



**EWS Agua / Environmental Water Systems**

## **Product Information Booklet Filtration Systems for Iron, Manganese & Hydrogen Sulfide EWS1054-P, EWS1354-11/2-P**

**Booklet includes:**

Complete Product Category of Series of Filtration Product for  
Iron, Manganese & Hydrogen Sulfide  
Tearsheets on Individual Systems with Technical Specifications  
Media Replacements specific to these units  
Compliances  
Media Filtration Removal and Capabilities



### **EWS Agua / Environmental Water Systems A Complete Line of Water Filtration Product from Sink to Whole-Home**

Applicable Water Filtration Available Based on Water Conditions and Consumer Needs and/or Preferences:

Drinking Water Filtration Systems  
Reverse Osmosis  
UV Disinfection  
CWL Series of Whole Home Filtration Appliances  
EWS Series of Whole Home Filtration & Physical Conditioning  
Softener Series  
pH Balancing  
Iron Removal  
and more...

Municipally-Treated    Well Water Applications    Residential    Commercial    Industrial

**ALL FILTRATION PRODUCT MANUFACTURED AND ASSEMBLED IN THE USA**





**Iron Removal High Purity - High Oxidation Media Units  
Removal of Iron, Manganese and Hydrogen Sulfide**

**Item Number  
& Description**

Media Kit  
Replacement  
Codes

**Units to be installed at well or municipal main water supply. Specific filtration only.**



**Residential and Light Commercial**

**EWS-1054-P**

10x54 tank with 1.4 cu. ft. of High Grade Iron Removal High Purity - High Oxidation Media with a Digital High Flow (2750) Valve for better automatic backwash of heavy media.

Installation on 3/4" to 1 1/4" main line water services

System requires minimum 8-10 GPM and 40 PSI for media lift during backwash.

See additional notes

POE-16



**EWS-1354-11/2"-P**

Greater Water Usage or Greater Removal Capacities 13x54 tank with 2.2 cu. ft. of High Grade Iron Removal High Purity - High Oxidation Media with a Digital 1 1/2" (2850) Valve for larger service line connection, automatic backwashing.

Installation on 1 1/2" main line water services

System requires minimum 12-15 GPM and 40 PSI for media lift during backwash.

See additional notes

POE-17

**All units available to suit many applications with larger valving available for larger water services.**

**Limitations and solutions: See additional information on problems and their solutions.**

All appliances include the following standard features:

Due to weight these units may be shipped to be assembled on site

Specified fiberglass tank, (no stainless cover), complete valving, specified media kit, riser with lower screen and complete service guide with installation and use instructions.

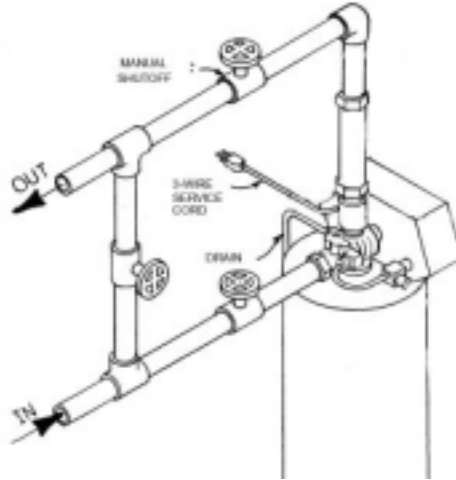


**Technical Information: Filtration for Iron, Manganese & Hydrogen Sulfide**

Model No.	Tank Size	Media cu. ft. / lbs	Line Size	Valvehead Digital	Installed Unit Size	Water Flow (GPM)	Backwash (GPM)
EWS-1054-P	10 in.x 54 in	1.4	3/4 - 1"	2750	10 in. x 63 in	15	7
EWS-1354-11/2-P	13 in.x 54 in	2.2	11/4 - 11/2"	2850	13 in. x 63 in	35	10

**EWS-1054-P**

Service Line Size: 3/4-11/4"  
 Drain Line Size: 1/2"  
 Installed Dimensions:  
 Height: 63" (top of valve)  
 Dry Weight: 165 lbs.  
 Width: 10"  
 Clearance:  
 Allow 2' for plumbing



EWS-1054-P  
 Valve (DTV-HF, 2750)  
 Bypass is Plumber  
 Installed as illustrated

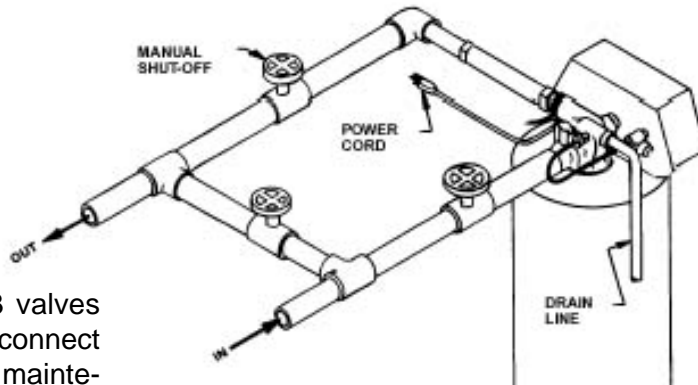
Bypass required with 3 valves and unions for quick disconnect for media replacement, maintenance and warranty

