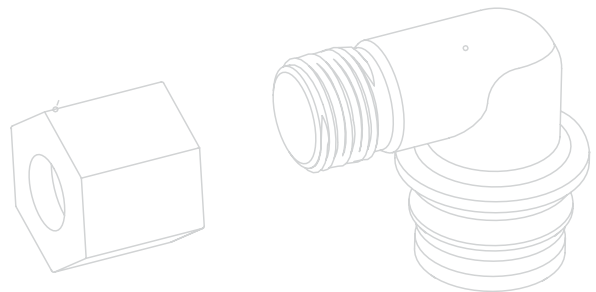
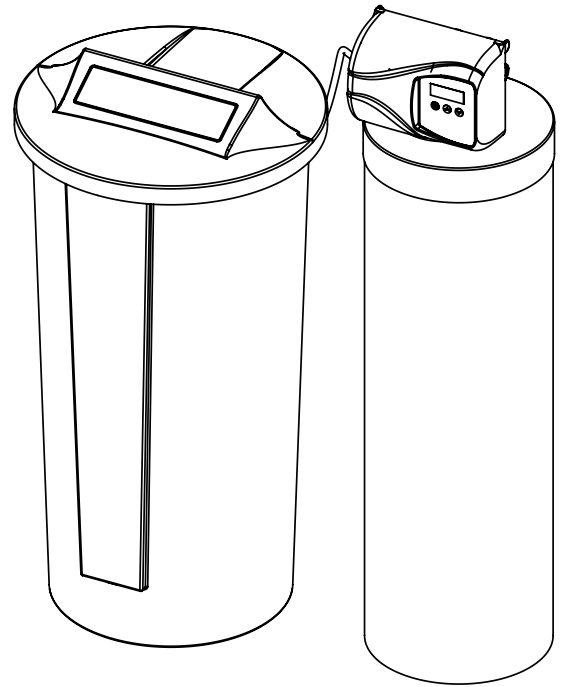
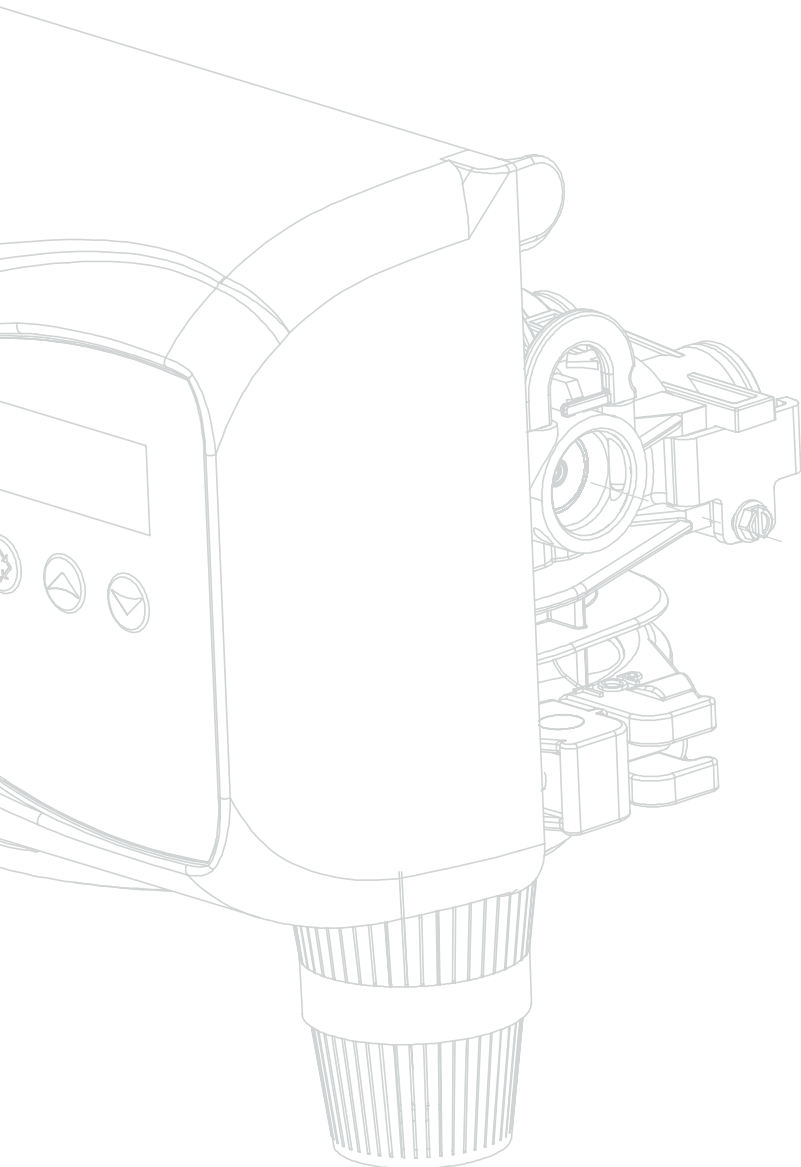


**Operating and Service Manual**

**6200 SXT Automatic Meter Initiated  
Organic Color Removal (OCR) Filter**



# Introduction

## Read this Manual First

- Read this manual thoroughly to become familiar with the device and its capabilities before installing or operating your Water Filter. Failure to follow instructions in this manual could result in personal injury or property damage. This manual will also help you to get the most out of your filter.
- This system and its installation must comply with state and local regulations. Check with your local public works department for plumbing and sanitation codes. In the event the codes conflict with any content in this manual the local codes should be followed. For installations in Massachusetts, Massachusetts Plumbing Code 248 CMR shall be adhered to. Consult your licensed plumber for installation of this system.
- This water softener is designed to operate on pressures of 20 psig 125 psig. If the water pressure is higher than the maximum use a pressure reducing valve in the water supply line to the filter.
- This unit is capable of operating at temperatures between 40°F and 110°F (4°C - 43°C). Do not use this water softener on hot water supplies.
- Do not install this unit where it may be exposed to wet weather, direct sunlight, or temperatures outside of the range specified above.
- Do not use water that is microbiologically unsafe without adequate disinfection before or after this system.
- This publication is based on information available when approved for printing. Continuing design refinement could cause changes that may not be included in this publication. WaterGroup reserves the right to change the specifications referred to in this literature at any time, without prior notice.

## Safety Messages

Watch for the following safety messages in this manual:

**NOTE:** used to emphasize installation, operation or maintenance information which is important but does not present a hazard.

**Example: NOTE:** Check and comply with you state and local codes. You must follow these guidelines.

**CAUTION:** used when failure to follow directions could result in damage to equipment or property.

**Example:**



**CAUTION! Disassembly while under pressure can result in flooding.**

**WARNING:** used to indicate a hazard which could cause injury or death if ignored.

**Example:**



**WARNING! ELECTRICAL SHOCK HAZARD! UNPLUG THE UNIT BEFORE REMOVING THE COVER OR ACCESSING ANY INTERNAL CONTROL PARTS**

**NOTE:** Do not remove or destroy the serial number. It must be referenced on request for warranty repair or replacement

# Application and Installations of Organic Colour Removal Unit

This Organic Colour Removal Filter (OCR) has been designed to remove tannins from your water supply. Tannins can cause a yellow to brown colour in the water (i.e. organic colour) and also may impact taste and odour as well. Tannins are formed by the decomposition of vegetable matter. All tannins are not equal, and thus the type of OCR unit selected should have been with the assistance of an authorized representative or distributor. This is typically done based on a water analysis and column testing of the source water and/or with experience on other successful installations in the area on the same source water.

## Application Notes about OCR Units:

1. Although the OCR unit was selected using this source water, the selected OCR unit was the most suitable type for this application, total removable of all colour contaminants may occasionally not be attained due to:
  - a) Multiple types of tannins in the source water. OCR Unit media may only be successful at removing some of these organics, but not all.
  - b) Colour may be caused by contaminants other than organics.
  - c) The remaining contaminants may require removal by other methods such as activated carbon, reverse osmosis, etc. Please consult your authorized representative or distributor for solutions.
2. If water hardness is also present (particularly if total hardness > 10 grains/US Gal), a softener must be installed ahead (upstream) of the OCR unit. Without the softener, the OCR resin bed is prone to fouling by the precipitation of calcium carbonate. Meter initiated softeners with a reserve capacity are preferred to calendar clock softeners to ensure the softener is not overrun.  
(Installation Tip: Ensure that the OCR Unit is only allowed to regenerate after the regeneration of a water softener if one is present)
3. Metals in the water such as Iron and Manganese can also foul the OCR resin bed, reducing the ability to remove tannins. An iron filter or iron guard softener should be used to reduce the problem causing contaminants to an acceptable level.  
(Installation Tip: As in item #2, the OCR Unit and any softeners and filters should not be allowed to regenerate at the same time. Consult the applicable unit owners manuals on regeneration time and adjustment if necessary.)
4. Turbidity caused by suspended solids and sediment can foul the OCR resin bed. Removal of the turbidity can be achieved through some type of mechanical filtration such as a multi-media filter and/or cartridge filters.
5. Depending on the Alkalinity of the source water being treated, the pH of the water after the OCR unit will likely drop for part or all of the units service run after regeneration. This is caused by the OCR unit's resin ability to also remove alkalinity in the water. Adjustment of the waters pH may be required once treated by the OCR unit.
6. If "nitrates" are present in the source water, consult your authorized representative or distributor for additional solutions.



**CAUTION! This unit has not been designed for nitrate removal and should be dealt with separately.**

7. Occasionally, a fishy odour will occur if the source water is of a high pH, typically greater than 8.0. If this occurs, putting the unit through a couple regeneration cycles can sometimes reduce the odour. Chlorine in combination with a higher pH can also make the odour worse or more difficult to overcome as chlorine degrades the resin in the OCR unit.
8. Depending on the alkalinity of the source water being treated, the chlorides in the treated water from the OCR unit will increase proportionally. This may result in a bitter salty taste which should be treated with a reverse osmosis drinking water system for household drinking and cooking water

# Water Chemistry Guideline

## TANNIN REMOVAL FILTER GUIDELINE FLOWCHART

There are two major groups of organics:

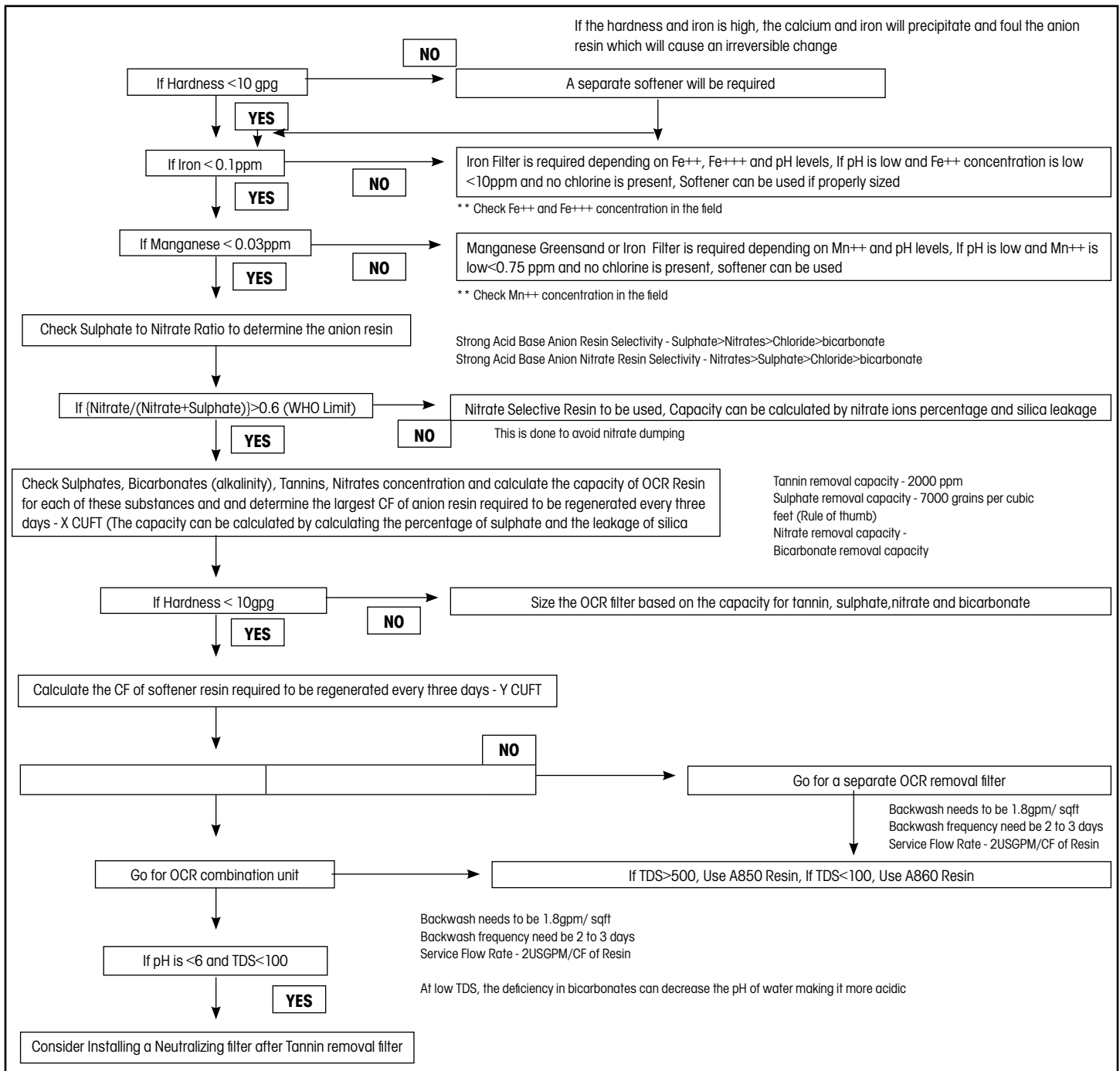
- The carboxylic groups - removed by ion exchange by Anion Resin
- The phenolic group - They are non-ionized and can be removed by adsorption

For effective removal, macroporous Type 1 strong base anion resin can be used.

The performance of removal will depend on organic level, measured in total organic carbon (TOC), presence of iron

The following water contaminants are needed to be tested :

- Total Hardness\*
  - Iron\*
  - Manganese\*
  - Nitrates\*
  - pH
  - Total Dissolved Solids (TDS)\*
  - Tannins\*
  - Sulphates\*
  - Alkalinity\*
- \* Critical



**RESIN CLEANING PROCEDURE** Soda ash can be used in combination with the salt to keep the resin bed clean. Half to 1 lbs of soda ash can be added to the brine well.

**OCR Filter Unit**

If Hardness >10  
 If Iron <0.1 ppm  
 If Manganese <0.03 ppm  
 If (Nitrate/(Nitrate+Sulphate))>0.6 (WHO Limit)

Otherwise, iron filter or softener needs to installed before  
 Otherwise, iron filter, softener or manganese greensand unit needs to installed before depending on Manganese concentration  
 If <0.6, nitrate selective resin needs to be used  
 Resin Tannin Capacity - 2000 ppm per CuFt of Resin  
 Sulphate Removal Capacity - 7000 grains/CF of Resin  
 Flow Rate - 2GPM/CF of Resin  
 Backwash - 1.8 GPM/SqFT (min)

**The following filters is used when TDS >500**

Model	Tannin Removal Capacity( ppm)	Resin Volume (CF)	Flow Rate (GPM)	Backwash	Sulphate Removal Capacity (grains = mg/l divided by 17.1)
OCR15-850 SXT	3,000	1.5	3	1.2	10500
OCR20-850 SXT	4,000	2	4	2	14000
OCR30-850 SXT	6,000	3	6	2.4	21000

Needs to be regenerated every 2 (ideal) to 3 days

**The following filters is used when TDS <500**

Model	Tannin Removal Capacity( ppm)	Resin Volume (CF)	Flow Rate (GPM)	Backwash	Sulphate Removal Capacity (grains = mg/l divided by 17.1)
OCR15-860 SXT	3,000	1.5	3	1.2	10500
OCR20-860 SXT	4,000	2	4	2	14000
OCR30-860 SXT	6,000	3	6	2.4	21000

Needs to be regenerated every 2 (ideal) to 3 days

# Performance Data Sheet

Unit Item #	4924	4925	4926	4927	4928	4929
<b>Model #</b>	OCR15-850SXT	OCR20-850SXT	OCR30-850SXT	OCR15-860SXT	OCR20-860SXT	OCR30-860SXT
<b>Tank Size</b>	10 X 54	12 X 52	14 X 65	10 X 54	12 X 52	14 X 65
<b>Media (CF)</b>	1.5	2	3	1.5	2	3
<b>Capacity - 10 lbs of Salt/CF of Resin</b>	3,000	4,000	6,000	3,000	4,000	6,000
<b>Service Flow Rate (gpm)</b>	3	4	6	3	4	6
<b>Peak Service Flow Rate (gpm)</b>	5	7	10	5	7	10
<b>Backwash Flow Rate (gpm)</b>	1.2	2	2.4	1.2	2	2.4
<b>Injector</b>	#00	#00	#0	#00	#00	#0
<b>BLFC</b>	0.25	0.25	0.5	0.25	0.25	0.5
<b>Slow Rinse Flow Rate (gpm)</b>	0.254	0.254	0.254	0.254	0.254	0.375
<b>Brine Draw/Slow Rinse Time (minutes)</b>	60	60	60	60	60	60
<b>Backwash Time (minutes)</b>	10	10	10	10	10	10
<b>Rapid Rinse (minutes)</b>	10	10	10	10	10	10
<b>Brine Refill (minutes)</b>	20	27	20	20	27	20
<b>Total Time Consumed during Regeneration (minutes)</b>	100	107	100	100	107	100
<b>Total Water Consumption during Regeneration (gallons)</b>	44.2	61.9	73.2	44.2	61.9	80.5

# Specification

Unit † Item #	Model #	Tank Size	Media (CF)	10 lbs of Salt/CF of Resin	Service Flow Rate (gpm)	Peak Service Flow Rate (gpm)	Backwash Flow Rate (gpm)	Brine Tank Dimension (W X D X H) Inches	Salt Capacity (lbs)	Shipping Weight (lbs)
<b>Organic Color Removal Filters*</b>										
4924	OCR15-850SXT	10 X 54	1.5	3,000	3	5	1.2	21 X 36	300	110
4925	OCR20-850SXT	12 X 52	2	4,000	4	7	2	23 X 38	400	150
4926	OCR30-850SXT	14 X 65	3	6,000	6	10	2.4	23 X 38	400	200
4927	OCR15-860SXT	10 X 54	1.5	3,000	3	5	1.2	21 X 36	300	110
4928	OCR20-860SXT	12 X 52	2	4,000	4	7	2	23 X 38	400	150
4929	OCR30-860SXT	14 X 65	3	6,000	6	10	2.4	23 X 38	400	200

\* Application must be based on analysis by an authorized representative or distributor

Working Temperature = 34-110°F (1-43°C)  
 (Do not subject the unit to freezing temperatures)  
 Working Pressure = 20-125 PSIG (137-861 kPa)  
 Voltage = 120V / 60 Hz  
 Pipe Size = 3/4"

- At the stated service flow rates, the pressure drop through these devices will not exceed 15 psig.
- Changing salt settings from factory setting may require changing injector sizes to achieve stated capacities
- The manufacturer reserves the right to make product improvements which may deviate from the specifications and descriptions stated herein, without obligation to change previously manufactured products or to note the change.
- \* Do not use water that is microbiologically unsafe without adequate disinfection before or after the system.

