US Water Matrixx inFusion Iron and Sulfur Removal System

081-MIF-XXX

inFUSION
IRON & SULFUR ERADICATION

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Unpacking and Inspection

Be sure to check the entire unit for any shipping damage or lost parts. Also note damage to the shipping cartons. Contact US Water Systems at 1-800-608-8792 to report any shipping damage within **24 hours of delivery**. Claims made after 24 hours may not be honored. Small parts, needed to install the unit, will be in a parts bag. To avoid loss of the small parts, keep them in the parts bag until you are ready to use them.

Safety Guide

- Check and comply with your provincial / state and local codes. You must follow these guidelines
- Use care when handling the system. Do not turn upside down, drop, drag, or set on sharp protrusions
- The backwashing filter uses 12 volt-60 Hz electrical power only. Be sure to use only the included transformer.
- Transformer must be plugged into an indoor 120 volt, grounded outlet only.
- **WARNING:** This system does not remove biological contaminants. US Water Systems recommends that bacteria levels be checked periodically to ensure there is no bacteria present. Coliform and E.coli most importantly.

Before Starting Installation

Proper Installation

This water filtering system must be properly installed and located in accordance with the Installation Instructions before it is used or the warranty will be void.

- **Do not** Install or store where it will be exposed to temperatures below freezing or exposed to any type of weather. Water freezing in the system will break it. Do not attempt to treat water over 100°F.
- **Do not** install in direct sunlight. Excessive sun or heat may cause distortion or other damage to non-metallic parts.
- Properly ground to conform with all governing codes and ordinances.
- Use only *lead-free solder and flux* for all sweat-solder connections as required by state and federal codes.
- Maximum allowable inlet water pressure is 100 psi. If daytime pressure is over 80 psi, night time pressure may exceed the maximum. Use a pressure reducing valve (PRV) to reduce the pressure.
- **Warning:** Discard all unused parts and packaging material after installation. Small parts remaining after the installation could be a choke hazard.
- If installing a 20 GPM system (081-MIF-10-250), it is recommended to use a 3/4" minimum drain pipe to ensure proper performance during backwash.

Tools, Pipe, Fittings, and Other Materials

- Channel Locks
- Screwdriver
- Teflon Tape
- Razor Knife
- Two adjustable wrenches
- Additional tools may be required if modification to home plumbing is required.
- To maintain full valve flow, be sure the plumbing size matches the size of the valve. The outlet pipe should be the same size or larger than the water supply pipe.
- Use copper, brass, or PEX pipe and fittings. Some codes may also allow PVC Plastic pipe.
- **ALWAYS** install the included bypass valve or install a 3 shut-off valve hard piped bypass. Bypass valves allow the water to be turned off to the system but can still provide water to the house for water use during repairs or service.
- 5/8" OD, 1/2" ID drain line is needed for the valve drain.

inFusion Equipment Introduction

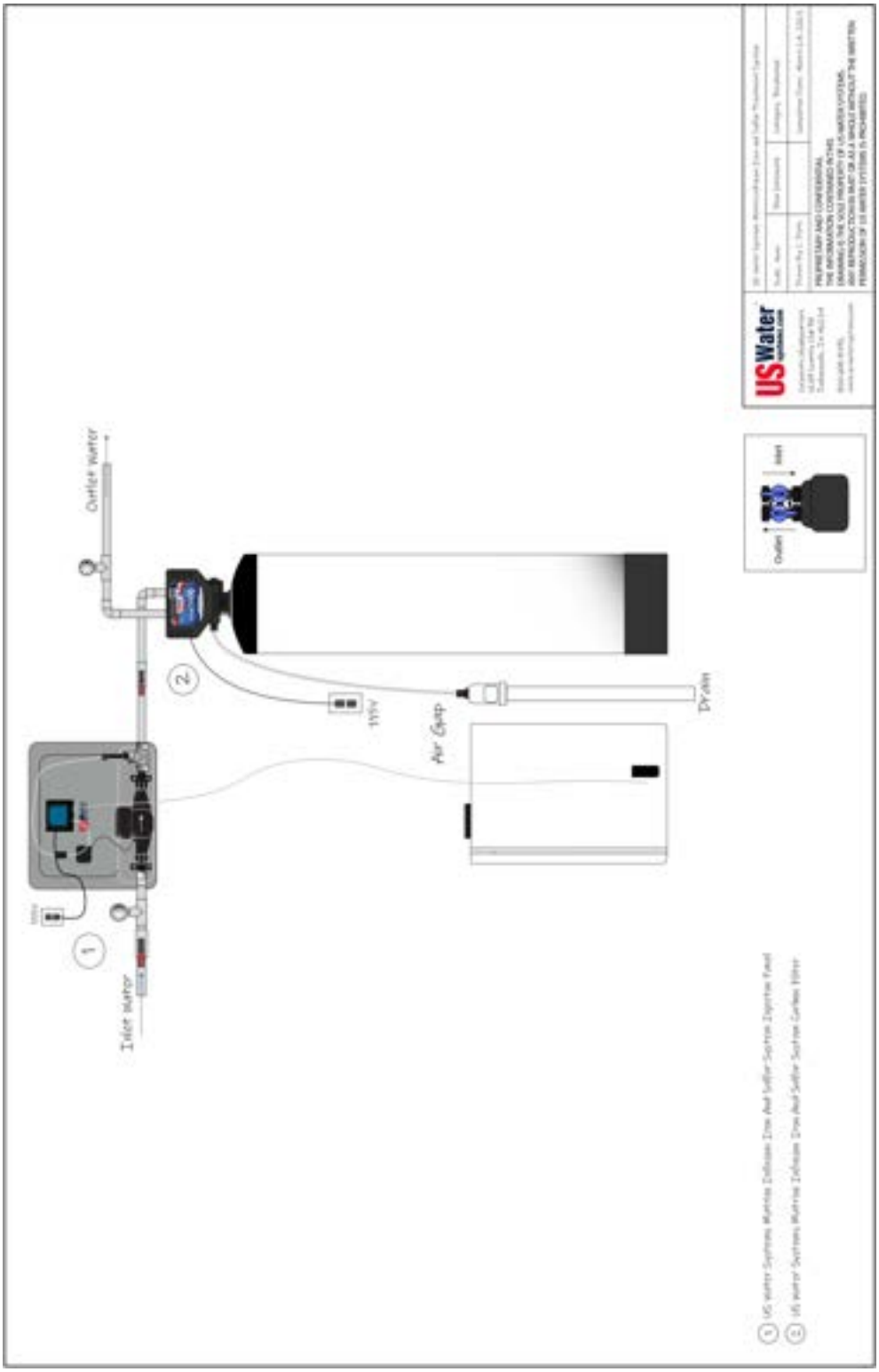
The Matrixx inFusion system provides iron and sulfur removal throughout the home. The Matrixx inFusion system should be installed at the point of entry to treat the entire home, both hot and cold water.

