



Clean Water Made Easy

www.cleanwaterstore.com

Pro-Ox 5900S-AIR 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.**
- The Pro-OX 5900S-AIR Iron Filter must be activated with a 1/2 cup of un-scented liquid chlorine bleach when first installing it. Read instructions for more information. It is easy to do, but a critical step.
- The Pro-OX media contains dust. Use paper mask and ventilate area to avoid breathing dust when first pouring the media into the tank. Use spray bottle to wet media.

Watch How To Videos

<http://bit.ly/2kqSal7>

PLEASE READ THIS GUIDE THOROUGHLY BEFORE CALLING IN!

For assistance call: 1-831-462-8500 M-F 8AM to 4PM PST

Email us: office@cleanwaterstore.com

More information online: www.cleanwaterstore.com



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Packing List:

Pro-Ox 5900S-AIR 844

Pro-Ox 5900S-AIR control valve w/ bypass assembly with 1" pipe connectors
8" x 44" standard filter tank with distributor tube and bottom basket
Plastic media funnel for adding Pro-OX media
55 lbs. of Pro-OX media
10 lbs. of Chemsorb media
9 lbs. of filter gravel

Pro-Ox 5900S-AIR 948

Pro-Ox 5900S-AIR control valve w/ bypass assembly with 1" pipe connectors
9" x 48" standard filter tank with distributor tube and bottom basket
Plastic media funnel for adding Pro-OX media
69 lbs. of Pro-OX media
10 lbs. of Chemsorb media
12 lbs. of filter gravel

Pro-Ox 5900S-AIR 1054

Pro-Ox 5900S-AIR control valve w/ bypass assembly with 1" pipe connectors
10" x 54" standard filter tank with distributor tube and bottom basket
Plastic media funnel for adding Pro-OX media
110 lbs. of Pro-OX media
16 lbs. of Chemsorb media
16 lbs. of filter gravel

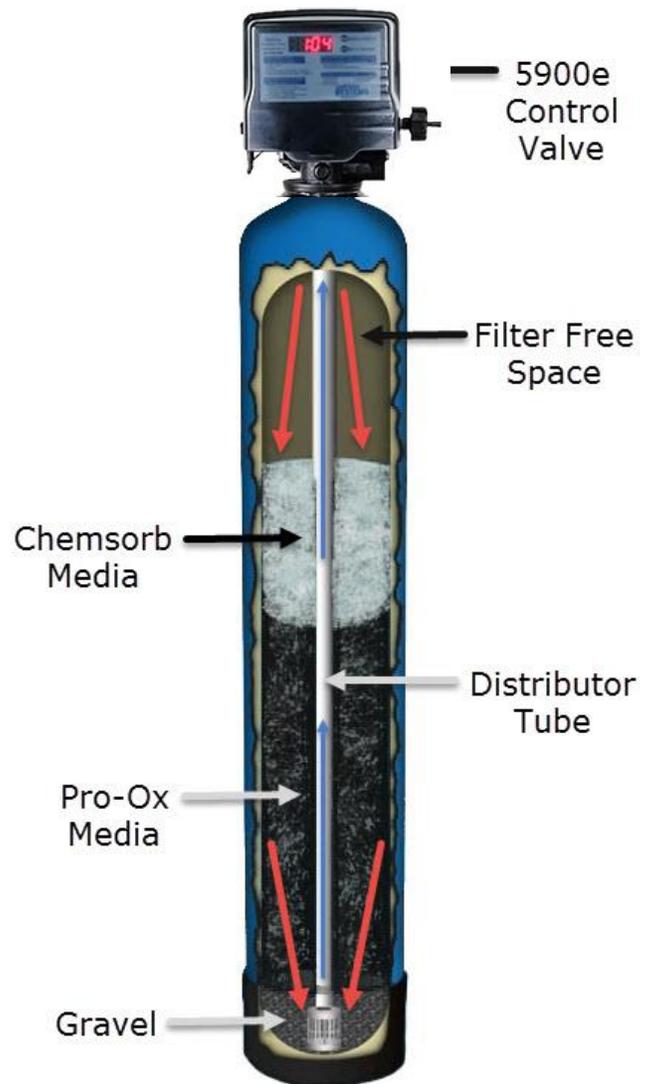
Pro-Ox 5900S-AIR 1252

Pro-Ox 5900S-AIR control valve w/ bypass assembly with 1" pipe connectors
10" x 54" standard filter tank with distributor tube and bottom basket
Plastic media funnel for adding Pro-OX media
165 lbs. of Pro-OX media
20 lbs. of Chemsorb media
20 lbs. of filter gravel

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How Your Pro Ox 5900S-AIR Works:

The Pro Ox 5900S-AIR, when properly applied, is an efficient and cost effective system for the removal of iron and odor elimination. The Pro Ox 5900S-AIR control valve maintains a compressed “air pocket” in the top of the tank while the system is in service. As the water passes through the air pocket, iron is oxidized. Additionally, dissolved oxygen is added to the water. The Pro Ox filter media bed then removes the iron from the water. The backwash (usually done at night, once every 2-4 days) will remove accumulated iron and replenish the filter media bed. The regeneration process also adds a fresh air pocket to the system.



System Limitations:

The Pro Ox 5900S-AIR utilizes air, oxidation and filtration for the removal of Iron. This process will leave some air or effervescence in the water. The effervescence may give the water a milky appearance and is simply excess air in the water. While a certain amount of effervescence may always be present, it will be most noticeable during the first 30 days after installation of the system.