**Caution: Please note the following;**

- Proper specifications of tank valve and media will be the key to your success with the proven High Grade Iron Removal High Purity - High Oxidation media. Proper sizing of the valve and backwash flow against the proper tank size and water service flow rate will result in satisfactory media performance. (Be sure the valve has adequate water supply for full backwash cycle.)
- If the media is not properly backwashed it will not lift the 20% necessary to break loose the contaminants of particulate hydrogen sulfide, iron and manganese. Without proper backwash (we recommend a daily backwash) you can quickly foul the bed and make the media useless. Therefore know your water problems and conditions, your PSI and GPM.
- The introduction of any organic link to iron (iron bacteria) or manganese creates a coating on any media or resin and will render the system useless. Chlorination or some form of effective treatment must be established at the origin of the water.
- If the media is not properly backwashed it will not lift the 20% necessary to break loose the contaminants of particulate hydrogen sulfide, iron and manganese fouling and making the media useless. This requires a boosted water flow rate and/or water pressure to the system to function properly.

**CAUTION about the proper use of these and any treatment system on a well and water that is not monitored, tested, or treated on a routine basis**

EWS-1354-11/2-P  
 Valve (DTV-HF, 2850)  
 Bypass is Plumber  
 Installed as illustrated



**EWS-1354-11/2-P**  
 Service Line Size: 11/2"  
 Drain Line Size: 3/4"  
 Installed Dimensions:  
 Height: 63" (top of valve)  
 Dry Weight: 265 lbs.  
 Width: 13"  
 Clearance:  
 Allow 2' for plumbing

Bypass required with 3 valves and unions for quick disconnect for media replacement, maintenance and warranty



**IRON REMOVAL HIGH PURITY - HIGH OXIDATION MEDIA  
REMOVAL CAPACITIES\*\*\***

**per cubic foot of filtration media**

(1.4 cu ft 1054 tank, 2.2 cu ft 1354 tank)

**Hydrogen sulfide: 10 mg/1;**

**Iron: 10 mg/1;**

**Manganese: 8 mg/1**

\*\*\*REMOVAL CAPACITIES BASED ON PROPER APPLICATION AND INSTALLATION, AND PRESSURE AND FLOW RATE CHARACTERISTICS - SEE ADDITIONAL INFORMATION

**Caution:**

**Filters or media representing percentages of removal “up to” do not provide the minimum removal rate or the quantitative amount that can actually be removed. Up to” is just marketing that does not provide better consumer protection.**

**IRON REMOVAL HIGH PURITY- HIGH OXIDATION MEDIA**

IRON REMOVAL HIGH PURITY- HIGH OXIDATION MEDIA is a high capacity filtration media for the removal of iron, manganese and hydrogen sulfide. Our media works on the principle of a catalyst reaction, but itself remains relatively unchanged. This reaction is accompanied with the formation of an intermediate compound or compounds, such as higher oxides of manganese, so that by the alternative composition and decomposition of them on the High Purity - High Oxidation Media is left unchanged. As a result, the iron, manganese and hydrogen sulfide are actually oxidized in the media and simple backwashing cleans the bed. No chemical regeneration is required, nothing is imparted into the drinking water and an essentially unlimited removal capacity for low containment concentrations.

**IRON REMOVAL HIGH PURITY- HIGH OXIDATION MEDIA  
works equally well on three main classes of water.**

- 1) Those waters which begin to precipitate hydrogen sulfide, iron and manganese on exposure to air, usually hard water containing carbonates and/or sulfates.
- 2) Those waters which will hold hydrogen sulfide, iron and manganese in solution indefinitely, even when chlorinated and/or aerated. The elements usually combine with organic acids and appear in the colloidal form.
- 3) Those waters which contain hydrogen sulfide, iron and manganese, or all, in each of the above forms and therefore deposit a part, but not all, of the element after aeration, chlorination or ozone, and cannot be removed entirely by simple filtration. Our High Grade Iron Removal High Purity - High Oxidation Media has been proven to be an excellent compliment to aeration, chlorination and/or ozone. Our High Grade Iron Removal High Purity - High Oxidation Media acts not only as a turbidity filter, but also as a polishing filter for any breakthrough of iron, manganese and hydrogen sulfide with the use of other pre-treatment methods.



