PRODUCT AND INSTALLATION MANUAL

Iron Removal Systems

MODEL NUMBERS:

Iron Removal Systems for the Removal of Iron, Manganese & Hydrogen Sulfide:

EWS-IRON-1054-V2, EWS-IRON-1354-V2

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 1/01/2022 V: 2.0

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 coming into the home

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

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

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 self clean the filtration media

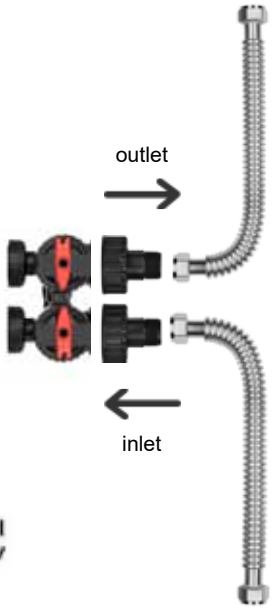
Page 13-14

8.

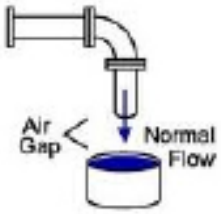
Open outlet on the bypass and put system in service position and flush water throughout the house, run tubs, flush toilets, replace ice and drain water heater if needed.

Page 15-16

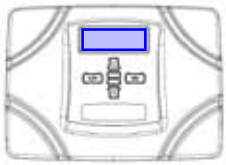
2. Correct Plumbing Set-Up



3. Drain Line & Air Gap



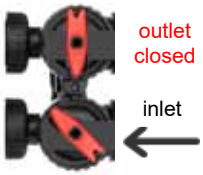
4. Set the Time of Day



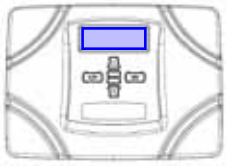
5. Clear Plumbing Lines

1. keep inlet & outlet closed,
2. turn on main 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

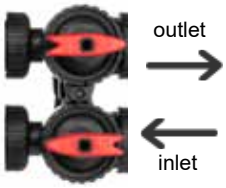
6. Start-Up Fill Slowly



7. Backwash to Flush System



8. Service Position



Avoid Problems and Callbacks and Create Happy Customers

please see the great information available in this service manual

table of contents

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 during normal business hours, Monday through Friday from 8am to 4:30pm pacific standard time @ 702.256.8182

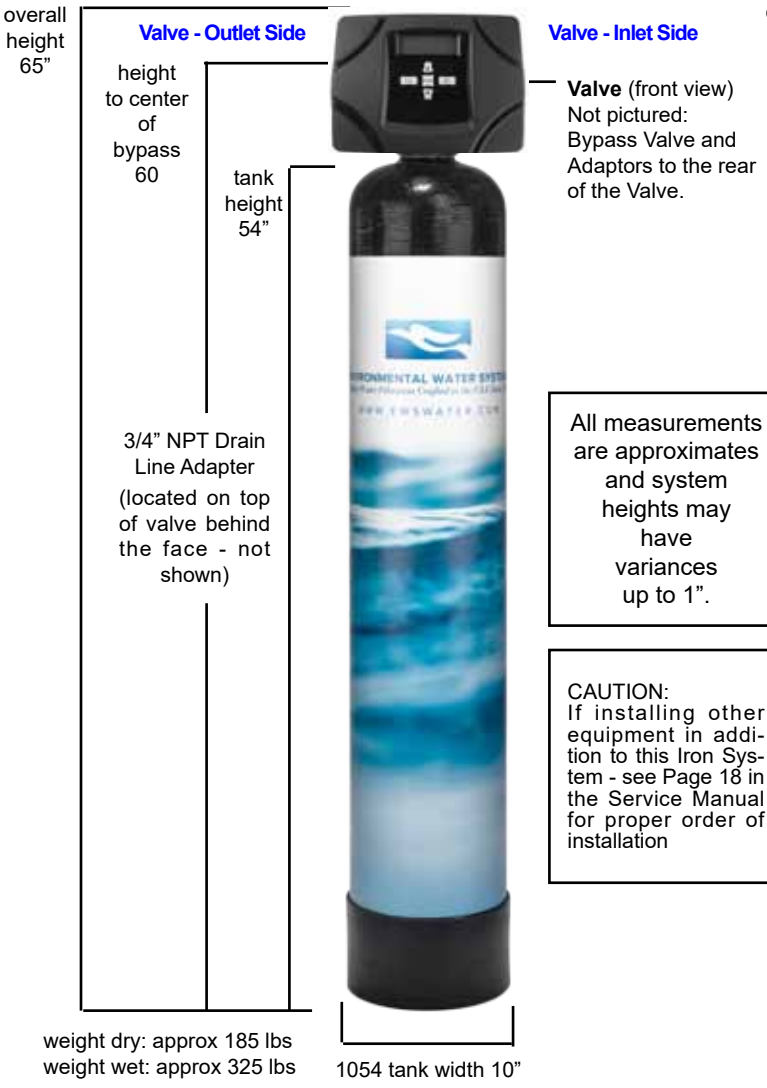
COMPLIANCES, CALIFORNIA COMPLIANCES, PRODUCT GUIDELINES, FACTORY PREPARATION, PRODUCT PERFORMANCE AND GENERAL TERMS AND STANDARD CONDITIONS OF SALE ARE AVAILABLE UPON REQUEST OR PUBLISHED ON WWW.EWSWATER.COM