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System Install Step by Step:

- 1) Verify that you have received all parts for your system and there are no damaged or missing parts.
- 2) Build the filter vessel and fill with water and 1 cup of liquid pool chlorine. The longer it soaks while you are doing everything else, the better. Build the filter near to where it goes, it will be very heavy when you are done.
- 3) Make the plumbing connections from your existing system to the bypass assembly, installing extra valves, unions, pressure gauges and hose bibs as needed.
- 4) Attach the control head to the tank, and to the bypass assembly.
- 5) Install the Drain Line tubing and the DLFC (Internal or External)
- 6) Plug in the power supply and program the valve.
- 7) Follow the instructions to put the system online and to verify the system is leak-free.

Pre-Installation:

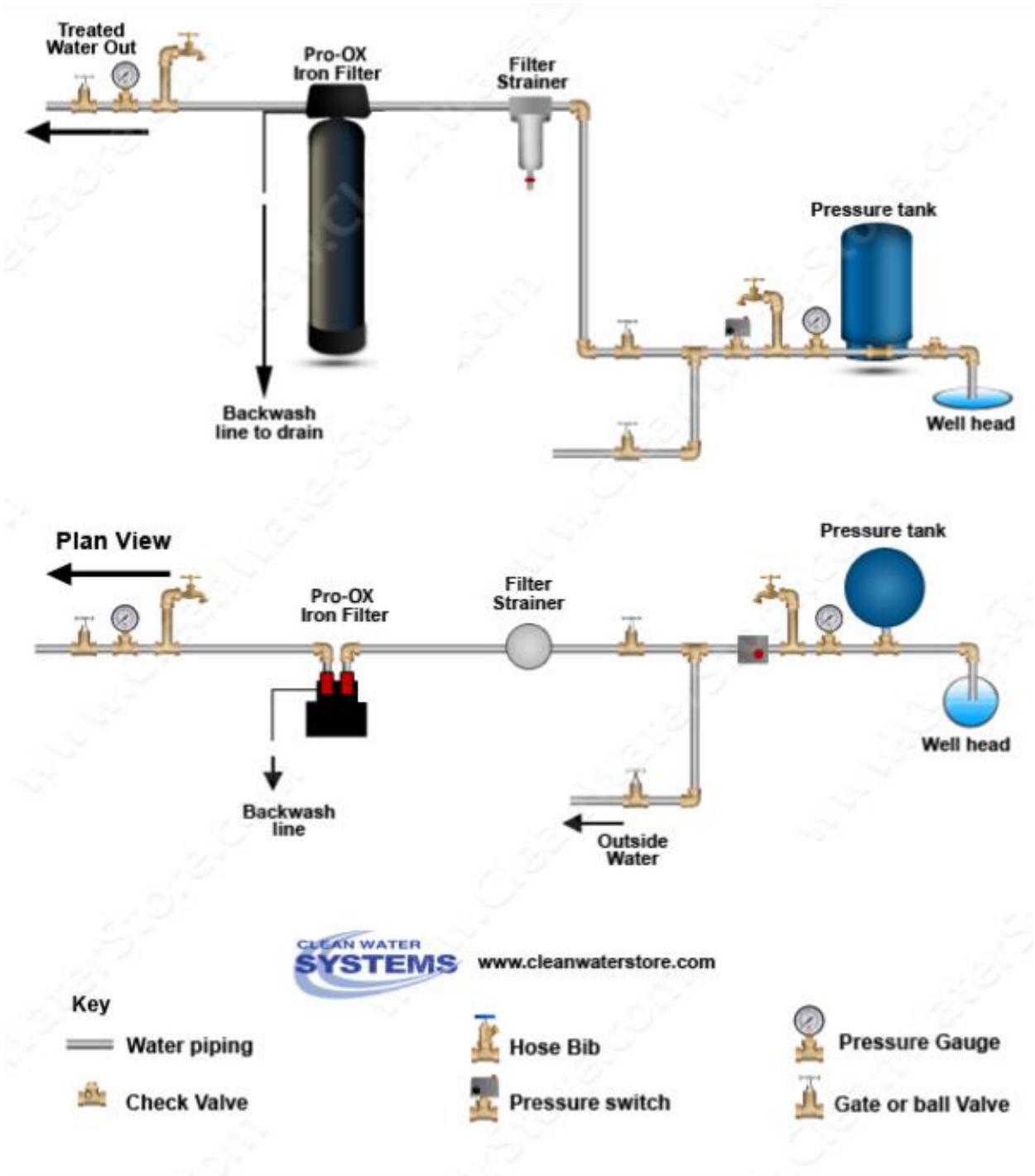
1. Review your packing list and make sure you have received all the parts before beginning installation.
2. If you are going to be turning off the water to the house and you have an electric water heater, shut off the power to the water heater before beginning installation in case water heater is accidentally drained.
3. Pick a suitable location for your filter system on a dry level spot where it won't be exposed to freezing temperatures, direct sunlight, wind or rain. A minimum of 30 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.
5. After the system is installed and running, your water may be discolored, or full of sediment or rust, especially if you have older or corroded piping. This typically clears up over a day or two.

