

Overview

- You must have a submersible well pump for the system to operate properly!
- This installation guide gives a step by step, start to finish procedure for installing the Air Injection Filter system using Fleck backwashing valves. This system does not require regeneration with salt or chemicals to operate properly. We simply recommend the system be set to Backwash every 2rd , 3rd or 4th day to keep it operating in peak performance.
- Follow the instructions we have provided for loading the media in the resin tank and installing the Fleck Control Valve, BEFORE continuing with these instructions.
- The Air Injection Filter system consists of three basic parts.
- An adjustable Inline Air Injector Valve that simply permits air to be drawn into the waterline by venturi effect as water is forced through it from the well pump. This inline valve must be installed in your main water line before your well pressure tank and pressure switch, for proper operation and air injection. There are 1" male thread plumbing connections on each end of the inline injector. Your well pressure switch must be set to turn the well pump on at a minimum of 30 psi and off near 50 - 60 psi.
- A Mixing Tank where oxygenated water gets extra contact time to enhance the oxidation process while at the same time excess oxygen is vented from the water supply.
- A Filter Tank which has the Fleck backwashing valve on top, holding the Birm & Filter-Ag media. As the oxygenated water enters the filter tank the precipitated iron is quickly filtered by the media and removed from your water supply.
- All steps provided herein are for typical installations only. If you require additional plumbing to install your system, simply contact a person who is knowledgeable in residential plumbing or have a local plumbing company help you install, or install the system for you.
- There is a bit of "over-kill" in our instructions but please bear with us as we want to ensure that you, our customer, fully understand the instructions and are completely satisfied with your installation!
- We recommend that you take a few minutes and look at the service/parts manual for your particular model, to help you better understand your new system. Take your time and carefully read the instructions.
- Get all of your plumbing parts together before you start, and have an assistant help you, if possible. Typical installation should take no more than a few of hours.
- If you are going to turn the water off to your house while installing the system, we recommend that you turn off the electricity to your electric water heater during installation. After the system is installed with water running through it, turn on a few hot and cold-water faucets, and let them run until there is no more air in your lines, then turn the electricity back on to your water heater.
- Our Air Injection filter systems can safely handle a pressure range of 30-65 psi. However, as with most residential plumbing and for best operation causing the least wear on critical parts, we recommend an operating range

of 35-60psi.

- Now all you have to do is plumb in the system, plug it in and set the current time of day!

Pre-Installation

- Your Air Injection Filter system should be located in a protected, dry, level and non-freezing area.
- We recommend a 1 ½" drain for the backwashing cycles. If possible, the house drain should be no more than 20 feet from the system. You will also need to purchase some flexible ½" inside diameter plastic tubing from a local hardware or building supply store. (Always follow local plumbing codes).
- You will need a standard 3-prong, 120V, grounded outlet that is not controlled by a switch. Our Fleck valves have a 5' power cord, but you can use an extension cord if an outlet is not nearby. Please follow any local building/safety codes if you need to use an extension cord.
- Make a list of all the plumbing fittings you will need to completely install the system to make it ready for operation. Assemble all tools needed to install the system, and start your installation!

Installation

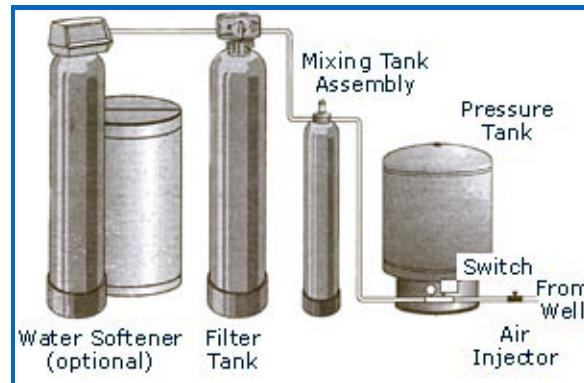


Figure 1.

1. Turn off the main water shutoff valve.
2. Turn the power to your well pump OFF at this time.
3. Next, open all plumbing fixtures in the house including all outside faucets in order to drain the lines of all water possible, and release all the pressure in your water system.
4. Cut and remove a section of the main incoming water line BEFORE your pressure tank and pressure switch! Install your Inline Air-Injector Valve.
5. Remember to install the filter system where your raw well water will enter it first, before any other filter system or Water Softener, but after your well pressure tank. (See Figure 1).
6. Next cut your main water line AFTER the pressure tank and pressure switch, near where the Mixing Tank and Filter Tank will be installed,