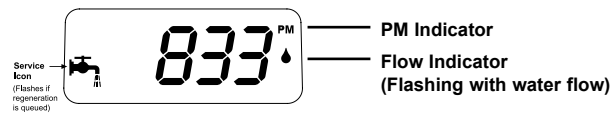
† USA customers will need to add "-4" to the item numbers for ordering.

## How Organic Color Removal (OCR) Filter Works

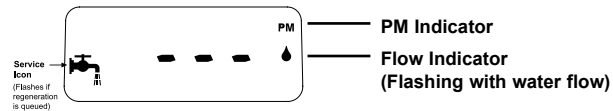
The OCR filter works like a water softener. It contains a bed of specially formulated resin. As water passes through the bed, the organic color is held by the resin. Eventually the resin becomes saturated and must be cleaned and regenerated. A brine solution is drawn into the resin bed to release the accumulated minerals. The minerals and brine are rinsed away with fresh water and the regenerated resin is ready to work again.

In normal operation, the Time of Day display will alternate being viewed with the Volume Remaining display. This display will be in gallons or liters. As treated water is used, the Volume Remaining display will count down from a maximum value to zero or (---). Once this occurs, a regeneration cycle will be initiated at the Set Regeneration Time. Water flow through the valve is indicated by the Flow Indicator that will flash in direct relationship to flow rate.

**Example** 833 Gallons of Treated Water Remaining



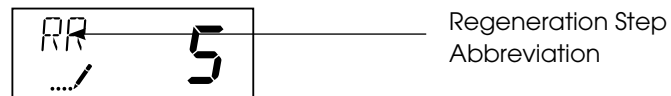
0 Gallons of Treated Water Remaining




## Timer Behavior During Regeneration

In regeneration, the control will display a special regeneration display. In this display, the control will show the current regeneration step abbreviation the valve is advancing to or has reached and the time remaining in that step. The step abbreviation displayed will flash until the valve has completed driving into this regeneration step position. Once all regeneration steps have been completed, the valve will return to Service and resume normal operation.

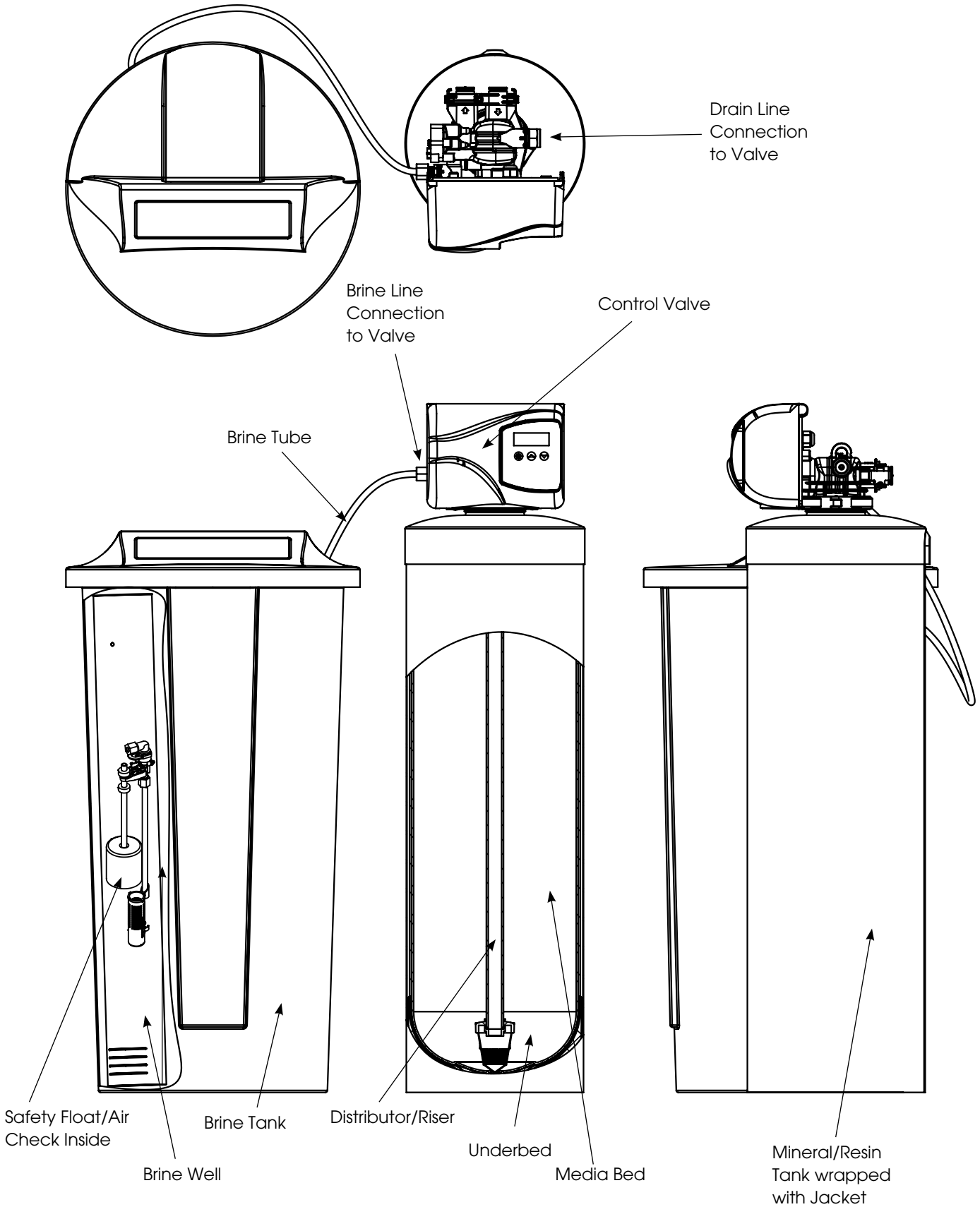
**Example** Less than 6 minutes remaining in Regeneration Step Rapid Rinse



Pushing the  during a regeneration cycle will immediately advance the valve to the next cycle step position and resume normal step timing.

Please see the control valve manual for different regeneration step abbreviations.

# Familiarize Yourself with the Unit and Components



# Installation Instructions

Contact your local distributor to use WaterGroup laboratory for complete water analysis free of cost and no obligation to you.



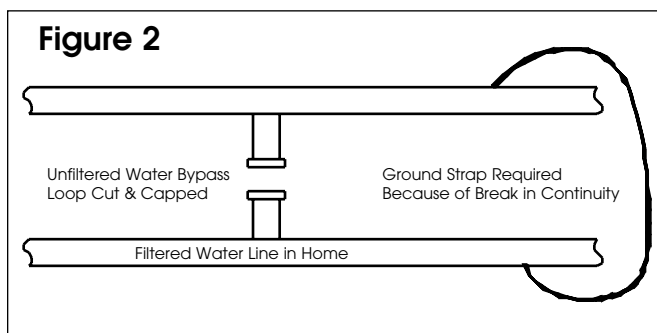
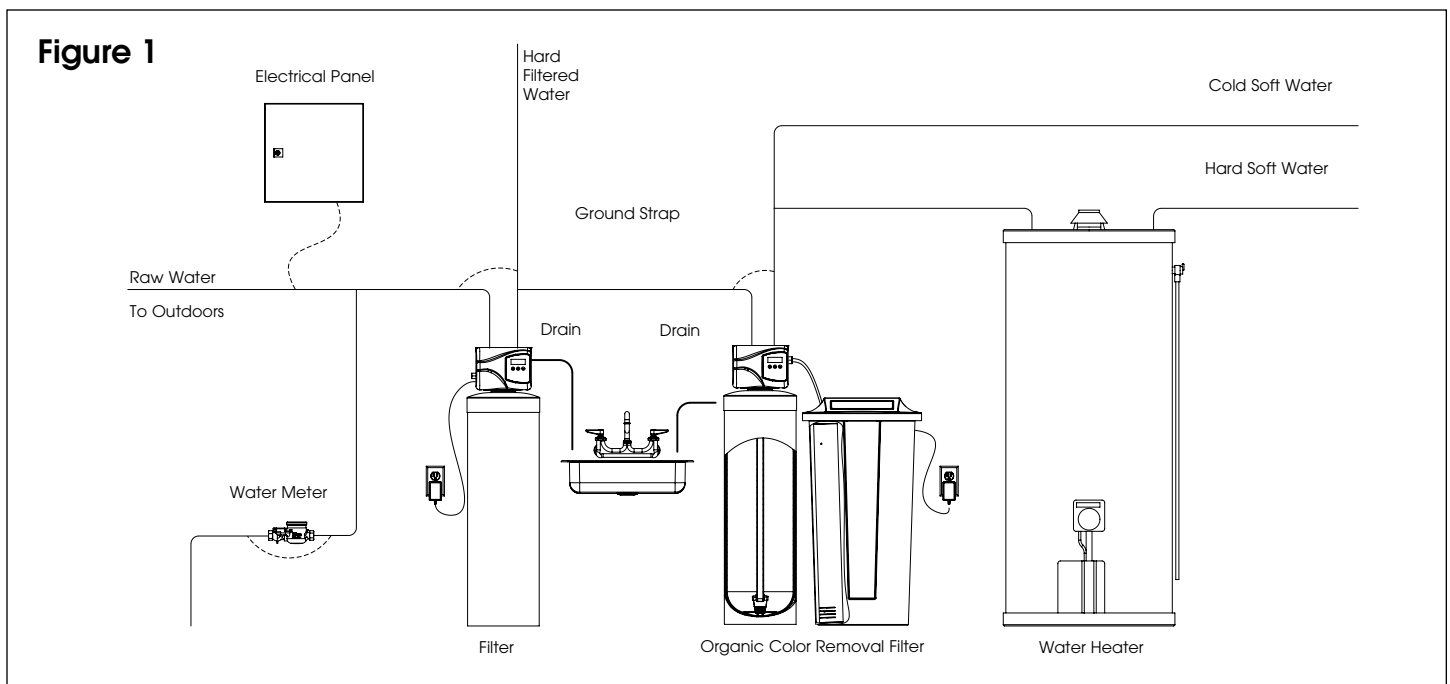
All government codes and regulations governing the installation of these devices must be observed.



If the ground from the electrical panel or breaker box to the water meter or underground copper pipe is tied to the copper water lines and these lines are cut during installation of the Noryl bypass valve and/or poly pipe, an approved grounding strap must be used between the two lines that have been cut in order to maintain continuity. The length of the grounding strap will depend upon the number of units being installed and/or the amount of copper pipe being replaced with plastic pipe. See Figure 1.

In all cases where metal pipe was originally used and is later interrupted by poly pipe or the Noryl bypass valve as in Figure 1 or by physical separation as in Figure 2, an approved ground clamp with no less than #6 copper conductor must be used for continuity, to maintain proper metallic pipe bonding.

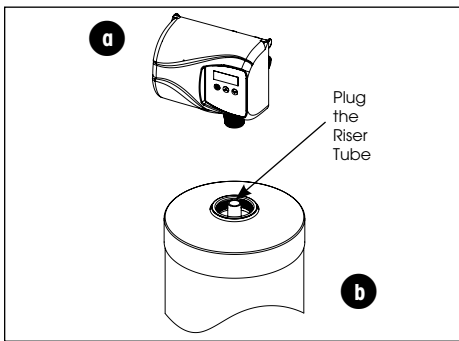
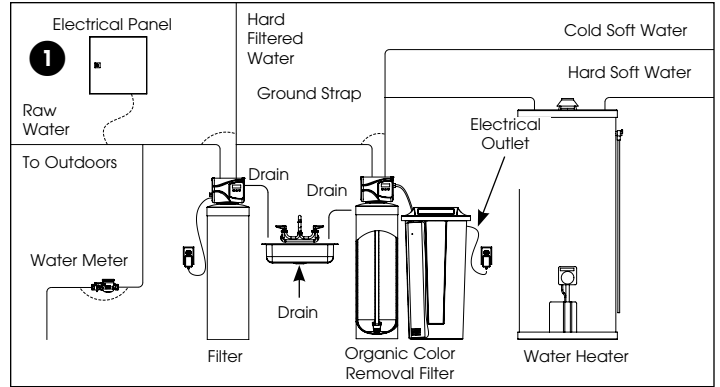
**NOTE:** Check your local electrical code for the correct clamp.



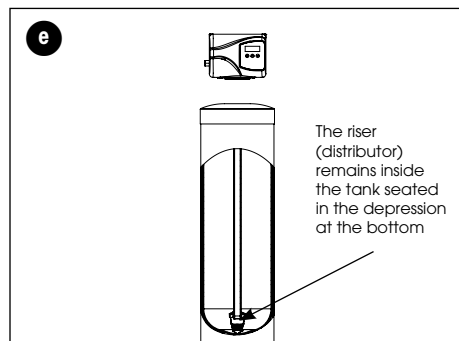


# Preparations

- Determine the best location** for your water softener, bearing in mind the location of your water supply lines, drain line and 120 volt AC electrical outlet. Subjecting the softener to freezing or temperatures above 43°C (110°F) will void the warranty.
- Media Installation (When Necessary).** Models including and higher than 1.5 CF of media are shipped with separate media in pails or boxes. Models lower than 1.5 CF of media come loaded with media and this step can be skipped for new installation.



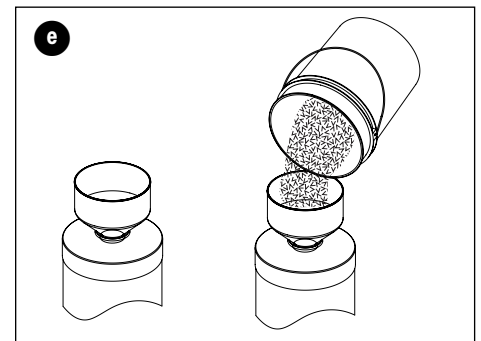
a) Remove the valve from the mineral tank.



b) Temporarily plug the open end of the riser tube to ensure that no resin or gravel falls down into the distribution.

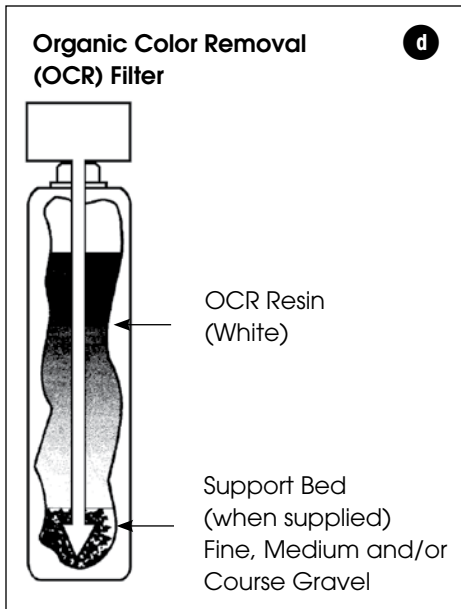
The riser (distributor) remains inside the tank seated in the depression at the bottom.

Plug tube with a tape.  
Remove after media is loaded.



Fill support bed first. (if supplied)

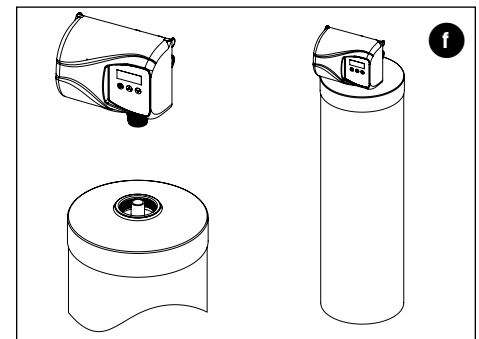
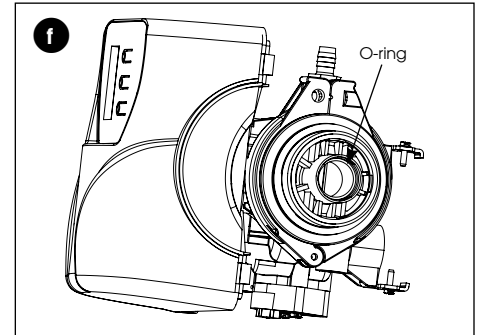
The media will not always spill down inside the tank and may need to be swept inside.



- c. Fill mineral tank one quarter full of water to protect distribution during gravel installation.
- d. Place the media into the tank in the order indicated above. Slowly and carefully add the gravel support bed and the softener or filtration media leveling each layer as it is placed into the tank.

- e. Fill support bed (if supplied) first. During the filling process, ensure the distributor tube stays on the bottom of the tank, reasonably centered. Remove the tape from the distributor once media is loaded. Whenever possible, fill the tank outdoors to avoid problems with dust. If filling indoors, a dust mask should be worn.

The large funnel (sold separately part # 43000) makes filling the tank easier and neater. (Or an empty 1 gallon or 4 liter container with the bottom cut out makes a good funnel.)



- f. Unplug the riser tube, carefully position the valve over it and turn the valve into the threads in the fiberglass tank, tightening securely into tank. Note: Ensure that the internal O-ring in the valve fits securely over the riser tube. Silicone grease (part # 92360) or other food grade lubricant may be applied to the O-ring to ease installation of the riser tube.