For Illustration Purposes Only:

One-Step On-Site Assembly Required
Valve needs to placed onto Tank

Pictured:
EWS-IRON-1054-V2

depth: minimum 22" needed for proper installation

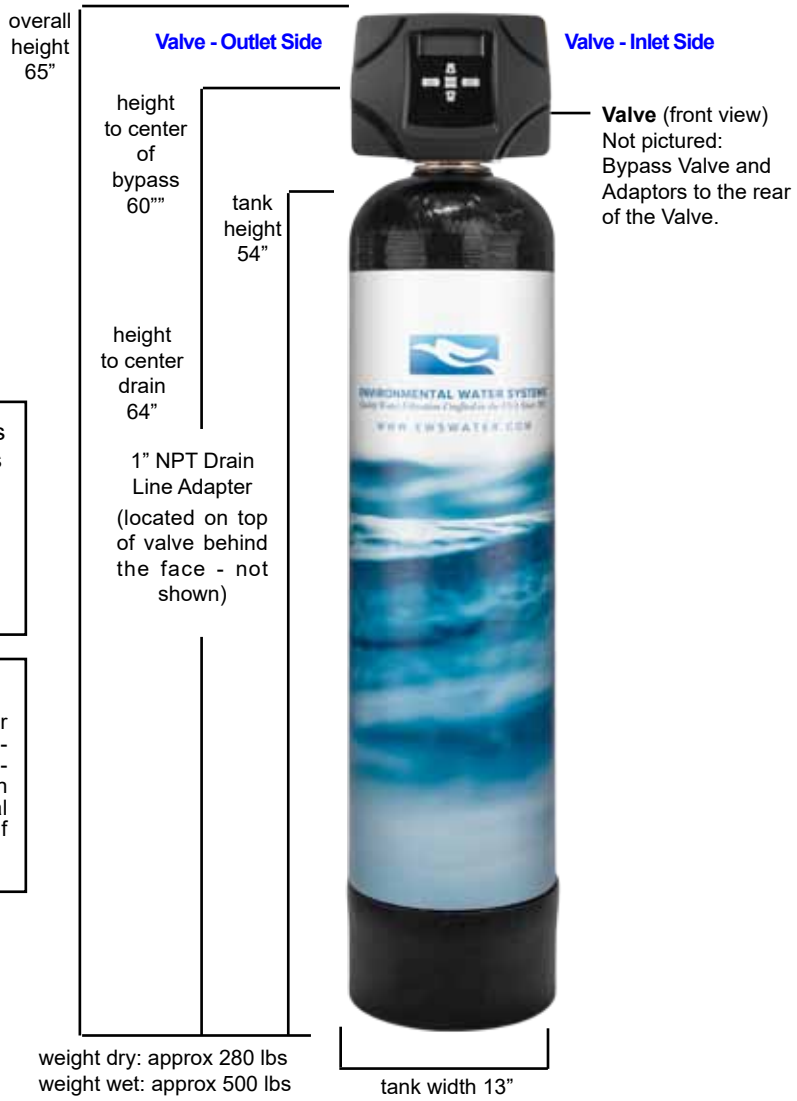


All measurements are approximates and system heights may have variances up to 1".