The Matrixx inFusion systems backwashing tank removes iron and sulfur using oxidation. When water is used in the home, hydrogen peroxide is injected in the Matrixx inFusion feed to create super oxidation during operation. The catalytic carbon media in the Matrixx inFusion system tank provides filtration when the system is in service to collect contaminants oxidized by the hydrogen peroxide. These contaminants are backwashed from the media surface when the system regenerates.

Benefits

- Iron & Sulfur Removal
- Virtually maintenance free
- Improves the efficiency of water using appliances
- Simple installation
- Safe for landscaping and lawn watering
- Compatible with all on-site and community wastewater treatment systems

System Overview



Specifications

Please review operating pressures and temperatures to ensure compatibility.

Model Number	MIF-150	MIF-200	MIF-250
Tank Size	10" x 54"	12" x 52"	13" x 54"
Catalytic Carbon - Cubic Feet	1.5	2	2.5
Gravel Quantity - Pounds	15	20	25
Water Temperature	39°F Min - 100°F Max		
Water Pressure	Min 20 psi - Max 100		
Plumbing Connections	3/4" or 1" MPT		
Electrical Requirements	100-240V, 50/60Hz, 0.3A / Output 12V, 500mA		

How The inFusion Water Treatment Systems Works

The Matrixx inFusion iron and sulfur eradication system uses hydrogen peroxide (H2O2) to oxidize contaminants in the water source. The chemical name for hydrogen peroxide is H2O2. It is very similar to water (H2O) but with one additional oxygen molecule. Hydrogen peroxide is injected into the water stream proportionally. The water meter will engage the chemical injection pump based on the flow rate of the feed source water and the settings on the pump control.

When water is being used, the water meter sends a pulse to engage the pump. So, when large amounts of water are being used, the pump will run more frequently during the usage period than in times when a small amount of water is being used. The standard programming is set to a 5 second control. At 100%, the pump will stay engaged for 5 seconds. At 50%, the pump will stay engaged for 2.5 seconds. In some applications with high flow rates or high contaminant levels, this setting may need to be changed if a residual H2O2 can not be achieved. There are internal settings that can be changed to adjust the output rate. The pump settings can be changed to 10 seconds at 0-100% or 20 seconds at 0-100% if need be. 80% of the applications will use the standard setting (5 seconds).

When hydrogen peroxide is injected into the water stream, it oxidizes the iron and sulfur precipitating it from solution. This reaction is immediate. When these contaminants are oxidized with hydrogen peroxide (H2O2), the extra oxygen molecule oxidizes the contaminants and the by product is H2O (water). This is much safer than using chlorine in that chlorine can cause other problems in the water stream such as chloramines and trihalomethanes (THMs).

Once the hydrogen peroxide has been injected in the water, it passes through the backwashing catalytic carbon filter. The backwashing catalytic carbon filter uses catalytic carbon media to act as a "catalysis" to remove the oxidized contaminants. As the water passes through the catalytic carbon filter, the oxidized contaminants are removed from the water and collected on the catalytic carbon media. Once the water has passed through the catalytic carbon filter, the water is iron and sulfur free! Some manganese can be removed with the Matrixx inFusion system but extreme levels of manganese may require a water softener in addition to the Matrixx inFusion system to polish the remaining manganese.

The catalytic carbon filter will need to be backwashed at a specified / determined frequency. In some applications, this can be extended to 4-5 days. The typical frequency is 1 - 3 days. Contact US Water Systems and a Certified Water Specialist will be able to determine the frequency that can be used when considering the feed water contaminant levels. The factory default will be 3 days.

Oxidation Scale (the higher the better)

Oxidant	Oxidation Potential, V
Fluorine	3.0
Hydroxyl radical	2.8
Ozone	2.1
Hydrogen peroxide	1.8
Potassium permanganate	1.7
Chlorine dioxide	1.5
Chlorine	1.4

Preparation

System Tank Preparation

Water Pressure: A minimum of 20 pounds of water pressure is required for the control valve to operate effectively.

Electrical Facilities: An uninterrupted alternating current (AC) supply is required. *Note: Other voltages are available. Please make sure your voltage supply is compatible with your unit before installation.*

Existing Plumbing: Condition of existing plumbing should be free from lime and iron buildup. Piping that is built up heavily with lime and/or iron should be replaced.

Location of Tank and Drain: The media tank should be located close to a drain to prevent air breaks and back flow.

