EASYWATER

IRON SHIELD™ MAX

Installation Manual & Owner's Guide

Table of Contents

Congratulations on the purchase of your new EasyWater® Iron Shield Max. As with every EasyWater product, we are confident that you will be completely satisfied with your purchase. EasyWater is dedicated to providing the healthiest and most eco-friendly products to our customers.

Benefits of Iron Shield Max

- ✓ Sinks, showers, tubs and toilets remain free from unsightly staining
- ✓ Eliminates unpleasant tastes and odors
- ✓ Plumbing, septic systems and water-using appliances often perform better and last longer
- ✓ Reduces many harmful pesticides, industrial contaminants, VOCs and more
- ✓ NO strong chemicals or salt used

What to Expect After Installation

Your EasyWater Iron Shield Max will begin reducing iron, iron bacteria, hydrogen sulfide, manganese and tannins from water immediately upon installation. However, these contaminants may already exist in your home's plumbing system and water heater. Depending on the amount of build-up, it may take some time to eliminate these contaminants from your home's plumbing.

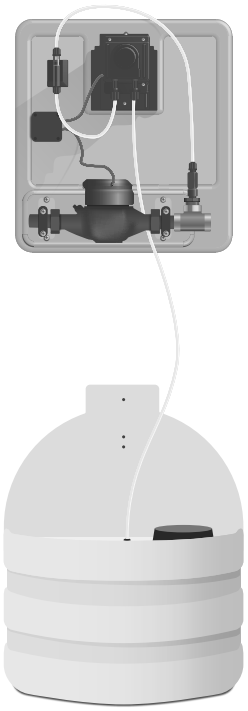
Getting Rid of Existing Rust Stains:

A complimentary bottle of Red-B-Gone is included in this packet to use for cleaning existing rust stains. Just follow the directions on the bottle to clean rust stains from the following:

- » Toilet bowl and water tank
- » Dishwasher
- » Washing Machine
- » Tubs, showers, sinks and drains
- » Dishes and glassware

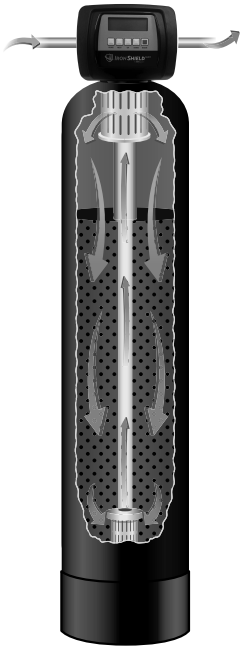
How Iron Shield Max Works

Your EasyWater Iron Shield Max uses a dilute hydrogen peroxide solution to remove high levels of iron, iron bacteria, hydrogen sulfide, manganese and tannins. This is a natural process, which is healthier for you and better for the environment than using strong chemicals or salt.



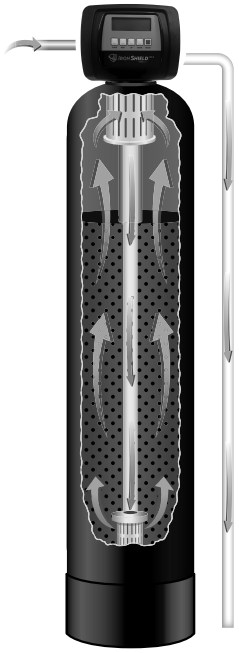
1. H_2O_2 Injection

A metered valve measures your water usage and delivers a precise amount of hydrogen peroxide solution to the treatment tank



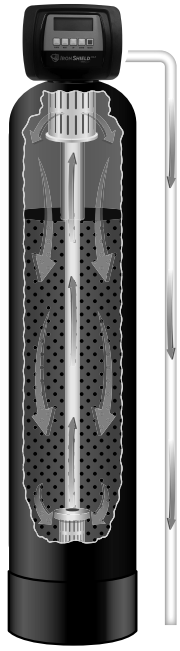
2. In Service

Untreated water enters the filter. Iron and other contaminants are oxidized by the peroxide solution and trapped in the natural meda.



3. Backwash

Upward flow of water lifts the filter bed, removing trapped contaminants and increasing the life of the media.



4. Fast Rinse

Filter bed is packed down to prepare for the next filtration cycle.