CAUTION:
If installing other equipment in addition to this Iron System - see Page 18 in the Service Manual for proper order of installation

Pictured:
EWS-IRON-1354-V2

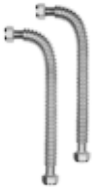
depth: minimum 22" needed for proper installation



***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

1054 and 1354 Iron Systems are shipped strapped and wrapped on a pallet

On each pallet you will find 3 boxes

- 1 Tall Box

  1054 Systems: completely assembled 10 x 54 Tank with 1.5 cubic feet of EWS' Proprietary Iron Reduction Media (IRM) with Riser and Underbed

  1354 Systems: completely assembled 13 x 54 Tank with 2.5 cubic feet of EWS' Proprietary Iron Reduction Media (IRM) with Riser and Underbed

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- 1 Square Box
  Valve with installed air injector and check valve in the inlet port, Parts Box with Bypass Valve and Adaptors, Drain Fittings** and Instructions Packet

  **NOTE: 1054 systems : 3/4" NPT 90 degree angle drain fitting is already installed
  1354 systems : 1" NPT straiight drain fitting can be found in the instructions packet

  NOTE: iron systems do not have valve screens normally found with other filtration or treatment systems.

- 1 Empty Box - for shipping purposes only

Installation of the Valve onto the Tank:

Remove the Tank from the Tall Box

Remove the Valve from the Square Box

A: Remove the Tank Cap from the Tank

B: Remove the Blue Cap from the Riser

C: Make sure the top of the Tank and Tank threads are clean of any debris or materials.

D: Center Riser Tube where it fits up and into the center & bottom of the Valve.
Shake the tank to allow riser and filtration media to shift if needed in order to center the riser.

Back off the installation if resistence occurs and retry unitil Riser fits up and slips into position without any issues.

WARNING: Do not force Riser into the bottom of the Valve. Riser should be straight and centered and should fit snugly into that position. A Riser that is forced to fit, bent or off-center may prevent a proper fit into the valve, score the distribution o-ring in the valve or crush the lower screen or fail under pressure. The result would be the media material contained in the Tank would enter the plumbing system.

E: Install the Valve onto the Tank by turning clockwise. Be careful not to cross-thread Valve onto Tank.

WARNING: Never lay tank down with installed valve. Always keep system upright.

Assembly Done - Contnue the installation and follow the proper setup, installation and startup procedures

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 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.

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.

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 accessable location and be visable in order to visually monitor system and routinely check clock operation and valve controls.

CAUTION: Do not install on a soft water loop or bypass of other water lines where the filtered water will not be available for household use. All Whole Home Filtration Systems are designed to filter all the water to the entire home.

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.

NOTE: Can be connected for outside faucets for plants, lawn, pools, spas, and other features. It is not necessary under normal circumstances for any of these applications. All filtration systems will not harm these other features, however there will be more water usage through the system and may not create any additional benefits for those features due to external environmental issues and porous or natural surfaces or materials.

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 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: Expand drain line by 1/4” 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.

■ Consider the reuse of drain water as an alternative to simply going down the drain.
Unlike salt or resin systems or softeners which have a brine discharge, all Filtration Systems drain only filtered water in order to self-clean the filter. Water can go back to a pool for make up water or water a yard, trees and plants. You can use this filtered drain water in many ways.

Follow above requirements for proper drain line setup, air gap and the need for a non-restrictive spring check valve. Allow water to completely drain through line and do not allow drain water to sit in line. Do not restrict drain water flow. Do not cross-connect or tie into to other water lines.

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 6 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 easliy 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.

■ **BURYING THE SYSTEM:**
If you choose to bury the system for aesthetic reasons, please see the requirements below to prevent system damage.

REQUIRED: Place system into a heavy-duty, corrugated, solid wall culvert pipe with a minimum diameter size 2” larger than the diameter of the system that is being installed to prevent ground movement which can cause tank to be crushed.

REQUIRED: Protect top portion and valve of the system that has been placed into the culvert pipe by following all information in this section. If unit is buried, use a shed, solid covering or a big artificial rock to protect the system from the elements, pets or the kids kicking a soccer ball into it.

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: System has a self-leveling base which can 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 →

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

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

NOTE: Check Valve installed in the inlet port to the Valve - DO NOT REMOVE
NOTE: Air Injector installed in the brine port (outlet side) to the Valve - DO NOT REMOVE

assembled valve, bypass and adaptors

bypass closed position

1” MNPT adaptors to connect to all 3/4” and 1” incoming lines

use the slip fitting adaptors to connect to larger 1-1/4” or 1-1/2” incoming lines

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.

