

# Greenwave Edge Salt-Free Water Conditioner



**Green Wave**  
EDGE

## Owners Manual

**Models:**

*385--GWE-3*

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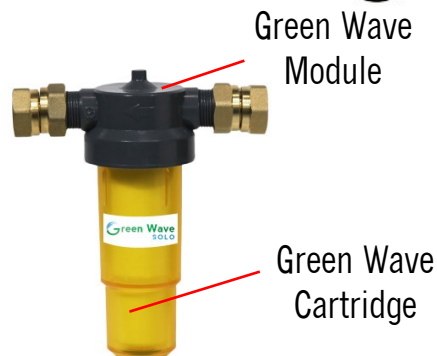
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## Unpacking / Inspection

Be sure to check the entire system for any shipping damage or parts loss. Also note damage to the shipping cartons. Contact US Water Systems at **1-800-608-8792** or visit [www.uswatersystems.com/returns](http://www.uswatersystems.com/returns) to report any shipping damage within 24 hours of delivery. Claims made after 24 hours may not be honored.



## Introduction



*The new standard in salt free water conditioning technology brought by America's Most Trusted Water Company. It prevents scale formation on plumbing and appliances while delivering softer skin and less soap usage. There is not a system on the market today that can prevent scale like the new Green Wave – pure and simple! The Green Wave Edge offers all the same features and benefits of the Green Wave Solo and Advantage plus the added benefit of the following:*

- **Sediment Reduction to 5 Microns**
- **Removal of chloramines, chlorine, chemicals, pharmaceuticals, pesticides, TCE, THM and many other contaminants**

Not only does it prevent lime-scale and save money on soaps and cleaning supplies while pampering skin, but it also removes particulate, sediment, chlorine, chloramines, chemicals, tastes and odors.

**Stage 1:** 5 Micron Pre-Filter

**Stage 2:** Catalytic Carbon Filter Tank

**Stage 3:** Green Wave Cartridge

### Green Wave Benefits:

- Completely safe for drinking water
- Easy to fit and low maintenance
- No electricity needed - No waste water
- Long life Green Wave cartridges of approximately 20,000 gallons - typically two months for the average family (**not intended for irrigation or other water usage actual usage could vary depending on lifestyle and water quality**)
- 5 Micron Pre-Filter and Carbon Filter generally need replaced once a year.
- Extends the life of appliances: dishwasher, washing machine, water heater, faucets, etc.
- Glasses, silverware and cutlery stay like new
- Cleaner bathrooms, showers and kitchens
- Saves up to 40% on energy by reducing cost of energy bills
- Save up to 30% of normal soap and cleaning products
- Softer and healthier skin - Reduces skin irritations and infections
- Reduces particulate and sediment
- Removes chloramines, chlorine, chemicals tastes and odors
- Low purchasing and maintenance costs, pays for itself within one year
- One-Year Money Back Guarantee on the Green Wave Solo.

Visit us online at [www.USWaterSystems.com](http://www.USWaterSystems.com)

Give us a call at: 1-800-608-8792

## How It Works

The Green Wave Edge system starts with two high-flow filters - the first is a 5-micron pleated sediment filter which filters solids, particulate and sediment down to 5 microns, followed by a radial flow carbon filter which reduces chlorine, chemicals, tastes and odors. It then uses a unique and patented dosing system which adds a small amount silicopolyphosphate (a food grade material) to the water, effectively "sealing" Calcium and Magnesium from sticking to any surface or pipes. Silicopolyphosphate is a "food grade" product and is safe for human consumption according to the WHO and FAO recommendations. It meets all FDA requirements for being "food grade." Cities have used it for years on a larger scale - it is completely safe - however if there is a desire to remove it from drinking water... and also to remove 35,000 other contaminants that can be in the drinking water, like chemicals, rocket fuel, pharmaceuticals, TCE, THM's and many others, then we suggest using Reverse Osmosis for drinking, cooking, rinsing produce and meat, or any other consumption point of use.