**TECHNICAL SPECIFICATIONS AND DISCUSSION ON  
POTENTIAL PROBLEMS AND THEIR SOLUTIONS.**

**LOW pH:** Iron Removal High Purity - High Oxidation Media will work extremely well between a pH range of 5.0 to 9.0. However, the higher the pH the higher the oxidation capabilities. A pH of 6.5 or higher is considered ideal. A pH lower than 6.5 may require extra media for contact time. Another approach may be a pH neutralizing filter prior to the Iron Removal System to increase the pH to 6.5 or greater, however this puts in jeopardy a sensitive unit and media. Please reference the information on the EWS pH balancing systems for correction of low pH problems.

**OXYGEN:** Iron Removal High Purity - High Oxidation Media is a high oxidation media that requires an average amount of dissolved oxygen in the water in order for it to function at its most basic removal capacities. The content of tannins, iron/manganese bacteria can reduce the dissolved oxygen in the water, making the need for chlorination even that much more important (see our chemical feed equipment). In the event of too much dissolved oxygen or gasses in the water, or a mechanical application that creates high concentrations, a burping (or carbonation) of the media can occur during backwash expelling media out the drain.

**IRON AND/OR MANGANESE BACTERIA:** The iron and/or manganese bacteria keeps the media from its oxidation capabilities. The ideal solution may be to super-chlorinate the well and piping system for 24 hours, then establish an on-going residual chlorination system of your choice to control the bacteria (see our chemical feed equipment). Once you have controlled the bacteria there will be no problem removing the hydrogen sulfide, iron and manganese with the Iron Removal High Purity - High Oxidation Media, otherwise unchecked this bacterial problem would foul the media and render it useless.

**EXCESSIVE MANGANESE:** While the Iron Removal High Purity - High Oxidation Media is effective on hydrogen sulfide, iron and manganese (see Removal Capacities), the reaction time on manganese is slower. Without the presence of other problems, this does not generally present a problem up to 8 parts per million. However, if levels are excessively high you may need to extend the dwell time over the media as long as there is also proper lift of the media for backwashing.

**TANNINS:** Tannins are not common. When present, tannins often have hydrogen sulfide, iron and/or manganese. To remove tannins, follow the steps as explained with iron/manganese bacteria problems with a holding tank for extended dwell time, then Iron Removal High Purity - High Oxidation Media to remove the hydrogen sulfide, iron and/or manganese and then the appropriate CWL/EWS System at that point of entry to remove the tannins and chlorine. Tannins will not hurt the any media, however see the above reference to "Oxygen" above.

**HEME IRON - PINK IRON:** Iron Removal High Purity - High Oxidation Media cannot completely remove organic complexes from biological degradation of vegetable and/or from bacterial metabolism. When well water is sporadically or totally untreatable by standard or simple methods and samples appear yellow or pink but have little or no settled iron oxide, one should suspect heme iron. Heme iron takes on many different forms depending on the organism available for it to complex with. This problem seems to be localized in certain areas in the United States. Heme iron stays in solution rather than settling out due to the iron complex and is unusable for oxidation.

In most cases Iron Removal High Purity - High Oxidation Media can remove all of the free iron and greater than 80% of heme iron. The resulting residual of heme iron can be run through a CWL or EWS System (check specifications). The carbon will absorb the remaining organic heme iron complex.

