Installation, Operation and Maintenance Manual

Fusion Upflow Calcite Filter
pH Neutralizer Filter

111-UFF-Cal-1
111-UFF-Cal-2
111-UFF-Cal-3
111-UFF-Cal-4

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Introduction

The Fusion Upflow Calcite Filter system provides pH adjustment throughout the home. The Fusion Upflow Calcite system can be installed at the point-of-entry to treat your entire home, both hot and cold water, or it can be located directly after a treatment system for pH adjustment.

The Fusion Upflow Calcite filter provides pH adjustment to protect the plumbing system from acidic water.

The Calcite in the Fusion Upflow Calcite filter system provides adds minerals back to the water supply. This helps protect equipment that can be damaged by acidic water.

Fusion Upflow Calcite Filter Benefits

- Adds minerals back to the water supply to combat aggressive water properties
- Neutralizes the pH for acidic water supplies
System Overview

Typical Connection Fittings

Fusion Upflow Calcite

Tank Head

Media Tank

The Tank will be about 60-80% full of calcite depending on the flow rate for the system.
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.
- Place the system on a smooth, level surface. Because the system operates in an UP-Flow, fluidized bed mode, having a level surface is more important than with a softener or media filter.
- A bypass valve should be installed on every system to facilitate installation and service (included).
- Observe all local plumbing and building codes when installing the system.

Notes to the Installer

The Fusion Upflow Calcite system differs from a conventional softener or media filter in a number of key respects.
- The system has no underbed so you can tip the system over without any fear of upsetting the media. This makes transportation and installation much easier than conventional systems.
- Because the Fusion Calcite Filter system operates in the UP-Flow mode, the tank connections are opposite of what you're used to. Be sure to use the Up-Flow inlet on the tanks head as the inlet for the Fusion Upflow Calcite Filter.
Installation

1. Place the Fusion Upflow Calcite tank in the desired location on a flat level surface.
2. Unscrew the head on the carbon tank, and go to page 7 to follow the directions on loading the calcite into the tank.
3. Make sure that the tank head is tightened securely by hand tightening—Do Not Use a Wrench. Hand-tight is recommended.
4. Connect the water supply to the upflow inlet of the Fusion Upflow Calcite Filter Tank.
5. Connect the outlet (downflow inlet) of the Fusion Upflow Calcite tank to the pipe that supplies the building in which the tank is being installed. **NOTE:** With the Fusion Upflow Calcite system, the tank is operated in the **UPFLOW** mode which is opposite of some water softeners or filters.
6. Therefore, the inlet is labeled **upflow inlet** and the outlet is labeled **downflow inlet**, on the Fusion Upflow Calcite Tank.

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**Bypass Valve Modification**

<table>
<thead>
<tr>
<th>Service Position down-flow tank</th>
<th>Service Position UP-flow tank</th>
<th>Bypass Position UP-flow tank</th>
</tr>
</thead>
<tbody>
<tr>
<td>As shipped, the bypass is set-up for down-flow use. The arrow shape of the handles points in the wrong direction for UP-flow use. To convert it to UP-flow use, pull up on the red handles until they come off. Rotate the handle 180° and put it back on the valve stem.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Instructions for Loading Calcite in the tank

Make sure that the distributor tube (shipped inside the tank) is centered in the indent in the bottom of the tank (use a flashlight if necessary). (Figure A)

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.

Next, you will need to 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 (calcite) BE ALLOWED INSIDE THE DISTRIBUTOR TUBE. UNDER NO CIRCUMSTANCES CAN YOU GET CALCITE INSIDE THE DISTRIBUTOR TUBE.

You are now ready to add the calcite. 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 calcite), but one person can do it, especially if you secure the funnel to the tank with duct tape, so as not to spill the carbon. You may want to use a mask or a cloth over your nose as the calcite fines can cause irritation to your nose, if you breathe them in. However, the calcite is in no way toxic.

The tank should now be filled approximately 60-75%. Before you screw the head back on the tank, remove the tape and wipe the top of the tank and distributor tube with a clean cloth. Fill the tank with water until it is approx. 4” from the top. Be sure to let the calcite soak for a minimum of 2 hrs. Next, lubricate the o-rings with food grade silicone lubricant*. (part #995-1014081, not included) Make sure that the upper basket (Figure B) is securely attached to the tank head. Then screw the head on the tank ensuring that the distributor tube is in the center of the basket. [*If food grade silicone is not available, use corn or vegetable oil.]

****NEVER USE A PETROLEUM BASED LUBRICANT OR VASOLINE****
1. Make Sure that the Fusion Upflow Calcite Tank is in “bypass” - shown at the right.
2. Slowly open the supply valve (user supplied) to the Fusion Upflow Calcite Tank or slowly open the Calcite Tank Bypass. Allow the tank to fill with water until all the air is purged. Then, you can flush for 15-20 minutes or until water runs clear. If you see any calcite (other than the “cloudy color”), immediately bypass the system.
3. Open a faucet (preferably the tub or laundry sink faucet) downstream from the Fusion Upflow Calcite system to relieve any trapped air. Water will have a cloudy color until the calcite fines are flushed. This is normal.
4. Check for leaks. Repair as needed.
5. Enjoy your water.
Equipment Specifications

The Fusion Upflow Calcite System is complete, self-contained, once it is loaded with media it is ready to use. 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

<table>
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<tr>
<th>Specification</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Inlet/Outlet Connection</td>
<td>3/4” - 1” PVC</td>
</tr>
<tr>
<td>Temperature</td>
<td>40° - 110°F</td>
</tr>
<tr>
<td>Water Pressure</td>
<td>15 min, 100 max (PSI)</td>
</tr>
</tbody>
</table>

Mechanical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Cal-1</th>
<th>Cal-2</th>
<th>Cal-3</th>
<th>Cal-4</th>
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</thead>
<tbody>
<tr>
<td>Max Service Flow (gpm)</td>
<td>6</td>
<td>10</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Dry Weight (lbs)</td>
<td>120</td>
<td>180</td>
<td>230</td>
<td>285</td>
</tr>
</tbody>
</table>

Dimensions (nominal - inches)

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Cal-1</th>
<th>Cal-2</th>
<th>Cal-3</th>
<th>Cal-4</th>
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<tr>
<td>A</td>
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<td>56.5</td>
<td>58.5</td>
</tr>
<tr>
<td>B</td>
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<td>56</td>
<td>54</td>
<td>56</td>
</tr>
<tr>
<td>C</td>
<td>9</td>
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<tr>
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<td>3.0</td>
<td>3.0</td>
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</table>
LIMITED WARRANTY

US Water Systems, Inc. warrants the Fusion Calcite Filtration system as follows:

- The Tank is warranted to be free of defects in materials and workmanship for Ten years from the date of original purchase to the original owner.
- The Head is warranted to be free of defects in materials and workmanship for five years from date of original purchase to the original owner.

Conditions

1. The Fusion Calcite 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. Defective parts are subject to inspection by either US Water Systems, Inc. or any authorized representative before final commitment of warranty adjustment is made.
6. 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 valve 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.
Limited Lifetime Warranty

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

TEN YEAR COVERAGE
Media Tank
We warrant that for ten (10) years from the date of purchase, we warrant that we will replace or repair the fiberglass media tank, if for any reason it is found to be defective, because of faulty materials or workmanship.

FIVE YEAR COVERAGE
Head Assembly
We warrant that for five (5) years from the date of purchase, we will replace the head assembly 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 HERIN. 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.