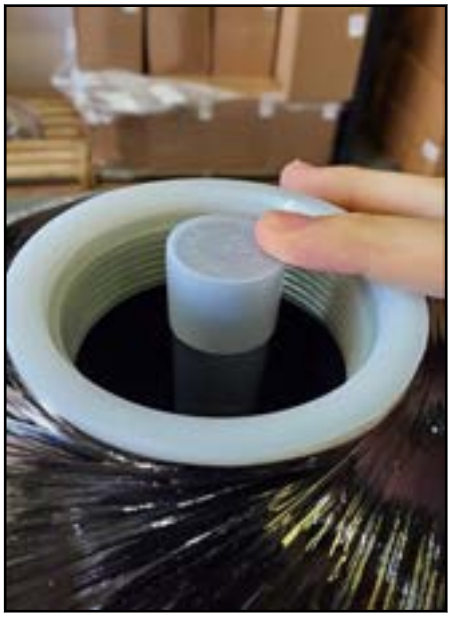
Caution: Water pressure is not to exceed 80 psi, water temperature is not to exceed 110°F (43°C), and the unit cannot be subjected to freezing conditions.

Media Installation

1. Remove the tank from the carton.
2. Verify the riser tube is centered in the bottom of the tank. There is an indentation in the bottom of the tank that will allow the distributor tube to be centered. A flashlight may be needed to verify the tube is in the center of the tank.

3. Install the clear, plastic cap that is provided in the install kit onto the distributor tube.

4. Use the funnel provided to pour the media into the tank. The order the media is poured in is important. Begin by pouring the Quartz Gravel into the bottom of the tank. Pour it evenly around the hole to ensure it is well distributed in the tank and pour slow enough to keep from plugging the hole. Then proceed to pour the Catalytic Carbon. A helper may be needed to hold the funnel during the filling process.
   NOTE: It is recommended that a dust mask and safety goggles be worn to prevent possible injury.
5. When the media is installed, move the tank side to side to settle the media. Remove the funnel and cap from the distributor tube.



6. Lubricate the distributor O-ring and the outer tank O-ring.

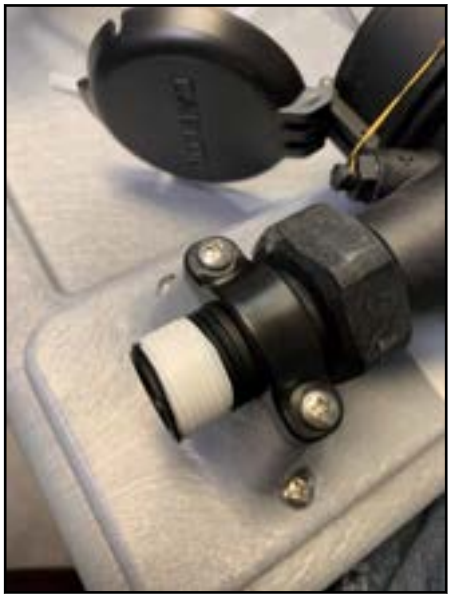
7. Install the upper basket on the bottom of the valve by lining up the tabs then turning the basket clockwise to lock it in place. Place the upper basket over the distributor tube and push the valve onto the tank. Thread the valve on the tank by turning it clockwise. Be sure not to cross thread the valve on the tank.

8. Tighten the valve hand tight then snug it further by tapping it with the palm of the hand. **DO NOT** use tools to tighten the valve or damage could occur.

Injection Panel Installation

1. Layout the parts for the injection panel, then locate a suitable area where the panel can be installed. Install the stainless steel mounting rail. A level can be used to make sure the bar is installed properly. This bar should be secured to the wall studs or a wood backing plate that is secured to the wall studs.

2. Hang the panel on the wall and install the inlet fitting.
   BE SURE to Teflon tape the threads and tighten the fitting using the proper tools.



3. Install the outlet fitting.
   BE SURE to Teflon tape the threads and tighten the fitting using the proper tools.

When pressurizing the system, feed the water slowly by opening the inlet water valve in small intervals. Shocking the meter by over speeding it with high flow rates can damage the internal assembly.

Ensure the piping is properly aligned and supported both upstream and downstream of the panel.

NOTE: It is the installers responsibility to comply with all national and local plumbing and electrical codes.

NOTE: A 3/4" meter is used to detect flow rates as low as 0.25 GPM. Undersink RO systems and humidifiers can go undected while using a 1" meter. Flow rates will not be decreased while using this in conjunction with 1" plumbing.

Installation Instructions

1. If your hot water tank is electric, turn off the power to it to avoid damage to the element in the tank.
2. If you have a private well, turn the power off to the pump and then shut off the main water shut off valve. If you have municipal water, simply shut off the main valve. Go to a faucet or spigot (preferably on the lowest floor of the house) and turn on the cold water until all pressure is relieved and the flow of water stops.
3. Locate the backwashing tank close to a drain where the system will be installed. The surface should be clean and level.

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

   The system is equipped with male pipe threaded ports on the control valve bypass. The bypass is marked with arrows to show proper flow direction. The arrow pointing toward the valve indicates the inlet. The arrow pointing away from the valve is the outlet.

