OWNER'S MANUAL

Signature Series Water Filters

Signature Series Time Clock Water Softeners

Filter Models

Whole house filters for Chlorine, taste, odors & chemical reduction

Model Number	Size tank
SS-CF-100 / SS-SRB-100 / SS-CXF-100	9 X 48
SS-CF-150 / SS-SRB-150 / SS-CXF-150	10 X 54
SS-CF-200 / SS-SRB-200 / SS-CXF-200	12 X 52
SS-CF-300 / SS-SRB-300 / SS-CXF-300	14 X 65

Iron filters

Model Number	Size tank
SS-BIR-100	9 x 48
SS-BIR-150	10 X 54
SS-BIR-200	12 X 52

Sediment filters

Model Number	Size tank
SS-SED-100	9 x 48
SS-SED-150	10 X 54
SS-SED-200	12 X 52

Acid Neutralizers

Model Number	Size tank
SS-AN-100	9 x 48
SS-AN-150 / SS-AN-150-DH	10 X 54
SS-AN-200 / SS-AN-200-DH	12 X 52

Water Softener Models (Time Clock)

Model Number	Size tank
SS-WC-100TC	9 x 48
SS-WC-150TC	10 X 54
SS-WC-200TC	12 X 52
SS-WC-300TC	14 X 65

Table of Contents

Congratulations!

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

Your Signature Series water filter and conditioning system is 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.

Signature Series Systems

Specifications

Valve type	Time Clock
Valve sizes	1" and 1.25"
Pipe fittings available	¾", 1", 1.25" and 1.5"
Regeneration method (softeners)	Down flow
Riser tube size	1.05" and 1.25"
Drain line fitting	¾" male NPT
Drain line tubing	½", ¾" or 1"
Brine line (softeners)	3/8" quick connect
Supply voltage	120 V AC
Supply frequency	60 Hz
Output voltage	12 V AC
Output current	500 mA
Resin volume (cubic feet)	1.0, 1.5, 2.0, 3.0 and 4.0
Resin type (softeners)	8% crosslinked
Carbon type (Combo units)	Catalytic coconut shell
Brine tank volume (softeners)	200 lbs.
Brine tank overflow prevention	Included with softeners
By-pass valve	Included

Routine maintenance

Common with all equipment, routine maintenance is necessary. Maintenance procedures generally include a complete water test to evaluate your system's performance. Your dealer will also check your valve's settings to be sure the system is operating at peak efficiency; tanks, for leaks; salt usage (with softeners); drain line, to be sure they are clear; seals and spacers

Some assembly is required to prevent shipping damage. Follow these directions:

Open cartons

This carton (left) contains the mineral tank and carton (shown right).

This carton is inside the outer carton. It includes the valve, by-pass, fittings (if ordered), drain line nut, drain line insert, upper basket, installation instructions and warranty information.

Set-up valve and install valve on the mineral tank. (All connections hand-tight only.)

1. Assemble pipe fittings (Follow directions in package.)

2. Lubricate ALL BLACK ORINGS with Silicone lubricant.

3. Install upper basket (insert and twist to lock in place).

4. Install valve on mineral tank.

5. Install by-pass.

6. Connect pipe fittings to by-pass.

Note: If TIME CLOCK valve is being used for a water softener, refer to page seven (7) for additional information.

System placement

Locate main water line and install system before the water heater near a power source. If a softener is to be installed, install it after the filter.

Drain line

Proper installation of the drain is critical to the system's performance. Use ½" x 5/16" tubing or ¾" PVC. Drain line cannot be obstructed. Use ¾" PVC if drain line is over 20'. Use tube insert and nut, provided.

Drain line insert

Drain line nut

Water test

It is essential to complete a water test, prior to start-up and valve programming. Check the following parameters on city water: hardness. pH, Chlorine, TDS. On well water also test for Iron and Hydrogen Sulfide. Check for bacteria on well water installations by checking for slime in the toilets.