What to Do If Your Filter Tank Does Not Sit Level on the Floor:

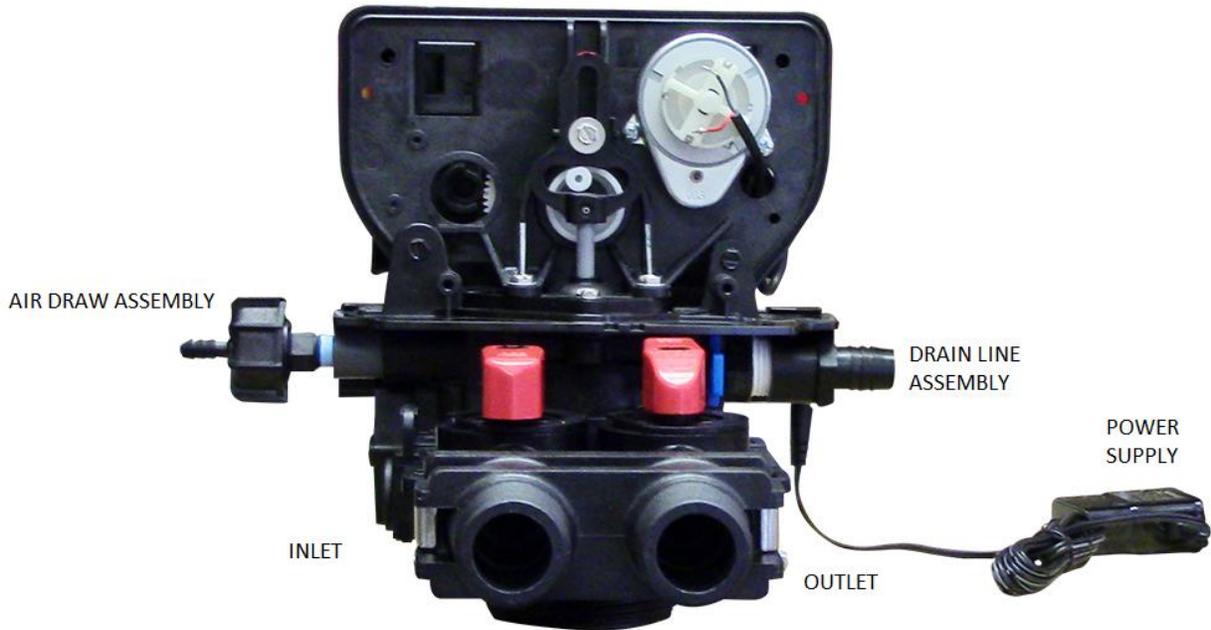
Your black filter tank base is not glued to the bottom of your tank. Occasionally tank bases will become crooked during shipment. If you find that that your tank does not sit level on the floor, you can easily adjust it by holding the empty tank and rapping it on a concrete or solid floor once or twice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

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Fig 2. Typical Installation:



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**Control Valve,
Control Valve:**

Cover Off:



Filter Bypassed, raw water to house!

Filter in Service, filtered water to house!



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1. See typical installation (Fig 2). The Pro Ox 5900S-AIR is installed after the pressure tank.
2. Make sure to connect the IN pipe to the Pro Ox 5900S-AIR inlet and the OUT pipe to the outlet (see previous page). As you face the Pro Ox 5900S-AIR control from the front, the water enters on the right and exits on the left. From the back the water enters 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 Pro Ox 5900S-AIR and also one after as shown in Fig 2. The pressure gauges are optional (although strongly recommended) but a hose bib (which is a faucet to which you can attach a garden hose) is strongly recommended after the Pro Ox 5900S-AIR and before the second ball valve. This makes it easy to rinse your new Pro Ox 5900S-AIR 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 Pro Ox 5900S-AIR control valve. Avoid heating up the Pro Ox 5900S-AIR control valve with the torch, as the plastic will melt.
5. We recommend PEX or PVC pipe up to the Pro Ox 5900S-AIR and then copper after it, if you have copper plumbing.
6. You do not need unions to install your Pro Ox 5900S-AIR control valve. If you need to remove it, the Pro Ox 5900S-AIR has quick-release couplings that make it easy to put the Pro Ox 5900S-AIR on by-pass and remove the filter system from the piping.
7. The drain line tubing (optional to buy) is connected to a drain from the drain outlet using flexible 5/8" ID tubing. Note that the drain line can run up above the Pro Ox 5900S-AIR 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.

Assembly and Installation Instructions:

There are two styles of funnel that we ship, depending on availability; you get Either the blue or black funnel. **Blue Funnel:**

1. Cover the top of the distributor tube with black electrical tape or blue painter's masking tape so that no gravel or media will go down the distributor tube when adding the media. Leave a folded tab of tape so you can easily pull off the tape after filling the tank. **Make sure you "test fit" the distribution tube, and find the divot that keeps the tube centered, before**

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adding the gravel and media. Hold the tube center until there is enough gravel and media to support the tube.

2. Add the filter gravel that came with your order. The gravel should cover the bottom distributor screen before adding the Pro Ox media.
3. Next, add the Pro-OX media first, and the Chemsorb media last, so that the Chemsorb sits on top of the Pro-OX media. The tank should be about 2/3 full of media, do not fill more than 2/3 full, even if there is media left over.
4. Remove tape from top of distributor tube. **Be careful not to pull up distributor tube when removing tape.**
5. Fill the tank completely with well or other water and add ½ cup liquid un-scented chlorine bleach. The chlorine will activate the Pro-Ox media, and the water will reduce the need of purging the air out of the tank later.
6. Add a small amount of silicone grease to both O-rings on the bottom of the control valve and screw on 5900S control valve carefully. Do not use pipe-joint compound, vegetable oil, Teflon tape, or Vaseline or other petroleum greases to lubricate tank threads.