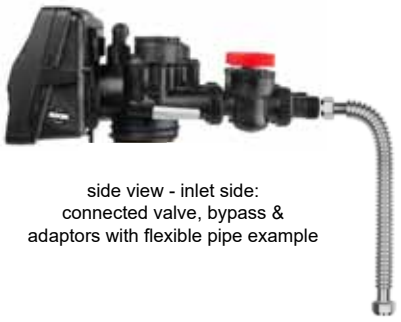
****NOTE:**
There should be no extra parts or boxes. Other than the adaptors you did not use, please make sure there are no extra parts or boxes lying around. Once filled with water correcting something can be a problem.

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.

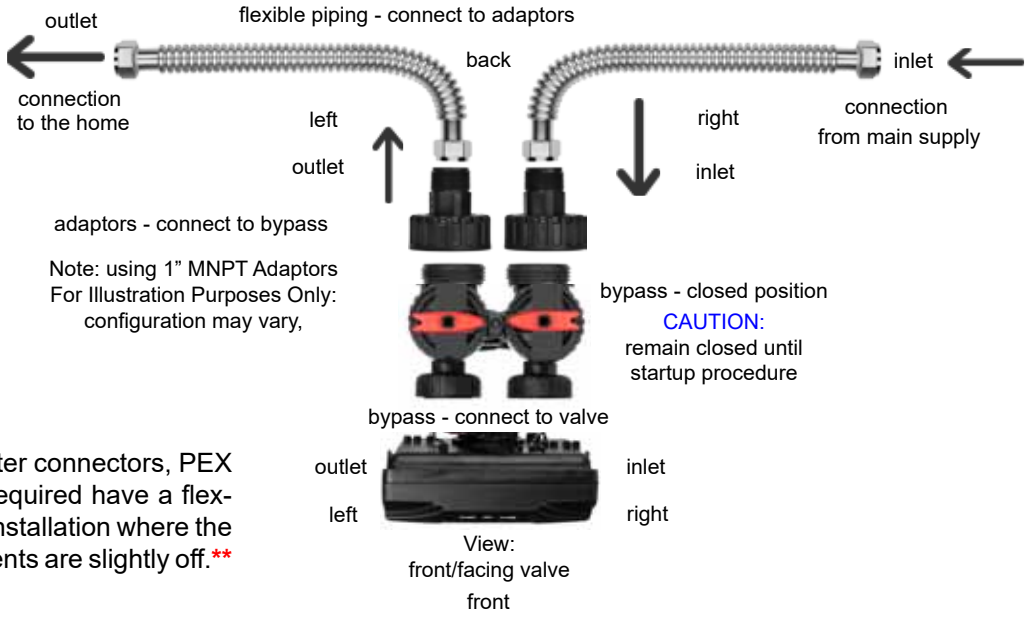
CAUTION: Do not cross-connect or plumb backwards. Make sure of the direction of water flow from cut pipe to be connected.

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



side view - inlet side:
connected valve, bypass &
adaptors with flexible pipe example

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 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.

installation Instructions - all systems - drain connections and air gap

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

1054 3/4" 1354 1"

8. Plumb rigid tubing only (PVC recommended if code applicable) directly to the 3/4" NPT drain fitting for 1054 systems and to 1" NPT drain fittings for 1354 systems.

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.

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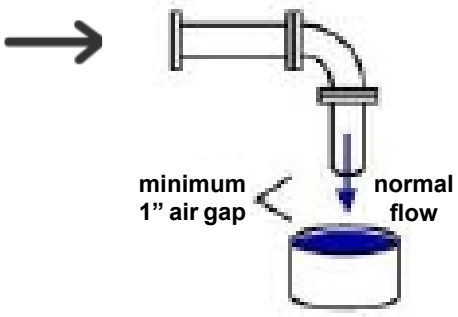
9. Connect and route the drain line to a vented sewer drain with a "P" trap or some other drain location. Installation with an air gap is required.

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 by 1/4" 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 7.5 gpm (1054), or 13 gpm (1354) for up to 24 minutes every 6 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:
Do not freeze. Do not block or bury water flow. Do not directly connect to irrigation (bubblers, drip line and/or sprinklers). Create a PVC drain line(s) with holes (distribution header). Drain line and surroundings must be pitched or sloped to allow for proper water flow and drainage where drain water never sits in the line or any landscape or rain water is allowed to create standing water at the drain line. Allow enough space (lawn, planter, water storage) to flow and absorb up to 7.5 gpm (1054) and up to 13 gpm (1354) up to 24 minutes every 6 days to avoid water damage.

