

Greenwave Advantage Salt-Free Water Conditioner



Green Wave
ADVANTAGE

Owners Manual

Models:

385--GWA-2

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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 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 Advantage offers all the same features and benefits of the Green Wave Solo plus the added benefit of the following:

- **Sediment Reduction to 5 Microns**
- **Reduction of Chlorine, Chemicals, Tastes and odors.**

Not only does it prevent lime-scale and save you money on soaps and cleaning supplies while pampering your skin, but it also reduces particulate, sediment, chlorine, chemicals, tastes and odors. If you are looking for a whole house Salt-Free water conditioning system that prevents scale and reduces chlorine and chemicals in the process, then this is it!

Stage 1: 5 Micron Pre-Filter

Stage 2: Radial Flow Carbon Filter

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 water usage (**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 your normal soap and cleaning products
- Softer and healthier skin - Reduces skin irritations and infections
- Reduces particulate and sediment
- Reduces 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 Module.

Visit us online at www.USWaterSystems.com

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

How It Works

The Green Wave Advantage 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 smaller scale - it is completely safe - however if you don't want it in your drinking water... and you also want to remove 35,000 other contaminants that can be in your water, like chemicals, rocket fuel, pharmaceuticals, TCE, THM's and many others, then we suggest using Reverse Osmosis for drinking, cooking and the like.

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 but only for short periods of time.
- 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.

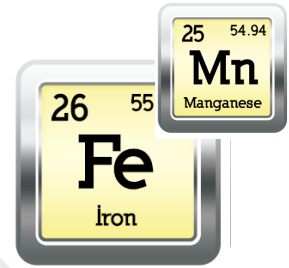


Discard All
Unused Material

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.



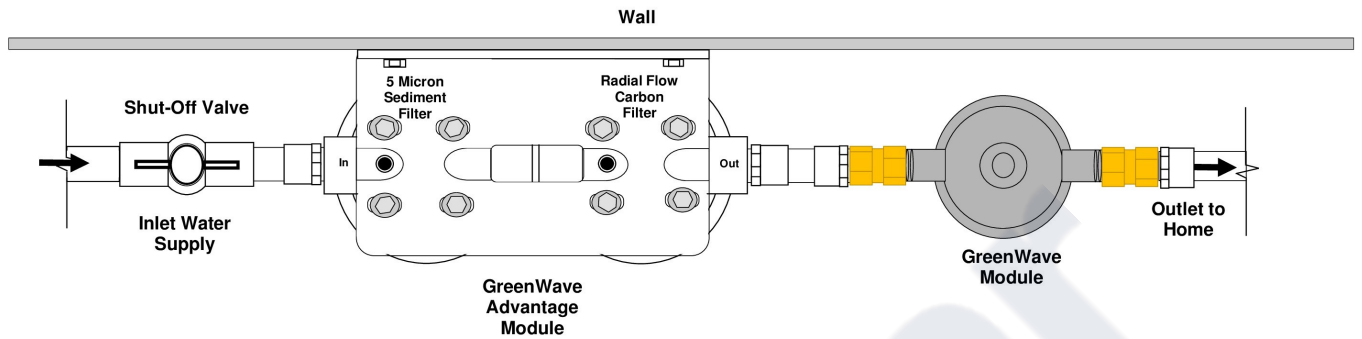
Cautions!

- Do not let the system freeze. Damage to the tank and pre-filter may result.
- 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.
- Observe all local plumbing and building codes when installing the system.

System Overview



System Overview (Configuration)



Dual Filter Housing Installation

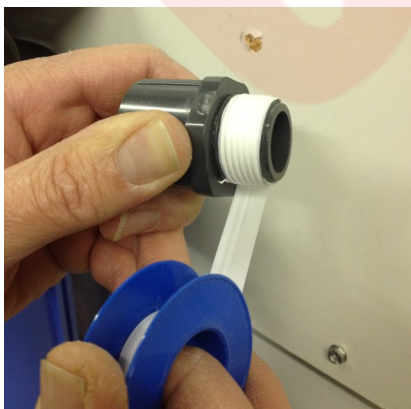
1. Install the dual filter housing first. This filter housing should be installed at the point of entry of the home. Irrigation and outside spigots should be plumbed in prior to the GreenWave system or the cartridge longevity will be dramatically reduced. The dual housing is marked "IN" and "OUT" on the top of the housing above the connection points.



