888-524-8627
CONSCIOUS LIVING SYSTEMS, INC.
www.consciouslivingsystems.com
P. O. Box 7261, Woodland Park, CO 80863
Office: 719-687-2928 Fax: 888-869-8985

HOW TO REPLACE MEDIA IN A BACKWASHING FILTER

GENERAL DIRECTIONS

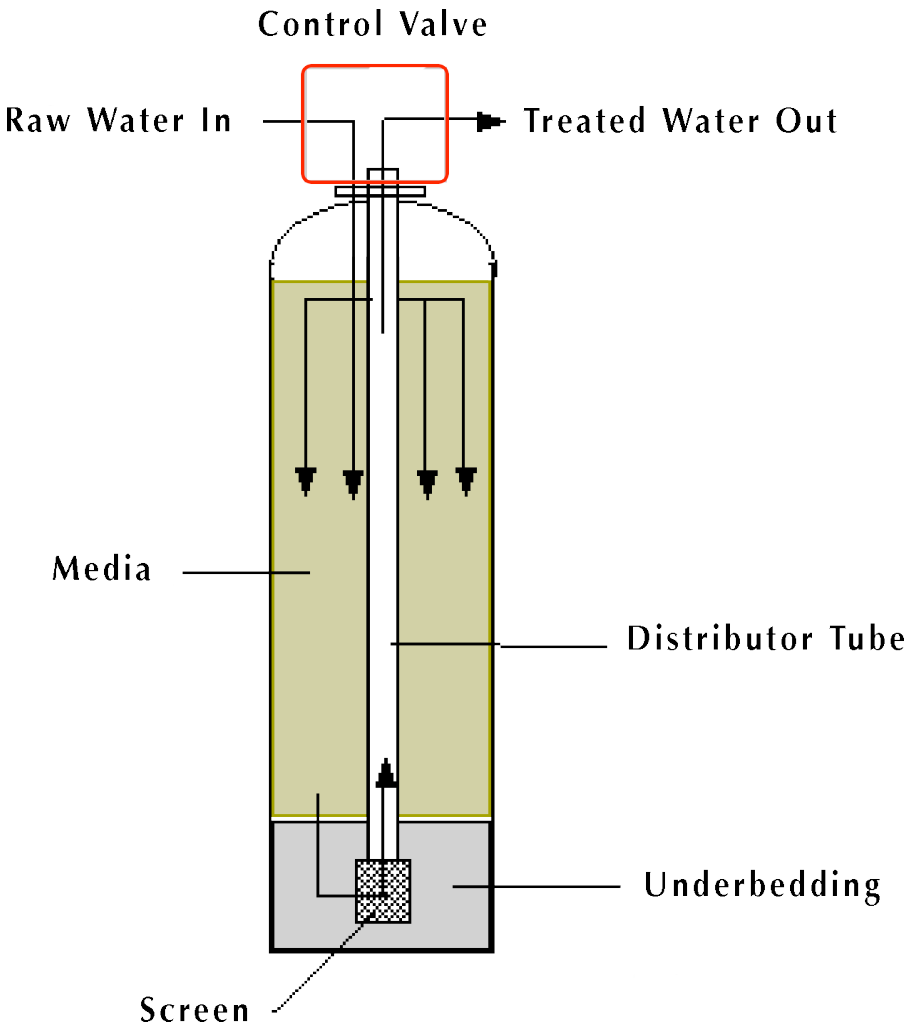
Point-of-entry (POE) water treatment appliances are designed to treat water as it enters a building or a home. Unlike point-of-use (POU) filters that treat small amounts (up to 1 gallon per minute) of water for drinking purposes, POE appliances are usually installed on ¾" or larger water lines and treat all the water (flows of 8 to 10 gallons per minute or more) after it enters the building.