REQUIRED FOR AN OUTSIDE INSTALLATION:
A non-restrictive spring check valve in drain line within the first 2' of the drain port to prevent possible back flow.

Backwash is needed for proper filtration and filter life up to 10 years
Drain water is usable for watering and other uses and does not have to be wasted.

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:

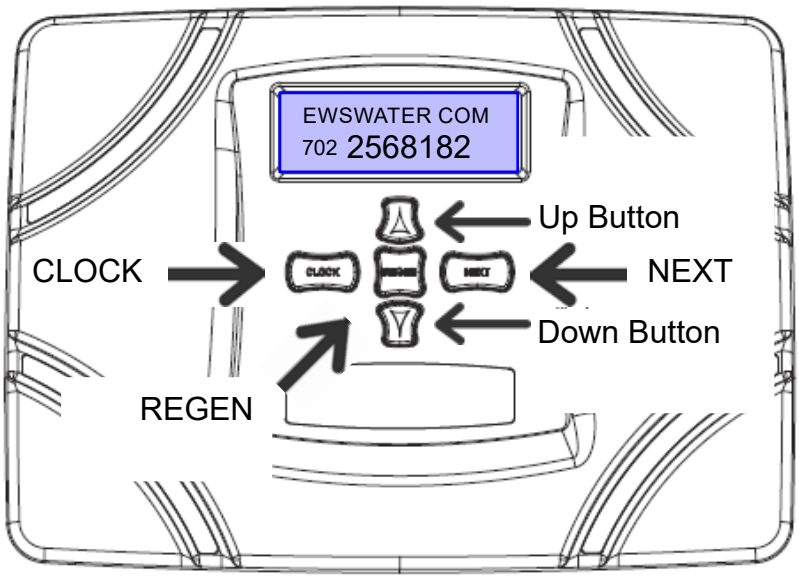
Blue Backlight and Home Screen

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:
Backwash & Rinse cycles, Fitlering (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 backwash can be triggered immediately by pressing the Regen button for five seconds.

When the system begins to backwash, the display will change to include information about the backwash process and the time remaining for that step to be completed. The current cycle display of either backwash or rinse will alternate with the total regen time remaining screen for the self-cleaning backwash. The system runs through the steps automatically and will reset itself to provide treated water when the entire backwash 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 (Backwash or Rinse) 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 backwash or rinse cycle, you can advance to the next cycle after the display stops flashing and begins the count-down 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

installation Instructions - clear the plumbing lines, begin to fill, set time

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

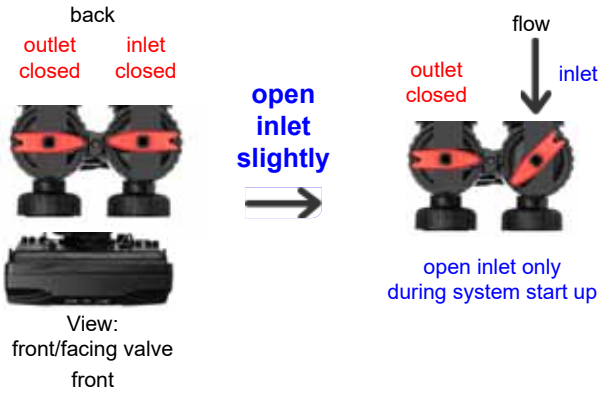
FILL THE TANK - SLOWLY

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

Illustration Purposes Only:
bypass not pictured



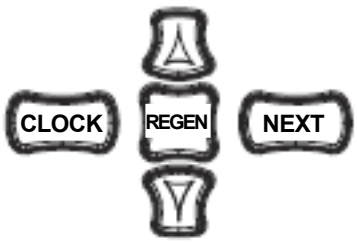
SET THE TIME OF DAY

13. a. Press CLOCK button,
unitl 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.

