

The Iron Breaker™ - An Excellent Way to Remove Iron and Sulfur from Your Water

Patented in 1973, the Iron Breaker™ (Patent 3,893,773)

produces filtered water which removes iron efficiently and economically. The Iron Breaker™ is a positive, no-moving-part device which does not require filters, chemicals or external power.

Iron Breaker™ III

Chemical Free Iron & Sulfur Reduction

The Iron Breaker™ III is a self-cleaning, hygienic filter system which uses a "ring of steel" of compressed metal mesh to clean your water tank. The O-charged water is then passed through a media bed containing the iron, sulfur,

and sulfide removal media. The combination and arrangement is so effective that it can remove at least 10% of the total iron and sulfide content of incoming raw water. In addition, water treated by the "ring of steel" achieves the pH required.



Tank Size	10" x 54"
Media Cu. Ft.	1
Continuous Flow Rate	3 GPM
Peak Flow Rates (not to exceed 10 min.)	5 - 6 GPM
Back Wash	7 GPM @ 30 PSI
Capacity	5000 PPM iron
Recommended Cycles	1000 Gallons
Weight	90 lbs.
PH Range	6.8 - 9.0



Iron Breaker III Operating Manual

The Iron Breaker III System is an excellent way to remove iron and sulphur from your water.

Based on a unique patent-protected (US Patent 5,919,373) process the Iron Breaker III removes iron effectively and economically without the need for expensive, messy and dangerous chemicals or troublesome pumps or external air injectors.

The Iron Breaker III can be used whenever iron is a problem. Years of field experience with the Iron Breaker III system has shown it will remove iron in excess of 10 parts per million (PPM) and remain effective in high PH water.

How Does It Work?

The Iron Breaker III works by adding oxygen to the incoming water by passing it thru a “bubble” of compressed air captured in the top of the media tank. The O₂ charged water is then passed thru the filter media bed, removing the iron.

Birm, an effective medium for removing iron and manganese, is only effective when higher levels of oxygen, at least 15% of the total iron, is present in the water. Passing the incoming water through the compressed “air bubble” achieves the proper level.

Birm acts as a catalyst in the reaction between iron and oxygen that causes the iron to precipitate as a solid. This solid is then trapped by the Birm acting as a physical filter. As more water passes thru the unit the oxygen bubble is depleted and the Birm becomes overloaded with the iron it has filtered. The regeneration process then automatically replenishes the supply of oxygen and cleans the media of filtered iron.

INSTALLATION

The Iron Breaker III Will Normally Be Installed:

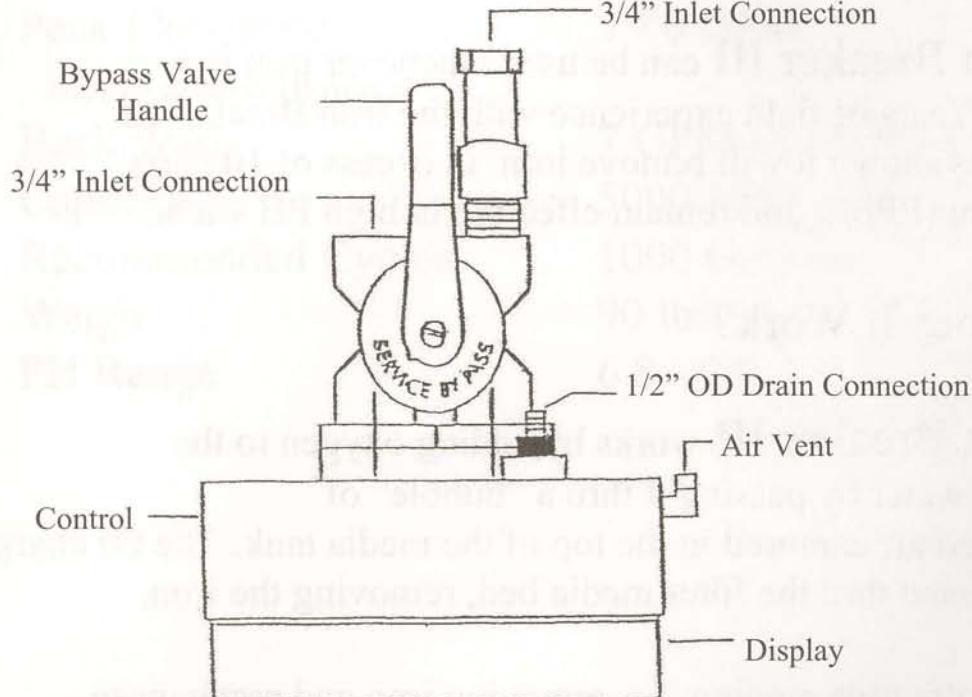
After: Supply line to outside faucets.

