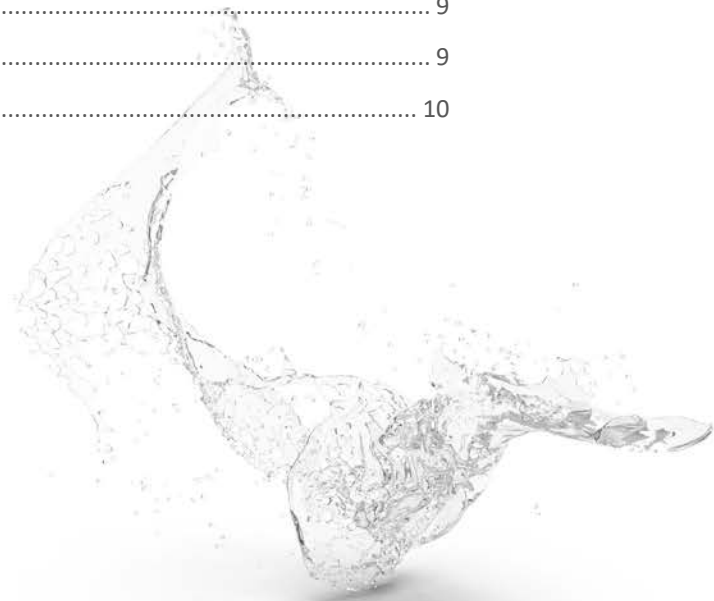


## NaturalSof WDR (Well Done Right) Installation and Troubleshooting Manual



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## Introduction

Thank you for purchasing your Fluid Dynamics Big 3 Well Water filtration system.

This system has been designed to provide you and your family with years of high-quality, low maintenance service. As water quality continues to become more of a daily issue, we are happy that you chose to improve the water you use in your home with our system.

The Big 3 got its name because it removes or reduces three commonly found contaminants in well water.

## Water Quality & Conditions

Water content and quality can vary greatly even within a few miles and from different private wells, even in the same neighborhood! This is because well depths can vary and different supply aquifers can carry different levels of contaminants in the water they supply. The Big 3 is designed to treat and filter common water conditions that are found in private well water. Such as:

- ☉ Iron (red stains)
- ☉ Manganese (dark brown stains)
- ☉ Hydrogen Sulfide (rotten egg smell)
- ☉ Sediment

We strongly recommend testing your private well water with a test BEFORE applying water filtration or treatment of any kind. This is important because if the wrong system is applied based on assumptions, it can fail quickly and not solve the real problem. It is important to know the diagnosis prior to writing the prescription! A comprehensive test can be found and purchased here:

<http://watercheck.com/productpages/WatercheckwithPesticideOption.html>

You may have received local results when you drilled your well or moved into the home that showed the water to be bacterially safe. However, many other contaminants are not tested for and these could be aesthetic nuisance contaminants or harmful ones that you would want to remove.

## Weather Considerations

If you live in an area that is subject to freezing temperatures, do NOT install a Big 3 unit outside or in an area that may freeze seasonally. If installing inside of a garage in an area that has freezing temperatures, place the unit on an inside wall and/or make sure that the garage maintains a temperature above freezing at all times in extreme weather. Allowing a unit to freeze may cause components to crack and fail, resulting in water leaks.

Units may be built to specification for outside installation if freezing is not a concern and you are installing outside. Be sure that your unit is built for outside installation by asking the dealer you purchased it from or contacting Fluid Dynamics directly.

## Professional Installers & Local Laws

It is recommended that you contract a licensed plumber to install your Big 3 unit.

Check your local laws and ordinances in order to comply with any permits, certifications, and material requirements prior to installing your unit.

Your plumber should be able to assist you with this. If you are planning on self-installing, call your local government offices or utility prior to installation and make sure to fully comply with all requirements.

## Internal System Materials and Certifications

While no federal regulations exist for residential water treatment devices, several voluntary national standards establish minimum requirements for the safety and performance of products used to treat home drinking water. These standards are generally divided according to the product's technology. The numbers assigned to each standard reflect the order in which the standards were developed.

### (NSF/ANSI STANDARD 61)

If you manufacture, sell or distribute water treatment or distribution products in North America, your products are required to comply with NSF/ANSI Standard 61: Drinking Water System Components – Health Effects by most governmental agencies that regulate drinking water supplies. Developed by a team of scientists, industry experts and key industry stakeholders, NSF/ANSI 61 sets health effects criteria for many water system components including:

- Protective barrier materials (cements, paints, coatings)
- Joining and sealing materials (gaskets, adhesives, lubricants)
- Mechanical devices (water meters, valves, filters)
- Pipes and related products (pipe, hose, fittings)
- Plumbing devices (faucets, drinking fountains)
- Process media (filter media, ion exchange resins)
- Non-metallic potable water materials

