaving the brine tank,
Go to next step

REGEN DRAW

60:00 MIN

- e. Press REGEN Button to read BACKWASH

NOTE: Allow the water to backwash and make sure a proper air gap is installed, check your drain connections and see that the water is running clear,
Go to next step after 8 minutes



BACKWASH

8:00 MIN

- f. Press REGEN Button to read RINSE

NOTE: Allow the water to rinse and see that the water is running clear,
Go to next step after 4 minutes



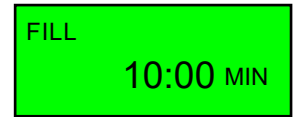
RINSE

4:00 MIN

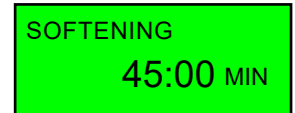
check the system regeneration and you are almost done

15. **CHECK THE REGENERATION CYCLES**

g. Press REGEN Button to read FILL,
Go to next step once display stops flashing



h. Press REGEN Button to read SOFTENING,
Go to next step once display stops flashing



i. Press REGEN Button to put valve into Service Position

Valve will tell you that it is heading home and returning to the service position. This takes about 30 seconds and you will hear the valve make several noises as it cycles which is normal.

Valve returns to the Blue Display and the Home Screen in the service position and is pre-set to regenerate in 10 days (default) or sooner based on system usage at 2 am as long as you have set the correct time of day

When the system begins to regenerate, the display will change to include information about the steps in process and the time remaining for that step to be completed. The current cycle display will alternate with the total regen time remaining screen for the regeneration step. The system runs through the steps automatically and will reset itself to provide treated water when the entire process has been completed.

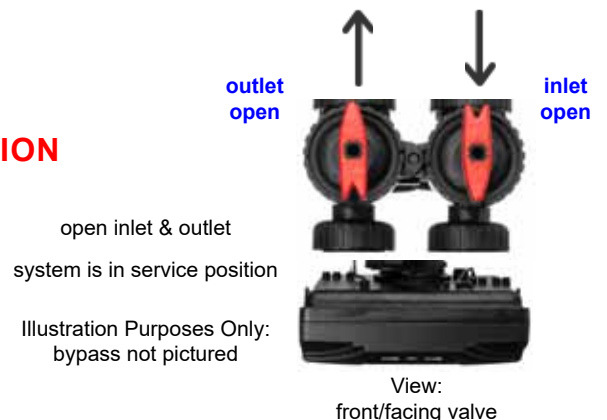
While the valve is transferring to a new cycle step, the display will flash. The parameter display will identify the destination cycle step and the display will read the cycle and the time in that cycle. Once the valve reaches the cycle step, the display will stop flashing and the display will count down the time remaining in that cycle.

During any cycle, you can advance to the next cycle after the display stops flashing and begins the countdown by pressing the Regen button until you see the display change.

NOTE: System does not need any additional programming unless water conditions require adjustments
Please follow the instructions and allow system to run through the pre-programmed start-up and flush.

16. **OPEN OUTLET ON THE BYPASS**

TO PUT THE SYSTEM IN FINAL SERVICE POSITION



STOP - IF YOU DID NOT FOLLOW THE INSTRUCTIONS:

Do not put system into service until proper installation, setup, clearing the plumbing lines and startup procedures have been followed.

17. **ADD SALT TO THE BRINE TANK.**

System is ready to use but before you leave see Step #18 below

RECOMMENDED: Softener Salt - Sodium Chloride

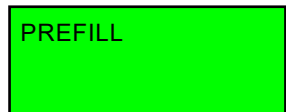
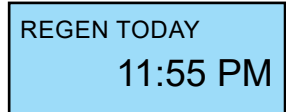
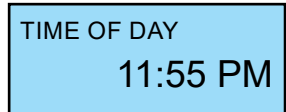
WARNING:

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

Potassium Chloride is another salt and not a "salt-free" alternative. It still has the same brine, environmental, corrosivity and water quality issues as Sodium Chloride but it can cost more and as cautioned can create issues with the equipment.