Set time of day

PRESS and HOLD the "**SET**" button until hour blinks.
Arrow up or down to adjust hour, press **SET**,
Arrow up or down to adjust minutes, press **SET**.
Notes: Clock is 12 hour clock (an arrow points to PM when in time is PM.)
If arrow is blinking on "Regen" this means the unit will regen tonight.
SET REGEN TIME (12:00 AM to 2:00 AM is typical – do not conflict with a softener.)

Set Regen Time

Press "**SET**"and ▲ and hold until hour blinks
Arrow up or down to adjust hour, press **SET**.
Arrow up or down to adjust minutes, press **SET**.

NOTE: The arrow on the display points to a regen day. Use the information shown below to adjust days to regen (up or down) and PRESS **SET.**

Iron & Sulfur Filters	Regen days to "1"
Carbon & sediment filter	Regen days to "3 - 5"
Neutralizer	Regen days to "3 - 5"

Press **SET** (exits to main screen display)

Set "P" Settings for filters

Press "**SET**" and ▲ (and hold for 3 - 5 seconds)
NOTE: Display will show regen time setting.
Press and hold the "**SET**" and ▲ ***AGAIN*** to review and adjust "P" settings. Press **SET** to save.

Recommended Programming Options:

Filter Type	"P" Setting	Back Wash	Rinse
Carbon, sediment	P-8	10 mins.	6 mins.
Iron, Sulfur, Neutralizer	P-9	14 mins.	8 mins.

At this point the display shows "**99**". (This does not mean the days are set at 99.
(It's only a code.) Press **SET**

Note: Use "7" setting ***ONLY*** if you are setting backwash for a specific day such as "day 2", refer to manual for complete setting instructions.

At "**dP**" press "**SET**" to exit. (We do not use pressure differential switches.)

For regen tonight

Simultaneously press and release ▲ and ▼. Notice the arrow will point to the word Regen. To cancel the regeneration simultaneously press and ▼ and release.

Immediate regeneration

To initiate a manual regeneration IMMEDIATELY press ▲ and ▼ and hold until the valve goes into regeneration. To advance valve to the next cycle, press arrow down button (▼).

Instructions Using Time Clock Valve for Water Softener

Brine tank set-up

Brine Tank

Brine tank components.

Brine well with overflow prevention device.

Overflow fitting.

Note: It is necessary to remove and replace the overflow prevention device to attach the brine well to the brine tank with overflow fitting.

Brine tank set-up and drain line installation:

Brine line fitting.

1. Install one of the two caps to cap the bottom of the brine well.
2. Remove overflow device to be able to connect brine well to the side of the brine tank.
3. Reinstall device and connect brine well to side of brine tank using overflow fitting.
4. Connect brine line to brine line fitting on the overflow device.
5. Connect brine line to brine line fitting on the valve.

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 20'. Otherwise use ¾" or 1" PVC.

Install drain line using ½" x 5/16" tubing or ¾" PVC

Tube Insert

Drain line nut

Valve programming for softeners

Press "**SET**" and ▲ and hold until hour blinks
Arrow up or down to adjust hour, press **SET**. Arrow up or down to adjust minutes, press **SET**.

NOTE: The arrow on the display points to a regen day. Use the information shown below to adjust days to regen (up or down) and PRESS **SET.**

Iron & Sulfur Filters	Regen days to "1"
Carbon & sediment filter	Regen days to "3 - 5"
Neutralizer	Regen days to "3 - 5"

Recommended "P" settings for softeners

Press "**SET**" and ▲ (and hold for 3 - 5 seconds). **NOTE:** Display will show regen time setting. Press and hold the "**SET**" and ▲ ***AGAIN*** to review and adjust "P" settings. Press **SET** to save.