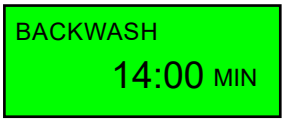
open inlet only during system start up

Illustration Purposes Only:
bypass not pictured

View:
front/facing valve

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

a. **Press and Hold the REGEN Button until the screen turns GREEN and reads BACKWASH**



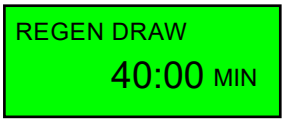
NOTE: Allow the water to backwash and make sure a proper air gap is installed, check your drain connections and see that the water is running clear,

Go to next step after a minimum of 8 minutes

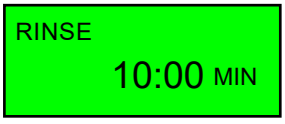
b. Press REGEN Button to read REGEN DRAW

NOTE: Allow to Regen Draw for a minimum of 5 minutes

Go to next step



c. 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 a minimum of 6 minutes

check the system backwashing and you are almost done

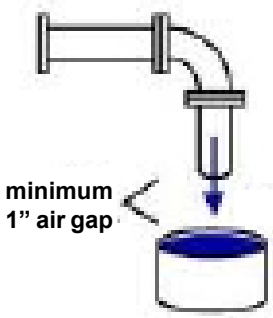
16. **OBSERVE THE DRAIN WATER DURING RINSE CYCLE**

IF THE WATER IS RUNNING CLEAR - PROCEED TO STEP #17.

IF THE WATER REMAINS GREY
BEGIN ANOTHER SYSTEM FLUSH

GO BACK TO STEP 15

Press and Hold the REGEN Button
until the screen turns GREEN and reads BACKWASH



look for clear water coming from the drain

CAUTION:
If the drain water remains grey, repeat backwash until water runs clear

Repeat the flushing sequence until the water from the drain line runs clear.

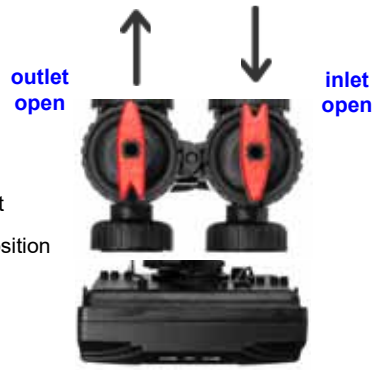
WHEN DRAIN WATER DURING RINSE CYCLE RUNS CLEAR IT'S TIME TO FINISH

open outlet for service and go through a checklist to avoid any issues

17. **OPEN OUTLET ON THE BYPASS**

TO PUT THE SYSTEM IN FINAL SERVICE POSITION

Illustration Purposes Only:
bypass not pictured



open inlet & outlet

system is in service position

View:
front/facing valve

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.

Valve will tell you that it is heading home and returning to the service position. This takes abount 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 6 days (default) or sooner based on system usage at 1 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.

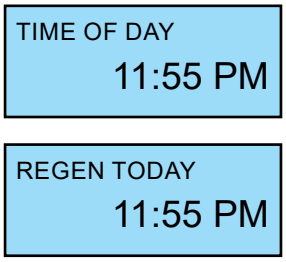
In order to avoid callbacks

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

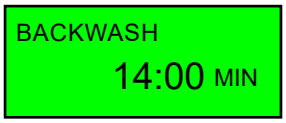
System will flush through a complete cycle tonight at the factory preset time of 1am**

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 1am.**

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.

** **1am is the factory preset time for backwash/self-cleaning of the filtration media. 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**

18. 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

19. 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

20. HELP TO PREVENT CLOUDY OR GREY WATER

- Press and hold the REGEN Button until the screen turns GREEN and reads BACKWASH 14:00

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, the home, and/or filtration media being expelled. Expelled media 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.

Chart for possible and varied well water conditions and system install order*

CONDITIONS	APPLICATIONS
Source Water - Test Results	**Based on Test Results**
Pre-Treatment *(options &/or requirements)* Coliform/Bacterial/E-Coli microorganism problems, decaying vegetation, organic bonding, Iron/manganese bacteria, Tannins (yellow)	Chlorination/Chemical Feed (as needed) Ozonation, UV (only safeguard, not a solution)
Oxidation/aeration **location or sequence of tank may vary* 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 *(as needed)* Iron (red or pinkish) Manganese (black or brownish) Hydrogen sulfide (rotten egg smell)	(pictured) High Purity - High Oxidation Media Systems
Pre-Sediment Filtration *(as needed)* Silt, dirt, heavy particulate matter **location or sequence of unit may vary*	3-micron Self Cleaning System or (pictured) 5-micron Pre-Sediment Cartridge Unit (not a whole home filter)
pH Balancing *(as needed)* Low pH, less than 6.6, corrosive, acidic water High pH, more than 8.6, corrosive, basic water **location or sequence of unit may vary*	Custom Blended, (pictured) pH Increasing Reagent System pH Decreasing Ion-Exchange
Point of Entry - Whole Home Filtration *(as needed)* Chlorine, VOC's, herbicides, pesticides, solvents, dyes, fuels, odor, taste, clarity	CWL Series - Filtration only EWS Series - Filtration and Conditioning vs. Softening
(as needed, must be installed either at the inlet to water heater(s) or after all other systems)	
Softening Hard water conditions with excessive mineral content based on test results or perception/customer preference for soft water	Soften hard water, removal of hardness mnerals for either sodium or potassium chloride
Point of Use - Sink Filtration *(as needed)* Dependent upon test results, removal and/or safeguard, as applicable	Various Drinking Water Systems (pictured to the left or Reverse Osmosis Unit (pictured under Softener to the right)