Unpacking & Inspection

Be sure to inspect the entire shipment immediately upon receipt for any shipping damage or parts loss. Also note any damage to the shipping carton. **Contact the transportation company for all damages and loss claims. EasyWater is not responsible for damages in transit.**

Accessory Checklist

1 Peroxide Tank
1 weighted suction strainer (in tank)
1 roll of suction / discharge tubing (connectd to strainer)
1 pump / bracket assembly
(includes tubing and 3 nuts/ferrules)
2 1/4" nuts (loose)
2 1/4" ferrules (loose)
1 Iron Shield Max tank
1 Iron Shield Max valve

Basic Guidelines

» Before you begin installation, read the entire manual.

» **CHECK LOCAL PLUMBING AND ELECTRICAL CODES. THE INSTALLATION MUST CONFORM TO STATED CODES.**

» Use only lead-free solder and flux for all sweat-solder connections, as required by state and federal codes.

» Use care when handling the filter. Do not turn upside down, drop or set on sharp objects.

» Do not locate the system where freezing temperatures occur. Do not attempt to treat water that is over 120˚F. **FREEZE DAMAGE OR HOT WATER DAMAGE VOIDS THE WARRANTY.**

» If installing outdoors, protect from direct sunlight. Excessive sun and heat may cause distortion or other damage to non-metallic parts.

» While the electronic components are enclosed, protect the filter if installing outdoors where water can damage the electronics.

» Unplug the filter from electrical power before servicing the filter or removing the outer valve cover. Complete maintenance or repairs and replace covers before plugging into the power outlet again.

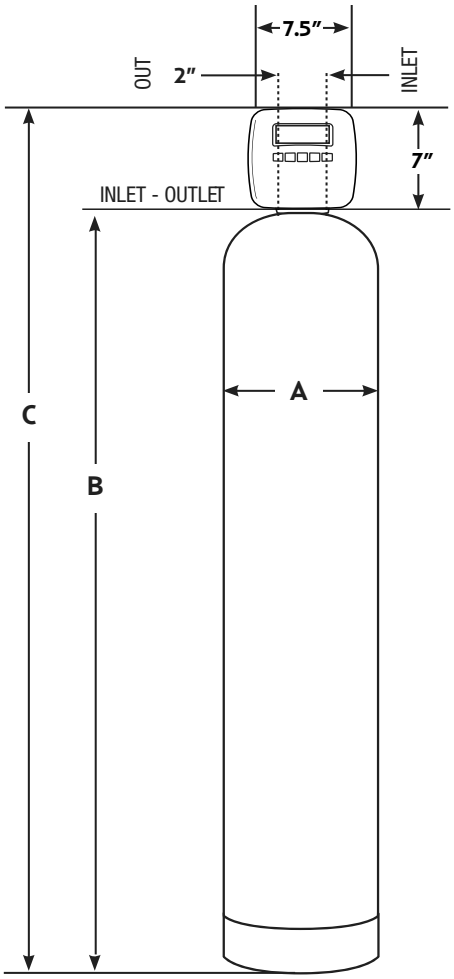
» The filter works on 120V – 60 Hz electrical power only. **MAKE SURE THE FILTER IS PLUGGED INTO AN OUTLET WITH CONTINUOUS POWER.**

Specifications

Model	Optimal Flow Rate	Min Backwash Flow Rate	Tank Size
ISM 1000	< 7 gpm	5 gpm	10” x 54”
ISM 2000	< 12 gpm	10 gpm	13” x 54”

For best results, do NOT exceed optimal flow rate.
For water conditions exceeding any of these specifications contact EasyWater Tech Support for recommendations.
pH must be 6.8 or higher for iron removal
pH must be 7.8 or higher for manganese removal

	All 10” Diameter Filters	All 13” Diameter Filters	All 16” Diameter Filters
A	11”	14”	16”
B	57”	57”	65”
C	64.5”	64.5”	72.5”
Depth	16”	16”	16”



Before Starting Installation

Where to install the filter

» Place the filter as close to the incoming water line as possible. On well water applications, this would be as close as possible **after the pressure tank**. It is recommended to bypass outdoor faucets in order to conserve water and filter capacity; install or plumb as necessary.

» Connect the filter to the main water line before (ahead of) the water heater. Do not run hot water through the filter. Temperature of water passing through the filter must be less than 120°F.

» Place the filter as close as possible to a floor drain, or other acceptable drain point (laundry standpipe, laundry tub, sump pit, etc.).