Water Type	"P" Setting	1st Backwash	Brine Draw	2nd Backwash	Rinse	Fill
Well	P-3	12	70	12	6	Valve sets
City	P-1	8	50	8	4	Valve sets

At this point the display shows "**99**". (This does not mean the days are set at 99. (It's only a code.) Press **SET**

Note: Use "7" setting *ONLY* if you are setting backwash for a specific day such as "day 2", refer to manual for complete setting instructions. At "**dP**" press "**SET**" to exit. (We do not use pressure differential switches.)

Salt: Crystal solar salt is recommended. Pellet salt is also commonly used.

Once the installation is complete, start up system in **backwash** with valve's inlet and outlet closed.

Slowly open valve inlet 1/3 to fill mineral tank.

Start-up – For filters

With the valve's inlet and outlet closed, initiate a manual regeneration and follow these procedures:

1. Press ▲ and ▼ and hold until motor starts to go into 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 softener.)**
7. Continue backwash until water runs clear.
8. Press and release ▼ to advance to RINSE.
   (Rinse is a downward flow to rinse the ion exchange resin.)
9. Press and release ▼ to advance to service.

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. Look for "gallons flow" in the lower left of the valve's display.
4. Go back in the house and shut off faucet.

Open outlet slowly to supply water to the house.

Important comments regarding backwash

Proper backwash rates are critical to the performance and life of any media filters. Please ensure water source is capable of, at least, the minimum backwash requirement for tank size and media type. Well pumps must provide sufficient backwash for the filter to be installed?

Backwash requirements (10" tank):

	10" Tank (GPM)	12" Tank (GPM)
Carbon filter	5	7.5
Iron filter, Birm	6	8
Iron filter, Green Sand	6	8
Iron filter, Manganese Dioxide	7.5	11
Iron filter, Katalox Lite	6	8
Neutralizer	7.5	9

Important!

Do not use 1/2" drain line over than 20 feet. Use 3/4" or larger drain line for higher flow rates and distances over 20' or otherwise appropriate.

Once the installation is complete, start up system in **backwash** with valve's inlet and outlet closed.

Slowly open valve inlet 1/3 to fill mineral tank.

For softeners - 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 for softeners

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

1. Press ▲ and ▼ and hold until motor starts to go into 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 ▼ to advance to BRINE RINSE.
9. Notice if water level in the brine tank is going down. **(This is important.)**
10. Press and release ▼ to advance to the 2nd backwash.
11. Press and release ▼ to advance to RINSE.
    (Rinse is a downward flow to rinse the ion exchange resin.)
12. Press and release ▼ to advance to refill
13. During refill, notice if the water level in the brine tank is going up. **(This is important.)**
14. Press and release ▼ to advance to SERVICE.

Finally . . .

5. Open the valve's outlet to supply water to the house.
6. Go in the house and open a faucet. See if water runs clear.
7. Look for "gallons flow" in the lower left of the valve's display.
8. Go back in the house and shut off faucet.

Open outlet slowly to supply water to house.

Add salt

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

Trouble shooting

If you believe your water filter or time clock softener are “not working”, here are factors to investigate:

Carbon filters

1. If your water is cloudy, most likely the filter is not backwashing properly. Check drain line to make sure it is not obstructed and has no kinks; check backwash duration; check settings. If this situation is shortly after installation, the initial backwash duration was most likely too short. (Do manual regen to investigate.)
2. Test for Chlorine before and after the filter for city water or chlorinated well water.