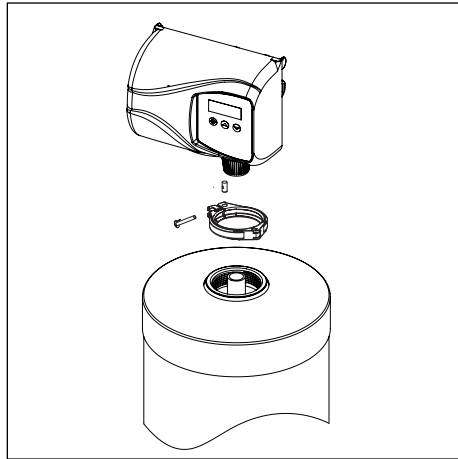
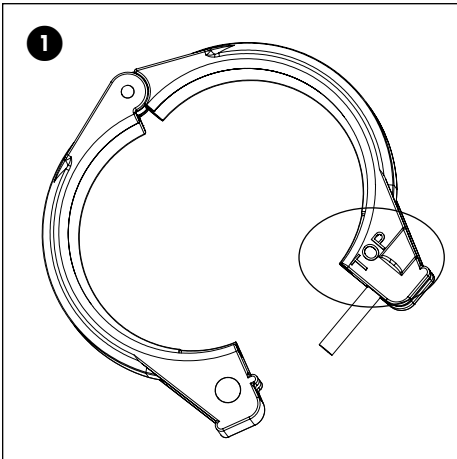


The filter is now charged with filter resin.

- g. It is recommended that the softener or filter tank now be completely filled with water (SLOWLY) to soak the resin or filtration media before startup. This will allow the media to absorb water as well as help displace any trapped air. This will reduce the chance of backwashing resin or filter media out of the tank during the initial backwash on startup.
3. Outside faucets used to water lawns and gardens should not supply softened water. A new water line is often required to be connected to supply hard water to the inlet of the water softener and to the outside faucets.

Cut the water line between where it enters the house and before any lines that branch off to feed the hot water heater or other fixtures in the house and as near the desired location of the water softener as possible. Install a tee fitting on the feed end of the cut pipe, and an elbow fitting on the other end. Install piping from the tee to the inlet of the water softener and from the elbow to the outlet of the softener. To sever the water lines which branch off to feed any outside faucets, cut the branch lines approximately two inches from the fitting on the main water line. Install an elbow on the end of the pipe nearest the outside faucet and a cap on the end connected to the existing water line. Install piping from the tee installed on the inlet line to the water softener to the elbow installed on the pipe to the outside faucet. Following this procedure will result in all lines in the house, with the exception of the outside faucets, but including the water heater and therefore the hot water lines, being supplied with soft water.

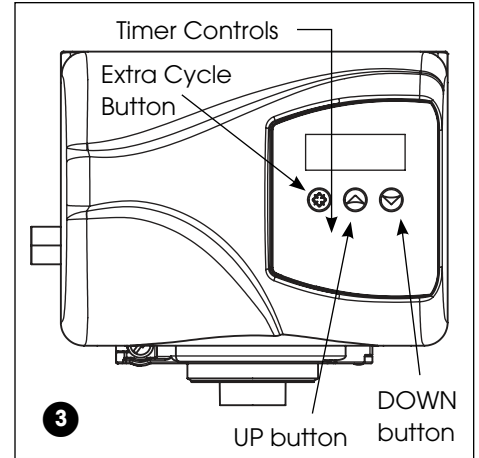
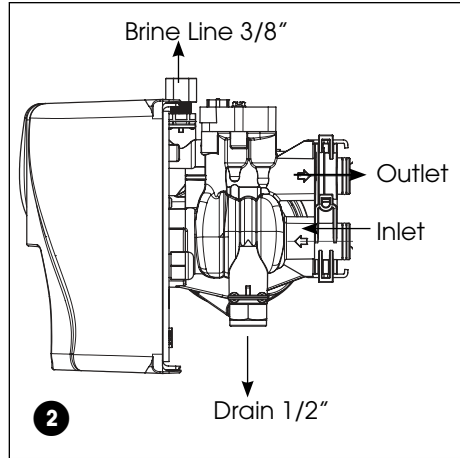
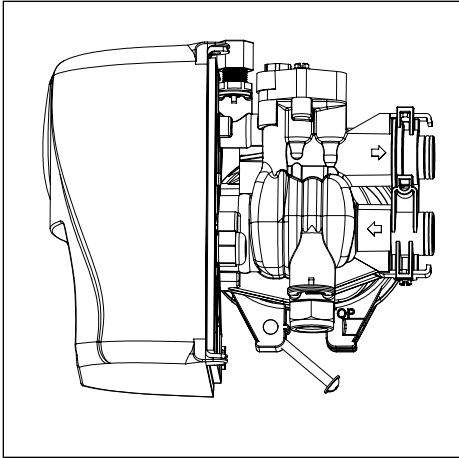
## Installation Steps:



1. Clamp Ring – The clamp ring connects the control valve to the tank and provide an easy way to disconnect tank during control valve servicing. Make sure that the clamp ring screw is tightened.



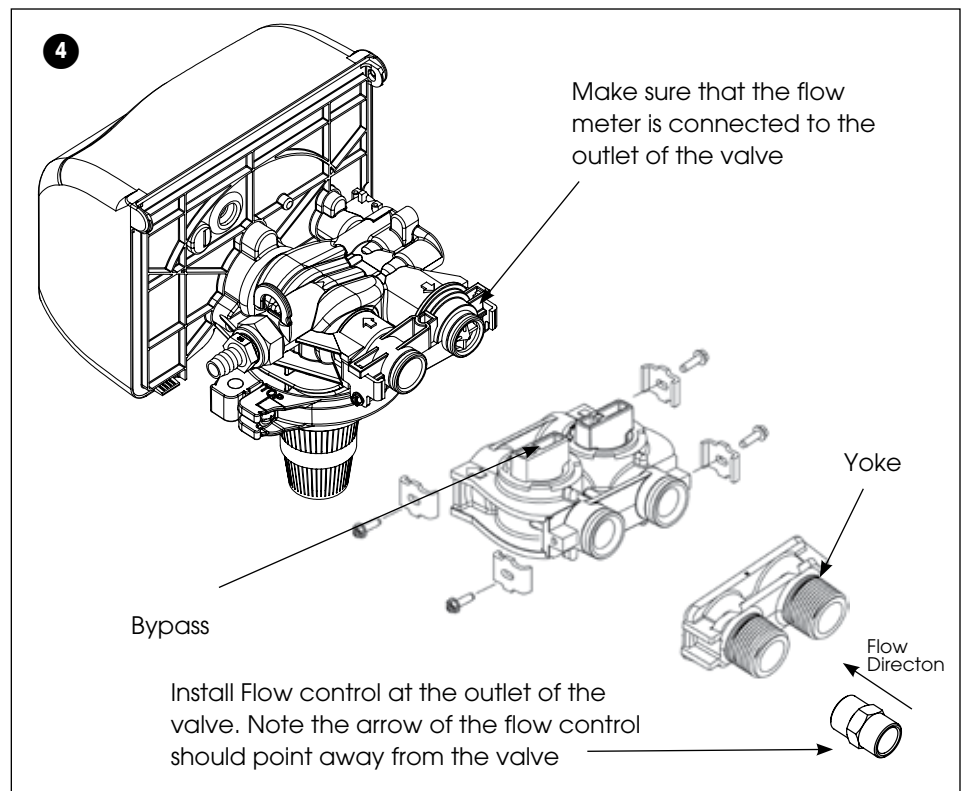
The "Clamp Ring" should secure the valve with the top of the flange facing up. Please note "top" on the clamp ring.



2. Familiarize yourself with the location of the inlet, outlet and drain on the control valve. Be very careful not to get the controls wet.

3. Familiarize yourself with the buttons on the timer control.

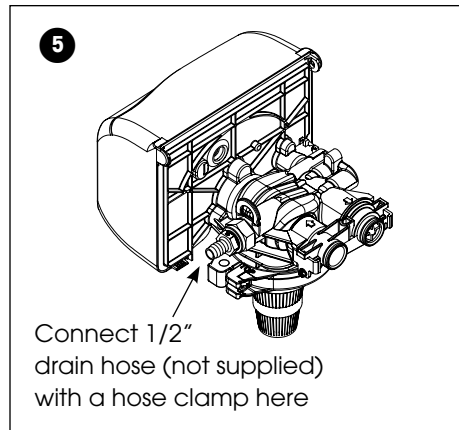
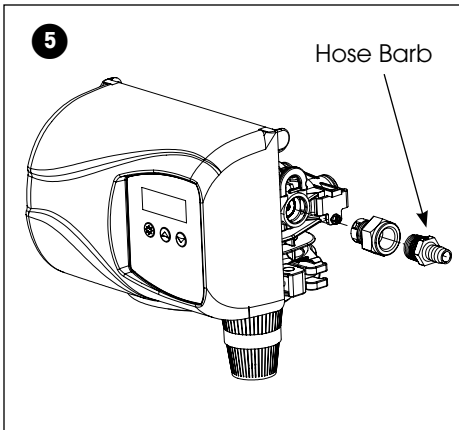
4. Attach the bypass valve to the control valve (and yoke if plastic bypass is used). Connect the inlet and outlet of the water softener to the plumbing in the house. The control valve must not be submitted to temperatures above 43°C (110°F). When sweat fittings are used, to avoid damaging the control valve, solder the threaded copper adapters to the copper pipe and then, using Teflon tape, screw the assembly into the bypass valve.



OCR Filters are supplied with brass service line flow controls, similar to the one shown in Figure 4. OCR15 size filters are supplied with #15177 flow control housing and 5.0 GPM flow button with 3/4" x 1/2" FNPT connections. OCR20 size filters are supplied with #15177 flow control housing and 7.0 GPM flow button with 3/4" x 1/2" FNPT connections. OCR30 size filters are supplied with #019480 flow control housing and 10.0 GPM flow button with 3/4" x 3/4" FNPT connections. The installation of this flow control ensure the recommended service flowrate of the OCR filter is not exceeded. If this flow control is not installed, some colour may bleed through at higher flow rates. Thread the flow control onto the threaded OUTLET of the bypass and yoke assembly. Only use teflon tape to seal the threads of the bypass and yoke assembly as pipe thread compound may attack the material. Ensure the flow control indicates the direction of flow.

**CAUTION!** Check service line flow control direction of flow arrow and only thread onto the service outlet line.

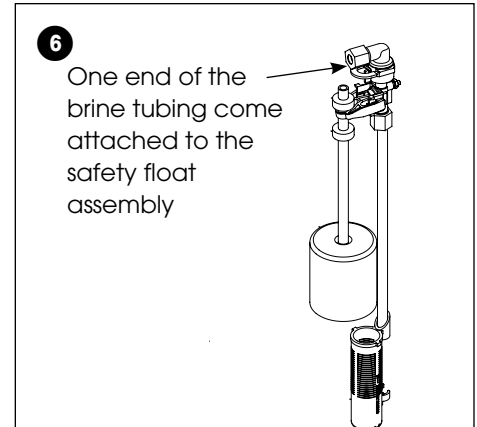
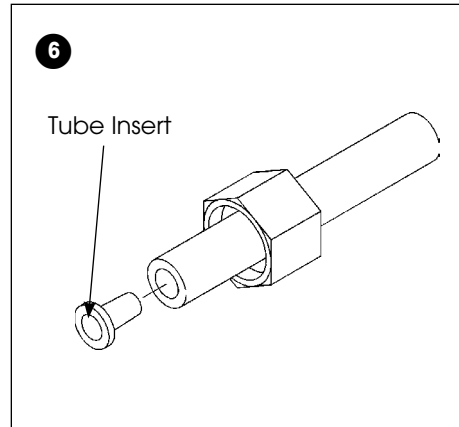
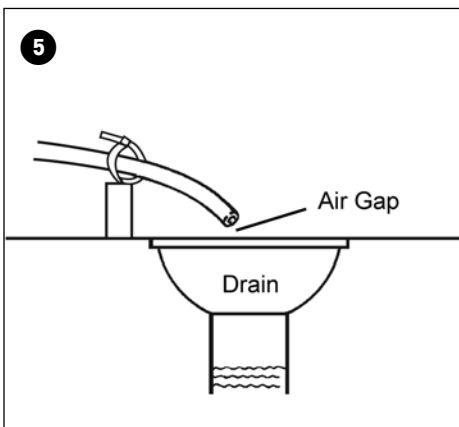
**Do not use pipe thread compound as it may attack the material in the valve body**



5. Drain Line Connection: Using teflon tape, screw the 1/2" hose barb into the drain port in the valve. Attach 1/2" drain hose to the hose barb and tighten securely with a hose clamp. Run the drain line to a floor drain or a laundry drain. Complete any necessary plumbing.

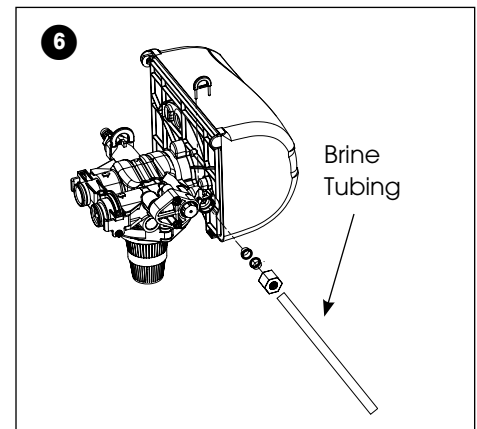
**! Waste connections or drain outlet shall be designed and constructed to provide for connection to the sanitary waste system through an air-gap of 2 pipe diameters or 1 inch (22 mm) whichever is larger.**

**! Never insert drain line directly into a drain, sewer line, or trap. Always allow an air gap between the drain line and the wastewater to prevent the possibility of sewage being back-siphoned into the conditioner.**

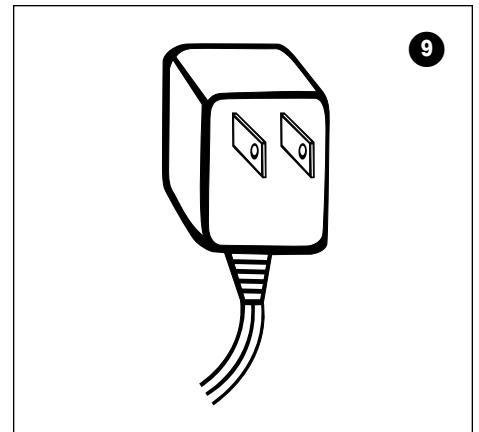
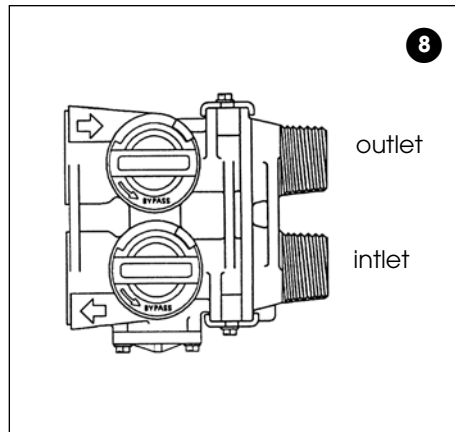
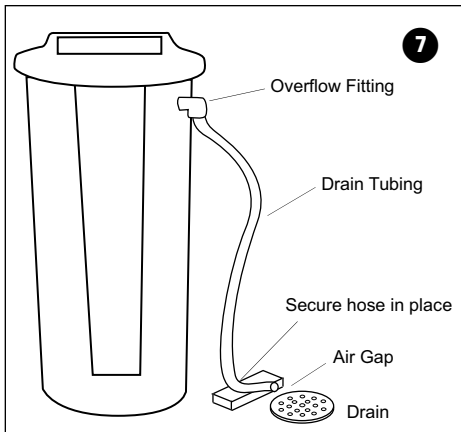


6. The brine line is connected to the safety float assembly of the brine tank. Pull the 3/8" brine line through the hole in the back of the brine tank. Connect the brine line to the fitting on the side of the valve using the nut and ferrule. Tighten snugly. Remove the nut from the brine line of the valve and push the other end of the brine tube inside it. Make sure that the brass insert is snugged inside the brine tubing. The brine tubing should pass through both plastic inserts of the black nut.

7. Overflow Connection (Optional): In the event of a malfunction, the brine TANK OVERFLOW will direct "overflow" to the drain instead of spilling on the floor. This fitting should be installed at the side of the cabinet or brine tank. To connect the overflow line, drill the hole on the side of the tank, 2 to 3 inches below from the top of the brine tank. Insert overflow fitting (sold separately part # 33006) into tank and tighten with plastic thumb nut and gasket as shown. Attach length of 1/2-inch (1.3-cm) I.D. tubing (not supplied) to fitting and run to drain. Do not elevate overflow line higher than overflow fitting.

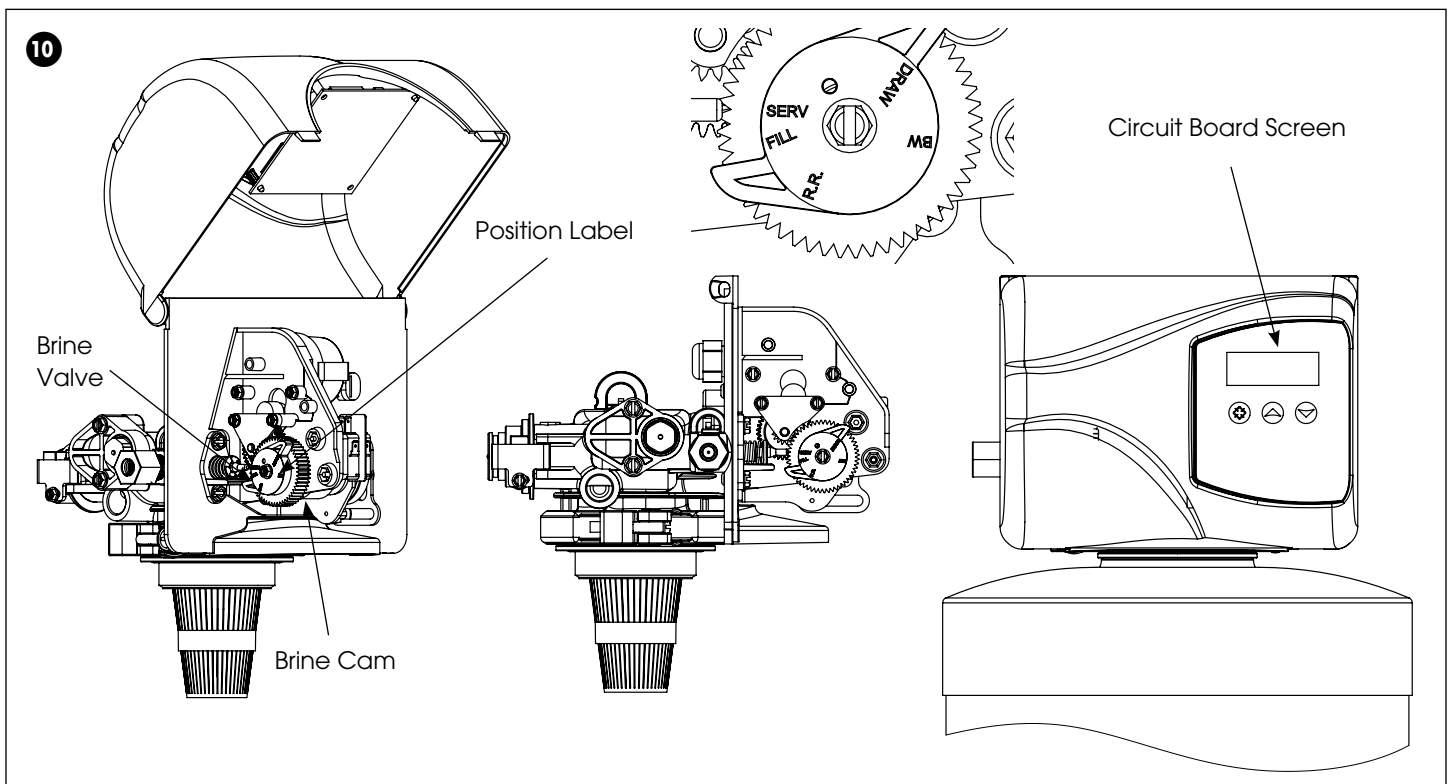


Do not tie into drain line of control unit. Overflow line must be a direct, separate line from overflow fitting to drain, sewer or tub. Allow an air gap as per drain line instructions.



