



Clean Water Made Easy

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7500 Sediment 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 sediment 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.

SEDIMENT MEDIA CONTAINS DUST. USE PAPER MASK AND VENTILATE TO AVOID BREATHING DUST.



Questions?

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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 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. However, after installation the Sediment Filter must be allowed to run through several complete backwash and rinse cycles to clean and condition the filter media..
5. After the system is installed and running, your water may be discolored, or full of sediment or rust, particularly if you have older or corroded piping. This typically clears up over a day or two.

Best Practices for Piping & Drain Installation

1. See typical installation on page 7 (Fig 2). The Sediment Filter is installed after the pressure tank.
2. Make sure to connect the IN pipe to the 7500 inlet and the OUT pipe to the outlet (see Fig 2) and install a 3 valve bypass around the system.
3. Make sure there is a working gate or ball valve before the 7500 Sediment Filter and also one after as shown in Fig 2. The pressure gauges are optional and perhaps not necessary but a hose bib (which is a faucet that you can attach a garden hose to) is strongly recommended after the Sediment Filter and before the second ball valve. This makes it easy to rinse your new Sediment 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 7500 control valve. Avoid heating up the 7500 control valve plastic with the torch.
5. 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 7500 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.

Installation of Your System into Copper or Metal Piping Systems

If your new filter system is to be installed in a metal (conductive) plumbing system, i.e. copper or galvanized steel pipe, the plastic components of the system will interrupt the electrical continuity of the plumbing system.

As a result any stray currents from improperly grounded appliances downstream or potential galvanic activity in the plumbing system can no longer ground through the contiguous metal plumbing.

Some homes may have been built in accordance with building codes, which encouraged the grounding of electrical appliances through the plumbing system.

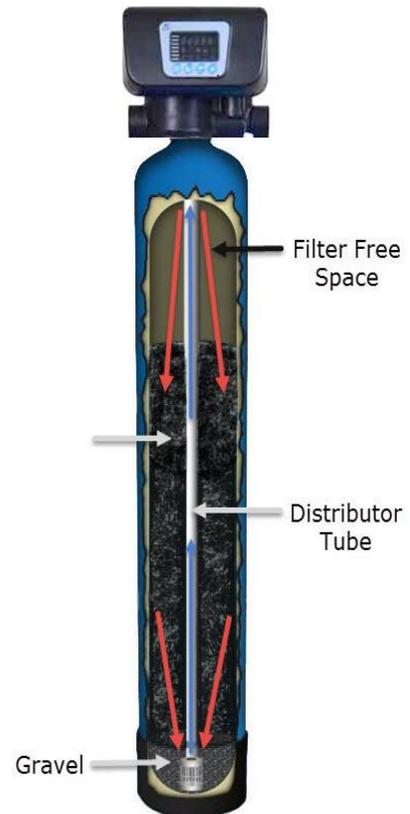
Consequently, the installation of a bypass consisting of the same material as the existing plumbing, or a grounded "jumper wire" bridging the equipment and reestablishing the contiguous conductive nature of the plumbing system must be installed prior to your systems use.

This is simple and easy step to take if you are installing your water treatment system into copper piping. A simple ground jumper wire with a pipe clamp can be purchased at any Home Center, or hardware store etc. for a few dollars.

How Your Sediment Filter Works

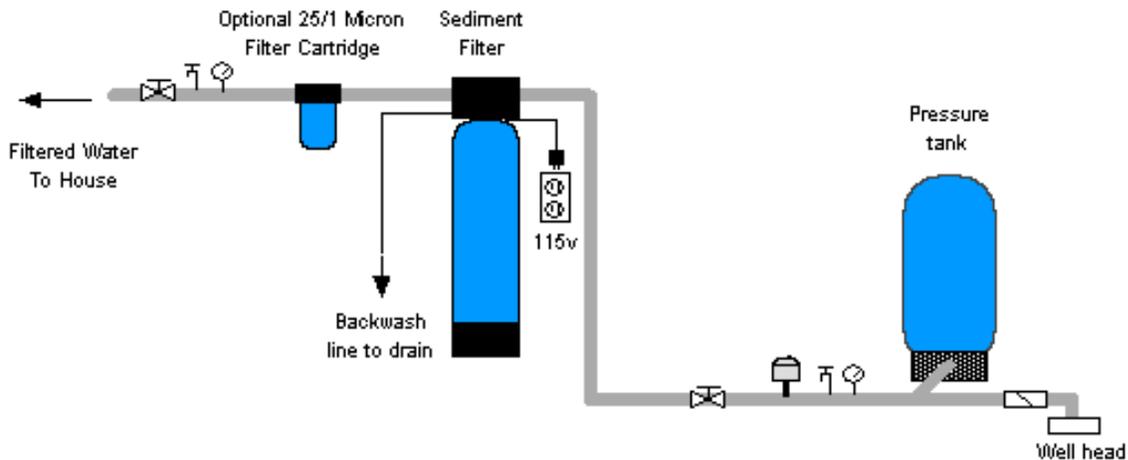
See Fig 1 on the right. Water enters the top of the sediment filter tank (red arrows) and flows down through the media and up the distributor tube (blue arrows). The downflow type sediment filter removes sediment and can be backwashed, which cleans and re-classifies the media, preventing channeling.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