Iron / Sulfur filters

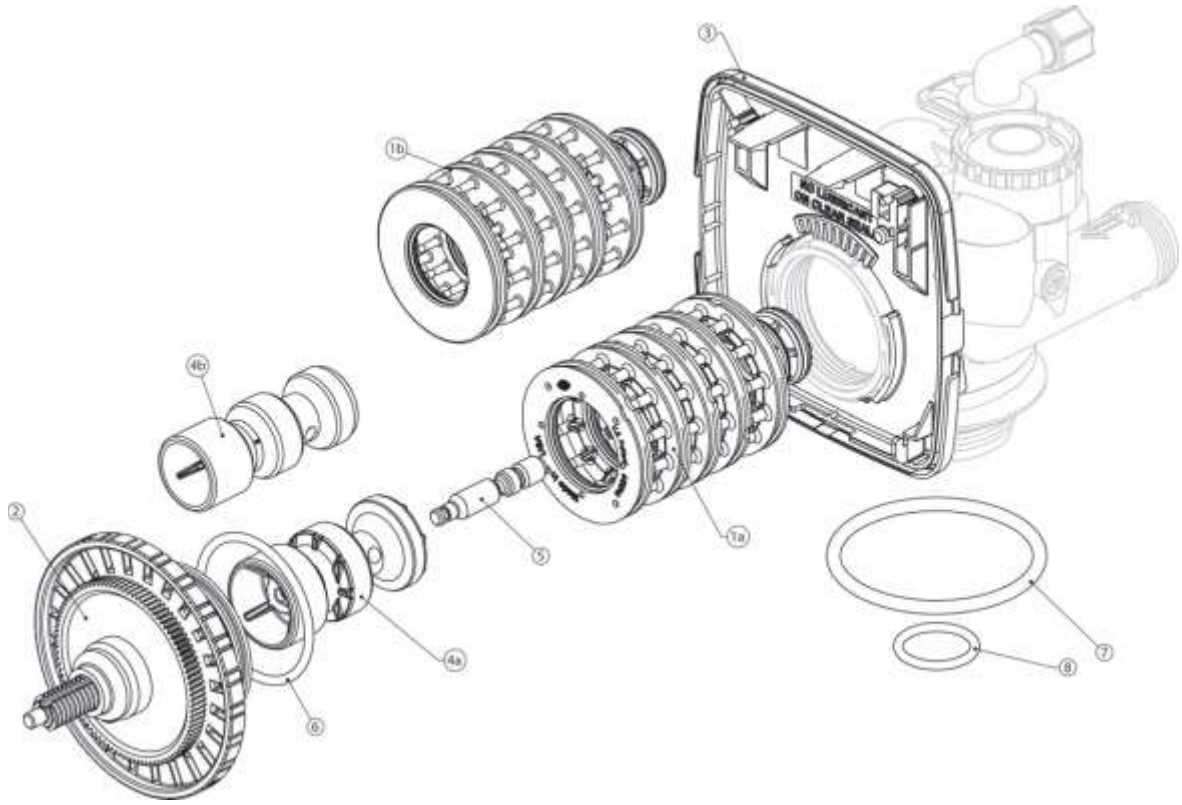
1. Improper backwash is the number cause of iron filter failure. Check drain line to make sure it is not obstructed and be sure it has no kinks; check backwash duration; check settings. If the water is turbid directly after installation, the initial backwash duration was most likely too short. Do not use 1/2“drain line tubing longer than 20 feet. Also, do not tee a filter and softener drain line together, causing restrictions.
2. The amount of water you are using may exceed the capacity of your Iron filter. (Do not fill pools or use water for irrigation with water from your iron filter. This will most likely exceed the capacity of the filter. You may also be using excessive amounts of water due to leaks in your plumbing system.
3. Bacteria will foul an Iron filter. Check for the presence of bacteria (slime in toilets.)

Water softeners

1. Test for hardness.
2. Check power source.
3. Check to make sure by-pass is open.
4. Check salt level in the brine tank.
5. Check to see if water is in the bottom of the brine tank.
6. Try to determine if the unit regenerated recently.
7. Go through a manual regeneration to see if the cycles are operating properly.
8. During “draw” watch to see the water level in the brine tank go down.
9. During “refill” watch to see the water level in the brine tank go up.
10. Too much water in brine tank. (Plugged injector; improper “refill” settings).
11. High salt usage. (Refill set to high – check settings; wrong settings).
12. Flow to drain continuously. (Check valve settings; foreign material in control valve.)
13. Unit fails to draw brine. (Drain line is plugged; injector is plugged; inlet pressure too low).
14. Resin in drain line. (Air in the system; incorrect drain line flow control button).
15. Resin in house. (Broken bottom distributor; upper basket missing or not engaged).
16. Low water pressure. (Iron or scale build-up; inlet plugged).

