



Clean Water Made Easy

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Pro-OX 8500 Iron 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.

PRO-OX MEDIA CONTAINS DUST.

USE PAPER MASK AND VENTILATE AREA TO AVOID BREATHING DUST DURING
INSTALLATION



Questions?

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Packing List

Iron Filter 1.0 Cubic Foot Size

Quantity 1 Canature 85HE control valve with bypass assembly and pipe connector kit (1" or 3/4")*

Quantity 1 10" x 44" standard filter tank with distributor tube

Blue media funnel for adding Pro-OX media

12 lbs gravel

Iron Filter 1.5 Cubic Foot Size

Quantity 1 Canature 85HE control valve with bypass assembly and pipe connector kit (1" or 3/4")*

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

Blue media funnel for adding Pro-OX media

16 lbs gravel

Iron Filter 2.0 Cubic Foot Size

Quantity 1 Canature 85HE control valve with bypass assembly and pipe connector kit (1" or 3/4")*

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

Blue media funnel for adding Pro-OX media

20 lbs gravel

Iron Filter 2.5 Cubic Foot Size

Quantity 1 Canature 85HE control valve with bypass assembly and pipe connector kit (1" or 3/4")*

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

Blue media funnel for adding Pro-OX media

35 lbs gravel

*Pipe connector kit includes two extra red clips

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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 will be turning off the water to your 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. However after installation the iron 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 you have older or corroded piping. Typically this clears up over a day or two.

Best Practices for Piping & Drain Installation

1. See typical installation (see Fig 2). The iron filter is installed after the pressure tank. If you are also installing a water softener, install the softener after the Pro-OX filter.
2. Make sure to connect the in pipe to the Canature 85HE inlet and the outlet to the outlet (see Fig. 2). If you face the Canature 85 HE from the front, the water will enter on the right and exit on the left. The inlet and outlet are attached to the bypass valve, which is marked with arrows as well.
3. Make sure there is a working gate or ball valve before the Canature 85HE iron filter and also one after as shown in the diagram Fig 2. The pressure gauges are optional and perhaps not necessary but a hose bib (a faucet to which you can attach a garden hose) is strongly recommended after the iron filter but before the second ball valve. This makes it easy to rinse your new iron 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 Canature 85HE control valve. Avoid heating up the Canature 85HE control valve plastic with the torch.
5. You do not need unions to install your Canature 85HE control. If you need to remove it, the Canature

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85 HE has quick-release couplings that make it easy to put the iron filter on bypass and remove the filter system from the piping.

- 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 Canature 85HE control valve 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 Iron Filter Works