Chemsorb
Media

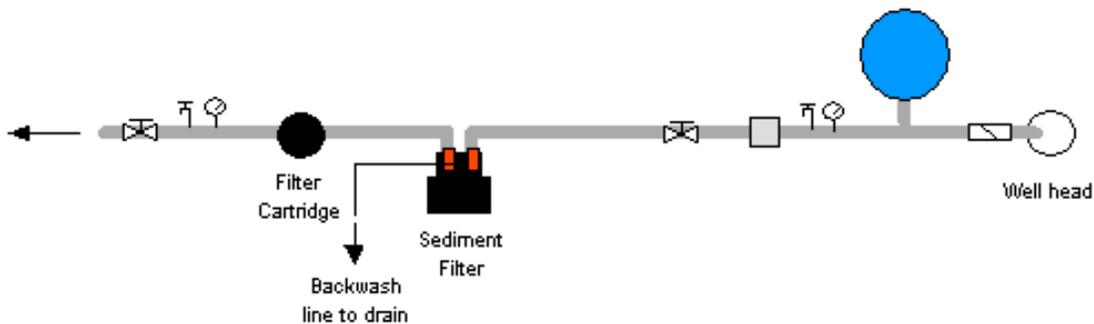


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Fig 2: Typical Sediment Filter 7500 piping installation with ball valve and hose bib after the filter



Plan View



Key

- Water piping
- Check valve
- Pressure gauge
- Hose bib
- Pressure switch
- Gate or ball valve

Notes: Install after pressure tank. Water enters on right side of bypass valve as you face the system; follow arrows on bypass valve. Follow inlet and outlet arrows on filter for proper installation. Connect 1/2" flexible tubing from backwashing control valve to a drain. If the distance to the drain is more than 20 feet use 3/4" or 1" tubing. Drain backwashes under line pressure and can be up to 30 feet away and up to 6 feet above the top of the tank if necessary. If you install a hose bib & ball valve after the sediment filter as shown, it will make it easier to service and test the water at a later date. If the water contains very fine sediment, a dual-grade 25/1 micron filter can be used after the sediment filter. Follow all local plumbing and electrical codes.

Assembly and Installation Instructions:

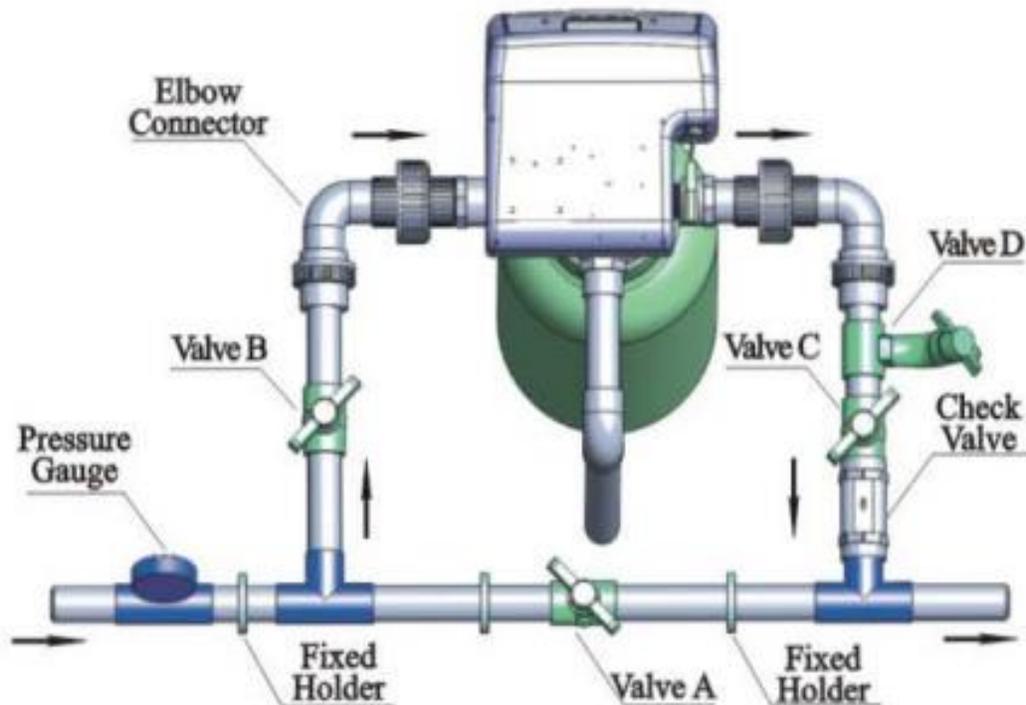


Figure 1-2

The 7500 Does not come with a pre-made bypass; you have to build one yourself. Schedule 40 or 80 PVC, or Pex pipe is okay to use. You also can get a pair of flex lines- instead of the unions shown where the Elbow Connector is, you could have slip by male fittings, then flex lines, then male nipples, and then you do not have to worry about plumbing it with too much pipe deflection- this must be avoided, as pipe deflection will put undue pressure on the control valve threads which may then crack.

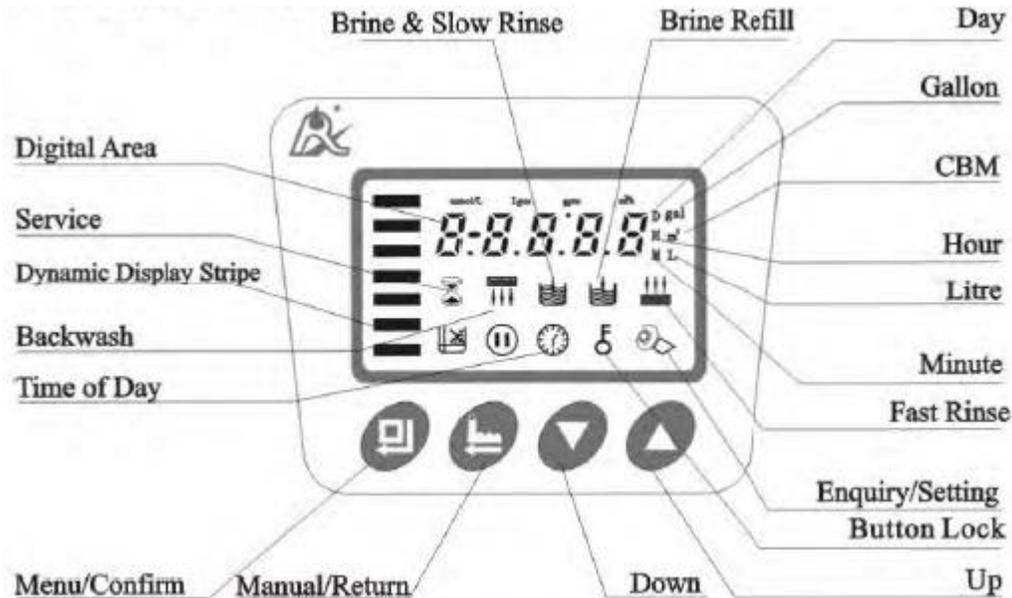
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1. Wrap the top of distributor tube with electrical or duct tape so that no gravel or Chemsorb media will go down the distributor tube when adding the media.