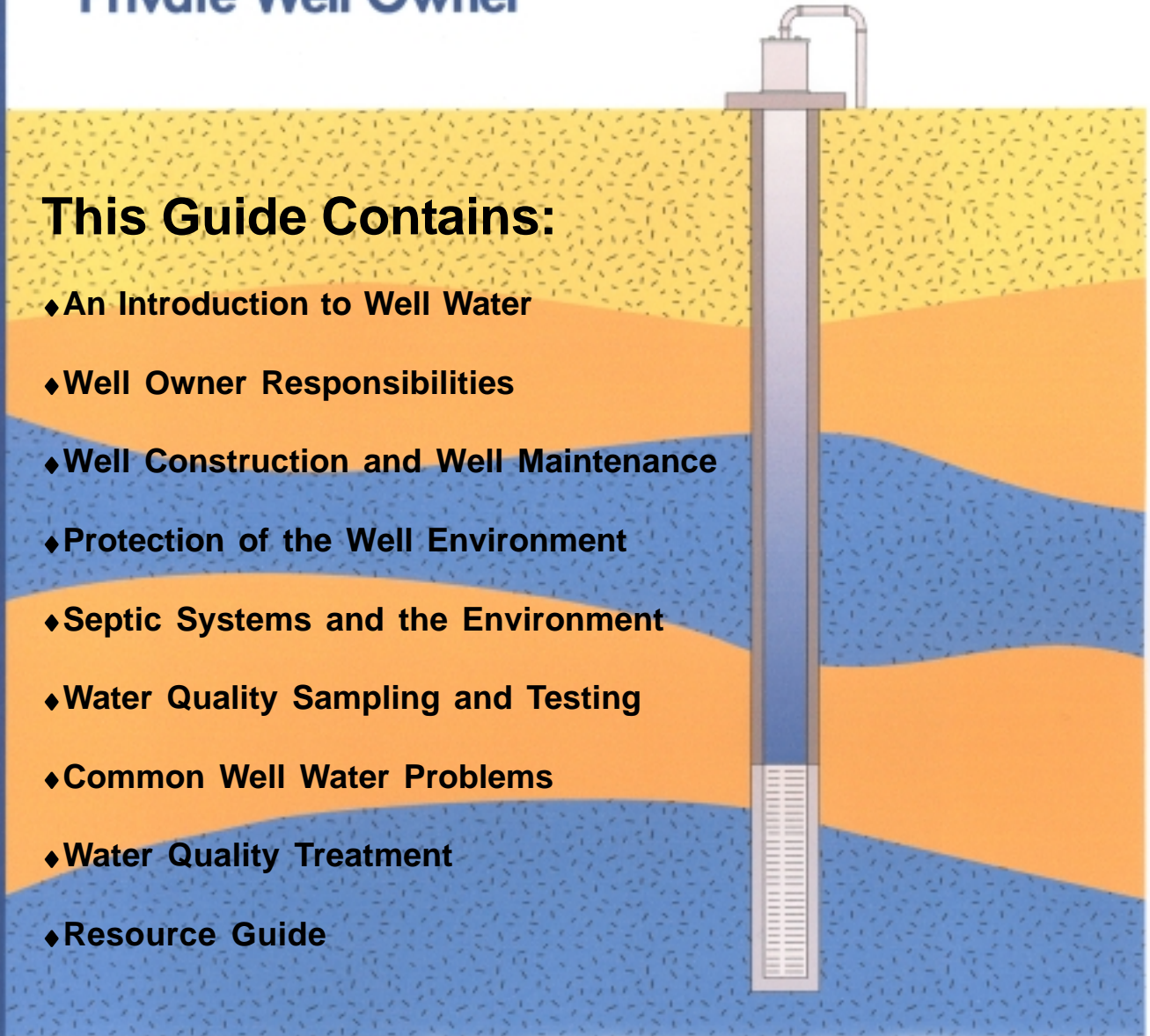


This 24 page booklet is available @ [www.ewswater.com](http://www.ewswater.com)  
Learn about your well and your water quality

## A Guide For The Private Well Owner

### This Guide Contains:

- ◆ An Introduction to Well Water
- ◆ Well Owner Responsibilities
- ◆ Well Construction and Well Maintenance
- ◆ Protection of the Well Environment
- ◆ Septic Systems and the Environment
- ◆ Water Quality Sampling and Testing
- ◆ Common Well Water Problems
- ◆ Water Quality Treatment
- ◆ Resource Guide



*This guide has been compiled in order to empower consumers.  
Information is essential to understanding your well and the water it will provide  
for you, your family, and your home.*

**This is your water.  
You do not need to be an expert. Just informed.**



### SCHEMATIC FOR VARIED OR DIFFICULT WELL-WATER CONDITIONS

#### CONDITIONS

Source water - Test Results

#### APPLICATIONS

Based on Test Results

##### Pre-Treatment:

Coliform/Bacterial/E-Coli microorganism problems, decaying vegetation, organic bonding, Iron/manganese bacteria  
Tannins (yellow)

##### Chlorination/Chemical Feed (as needed)

Ozonation

Oxidation/aeration (as needed)  
*location or sequence of tank may vary*  
Low supply water flow and/or pressure

Storage tank and Pipe length

##### Booster Pump Package (as needed)

##### Iron Removal (as needed):

Iron (red or pinkish)  
Manganese (black or brownish)  
Hydrogen sulfide (rotten egg smell)

Iron Removal  
High Purity  
Media Systems

##### Pre-Sediment Filtration (as needed):

Silt, dirt, heavy particulate matter  
*location or sequence of unit may vary*

5-micron Pre-Sediment Filter  
(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  
pH Increasing Reagent System  
pH Decreasing Ion-Exchange

##### Point of Entry Filtration (as needed):

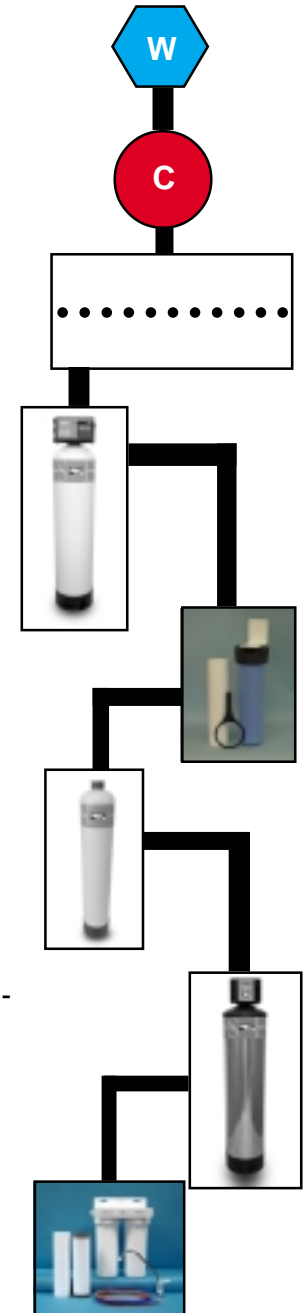
Chlorine, VOC's, herbicides, pesticides, solvents, dyes, fuels, odor, taste, clarity