Black Funnel- you do not need to cover the distribution tube, the funnel itself will cover and keep the tube centered. Follow all other instructions.

Note: If you pull up the distributor tube up after the gravel and media are in the tank (upon initial install or any time after, for service, etc.), it must be re-seated. It is usually possible to do this by jetting water down the distributor tube while pushing on the end of the tube. If this does not work, you must empty the tank completely and start over. Several backwashes will be required afterwards, to re-classify the gravel and media.



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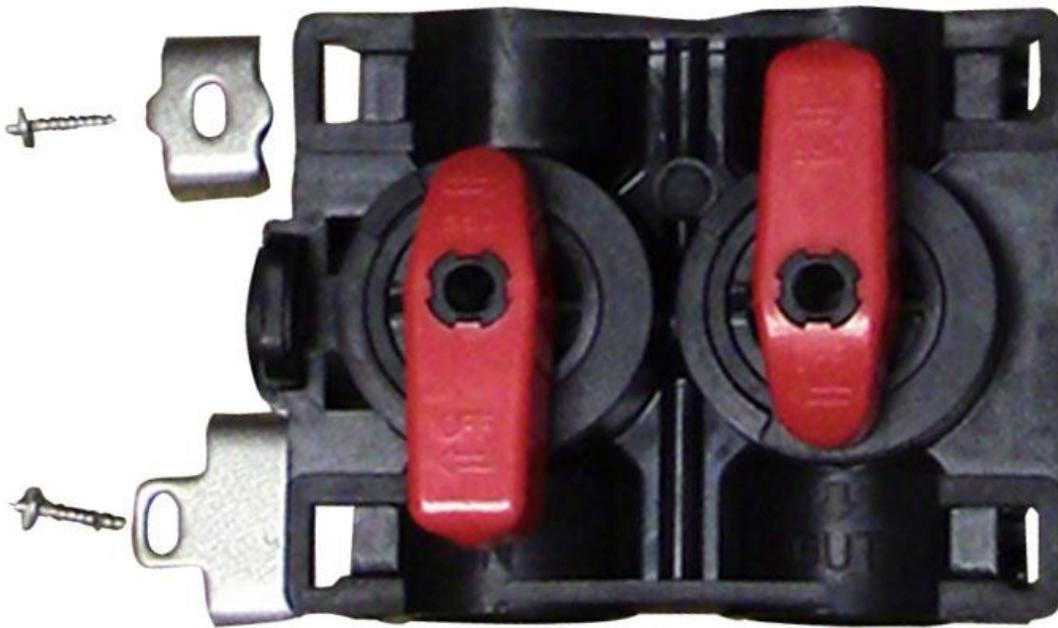
INLET AIR CHECK VALVE



OUTLET BARREL



BYPASS ASSEMBLY



RETAINER CLIPS AND SCREWS



YOKE- THIS IS USUALLY PRE-ASSEMBLED



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Assembling the bypass valve:

(The Yoke {the piece with the pipe thread} usually comes pre-assembled)

1. When you remove the bypass valve from the box, the valves are in the open position. Holding the bypass so that you are reading the In and Out (so that the words are not upside down to you when holding the bypass), note the following:
2. The red handles are slightly arrow-shaped; the pointed end is pointing in the direction of flow when open. The Inlet valve (on the left) turns clockwise, from full open at “12:00 o’clock”, to fully closed at “3:00 o’clock”. The Outlet valve turns clockwise from “6:00 o’clock” full open to “9:00 o’clock” full closed. The valves are stiff when new, so open and close them a few times. Leave them closed for now.
3. Attach the 1” MPT yoke to the back end of the bypass. Remove the barrels (Figure 5) and apply a small amount of silicone lubricant to each of the O-rings (two on each barrel, four total) Push the barrels back into the bypass, and push the yoke onto the barrels. Attach the steel mounting clips on each side and screw in the two screws (Figure 6).



4. Now install your water pipes to the 5900S-AIR bypass end connectors. Make sure inlet is installed to the 'In' pipe connector on the bypass valve and outlet is on the “Out” connector.
5. Connect some flexible tubing from the drain connection on the 5900S 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 5900S-AIR 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 ¾” or 1”. Note that it is necessary to be able to run the

