



Installation & Start-Up Procedures



Two-Tank Combo Water Softener & Filter



Single Tank Combo Water Softener & Filter



Water Softener

Congratulations!

You've selected our best-selling water conditioning models for top performance and economy.

Safety Zone Signature Series water conditioning systems are designed to provide years of service with proper care and maintenance.

Hopefully, this manual will be beneficial and provide information you need to install, start-up and maintain your system.

To view our valve manuals visit www.safetyzonewater.com

Specifications

Valve type	Metered
Valve sizes	1", 1.25", 1.5" and 2"
Pipe fittings available	¾", 1", 1.25" and 1.5"
Regeneration method	Down flow
Riser tube size	1.05", 1.25", 1.5" and 2"
Drain line fitting	¾" male NPT
Brine line	3/8" quick connect
Supply voltage	120 V AC
Supply frequency	60 Hz
Output voltage	12 V AC
Resin volume (cubic feet)	1.0, 1.5, 2.0, 3.0, 4.0, 7.0 & 10
Resin type	8% crosslinked
Carbon type (Combo units)	Catalytic coconut shell
KDF (Combo units)	KDF-55 foam cubes
Brine tank volume	200 lbs.
Brine tank overflow prevention	Included
By-pass valve	Included

Water Softener and Combo Softener / Filter Installation Overview

General: When installing a water softener and a filter together, always install the filter first. Be sure to test the water since you will need this information to properly program the control valve.



Installation procedures:

1. Locate the main water line, and install the unit before the water heater and near a 110 volt power source. Determine where the drain is to be located (for water softeners & backwashing filters).
2. Set up the brine tank.
3. Add five (5) gallons of water to the brine tank (do not add salt at this time).
4. Close inlet and outlet valves on the valve.
5. Valves have been programmed. (Check the settings specific application.
6. Put the valve into a manual regeneration to make sure the cycles are functioning correctly. (Press “regen” to advance to each individual cycle.)
7. Start-up in **backwash** (with inlet and outlet closed).
8. Open the inlet slowly. Once water runs to drain, open the inlet fully.
9. Continue backwash until the drain water runs clear.
10. Advance to the **draw** cycle. Note water level in brine tank going down.
11. Advance to the **2nd backwash**
12. Advance to **rinse**
13. Advance to **refill** (Notice the water level in the brine tank going up.
14. When the valve goes into service, open outlet on the valve to supply water to the house.
15. Add salt to the brine tank (3 – 4 bags) initially.

Valve Programming



Safety Zone Water® Signature Series electronic control valve

The Safety Zone Signature Series valve is highly versatile, and can be programmed for water softeners and Combo softener / Filter systems. Valves are available in 1”, 1-1/4”, 1-1/2” and 2” sizes. Residential tank sizes include 10x44 (1 cube); 10x54 (1.5 cube); 12x52 (2 cube) and 14x65 (3 cube). Standard components include, brine tank (for softeners) with brine well and safety float to prevent brine water overflow; by-pass valve; upper basket; riser tube and bottom distributor; drain line flow control button, resin (for softeners), Catalytic carbon and KDF for Combo softeners / filters and gravel under bedding for even flow distribution.

Valve Settings

System	Resin (Cu. Ft.)	Tank Size	Capacity (Grains)	Backwash #1	Draw	Backwash #2	Rinse	Refill Salt (lbs.)
Softener	1	10x44	24,000	8	60	8	8	9.5
Softener	1.5	10x54	36,000	10	70	10	10	14
Softener	2	12x52	48,000	12	80	12	12	20
Softener	3	14x65	72,000	15	90	15	15	25
Combo 2-100	1	10x44	24,000	8	60	8	8	9.5
Combo 2-150	1.5	10x54	36,000	12	70	12	12	14
Combo 1-150	1	10x54	24,000	8	60	8	8	9.5
Combo 1-200	1	12x52	24,000	8	60	8	8	9.5

Note: Settings are in minutes. Settings may be adjusted depending in water source, hardness levels and Iron content.



Brine tank components



Brine Well with safety float and air



Overflow fitting

Brine tank set-up instructions:

1. Install one of the two caps to enclose the bottom of the brine well.
2. Remove overflow device to be able to connect brine well to side of the brine tank.
3. Install brine well to the side of the brine tank with overflow fitting.
4. Reinstall the overflow device in the brine well.
5. Connect brine line to brine line fitting on the overflow device. (Push in securely.)
6. Connect brine line to brine line fitting on the valve. (Push in securely.)