- allowing this line to drain thoroughly.
7. Remove the yoke (or optional bypass valve) from the back of the tank valve by loosening the two small stainless steel clamps on either side of the rear valve assembly that holds it in place. Then simply pull it off the back of the valve. Now that you have the yoke or bypass valve loose, follow the directions below to make them ready to install on the valve.
 8. Plumb the incoming raw water line into and then from the Mixing Tank.
 9. Now follow the instructions below for plumbing in the waterlines to the Fleck backwashing valve on top of the Filter Tank.
 10. INSTRUCTIONS FOR USING A YOKE. If you have a standard Noryl Plastic yoke, it will have two $\frac{3}{4}$ " or 1" male thread nipples, (one inlet & one outlet). You will need to buy two $\frac{3}{4}$ " or 1" Female thread adapters to whatever type and size of piping you are plumbing the system to.
 11. INSTRUCTIONS FOR USING A BYPASS VALVE. If you are using our optional $\frac{3}{4}$ " or 1" bypass valve, you will need to purchase two $\frac{3}{4}$ " or 1" Male thread adapters to whatever type and size pipe you are plumbing to.
 12. If you are going to use copper piping and will be soldering joints, we do not recommend applying intense heat to your new valve assembly. We always recommend that you remove the yoke or bypass from the valve assembly, and attach your plumbing adapters to the yoke or bypass away from the valve.
 13. This simple step will ensure that you are not applying any heat as you solder or pressure as you tighten the adapters onto the yoke/bypass, while they are mounted on the valve body itself.
 14. Another tip if you are using copper adapters. Always solder a 3" to 5" piece of copper pipe into each of the two pipe adapters away from the valve, then let them cool off before threading each one onto the yoke or bypass valve.
 15. After they cool off, apply pipe compound (we do not recommend using Teflon tape on these threads) to the male threads of the Noryl yoke, (or onto the male adapters for the brass bypass valve), and securely tighten them to the yoke or bypass valve. Again, doing this before you re-attach them back onto the rear of the valve/meter body assembly.
 16. (Important!! WE DO NOT recommend connecting adapters to either the yoke or bypass valve, while the yoke or bypass valve is connected to the Valve assembly! You may exert too much pressure on the valve while securing the adapters, causing damage to the valve housing!)
 17. After all soldering is finished and the adapters are securely threaded onto either the yoke or the brass bypass valve assembly, then attach the yoke or bypass valve back onto the valve assembly and secure it there with the two small stainless steel clamps.
 18. Now position your filter system in place for the final water line installation.
 19. Remember; If you are using our optional bypass valve, make certain the bypass valve is set in the "Service" position, while soldering the pipes to the system. Then return it to the "Bypass" position before turning your water back on to the house.
 20. Measure and cut the lengths of pipe you need to plumb the main hard water line coming from the Mixing Tank into your Filter system. Then do the same for the filtered water line that will exit from the system, back out into the house.
 21. *NOTE* As you look directly into the two holes in your Fleck valve, the

hard water line will always enter the hole on the LEFT SIDE of the yoke or bypass valve assembly. The valve body also has an arrow stamped into each side, showing the direction of flow.

22. If you use our optional bypass valve, arrows indicating water flow direction are printed on the top of the bypass valve assembly.
23. Just remember, as you are looking directly into the two holes where the water enters and exits the valve, the hard water line from your house always enters the hole on the LEFT. The conditioned water flowing out from the system, back into your house is always the hole on the RIGHT.

Installing the Drain Line to the Valve

1. All of our Fleck valves have a drain hose barb, generally located on the lower, backside or side of the valve. First, check to make certain this drain hose barb is securely threaded into the valve body and that the threads have been sealed with Teflon tape.
2. Once you know the drain hose barb is installed properly, carefully push the 1/2" ID plastic drain hose completely over the barbed end of the fitting, and then attach a small hose clamp to the end of the line so it cannot work loose over time. Run the opposite end of this drain hose to the drain you are going to use for your system. Remember to leave a small air gap at the end of the hose going to the house drain. (Follow local plumbing codes), and secure it there.
3. When the system is in the backwash mode, water will flow out of this drain line with a fair amount of pressure, especially during the "rapid rinse phases" of the process, and the line may sometimes "jump" a little when changing cycles.

Turning the Water Back On

1. Turn all your faucets off in the house except one faucet, (preferably an outside faucet, a laundry sink or bathtub).
2. Turn the power back on to your well pump and let the water run until the water is clear coming out of your one open faucet. This may take several minutes depending on your well water.
3. INSTRUCTIONS FOR USING A YOKE. If you are using the standard yoke with no bypass, turn all faucets in the house to the off position, except one faucet, (preferably an outside faucet, a laundry sink or bathtub). Let this one faucet run open for a few minutes, allowing the water to rinse the inside of your resin tank out and settle the media. After a few minutes, turn the one faucet off and start opening each faucet in the house one by one until all the air is out of the water lines. You now have filtered water on your cold side! The hot water will take a couple of days to be filtered as your water heater is full of raw water.
4. INSTRUCTIONS FOR USING A BYPASS VALVE. If you are using a bypass valve, make sure your bypass valve is now in the bypass position. Turn your water on slowly, leaving all your faucets open until water starts coming out of them. After they are running steady and all the air is out of

the water lines, turn them off one by one. The raw water will be bypassing your Air Injection filter system at this time. After your water lines in the house are running again, make sure they are all turned off. Slowly open your bypass valve and begin filling the filter resin tank with water. In a few minutes the sound of water entering the system will stop.

5. Look in your service manual, for your particular model Fleck valve, and manually run your valve through a regeneration cycle. To do this, simply turn the manual "Regen" dial clockwise just a few "clicks" at a time, stopping at each setting for a few minutes to clear the air out of the resin tank and valve.
6. Once you have completed slowly turning the "Regen" knob one complete revolution and it is set back to the "Service" position, the system is now ready for use!

Post Installation

1. Finally, plug the valve in the electrical outlet and set the current time of day. Our Terminator filter systems will regenerate around 1:00am.
2. Check all connections for leaks. You now have filtered water!

Notes

- Even though you now have filtered water in your cold water lines, your water heater is still full of raw water. Through normal use, this water will be replaced with soft water in about 2-3 days.
- Hard copper pipe generally comes in two types. Use the thicker "L" type copper pipe rather than thinner "M" type copper pipe.
- Follow your local plumbing and building codes when installing our systems.
- Please Email us a picture of your installed system! Let us see how good of a job you did on the installation.