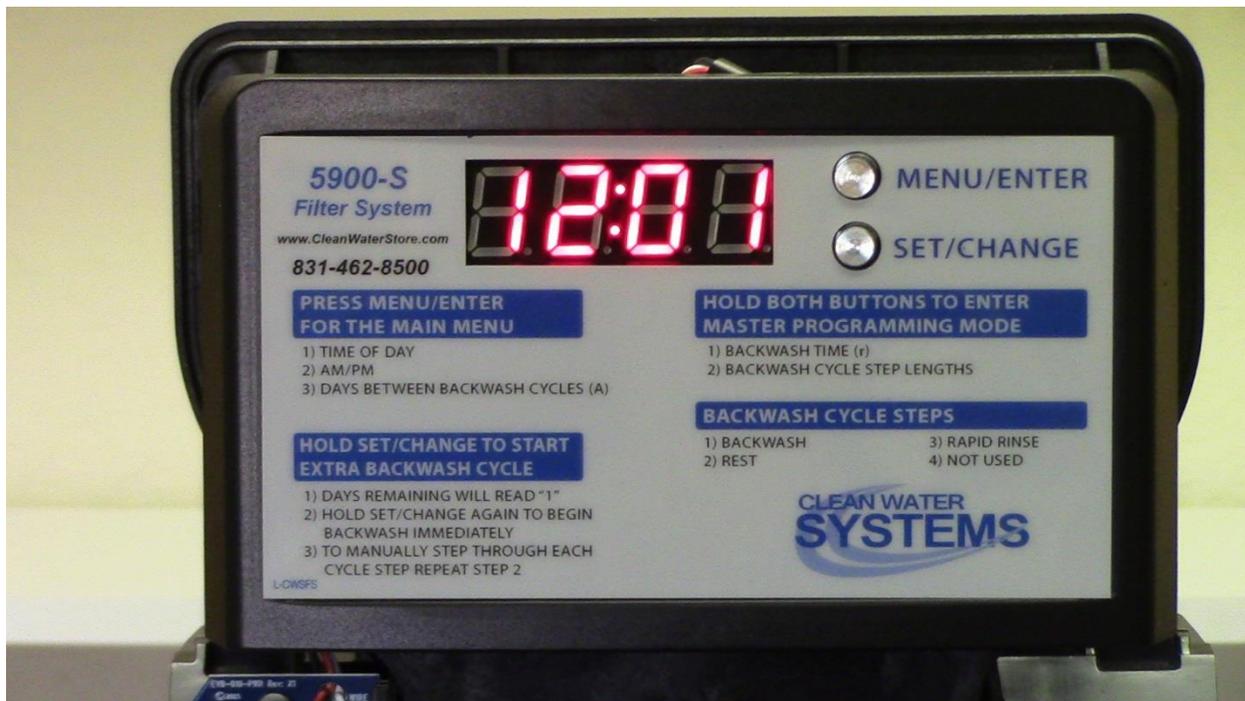
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drain line into a bucket in order to test the backwash flow rate upon start up and in the future. **This is why hard piping the drain line is discouraged.** If you use hard PVC piping for the drain line, you must be able to remove the hard PVC drain piping and attach flexible tubing for testing purposes.

6. **Make sure the drain tubing is firmly clamped to the barbed fitting with a hose clamp to prevent leaks or blow-offs.**

External DLFC:

If you bought a 1.5 cubic foot Pro-Ox system, you will get a 10 gpm external Drain Line Flow control. This is three pieces: a ½" x ¾" MPT Adapter, the DLFC, and a hose barb fitting. Assemble the 3 parts using Teflon tape, making sure the flow arrow is facing the right direction. Sometimes, like the 12 gpm DLFC, it is five pieces, with two extra bell reducers. This can go anywhere in the drain line run, even at the end. It is often a good idea to clamp it to a wall, especially when running the drain line "up and out".



Programming the Valve:

*While scrolling through numbers, it only increases the value. To decrease the value, you will have to "go all the way around" to get back to a lower value.

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1. To enter main menu press the Menu/Enter button (Time of day will flash)
2. To set time of day press the Set/Change button (First digit will begin to flash)

- **To change digit value press the Set/Change button**

- **To accept the digit press the Menu/Enter button** (Next digit will flash)

- (Once hours are accepted all digits will flash)

3. With all digits flashing press the Menu Button to set A.M. or P.M.

- (Once A.M./P.M. is accepted the next menu item will flash)

4. To Set Regeneration Frequency Press the Set/Change Button

The recommended initial setting for a Pro Ox 5900S-AIR filter is every 4 days

5. To Set the Number of Days between Air-Draw Cycles (d) Press the Set/Change Button

1) **Set to 1 day, to regenerate the system with new air daily. SEE START-UP NOTE BELOW!**

During this process, the valve will use a little bit of water to create suction to regenerate the air and will make some noise during this cycle. However, the valve will still backwash only on the days that you have programmed it to.

6. To exit menu press the Menu/Enter button

Master Programming Mode:

Entering Master Programming Mode

To enter Master Programming Mode press and hold both buttons for 5 seconds.

1. Regeneration Time (r)

Press the Menu/Enter Button. The next display viewed is the option setting for Regeneration Time. It is identified by the letter 'r' in the left digit. Set the desired time of day that a regeneration may occur, when required. **We recommend setting the system to backwash at 2 AM**, or at any time that it is unlikely that any water will be used. If you have 2 or more filters, make sure they are programmed to start an hour apart, so they do not backwash at the same time. The first digit(s) indicates the Hour and the other digit indicates A.M. or P.M.

Example: 12 A.M. regeneration time - [r 12A] (factory setting)

2. Regeneration Cycle Step Programming (2)(3)(4)(5)

The next 4 displays viewed are part of a series of option settings used to program the Regeneration Cycle. Up to 4 steps can be programmed, however, some steps may not be necessary for your application and will be set to 0. Additionally, Step 1, the air release, is not programmable, and therefore will not be displayed for programming. Each display is used to set the duration time in minutes for that specific step in a regeneration cycle. A step # will turn on for the regeneration cycle step being

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programmed. Regeneration steps are *skipped* by setting the display to 0 as shown below:

Set each step according to the values below, appropriate for a Pro Ox 5900S-AIR filter:

- 1 Not Programmable. This is the Air Release cycle. [**Not Displayed**]
- 2 10 minutes. This is the Backwash cycle. [**2 - 10**]
- 3 5 minutes. This is a rest cycle. [**3 - 05**]
- 4 12 minutes. This is the air-draw cycle. [**4 - 12**] **SEE START-UP NOTE BELOW!**
- 5 6 minutes. This is the Rapid Rinse cycle [**4 - 06**]
- 6 After Cycle Step five above, when you press the menu/enter button, the display will show bE 1; press the menu/enter button again, the display shows: bTPP and then changes to 1234. Press the menu/enter button, and now you are back to the home service screen (displaying the clock time and the number of days until backwash). bE is for Bluetooth enabled.