2. The dual filter housing is mounted with the inlet on the left and the outlet on the right. If the flow is reversed, the bracket can be rotated 180° to change the flow with the inlet on the right and the outlet on the left. Be sure the filter is mounted so the inlet is on the correct side for the application flow direction.
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. Be sure to Teflon tape the threaded connections



Dual Filter Housing Cartridge Installation

1. Remove the sumps from the dual filter housing and install the 5 micron sediment filter in the first sump. Be sure to center the filter in the sump. Lubricate the O-ring with food grade silicone grease. If food grade silicone grease is not available corn or vegetable oil can be used.



2. Install the carbon block filter in the second sump. Be sure the rubber washers are in place on the top and the bottom of the filter. Lubricate the O-ring.



Dual Filter Housing Cartridge Installation

3. Spin the sumps on the dual filter housing until they are hand tight then tighten them an additional 1/4 to 1/2 turn.



GreenWave Module Installation

1. Install a pipe from the dual filter housing outlet connection to the GreenWave module inlet. The GreenWave module flow is indicated by a direction arrow on the side. Be sure to install the GreenWave module with the correct flow direction. The GreenWave module is equipped with brass swivel fittings. These fittings have rubber washers that seal the connection. These threaded fittings do not require Teflon tape. All other threaded connections require Teflon tape.



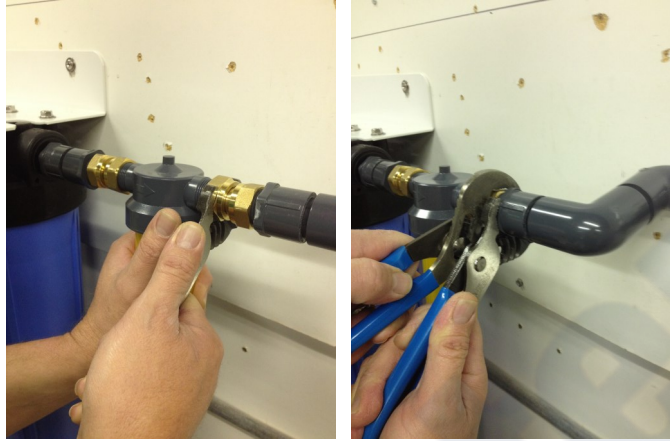
NOTE: There is a check valve in the GreenWave module. If it is plumbed backwards it will not allow flow to the home. Be sure it is installed correctly for the direction of flow.

2. Install a pipe from the GreenWave module outlet connection to the home distribution system.



GreenWave Module Installation

3. Tighten the brass connectors on the GreenWave module.



System Start-up

1. Use the supplied wrench to remove the GreenWave module sump.



2. Remove the sump and pull the GreenWave cartridge out. Temporarily store the cartridge in the clean plastic bag.



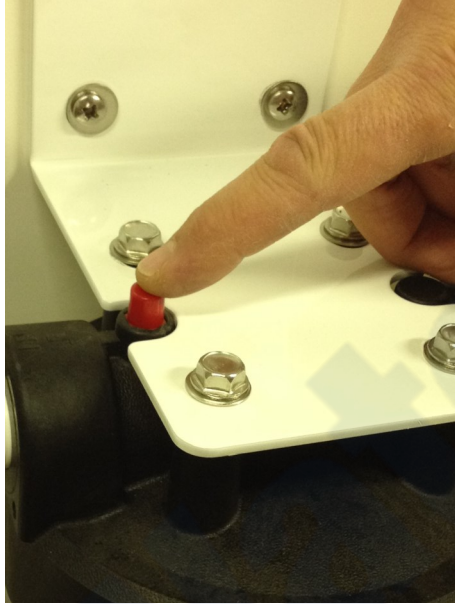
3. Re-install the sump on and snug it with the supplied wrench.



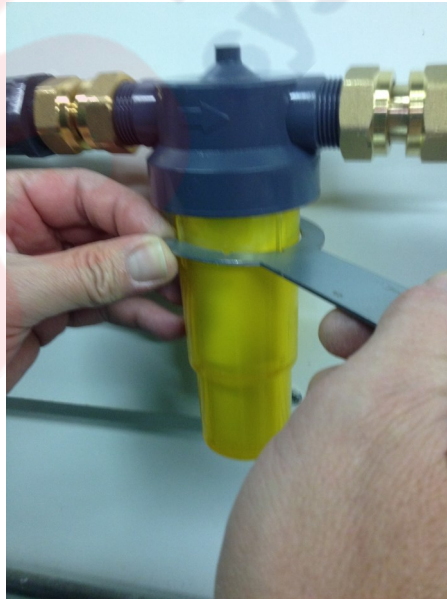
4. Open a faucet or spigot downstream and slowly turn on the water.
5. Allow the water to run until there is now air coming out of the faucet or spigot and the water is fully on.