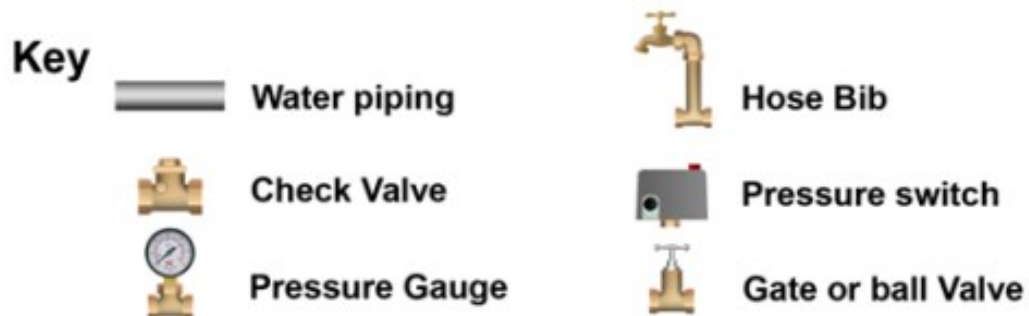
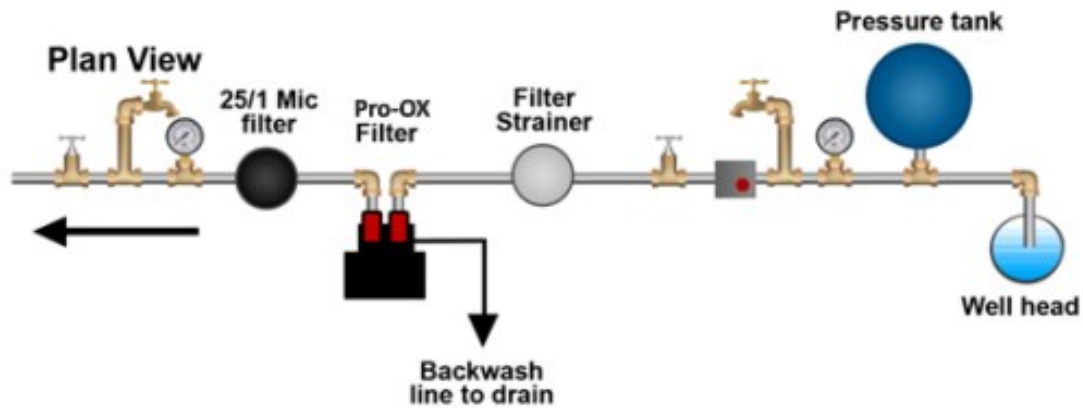
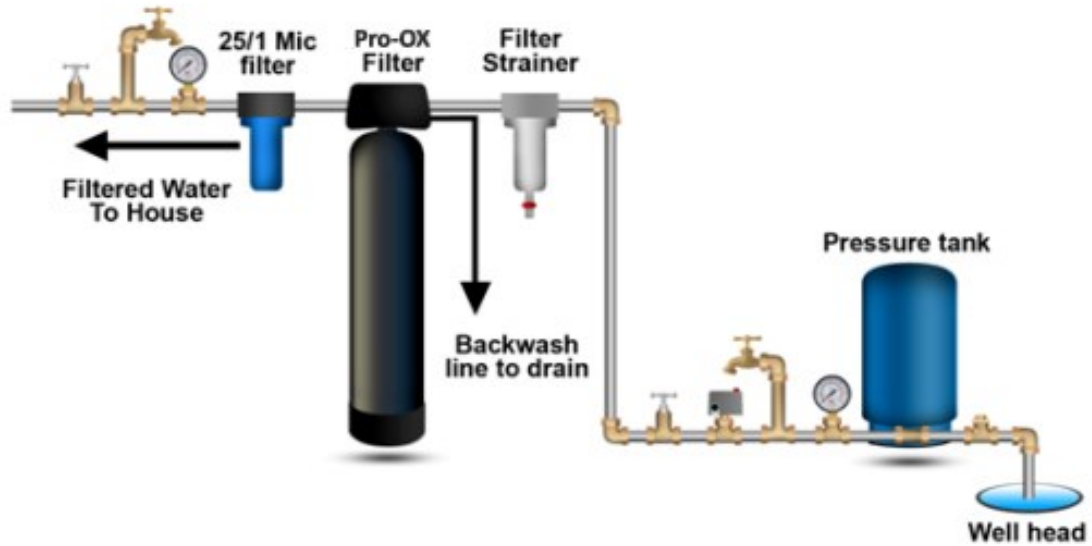
Water enters your iron filter through the top of the tank and flows down through the media and up the distributor tube. Iron and manganese in the water turns to an oxidized particle and is trapped upon contact with the media. This type of filter—a downflow filter—can be backwashed to clean and re-classify the media inside, preventing channeling. During backwash, the water flow is reversed and flows down the distributor tube and up through the media, lifting, expanding, and cleaning the Pro-OX media.

Fig. 1—Pro-OX Filter Tank Media Diagram



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Fig. 2—Typical Pro-OX piping installation with ball valve and hose bib after the filter. Filter strainer is optional, and useful if there is sand or grit in the water. The 25/1 micron filter after is optional, and used when there is very fine sediment or colloidal particles over 1 micron present.



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Assembly and Installation Instructions

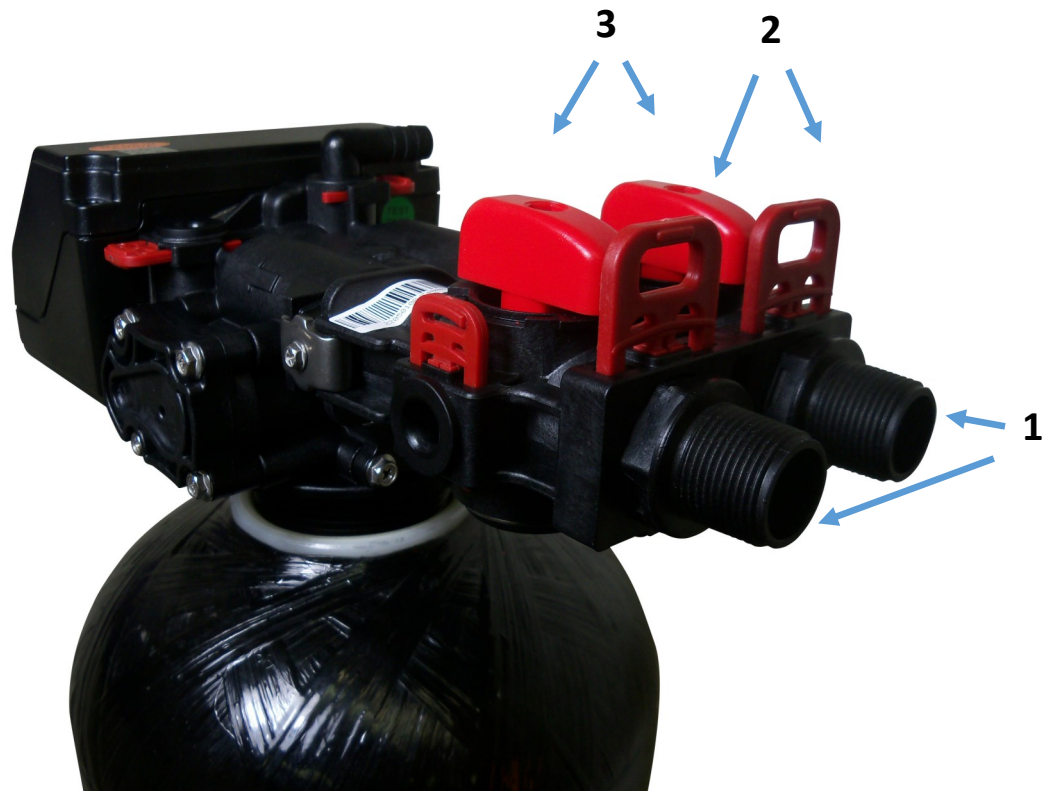
1. Unscrew by hand the entire Canature 85HE control valve from top of tank if it was shipped screwed on. Make sure distributor tube is capped; if it is not, wrap it with electrical or duct tape. This will ensure you don't accidentally pour gravel or Pro-OX media into the distributor tube.