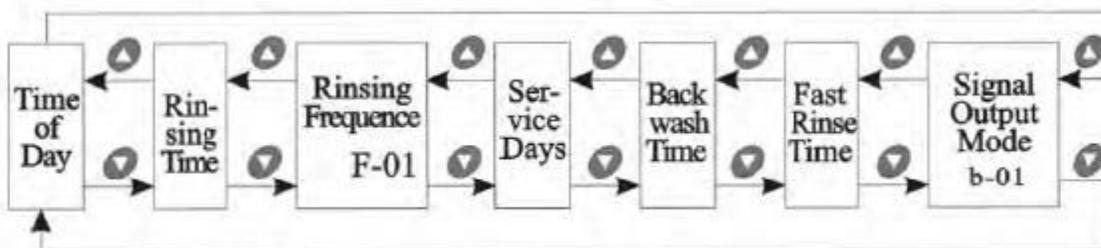
2. Add the filter gravel that came with your order. You want the gravel to cover the bottom distributor screen before adding the Sediment media.
3. Next add Sediment media. The tank will be about 2/3 full of media, do not fill past 2/3rds, even if there is some extra media left over.
4. Remove cap or tape from top of distributor tube. Be careful not to pull up distributor tube when removing cap or tape.
5. If possible at this point, fill tank completely with water. This will allow the Sediment Filter media to settle and reduce the need of purging the air out of the tank later.
6. Now install your water pipes to the 7500 bypass end connectors. Make sure inlet is installed to the 'In' pipe connector on the bypass valve and outlet is on the "Out" connector.
7. Connect some flexible tubing from the drain connection on the 7500 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 7500 Sediment 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 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.
8. Next, you will need to program the system to work as a Sediment Filter. There are a few settings that must be changed before the system can be put into service. Plug in the control valve and continue on to the next page to begin the programming instructions.

Programming Your Valve



IMPORTANT: Before any operation, the valve menu must be unlocked. If the button lock indicator is displayed, press and hold both the Up and Down buttons for 5 seconds. A sound will indicate the menu is unlocked. The menu will re-lock automatically after 1 minute of inactivity.

1. To begin programming your valve, unlock the menu and press the Menu/Confirm button. This puts the valve into program display mode, indicated by the Enquiry/Setting icon being displayed. The Enquiry/Setting icon is displayed whenever you are changing the parameter of a programming mode.
2. The sequence of programming modes is shown in the diagram below. To switch between modes, press the up or down button according to which direction your mode is. The modes can only be changed when the Enquiry/Setting button is displayed and you are not currently modifying any other parameter.



1) To change the Time of Day:

Change programming mode to Time of Day ([00:00] and time of day icon displayed). The hour and Enquiry/Setting icon will be flashing. Change the hour value with the Up/Down buttons, then press Enquiry/Setting to move onto the minute value. Change this value with Up/Down, and press Enquiry/Setting again to confirm the time.

2) To change the Rinsing Time:

The rinsing time is the hour of day that the system will turn on to perform its function. **We recommend setting the system to backwash at 2 AM [02:00]**, or any time that it is unlikely any water will be used. Note the valve uses the 24-hour clock.

The default setting is [02:00]. The max setting is [23:59]. To change, set the programming mode to Rinsing Time ([00:00]). Press the Enquiry/Setting button and use the Up/Down buttons to change the hour value. Press the Enquiry/Setting button again and change the minute value using the Up/Down buttons. Finally, press Enquiry/Setting to confirm your rinse time.

3) To change the Rinsing Frequency:

The rinsing frequency is how many times the system will backwash and rinse per service.

This should be left at its **default, [F-00]**. This will have the system only backwash and rinse once per service.

4) To change the Service Days:

Service days indicates how often the system will operate and backwash/rinse. **The recommended setting for a neutralizer filter is 7 days.**

To set this, change the programming mode to Service Days ([1-03D]). Press the Enquiry/Setting button and use the Up/Down buttons to set it to your desired amount. Press Enquiry/Setting to confirm your input.

5) To change the Backwash Time:

The backwash time is the amount of time (in minutes) that the system will backwash for.

For a neutralizer filter, **set the backwash time to 10 minutes [2-10:00]**. To change this, set the programming mode to Backwash Time ([2-10:00] and backwash icon displayed). Press the

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Enquiry/Setting button and use the Up/Down buttons to set it to **[2-10:00]**. Press Enquiry/Setting to confirm the backwash time.

6) To change the Fast Rinse Time:

The fast rinse time is the amount of time (in minutes) that the system will rinse for.

For a neutralizer filter, **set the fast rinse time to 6 minutes [3-06:00]**. To change this, set the programming mode to Fast Rinse Time ([3-10:00] and fast rinse icon displayed). Press the Enquiry/Setting button and use the Up/Down buttons to set it to **[3-06:00]**. Press Enquiry/Setting to confirm the fast rinse time.

7) To change the Signal Output Mode

The signal output mode refers to when the system receives external function.

Leave this at its default, [b-01].

After configuring, press the Manual/Return button to exit programming mode.

Press the Menu/Enter Button until all steps have been viewed. The Program Mode will be exited and normal operation resumed. If no buttons are pressed for 60 seconds or longer in Master Programming Mode it will be exited automatically.