Blue Tooth: This option doesn't really apply to AIR valves, as there is no flow sensor.

Pressing and holding the Menu/Enter button will also access some options: **Note that these options only work with a flow sensor, and that this option is unavailable on the AIR valve.** **Flo-** this is the flow rate, if water is running, it will display the volume, in gallons per minute. **Gt r-** This the total # of gallons that has gone through the filter. **g tot-** this is the same as the previous. **rC r-** number of regeneration done. **rC-** the same. **gPdL-** shows how many gallons used each day. **Gbrl-** is the gallons used between regenerations. **PfDL-** This shows the peak, or highest flow rate that has passed through the filter in the last 24 hours. If you "get stuck" in these options, keep pressing the Menu/Enter button until you have returned to the service screen.

Note on Air-Draw Cycle (4):

The longer the unit is set to remain in the air-draw cycle (4), the more air is drawn into the system. A default setting of 12 minutes draws air down to the level of the media bed. If the system needs more air, increase the time setting for step 4.

Putting the Filter Online:

Start-up note! When the media is brand new, it is very oxidative. It is generally not necessary to have any air draw during the first two weeks of use. Set the number of days it does the air draw to zero in the main programming, and the number of minutes for the air draw (step 4) at zero. Doing this also makes it easier to do the first backwashes.

Pro-Ox media is dense and heavy, and there is no top screen to keep the media from going into the head (iron would oxidize and clog the top screen). It must be rinsed free from dust and fines, which may take several backwashes. Extreme care must be taken when doing the first backwashes, so that you don't

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get media up into the control head, which will then either get into the house piping or clog and reduce flow and pressure.

- **IN ORDER TO ACTIVATE THE PRO-OX MEDIA, 1 CUP OF CHLORINE BLEACH MUST BE ALLOWED TO SOAK IN THE MEDIA VESSEL (ALONG WITH THE MEDIA) FOR ONE HOUR PRIOR TO STARTING THE FIRST BACKWASHES.**
 - **IT IS CRITICAL TO START A BACKWASH AND RINSE AND LET THE FILTER BACKWASH AND RINSE THE PRO-OX MEDIA BEFORE USING WATER IN THE HOUSE. MULTIPLE BACKWASHES AND RINSES MAY BE NECESSARY TO CLEAN AND RINSE THE NEW MEDIA.**
 - **MAKE SURE THE SOURCE WATER ENTERS THE INLET PIPING (IN OTHER WORDS, THAT THE SYSTEM IS PIPED IN CORRECTLY, WITH THE WATER INLET TO THE INLET ON THE BYPASS VALVE)**
 - **MAKE SURE THAT BOTH THE INLET AND OUTLET VALVES ON BYPASS ARE CLOSED INITIALLY**
 - **MAKE SURE TO CLOSE THE BALL VALVE OR GATE VALVE AFTER THE IRON FILTER SO NO WATER CAN ENTER THE HOME AFTER THE SYSTEM DURING THIS INITIAL BACKWASH. (If you did not install a hose bib and gate or ball valve after the system as recommended, be sure to NOT use any water in the home during the initial start-up.)**
 - **If you have any filters installed after the Pro-Ox, bypass them until all media fines have been rinsed from the Pro-Ox filter. Fines can clog the injectors on softeners.**
- 1 If days remaining is not already at 1 press and hold the Set/Change button. Now, press and hold the Set/Change button again, until the valve begins the backwash cycle and the display reads 1 [1- 00]. This is the step that releases the air and is not programmable- press the Set/Change button when it starts this cycle, which will advance the piston to cycle step 2.
 - 2 Start to put the valve into the service position by turning the inlet the bypass knob counter-clockwise about a quarter inch, until you can hear water passing through the bypass into the filter. Stop and wait until you see water coming out of the drain line. It will often be mixed with air bubbles, and we must purge the air out. When you do not see bubbles anymore, keep opening the valve, a little bit at a time, stopping for a minute or two each time. You want to see a corresponding increase in flow out of the drain line as you increase the flow of water into the filter. After several minutes, you should have the valve fully open, and with no media coming out. The water will be black, turning to gray, mostly clear water- the water does not get crystal clear in the Backwash mode (only at the end of Rapid Rinse and during Service).
 - 3 Once the water is mostly clear, press and hold the Set/Change button, and after 3 seconds the valve will start to advance to the "Rinse" position. Once again, allow the water to flow for about five minutes or until the water is clear. **Note:** It may take longer than the ten minutes that are programmed for this step (BW) before you have the valve opened all the way- simply unplug the

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power supply from the wall when there are still a couple minutes remaining; when you are ready to continue, plug the valve back in, and it will return to where it was.

- 4 Let the unit do the Rapid Rinse cycle and advance to the "Service" position. Next, open the outlet on the bypass valve and then open the nearest treated water faucet to the unit and allow the water to run until it is clear. We advise using a bathtub, laundry sink, or other fixture that does not have an aerator screen as any remaining residue may get caught in the screen.

Congratulations, you are done setting up your valve!