## Water Quality Parameters

**NOTE: THE USAGE PARAMETERS AND VALUES ARE BASED ON TYPICAL HOUSEHOLD USAGE IN A 2 BATHROOM HOME WITH 2 ADULTS AND 2 CHILDREN. IF THE SYSTEM IS BEING USED FOR IRRIGATION THE USAGE NUMBERS DO NOT APPLY.**

- Application: Municipal water, but can be used on surface or well water with proper pre-treatment
- Flow Rate: Designed to flow up to 15 GPM
- Thread Size: ¾" FNPT
- Maximum Hardness: 80 GPG
- Maximum Iron: Zero
- Maximum Sulfur: Zero
- Maximum Manganese: Zero
- Maximum Oil: Zero
- Maximum Copper: 1.3 mg/l
- pH: 6 to 9
- Feed Water Pressure: 20 to 100 psi
- Feed Water Temperature: 38 to 100 deg F

## Proper Installation

*This water conditioning 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.



38° - 100° F

**Do not** install in direct sunlight. Excessive sun or heat may cause distortion or other damage to non-metallic parts.



No Direct Sunlight

Iron levels must be less than 0.0 mg/L

**Fe**

Less than 0.0 mg/L

Manganese levels must be less than 0.00 mg/L

**Mn**

Less than 0.00 mg/L

Copper levels must be less than 1.3 mg/L

**Cu**

Less than 1.3 mg/L

pH Range must be 6-9 S. U.

**pH**

Range 6-9 S. U.

Sulfur must be 0.0 mg/L

**S**

Must be 0.0 mg/L

Oil and Grease must be 0.0 mg/L

**O&G**

Must be 0.0 mg/L

Hardness must be < 80 GPG

**GPG**

Must be < 80 GPG

**WARNING:** Discard all unused parts and packaging material after installation. Small parts remaining after the installation could be a choke hazard.



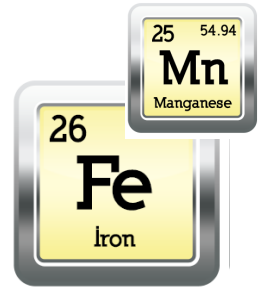
Discard All  
Unused Material



## An Important Note about *Iron, Manganese & Copper*

### Iron and Manganese

Just as with conventional water softening media, the GreenWave water conditioning media needs to be protected from excess levels of certain metals that can easily coat the active surface, reducing its effectiveness over time. Public water supplies rarely, present a problem, but if the water supply is from a private well confirm that the levels of iron (Fe) and manganese (Mn) are 0.0 mg/L respectively. Copper should be less than 1.3 mg/L.



### Copper

Copper usually originates from new copper plumbing upstream of the GreenWave system. If this condition exists, we recommend waiting 3-4 weeks before placing the system in operation. This will allow the copper surfaces to be fully flushed and develop a natural protective surface. To further minimize any problem with excess copper the installers should be advised to avoid applying excess flux on the inner surfaces of the pipe and to use a low-corrosivity water soluble flux listed under the ASTM 8813 standard. Once the plumbing connections are complete, place the GreenWave system in bypass prior to following the startup procedure and flush the plumbing for at least 10 minutes.

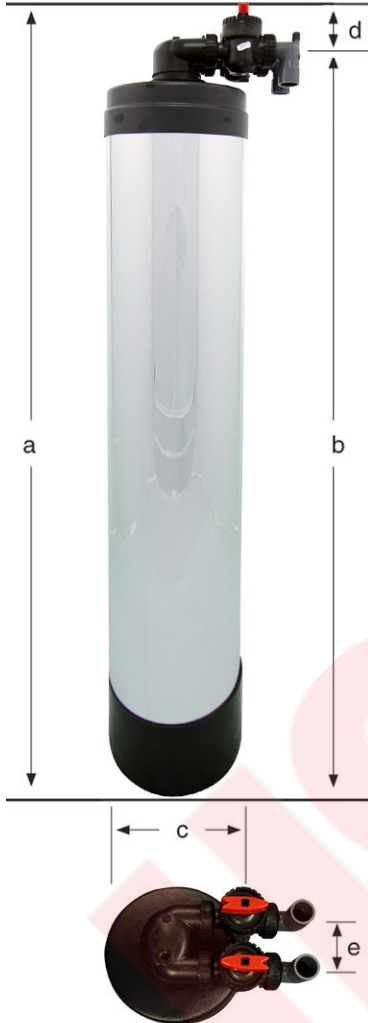


## **Cautions!**

- Do not let the system freeze. Damage to the tank and pre-filter may result.
- The system must be operated in a vertical position. Do not lay it down during operation. The system may be placed in any position for shipping and installation but must be operated in the vertical position.
- Place the system on a smooth, level surface.
- The included bypass valve should be installed on every system to facilitate installation and service.
- Observe all local plumbing and building codes when installing the system.