2. Add supplied filter gravel first, using the funnel sent with your filter. **Note: Be sure not to let any parts of the bag or other foreign materials enter the tank when you are adding media.**
3. Next add Pro-OX media—tank should be approximately 60% full
4. Remove cap or tape from top of distributor tube
5. Add 2 cups of household bleach down the inside of the distributor tube and fill tank completely with water. This will activate and sanitize the Pro-OX media.
6. **Note regarding Teflon tape and pipe sealants:** It is okay to use Teflon tape and pipe sealant on the water pipe connector threads, where you attach your pipes or plumbing to the Canature 85HE. **DO NOT USE any Teflon tapes or pipe joint compound on the tank itself or on the threads where the Canature 85HE threads into the tanks.** Also note that when installing the 85HE backwash control-timer valve on to the top of the filter tank, do not over-tighten. Tighten by hand; there is no need for a pipe wrench or other wrench.

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7. See how the Canature bypass valve is connected. Items 2 are the pipe connectors, and items 3 are the red clips that hold the pipe connectors to the bypass valve. To put the system into bypass or service mode, don't remove the red clips, just turn the red knobs (items 1). The 85HE is usually shipped in bypass mode.



8. Make sure the bypass valve is in the bypass position when starting the installation. Follow the IN and OUT arrows on the bypass valve and control valve for proper connection of in and out water piping. Leave in the bypass position for now.
9. Lubricate the bypass valve o-rings on the pipe connectors with some vegetable oil or silicone grease and connect the bypass assembly to the Canature 85HE by sliding the bypass valve firmly into the body of the 85HE control valve. Once bypass is in far enough, you can easily insert the red connector clips. **Do not use petroleum grease on any part of the Canature 85HE valve.**
10. Now install your water pipes to the Canature 85HE bypass end connectors. Our preferred method is to wrap the pipe threads 2 or 3 times with Teflon tape, then apply a thin coating of white, non-hardening Teflon joint compound paste (available at all hardware store) before attaching the pipe fittings. Make sure inlet is installed to IN pipe connector on the bypass valve, and the outlet to the OUT connector.

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11. Connect some flexible tubing from the drain connection on the Canature 85HE control valve to a suitable drain such as a septic tank or sewer drain. It is OK to run the drain line up and over the Canature 85HE, up to 4 feet above the top of the tank. If the drain line will be more than 20 feet, and especially if your system is 2.0 or 2.5 cubic 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, you can use PVC piping for the drain line if you are able to remove it and attach flexible tubing for testing purposes. Make sure the drain tubing is firmly clamped to the barbed fitting with a hose clamp to prevent leaks.
12. PROGRAMMING: Plug your Canature 85HE control valve in to an outlet.
 - a. Press and hold Settings button for 3 seconds until TIME OF DAY appears onscreen. Use Up and Down arrows to set the time, and Settings button to confirm. After setting the time to AM or PM, press Settings again to go to the next setting.
 - b. The screen should now read YEAR. Set it to the correct year in the same way as you set the time, and press Settings to confirm. Do the same for the next two settings: MONTH and DAY.
 - c. After setting the correct day and pressing Settings to confirm, the screen should read REGEN DAYS. This controls how often the valve will run a regeneration cycle to clean the media in your tank. 7 is generally a good setting, though anywhere from 5-7 should work fine. If you use very little water you can even set it as high as 14 days. Once you've made your selection, press Settings to confirm.
 - d. The screen should now read GALLONS. Set this to OFF and press Settings.
 - e. The screen should now read REGEN TIME. Set this to a time of night (or day) when your system is not likely to be in use. We generally recommend you set this to 2:00 AM. Once you've set the regen time, press Settings one final time, so that your screen reads "PROGRAMMING COMPLETE." Programming is now complete.
13. Now you are ready to turn on the water. Turn it on and leave the Pro-OX filter on bypass while you check for leaks. Leave the ball valve after the Pro-OX filter closed, so that water is still off to the house, but connect a garden hose, open up the hose bib after the filter, and allow the water to run for several minutes. This important step clears out any foreign material that may be in pipes from the installation. If you do not have a valve and hose bib installed after your filter, you'll need to turn on the water inside the house and let it run through a tap that does not have an aerator screen, such as a bathtub or laundry sink.

