



Clean Water Made Easy

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7500-M Carbon Filter Installation Guide

Thank you for purchasing a Clean Water System! With proper installation and a little routine maintenance your system will be providing chlorine 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.

Minimum pressure of 30 PSI recommended.
Maximum pressure recommended 80 PSI.
For indoor installation only.
Protect from sunlight, rain, and freezing.

CARBON MEDIA CONTAINS DUST.
USE MASK TO AVOID BREATHING DUST.
OK to wet down media with spray bottle

FOR USE ON MUNICIPALLY TREATED, OR DISINFECTED WATER ONLY.

IF USING ON UN-CHLORINATED OR NON-DISINFECTED WATER INSTALL A UV STERILIZER AFTER UNIT.

Questions?

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

Email us: support@cleanwaterstore.com

See more information on our website: www.cleanwaterstore.com/resources



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Packing Lists

All systems include:

7500-M control valve, qty 3 female NPT to BSP black pipe adapters, power supply, funnel for adding media, top screen, start-up guide, and items included in one of the following options:

Find Your Size System to See What is Included:

Carbon Filter 0.75 cubic foot size

8" x 44" filter tank with distributor tube
8 lbs. filter gravel
0.75 cubic foot of activated carbon.

Carbon Filter 1.0 cubic foot size

9" x 48" filter tank with distributor tube
12 lbs. filter gravel
1 cubic foot of activated carbon

Carbon Filter 1.5 cubic foot size

10" x 54" filter tank with distributor tube
16 lbs. Filter gravel
1.5 cubic foot of activated carbon

Carbon Filter 2.0 cubic foot size

12" x 52" filter tank with distributor tube
20 lbs. filter gravel
2.0 cubic foot of activated carbon

Carbon Filter 2.5 cubic foot size

13" x 54" filter tank with distributor tube
35 lbs. filter gravel
2.5 cubic foot of activated carbon

Carbon Filter 3.0 cubic foot size

14" x 65" filter tank with distributor tube
40 lbs. filter gravel
3.0 cubic foot of activated carbon

Carbon Filter 4.0 cubic foot size

16" x 65" filter tank with distributor tube
50 lbs. filter gravel
4.0 cubic foot of activated carbon

What to Do if Your Tank is Not Level Out of the Box:

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 knocking it on a concrete or solid floor once or twice to level it.

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Pre-Installation

1. Review your packing list and make sure you have received all the parts before 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, and make sure you have received all of your packages before beginning or scheduling an installation. Installation typically takes 3 to 5 hours. However, after installation the Sediment Filter must be allowed to run through a complete backwash and rinse cycle.
5. 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. Make sure to connect the Inlet **from** your water source and outlet, following arrows on control valve. Connect the External Flow Control fitting onto the Drain line. You must use the 3 female pipe adapters provided. Assemble all fittings into valve fitting prior to installation to the head. These seal with the blue seals and if overtightened can damage the valve body.



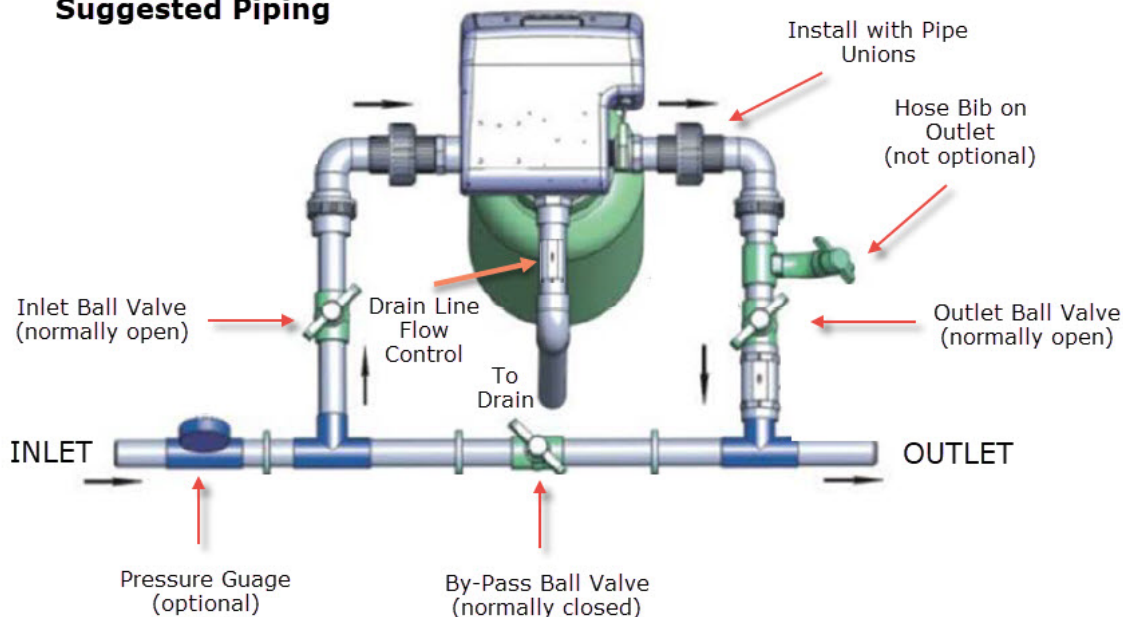
2. Make sure there is a working gate or ball valve before the system and also one after as well as a bypass valve. A hose bib (which is a faucet to which you can attach a garden hose) is strongly recommended after the Sediment Filter and before the second ball valve. This makes it easy to rinse your new Sediment Filter on start-up and gives you a place to test the water.