System Start-up

6. Push the red buttons on top of the filter housing to release any trapped air in the filter housings. Be sure to do the sediment filter first and the carbon filter second.



7. Run the water and allow the carbon filter to flush until the water is running clear. This is easily observed using a white plastic or Styrofoam cup.
8. Once the water is clear, turn off the water supply and allow the pressure to be relieved at the spigot or faucet.
9. Use the supplied wrench and remove the GreenWave sump.



System Start-up

10. Install the GreenWave cartridge in the sump and be sure the O-ring is lubricated.
11. Spin the sump on hand tight then tighten it about 1/4 turn more using the supplied wrench.



12. Slowly turn the water on and allow the water to flow through the GreenWave module.

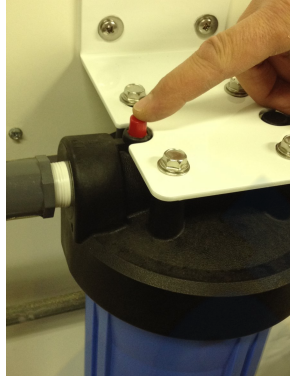


13. Run the water unit it is clear and turn off the faucet or spigot.
14. Check the system for water leaks and repair as needed.
15. The system is no operational.

Sediment and Carbon Filter Replacement

The 5 micron and carbon filters 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 housings and allow all the water to empty from the plumbing system.
3. Push the red button on the top of the filter housings to release the remaining water pressure.



4. Use the supplied filter wrench to remove the sumps by turning them counterclockwise.

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

5. Remove the sumps by spinning them counterclockwise until the sumps are completely removed.



Sediment and Carbon Filter Replacement

6. Remove the old filters and discard.



7. Install the new filters in the sumps. Be sure the rubber washer is in place on the carbon filter. There is a washer on the top and the bottom of the filter. Lubricate the O-rings with food grade silicone grease. If food grade silicone grease is not available, corn or vegetable oil can be used.



Sediment and Carbon Filter Replacement

9. Install the filter sumps in the filter housing by turning them clockwise until they are hand tight.



NOTE: The housing should spin 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. **BE SURE** it is not cross-threaded.

10. Once the filter sumps are hand tight, tighten them an additional 1/4-1/2 turn with the supplied filter wrench.



Sediment and Carbon Filter Replacement

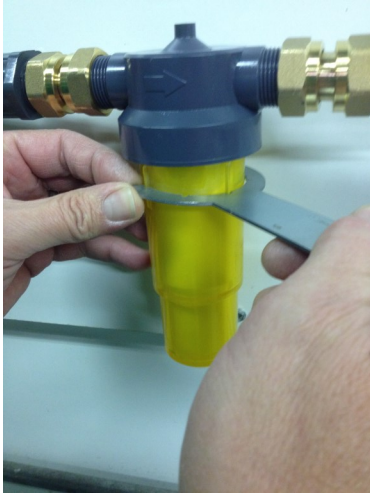
11. Slowly turn on the water supply and open a spigot downstream to release the air.
12. Once the air has been released, push the red button on top of the filter housing to release any additional air in the filter housing.



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

GreenWave Cartridge 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 GreenWave Pre-filter Housings and Sumps and the the GreenWave Module Housing and Sump for a period of 5 years from the original purchase date to 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 GreenWave Filter Housings and module 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 and Carbon Filters	Replace both cartridges	Annually
GreenWave Cartridge	Replace the GreenWave cartridge	As Needed
Cleaning	Clean the housings and sumps with a mild disinfectant	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 Plus* Water Conditioning System, *US WATER SYSTEMS, INC.* warrants the following:

FIVE YEAR COVERAGE

Pre-Filter Housings and Sumps GreenWave Module Housing and Sump

We warrant that for five (5) years from the date of purchase, we will replace the pre-filter housings and sumps as well as the GreenWave Module housing and sumps 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.