**In order to avoid callbacks
before a you leave do this to completely flush the system**

18. 1. Press the REGEN button Once.
 Wait until you see REGEN TODAY and the TIME OF DAY
- System will flush through a complete cycle tonight at the factory
 preset time of 2am**
- Now Go To #2
2. Press and Hold the REGEN button until the regeneration begins
 in approximately 3-5 seconds.
- System will go through a complete cycle as you leave



THAT'S IT...!

NOTE: Once the valve has completed the immediate regeneration, the valve will regenerate one more time at the preset regeneration time of 2am**.

Congratulations. You have gone through the entire procedure, checked your work and made sure the system is operation 100%.

You can leave, knowing the system will go through it's complete cycle now and later at the set Regen time and will completely flush the system.

** 2am is the factory preset time for regeneration of the softener. This time is dependent on the correct time of day set for the system and/or if the installer changed the time of Regen to another time

19. SYSTEM IS READY FOR USE

Turn on gas or electric supply to the water heater(s).

PLEASE FLUSH ALL THE WATER THROUGHOUT THE HOME

- open as many hot and cold faucets through out the home as possible,
- remove the aerators or any restriction at the end of the faucets,
- run tubs,
- flush toilets,
- dispose of any ice previously made
- run water throughout home for 5 minutes.



Create Happy Customers

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.



Avoid Problems
and Callbacks

21. HELP TO PREVENT CLOUDY, GREY OR YELLOW WATER

- Please follow proper and complete start-up procedure

Gather up and do not forget any tools, clean up the space and leave the installation and allow the system to flush one more time before the homeowners use the water for the first time. This will go a long way to prevent any cloudy or grey water prior to usage.

NOTE: CLOUDY WATER

If water appears cloudy, allow to run for several more minutes until all air is expelled or until 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 7 "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 debris in the system, the system's valve, brine injectors, the home, and/or resin being expelled. Expelled resin will cause immediate short and long term issues with the system's valve, brine injectors and will enter pipes and the fixtures or appliances within the home.

Reserve:

Once the initial start-up has been completed, the system will either count down 10 days to the next regeneration or regenerate when the reserve has been met (water usage of approximately 800 gallons for TT1054). This is the amount of water that once used will trigger a regeneration. After one week of service, the system will begin to calculate your daily usage and will be constantly adjusting your average usage to properly regenerate based on your water hardness and the amount of water you use. The system is set to regenerate every 10 days as a default regardless of water used.

Regeneration Water Usage and Brine Discharge¹:

Softener regenerations go through several steps in order to rinse the resin bed and make brine in order to soften the water. During these cycles water and brine discharge is released through the drain for a total of 65 minutes.

For proper use, reliability and life span, these systems (on average) should regenerate no less than every 3 days and no more than every 10 (default setting).

Calculation - the water usage and brine discharge for these systems are as follows²:

RT1035 and TT1054 = 166 gallons for every regeneration

TT1354 = 270 gallons for every regeneration

Calculation - regeneration frequency for typical and best selling TT1054³:

The common assumption is a person uses 60 gallons of water per day. Therefore 2 people in a household would use approximately 120 gallons per day and the system would regenerate every 6-8 days. A family of 4 would use 240 gallons per day which would cause the system to regenerate every 3-5 days.

Water Conservation:

Water Hardness Setting: The factory setting is 25 grains. If your water hardness is less, you can adjust that setting downward to reflect your local water conditions and the reserve calculation will increase which will decrease your regeneration frequency.

Salt Dosage Setting: The factory setting is 6 lbs. To increase the reserve calculation which will decrease your regeneration frequency you can adjust that setting to 15 lbs. However you will need to monitor your brine tank for salt as the system will use more salt.

Installation: Install water softener on the inlet to the water heater(s) for hot water application only which can cut the water usage through the softener up to 50% which will decrease your regeneration frequency.

¹WARNING:

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

²NOTE:

These EWS softener systems use variable upflow brining. Even though all softeners need to regenerate 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. CAUTION: The average softener purchased from a local water dealer or inexpensive softener purchased from a big box retailer will discharge up to 2x more water the EWS systems will.