**SRI SUPREME GRAVEL PACK #6:** Provides base and protection for bottom distributor in filter.

**KATALOX LIGHT MEDIA:** Katalox-Light® is a revolutionary hybrid NSF/ANSI 61 certified media designed for the reduction of iron, manganese and hydrogen sulfide. This zeolite media combines natural clinoptilolite with a 10% coating/impregnation of manganese dioxide. This particular combination provides for tremendous contaminant reduction while requiring far less back wash water than many competing products. Katalox-Light® acts as a catalyst by accelerating the needed chemical reactions without being consumed or chemically changed by the reactions. The unique structure of the media allows for suspended solids reduction to about 3-5 microns nominal, while providing low pressure loss, high service flow rates and extended contaminant reduction capacity. In typical conditions, Katalox-Light® media life expectancy is 5-7+ years.

## Dimensions

Overall Filter dimensions are approximately 12" x 60"

## Water and Power Connections

The standard water line in and out connections are 3/4", NPT, Plastic.

The pipe size for a residential drain line should be a minimum of 1/2" (13 mm).

The unit should be located close to a drain to prevent air breaks and back flow.

An uninterrupted alternating current (120 VAC) supply is required. The control uses a transformer to supply 12 VDC. Please make sure your voltage supply is compatible with your unit before installation.

Water pH Range: 6.5 to 9 (8 to 8.5 preferred)

Water ORP Range: Oxidation Reduction Potential (ORP) above -170 millivolts (mV). The addition of an oxidant (such as Hydrogen Peroxide - H<sub>2</sub>O<sub>2</sub>), even when ORP exceeds -170 mV, will enhance the contaminant reduction capability of the media.

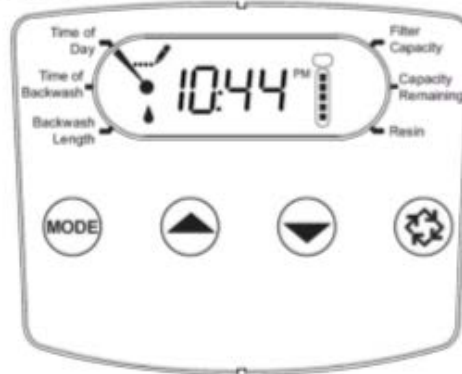
Contaminant Removal Capability: Iron 30 ppm, Manganese 15 ppm, Hydrogen Sulfide 10 ppm



## Quick Start Up



Filter Meter



## 5800LXT

Programming the LXT board is simple. It comes pre-set from the factory for most water conditions and should not need to be changed.

Upon initial power up, the mode indicator should be pointing to "Time of Day."

Setting the Time of Day

1. Press and hold either the Up or Down buttons until the correct time of day appears.

2. When the desired time is set, press the Extra Cycle button for 1-2 seconds until the programming icon (pencil with 4 dots) disappears.

The black line points to the mode that is being displayed. The black line is pointing to "Time of Day" above.

Press and hold the up or down arrow button to change any of the parameters except for the capacity remaining. Capacity remaining is only an indicator of how many gallons are left until the system will go into an automated cleaning cycle.

Once you are in the programming mode, a pencil with 4 dots will appear in the upper left hand corner of the screen indicating you can now modify the setting. Once you have made your desired change, press and hold the regeneration button (the button on the far right) for approximately 1-2 seconds until the pencil icon disappears. This will save your new program settings.

- All other settings are programmed as follows.
- Time of Backwash: 2:00 A.M.
- Backwash Length: 9
- Filter Capacity: 1500 Gallons
- Media: F



## Filter Control Head Details

### Operating Specifications

VALVE SPECIFICATIONS		DIMENSIONS	
Valve Material	Fiber-reinforced polymer	Distributor Pilot	1.05" O.D., 26,7mm
Inlet/Outlet	.75", 1" or 1.25"	Drain Line	1/2" O.D.
Cycles	5	Injector Brine System	1600
<b>FLOW RATES (50 PSI, 3.4 BAR INLET) – VALVE ALONE</b>		Brine Line	3/8"
Continuous (15 psi drop)	21 GPM    4,8 m <sup>3</sup> /h	Mounting Base	2.5" - 8 NPSM
Peak (25 psi drop)	27 GPM    6,1 m <sup>3</sup> /h	Height from Top of Tank	9", 228mm
Cv (flow at 1 psi drop)	5.4	<b>TYPICAL APPLICATIONS</b>	
Max. Backwash (25 psi drop)	17 GPM    3,9 m <sup>3</sup> /h	Water Softener	6" - 16" diameter (limited by maximum injector size)
<b>REGENERATION</b>		Filter	8" - 16" diameter (based on 10 GPM per sq. ft.)
Downflow/Upflow	Both	<b>ADDITIONAL INFORMATION</b>	
Adjustable Cycles	Yes – SXT and XTR	Electrical Rating	12 Volts DC
Time Available	LXT: Minutes calculated SXT: 0 - 199 minutes per cycle XTR: 0 - 240 minutes per cycle	Estimated Shipping Weight	Time Clock: 7 lbs. Metered Valve: 10 lbs.
<b>METER INFORMATION</b>		Pressure	Hydrostatic: 300 psi, 20 bar Working: 20 - 125 psi, 1,4 - 8,5 bar
Meter Accuracy	.25 - 15 GPM +/- 5%	Temperature	34° - 110° F, 1° - 43° C
Meter Capacity Range (gal.)	LXT: Volume calculated SXT: 1 - 999,900 XTR: 1 - 9,900,000		