Any Sediment Filters

Any Neutralizers

Before: A Water Softener

Any Taste or Odor Filters

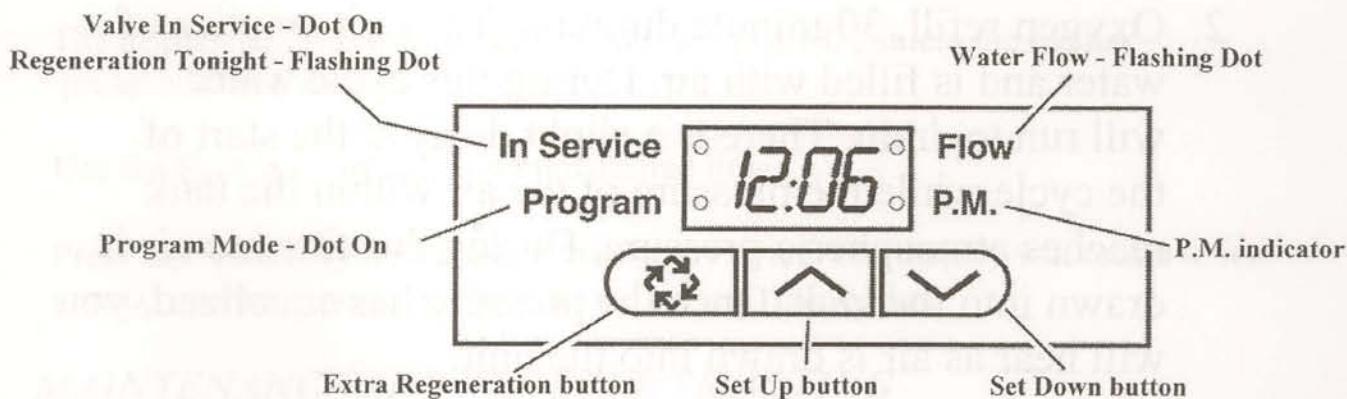


SYSTEM INSTALL AND START-UP

1. Install water line from water service to unit inlet connection. (Check Valve)
Always Install A Union Before The Check Valve. Do Not Sweat Any Pipe That Is Connected To The Check Valve As This May Destroy The Seal.
2. Install water line from outlet connection to service line feeding the residence or building . If the IronBreaker III is not followed by a water softener or other unit which regenerates, run the outlet pipe down 2-3 feet before plumbing into the system. This will trap air that may escape during regeneration bypass as a result of the operation of automatic devices such as humidifiers or reverse osmosis units.

INSTALLATION, CONTINUED

3. Run piping from drain connection to an approved drain, following all local codes.
4. Plug power cord into any standard 120v outlet. Make sure the outlet has continuous electrical power.
5. The display will light and show a time of 12.01 P.M. (P.M. is indicated by a red dot in the lower right corner of the display. Time in the A.M. mode does not display a dot.)
6. Use the Up and Down arrows on the display to set the correct time of day.
7. Turn the Bypass valve to the "Service" position.
8. Fill unit SLOWLY by turning on the water service valve.
9. Leave the unit in the service position. It is Not necessary to run the unit through the cycles.