Maintenance & Normal Operation

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

Battery back-up (this unit uses a standard 9-volt alkaline battery)

Attach the battery to its cable. The battery lays on the bottom plate of the valve, below the circuit board assembly (digital display). **DO NOT INSTALL THE BATTERY UNTIL AFTER THE INITIAL BACKWASH!** The purpose of the battery is to hold the clock time during a power outage (all other values are stored on the circuit board, and do not need to be reset) and to advance the valve to a cycle step that will allow water to run to drain, if the power failure occurs during a backwash cycle. If this event happens, replace the battery afterwards, as it will be mostly dead after doing this.

How to Start An Extra Regeneration Cycle:

1. Starting delayed extra cycle

- If days remaining is not already at 1 press and hold the Set/Change button.
- After 7 seconds the days remaining display will read: [1]
- Regeneration cycle will be initiated at the next designated regeneration time

2. Starting Immediate Extra Cycle - First, complete above delayed cycle step

- With days remaining at 1 press and hold the Set/Change button
- After 5 seconds the regeneration cycle will begin.

3. Fast Cycling Through Regeneration

- First complete above immediate cycle steps
- Press and hold the Set/Change button
- After 3 seconds the valve will start to advance to the next step

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Error Codes:

There are five (5) error codes that could indicate a possible problem with the control valve:

Error 2 - Homing slot expected. Valve will start looking for home. (Normal operation continues)

Error 3 - Encoder is not sending a signal (Either encoder chip has failed, or is not connected)

Error 4 - Unable to find homing slot (Usually because encoder chip has failed)

Error 5 - Motor overload (stalled position or shorted motor, valve requires service to continue)

Error 6 – Motor not getting power (usually means the cable has disconnected from the circuit board.)

To Replace Seals and Spacers:

1. Remove the control valve cover.
2. Remove screw and washer at drive yoke. Remove powerhead mounting screws. The entire powerhead assembly will now lift off easily. Remove piston retaining plate screws.
4. Pull upward on end of piston rod yoke until assembly is out of valve. Remove seals and spacers. (Note: Special end spacer must be reused)
5. Lubricate new seals with silicone lubricant included in the seal and spacer kit. Make sure the special end spacer is properly seated in the valve body. Install new seals and spacers individually, pressing around the outer edge of each seal to make sure it is seated. (When all seals and spacers are seated properly, you will have a 1/4" of space between the top seal the top of the valve body)
6. Take new piston assembly and push piston into valve by means of the end plug. Twist drive yoke carefully in a clockwise direction to properly align it with drive gear. Reinstall piston retaining plate screws.
7. Place powerhead on top of valve. Be sure drive pin on main gear engages slot in drive yoke (wide side of drive yoke upright must face to the left away from the motor).
8. Replace powerhead mounting screws. Replace screw and washer at drive yoke.

To Replace Injector and Screen:

1. Remove injector cap and screws and remove cap.
2. Disassemble and clean air injection assembly and replace injector
3. Remove injector screen and clean or install a new screen
4. Apply silicone lubricant to new gasket and install on injector cap.

Troubleshooting the 5900 Pro Ox 5900S-AIR Filter:

One problem that may occur is if you do not have enough backwash flow rate to properly clean the Pro Ox 5900S-AIR filter. You can verify the backwash flow rate by running the drain line into a bucket and timing it when the 5900 is in backwash. A 0.75 CF system should have 5 gpm, a 1.0 CF system should have 7 gpm, and a 1.5 CF system should have 10 gpm for the backwash cycle.

How to Remove Media from 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.

- 1) Put the Inlet Bypass in the Closed position.
- 2) From the Service Mode, press and hold the Set/Change button. The days remaining, if not already at 1, will change to 1. Release the Set/ Change button, and press and hold it again, until you hear the valve advancing, and see the digital display change.
- 3) The valve will advance to the first step. When it gets there, press the Set/Change button to advance the valve to the second step. Do this until you are at step 5, the rapid Rinse (RR).
- 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 Set/Change button, past the first cycle and to the second; we are putting the valve back to the Backwash position (Step 2).
- 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.

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. 2:00 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.

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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.

Notes on Multiple Backwashing:

The valve has five cycle steps, and by pressing and holding the set/change button, you can advance from one cycle to the next.

Press and hold the set change button until you see the number one, then press and hold it again until you here the motor.

The first step is the Air- Release. It is automatic, not set for a specific number of minutes, but at the last part of it, it displays (1) for one minute remaining, and is basically doing the same backwash as the next cycle step. After you allow this step to run the first time, each subsequent “backwash” you do, you will skip this step, as we are going to remove the air from the tank, and then do a few backwash/rapid rinse cycles with no air.

The second step is the BW, 10 minutes. While it is doing that step, measure the flow rate out of the drain line; 7gpm is what you need, takes 45 seconds to fill a 5-gallon bucket.

How dirty and for how long is the water dirty in this step? If very dirty for more than three minutes, you will definitely do another BW after.

The third step is a rest cycle, you can skip over that if it is programmed for five minutes, the valve will skip it if programmed to zero.

The fourth step is the Air Draw- we do not want this right now, hit the set/change button and go to the next step.

The fifth step is the Rapid Rinse. The water should run dirty for a couple minutes and then clean up to very, very clear.

Now it goes back to service mode. Open a tap for a couple minutes, right after the filter. now close it, and repeat the above steps, noting:

You can skip the Air Release, you didn't add air. When in BW, the water should be less dirty for less time. If you had a good 7 gpm, and the water is just gray during the backwash, then you can let it do the air draw and return the valve to service.