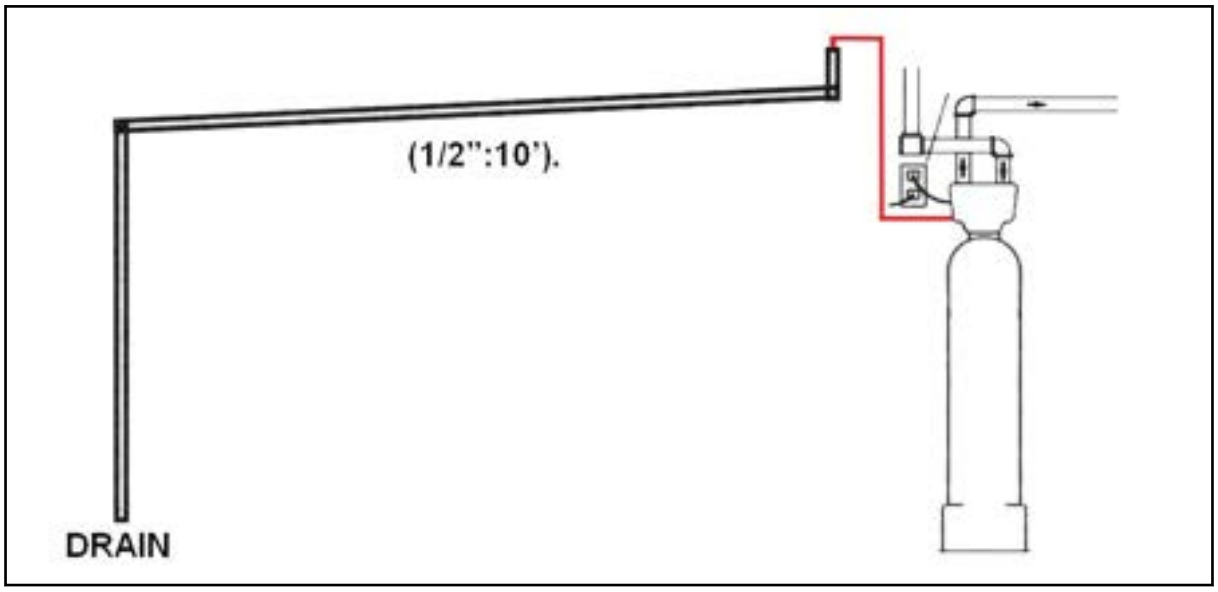
4. Insert the provided plumbing fittings into the bypass. 3/4" and 1" male pipe thread fittings are supplied so ensure you pick the correct one for your plumbing. Tighten the retaining nuts hand tight, ensuring that the fittings are not cross threaded.




5. Be sure to use Teflon tape or other pipe sealant on the plumbing fitting threads and install them on the bypass accordingly. Use an adjustable wrench to ensure they are tight.
   NOTE: All piping should be secured to prevent stress on the bypass valve and connectors.
6. Connect the plumbing from the water source to the inlet of the Injection Panel.
7. Proceed to connect the plumbing from the outlet port of the Injection Panel to the inlet port of the bypass on the carbon filter.

8. Now install the outlet plumbing for the bypass outlet port to the next piece of treatment equipment or out to the home.

9. Connect the drain hose to the valve and secure it with a hose clamp. Run the drain hose to the nearest laundry tub, floor drain or approved air gap fitting. The drain can be ran overhead or down along the floor. Drain tubing should be a minimum of 1/2" ID. When running the drain overhead, it is important that the tubing has no dips or kinks. If the drain is ran overhead and must run linearly to the available drain, it is recommended that a hard pipe is used of larger diameter than the drain line. This linear pipe should have a physical "drop" toward the drain (1/2" : 10'). The goal is to have a gravity drain without much back pressure when traveling long distances.



NOTE: A direct connection into a waste drain is not recommended. A physical air gap of at least 1.5" should be used to avoid bacteria and wastewater travelling back through the drain line into the system.

NOTE: Be sure to secure the drain line. The system will drain with force and it should be secured to prevent a leak. Hose clamps should be used to secure the drain line at the connection points.

NOTE: If installing a 20 GPM system (081-MIF-10-250), it is recommended to use a 3/4" minimum drain pipe to ensure proper performance during back-wash.

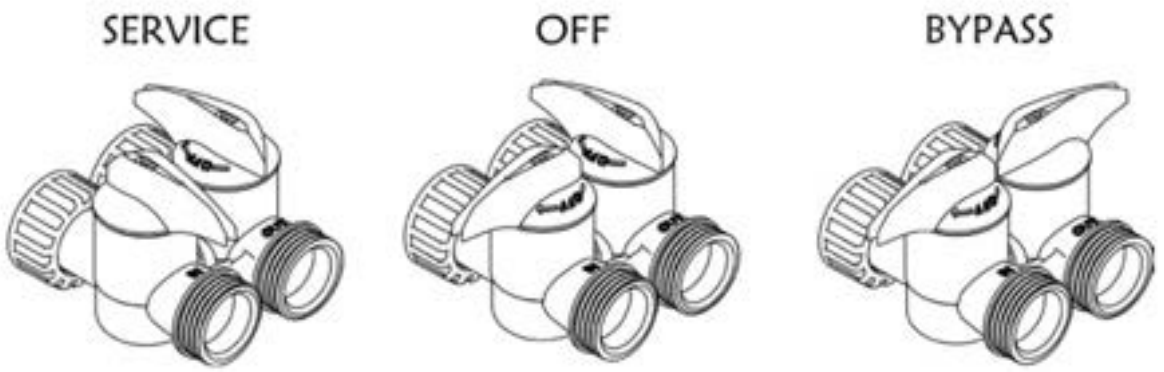
Automatic Bypass During Regeneration

The regeneration cycle can last 25 to 30 minutes, after which treated water service will be restored. During regeneration, untreated water is automatically bypassed for use in the household. This is why automatic regeneration is set for sometime during the night and manual regenerations should be performed when little or no water will be used in the household.

Manual Bypass

In the case of emergency, you can isolate your water system from the water supply using the bypass valve located at the back of the control. In normal operation, the bypass is open with the handle in line with the inlet and outlet pipes.