8. Make sure the bypass valve is in the service position.

9. Plug the 24-volt transformer into a 120 VAC 60 Hz outlet.



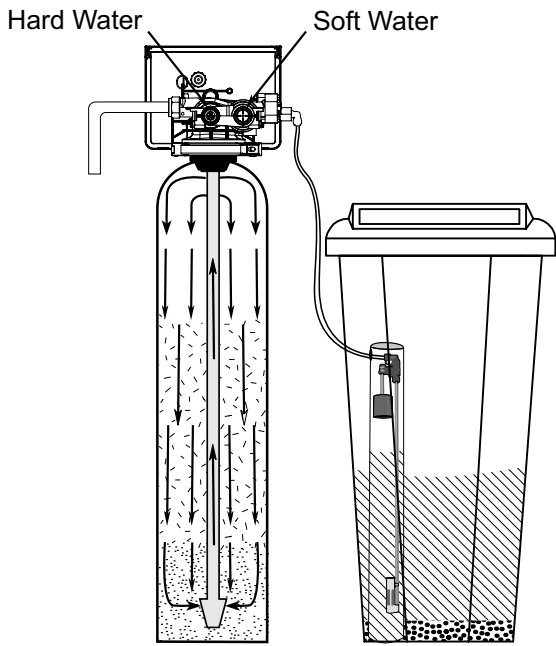
10. This valve has four positions: 1) Brine/Rinse 2) Backwash 3) Rapid Rinse and 4) Brine Refill. When the valve is in the Service position (⊗) must be pressed and held for 5 seconds before it activates. Press and hold the (⊗) pic for 5 seconds to advance the valve into the "1" Brine/Rinse position. Press once more to advance to the "2" position.

The valve position during regeneration and servicing can be checked in the circuit board screen as well the position label on the cam.

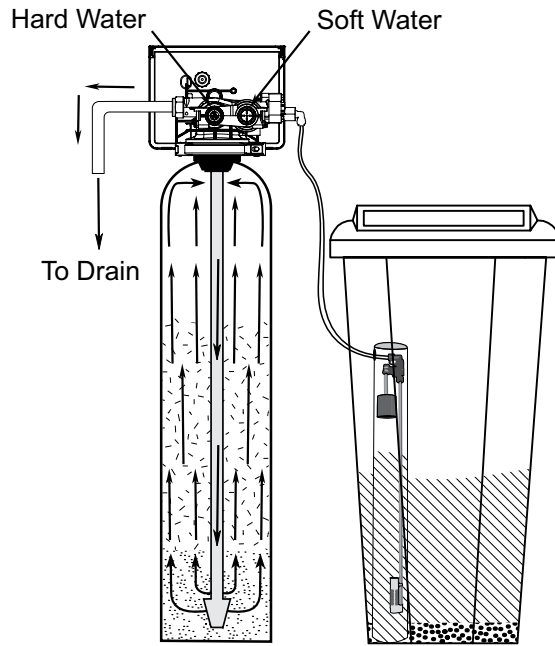
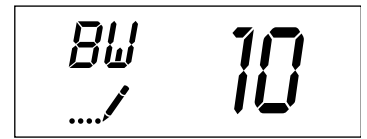
Cycle Step	Abbreviation
BD	Brine Draw
BW	Backwash
RR	Rapid Rinse
BF	Brine Refill
SV	Service

# Water Conditioner Flow Diagrams

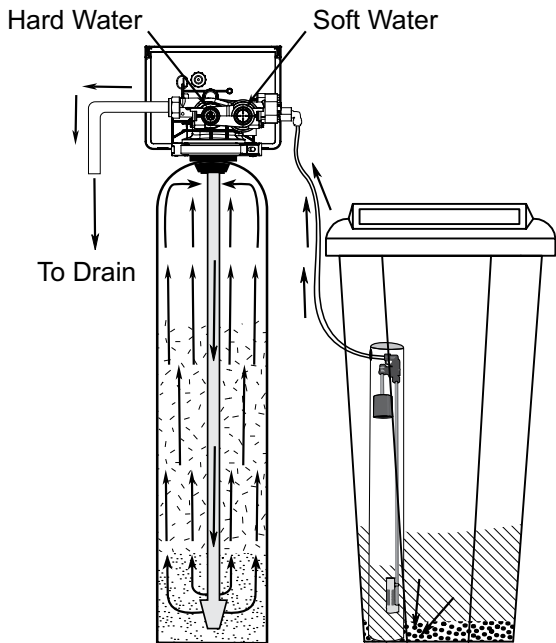
**Service Position**



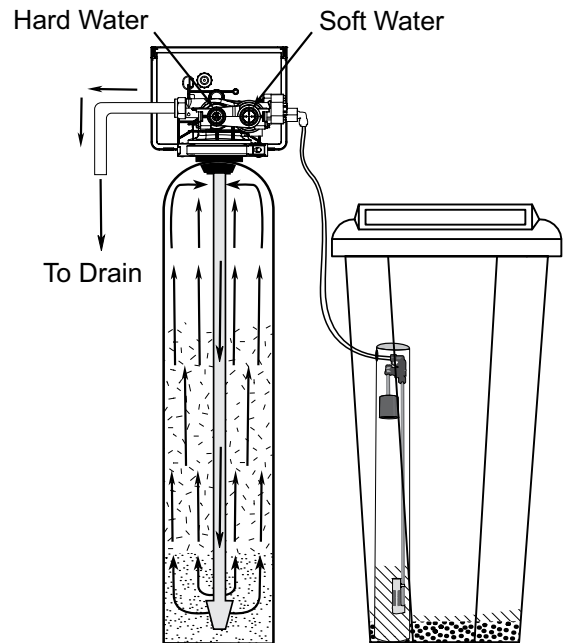
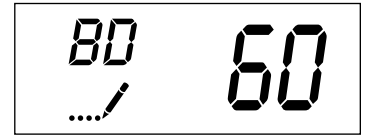
**Backwash Position**



**Brine Rinse Position**



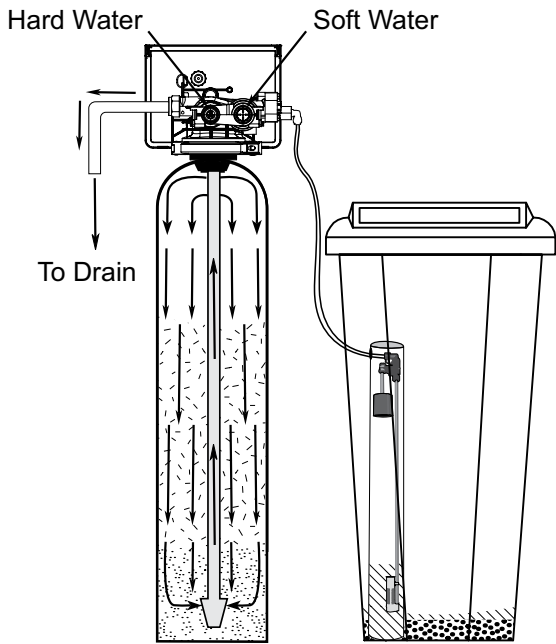
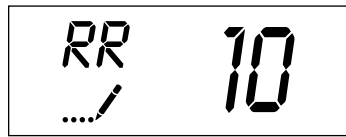
**Slow Rinse Position**



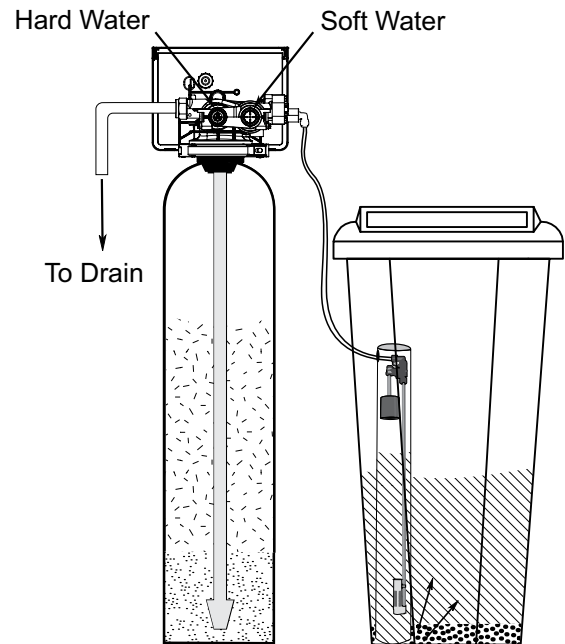
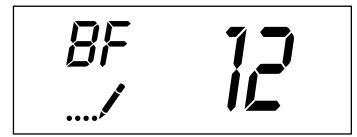
11. Press the extra cycle button to advance the valve to the "2" Backwash position. Slowly turn on the water supply and allow the unit to backwash until the air purges out of the tank and clears the system.

12. Press once more to advance to the "3" Rapid Rinse position and allow water to run to drain for 2 Minutes.


### Rapid Rinse Position




### Brine Refill Position





13. Press once more to advance to the "4" Brine refill position. Wait until the water level reaches 6" in the brine tank. Water can be added to the tank to speed up the filling but the valve should be in the Brine Refill position for a minimum of two minutes to purge the air out of the injector set.

14. Press  to advance the valve from the Brine Fill position through service to the "1" position Brine/Rinse position. Verify that water is being drawn from the tank. If not, repeat step 9.

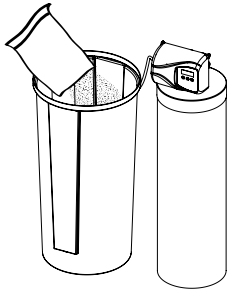
15. Press  button to advance the valve to the "2" Backwash position.

16. Press  to advance the valve to the "3" Rapid Rinse position.

17. Press  to advance the valve to the "4" Brine Fill position until there is 6" of water in the brine tank.

Press  to advance the valve back into the service position indicated by the  in upper left corner of the display.





18. Put 40 kgs of crystal water softener salt in the brine tank. The unit will automatically fill the water to the correct level when it regenerates.

19. Set time of the day in the control valve and program the user section of the control. Refer to control valve programming section in this manual.

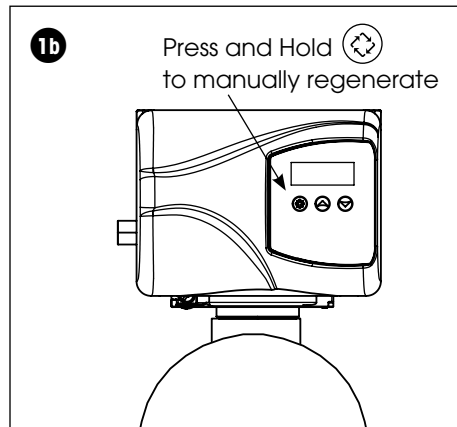
20. It is suggested that for the first couple service/regeneration cycles the colour of the water should be closely monitored. If colour begins to break through prior to the calculated amount set, the gallonage setting should be reduced accordingly.

**Optional Sanitization Procedure:** We recommend that all new water conditioners be disinfected as part of the startup.


## Water Softener Sanitization



1a. Pour entire packet of Sani-System Liquid Concentrate – Part # 50032 (24 packets) into the brine well. If no brine well is present, pour entire packet into bottom of brine tank when salt is nearly empty.



1b. Manually regenerate the softener according to the manufacturer's specifications.

Sanitization can also be achieved by the application of chlorine in the regeneration cycle of the conditioner. A liquid solution of 5.25% sodium hypochlorite (commonly referred to as household bleach) is recommended as a suitable disinfectant. Use only unscented products. For every cubic foot of resin in the softener, pour approximately two (2) tablespoons of sodium hypochlorite into the brine well tube. The brine tank refill step of regeneration should add the correct amount of water to the brine tank. If not, the water can be added manually now. Press and hold the  to begin a manual regeneration. Allow softener to complete the Brine/Rinse cycle, then let the manual regeneration continue until the brine tank is refilled again with the correct amount of water.

**NOTE: ALL STATE AND LOCAL GOVERNMENT CODES GOVERNING INSTALLATION OF THESE DEVICES MUST BE OBSERVED.**

# Programming Instructions

## Set Time of Day

Press and hold or buttons until display reads TD



Adjust the displayed time with or buttons. Press to resume normal operation

## Queuing a Regeneration

1. Press the button. The service icon will flash to indicate that a regeneration is queued.
2. To cancel a queued regeneration, press the button.

## Regenerating Immediately

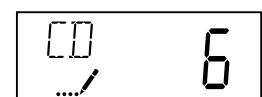
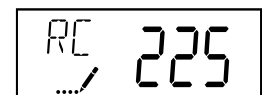
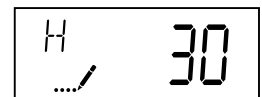
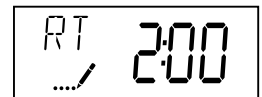
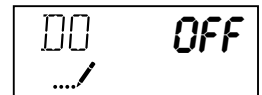
Press and hold the button for five seconds.

User Programming Mode Options		
Abbreviation	Parameter	Description
DO	Day Override	The timer's day override setting <b>THIS IS AN OPTION ONLY. PLEASE DO NOT ADJUST BEFORE CONSULTING AN AUTHORIZED DEALER.</b>
RT	Regeneration Time	The time of day that the system will regenerate (meter delayed, timeclock, and day-of-week systems)
H	Feed Water Hardness	The hardness of the inlet water - used to calculate system capacity for metered systems
RC	Reserve Capacity	The fixed reserve capacity
CD	Current Day	The current day of week

## User Programming Mode Steps

**Note:** Use and Down button to adjust values for parameters

1. Press the and buttons for five seconds while in service, and the time of day is NOT set to 12:01 PM.
2. Use this display to adjust the Day Override. Adjust this to OFF parameter for softeners. It should be set to 3 if days between regeneration is calculated to be more than 3 days.
3. Press the button. Use this display to adjust the Regeneration Time.
4. Press the button. Use this display to adjust the Feed Water.



Tannin concentration of water in ppm. The capacity should also be calculated separately in order to determine the days between regeneration. If the days between regeneration is calculated more than 3 than day Override (DO) should be set to 3.

The frequency of automatic regeneration can be determined as follows

**Capacity of your OCR Filter (See Specifications Page 1)**

- = ppm of tannins in water sample.
- = No. of Gals. between regeneration
- Reserve (No. of people x 75 gals.)
- = No. of Gals. at which to set the program wheel

**IMPORTANT NOTE:** Due to the nature of the interaction between the colour producing organic molecules and the resin bed in your OCR filter, we recommend OCR filters be regenerated a minimum of every 3 days. If the calculated capacity allows a service run longer than 3 days (on average) between regenerations, the set gallonage should be reduced accordingly. This is to extend the life of the resin bed in your OCR filter.

5. Press the button. Use this display to adjust the Fixed Reserve Capacity. This option setting is identified by "RC" in the upper left-hand corner of the screen. 75 gallons X # of people in the house = RC
6. Press the button. Use this display to set the Current Day of the Week. This option setting is identified by "CD" in the upper left hand corner of the screen. This option is only available after the Day of the Week control is set to 'ON' in the Master Programming. Refer to the valve manual for details.
7. Press the button to end User Programming Mode.

### Regeneration Cycle Step Programming

1. Brine Rinse	60 minutes	
2. Backwash	10 minutes	
3. Rapid Rinse	10 minutes	
4. Brine Refill	20 minutes	OCR15-850SXT
	27 minutes	OCR20-850SXT
	20 minutes	OCR30-850SXT
	20 minutes	OCR15-860SXT
	27 minutes	OCR20-860SXT
	20 minutes	OCR30-860SXT

In the second level mode, the control valve has been programmed as per the following main parameters related to regeneration. For more information on master programming manual, read control valve manual part # 54802

The valve has been pre-programmed with factory settings as shown in the chart to the right:

### Sizing Example

Suppose the raw water has the following amount of organic substances:  
 Sulfates – 350 mg/l  
 +Alkalinity - 500mg/l  
 +Tannin – 3.0 mg/l  
 Total of Sulfates and Alkalinity  
 = 850 ppm divided by 17.1 to convert to grains per gallon = 50gpg  
 Total of grains per gallon to deal with  
 = 50gpg (Sulfates and Alkalinity) + 3.0gpg (Tannin) = 53gpg

### Given an example of 4 people in a family, sizing would be as follows:

4 people X 60 gallons per day per person X 53 grains per gallon = 12720 grains  
 In a three day period, the grains to be removed will be = 12720 X 3 or 12720 X 3 / 17.1 (to convert in ppm) = 2231 ppm  
 Utilizing your resin; 2000 ppm capacity per cubic foot.  
 Amount of resin required to deal with 2231 ppm of organic substances = 1.11 Cubic feet.  
 So we require a unit to have at least 1.5 cubic foot of resin.  
 The capacity of 1.5 cubic of resin = 2000 X 1.5 = 3000 ppm or 3000 X 17.1 grains per gallon  
 Total gallons of water capacity of the resin = 3000 X 17.1 / 53gpg = 967 gallons  
 One day water reserve for four people = 4 X 60 = 240  
 The unit needs to be set at 967-240 = 727 gallons between regeneration.