## Equipment Specifications

The GreenWave Carbon tank must be filled with gravel and media prior to installation. It is good practice to fill it with water and allow it to soak while the other components are installed. A simple inlet and outlet connection is all that is required for installation. Please review operating pressures, temperatures and water chemistry limitations to ensure compatibility.



### Specifications

Inlet/Outlet Connection	3/4" - 1" PVC
Temperature	38° - 100°F
pH	6- 9
Ferrous Iron, Max*	0.0 mg/L
Manganese, Max*	0.00 mg/L
Copper, Max*	1.3 mg/L
Water Pressure	15 min, 100 max (PSI)

\*See note about iron, manganese and copper on page 5.

### Mechanical Specifications

Max Service Flow (gpm)	13
Dry Weight (lbs)	83
Service Weight (lbs)	159

### Dimensions (nominal - inches)

A	58.5
B	56
C	13
D	2.5
E	3.0

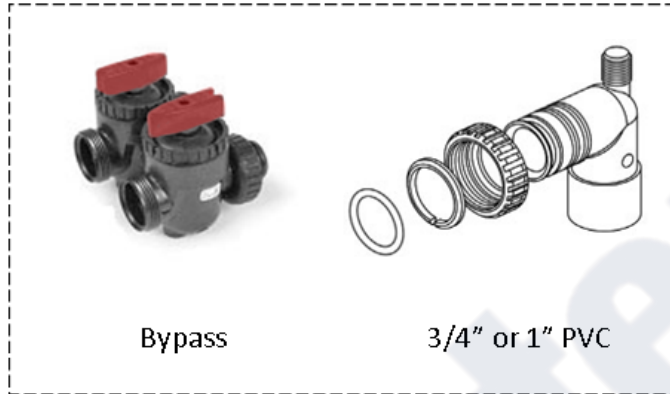
### Using the GreenWave with other water treatment equipment.

Due to the unique properties of the GreenWave system, there are some specific requirements for using the GreenWave in conjunction with filtration or other forms of water treatment.

1. Do not install any filters after the GreenWave or before any devices for which scale prevention is required. POU filters, e.g. carbon or RO are exempt from this requirement.

# System Overview

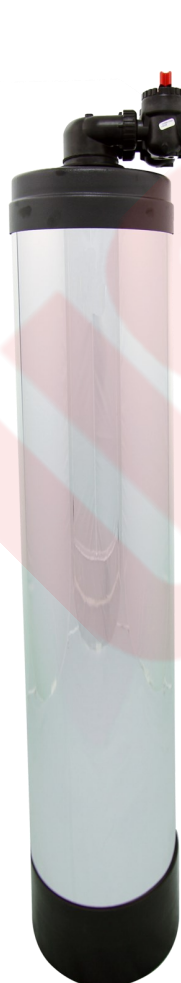
## Typical Connection Fittings



**Filter Housing**



**GreenWave Carbon**



**Tank Head**

**Media Tank**

The Carbon Tank will be about 75-90% full of carbon.