To isolate the system, simply rotate the handles clockwise (as indicated by the word OFF and arrow pointer on the handles) until they stop. Water can be used at related fixtures and appliances as the water supply is bypassing the system. The water used, however, will be untreated. To resume treated water service, open the bypass valve by rotating the handles counter clockwise.



About The System

You may notice new sounds as your water system operates. The backwash cycle lasts up to 25 minutes. During this time, you may hear water running intermittently to the drain.

Chemical Solution Tank Installation Instructions

1. Place the chemical solution tank close to the injection panel. Drill a 1/4" hole in the top of the chemical tank. Push the 1/4" tubing in the hole in the tank.

2. Pull the 1/4" tubing from inside the tank up through the fill hole. Then push on the weighted strainer on the 1/4" tubing.

3. Install the other end of the tank suction tube to the chemical injection pump inlet. The inlet is identified by an arrow pointing toward the pump. Be sure the sleeve is installed on the tubing properly. The beveled side of the sleeve should be facing the pump. Tighten the nut hand tight while holding the pump fitting. Do not use tools or damage could occur. Hand tightening will be sufficient.

4. Remove the shipping sticker and install the tube from the flow indicator to the injection check valve. Tighten it hand tight.

Chemical Injection Pump Start-up Instructions

1. Plug the chemical pump power cord into a continuously energized 110v outlet. The chemical pump should be set when the unit is shipped. It should be set to "20 SECONDS" and the percentage should be set on 50%.

2. If changes need to be made, the pump must be unlocked. If the pump is locked, push and hold the mode and the percentage "%" buttons at the same time and hold them for 3-5 seconds. The pump locked sentence will disappear. If "STANDBY" is on the screen, push and hold the "MODE" and "STBY" buttons and "STANDBY" will disappear.
3. To change the "mode" to "20 SECONDS", hold the mode button while using the up or down arrows to change the setting.
4. To change the percentage, press and hold the "%" button while using the up or down arrows to change the percentage to the desired rate. The pump is now programmed. See the "Bubble Method" under Hydrogen Peroxide Injection Rate Adjustment Instructions for pump adjustment.
5. Once the pump is programmed, pour the supplied hydrogen peroxide in the chemical tank. Now push and hold the "PRIME" button as well as the "MODE" button until the pump pulls the solution from the container up to the pump and on to the injector. The level can be seen in the tubing as the pump becomes primed. Once it is primed, the pump is ready to use, The pump will operate during the startup process. If the pump is not working, see below.

NOTE: If the pump is showing "STANDBY", hold the "MODE" button and push the "STBY" button to take the pump out of the standby mode. The display will not show "STANDBY" if it is in normal operation. **BE SURE** to check that the pump is not in the "STANDBY" mode. If the pump is left in "STANDBY", it will not operate during regeneration as intended. If the pump is "LOCKED", it will need to be unlocked to make changes. If the valve is "LOCKED", press and hold the "MODE" and "%" buttons at the same time for 3-5 seconds to unlock.

System Regeneration

Normal Operation

Home Display - The home display will alternate between the time of day and gallons left until the next regeneration. The meter will count down to zero (0000) and then regenerate at the scheduled time set.

Starting a Regeneration Cycle

1. To Start **Delayed Extra Cycle**
   - If Days Remaining Until Next Regeneration does not read '0000', press and hold the Set/Change button for 3 seconds until the display reads '0000'
   - Regeneration cycle will initiate at the next designated regeneration time.
2. To start **Immediate Extra Cycle**, first complete above step.
   - With Gallons Remaining Until Next Regeneration at '0000', press and hold the **Set/Change** button.
   - After 3 seconds, the regeneration cycle will begin.
3. To **Fast Cycle** thru regeneration, first complete above 2 steps.
   - Press and hold the Set/Change button for 3 seconds to advance to the next cycle step. Fast Cycle is not necessary unless desired to manually step through each cycle step. (Repeat until valve returns to home display)