SETTING THE CONTROL

The IronBreaker III uses the Fleck Model 5600SE powerhead to manage the regeneration process.

When the unit is in the "Service" position the display will show the current time of day. The clock uses a standard 12 hour display, indicating P.M. mode with a red dot in the lower right hand corner of the display.

The control is fully programmable, however it is preset at the factory to begin regeneration at 1 A.M. every third day and ensure the proper cycle length times. The cycle time setting should never be altered. However the frequency of regeneration may be changed to meet your filter capacity requirements.

Iron Breaker III Operating Manual

The regeneration cycle is preset to occur at 1:AM every third day. This timing and frequency of regeneration can be modified as required.

Nominal duration for the regeneration cycle is approximately 45 minutes.

1. Backwash cycle, 10 minute duration. Water flow is reversed inside the unit to lift and reclassify the filter media rinsing accumulated iron from the bed.
2. Oxygen refill, 30 minute duration. The unit empties of water and is filled with air. During this cycle water will run to drain. There is a slight delay at the start of the cycle while the pressure of the air within the tank reaches atmospheric pressure. During this time no air is drawn into the tank. Once the pressure has equalized, you will hear as air is drawn into the unit.
3. The unit returns to the In-Service position. When this happens water continues to enter the tank, compressing the air into a bubble in the top portion of the tank. Air bubble volume will vary slightly with local conditions.

Untreated water is available during regeneration cycle.

Setting the control, continued

Should you require the unit to regenerate at a time of day other than 1 A.M. it is important that no other unit, Softener or Filter, regenerates at the same time. This will interfere with the regeneration process of the IronBreaker III.

In conditions of high water usage and/or high levels of iron, the unit may need to regenerate more frequently than the standard every three day cycle. The unit can be set for every other day regeneration of daily regeneration, as required. Do not set the regeneration frequency for longer than every three days as this risks fouling the filter medium and can, over time, render the unit inoperable.

To change the regeneration time:

Simultaneously press the Up and Down arrows for five seconds, or until the display changes and a red dot appears in the bottom left corner of the display.

The display will show the regeneration time, 1: A.M. , unless the factory preset has been altered.

Use the Up-Down arrows to set the desired time.

Press the “Extra” cycle button on the display twice. The display will return to its normal operating position, showing the current time of day.

MAINTENANCE AND TROUBLE SHOOTING

The IronBreaker III system requires little or no maintenance. The filter media should last indefinitely under normal conditions.

<u>PROBLEM</u>	<u>POSSIBLE CAUSE</u>	<u>WHAT TO CHECK</u>
Unit does not regenerate	1) Electrical service to unit is interrupted 2) Power Failure 3) Defective timer	Make sure electric is working and uninterrupted Reset Time of day. Check to make sure “days” Advance. If not, replace.
Unit does not draw Air in refill cycle	1) Line to drain is crimped. 2) Water pressure is too low.	Straighten Line Pressure requirement is 20 PSI minimum.

TROUBLE SHOOTING, CONTINUED

Unit Doesn't Draw Air In Refill Cycle, Continued	3) Drain flow control is blocked. 4) Injector or screen is plugged. 5) Internal control leak.	Check and Clean as necessary. Check and clean or replace. Check Piston and Seals/Spacers and replace if needed.
Continuous Water Flow To Drain line.	1) Timer motor stopped or jammed. 2) Debris/Material jammed inside control. 3) Internal leak	Replace if necessary Remove piston to check for debris. Inspect piston and seals/spacers. Replace if necessary.
Tank fills entirely with water.	1) Unit is regenerating at the same time as a softener or another equipment. 2) Injector or screen plugged 3) Distributor tube leak.	Reset regeneration times on units so they do not over lap. Check and clean. Check distributor tube for cracks or defective o-ring seal at top of distributor tube.(Tube pilot o-ring)
Air in house lines or at Faucets.	1) Unit is regenerating At the same time a she softener or other equipment.	