**GreenWave Module**

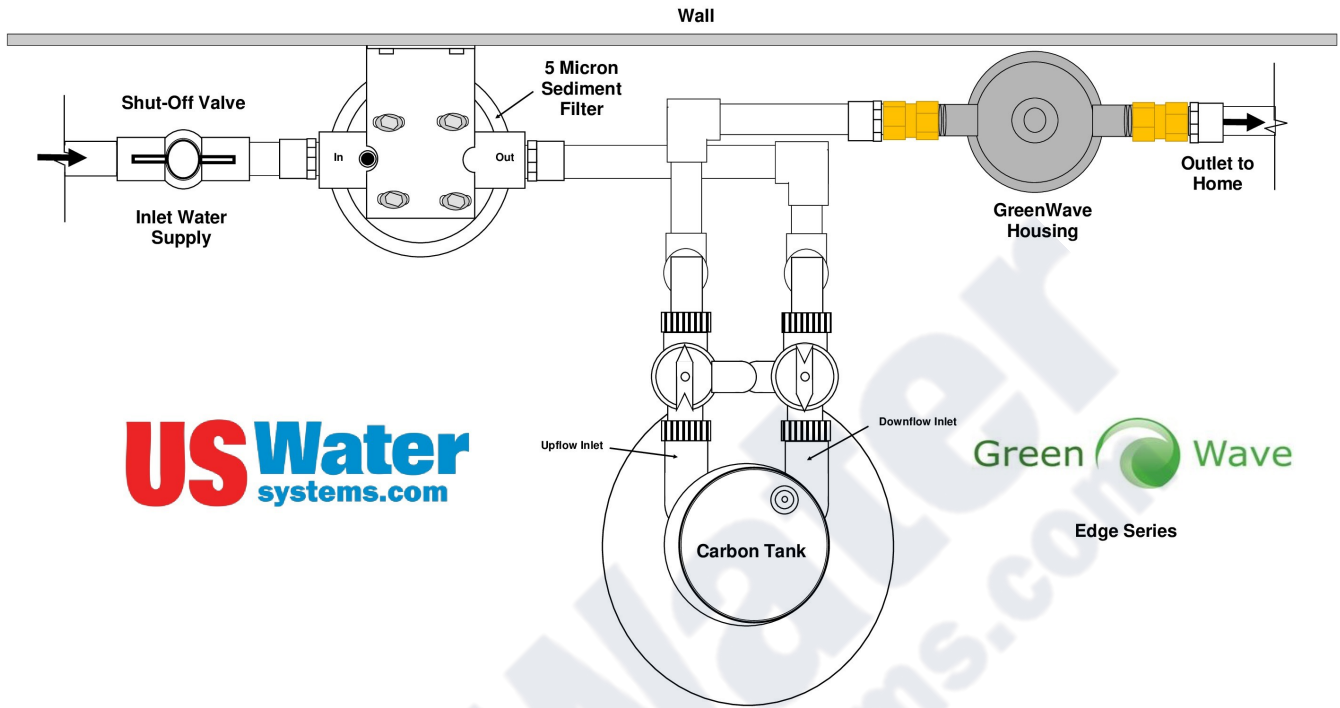


**Flow Direction Arrow**

**GreenWave Cartridge**



# System Overview (Configuration)

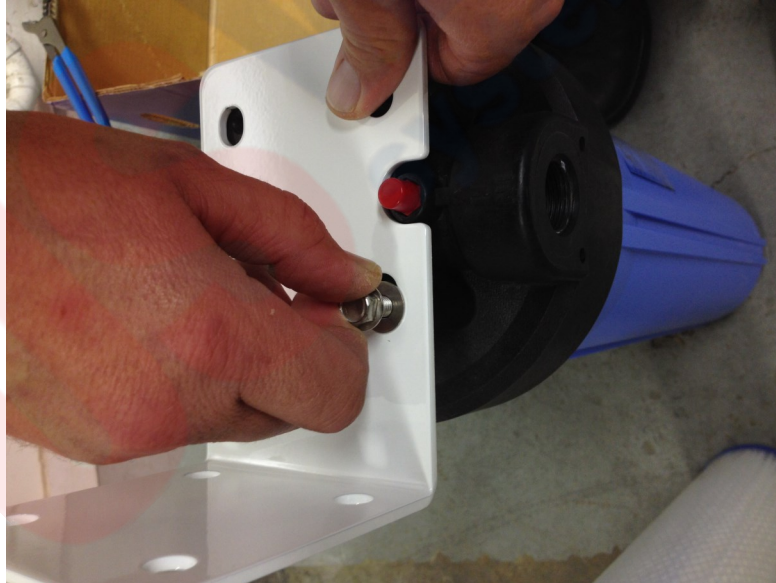


## Filter Housing Installation

1. Install the 5 Micron sediment filter first. This filter should be installed at the point of entry of the home. The sediment filter is marked "IN" and "OUT" on the top of the housing.



2. Mount the housing to the bracket using the supplied screws. Be sure the filter is mounted so the inlet is on the correct side for the application flow direction.



## Filter Housing Installation

3. Now mount the filter housing to the wall using the appropriate fasteners for your wall material. It is preferred that this is mounted on a secured board or wall stud as it will be heavy when full of water.



4. The water source of the application should be plumbed to the "IN" port on the filter housing. The outlet plumbing from the sediment filter housing will be connected to the GreenWave Carbon Tank to the "DOWNFLOW" inlet.





## Sediment Filter Installation

1. Now install the filter in the filter housing by removing the sump from the housing.
2. There is a notch in the bottom of the sump that will center the filter in the housing. Unwrap the filter (5 Micron) and install it in the sump.