The purpose of the treatment determines the type of equipment. Hardness is often controlled by water softeners that use a resin to remove calcium and magnesium ions. These resins must be regenerated with salt from a separate brine tank and backwashed. Carbons are used to remove a variety of contaminants like volatile organic chemicals that can cause off-tastes and odors. Specialty carbons are used to remove more difficult to remove contaminants like chloramines, MTBE, hormone disruptors, etc. A variety of specialty resins are used to remove color caused by tannins. Still other media are used to remove excess inorganic contaminants like hydrogen sulfide (rotten-egg odor), iron and manganese that cause red and/or black staining, or treat water to prevent corrosion.

No matter the type, each of these media must be regenerated and/or backwashed periodically to maintain their effectiveness. This process is usually automatic, being controlled by a valve that sits on the top of the tank. Eventually, each of these media becomes depleted to the point where it must be replaced completely. For some media this might be as often as a year. Other media lasts as long as 10 to 15 years.

Media loading or replacement is relatively simple if done properly. It is possible for non-professionals to do the job given the proper directions. That is the purpose of this article.

DIAGRAM OF A TYPICAL BACKWASHING FILTER



DIRECTIONS

1. Get a copy of the service manual for the appliance, read it, and keep it handy.
2. If this is a first time installation skip to step to Step 13 below. Otherwise go on to Step 3.
3. If the system has a bypass valve installed that causes water flow to bypass the appliance, place the water flow in bypass mode then disconnect the appliance from the bypass valve. Otherwise, shut the water off to the appliance and disconnect the appliance from the water line.
4. Manually turn the timer dial to backwash position (Manual Regeneration) to relieve vessel pressure.
5. Unplug the electrical connection to the control valve on the top of the appliance.
6. Remove any tubes or plumbing that connect the control valve to other equipment such as brine tanks, etc.
7. Remove any tubes or plumbing that connect the appliance to drains for backwashing purposes.
8. Unscrew the control valve from the top of the tank.
9. Carry the tank to a location where the exhausted media can be emptied and collected for disposal. (Don't wash exhausted media down drains.)
10. If you have an eductor (a tool that attaches to a hose) you may leave tank upright and extract media into a container for disposal. Alternatively, lay the tank on its side and flush media out of the tank with a garden hose into a container. Ideal containers are empty rice bags or other porous sacks. You may also wash the media out into a large container like

a garbage can that has holes in the bottom covered by screen material to let water out and keep exhausted media in.

11. Discard media.
12. Remove distribution tube from the tank and visually inspect it for any damage or wear and replace if necessary.
13. Place the clean tank in the desired location for connecting to the system.
14. Put the distributor tube in the tank until it touches the bottom.
15. Cover the top of the hole on the distributor so nothing can get into the tube. You can use a cap or even tape as long as it comes off cleanly.
16. Fill the tank approximately one-third with water to act as a buffer so the media will not break the distributor tube.
17. Slowly pour the appropriate amount of gravel or garnet underbedding. Make sure the screen on the distributor tube is covered completely.
18. Pour in filter media or resin until tank is approximately ¾ full for resin, or ½ full for heavy media like KDF® and Pyrolox®. (See guide below for media types and amounts needed.)
19. After you have finished with filling the tanks clean the top of the tank and tank threads of any resin or gravel.
20. Remove whatever you used to cover the top hole of the distributor tube and clean.
21. Next visually check and clean the valve and distribution tube "o" ring of any foreign matter and lubricate with silicone lubricant or soap. NOTE: Do not use Vaseline or grease as these will degrade the "o" rings and cause leaks.

22. Locate control valve on tank making certain the riser tube is centered.
23. Screw the control valve on the tank until it becomes tight.
24. Reposition and level the tank if necessary to assure proper alignment.
25. Connect the drain lines, feed lines, and plumbing that connects the control valve to the water supply.
26. Now you are ready to set up the valve and program it for use. (Consult operations manual for instructions.)
27. Initiate manual regeneration cycle. For carbon units allow media to sit wet for 24 hours to condition it before use.
28. Once media is conditioned and backwashed, the appliance is ready for use.