If you are not getting 7 gpm, or if you are, but it is not really coming out under pressure, then you can remove the flow control button. Remove the clip and the DLFC housing and the button is in the housing. If you start a backwash after removing the DLFC, make sure that no media is going to drain; but you may then see really nasty water coming out- put a bucket under the flow (this may not be possible, I can't see what your drain line does, is it outside, going into a sewer, what?) and if you are losing media it will stay in the bucket.

Troubleshooting (cont.):

Reduced flow and pressure:

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First make sure that the problem is the filter- compare the flow rate out of a faucet, with the unit in service position, and then the unit on bypass. Greater flow/pressure when the unit is on bypass does mean the problem is in the filter. No change would indicate the problem is before the filter.

The problem is either the valve, or the media.

The valve: Over time, deposits can build up on the inside of the valve, and prevent the piston from moving, or fully advancing to where it needs to be – like an elevator stuck between floors – and this can affect the flow. The solution is to replace the seals and spacers, clean the valve where you removed the parts, clean and inspect the piston, and re-install.

The media: As is already noted in the guide, the backwash must be done with the correct amount of gpm flow rate, in conjunction with backwashing frequently enough, so this is always the first thing to check. If you have no chlorination (which would be normal for people with low amounts of iron and manganese) then it may be necessary to get some chlorine into the media bed, let it soak overnight, and then run a series of backwashes.

Mud-ball formation: If you have sediments, silts, or clay getting into the filter, over time these elements can combine to form balls which will ruin filter performance. If chlorinating and multiple backwashes do not recover the media, you must take the control head off and inspect the media. Sometimes the flow is being restricted because of sediment accruing and forming small balls of mud, which cannot be washed out of the system. If this has happened when the media is close to aging out, then purchase new media and gravel and re-bed the filter. If this happens in the first years of the media's life (Pro-Ox should last 8-10 years) then removing the media (into a clean wheelbarrow) and "hand washing" the media will restore it. Some sort of pre-filter ahead of the iron filter should then be installed, to prevent it from happening again.

Cleaning or Replacing the Piston, Seals & Spacers:

Over time, iron and other sediments will accrue in the valve. The piston travels up and down during each backwash cycle, inside a seal and spacer set. If sand, grit or other sediment gets trapped between the piston and spacers, it will eventually fray and tear the inside edge of the seal- it will then leak to drain constantly until the seals are replaced.

If you remove and inspect and clean the seal and spacer and piston set before it gets really bad, then you can re-use the same seals and spacers and piston- if there is no flow out of the drain line when in service position, then the piston chamber is fine.

The Piston, seals and spacers can all be fine, and the valve is still leaking to drain, that just means there is some grit trapped inside, removing it all and cleaning and re-assembling it will fix it. Clean out the area where the seals and spacers go as well.

The spacers are hard plastic and can be cleaned for re-use. The spacers are O-ring-rubber material, and once the inside edge is frayed or torn, it will leak to drain and must be replaced. If you clean and replace the old ones and it doesn't leak to drain, it is fine.

The piston only needs to be replaced if there are score marks on the sides, those will make a tiny path for water to leak to drain.

IT IS VERY IMPORTANT THAT YOUR SYSTEM'S PRESSURE VESSEL AND PRESSURE SWITCH ARE WORKING PROPERLY. These components are the heart of your water system and if they are not working, neither will the filter, as you will not be providing adequate backwash water.

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.



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Water Filters/ Softeners/ Conditioners Limited Warranty:

We warrant this water filter/ softener/ conditioner, when installed according to factory recommendations, to be free from defects in materials and workmanship as follows:

-----Limited Warranty-----

This water conditioner unit is comprised of the finest industry components available. Each individual component used in the assembly of our equipment is covered by the original equipment manufacturer's warranty. All components, except those specifically listed below, are warranted for a period of one (1) year from date of installation to the original purchaser to be free of defects in materials and workmanship subject to the manufacturer's conditions and/or the conditions shown below.

-----Mineral Tanks-----

The fiberglass, polyglass or composite mineral tanks used in the assembly of this unit are warranted to be free of defects in materials and workmanship for a period of ten (10) years on 6" – 13" size tanks, and five (5) years on 14" and larger size tanks used for softener/filtration applications, subject to the manufacture's conditions and/or the conditions shown below. Warranty does not cover exposure to weather, freezing, fractures caused by external impact, or exposure to vacuum.

-----Control Valves-----

The CWS control valve is warranted to be free of defects in materials and workmanship for a period or seven (7) years, subject to the manufacturer's conditions and/or the conditions shown below. Fleck & other brand control valves have 5-year warranty.

-----Conditions-----

1. This warranty only covers water conditioners installed for residential use. Water conditioners installed for commercial or industrial applications are guaranteed for one (1) year from the date of installation.
2. Installation must be made in accordance with legal or local codes and manufacturer's recommendations.
3. Failure must not result from exposure to weather, rodents, misuse, alteration, fire, lightning, power surges or neglect.
4. Water pressure must not exceed 100 PSI and water temperature must not exceed 100 degrees.
5. Subject to the above terms and conditions we will replace and/or repair, at our option, any parts of the water conditioner found defective in materials and workmanship. Defective parts must be returned, freight pre-paid for repair or replacement.
6. This warranty does not cover labor, shipping charges, damages caused by delays of consequential damages or other causes beyond our control. Warranty does not cover pipes, fixtures or appliances. Warranty extends to the actual water conditioner components only.
7. This warranty is to the original purchaser and is not transferable after the third year to any subsequent owner(s).

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8. No other guarantees or warranty, expressed or implied, is applicable to our product. No repair or replacement made under the terms of the warranty shall extend this warranty.