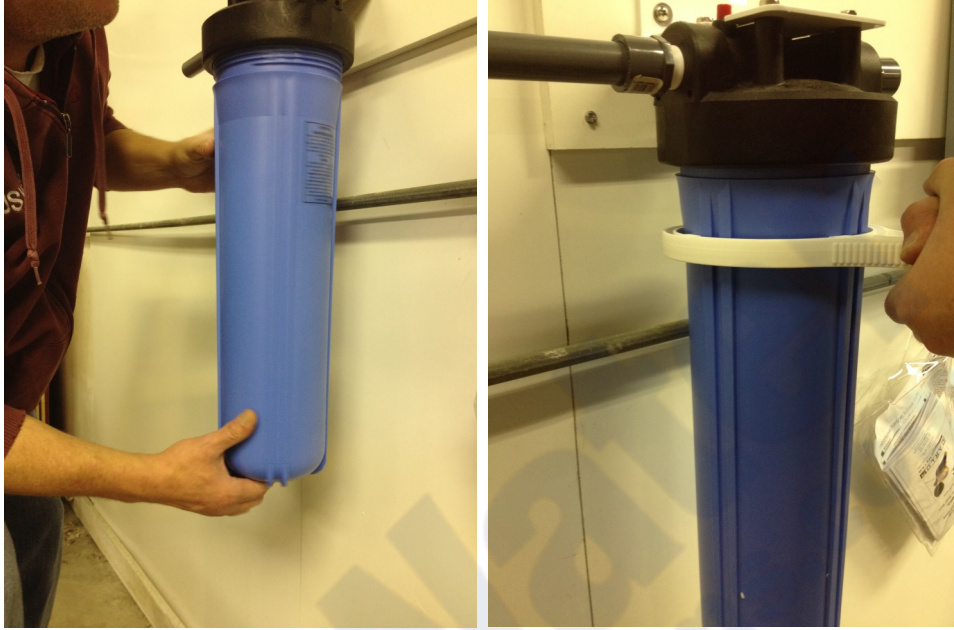


3. Coat the O-ring and threads on the sump with food grade silicone grease and install the O-ring in the filter sump.



## Sediment Filter Installation

4. Now install the sump in the filter cap and turn it clockwise to tighten the filter. Once it is hand tight, use the supplied wrench to tighten it an additional 1/4-1/2 turn.



5. Once the filter is installed the red button on the top of the filter can be used bleed the air out of the chamber when the water is turned on to the system (this step will be discussed during the startup procedure).





## Carbon Tank Preparation



1. Remove the tank head and make sure that the distributor tube (shipped inside the tank) is centered in the indentation in the bottom of the tank (use a flashlight if necessary). (Figure A).
2. The distributor tube should be even with the top of the tank. There is an o-ring inside the tank head that seals around the distributor.

3. Cover the distributor tube opening with a cap or piece of tape. Duct tape works exceptionally well for this.

**NOTE: IT IS IMPERATIVE THAT NO MEDIA (carbon) BE ALLOWED INSIDE THE DISTRIBUTOR TUBE. CARBON SHOULD NOT BE ALLOWED TO ENTER THE DISTRIBUTOR UNDER NO CIRCUMSTANCES.**



4. Add the gravel first and the carbon second.
5. Place the included funnel inside the tank opening securely. It is easiest to do this if there are two people (one to hold the funnel and one to pour the media), but one person can do it, especially if you secure the funnel to the tank with duct tape, so as not to spill the media.
6. A mask and goggles should be worn over the nose, mouth and eye as the carbon fines can cause irritation to the nose if breathed in. However, the carbon is in no way toxic.
7. Pour all included gravel in the tank first followed by the all the carbon.

**The tank should now be filled approximately 70-80%. US Water does not send extra media.**

8. Be sure to remove the tape and wipe the top of the tank and distributor tube with a clean cloth.
9. Fill the tank with water until it is approx. 4" from the top. Be sure to let the carbon soak for a minimum of 2 hrs. This will reduce the rinse time during startup. If this is not possible, the rinse time may be lengthy.
10. Lubricate the O-rings on the head with food grade silicone lubricant\*. (part #995-1014081, not included). If the upper basket is in place, it may have to be removed to lubricate the distributor O-ring. Make sure that the upper basket (Figure B) is securely attached to the tank head after lubrication of the distributor O-ring. [\* If food grade silicone is not available, use corn or vegetable oil.]
11. Install the head back on the tank and tighten hand tight. The head should thread easily. If not, it may be cross-threaded. Do not use tools to tighten the head or damage may occur.