CWL Series - Filtration only  
EWS Series - Filtration and Conditioning vs. Softening

##### Point of Use Filtration (as needed):

Dependent upon test results, removal and/or safeguard, as applicable

Various Drinking Water Systems  
FUGAC250 (better), UU250 (best)  
or Reverse Osmosis Units



##### Pre-Treatment:

The need to disinfect, remove iron, manganese, pre-filter, balance pH and/or generally prepare the water for consumption, additional filtration and/or to minimize water issues for use in the home.

##### Point of Entry: Whole-Home Filtration and Conditioning vs. Softening

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. The EWS Series of appliances keeps the calcium and magnesium minerals (refer to all bottled spring waters) instead of replacing them with salts. Minerals are attracted to each other, not the hard surfaces. The result; easier wipe off of water spots, no sediment build-up in water heater and pipes, use less soaps with no slippery/slimy feeling, no brine discharge or salt bags to lift. Most importantly, the water is drinkable.

##### Point of Use: Drinking Water Filtration Systems vs. Reverse Osmosis Systems

Both types of systems have their advantages, capabilities, and in the case of reverse osmosis, some disadvantages. EWS, Inc. can provide either system with UV disinfection options.

**All systems should be correctly applied based on water issues, concerns and/or consumer preference.**



## Resource Guide

### RESOURCES FOR INDEPENDENT LABORATORY TESTING



#### **Analytical Process Laboratories:**

**www.apl-inc.net or toll free: 800-236-3909**

Offers an affordable, complete and comprehensive EWS Well Water Test Kit with qualified technicians available in customer service

S-F Analytical Laboratories: [www.sflabs.com](http://www.sflabs.com) or toll free: 800-300-6700  
They offer a complete test kit to properly sample and test well water with options, if needed

National Testing Laboratories: [www.ntllabs.com](http://www.ntllabs.com) or toll free: 800-458-3330  
They offer a "Watercheck" package with options that test for most or all of the items in this guide

Look in your local Yellow Pages for "analytical services, labs, laboratories, environmental services" or any heading that will direct you to an independent lab. The two listed above are not an endorsement and can be used as a basis of information.

**A simple test by a salesperson is not complete, nor independent.**

***This is your water - and your responsibility. Be informed***

**Look in the yellow pages for you local, regional, and/or state government contact information.**

### FEDERAL GOVERNMENT

#### **USEPA's Safe Drinking Water Hotline**

The U.S. Environmental Protection Agency's Safe Drinking Water Hotline is available to help the public, drinking water stakeholders, and state and local officials understand the regulations and programs developed in response to the Safe Drinking Water Act. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline. The hotline and web page also provide information on testing and protecting private well water and where to find more information.

**(800) 426-4791**

<http://www.epa.gov/safewater/pwells1.html>

#### **Food and Drug Administration (FDA)**

Among other things, the Food and Drug Administration regulates the bottled water industry. Contact the FDA if you have questions about the safety or regulation of bottled water.

**(800) 532-4440**

<http://www.fda.gov>

### PRIVATE ORGANIZATIONS

#### **The Groundwater Foundation (GWF)**

The Groundwater Foundation is a not-for-profit organization that is dedicated to informing the public about groundwater resources. They provide numerous educational programs and publications for all ages on the importance of groundwater and groundwater protection. THE GWF also offers recognition and support for Groundwater Guardian Communities and Affiliates.

**(800) 858-4844**

<http://www.groundwater.org>

#### **National Groundwater Association (NGWA)**

The National Groundwater Association is a not-for-profit organization whose mission is to enhance the skills and credibility of all ground water professionals, develop, and exchange industry knowledge, and promote the ground water industry and understanding of ground water resources. Contact the NGWA for information on ground water studies and publications nationwide, for answers to frequently asked questions about groundwater, and for the latest groundwater news and legislation.

**(800) 551-7379**

<http://www.ngwa.org>

#### **National Small Flows Clearinghouse (NSFC)**

The National Small Flows Clearinghouse is funded by the U.S. Environmental Protection Agency to provide small communities with technical assistance on wastewater issues. Contact the NSFC if you have questions about septic system design, installation, or maintenance.

**(800) 624-8301**

[http://www.estd.wvu.edu/nsfc/NSFC\\_homepage.html](http://www.estd.wvu.edu/nsfc/NSFC_homepage.html)

#### **National Well Owner Association (NWOA)**

The National Well Owners Association is an online association providing comprehensive and up-to-date information on the purchase and maintenance of water wells. Created by the NGWA, the NWOA site features information on how to own a private water system, how to maintain a well, and how to protect the water supply. Visitors to the site can also find a searchable list of water well contractors and information on the nature of groundwater resources.