Filter Cycles		Default (Min)
Step 1	Backwash	10
Step 2	Rest	2
Step 3	Rinse	10

Programming Using Onboard Buttons

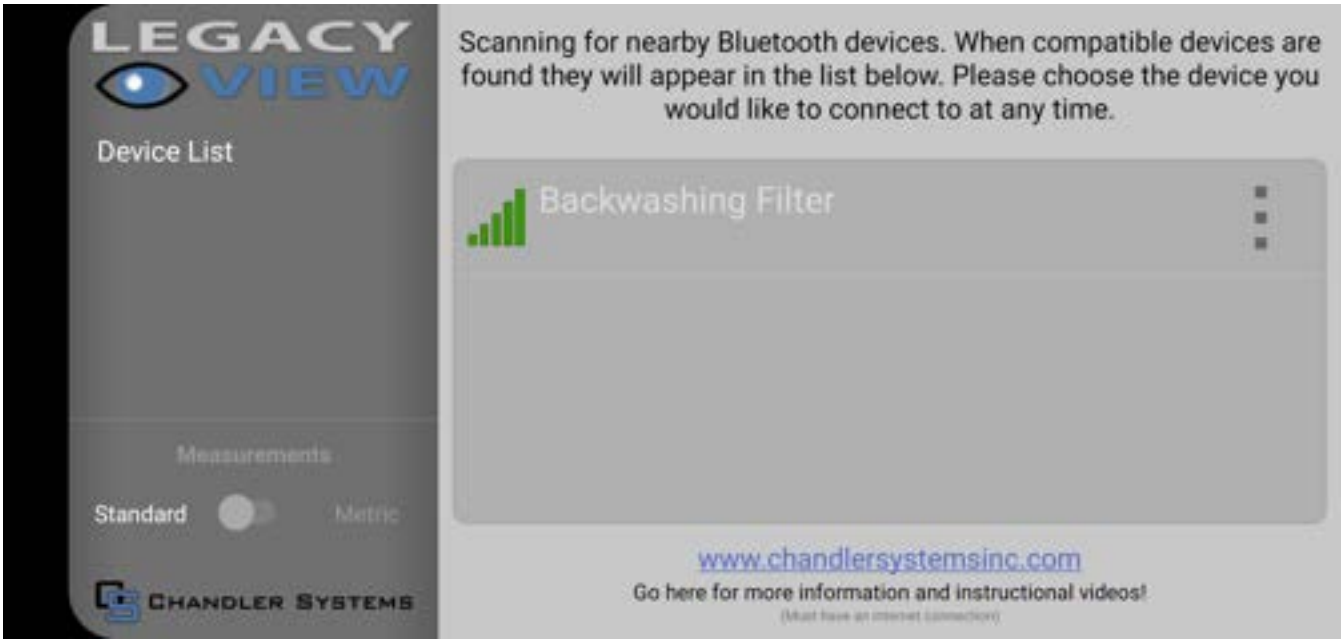
1. To enter the Main Menu, press the **Menu/Enter** button. (Time of Day will flash)
2. To set the **Time of Day**, press the **Set/Change** button. (First digit will flash)
   - To change digit value, press the Set/Change button.
   - To accept the digit value, press the Menu/Enter button.
   - Next digit will flash to begin setting.
   - Once the last digit display is accepted, all digits will flash.
3. To set **A.M. or P.M.**, press the **Menu/Enter** button.
   - To change digit value, press the Set/Change button.
   - To accept the digit value, press the Menu/Enter button.
   - Once A.M. or P.M. is accepted, the next menu item will flash.
4. To set the number of days between backwash cycles (A), press the **Set/Change** button. Repeat instructions from Step 2
   - Maximum value is 29
   - If value is set to 0, automatic backwash will never occur
   - Default setting is 7 days for filters
5. To Exit Main Menu, press the **Menu/Enter** button.
   NOTE: If no buttons are pressed for 60 seconds, the Main Menu will be exited automatically.

Programming Using Legacy View App

The Legacy View app allows the user to control every aspect of the water system from the convenience of a smart phone. The Legacy View app will allow the user to monitor usage history, change cycle times, start a regeneration and advance through a regeneration.

To use the Legacy View Bluetooth App:

1. Go to the App store on the phone to be used and search for "Legacy View".
2. Download the free Legacy View app.
3. Open the app to begin programming.
4. Once the app is open, it will begin scanning for control valves in the Bluetooth vicinity.



5. Once the app connects to the control valve or valves, they will appear on the screen. Each valve can be renamed by tapping on the three vertical dots on the valve listed on the screen. Choose "Label Device" and a lettered keyboard will appear. The user can name the valve using the keyboard then save it by pushing "OK".
6. Choose the valve to be programmed by tapping on the name. A "Dashboard" will show up for the control valve.

Dashboard

Parameters that can be changed are indicated with orange font. To change a parameter, tap on the orange font then use the keyboard that appears to change the value.

1. **Time of Day:** Tap on the "Time of Day" box. A box will appear that allows you to set the unit to the time that matches the device being used to program the unit. Press "OK" and the time will change to the current time of the device.
2. **Backwash Frequency:** Tap on the "Filter Backwash Frequency" box and input the desired days between backwashing. Most applications will set this to 3 days. If iron or sulfur is extreme, it may need to be set to 1 or 2. Please call US Water at 1-800-608-8972 for help with setting the frequency, if necessary.
3. **Regeneration Time:** Tap on the "Regeneration Time" box. Input the desired regeneration time for normal operation. This is typically two hours after everyone in the house is asleep or the business is closed for the day.

Advanced Settings

Parameters that can be changed are indicated with orange font. To change a parameter, tap on the orange font then use the keyboard that appears to change the value.

1. **Backwash:** This should be set to "10" min and should not be changed.
2. **Rest:** This should be set to "2" min and should not be changed.
3. **Rapid Rinse:** This should be set to "10" min and should not be changed.

Status and History

The Status and History screen shows current conditions of the system as well as flow rate and usage history. There are two parameters that can be reset.

1. **Total Regenerations:** This parameter shows how many times the system has regenerated since it was put in service or since the last time the value was reset.
2. **Total Water Treated:** This parameter shows the total amount of water that has been treated since the system was put in service or since the last time the value was reset.

Regenerating Using the Legacy View App

There are two options for regenerating the system. Tap on the desired option and press "OK".

1. **Regenerate Now:** Regenerate Now will queue an immediate regeneration and will start instantly.
2. **Regenerate at Next Regen Time:** Regenerate at Next Regen Time will queue the system to regenerate at the specified regeneration time chosen in the programming.

System Start Up

1. With the bypass handle in the bypass position, initiate an immediate regeneration. This will advance the valve to the backwash position.
2. Once the valve has stopped moving and is in the backwash position, slowly open the bypass handle about 1/8th turn. Water should slowly enter the tank.
   NOTE: If there is a loud knocking sound, simply turn the bypass handle back slightly as the system is filling too quickly.
3. During the backwash cycle, slowly open the bypass valve until there is water coming out of the drain hose. Then open the bypass valve fully. During this process, peroxide should be injecting into the system.
4. Allow the system to backwash and push all the air out through the drain.
5. Allow the unit to rinse for the entire cycle. The water in the drain should be running clear by the end of the Rapid Rinse Cycle.
6. The valve will then advance to Service.
7. Once the system has returned to the Service position, the system is installed and ready for use.

Hydrogen Peroxide Injection Rate Adjustment Instructions

US Water Systems uses the "bubble method". This is a visual method that works best for quick and reliable H2O2 injection rates.