3. If you will be using copper piping, do not sweat the copper pipe directly on to the 7500-M control valve.
4. You should install unions and a bypass around the valve, so that you can remove it and still have water (See Build Your Bypass).
5. To connect drain line to drain, use an air-gap connection, so that if your sewer or septic tank backs up, it cannot cross connect with the drain tubing.

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CWS 7500 Control Valve Suggested Piping



Installation of Your System in 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 Carbon Filter Works:

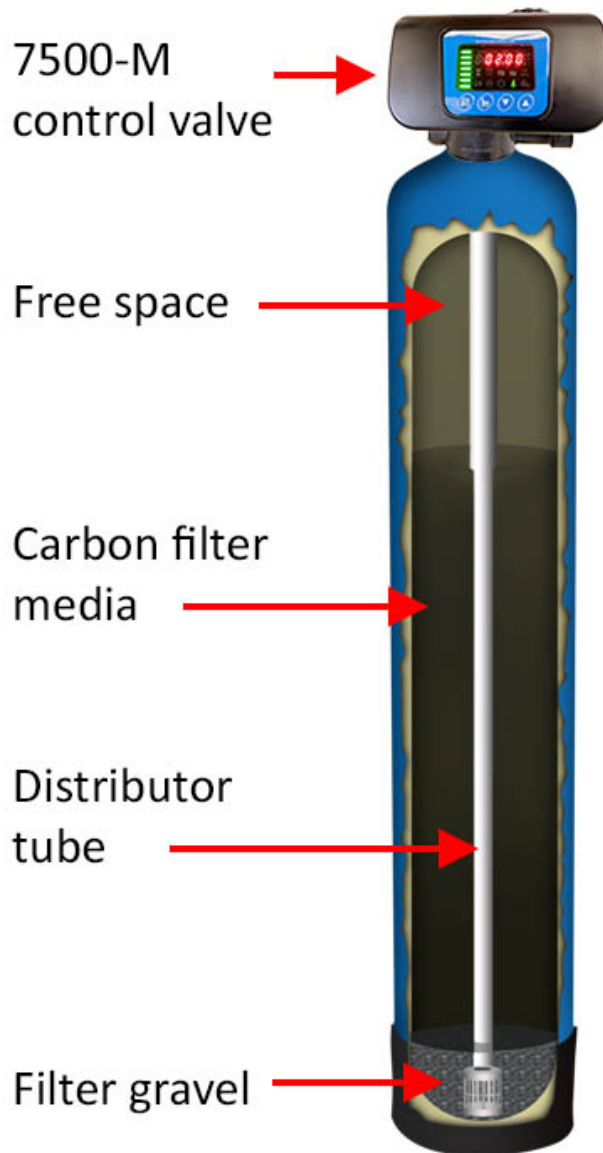
Water enters the top of the tank and flows down through the media and up the distributor tube.

The backwashing Carbon Filter removes sediment and is automatically backwashed.

This cleans and re-classifies the carbon, 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 Carbon media.

During the backwash the Carbon is cleaned by the action of the water flowing through it.



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Assembly and Installation Instructions:

1. Wrap the top of distributor tube with electrical or duct tape so that no gravel or Carbon 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 Carbon media.
3. Next add Carbon media. The tank should be about 2/3rds full of media, do not fill more than 2/3rds, even if there is some 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. Fill tank completely with water. This will allow the Carbon Filter media to settle and reduce the need of purging the air out of the tank later.
6. Add a small amount of silicone grease to the inner O-ring, where the distribution tube goes.
7. Next, install the top screen by inserting upwards and rotating to lock in place. (This is a funnel-shaped plastic screen that locks into the control valve and prevents resin from being backwashed out to drain during the regeneration cycles.)
8. Lubricate the main tank O-ring and screw on 7500 control valve carefully. Do not use pipe-joint compound, vegetable oil, Teflon tape, or Vaseline or other petroleum greases to lubricate tank threads.