Acid Neutralizers

Understand the media used in an acid neutralizer is consumed during water flow. Check pH routinely to determine when additional media is needed. Replacement is easy if you have a “dome hole” tank.



Drawing No.	Order No.	Description Quantity	Number Required
1a	V3430 WS1.5	Spacer Stack Assembly	1
1b	V3005 WS1	Spacer Stack Assembly	1
2	V3004	Drive Cap Assembly	1
3	V3178	WS1 Drive Back Plate	1
4a	V3407	WS1.5 Piston Down flow Assembly	1
4b	V3011-01 WS1	Piston Up flow Assembly	1
5	V3174 WS1	Regenerant Piston (for softeners)	1
6	V3135	O-ring 228	1
7	V3180	O-ring 337	1
8	V3358	O-ring 219 (Dist. Tube 1.32”)	1

Front Cover and Drive Assembly

Order No.	Description Quantity
V3175TC-01	WS1TC FRONT COVER ASY 1
V3107-01 WS1	MOTOR ASY 1
V3106-01 WS1	DRIVE BRACKET & SPRING CLIP 1
V3818TC WS1	TC PC BOARD 4-DIGIT 1
V3110 WS1	DRIVE REDUCING GEAR 12 X 36 3
V3109 WS1	DRIVE GEAR COVER 1
3002TC WS1	TC DRIVE ASY *
3186 WS1	AC ADAPTER 120V-12V
V3186EU WS1	AC ADAPTER 220-240V-12V EU
3186UK WS1	AC ADAPTER 220-240V-12V UK

Common spare parts

Part Number	Description
KV3193-02	Service spanner wrench
KV3330-01	Brine elbow assembly
KKJCP-P-6	Insert for brine elbow assembly
KD1203	Upper basket
KV3010-IC	Injector for 8" tank, violet
KV3010-ID	Injector for 9" tank, red
KV3010-1E	Injector for 10" tank, white
KV3010-IF	Injector for 12" tank, blue
KV3010-1H	Injector for 14" tank, green
KV3162-017	1.7 gpm dlfc
KV3162-022	2.2 gpm dlfc
KV3162-027	2.7 gpm dlfc
KV3162-032	3.2 gpm dlfc
KV3162-042	4.2 gpm dlfc
KV3162-053	5.3 gpm dlfc
KV3162-075	7.5 gpm dlfc
KV3162-090	9.0 gpm dlfc
KV3162-100	10.0 gpm dlfc
KV3107-01	Drive motor
KV3192	Drain line elbow nut
KPKP10T58	Drain Line insert
KV3006	By-pass valve
KSW-COVER	Weather cover for Signature Series valve
KV3150	WS1 Split ring (for pipe fittings and by-pass)
KV3105	WS1- O-ring 215 (for pipe fittings and by-pass)
KV-3001	Valve piston
KV3005-02	Seal & spacer assembly
KV3186	Transformer

Trouble Shooting (Shaded areas do not apply to time clock valves.)