Initial Backwash

- 1 After programming, the system must be run through an initial backwash.
- 2 Close inlet valve B and outlet valve C, and open the bypass valve A. From the initial valve menu, press the Manual/Return button to enter into the backwashing. When the backwash icon is displayed, slowly open the inlet valve B to a quarter position to make the water flow into the resin tank; you should be able to hear the sound of air escaping from the drain pipeline. After all the air is out of the pipeline, open inlet valve B and clean the foreign materials in the tank until the water is clean.
- 3 If possible verify that the backwash flow corresponds with the size of your system below. You can easily run the drain hose to a bucket and using a watch verify the flow rate in gallons per minute. An adequate backwash is critical to properly clean the Chemsorb media and prevent it from cementing together.

0.75 CF	5 GPM
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1.0 CF	5 GPM
1.5 CF	7 GPM
2.0 CF	10 GPM
2.5 CF	12 GPM
3.0 CF	15 GPM

- 4 After the backwash, the system will automatically go into the fast rinse stage. Both stages will last as long as you have programmed the valve for. The control valve will return to service status (indicated by the up flowing meter on the left) after the backwash and rinse are complete.

Congratulations, you are done setting up your valve!

Maintenance

Normal Operation

- Normal service display alternates between service days, time of day and scheduled rinsing time.
- Days remaining until the next service will count down from the day value to 1 day remaining.
- Once the count reaches 1, a service cycle will be initiated at the next designated rinsing time.

Troubleshooting the 7500 Sediment Filter

Backwash Flow Rate

One problem that may occur is if you do not have enough backwash flow rate to properly clean the Sediment filter. You can verify the backwash flow rate by running the drain line into a bucket and timing it when the 7500 is in Cycle 1 or backwash. A 1.0 or 1.5 cubic foot system should have 5 gallons per minute and a 2.5 cubic foot system should have 10 gallons per minute of backwash.

In some cases, the 7500 may not be programmed correctly. See the 7500 service manual for instructions on how to access the master programming.

What To Do If Your Filter Tank Does Not Sit Level On the Floor

Your black filter tank base is not glued to the bottom of your tank. Occasionally tank bases will become crooked during shipment. If you find that that your tank does not sit level on the floor, you can easily adjust it by holding the empty tank and rapping it on a concrete or solid floor once or twice in order to level it.

Initial Backwash Media Lifted Into Control Head

Sometimes, when doing the Initial Backwash, the media gets lifted up into the control head. You can tell this happened because you will have little or no flow, either going out to drain while in the backwash position, or when in the service position.

To remove media from a control head, do the following:

- 1) Put the Inlet Bypass in the Closed position.
- 2) From the Service Mode, initiate a manual regeneration, by pressing and holding the regen button (button on far left).
- 3) The valve will advance to the BW (backwash) position, and start counting down. Press the Regen button again, and wait for the valve to advance and stop at the Rapid Rinse (RR) position.
- 4) With the valve in the RR position, open and close the Inlet Bypass valve several times. After the third or fourth time, leave it in the open position and check the drain line- do you have a good solid flow? 90% of the time, the answer is yes, but sometimes, even after opening and closing the valve many times, you still don't have good flow... But, in either case (good or no flow), continue...
- 5) With the Inlet Valve OFF, Advance the valve back to Service position again, and again press and hold the Regen button, we are putting the valve back to the Backwash position.
- 6) Open the Inlet valve just enough so you can hear the water passing thru the valve- you should notice a corresponding slow flow out of the drain line. After a minute, if there are no air bubbles present, open the valve about another quarter inch- again, you should see a corresponding increase in the flow... And you will continue until the valve is full open.

IMPORTANT:

Any time that you are in the Backwash or Rapid Rinse position, you may need to unplug the power- this will hold the valve in its current position, so it doesn't 'time out' and go to the next position. When you plug the valve back in, after a minute it will return to where it was when you unplugged it (i.e. 2:32 remaining in BW). Understand, it is not possible to jam media into the head while in Rapid Rinse, or Service, just in the Backwash, when the flow direction is reversed.

What you are trying to accomplish, after you have pushed the media back in to the tank in the Rapid Rinse position, is to get the Inlet valve all the way open in the Backwash position, without it jamming media back in the head, and this is the part where you have to go slow, open up the Inlet valve a little bit at a time and let it run for a few minutes- this is why you may have to unplug it- and then, once you have done that, finally, do one more backwash, starting with the Inlet valve open, just as it will be when it does it automatically at night. Once it does that successfully, you are done.