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. Water must be microbiologically safe for all systems to function as specified.

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. To filter any softened water would require the correct reverse osmosis system regardless of water conditions.

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.

Both types of sink filtration 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.

*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.
o. 702-256-8182 Monday - Friday, 8:00am - 4:30pm, Pacific Time or email customerservice@ewswater.com

parts breakdown - iron systems (for illustration only)

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 position

Valve - Outlet Side

Valve - Inlet Side

Injection:
Oxidation or air into brine line

1054 Systems:
3/4" NTP 90 Degree Drain Adaptor (Pictured installed on the valve inlet side)

Clip (red or grey) secures drain adaptor to valve drain port

1354 Systems:
1" NTP Straight Drain Adaptor installs just like the 1" bypass adaptors

Valve - Top View

Drain Flow Rates:
1054 systems: 7.5 gpm / 1354 systems: 13.0 gpm

Note: drain line (and spring check if needed) to a properly air gapped location is not supplied by EWS

Note: Water Conservation settings are available and water can be repurposed for zero waste.

For Illustration Purposes Only:
Stainless steel corrugated water connectors, PEX or PVC Sch 40 have a flexible capability that is required for proper installation. Connections are not supplied by EWS.

Below represents a fully assembled system from a front view.

Sizes will vary based on model

Valve - Outlet Side

Valve - Inlet Side

Riser Distribution ORing
Valve Tank ORing

Tank:
10" x 54" for 1054 system
13" x 54" for 1354 system (pictured)

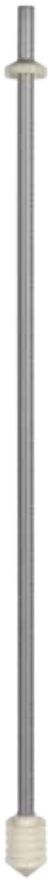
Food & beverage grade, non-corrosive, one-piece, blow-molded polyethelyene interior with structured fiberglass outer laminate.

2.5" opening:

Note - Freeboard:
Top 1/3 of tank is empty for proper backwash and lift of filtration media for the automatic self cleaning of the system

self leveling base

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



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

Filtration:
EWS proprietary, high grade, iron reduction media. No binders, fillers or metal resins

1054 system:	1.5 cu.ft.
1354 system:	2.5 cu.ft.

Underbed:
Specific pea gravel materials for proper water and backwash flow and distribution

1054 system:	20 lbs..
1354 system:	30 lbs.

Riser::
With upper diffuser used with air injection valve

Food & beverage rated pvc water distribution riser with lower screen

NOTE: Unlike other systems, Iron Systems come with an air injector installed into the brine line and a check valve installed in the inlet to the valve in order to establish the air injection and oxidation needed to work effectively. Iron Systems do not come with an Upper Valve Screen.

CAUTION: If installing other equipment in addition to this Iron System - see Page 18 in the Service Manual for proper order of installation

Warranty Notification - As Published and Available Online

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 there with, 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 unenforcable. 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

By the way, after reviewing this service guide for all the right ways to install and start-up this system did you happen to notice which way the water enters the system? We know, you know, because you opened this booklet and read the instructions.

As a result of your careful review and consideration for your customer, we're sure you air-gapped the drain line properly, cleared the plumbing lines prior to opening the inlet, filled the tank slowly, flushed the system for a proper up start-up and installed the system in a proper location with a proper bypass and checked the pressure.

Thanks - we appreciate you.

ENVIRONMENTAL WATER SYSTEMS®

Quality Water Filtration Crafted in the USA Since 1987.

WWW.EWSWATER.COM

Customer Service Monday–Friday 8:00am–4:30pm PST
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