1. Set the proportional control on the Stenner injection pump to 50% by holding the "%" button while using the "UP" or "DOWN" arrows to adjust the % output on the tank mounted injection pump.
2. Run water for 10 - 15 minutes.
3. Take a sample after the catalytic carbon tank (or at a sink). The water in the sample container (preferably glass) should be full of bubbles immediately after the sample is taken. It will look similar to an Alka-Seltzer dissolving in a glass. If not, the installer will adjust the pump to 60%, run the water for 10 - 15 minutes and check again.
4. Continue adjusting the knob "up" in increments of 10% and allow the water to run for 10 - 15 minutes between samples until the sample container is full of bubbles. Once the container is full of bubbles, it is an indicator that there is plenty of H2O2 in the water. BE SURE to allow 10 - 15 minutes between adjustments.
5. Now continue the same sampling process but decrease the knob setting in 5% increments, allowing the water to run for 10 - 15 minutes between adjustments until there are just a few bubbles in the sample container (20 - 30 defined air bubbles in the center of the solution in the glass) that come to the top of the water level and dissipate immediately. This should be the optimal H2O2 injection setting. The bubbles should be in the center of the glass and rise to the top immediately. Bubbles on the outside of the glass are not considered in the visual inspection. Bubbles in the solution is what to look for. This is an indicator that there is a small amount of residual H2O2 in the treated water and the contaminant is being oxidized. Once this setting is determined, the system will operate automatically.

Over the first 1 - 3 months, it is important to monitor the H2O2 level in the storage / solution tank and start to gain usage data that will help determine the H2O2 usage and when to order replenishment H2O2 accordingly. This setting should be periodically checked and adjusted due to changes in the aquifer (well) and loss of H2O2 concentration by degradation. After 6 - 8 months, the H2O2 can lose concentration, so only replenish the tank to a level that can be used in 6 - 8 months to ensure the H2O2 concentration strength is consistent.

There is a tamper proof screw that can be installed in the cover when the H2O2 injection rate is set. This screw will fix the cover in place and prevent the pump rate control from being moved.

System Features

Battery Back-Up (Uses a standard 9-volt alkaline battery.)

- During power failures, the battery will maintain the time of day as long as the battery has power. The display is turned off to conserve battery power during this time. To confirm that the battery is working, press either button and the display will turn on for five (5) seconds.
- If power failure occurs while the system is regenerating, the control valve will motor to a shut off position to prevent constant flow to drain. Depending upon the system pressure and other factors, it is possible to observe a reduced flow to drain during this step. After power is restored, the control valve will return and finish the cycle where it left off prior to the power interruption.
- When used without battery back-up, during a power failure, the unit stops at its current point in the regeneration position and then restarts at that point when the power is restored. The time will be offset by the increment of time the unit was without power so it is necessary to reset the time of day on the unit. No other system will be affected.

WARNING: DO NOT INSTALL THE BATTERY BACKUP UNTIL THE SYSTEM HAS BEEN PROGRAMMED AND START UP IS COMPLETE!

1. Remove the two screws on the back of the valve.

2. Pull out the 9V battery connector, remove the battery cover, and attach the battery to the connector.

3. Push the battery back in the holder on the valve and replace the cover and screws.

What to Expect

The Matrixx inFusion system will produce iron, sulfur, manganese free water immediately after installation, Depending on the raw water quality, there may be contaminants built up in the water heater, plumbing system and other devices. Over the first few weeks, as water is used, there could be traces of this build up that are being removed by the newly installed system. This typically clears up after a couple weeks.

Depending on the contaminants being removed, there may be iron bacteria or sulfur reducing bacteria in the plumbing system prior to the Matrixx inFusion install. This bacteria can potentially survive after the Matrixx inFusion installation. This is usually indicated by a sulfur smell that will appear after a few weeks of initial usage. If this is the case, the well and entire plumbing system will need to be chlorinated to remove any existing bacteria. If the bacteria is not removed, it will begin to "grow" backwards toward the treatment system and the sulfur smell will not go away. If this does occur, it is easily eradicated with a chlorination well "shock" procedure. A well sanitizing kit is included, if necessary.

There may be "bubbles" in the water for a few weeks after installation. A few bubbles are fine but if there is "fizz" that remains for several seconds, it is an indication that the system is being overfed with H2O2. This occurs because, after installation, the water will become cleaner after the plumbing system has been flushed and the initial dosage of H2O2 may need to be adjusted to compensate for the lower contaminant level.

Routine Maintenance

- **Pressure Tank** - If the plumbing system uses a bladder pressure tank, it will be in the system prior to the Matrixx inFusion system. This tank should be drained periodically to remove any build up of contaminants. Typically once a quarter is sufficient but that frequency may need to be increased on systems with high contaminant levels.
- **Injection Panel** - The internal pump tube and injection duck bill check valve may need to be replaced periodically. They typically last 1 - 5 years depending on the usage. There is a spare tube shipped with the system and instructional videos explaining how to change the tube at www.uswatersystems.com. Replacement duck bill check valves can be purchased at www.uswatersystems.com as well.
- **Catalytic Carbon** - The catalytic carbon is virtually maintenance free. However, if there is a power outage, the clock and other settings need to be checked to ensure the filter will backwash properly at the proper time of day. It is crucial that the catalytic carbon backwashes at a time when there is no water being used in the house or contamination of the plumbing system can occur. This media typically lasts 3 - 5 years in most applications before it is exhausted.