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14. Press the Manual Regen button for 3 seconds, until it beeps. This will begin a manual backwash (regeneration) of your system.
15. Now you can slowly turn the bypass valve to the service position. Do NOT remove the red clips on the bypass valve in order to do so. First open the inlet side of the valve, then slowly open the outlet side until the valve is in full service position.
16. While there shouldn't be any Pro-OX media coming out of your drain line, the water may look black or dirty. Allow the backwash to run (it will take about 10 minutes) until complete. If the water slows or stops during the cycle, press any key to skip to the next cycle. Then repeat the backwash and rinse after the rinse cycle is done by pressing and holding the Manual Regen button again. If you have high water pressure you may need to turn on the water to your filter slowly, to prevent Pro-OX fines from coming out during the backwash. It is normal for some small amount of fines to escape, however you don't want to see a large amount of media coming out. This would indicate very high water pressure or a missing drain line flow control.
17. If possible, verify the backwash flow rate. You can easily run the drain hose to a bucket and, using a watch, verify the flow rate in gallons per minute (GPM). For example, if the backwash fills a 5 gallon bucket in 30 seconds, your well is flowing at a rate of 10 GPM. An adequate backwash is critical to properly cleaning the Pro-OX media and preventing it from cementing together.
 - 1.0 cubic foot model:** 5 GPM minimum, 7 GPM recommended
 - 1.5 cubic foot model:** 8 GPM minimum, 10 GPM recommended
 - 2.0 cubic foot model:** 10 GPM minimum, 12 GPM recommended
 - 2.5 cubic foot model:** 13 GPM minimum, 15 GPM recommended
23. The next cycle is the rinse cycle, which runs for 5 minutes. After the regeneration cycle, your Canature 85HE valve will automatically advance to the rinse cycle.
24. After the valve has gone through the backwash and rinse cycles, press and hold the Manual Regen button for 3 seconds to repeat the cycles again. Remember this procedure, as you'll have to go through it again when you add more Pro-OX media in the future (though you shouldn't have to do so for several years).
25. Refer to your Canature 85HE service manual for more information about how to program your control valve.

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Maintaining Your Pro-OX Filter System

Your Pro-OX 8500 iron filter requires very little maintenance. Simply replace the Pro-OX media every 6-10 years for best results.

If your water has a lot of hydrogen sulfide odor or iron and manganese levels over 10 PPM (parts per million), a chlorine feed pump may be needed to inject a small amount of chlorine before the well pressure tank and iron filter. The Pro-OX filter will remove any chlorine tastes or odors. In most cases this is not necessary, but chlorination (or peroxide/ozone injection) before the filter can greatly enhance the ability of the media to remove iron, manganese, and hydrogen sulfide.

Troubleshooting the Pro-OX 8500 Iron Filter

Measure the backwash flow rate by putting the system into a backwash mode and putting the drain tube into a 5 gallon bucket and timing the flow rate. A 0.75 cubic foot system should flow at 5 gallons in one minute, so the 5 gallon bucket should fill in one minute. The 1.0 cubic foot system should flow at 7 GPM during backwash.

In some cases, the control valve may be programmed incorrectly. Double-check the settings you have entered against the procedure outlined above (programming, page 9) to ensure you have entered the appropriate settings. In some cases a nightly backwash is required for best results. Adjust backwash frequency to every 1 to 2 nights if necessary.

If you are still getting some iron through the system, you can adjust the filter to backwash every 1 or 2 days.

In some cases, if the untreated water is high in hydrogen sulfide, or the iron level is over 5 ppm, a chlorinator system may be needed before the iron filter in order for the Pro-OX media to function properly.

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.

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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.