Problem	Possible Cause	Solution
1. No Display on PC Board	a. No power at electric outlet	a. Repair outlet or use working outlet
	b. Control valve Power Adapter not plugged into outlet or power cord end not connected to PC board connection	b. Plug Power Adapter into outlet or connect power cord end to PC Board connection
	c. Improper power supply	c. Verify proper voltage is being delivered to PC Board
	d. Defective Power Adapter	d. Replace Power Adapter
	e. Defective PC Board	e. Replace PC Board
2. PC Board does not display correct time of day	a. Power Adapter plugged into electric outlet controlled by light switch	a. Use uninterrupted outlet
	b. Tripped breaker switch and/or tripped GFI	b. Reset breaker switch and/ or GFI switch
	c. Power outage	c. Reset time of day. If PC Board has battery back up present the battery may be depleted. See Front Cover and Drive Assembly drawing for instructions.
	d. Defective PC Board	d. Replace PC Board
3. Display does not indicate that water is flowing. Refer to user instructions for how the display indicates water is flowing	a. Bypass valve in bypass position	a. Turn bypass handles to place bypass in service position
	b. Meter is not connected to meter connection on PC Board	b. Connect meter to three pin connection labeled METER on PC Board
	c. Restricted/ stalled meter turbine	c. Remove meter and check for rotation or foreign material
	d. Meter wire not installed securely into three pin connector	d. Verify meter cable wires are installed securely into three pin connector labeled METER
	e. Defective meter	e. Replace meter
	f. Defective PC Board	f. Replace PC Board
4. Control valve regenerates at wrong time of day	a. Power outage	a. Reset time of day. If PC Board has battery back up present the battery may be depleted. See Front Cover and Drive Assembly drawing for instructions.
	b. Time of day not set correctly	b. Reset to correct time of day
	c. Time of regeneration set incorrectly	c. Reset regeneration time
	d. Control valve set at “on 0” (immediate regeneration)	d. Check programming setting and reset to NORMAL (for a delayed regen time)
	e. Control valve set at “NORMAL + on 0” (delayed and/ or immediate)	e. Check programming setting and reset to NORMAL (for a delayed regen time)
5. Time of day flashes on and off	a. Power outage	a. Reset time of day. If PC Board has battery back up present the battery may be depleted. See Front Cover and Drive Assembly drawing for instructions.
6. Control valve does not regenerate automatically when the correct button(s) is depressed and held. For TC valves the buttons are ▲&▼. For all other valves the button is REGEN	a. Broken drive gear or drive cap assembly	a. Replace drive gear or drive cap assembly
	b. Broken Piston Rod	b. Replace piston rod
	c. Defective PC Board	c. Defective PC Board
7. Control valve does not regenerate automatically but **does** when the correct button(s) is depressed and held. For TC valves the buttons are ▲&▼. For all other valves the button is REGEN	a. Bypass valve in bypass position	a. Turn bypass handles to place bypass in service position
	b. Meter is not connected to meter connection on PC Board	b. Connect meter to three pin connection labeled METER on PC Board
	c. Restricted/ stalled meter turbine	c. Remove meter and check for rotation or foreign material
	d. Incorrect programming	d. Check for programming error
	e. Meter wire not installed securely into three pin connector	e. Verify meter cable wires are installed securely into three pin connector labeled METER
	f. Defective meter	f. Replace meter
	g. Defective PC Board	g. Replace PC Board

Trouble Shooting (Shaded areas do not apply to time clock valves.)