**\*\*\*\*NEVER USE A PETROLEUM BASED LUBRICANT OR VASOLINE\*\*\*\***

***The upper basket appearance may vary.***

**Figure A**



**Figure B**



**Bypass Valve**



## Greenwave Carbon Tank and GreenWave Module Installation

1. Make sure the GreenWave Carbon tank is on a level surface. Make sure the bypass valve is in the bypass position.
2. Install the inlet plumbing from the sediment filter outlet. The GreenWave carbon tank inlet is marked "Downflow Inlet".



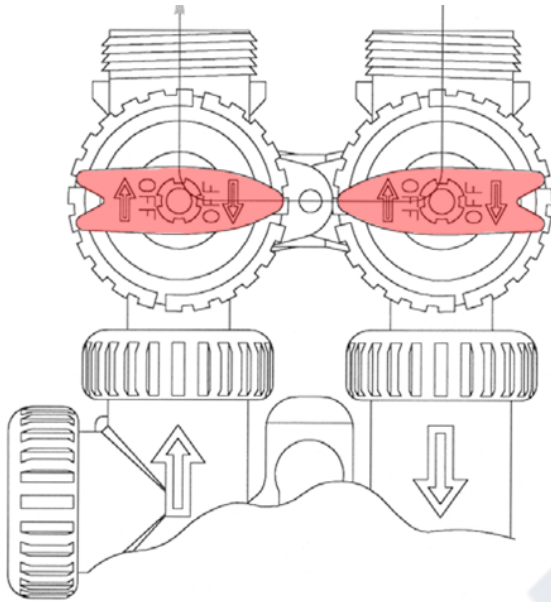
3. Now install the GreenWave Tank outlet to the GreenWave module inlet. The GreenWave outlet is marked "Upflow Inlet". Plumb from this port to the inlet port on the GreenWave module. The GreenWave module has an arrow on the housing showing direction of flow. The arrow points away from the inlet.



4. Be sure to snug the brass fittings on the GreenWave module. They are sealed with a rubber gasket and do not require Teflon tape. All other threaded connections will require Teflon tape.

## Start Up

5. Make sure that the carbon tank is on “bypass” - shown at the right.



6. Use the supplied wrench for the GreenWave module and remove sump.



7. Remove the GreenWave cartridge from the GreenWave module sump and put in a clean plastic bag for now.



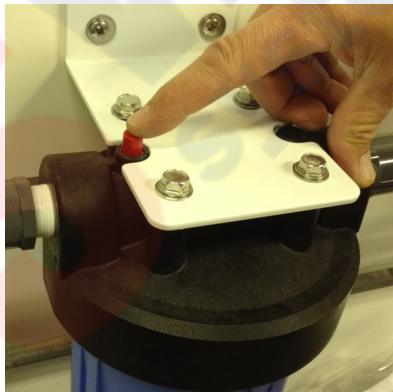


## Start Up

8. Re-install the sump on the module and make sure the O-ring is in place. Use the supplied wrench to snug the GreenWave module sump and open a faucet or spigot downstream.



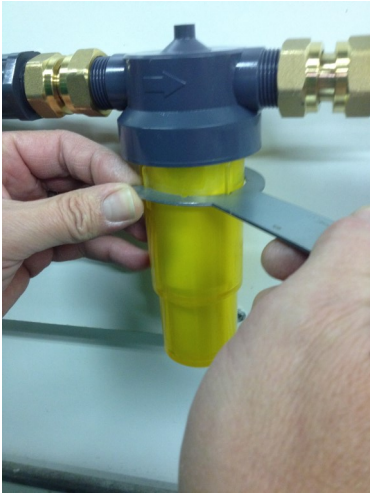
9. Slowly open the supply valve (user supplied) to the GreenWave system. Allow water to fill the 5 micron sediment filter and pass through the bypass and GreenWave module. Check the water downstream and make sure it is running clear and has no air. Be sure to push the red button on the 5 micron filter and relieve the air from the filter housing. Once there is only water coming out around the red button the housing is full.



10. Now slowly open the Carbon Tank Bypass valves. Allow the tank to fill with water until all the air is purged. Then, flush the carbon tank for 15-20 minutes or until water runs clear. If you see any carbon (other than the "black tinted color"), immediately bypass the system. If pieces of carbon are coming out of the carbon tank there could be an internal problem. Small fines or tinted water is normal. (The color can easily be checked with a white plastic or Styrofoam cup)
11. Check for leaks. Repair as needed.
12. Once the water runs clear and there is no air coming from the carbon tank it is ready for service.