<http://www.wellowner.org>

**Be cautious and aware of those private organizations that are trade organizations. They will lead you to or away from a product depending on who's paying them.**



# Acknowledgements

## BUILDING PRODUCTS 15



15. Environmental Water Systems. This whole-house filtration system, which hooks to the main shutoff valve, does not require a bypass. It filters water through activated carbon granules to mitigate chlorine and odors. The no-salt conditioner suspends hardness of minerals to reduce scale buildup and help retain nutrients. 702-987-4549. Circle 30\*

### READERS RESPOND

BUILDING PRODUCTS presents the TOP 150 products readers requested information about during the past year.



Environmental Water Systems is the ultimate appliance in water filtration and physical conditioning. Installed at the main service line, Environmental Water Systems provides filtered water to the home while helping to solve problems associated with hard water. Unlike traditional water softeners, Environmental Water Systems gives customers the benefits of filtered water to the entire home. Conditioned water prevents build up in pipes and water heaters, cuts down on soap use and cleans up easier without removing beneficial minerals.

The Community Water Line. From sink to the whole home, the products, prices and programs to satisfy distributor's, builder's and consumer's needs.

Circle no. 30\*



Reprinted from the May/June 1998 issue of BUILDING PRODUCTS Magazine © Hanley-Wood, Inc.

### BUILDING PRODUCTS Magazine BUILDING PRODUCTS Magazine's Top 150 Product Picks!

#### Ranked No. 15: Environmental Water Systems:

This whole house filtration system, which hooks to the main shutoff valve, does not require a bypass. It filters water through activated carbon granules to mitigate chlorine and odors. The no-salt conditioner suspends hardness of materials to reduce scale buildup and help retain nutrients.

Environmental Water Systems is the ultimate appliance in water filtration and physical conditioning. Installed at the main service line, Environmental Water Systems provides filtered water to the home while helping to solve problems associated with hard water. Unlike traditional water softeners, Environmental Water Systems gives customers the benefits of filtered water to the entire home. Conditioned water prevents build up in pipes and water heaters, cuts down on soap use and cleans up easier without removing beneficial minerals. From sink to the whole home; the products, prices and programs to satisfy distributor's, builder's, and consumer's needs.

(Reprinted from the May/June 1998 issue of Building Products Magazine © Hanley-Wood Inc.)

BUILDER Magazine  
December 1996

Environmental Water  
Systems

114

BUILDING

FAVORITE 50

#### "Favorite 50"

"Whole-house, no-salt conditioning and filtration system was installed. Water is filtered through activated carbon granules to eliminate chlorine and odor. Integral conditioner places minerals that cause hardness into suspension so they adhere less, manufacturer claims. System fits in single tank; installation is similar to that of typical water softener. Automatic timer takes care of backwash; because there is no salt, backwash can be directed to lawn and garden or drain lines, company says."



#### WATER PURIFICATION SYSTEMS

Environmental Water Systems: Whole-house filtration system hooks to main shutoff valve and requires no bypass. Filters water through activated carbon granules to mitigate chlorine and odors. No-salt conditioner suspends hardness of minerals to reduce scale buildup and help keep nutrients. 702-987-4549. Circle no. 14\*



BUILDER Magazine -  
January 1994

Environmental Water  
Systems

#### "The New American Home"

Featured water filtration product in the showcase home of the National Association of Home Builders Annual Show. "Environmental Water Systems: Whole house filtration system hooks to main shutoff valve and requires no bypass. Filters water through activated carbon granules to mitigate chlorine and odors. No-salt conditioner suspends hardness of minerals to reduce scale buildup and help keep nutrients."



## FDA, EPA and NSF Compliances

Please be advised that all the materials and components utilized in producing all POU (Point of Use) drinking water filtration and reverse osmosis systems, and all POE (Point of Entry) filtration, conditioning and softening equipment, by EWS Agua, comply with, but are not limited to, one or more of the following regulating standards:

NSF STANDARD 14	FDA 21 CFR 177.1520	FDA 21CFR 177.1640
FDA 21 CFR 177.1350	FDA 21 CFR 175.105	CAS # 7440-44-0
ANSI 304	CDA C360000	NSF STANDARD 60
NSF STANDARD 61	NSF STANDARD 58	ANSI 302
ANSI 316	FDA 21 CFR 177.2600	FDA 21 CFR 175.300
FDA 21 CFR 177.2550	NSF STANDARD 52	NSF STANDARD 42
NSF STANDARD 18	FDA 21 CFR 177.2550	FDA 21 CFR 177.1655
FDA 21 CFR 177.1630	FDA 21 CFR 177.2800	FDA 21 CFR 175.300
FDA 21 CFR 177.2260	FDA 21 CFR 181.32	FDA 21 CFR 177.2660
FDA 21 CFR 177.1950	FDA 21 CFR 177.2910	FDA 21 CFR 177.2250
FDA 21 CFR 177.1680	NSF STANDARD 53	NSF STANDARD 55

Most of these standards relate to the Code of Federal Regulations of the United States of America, Title 21, Charter 1, Subchapter B set forth by the U.S. Food and Drug Administration.