Problem	Possible Cause	Solution
8. Hard or untreated water is being delivered	a. Bypass valve is open or faulty	a. Fully close bypass valve or replace
	b. Media is exhausted due to high water usage	b. Check program settings or diagnostics for abnormal water usage
	c. Meter not registering	c. Remove meter and check for rotation or foreign material
	d. Water quality fluctuation	d. Test water and adjust program values accordingly
	e. No regenerant or low level of regenerant in regenerant tank	e. Add proper regenerant to tank
	f. Control fails to draw in regenerant	f. Refer to Trouble Shooting Guide number 12
	g. Insufficient regenerant level in regenerant tank	g. Check refill setting in programming. Check refill flow control for restrictions or debris and clean or replace
	h. Damaged seal/stack assembly	h. Replace seal/stack assembly
	i. Control valve body type and piston type mix matched	i. Verify proper control valve body type and piston type match
	j. Fouled media bed	j. Replace media bed
9. Control valve uses too much regenerant	a. Improper refill setting	a. Check refill setting
	b. Improper program settings	b. Check program setting to make sure they are specific to the water quality and application needs
	c. Control valve regenerates frequently	c. Check for leaking fixtures that may be exhausting capacity or system is undersized
10. Residual regenerant being delivered to service	a. Low water pressure	a. Check incoming water pressure – water pressure must remain at minimum of 25 psi
	b. Incorrect injector size	b. Replace injector with correct size for the application
	c. Restricted drain line	c. Check drain line for restrictions or debris and clean
11. Excessive water in regenerant tank	a. Improper program settings	a. Check refill setting
	b. Plugged injector	b. Remove injector and clean or replace
	c. Drive cap assembly not tightened in properly	c. Re-tighten the drive cap assembly
	d. Damaged seal/ stack assembly	d. Replace seal/ stack
	e. Restricted or kinked drain line	e. Check drain line for restrictions or debris and or un-kink drain line
	f. Plugged backwash flow controller	f. Remove backwash flow controller and clean or replace
	g. Missing refill flow controller	g. Replace refill flow controller
12. Control valve fails to draw in regenerant	a. Injector is plugged	a. Remove injector and clean or replace
	b. Faulty regenerant piston	b. Replace regenerant piston
	c. Regenerant line connection leak	c. Inspect regenerant line for air leak
	d. Drain line restriction or debris cause excess back pressure	d. Inspect drain line and clean to correct restriction
	e. Drain line too long or too high	e. Shorten length and or height
	f. Low water pressure	f. Check incoming water pressure – water pressure must remain at minimum of 25 psi

Trouble Shooting (Shaded areas do not apply to time clock valves.)

Problem	Possible Cause	Solution
13. Water running to drain	a. Power outage during regeneration	a. Upon power being restored control will finish the remaining regeneration time. Reset time of day.
	b. Damaged seal/ stack assembly	b. Replace seal/ stack assembly
	c. Piston assembly failure	c. Replace piston assembly
	d. Drive cap assembly not tightened in properly	d. Re-tighten the drive cap assembly
14. E1, Err – 1001, Err – 101 = Control unable to sense motor movement	a. Motor not inserted full to engage pinion, motor wires broken or disconnected	a. Disconnect power, make sure motor is fully engaged, check for broken wires, make sure two pin connector on motor is connected to the two pin connection on the PC Board labeled MOTOR. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	b. PC Board not properly snapped into drive bracket	b. Properly snap PC Board into drive bracket and then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	c. Missing reduction gears	c. Replace missing gears
15. E2, Err – 1002, Err – 102 = Control valve motor ran too short and was unable to find the next cycle position and stalled	a. Foreign material is lodged in control valve	a. Open up control valve and pull out piston assembly and seal/ stack assembly for inspection. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	b. Mechanical binding	b. Check piston and seal/ stack assembly, check reduction gears, check drive bracket and main drive gear interface. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	c. Main drive gear too tight	c. Loosen main drive gear. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	d. Improper voltage being delivered to PC Board	d. Verify that proper voltage is being supplied. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.

Trouble Shooting (Shaded areas do not apply to time clock valves.)