## Diagnostic Programming Mode

### Diagnostic Programming Mode Options

Abbreviation	Parameter	Description
FR	Flow Rate	Displays the current outlet flow rate
PF	Peak Flow Rate	Displays the highest flow rate measured since the last regeneration
HR	Hours in Service	Displays the total hours that the unit has been in service
VU	Volume Used	Displays the total volume of water treated by the unit
RC	Reserve Capacity	Displays the system's reserve capacity calculated from the system capacity, feed water hardness, and safety factor
SV	Software Version	Displays the software version installed on the controller

#### NOTES:

Some items may not be shown depending on timer configuration.

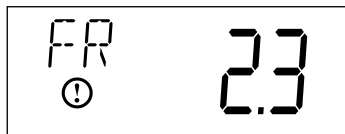
The timer will exit Diagnostic Mode after 60 seconds if no buttons are pressed.


Press the Extra Cycle button to exit Diagnostic Mode at any time.

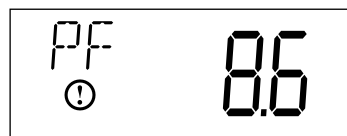
### Diagnostic Programming Mode Steps


1. Press the  and  buttons for five seconds while in service.

2. Use this display to view the current Flow Rate. This option setting is identified by "FR" in the upper left hand corner of the screen.




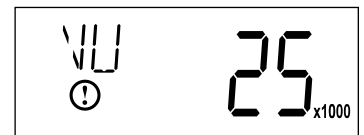
3. Press . Use this display to view the Peak Flow Rate since the last regeneration cycle. This option setting is identified by "PF" in the upper left hand corner of the screen.




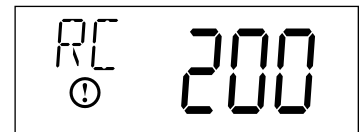
4. Press . Use this display to view the Hours in Service since the last regeneration cycle. This option setting is identified by "HR" in the upper left hand corner of the screen.




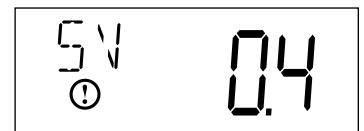
5. Press . Use this display to view the Volume Used since the last regeneration cycle. This option setting is identified by "VU" in the upper left hand corner of the screen.



6. Press . Use this display to view the Reserve Capacity. This option setting is identified by "RC" in the upper left hand corner of the screen.



7. Press . Use this display to view the Software Version. This option setting is identified by "SV" in the upper left hand corner of the screen.



8. Press  to end Diagnostic Programming Mode.

# Controller Behavior

## Control Operation During Programming

The control will only enter the Program Mode with the valve in Service. While in the Program Mode, the control will continue to operate normally, monitoring water usage and keeping all displays up to date. Control programming is stored in memory permanently, eliminating the need for battery back-up power.

## Meter Immediate Control

A meter immediate control measures water usage and regenerates the system as soon as the calculated system capacity is depleted. The control calculates the system capacity by dividing the unit capacity (typically expressed in grains/unit volume) by the feedwater hardness and subtracting the reserve. Meter Immediate systems generally do not use a reserve volume. However, in twin tank systems with soft-water regeneration, the reserve capacity should be set to the volume of water used during regeneration to prevent hard water break-through. A Meter Immediate control will also start a regeneration cycle at the programmed regeneration time if a number of days equal to the regeneration day override pass before water usage depletes the calculated system capacity.

## Meter Delayed Control

A Meter Delayed Control measures water usage and regenerates the system at the programmed regeneration time after the calculated system capacity is depleted. As with Meter Immediate systems, the control calculates the system capacity by dividing the unit capacity by the feedwater hardness and subtracting the reserve. The reserve should be set to insure that the system delivers treated water between the time the system capacity is depleted and the actual regeneration time. A Meter Delayed control will also start a regeneration cycle at the programmed regeneration time if a number of days equal to the regeneration day override pass before water usage depletes the calculated system capacity.

## Time Clock Delayed Control

A Time Clock Delayed Control regenerates the system on a timed interval. The control will initiate a regeneration cycle at the programmed regeneration time when the number of days since the last regeneration equals the regeneration day override value.

## Day of the Week Control

This control regenerates the system on a weekly schedule. The schedule is defined in Master Programming by setting each day to either "off" or "on." The control will initiate a regeneration cycle on days that have been set to "on" at the specified regeneration time.

## Control Operation During a Power Failure

The SXT includes integral power backup. In the event of power failure, the control shifts into a power-saving mode. The control stops monitoring water usage, and the display and motor shut down, but it continues to keep track of the time and day for a minimum of 48 hours.

The system configuration settings are stored in a non-volatile memory and are stored indefinitely with or without line power. The Time of Day flashes when there has been a power failure. Press any button to stop the Time of Day from flashing.

If power fails while the unit is in regeneration, the control will save the current valve position before it shuts down. When power is restored, the control will resume the regeneration cycle from the point where power failed. Note that if power fails during a regeneration cycle, the valve will remain in its current position until power is restored. The valve system should include all required safety components to prevent overflows resulting from a power failure during regeneration.

The control will not start a new regeneration cycle without line power. If the valve misses a scheduled regeneration due to a power failure, it will queue a regeneration. Once power is restored, the control will initiate a regeneration cycle the next time that the Time of Day equals the programmed regeneration time. Typically, this means that the valve will regenerate one day after it was originally scheduled. If the treated water output is important and power interruptions are expected, the system should be setup with a sufficient reserve capacity to compensate for regeneration delays.

# During Regeneration

## Automatic Bypass

The regeneration cycle lasts approximately 2 hours, after which soft water service will be restored. During regeneration, hard water is automatically bypassed for use in the household. Hot water should be used as little as possible during this time to prevent hard water from filling the water heater.

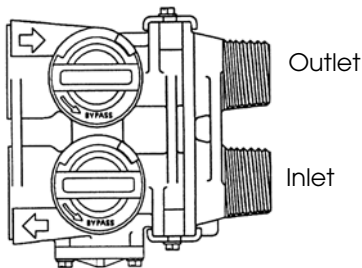
**IMPORTANT: This is why the automatic regeneration is set for sometime during the night and manual regenerations should be performed when little or no water will be used in the household.**

## New Sounds

You may notice new sounds as your water softener operates. The regeneration cycle lasts approximately 2-1/2 hours. During this time, you may hear water running intermittently to the drain.

# Water Bypass

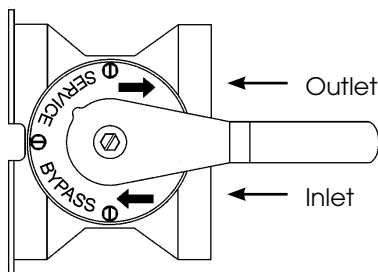
Figure 5A



## Manual Bypass (Figure 5A)

In case of an emergency such as an overflowing brine tank, you can isolate your water softener from the water supply using the bypass valve located at the back of the control. In normal operation the bypass is open with the ON/OFF knobs in line with the INLET and OUTLET pipes. To isolate the softener, simply rotate the knobs clockwise (as indicated by the word BYPASS and arrow) until they lock. You can use your water related fixtures and appliances as the water supply is bypassing the softener. However, the water you use will be hard. To resume soft water service, open the bypass valve by rotating the knobs counter-clockwise.

Figure 5B



## Stainless Steel Bypass (Figure 5B)

In normal operation the bypass lever is aligned with the inlet/outlet with the pointer on SERVICE. To isolate the softener or filter, rotate lever counter clockwise until it stops and pointer indicates unit is in bypass.

You can use your water related fixtures and appliances as the water supply is bypassing the softener and filter. However, the water you use will be hard or untreated. To resume treated water service, open the bypass valve by reversing the rotation of the lever.

# Maintenance Instructions

## Checking the Salt Level

Check the salt level monthly. Remove the lid from the cabinet or brine tank, make sure salt level is always above the brine level

**NOTE:** You should not be able to see water

## Adding Salt

Use only clean salt labeled for water conditioner use, such as crystal, pellet, nugget, button or solar.

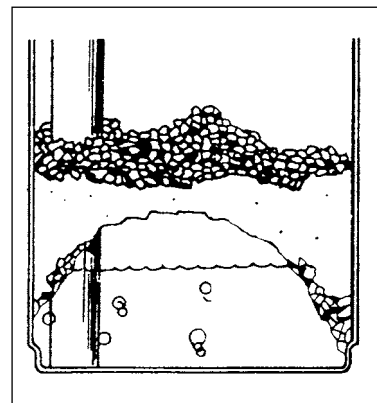
The use of rock salt is discouraged because it contains insoluble silt and sand which build up in the brine tank and can cause problems with the system's operation.

Add the salt directly to the tank, filling no higher than the top of the brine well.

## Bridging

Humidity or the wrong type of salt may create a cavity between the water and the salt. This action, known as "bridging", prevents the brine solution from being made, leading to your water supply being hard.

If you suspect salt bridging, carefully pound on the outside of the plastic brine tank or pour some warm water over the salt to break up the bridge. This should always be followed up by allowing the unit to use up any remaining salt and then thoroughly cleaning out the brine tank. Allow four hours to produce a brine solution, then manually regenerate the softener.



**CAUTION!** Liquid brine will irritate eyes, skin and open wounds - gently wash exposed area with fresh water. Keep children away from your water conditioner.

## Resin Cleaner

An approved resin cleaner must be used on a regular basis if your water supply contains iron. The amount of resin cleaner and frequency of use is determined by the quantity of iron in your water (consult your local representative or follow the directions on the resin cleaner package).

Iron Fouling Recommended Product: PRO RUST OUT – Clean iron from resin media bed with a reducing agent such as sodium bisulfite or sodium hydrosulfite by adding it to the brine tank down the brine well and allowing time to mix. Manually regenerate softener (see instructions on bottle on cleaning of water softeners).

Calcium Carbonate Recommended Product: PRO Res-Care – Clean calcium carbonate from resin media with a mild acid solution such as phosphoric acid. Do this by adding cleaning product to the brine tank via the brine well and then manually regenerate. Once complete, manually regenerate again with salt brine (see instructions on bottle on cleaning of water softeners).

## Care of Your Softener

To retain the attractive appearance of your new water softener, clean occasionally with a mild soap solution. Do not use abrasive cleaners, ammonia or solvents. Never subject your softener to freezing or to temperatures above 43°C (110°F).

## Servicing Components.

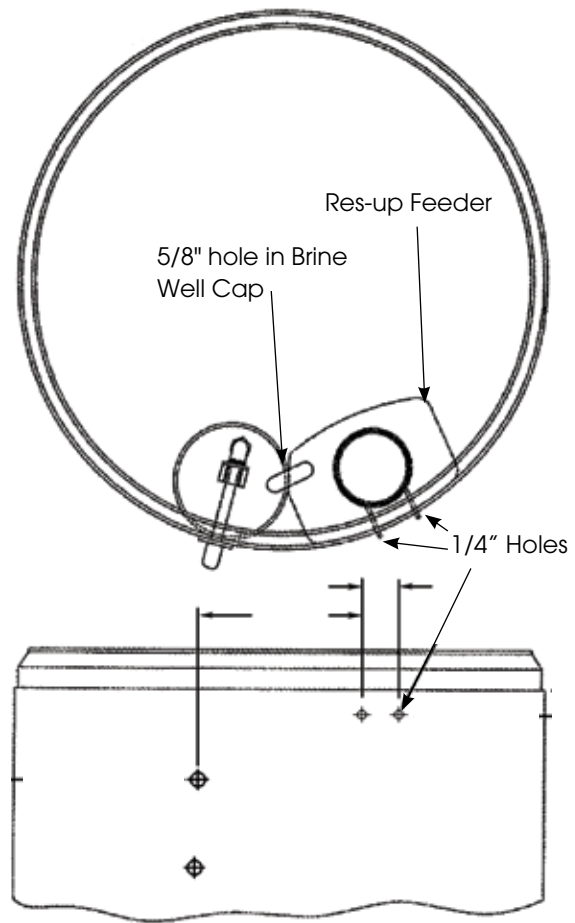
- The injector assembly should be cleaned or replaced every year depending on the inlet water quality and water usage.
- The seals and spacer cartridge should be inspected/cleaned or replaced every year depending on the inlet water quality and water usage.

Please refer to the servicing section of this manual for step by step procedure.

Not following the above will void all warranty on the control valve.

# Res-Up<sup>®</sup> Feeder Installation Instructions

1. Remove top cover, fill the Res-Up<sup>®</sup> Feeder (plastic container) to the top with water so that the wick retaining clip, tube and wick are wetted, allow to soak for 15 minutes or more.
2. Empty water and pull tube and wick through Feeder until slack is removed from inside. The outlet end tube and wick must be below the bottom level of the Res-Up<sup>®</sup> Feeder.
3. Drill two 1/4" holes in brine tank as shown.
4. Drill a 5/8" hole in the brine well cap.
5. Clip mounting bracket over feeder with "hooks" pointed up. Insert end of tube in the brine well cap and mounting bracket with the 1/4" holes in the brine tank, rotating feeder downward into position as shown in Figure 1.
6. Fill Feeder with Res-Up<sup>®</sup> Cleaner to "Fill Line" on label.
7. Replace cover on Feeder and automatic feeding will occur in a few hours.



Res-Up Feeders attach to your brine tank and automatically dispense the Res-Up cleaner into the brine solution where it cleans the resin during the regeneration cycle.

The feeder hooks onto the tube inside your brine tank and you just pour some chemical in it and your water softener should last significantly longer. A res-up feeder is essential if your raw water contains measurable amounts of iron.

## Res-up Feeder Bottle (Chemical sold Separately)

The 12 cc feeder (Part # 33010) is for softeners up to 64,000 grains (2 ft<sup>3</sup> or CF of resin) .

The 30 cc feeder (Part # 33018) is for larger softeners over 64,000 grains.

## Pro-Res Care Chemicals

Item #45147 Pro-ResCare - Gallon

Item #45148 Pro-ResCare - Quart

# Servicing 6200 Valve

## Before Servicing

1. Turn off water supply to conditioner :
  - a. If the conditioner installation has a 3 valve bypass system first open the valve in the bypass line, then close the valves at the conditioner inlet & outlet.
  - b. If the conditioner has an integral bypass valve, put it in the bypass position.
  - c. If there is only a shut-off valve near the conditioner inlet, close it.
2. Relieve water pressure in the conditioner by stepping the control into the backwash position momentarily. Return the control to the In Service position. (Refer to programming instructions)
3. Unplug Electrical Cord from outlet.
4. Disconnect brine tube and drain line connections.



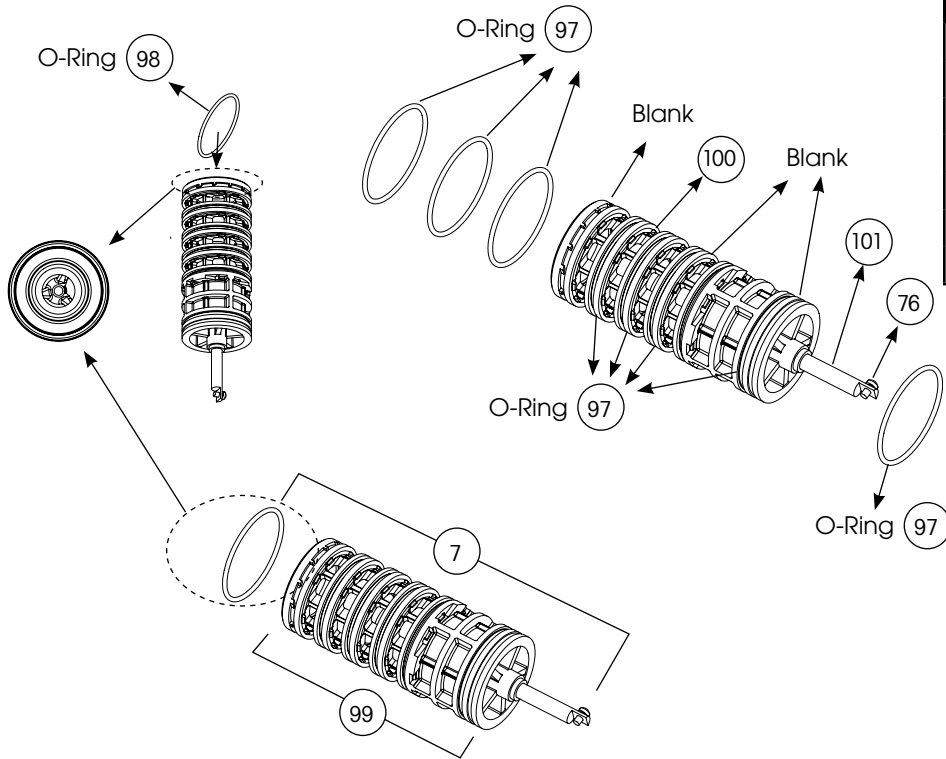
**WARNING! ELECTRICAL SHOCK HAZARD! UNPLUG THE UNIT BEFORE REMOVING THE COVER OR ACCESSING ANY INTERNAL CONTROL PARTS.**



**CAUTION! Disassembly while under pressure can result in flooding. Always follow these steps prior to servicing the valve.**

