



Clean Water Made Easy

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CWS F5 Manual Greensand Filter Installation & Start-Up Guide

Thank you for purchasing a Clean Water System! With proper installation and a little routine maintenance your system will be providing Iron-free water for many years.

Please review this start-up guide entirely before beginning to install your system and follow the steps outlined for best results.

GREENSAND MEDIA CONTAINS DUST. USE PAPER MASK AND VENTILATE TO AVOID BREATHING DUST. Use spray bottle to wet down media when pouring.



Questions?

Call us toll-free: 1-888-600-5426 or 1-831-462-8500

Email us: support@cleanwaterstore.com

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Packing List

Greensand Filter 1.0 cubic foot size

Quantity 1 CWS F56 Backwash Control Valve with top screen

Quantity 1 10" x 44" filter tank with distributor tube
media funnel for adding the media

12 lbs. filter gravel

1 cubic foot of Greensand media

Greensand Filter 1.5 cubic foot size

Quantity 1 CWS F56 Backwash Control Valve with top screen

Quantity 1 10" x 54" filter tank with distributor tube

Media funnel for adding the media

16 lbs. filter gravel

1.5 cubic foot of Greensand media

Greensand Filter 2.0 cubic foot size

Quantity 1 CWS F56 Backwash Control Valve with top screen

Quantity 1 12" x 52" filter tank with distributor tube

Media funnel for adding the media

20 lbs. filter gravel

2.0 cubic foot of Greensand media

Greensand Filter 2.5 cubic foot size

Quantity 1 CWS F56 Backwash Control Valve with top screen

Quantity 1 13" x 54" filter tank with distributor tube

Media funnel for adding the media

35 lbs. filter gravel

2.5 cubic foot of Greensand media

Pre-Installation

1. Review your packing list and make sure you have received all the parts before beginning installation.
2. If you are going to be turning off the water to the house and you have an electric water heater, shut off the power to the water heater before beginning installation in case the water heater is accidentally drained.
3. Pick a suitable location for your filter system on a dry, level spot where it won't be exposed to freezing temperatures. A minimum of 20 PSI is required. Maximum pressure is 90 PSI.
4. Get all of your plumbing parts together before beginning installation. Installation typically takes 3 to 5 hours. After installation the Greensand Filter must be manually backwashed 2-3 times, to remove media fines that would otherwise enter the house piping. After the system is installed and running, your water may be discolored, or full of sediment or rust, particularly if this is older or corroded piping. This typically clears up over a day or two.

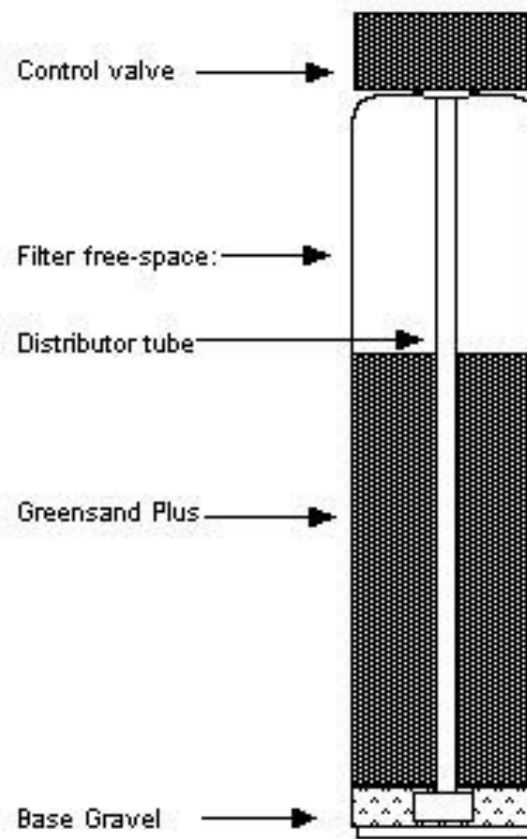
Best Practices for Piping & Drain Installation

1. If you are on a Well, the Greensand Filter filter is installed after the pressure tank and after a chlorine injection system.
2. Make sure to follow to connect the IN pipe to the CWS F56 inlet and the OUT pipe to the outlet.
3. Make sure there is a working gate or ball valve before and after the CWS F56 Greensand filter. Install a hose bib (a faucet that you can attach a garden hose to) after the Greensand filter. This makes it easy to rinse your new Greensand Filter filter on start-up and gives you a place to test the water before it enters your household plumbing.
4. If you will be using copper piping, do not sweat the copper pipe directly on to the CWS F56 control valve. Avoid heating up the CWS F56 control valve plastic with the torch.
5. Install your new system with stainless steel flex lines OR use pipe unions, so you can easily remove the manual backwash control valve later, to replace the Greensand filter media.
6. The drain line tubing (not supplied) is connected to a drain from the drain outlet using flexible ½" ID tubing. Note that the drain can run up above the CWS F56 control and into a drain, it does not have to drain down, as the filter backwashes under line pressure from your well pump. Most plumbing codes require an air-gap connection, so that if your sewer or septic tank backs up, it cannot cross connect with the drain tubing.