The NSF (National Sanitation Foundation) standards correlate to materials and potable water.

Furthermore, and without, exception every component included in all POU and POE systems by EWS Agua are compliant for food and beverage contact and/or meet or comply with the most current, appropriate, and applicable standards without exception.

### Factory Preparation:

All systems are factory prepared and thoroughly checked to assure proper function and if applicable, quality tests of product water produced to assure that minimum standards of rejection have been met, and/or tests of specific components to assure correct function and flow rate measurements to assure efficiency specifications are met.

### Product Performance:

- ◆ For all product capabilities, compliances and/or warranties to remain valid, all systems are dependent upon proper application, specification, and installation of any specific unit and/or combination of units.
- ◆ Please know your local or individual water condition(s), and plumbing application(s). Please review system(s) capabilities, applications, setup, installation, startup, maintenance, and related warranties.
- ◆ Detailed information is published in EWS Agua Product Manuals and specific Product Service Guides (included with each specific unit) and made available upon request throughout US distribution and/or EWS corporate offices. All current information is available online @ [www.ewsagua.com](http://www.ewsagua.com) or [www.ewsagua.com/techandspec.html](http://www.ewsagua.com/techandspec.html)



## Media Replacement Kits for EWS1054-P, EWS1354-11/2-P

### Iron Removal Media Kits

**Filter Code No: POE-16**

**Model No.: M/PYRO1054**

**1.2 cu. ft., Iron Removal High Purity - High Oxidation Media for 1054 tank**

**Total of 4 boxes: 3 boxes of media (.4 cu ft each) plus master carton**

**Filter Code No: POE-17**

**Model No.: M/PYRO1354**

**2.0 cu. ft., Iron Removal High Purity - High Oxidation Media for 1354 tank**

**Total of 6 boxes: 5 boxes of media (.4 cu ft each) plus master carton**

IRON REMOVAL HIGH PURITY- HIGH OXIDATION MEDIA is a high capacity filtration media for the removal of iron, manganese and hydrogen sulfide. IRON REMOVAL MEDIA works on the principle of a catalyst reaction, but itself remains relatively unchanged. This reaction is accompanied with the formation of an intermediate compound or compounds, such as higher oxides of manganese, so that by the alternative composition and decomposition of them on the IRON REMOVAL MEDIA is left unchanged. As a result, the iron, manganese and hydrogen sulfide are actually oxidized on the IRON REMOVAL MEDIA and simple backwashing cleans the bed. No chemical regeneration is required, nothing is imparted into the drinking water and an essentially unlimited removal capacity for low containment concentrations. Media requires a minimum of 40 PSI and proper flow rate per unit specified in order to backwash effectively.

\* Media replacement based on local water conditions and usage, proper flow rates and water pressure, proper installation and routine maintenance. Typically, we have demonstrated years between replacements.

See technical data and specifications within this information or available on the web

#### **MEDIA SPECIFICATIONS:**

Color: Black Odor/Taste: none;

Physical Form: Granular;

Screen Size: 8-20 (US mesh);

Specific Gravity: 1.93;

Bulk Density (pounds/cu. ft.): 120

Life Expectancy: 10 - 15 % attrition per year

(due to lost media fines in the backwash cycle)

pH Range: 5.0 - 9.0 (best performance - 6.5 pH and higher)

PSI and Flow Rate Required:

Minimum 40 PSI:

Minimum 8 GPM (1054 tank),

Minimum 12 GPM (1354 tank)

**Top 1/3 of tanks left open for freeboard space to allow proper backwash and lift**



## A Quick Reference of Systems and Combinations for Various Applications

### Point of Entry (Incoming Home Water) Treatment

**Helpful Hints:** Test the water completely and specify the correct systems, first to provide healthy water to the consumer, and then water to minimize damage to the home. Specify disinfection, iron removal, pH balancing and/or sediment filtration, if needed. Specify the CWL or EWS Series at the main water supply and/or a softener on the hot side only (water heater inlet) if the softener is needed or desired. This will restrict the softeners harmful effects and still provide filtered water to the rest of the home. Specify specific sink filtration systems for oral intake (drinking, cooking, etc.) based on water results and a needed application.

#### Iron Removal High Purity Media Systems

For the removal of iron, manganese and hydrogen sulfide. Installed at the point of entry, this is a removal of these problems, not the trade-offs of ion-exchange. Automatic backwash with no brine discharge, no chemicals to add, and years between any maintenance (media replacement) make these systems a must with wells having these pre-treatment issues.