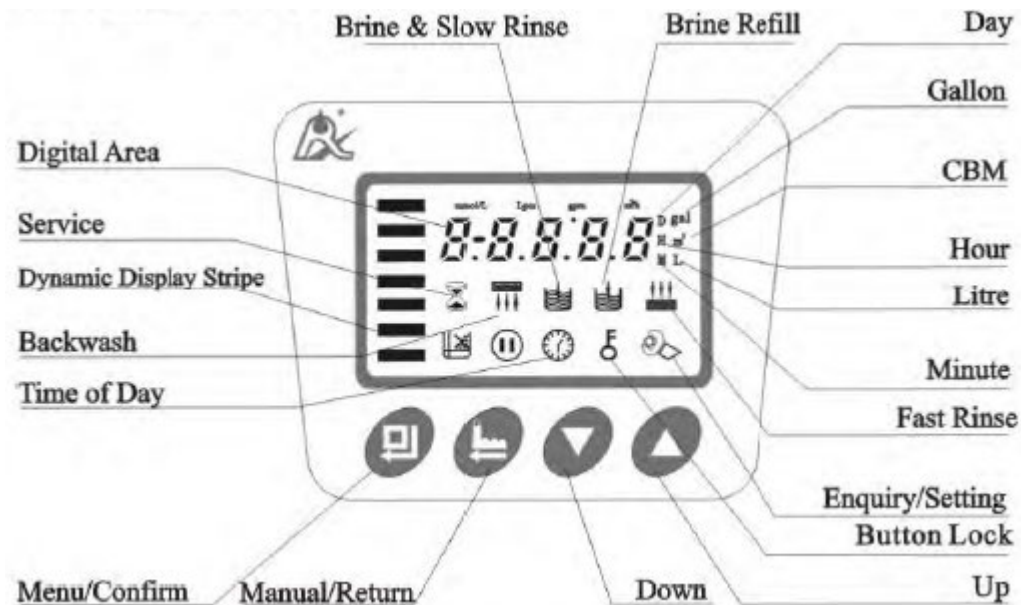


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Next, you will need to program the system and set the time of day.

Programming Your Valve and Setting Time and Days for Backwash

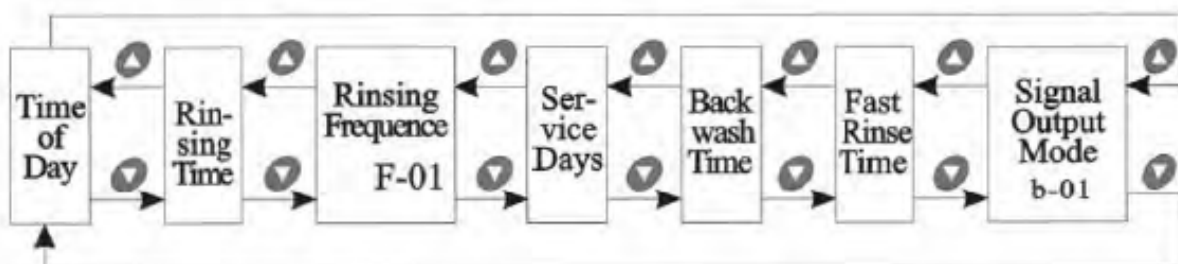
Next, you will need to program the system to work as a Neutralizer Filter. There are a few settings that must be changed before the system can be put into service. Plug in the control valve and begin the programming instructions.



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.

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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 Menu/Confirm to move onto the minute value. Change this value with Up/Down, and press Menu/Confirm 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 Menu/Confirm button and use the Up/Down buttons to change the hour value. Press the Menu/Confirm button again and change the minute value using the Up/Down buttons. Finally, press Menu/Confirm 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 Carbon filter is 7 days.**

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

5) To change the Backwash Time:

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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

Menu/Confirm button and use the Up/Down buttons to set it to **[2-10:00]**. Press Menu/Confirm 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 Menu/Confirm button and use the Up/Down buttons to set it to **[3-06:00]**. Press Menu/Confirm 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.

Initial Backwash

- 1 After programming, the system must be run through an initial backwash.
- 2 Close inlet ball valve and outlet ball valve and open the bypass valve.
- 3 Press the Manual/Return button to enter the backwashing cycle. 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 air escaping from the drain pipeline.
- 4 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.
- 5 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 Calcite media and

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prevent it from cementing together.

0.75 CF	5 GPM
1.0 CF	5 GPM
1.5 CF	5 GPM
2.0 CF	8 GPM
2.5 CF	10 GPM
3.0 CF	12 GPM

- 6 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.
- 7 Repeat the Regeneration (backwash and rapid rinse cycle) step 3-4 more times until you see clear water through the drain line or your hose bib.

Congratulations, you are done setting up your valve!

Maintenance:

Test for chlorine before and after the carbon filter. Once you start to detect free-chlorine after the carbon filter (typically after 2 – 5 years) unscrew valve, dump out and replace the carbon filter media.

Troubleshooting the 7500-M Carbon Filter:

Backwash Flow Rate

One problem that may occur is if you do not have enough backwash flow rate to properly clean the Carbon filter.

You can verify the backwash flow rate by running the drain line into a bucket and timing it when the 7500-M 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.