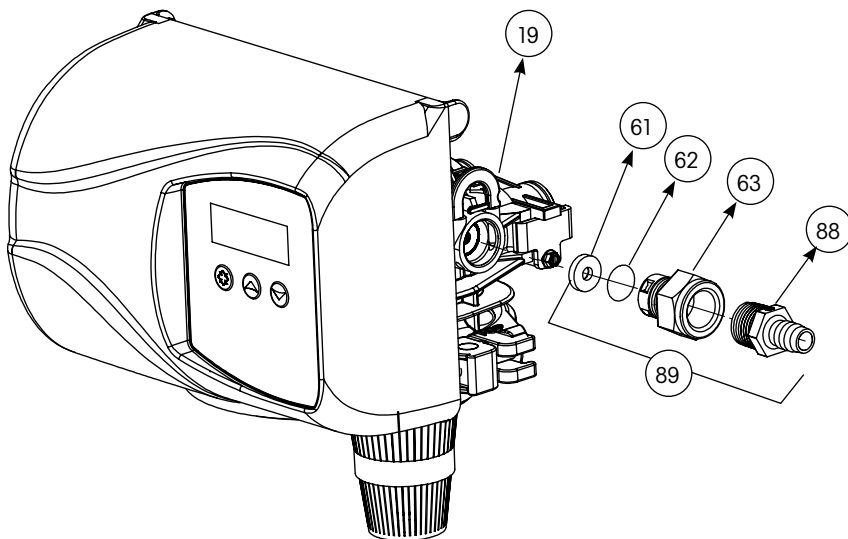


## 6200 Service Kits – Piston and Cartridge Assembly



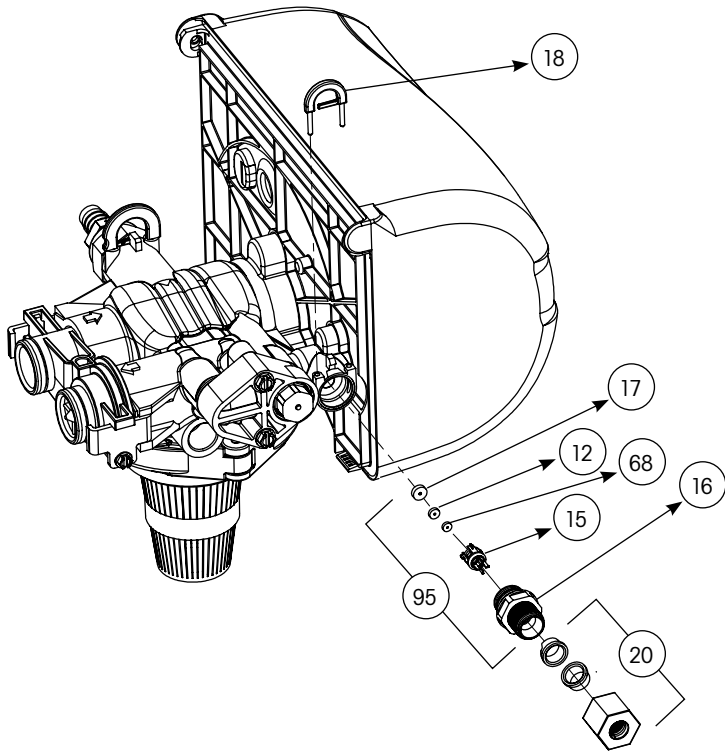
Dwg #	Part #	Part Description
7	61799-01	Cartridge Assembly with Piston
76	11335	Screw, 4-40X3/16
97	16394	O-Ring, 029
98	13287	O-Ring, 123
99	61799	Seal and Spacer Cartridge
100	42920	Piston
101	19984	Piston Rod

## 6200 Service Kits – Drain Line Flow Control Kits



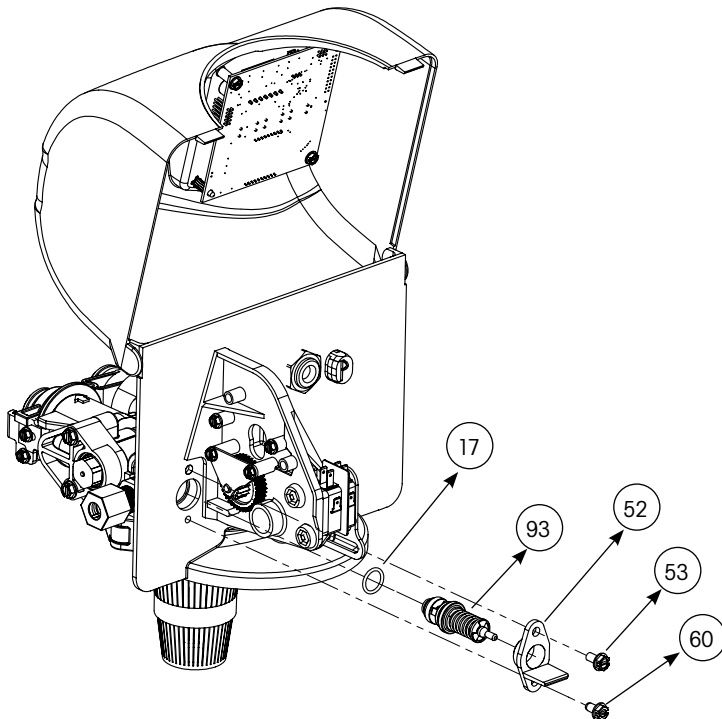
Dwg #	Part #	Part Description
61	12085	Washer, Flow, 1.2 GPM
	12086	Washer, Flow, 1.50 GPM
	12087	Washer, Flow, 2.0 GPM
	12088	Washer, Flow, 2.4 GPM
	12089	Washer, Flow, 3.0 GPM
	12090	Washer, Flow, 3.5 GPM
	12091	Washer, Flow, 4.0 GPM
	12092	Washer, Flow, 5.0 GPM
62	11183	O-Ring, 017
63	11385-01	Adapter, Fitting, DLFC
88	13308	Hose Barb, Straight, DLFC, 1/2"
	12388	Hose Barb, 90 Deg, DLFC, 1/2"
89	60705-XX	DLFC Assembly, XX GPM For < 7 GPM
	60706-XX	DLFC Assembly, XX GPM For > 7 GPM
19	18312	Retainer, Drain

## 6200 Service Kits – Brine Line Flow Control Kits



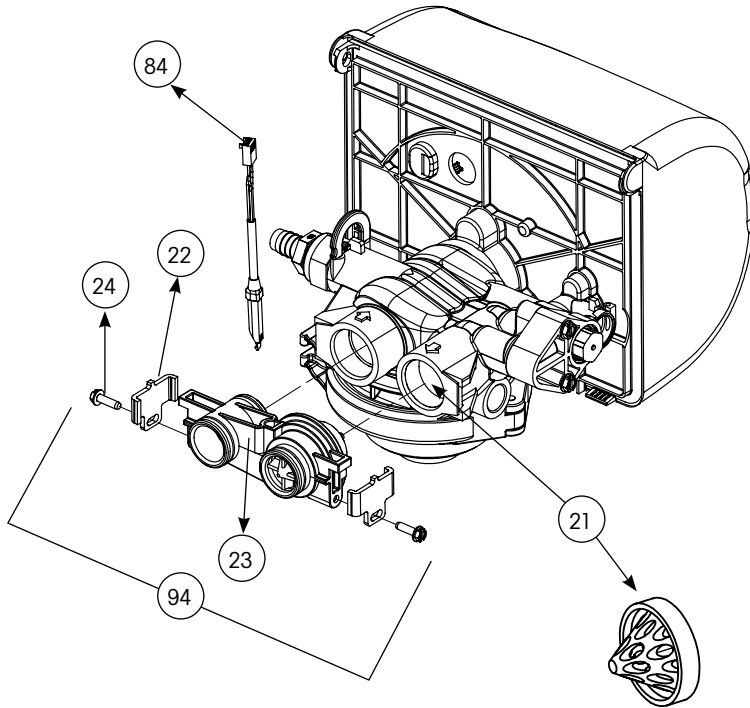
Dwg #	Part #	Part Description
17	13302	O-Ring, 014
12	10141	O-Ring, 010
68	17307	Washer, Flow, 0.125 GPM
	12094	Washer, Flow, 0.25 GPM
	12095	Washer, Flow, 0.5 GPM
	12097	Washer, Flow, 1.0 GPM
15	19334	Retainer, Flow Washer, BLFC
16	19335	Fitting, BLFC, 3/8"
20	19625	Nut, Assembly, 3/8" Plastic
95	60422-XX	BLFC Assembly, Specify XX=GPM

## 6200 Service Kits – Brine Valve

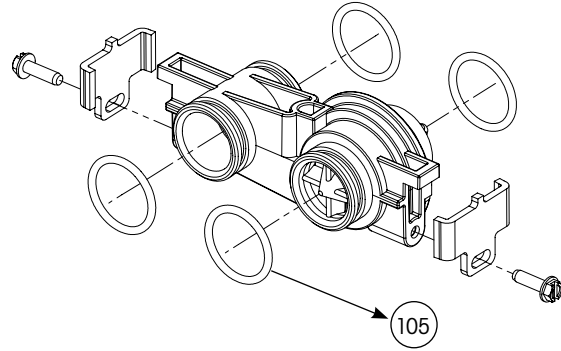


Dwg #	Part #	Part Description
17	13302	O-Ring, 014
93	60032	Brine Valve Assembly
52	40055-06	Bracket, Plastic
53	15137	Screw, Hex Washer Head
60	40134	Screw, Self Tap

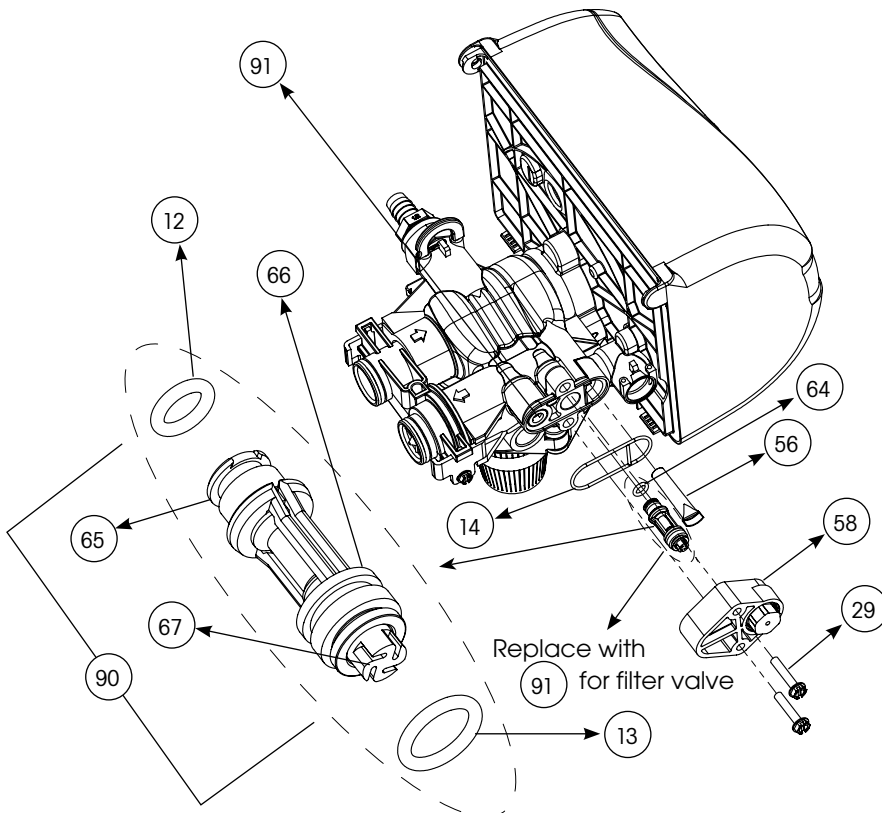
## 6200 Service Kits – Flow Meter



Dwg #	Part #	Part Description
84	19791-01	Cable, Meter
22	19569	Clip, Flow Meter
24	13314	Screw, Slot Hex, 8-18 X0.6
23	19797	Meter, Assy, 3/4" Dual Port
105	13305	O-Ring, -119
21	14613	Flow Straightener
94	60626	Meter Only, Electronic Turbine

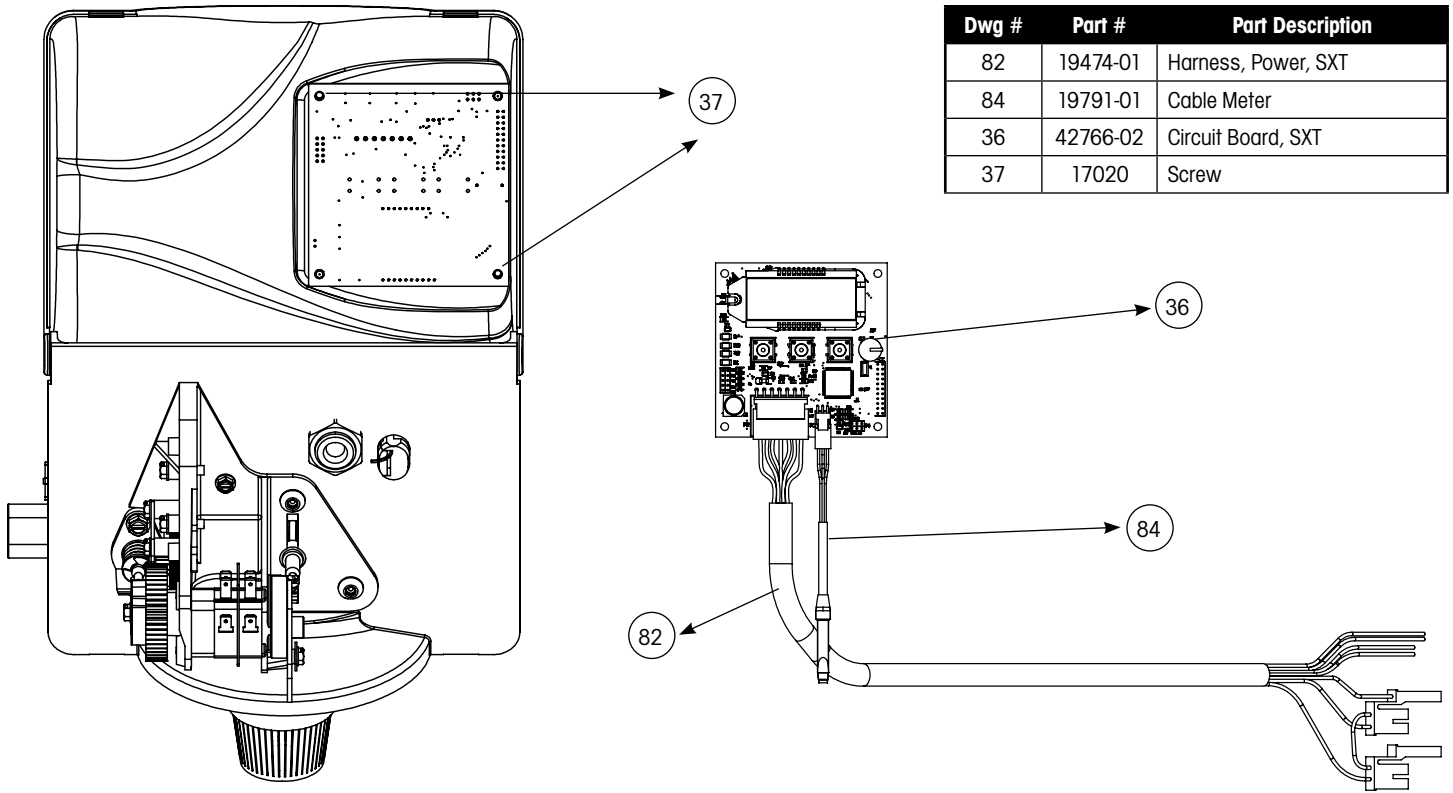


## 6200 Service Kits – Injector Assembly

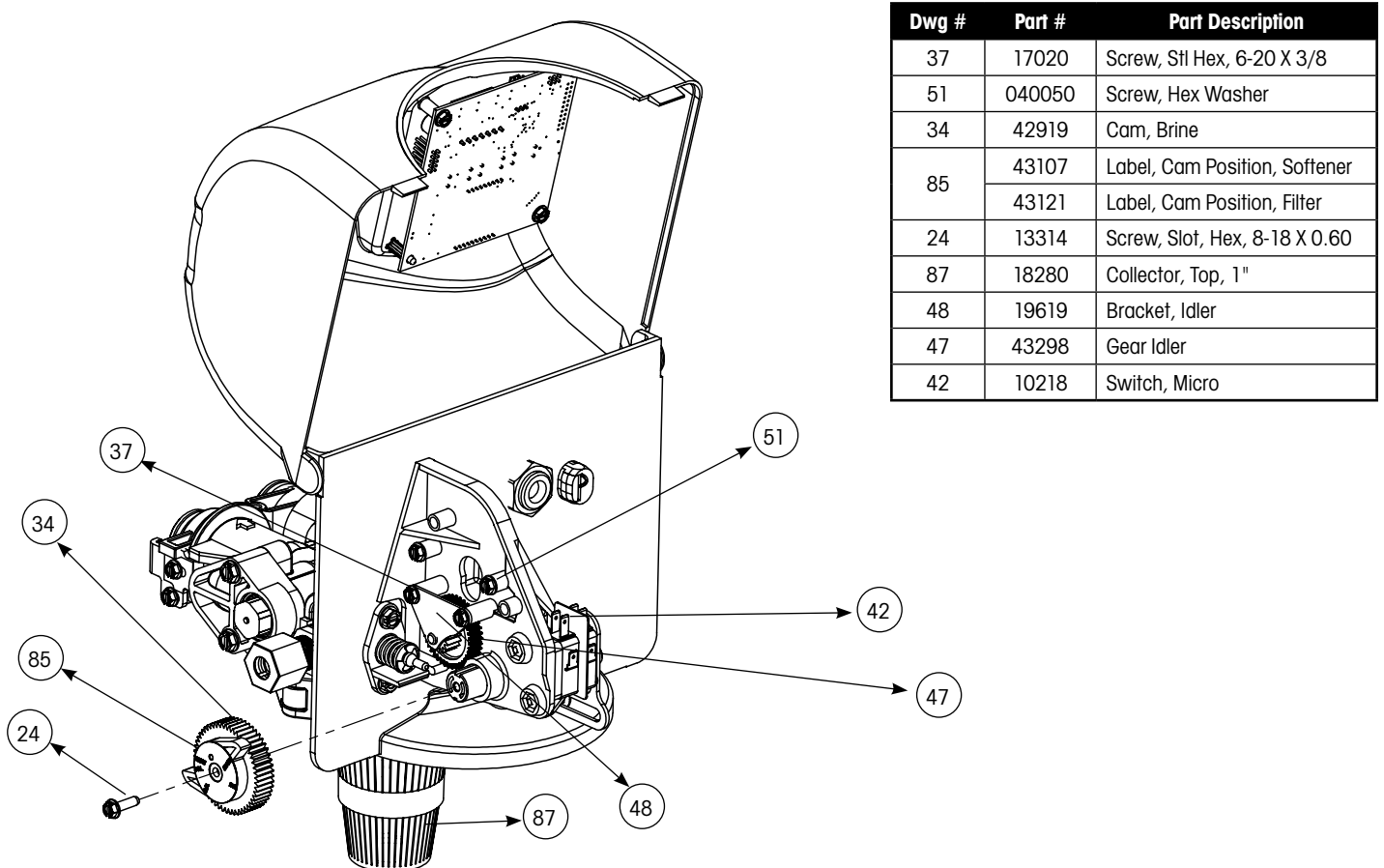


Dwg #	Part #	Part Description
91	18276-01	Plug, Injector, Assembly
64	040095	Flow Dispensor
56	40058	Screen, Injector
58	40079-20	Cap, Injector, Regulated, Softener
	18277	Cap, Injector Filter
29	18262	Screw, #10-24 X 1
14	040064	Seal, Injector, Softener
	18301	Seal, Injector, Filter
66	18275-X	Throat, Injector, Specify Size X
65	18274-X	Nozzle, Injector, Specify Size X
12	10141	O-Ring, -010
67	18273	Generator, Vortex
13	13771	O-Ring, -012
90	61514-XX	Injector Assembly, Specify Size XX