Maintenance Schedule

Component	Action	Frequency	Replacement Part
Existing Well Pressure Tank	Drain tank until the water runs clear	1 - 6 Months	N/A
Injection Pump Tube	Inspect pump tube and replace as needed	1 - 5 Years	411-EC30F-2
Injection Panel Injection Fitting	Remove the injection fitting and clean off build up	1 - 6 Months	411-UCDBINJ
H2O2 Solution Tank	Periodically check the solution level and refill as needed	Varies by water usage	710-OXYPRO-7
Control Valve	Check the clock and settings periodically or after a power outage	Monthly	N/A
Media Tank	Replace the catalytic carbon media	3 - 5 Years (Dependent on the water usage and contaminant level being treated)	600-USW-CARB-CAT

Warranty

MATRIXX INFUSION LIMITED WARRANTY

US Water Systems, Inc. (“US Water Systems”) warrants that your new water treatment system is built of quality material and workmanship. When properly installed and maintained, it will give years of trouble-free service. TO PLACE THIS EQUIPMENT UNDER WARRANTY, THE WARRANTY REGISTRATION MUST BE COMPLETED AND RETURNED BY THE ORIGINAL OWNER TO US WATER SYSTEMS, INC. WITHIN 30 DAYS OF INSTALLATION.

Coverage - This limited warranty covers the MatrixxInfusion(the “System” hereafter) delivered to the original owner when the appliance is purchased for personal, family, or household use. It is intended to cover defects occurring in workmanship or materials or both. US Water Systems warrants that upon receipt from the owner of any Media Tank Main Control Valve incorporated into the System found to be defective in material or workmanship, US Water Systems will repair or replace the defective item, at no charge for that item, under the procedures and limitations outlined below.

Ten Year System Parts Warranty - US Water Systems will replace any valve, electronics or miscellaneous part of the System, to any original purchaser of the System in possession of the System, which fails within ten (10) years from date of purchase, as indicated by the serial number, provided the failure is due to a defect in material or workmanship. THE DURATION OF THE IMPLIED WARRANTIES OF FITNESS OR MERCHANTABILITY AS THEY APPLY TO THE PARTS OF THE SYSTEM COVERED BY THIS PARAGRAPH OF THE LIMITED WARRANTY ARE LIMITED TO THE DURATION OF THE LIMITED WARRANTY SET FORTH IN THIS PARAGRAPH.

Lifetime Warranty on Media Tank - US Water Systems will replace the mineral tank of the System, to any original purchaser of the System in possession of the System, which fails if the System was at all times operated in accordance with specifications set forth in the System’s handbook and not subject to freezing and other general limitations about the System. THE DURATION OF THE IMPLIED WARRANTIES OF FITNESS OR MERCHANTABILITY AS THEY APPLY TO THE PARTS OF THE SYSTEM COVERED BY THIS PARAGRAPH OF THE LIMITED WARRANTY ARE LIMITED TO THE DURATION OF THE LIMITED WARRANTY SET FORTH IN THIS PARAGRAPH.

Five Year Stenner Parts Warranty - US Water Systems will replace the Stenner Injection Components of the System, to any original purchaser of the System in possession of the System, which fails if the System was at all times operated in accordance with specifications set forth in the System’s handbook and not subject to freezing and other general limitations about the System. THE DURATION OF THE IMPLIED WARRANTIES OF FITNESS OR MERCHANTABILITY AS THEY APPLY TO THE PARTS OF THE SYSTEM COVERED BY THIS PARAGRAPH OF THE LIMITED WARRANTY ARE LIMITED TO THE DU-

RATION OF THE LIMITED WARRANTY SET FORTH IN THIS PARAGRAPH.

General Provisions - US Water Systems assumes no responsibility for subsequent or consequential damage, labor or expense incurred as a result of a defect or for failure to meet the terms of this limited warranty because of circumstances beyond its control. Installation workmanship failure is not covered under this limited warranty. Damage caused by environmental conditions such as, fire, freezing, accidents, unreasonable use, abuse, neglect, lightning strikes, humidity or heat is not covered under this limited warranty. It is the responsibility of the customer to pay any and all shipping charges for the return or replacement of any part covered under this limited warranty. In the event the water supply being processed through the System contains sand, bacterial iron, algae, sulfur, tannins, organic matter, high levels of chlorine or chloramine, methane, or other unusual substances, then unless the owner's manual or appliance specifications for the System provides that the System is capable of handling these substances, other special treatment of the water supply must be used to remove these substances before they enter the System. Otherwise, US Water Systems shall have no obligations under this limited warranty. This limited warranty does not cover damage to a part or parts of the System resulting from improper installation. All plumbing and electrical connections should be made in accordance with all local codes and the installation instructions provided with the System. The limited warranty does not cover damage resulting from use with inadequate or defective plumbing; inadequate or defective water supply or high or low pressure; inadequate or defective house wiring; improper voltage, electrical service, or electrical connections; or violation of applicable building, plumbing, or electrical codes, laws, ordinances, or regulations.

US Water Systems does not authorize any person to assume for us any other obligation on the sale of this water system. No responsibility is assumed for delays or failure to meet this limited warranty caused by strike, government regulations or other circumstances beyond the control of US WATER SYSTEMS, INC. To obtain warranty service, call or write: US WATER SYSTEMS, INC. 1209 Country Club Road Indianapolis, IN 46234 (800-608-8792). THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND ANY IMPLIED WARRANTIES OF FITNESS OR MERCHANTABILITY ARE LIMITED TO THE TERMS OF THIS LIMITED WARRANTY, AND THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THOSE HEREIN. US WATER SYSTEMS SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES. Some states do not allow the exclusion or limitations of incidental or consequential damages so the above limitation may not apply to you. This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

THIS LIMITED WARRANTY MAY BE TRANSFERRED TO A SUBSEQUENT OWNER WITH WRITTEN APPROVAL OF US WATER SYSTEMS AND PAYMENT OF STANDARD TRANSFER FEE.