## Performance Guidelines Summary

Product performance may vary based on well water conditions, proper specification & application, proper plumbing application, setup, installation, startup, maintenance and/or usage.

Follow all applicable local plumbing codes.

The feed water must comply with the following conditions for all systems capabilities, compliances, and warranties to remain valid.

Water Temperature Range: minimum 40°F, maximum 80°F

Water Pressure: Point of Entry (POE): minimum 40 psi, maximum 75 psi

Water Flow Rates: water must be supplied to unit at a minimum of 1 GPM

Average Service Flow Rates: 1 to 4.5 GPM

Filtration Tank must be connected to main cold water supply.

Do not allow the unit to freeze.

Do not use where water is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the system.

Do not allow backwash line to be stopped or restricted.

## Optional Additions / Upgrades

Catalytic scale prevention for the treatment of hard water. Consider adding a NaturalSof NS1 or NS6 inline AFTER your NaturalSof WDR 3 to eliminate issues caused by hard water

Fully Welded Stainless Steel Jacket - completely covers fiberglass tank.

Regenerant Chemical Tank 18" x 32" x 32" Gallon Round Poly Natural with 3/8 Pick Up Screen – required if using liquid oxidizer such as Hydrogen Peroxide

Neutra Sul Oxidizer 2.5 Gallon - Hydrogen Peroxide (HP) that assists with the process of contaminant removal. Use with Regenerant Chemical tank above or equivalent. Add ½ Gallon of HP solution to the chemical tank and fill the balance with clean water. Repeat monthly.



## Frequently Asked Questions

### HOW LONG WILL MY SYSTEM'S FILTRATION MEDIA LAST BEFORE IT NEEDS TO BE REPLACED?

Water quality and the volume of water run through the system will determine the total time of useful media life. With average usage and quality, you may get up to 7+ years of useful life before having to replace filtration media within your unit.

### WILL MY WATER PRESSURE BE AFFECTED BY THE NATURALSOF WDR?

As with any filtration, the NaturalSof WDR will reduce water pressure, but not significant enough to cause performance issues at faucets and fixtures. If you experience a significant drop in pressure, make sure your bladder tank is fully functional and your pressure settings are correctly adjusted. Follow the tank manufacturer's guidelines or consult a licensed plumber when adjusting any pressure tank settings.

### WHO DO I CONTACT WITH QUESTIONS?

Please email your questions to: [sales@naturalsof.com](mailto:sales@naturalsof.com)

A NaturalSof representative will respond promptly. If you would like a representative to call you back personally, please be sure to include your phone # and state you reside in for local representation.



## Troubleshooting

Common Error Codes and solutions are found below. For a complete manual for your filter head, please email customer support at: [sales@naturalsof.com](mailto:sales@naturalsof.com)

### Error Codes

NOTE: Error codes appear on the In Service display.

Error Code	Error Type	Cause	Reset and Recovery
---0	Motor Stall /Cam Sense Error	No state changes in the optical sensor are detected for 6 seconds.	Unplug the unit an plug back in. Allow the control to attempt to find position again.  Verify the optical sensor is in place with the wires connected to the circuit board. Verify the motor and drive train components are in good condition and assembled properly. Check the valve and verify that the piston travels freely. Replace/reassemble the various components as necessary.  Plug the unit back in and observe its behavior. If the error reoccurs, unplug the unit, put it into bypass and contact technical support.
---1	Motor Run-On Error /Cycle Sense Error	An undesired optical sensor state change occurred.	Non-critical error. Extra optical sensor pulse detected. Press any button to clear the error. Press extra cycle button to advance motor to clear error.
---2	Regen Failure	The system has not regenerated in 30 days.	Perform a Manual Regeneration to reset the error code.  If the system is metered, verify that it is measuring flow by running service water and watching for the flow indicator on the display. If the unit does not measure flow, verify that the meter cable is connected properly and that the meter is functioning properly.  Enter Master Programming Mode and verify that the unit is configured as appropriate for the valve configuration. Check that the correct system capacity and meter size has been selected.
---4	Fail Safe Error	Valve has failed to find position in one minute.	Unplug the unit and plug it back in. If error continues, call technical support.