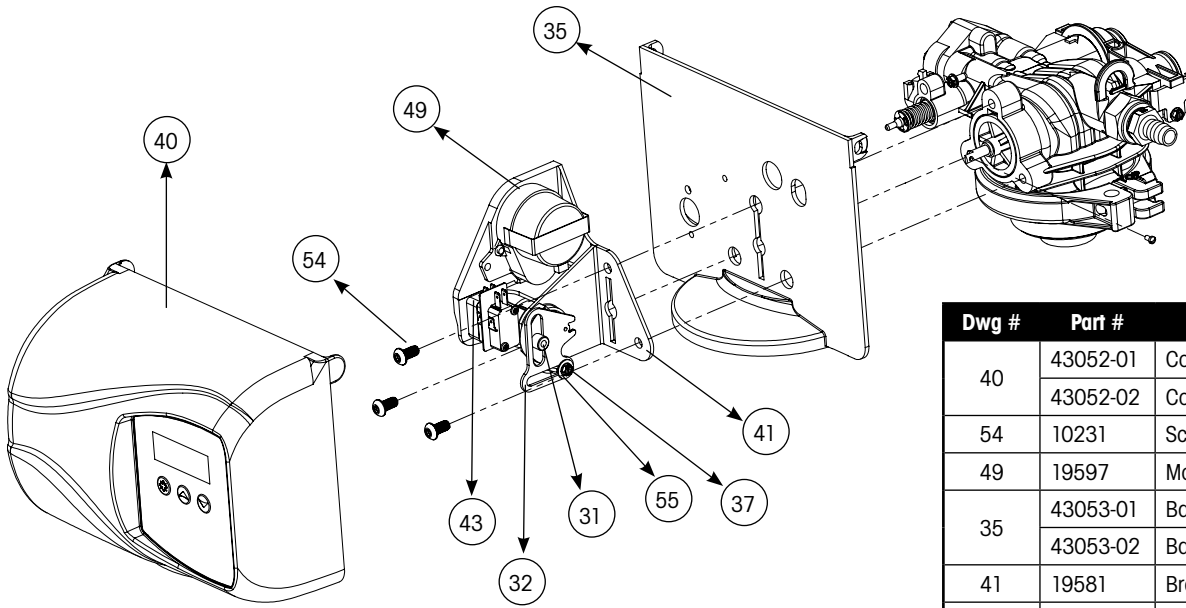
## 6200 Service Kits – Circuit Board



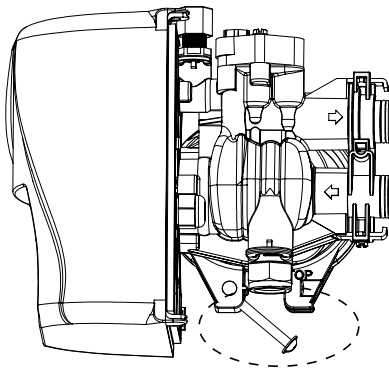
## 6200 Service Kits – Other Parts



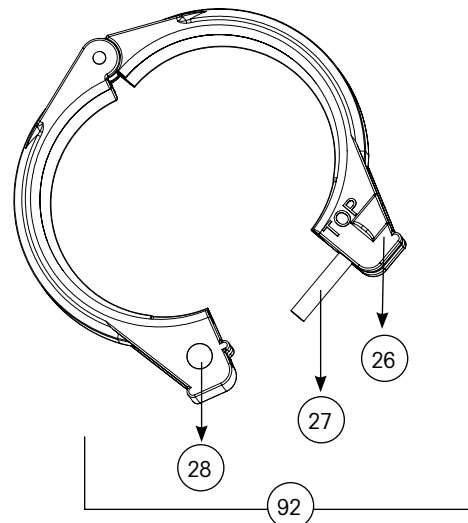
# 6200 Service Kits – Other Parts Continued



Dwg #	Part #	Part Description
40	43052-01	Cover, Black
	43052-02	Cover, Cream
54	10231	Screw, Slot Hex, 1/4-20 X 1/2
49	19597	Motor, 24V, 50/60 Hz
35	43053-01	Backplate, Black
	43053-02	Backplate, Cream
41	19581	Bracket, Drive
43	10302	Insulator, Limit Switch
32	019688	Link, Piston Rod
31	019493	Shaft, Drive
55	13363	Washer
37	17020	Screw, Hex, 6-20 X 3/8

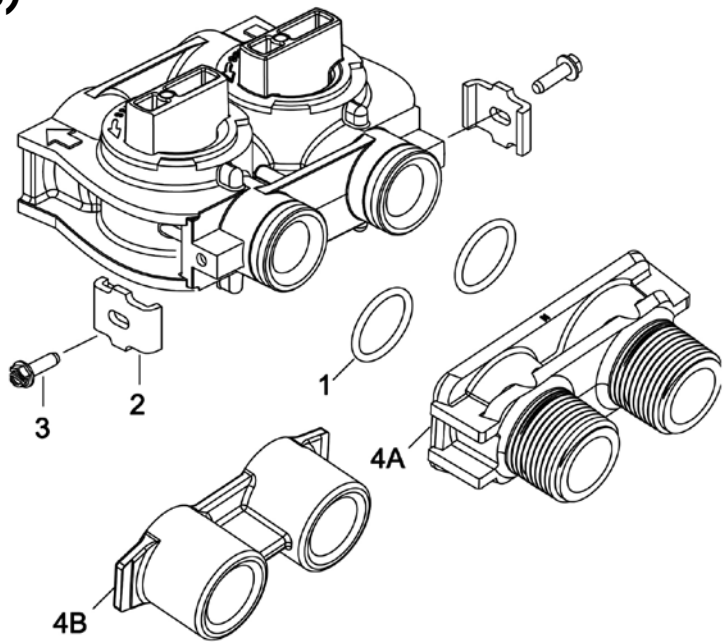


Dwg #	Part #	Part Description
28	19998	Shaft, Drive
27	40057	Screw, Hex Washer Head
26	40254	Clamp, Ring
92	60503	Clamp Ring Assembly



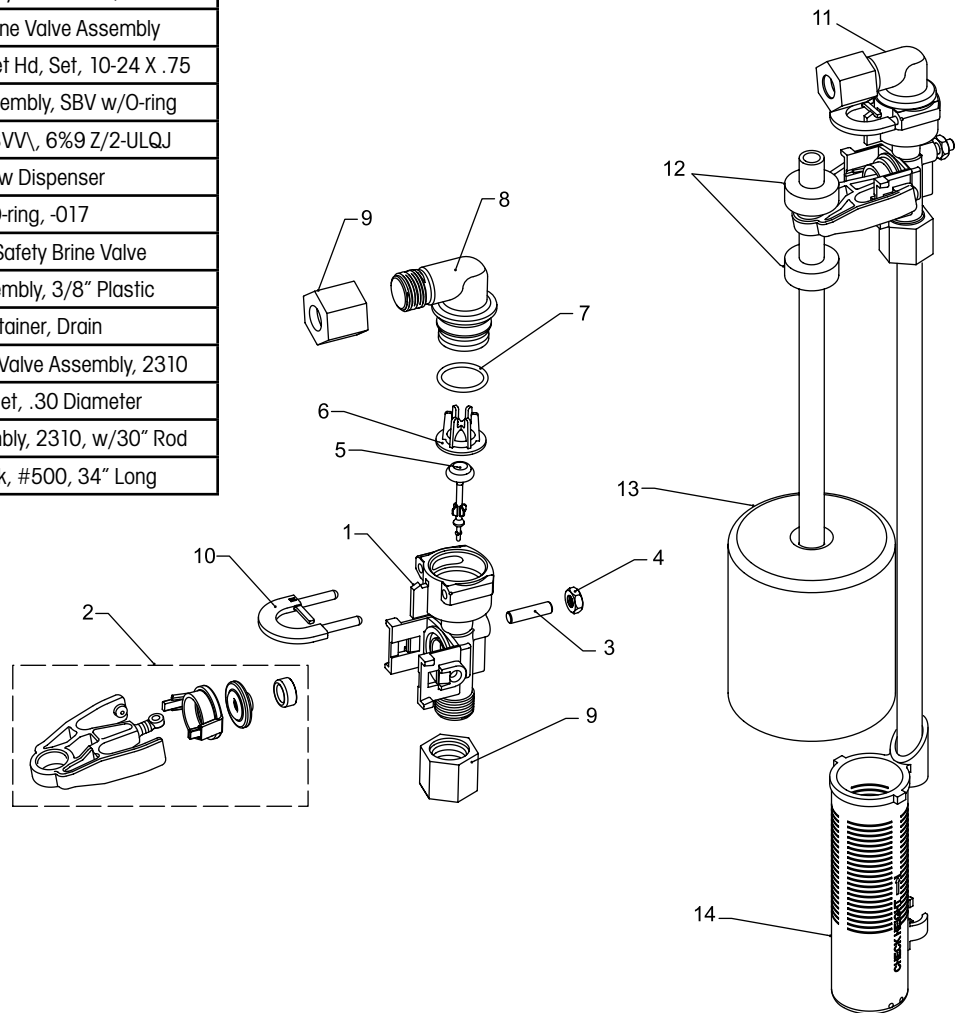
## Bypass Valve Assembly & Yokes (Plastic)

Item No.	Quantity	Part No.	Description
1	2	13305	O-ring, -119
2	2	13255	Clip, Mounting
3	2	13314	Screw, Hex Washer Head, 8-18 x 5/8
4A	1	18706	Yoke, Plastic, 1" NPT
		18706-02	Yoke, Plastic, 3/4" NPT
4B	1	13708	Yoke, Brass, 3/4" NPT
		13708NP	Yoke, 3/4" NPT Nickel Plated
		13398	Yoke, Brass, 1" NPT
		13398NP	Yoke, 1" NPT Nickel Plated
		40636	Yoke, 1 1/4" NPT
		40636-49	Yoke, 1 1/4" Sweat



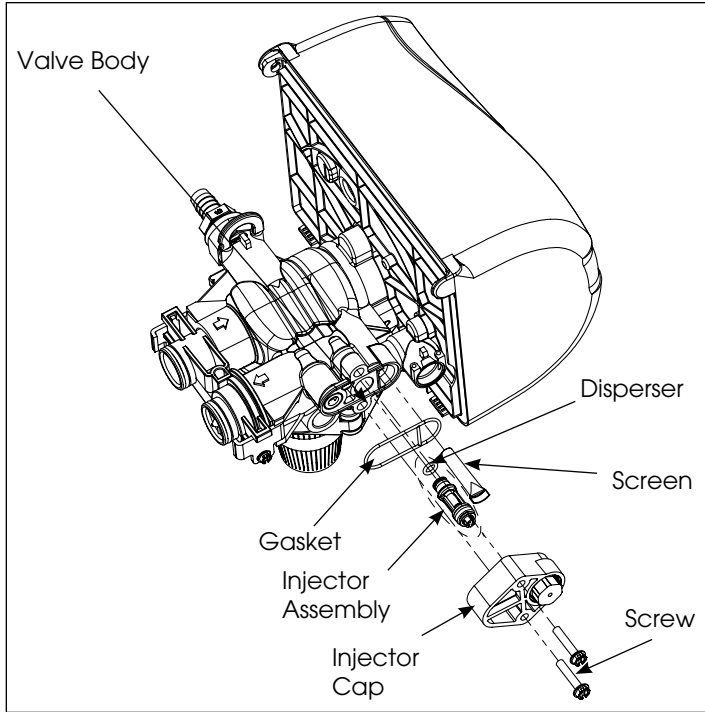
## 2310 Safety Brine Valve

Item No.	Quantity	Part No.	Description
1	1	19645	Body, Safety Brine Valve, 2310
2	1	19803	Safety Brine Valve Assembly
3	1	19804	Screw, Socket Hd, Set, 10-24 X .75
4	1	19805	Poppet Assembly, SBV w/O-ring
5	1	19652-01	3RSSHW \$V\\$, 6%9 Z/2-ULQJ
6	1	19649	Flow Dispenser
7	1	11183	O-ring, -017
8	1	19647	Elbow, Safety Brine Valve
9	2	19625	Nut Assembly, 3/8" Plastic
10	1	18312	Retainer, Drain
11	1	60014	Safety Brine Valve Assembly, 2310
12	2	10150	Grommet, .30 Diameter
13	1	60068-30	Float Assembly, 2310, w/30" Rod
14	1	60002-34	Air Check, #500, 34" Long

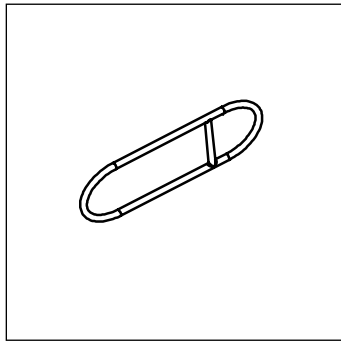


42112\_REVA

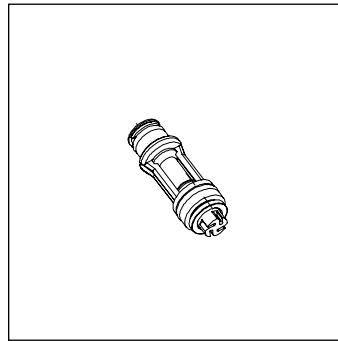
# Servicing 6200 SXT Upflow Control Valve – Replacing Injectors and Screen



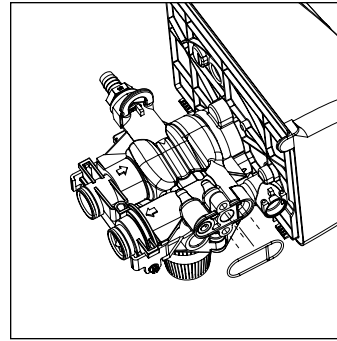
1. Unscrew the injector cap from the valve body.



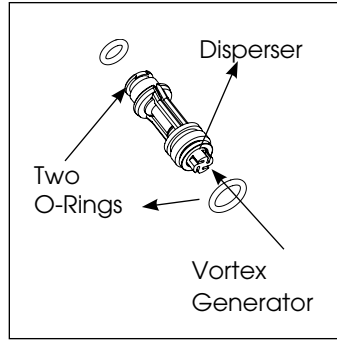
2. Discard gasket.



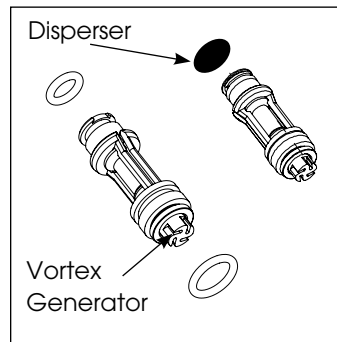
3. Remove injector assembly from the valve body and discard it.



4. Apply silicone lubricant to the gasket and install around oval extension on injector cap.

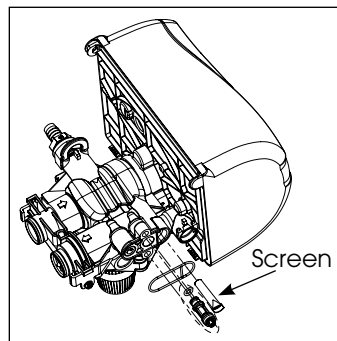


5. Apply silicone lubricant to two new o-rings and install over 2 bosses of the new injector assembly.



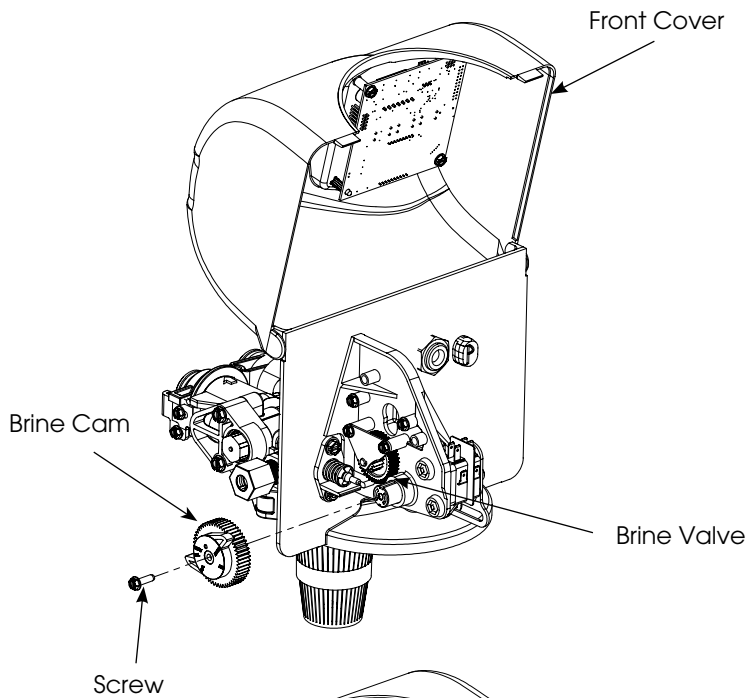
6. Apply silicone grease to the dispenser and press it on the surface of the injector assembly.

7. Screw in new injector throat and nozzle (make sure that vortex generator is installed in the injector body), be sure they are seated tightly.