#### pH Increasing Reagent or pH Decreasing Resin Systems

Custom blended calcite/corsex media to balance low pH to prevent the corrosivity of this acid type water and custom blended resin based ion-exchange systems to lower very high pH and alkaline water.

#### Pre-Sediment Filtration

For the removal of actual materials, such as; dirt, silt, rust, sand, and/or particulate matter. Installed at various locations to protect other systems, this is not the cheap whole home filter others pass this off to be. It is a pre-sediment filter.

### CWL Series - Whole Home Filtration Appliance

Tanks contain a High Grade of Granular Activated Carbon (GAC) Media for the removal of Chlorine and Volatile Organic Compounds (VOC's). Great for filtration to the whole home of chlorinated water supplies, for drinking, cooking, showering, and bathing (great for hair and skin) - all uses. Also used for non-chlorinated applications to safeguard water from VOC's due to ground water contamination. Upgrade option: EWS Series to filter and physically condition water, if water hardness is an issue. Required or chosen upgrade options: Point of use, drinking water system, or reverse osmosis for limited sink applications based on water conditions or additional water concerns for drinking use.

### EWS Series - The Environmental Water System Whole Home Filtration and Physical Conditioning

Filters to the whole home like the CWL Series of appliances and offers the consumer an alternative to harsh salt softening. EWS conditioning causes a physical change in how naturally found calcium and magnesium minerals react in the water and on surfaces. EWS keeps these minerals in the water for a pure, fresh taste while helping solve those problems associated with hard water. The result: less spotting, easier clean up, and prevents scale build-up in pipes and water heaters without the damaging effects of salts. No slippery feeling. No brine discharge. The best combination of whole home filtration and the alternative to salts and softening. Required or chosen upgrade options: Sink units for specific removal needs or concerns.

### Softeners

If water hardness is an issue, water softeners will soften the water through ion-exchange. This process substitutes naturally found calcium and magnesium (hardness) minerals for sodium or potassium chloride (salts) and does not filter the water. Water will spot less, wipe off easier, and prevent lime scale in pipes and water heaters. However, restrictions on softeners due to brine discharge into your septic tank, salts, and wasted water are growing. Softeners may also void warranties on other household products (ie: pools, spas, special finishes, etc.) Once softened, many people do not like the slippery feeling of the water and reverse osmosis becomes necessary to remove the salt from drinking water that the softener put in. If a softener is chosen, application on the hot side only is recommended. Ironically, we make some of the most efficient metered softeners in the industry. Consider on hardness above 20 grains and use on excessive hardness above 40 grains. Alternative: EWS Series to filter and physically condition water below 30 grains.

### Point of Use (Sink Location) Filtration Product

**Helpful Hints:** Choose as a drinking water upgrade based on tested results, needs or concerns. Select either a drinking water filtration system or reverse osmosis system based on the needed application, consumer's needs, concerns and/or preferences. Add an EWS heater and/or chiller and one of our upgraded dispensing faucets to complete the sink package.

#### Drinking Water Systems

Sink filtration product for oral intake, drinking, cooking, ice-making, etc., to protect consumer against known or unknown water issues or concerns. **FUGAC250 ("better")** for carbon block filtration of chlorine and VOC's, lead, and cysts. **UU250 ("best")** for the additional safeguard from bacterial, viral, e-coli and microorganisms. No storage tanks, no limited supply, and no wasted water associated with reverse osmosis systems.

#### Reverse Osmosis Systems

Sink filtration product for oral intake, drinking, cooking, ice-making, etc., to protect consumer against known or unknown water issues or concerns. **RU300** series for chlorinated municipal water. **RU400** series for potable non-chlorinated, well or municipal supplies. **RU500** series optional for harsh well water. Add UV module for the additional safeguard from bacterial, viral, e-coli and microorganisms. Be aware that RO has specific issues and drawbacks (ie: wasted water, limited production, storage tank space, very aggressive water), and has specific applications, making these systems widely misapplied.



## EWS Agua / Environmental Water Systems

The complete EWS Agua / Environmental Water System product line from sink to whole-home, available through:

Available on the Internet through Authorized Retail Web Distributors

[www.fusionairandwater.com](http://www.fusionairandwater.com)

and

Business-to-Business E-Commerce Distributors.

Available through Authorized Building Wholesale Supply Locations, Kitchen & Bath Showrooms and Appliance Dealers, and their Building and Plumbing Contractors throughout the United States.



### **EWS Agua / Environmental Water Systems A Complete Line of Water Filtration Product from Sink to Whole-Home**

**Telephone:** 702-987-4549  
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**For all product information, service guides, technical specifications, well water applications, go to: [www.ewsagua.com/techandspec.html](http://www.ewsagua.com/techandspec.html)**

**ALL FILTRATION PRODUCT MANUFACTURED AND ASSEMBLED IN THE USA**