How Your Greensand Filter Works

See Fig 1. In your Greensand Filter water enters the top of the tank (red arrows) and flows down through the media and up the distributor tube (blue arrows). The downflow type Greensand Filter removes iron and can be backwashed, which cleans and re-classifies the Greensand, preventing channeling. During backwash, the water flow is reversed and water flows down the distributor tube and up through the media, lifting and expanding the media. During the backwash the media is cleaned by the action of the water flowing through it.

Fig 1 - Greensand Filter Filter Tank Water Flow



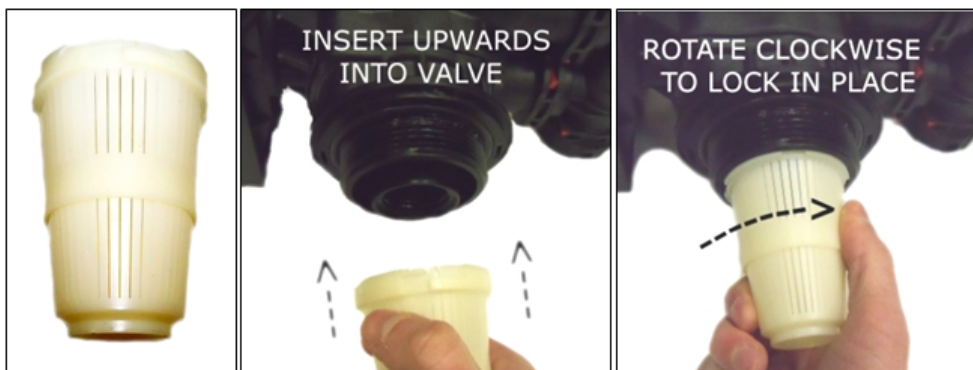
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Assembly and Installation Instructions

1. Wrap the top of distributor tube with black electrical tape or blue painter's masking tape so that no gravel or Greensand media will go down the distributor tube when adding the media. Also, leaving a folded tab of tape that you will be able to grab onto to gently pull off the tape after filling the tank. When you are ready to screw the valve head on, apply silicone lubricant to the outside of the distribution tube, and the o-ring on the control valve where the tube goes in.



2. Add the filter gravel that came with your order. You want the gravel to cover the bottom distributor screen before adding the Greensand media.
3. Next add Greensand media. The tank will be about 2/3rds full of media. Do not overfill past the two-thirds mark, or the system will not backwash properly.
4. Remove tape from top of distributor tube. Be careful not to pull up distributor tube when removing tape.
5. At this point, fill tank completely with water. This will allow the Greensand Filter media to settle and reduce the need of purging the air out of the tank later.
6. Attach plastic top screen to the under-side of the CWS F56 control valve. It is a funnel-shaped plastic screen that snaps on to the control valve and prevents media from being backwashed out to drain during the regeneration cycles.



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7. Now install your water pipes to the CWS F56 valve. Make sure inlet is installed to the 'In' pipe connector on the bypass valve and outlet is on the "Out" connector.
8. Connect some flexible tubing from the drain connection on the CWS F56 control valve to a suitable drain such as a septic tank or drain to a sewer. It is OK to run the drain line up and over the CWS F56 Greensand Filter up to 4 feet above the top of the tank. If the drain line will be more than 20 feet, use larger diameter tubing such as $\frac{3}{4}$ " or 1". Note that it is desirable to be able to run the drain line into a bucket in order to test the backwash flow rate in the future. This is why hard piping the drain line is discouraged, however, if you do use hard PVC piping for the drain line, and you are able to remove the hard PVC drain piping and attach flexible tubing should you ever desire for testing purposes, it is OK to use rigid PVC pipe for the drain. Make sure the drain tubing is firmly clamped to the barbed fitting with a hose clamp to prevent leaks.
9. Make sure to backwash the Greensand and rinse the media thoroughly before using for at least 20 – 30 minutes.