» Place the filter in an area where water damage is least likely to occur if a leak develops. **The manufacturer will not repair or pay for water damage.**

» Do not install the filter in an area where it could freeze. **Freeze damage is not covered by the warranty.**

» A 120 volt electric outlet is required to plug in the filter controller and the pump. The filter comes with a 24 volt transformer with a 10 foot power cord. **These connections must meet local electrical codes.**

» Keep the filter out of direct sunlight, as excessive sun and heat can distort any non-metallic parts.

Tools, pipe, fittings & other materials needed

» Use copper, brass or PVC or PEX plastic pipe fittings. **Always follow local plumbing codes.**

» A bypass valve is already installed on the filter. The bypass valve allows you to turn off water to the filter for maintenance, while still allowing water to flow into the house.

» **ISM 1000**: A 1” bypass valve is included. A sturdy drain line of 1/2” inside diameter minimum (to be provided by installer), is needed for the valve drain. A smaller line will not allow the filter to operate properly. If drain distance is greater than 10’, increase to a 3/4” diameter drain line. The drain must have an air gap. **The end of the line must be secured in place.**

ISM 2000: A 1” bypass valve is included. A sturdy drain line of 1” inside diameter minimum (to be provided by installer), is needed for the valve drain. A smaller line will not allow the filter to operate properly. The drain must have an air gap. **The end of the line must be secured in place.**

» If a solid drain line is needed to comply with local plumbing codes, you can purchase locally the parts needed to connect to drain.

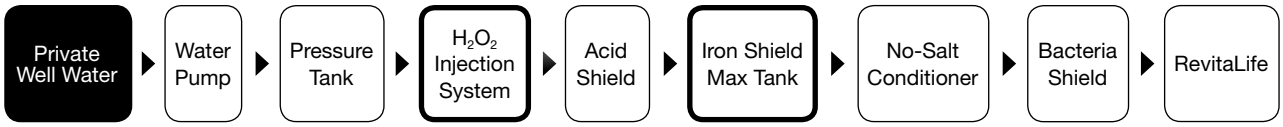
Before Starting Installation *(Cont'd)*

Plan how you will install the filter

» You must first decide how to run "IN" and "OUT" pipes to the filter. Look at the house main water pipe at the point where you will connect the filter. Is the pipe soldered copper, glued plastic or threaded brass/galvanized? What is the pipe size?

» Determine the direction of the water flow in the home, then turn off incoming water supply valve. Plumb the incoming water line into the bypass valve side marked "IN". Plumb the line leaving the filter into the bypass valve side marked "OUT".

Product Installation Sequence



If a lawn or garden irrigation system or open loop heating/cooling system is to be treated, a separate Iron Shield Max will be necessary. Contact EasyWater Tech Support for more information on these installations.

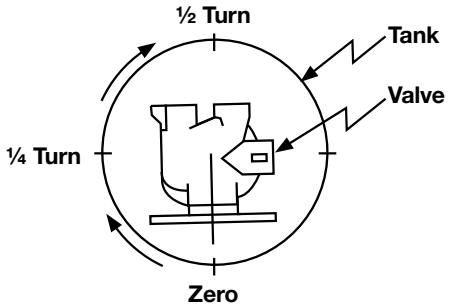
Before Starting Installation *(Cont'd)*

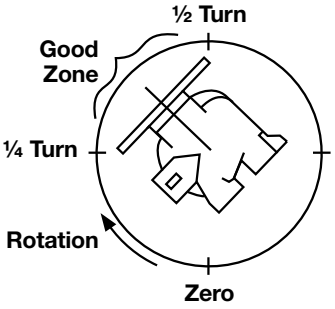
Installing Valve Head on Tank

DO NOT exceed 25 ft lbs of torque when installing this product. Exceeding this limit may damage the threads and cause failure. DO NOT use the drain connector to tighten the valve on the tank. This can break the drain connection or crack the valve.

Unless special equipment is available to mechanically torque the valve to the tank, please follow the steps below:

1. Hand spin the valve onto the tank, ensuring the threads are not cross-threaded.
   Note: Valves are right-hand threads, or clockwise, to install.
2. Rotate the valve freely without using force until it comes to a stop (this position is considered zero).
3. Rotate the valve clockwise from zero to between ¼ turn and ½ turn (see diagram).