Problem	Possible Cause	Solution
16. E3, Err – 1003, Err – 103 = Control valve motor ran too long and was unable to find the next cycle position	a. Motor failure during a regeneration	a. Check motor connections then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	b. Foreign matter built up on piston and stack assemblies creating friction and drag enough to time out motor	b. Replace piston and stack assemblies. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	c. Drive bracket not snapped in properly and out enough that reduction gears and drive gear do not interface	c. Snap drive bracket in properly then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
17. Err – 1004, Err – 104 = Control valve motor ran too long and timed out trying to reach home position	a. Drive bracket not snapped in properly and out enough that reduction gears and drive gear do not interface	a. Snap drive bracket in properly then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
18. Err -1006, Err – 106, Err - 116 = MAV/ SEPS/ NHBP/ AUX MAV valve motor ran too long and unable to find the proper park position Motorized Alternating Valve = MAV Separate Source = SEPS No Hard Water Bypass = NHBP Auxiliary MAV = AUX MAV	a. Control valve programmed for ALT A or b, nHbP, SEPS, or AUX MAV with out having a MAV or NHBP valve attached to operate that function	a. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect. Then re-program valve to proper setting
	b. MAV/ NHBP motor wire not connected to PC Board	b. Connect MAV/ NHBP motor to PC Board two pin connection labeled DRIVE. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	c. MAV/ NHBP motor not fully engaged with reduction gears	c. Properly insert motor into casing, do not force into casing Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	d. Foreign matter built up on piston and stack assemblies creating friction and drag enough to time out motor	d. Replace piston and stack assemblies. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
19. Err – 1007, Err – 107, Err - 117 = MAV/ SEPS/ NHBP/ AUX MAV valve motor ran too short (stalled) while looking for proper park position Motorized Alternating Valve = MAV	a. Foreign material is lodged in MAV/ NHBP valve	a. Open up MAV/ NHBP valve and check piston and seal/ stack assembly for foreign material. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	b. Mechanical binding	b. Check piston and seal/ stack assembly, check reduction gears, drive gear interface, and check MAV/ NHBP black drive pinion on motor for being jammed into motor body. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.

LIMITED WARRANTY

Signature Series systems supplied by SAFE WATER ALLIANCE, LLC

(Manufacturer) are warranted to be free of defects in material and workmanship to the original residential purchaser. All aspects of this warranty are subject to the limitations, terms and conditions described below:

Duration

Signature Series water conditioner and whole house filter components, including valves, tanks and non-wear parts are covered under this warranty. Should failure occur due to defects in materials and workmanship, Manufacturer, at its sole discretion, will repair or replace the defective part or component for the duration of seven years for valves, ten years on tanks; and five years on components, including electrical components. Labor for parts replacement, service, shipping and handling charges are not included, and they are the customer's responsibility under the terms of this warranty.

Limitations of Coverage

This warranty extends only to the CONSUMER for damage resulting from defects in materials and workmanship, and does not include wear related damage, renewable or consumable components, such as seals, spacers, ultraviolet lamps, filter cartridges, resin, neutralizing media, iron media, sediment media and granular activated carbon. Damage caused by the CONSUMER'S neglect or abuse, accident, rain, wind, heat, cold, ultraviolet light exposure, damage caused by acts of God, civil insurrection and extraordinary circumstances beyond the Manufacturer's control are not covered. Manufacturer shall not be liable for any direct or indirect damage resulting from the use of the Equipment, and in no event shall this Warranty coverage exceed the purchase price of the Equipment. This Warranty excludes any equipment not manufactured by the Manufacturer; equipment which has been altered by the CONSUMER or non-authorized service personnel; systems installed outside without a weather cover; and systems where date codes and serial numbers have been removed. This limited warranty may not be transferred from the original owner to another individual.

Water quality

Manufacturer cannot know the characteristics of the customer's water quality. Furthermore, water characteristics may vary, over time. For these reasons, Manufacturer assumes no liability for product selection.

Claims

All claims for Warranty coverage must be accompanied by a copy of the purchase agreement, showing date of the original installation. If this is not available, a warranty card must be on file. Manufacturer reserves the right to inspect the equipment, prior to honoring any warranty claim. This Warranty gives CONSUMERS specific rights, and these rights may vary from state to state.

Serial number

Serial numbers are printed on a label located on the back side of the valve.

Contact information

Any and all claims should be directed to the Authorized Dealer in your area. If this information is not available, consumers may contact Safe Water Alliance, LLC; 2535 N.E. 36 Avenue; Ocala, Florida 34470. Telephone: 352-694-0270.

SAFE WATER ALLIANCE