## Start Up

13. Shut off the water again and relieve the pressure at a faucet or spigot.
14. Once the pressure is relieved, use the supplied wrench to remove the GreenWave module sump and install the GreenWave cartridge back into the sump. Be sure the O-ring is in place and lubricated with food grade silicon grease or corn or vegetable oil.



**NOTE:** DO NOT use petroleum based grease!

15. Install the GreenWave module sump and tighten it hand tight. Then turn it an additional 1/4 turn to snug it further.



16. Open a faucet or spigot down stream and slowly turn on the water supply.
17. Allow the GreenWave module to fill with water then check it for leaks.
18. If there are no leaks, run the water unit it is clear then shut off the faucet or spigot.
19. The system is now operational. Be sure to check for leaks one final time.



## 5 Micron Filter Replacement

The 5 micron filter should be changed annually or sooner depending on the sediment in the feed water source.

1. Shutoff the water supply.
2. Open a faucet or spigot closest to the filter housing and allow all the water to empty from the plumbing system.
3. Push the red button on the top of the filter housing to release the remaining water pressure.



4. Use the supplied filter wrench to remove the sump by turning it counterclockwise.

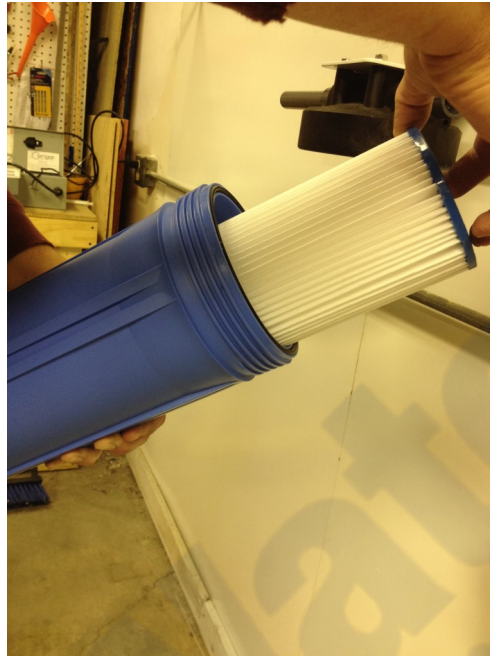
**WARNING! If the pressure is not released, the filter sump will be very difficult to get loose. It is imperative that the water pressure is released prior to attempting to remove the filter sump.**

5. Remove the sump by spinning it counterclockwise until the sump is completely removed.



## 5 Micron Filter Replacement

6. Remove the old filter and discard.



7. Install the new filter in the sump.
8. Lubricate the o-ring and sump threads with food grade silicone grease.



## 5 Micron Filter Replacement

9. Install the filter sump in the filter cap by turning it clockwise until it is hand tight.



**NOTE:** The housing should spin tight fairly easily. If not, add more lubrication to the sump threads. This will aid with removing the sump when the filter needs to be replaced again.

10. Once the filter sump is hand tight, tighten it an additional 1/4-1/2 turn with the supplied filter wrench.



## 5 Micron Filter Replacement

11. Turn on the water supply and open a spigot downstream of the Big Blue filter to release the air.
12. Once the air has been released, push the red button on top of the filter housing to release any additional air in the filter housing.



13. Check the housing for leaks and repair as necessary.

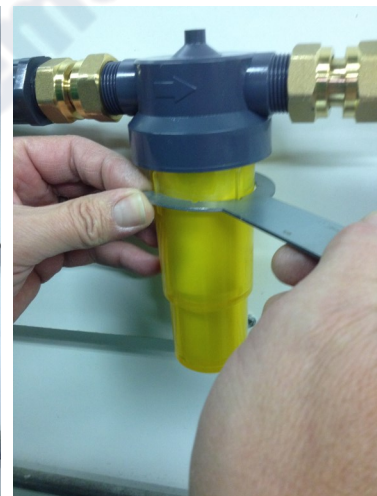


## GreenWave Module Replacement

1. Turn off the feed water and relieve the pressure at a faucet or spigot downstream.
2. Use the supplied wrench to remove the GreenWave module sump.
3. Remove the empty GreenWave cartridge from the GreenWave module sump and discard.



4. Install the GreenWave cartridge back into the sump. Be sure the O-ring is in place and lubricated with food grade silicon grease or corn or vegetable oil.