Installing the Peroxide Pump

1. Find a suitable location where the peroxide pump can be securely mounted to wall within 5’ of an electrical outlet, and as close to the incoming water line as possible. Install metal mounting bracket.

   NOTE: Peroxide pump and tank can be installed up to 25’ away from filter tank if necessary.

2. Mount back plate of peroxide pump to metal mounting bracket.
3. Push 1/4” plastic tubing into peroxide tank, ensuring the weighted filter end is approximately 3” from the bottom of the tank.
4. Push free end of plastic tubing into ferrule, then into plastic nut (see Figure A). Cut free end of plastic tubing if necessary to ensure correct length, then secure tubing with nut to inlet on the peroxide pump marked with a ⬆.
5. Shut the water supply off, draining water from the plumbing, and cut the plumbing to the correct length.
6. Connect tubing between flow indicator (point A) and injection check valve (point B). Finger tighten all nuts on pump assembly (see Figure B).
7. Plumb the incoming water line into the peroxide pump, plumb the peroxide pump to the filter tank bypass valve side marked “IN”, and plumb the line leaving the filter into the bypass valve side marked “OUT”.
8. Unscrew black plastic cap and fill tank with peroxide solution (provided).

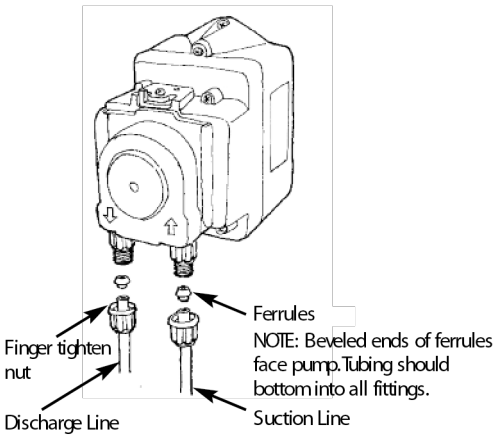


Figure A

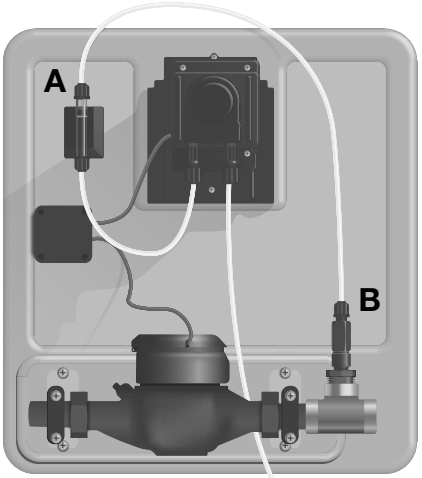


Figure B

Setting the Controller

The EasyWater Iron Shield Max uses an electronic controller to manage the valve head and the backwash process.

When the unit is in the service position (the unit is providing treated water), the display will alternate between showing the current time of day and the days between regeneration. The regeneration cycle is preset to occur at 12:30 AM every second day. The timing and frequency of regeneration can be modified as required.

Normal duration for the regeneration cycle is approximately 21 minutes.

1. Backwash Cycle = 20 minutes. Water flow is reversed inside the unit to lift the filter media, rinsing the accumulated iron and other contaminants from the filter bed.

2. Fast Rinse = 1 minute. This packs the bed, readying the system to begin filtering water again.

3. The system then returns to the service position.

Untreated water is available during the regeneration cycle. It is important that no other water treatment filter regenerate at the same time. Regeneration of multiple filters should be staggered in two hour increments.

With higher than normal water usage or high levels of iron, iron bacteria, manganese, H_2S or tannins, the system may need to regenerate more frequently than the preset two day cycle. The system can be programmed for daily regeneration if necessary. Do not set the regeneration frequency longer than two days, as this risks fouling the filter media and can eventually make the unit inoperable.

If high levels of iron, iron bacteria, manganese, H_2S or tannins persist after programming the system for daily regeneration, contact EasyWater Tech Support for information on adjusting the peroxide injection interval or speed.

Setting the Controller *(Cont'd)*

SETTING THE CURRENT TIME OF DAY

This method is also used to reset correct time of day in the event of a power outage lasting over 48 hours.

a. Press CLOCK button.

b. Press UP or DOWN button until the display shows the current hour. Scroll past 12 to toggle to PM.

c. Press NEXT button.

d. Press UP or DOWN button until the display shows the current minutes.

e. Press the NEXT button to exit and resume normal operation.