Do not add salt at this time.

Caution: With quick connect fittings, push **TWICE!** Once to engage the collet and again to make sure the seal is secure. Use 5/16" drain line tubing up to 15 feet. Otherwise use 3/4" or 1" PVC for longer lengths.



Drain line installation

Proper installation of the drain line is critical to the system's performance. Use 1/2" drain line, 3/4" PVC or 1" PVC for best results. When using 1/2" tubing, install the tube insert provided, and connect tubing to drain line fitting with nut provided.



Water test

It is essential to complete a water test, prior to start-up and valve programming.

Check the following parameters:

- Hardness
- pH
- Iron (well water)
- Hydrogen Sulfide (well water)
- Chlorine
- TDS



System placement

1. Locate main water line and determine where to place the unit (near power outlet and location for the drain).
2. Install system on main water line before the water heater.

Be sure the by-pass is closed. If a filter is also to be installed, install it before the softener.

1. Using a clean hose or bucket, fill brine tank 6" from sanitary source. (Fill to where the water level is above slots in brine well.)
2. **Do not add salt at this time.**

To set clock

SET CLOCK – Press **SET CLOCK** at any time to set hour and minutes, then press “**NEXT**” to exit. The clock is a 24 hour clock, so AM or PM must be set accordingly. (May make adjustment when “hour” or “minutes” blink.)

Valve programming (Follow these guidelines for water softeners & combo systems.)

Step	Action	Selections	Next Action
1	Press NEXT ↓	“Softening” will appear. For softeners simply . . .	Press NEXT
2		Brining direction (keep down flow as the default)	Press NEXT
3		Refill. (“POST” is the default). Post is preferred.	Press NEXT
4		1 st backwash (See chart on page 2)	Press NEXT
5		Brine draw (See chart on page 2)	Press NEXT
6		2 nd backwash (See chart on page 2)	Press NEXT
7		Downward rinse (See chart on page 2)	Press NEXT
8		Salt refill (See chart on page 2)	Press NEXT
9		Capacity (See chart on page 2)	Press NEXT
10		For the next fields press NEXT until the clock appears	Press NEXT
1	Press NEXT ↑	Hardness. (Set hardness and add 4 grains for every 1 PPM of Iron.)	Press NEXT
2		Days over ride. (Default is 14 days.) Adjust or . . .	Press NEXT
3		Regen time. 2 AM is default. Adjust hour and minutes or . . .	Press NEXT

Note clock is a 24 hour clock. Make sure AM and PM are correct.

Add water to brine tank

Prior to initial startup and regen, add 6” of water to brine tank from sanitary source.

Do not add salt to the brine tank at this time. This is the last procedure!

Start-Up

With the valve’s inlet and outlet closed, initiate a manual regeneration and follow these directions.

1. Press REGEN button and hold button for 3-5 seconds for immediate regen.
2. Let the valve advance to BACKWASH.
3. Open valve’s inlet slowly 1/3 to fill mineral tank.
4. Allow air to escape (listen until spurting stops).
5. When water flows from drain, open inlet valve fully.
6. Make sure drain line is not restricted. **(Note: Do not “tee” drain line with a filter.)**
7. Continue backwash until water runs clear.
8. Press and release REGEN to advance to BRINE RINSE.
9. Notice if water level in the brine tank is going down. **(This is important.)**
10. Press and release REGEN to advance to the 2nd backwash.
11. Press and release REGEN to advance to RINSE.

Finally . . .

1. Open the valve’s outlet to supply water to the house.
2. Go in the house and open a faucet. See if water runs clear.
3. Go back in the house and shut off faucet.

Add salt

It’s now time to add salt. Initially, this is typically three to four bags of salt. Do not over fill. (Crystal salt is recommended.) Salt volume should be monitored routinely for proper results.

Customer orientation

It is important to provide customers with an initial orientation. This should include how to reset the clock, the importance of checking salt levels routinely and how the resin cleaning process works.

Warranty

Signature Series Safety Zone Water Systems come with a limited warranty. Five years for valves, and ten years for tanks. Resin, activated carbon and filter media come with a quality guarantee only. See warranty card or go to www.safetyzonewater.com for full details.