**NOTE: DO NOT** use petroleum based grease!

5. Install the GreenWave module sump and tighten it hand tight. Then turn it an additional 1/4 turn to snug it further.
6. Open a faucet or spigot down stream and slowly turn on the water supply.
7. Allow the GreenWave module to fill with water then check it for leaks.
8. If there are no leaks, run the water unit it is clear then shut off the faucet or spigot.
9. The system is now operational. Be sure to check for leaks one final time.



## Warranty Conditions and Limitations

### LIMITED WARRANTY

US Water Systems, Inc. warrants the GreenWave system as follows:

- The Tank and Head is warranted to be free of defects in materials and workmanship for a lifetime from the date of original purchase to the original owner.
- The GreenWave Filter Housing and Sump, and GW Module Housing and Sump is warranted for a period of five years from the date of the original purchase to the original owner.
- The GreenWave Carbon will be warranted for three years from the original purchase date by the original owner.

### Conditions

1. The GreenWave system must be properly installed in accordance with the instructions provided by US Water Systems.
2. Any component failure must not result from abuse, fire, freezing or other acts of nature, violence, or improper installation.
3. Equipment must be installed and operated in compliance with the local plumbing codes, and on an approved water supply.
4. Equipment is limited to use at water pressures not to exceed 100 PSI and temperatures not to exceed 100 degrees F.
5. Water supply must not exceed 1-PPM chlorine. For water supply exceeding 1 PPM chlorine, pretreatment is required. (Please contact US WATER.)
6. Information, including model number, sales order number, and date of installation, must be provided for any claims pertaining to equipment in warranty.
7. Defective parts are subject to inspection by either US Water Systems, Inc. or any authorized representative before final commitment of warranty adjustment is made.
8. US Water Systems, Inc. reserves the right to make changes or substitutions in parts or equipment with material of equal quality or value and of then current production.

### Limitations

Our obligation under this warranty with respect to the tank or head is limited to furnishing a replacement for, or at our option, repairing any part or parts to our satisfaction that prove defective within the warranty period stated above. Such replacement parts will be delivered to the owner F.O.B. nearest factory, at no cost, excluding freight and local labor charges, if any.

US Water Systems, Inc. shall not be liable for freight, handling or labor charges, subsequent or consequential damages.

## GreenWave Maintenance Schedule

Component	Description	Frequency
Sediment Filter	Replace the sediment filter.	Annually
GW Carbon Tank	Replace the GW carbon and gravel.	3-5 Years
Replace GW Module Cartridge	Replace the GW cartridge as needed. Be sure to lubricate the O-ring.	As Needed
Cleaning	Clean the housings and sumps with a mild disinfectant solution	Annually



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## Limited Lifetime Warranty

For the lifetime of the original purchaser, at the original residential place of installation of this *GreenWave Edge* Water Conditioning System, *US WATER SYSTEMS, INC.* warrants the following:

### LIFETIME COVERAGE

#### Media Tank and Head

Free of all costs to you except transportation and labor charges, we warrant that we will replace or repair the fiberglass media tank and head, if for any reason it is found to be defective, because of faulty materials or workmanship.

### FIVE YEAR COVERAGE

#### 5 Micron Filter Housing GW Module Housing

We warrant that for five (5) years from the date of purchase, we will replace the filter housing(s) and all other parts at no charge to you except for transportation and standard labor charges.

### THREE YEAR COVERAGE

#### Carbon Media

We warrant that for three (3) years from the date of purchase, we will replace the carbon Media at no charge to you except for transportation and standard labor charges.

### GENERAL PROVISIONS

This warranty does not apply to any commercial or industrial installations or to any part of the water conditioner which has been subjected to misuse, neglect, alteration or accident; or to any damage caused by fire, flood, freezing, Acts of God, or any other casualty, or if the original serial numbers have been removed. Fouling or damage to the media caused by iron, sulfur, bacterial iron, silt, sand, tannins, organics, bacteria, hot water or chlorine voids the warranty on media.

These warranties are in lieu of all other warranties expressed or implied, and we do not authorize any person to assume for us any other obligation on the sale of this water conditioner. No responsibility is assumed for delays or failure to meet these warranties 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-USWA.*

ANY IMPLIED WARRANTIES OF FITNESS OR MERCHANTABILITY ARE LIMITED TO THE TERMS OF THIS EXPRESSED WARRANTY AND THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THOSE HEREIN. *US WATER* 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 WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

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