SCHEDULING AN EXTRA REGENERATION TONIGHT

This will give your filter full capacity should you expect much higher than normal water usage tomorrow.

a. Press the REGEN button.

b. The words "Regen Today" will flash on the display to indicate that the system will regenerate tonight at the normal set time (typically 12:30am).

SCHEDULING A REGENERATION IMMEDIATELY

Water conditions fluctuate, as does water usage. If you begin getting iron or manganese staining or H_2S odor in your home, typically due to higher than normal water usage, you may choose to regenerate filter immediately.

NOTE: If you use water during the 61-81 minute regeneration period the water will be untreated by the EasyWater Toxin Shield+.

a. Press and hold the REGEN button for three seconds. Open two faucets inside the home.

System Start-Up *(After installation is complete)*

1) Open two faucets inside the home.
2) Turn the bypass valve to the service position.
3) Fill the filter with water by turning on the water service valve SLOWLY.
4) Close the two open faucets inside the home.
5) Check installation for leaks.
6) Backwash the unit **until water runs clear**.
7) Press and Hold the REGEN button for 5 seconds to initiate an immediate regeneration.
8) The system will be regenerating for the next 61 - 81 minutes. During this time you will have water to the home, but it will be untreated until regeneration is complete.

NOTE: All water supplies contain oxygen and with this chemical-free oxygen injection system you may see additional bubbles in your water. These dissipate quickly.

Troubleshooting

Problem	Possible Cause	Solution
System Does Not Backwash	No power	Ensure unit is plugged in and receiving power Ensure system is not on a switch that gets turned off
	Power failure	Reset time of day and check settings
	Defective motor	Replace motor
System is Not Filtering	Drain line is kinked or blocked	Ensure drain line is as straight as possible without any kinks and free of obstructions
	The “bypass” valve has been moved from the “Service” position	Move the “bypass” valve back to the “Service” position
	System is not backwashing frequently enough	Increase backwash frequency
	Distributor (risor) tube is leaking	Ensure tube is not cracked or broken Ensure O-ring where tube connects to head is in good condition and replace if necessary
	Media is fouled	Replace media
Water Continuously Runs to Drain	Motor stopped or jammed	Check motor and replace if necessary
	Debris in head	Remove piston, check for any debris and clean if necessary
	Internal leak in control	Inspect piston, seals, spacers and replace if necessary
Filter does not regenerate at correct time	Power failure	Reset time of day
Bubbles or cloudy water	Additional oxygen in water	Bubbles or cloudy water should dissipate on their own

Limited Warranty

EasyWater, Inc., Fishers, IN warrants this Iron Shield Max (referred to as Filter) as stated herein:

From the date of shipment from EasyWater, Inc., within the warranty period described below, we will repair or replace any part which we find defective because of faulty materials or workmanship. You pay only freight to our factory and local labor charges.

» Five years on valve electronics
» Ten years on media tank, excluding filter media
» One year on peroxide metering system, excluding pump tube assembly and rubber components

Damage to any part of Filter because of misuse, misapplication, neglect, alteration, accident, installation or operation contrary to printed instructions, or damage caused by an act of terrorism or any unusual force of nature such as, but not limited to, freezing, flood, hurricane, tornado or earthquake is not covered by this warranty. In all cases, regular parts and service charges will apply.

We assume no warranty liability in connection with this Filter other than specified herein. This warranty is in lieu of all other warranties, express or implied, including warranties of fitness for a particular purpose. We do not authorize any person or representative to assume for us any other obligations on the sale of this filter.

Should a defect or malfunction occur, contact your EasyWater Specialist. If you are unable to contact your EasyWater Specialist, contact EasyWater at (888) 766-7258 or via email at info@easywater.com. We will repair or replace the part at no cost if our repair department determines it to be defective under the terms of the warranty.

Feed water quality must meet the requirements for this system on an ongoing basis in order for this warranty to be valid.

This warranty is valid for the original purchaser only and gives you specific legal rights. You may have other rights which vary from state to state.

EasyWater, Inc.
9910 N by NE Blvd, Ste 200, Fishers, IN 46037
(888) 766-7258

EasyWater is not responsible for damages incurred during product installation or while performing recommended maintenance when system is self-installed. Please contact us directly at (888) 766-7258 with any questions regarding self installation.