³NOTE: Proper System Specification:

RT1035 is based on softer water, hot side application and/or limited usage

TT1054 is the most common system for households of 5 or less with water hardness of 25 grains or less

TT1354 is the larger system recommended for households of 5 or more, 25 grains of hardness or more. If the home or facility typically uses more than 400 gallons of water per day the TT1354 is the proper system based on that usage

if any adjustments have been made to regeneration time, hardness setting or salt capacity
this is a spot to write those notes

INSTALLER SETTINGS (IF ADJUSTMENT IS NEEDED)

13. a. Press NEXT button and UP arrow at the same time, until it reads TYPE, then Press NEXT button
- b. Water Hardness - adjust UP or Down based on water hardness in your area or leave as default 25 grains, then Press NEXT button,
- c. Days Between Regen - adjust UP or Down based on usage or leave as default 10 days, then Press NEXT button
- d. Regen Time Hours - adjust UP or Down for hour (am or pm) you want regen cycles to begin, then Press NEXT button,
- c. Regen Time Minutes - adjust UP or Down for minutes within the hour you want regen cycles to begin, then Press NEXT button to return to Home Screen

If no buttons are pressed for 5 minutes display will go back to home screen.

Valve - Outlet Side



Valve - Inlet Side



Valve - Top View



Front View; V2 Valve
2.5" valve base: all systems



Drain Adaptor (DLFC)
1035 - 2.4gpm
1054 - 2.4gpm
1354 - 4gpm
All Systems: brine draw
45 minutes @ .25 gpm

Drain (red) Clip:
Secure drain adaptor to
valve drain port

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

Electric:
(plug not shown) 110 outlet with 15' cord
Note: Valve consumes the power equal to
a doorbell

Adaptor 1": Most Common
Adaptor to the bypass with 1"
MNPT for easy install of 1" lines



Adaptor Slip Fitting:
Adaptor to the bypass with slip
fitting for all connections or to
larger service lines up to 1-1/2".
Additional connections needed
for this fitting not supplied by EWS

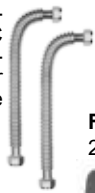


Bypass:
Direct threaded attachment to
the back of the valve. No tools
or plumber installed bypass
needed. Shown in closed po-
sition



For Illustration Purposes Only:

Stainless steel corrugated wa-
ter connectors, PEX or PVC
Sch 40 have a flexible capabi-
lity that is required for proper
installation. Connections are
not supplied by EWS.



All systems are the most
efficient variable upflow
brining softeners

Softener Resin:

EWS upgraded 10% cross-link cation resin
1035 systems: 1.0 cu.ft. 32,000 grain capacity
1054 systems: 1.5 cu.ft. 48,000 grain capacity
1354 systems: 2.5 cu.ft. 80,000 grain capacity
All grain capacities can be adjusted upward
based on water conditions and settings for hard-
ness and/or salt usage

Underbed:

Specific pea gravel materials for
proper water and backwash flow
and distribution
20 lbs. for all 1035 & 1054 systems
30 lbs. for 1354 systems



Riser Distribution ORing
Valve Tank ORing
Upper Valve Screen

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



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

self leveling base

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

Brine Line
from safety brine valve
to valve brine port

**Safety Brine
Valve Assembly**

Tank Overflow

Float Assembly

Air Check



NOTE:
Cabinet style may vary.

RT1035: (pictured)
a completely assembled all-in-one system

The brine tank is incorporated within the
cabinet and has a salt capacity of 200 lbs.
The 10"x35" resin tank and the connection
between the valve (pictured) and the com-
plete safety brine assembly (pictured) has
been factory assembled.

Note - Freeboard:

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

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

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 •



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Customer Service Monday–Friday 8:00am–4:30pm PST
Office: 702-256-8182 Fax: 702-256-3744
customerservice@ewswater.com

EWS, Inc. Corporate Offices
5542 S. Ft. Apache Rd, Suite 110
Las Vegas, NV 89148