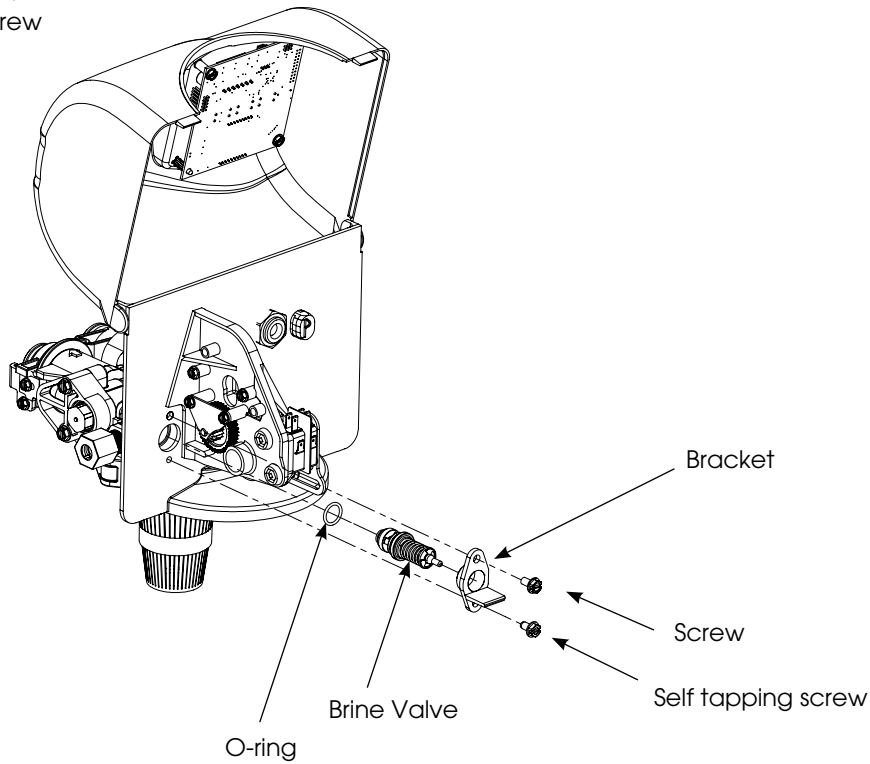


8. Install a new screen.  
9. Tighten injector cap on to the valve body.

# Replacing Brine Valve

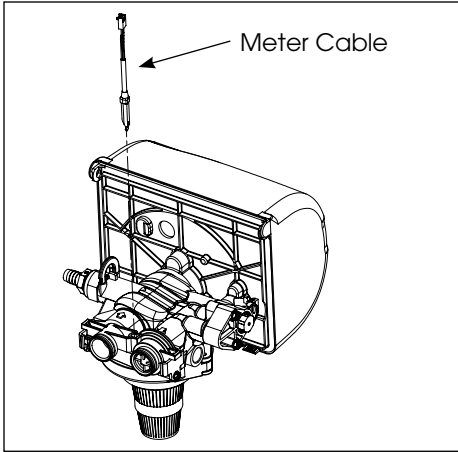


1. Open the front cover of the powerhead, unscrew the brine cam and push the brine valve in order to remove the cam.
2. Remove the two screws from the grey brine valve bracket and remove it from the valve back plate.
3. Pull brine valve from injector body. Also remove and discard o-ring at bottom of brine valve hole.
4. Apply silicone lubricant to new o-ring and install at bottom of brine valve hole.
5. Apply silicone lubricant to o-ring on new valve assembly and press into brine valve hole. Be sure shoulder on bushing is flush with injector body.
6. Reinstall the brine valve bracket. Make sure to use self tapping screw at the bottom of the bracket. Reinstall brine cam. Close the front cover of the control valve.

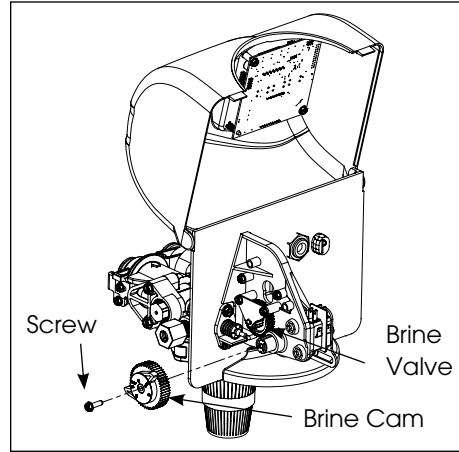




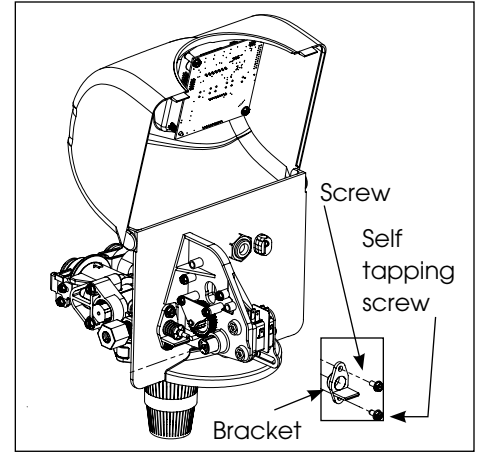
# Timer Replacement



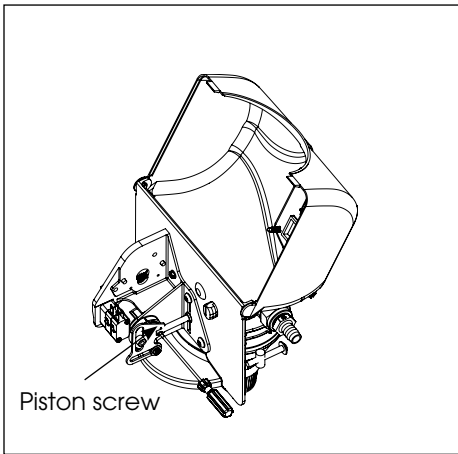
1. Disconnect the meter cable from the meter.



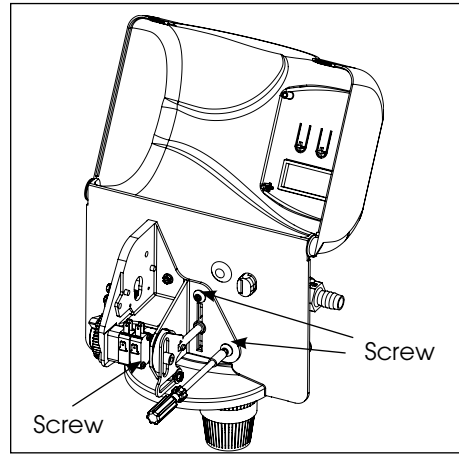
2. Open the front cover of the control valve, unscrew the brine cam and push the brine valve in order to remove the cam.



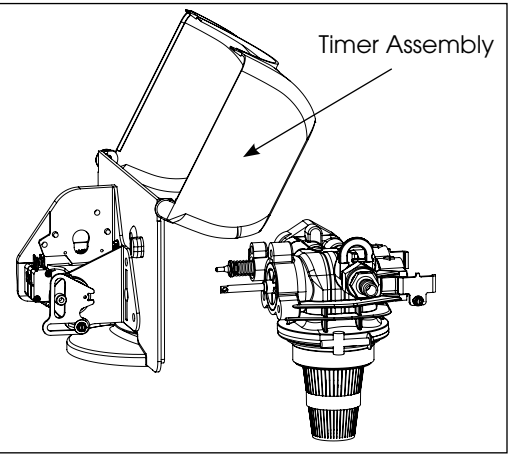
3. Remove the two screws from the grey brine valve bracket and remove it from the valve back plate.



4. Remove the piston screw from the piston rod.

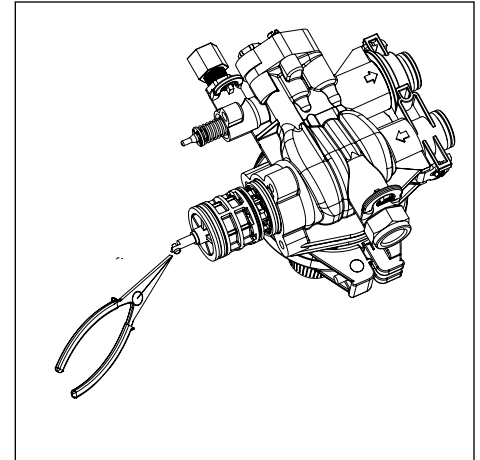
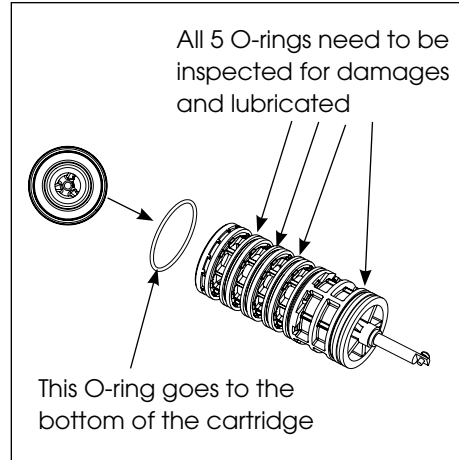
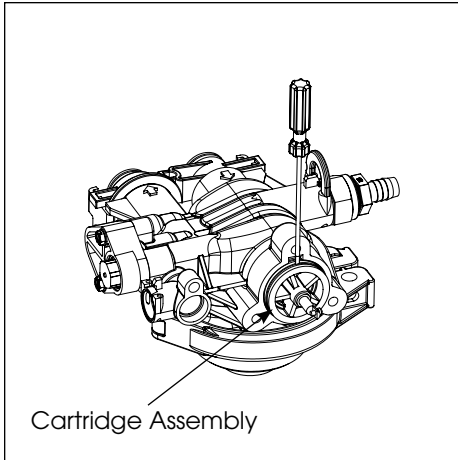


5. Remove the three screws from the front bracket. The entire timer assembly will disconnect from the valve body.



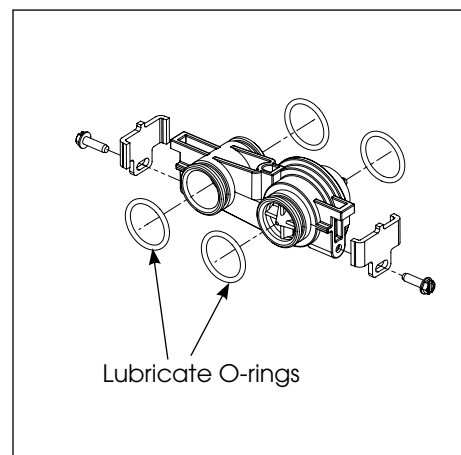
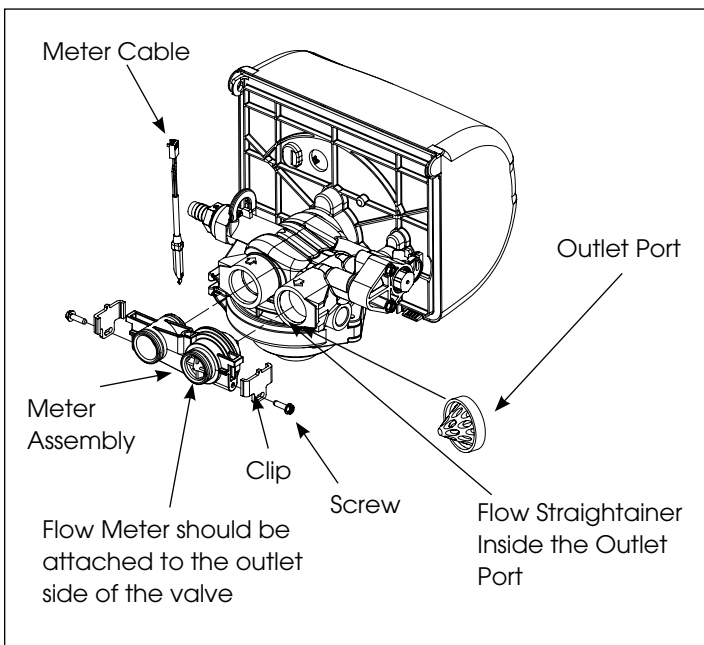
6. Replace the timer with a new one. Attach the three screws to the front bracket and piston screw to the piston rod. Reinstall the brine valve bracket. Reinstall brine cam. Close the front cover of the control valve.  
7. Reconnect meter cable.

## Piston Cartridge Assembly Replacement



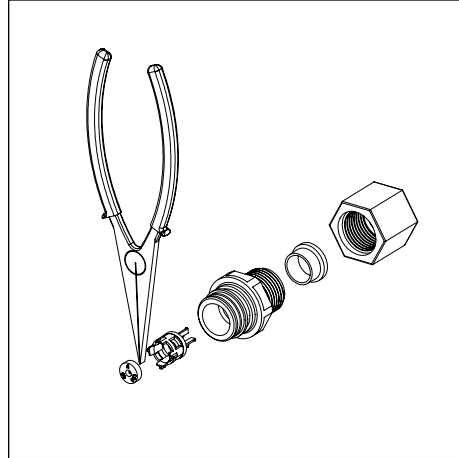
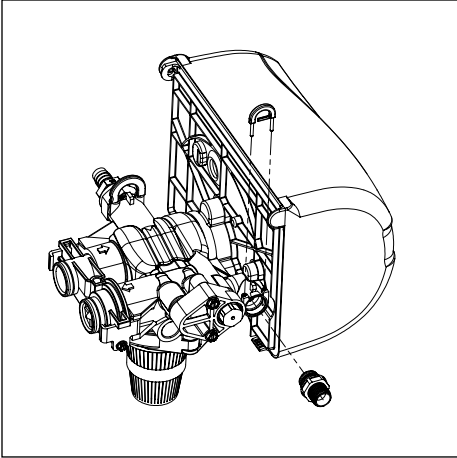
1. Follow steps 1 to 5 of timer replacement.
2. Use a flat head screw drive on the notch of the valve body as shown to loosen the piston cartridge, pull the cartridge out of the body using pliers.
3. Inspect the inside of the valve to make sure that there is no foreign matter that would interfere with the valve operation.
4. Put food grade silicone grease on the o-rings of the new piston cartridge assembly and install it inside the valve body.
5. Reinstall the timer assembly, brine valve bracket and meter cable.

## Meter Replacement and Service



1. Disconnect the meter cable from the meter.
2. Remove two screws and clips at bypass valve or yoke. Pull resin tank away from plumbing connections.
3. Pull meter module out from control valve.
4. Apply silicone lubricant to four new o-rings and assemble to four ports on new meter module.
5. Assemble meter to control valve. Note, meter portion of module must be assembled at valve outlet.
6. Push resin tank back to the plumbing connections and engage meter ports with bypass valve or yoke.
7. Attach two clips and screws at bypass valve or yoke. Be sure clip legs are firmly engaged with lugs.

## Servicing and Replacing Brine Line Flow Control (BLFC)



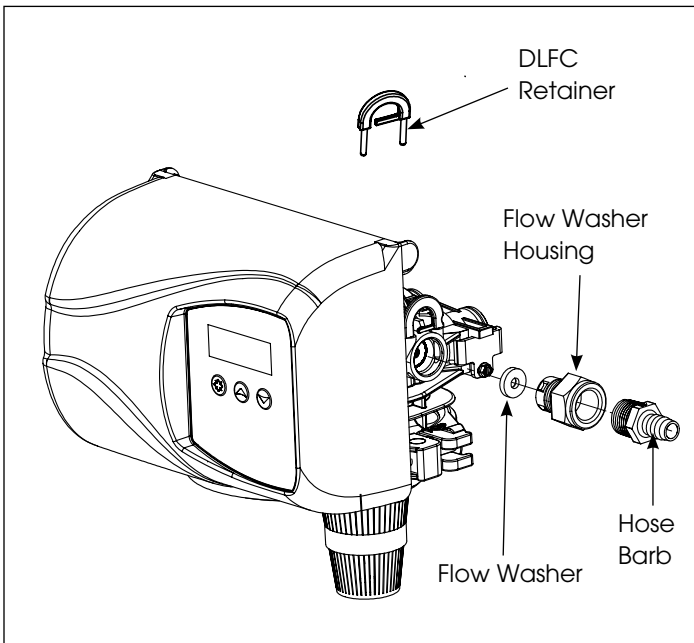
1. Disconnect the brine line retainer clip.

2. Remove the BLFC assembly and pull the flow washer retainer out of the BLFC housing with the help of plier.

3. Remove the flow washer from the retainer and clean it with water to remove any debris. Replace it with a new washer if necessary.

4. Re-install the BLFC housing and retainer.

## Servicing and Replacing Drain Line Flow Control (DLFC)

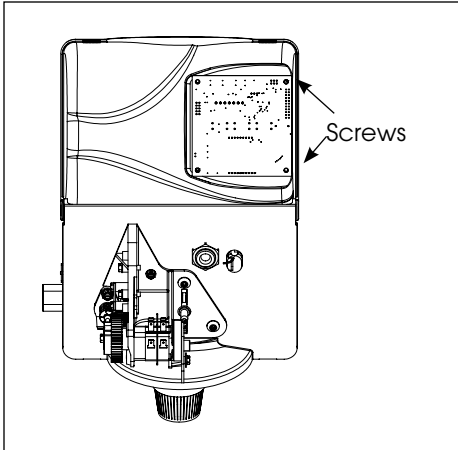


1. Disconnect the drain line retainer clip.  
2. Remove the DLFC assembly and pull the flow washer out of the DLFC housing with the help of plier.

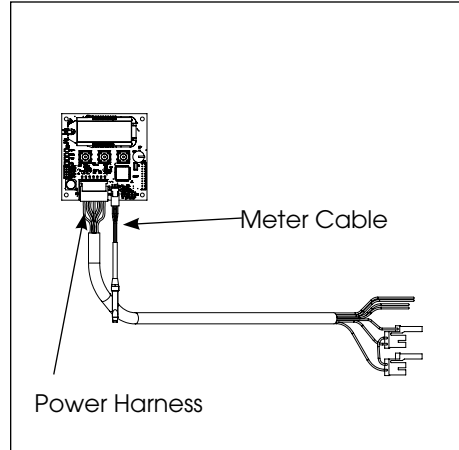
3. Remove the flow washer from the housing and clean it with water to remove any debris. Replace it with a new washer if necessary.

4. Re-install the DLFC housing and retainer.

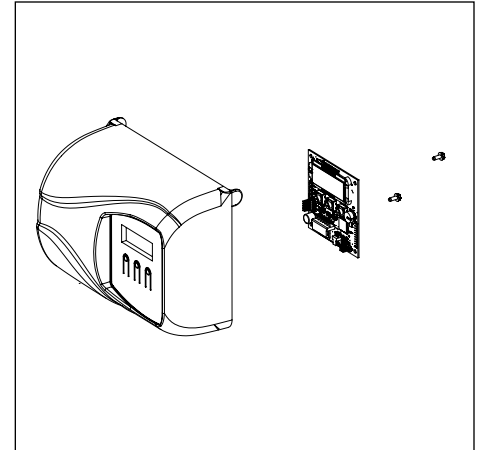
# Circuit Board Replacement



1. Detach the circuit board from valve front cover by removing two screws.



2. Disconnect the meter cable and power head harness from the circuit board.



3. Replace and connect the new circuit board on the front cover.

## After Servicing

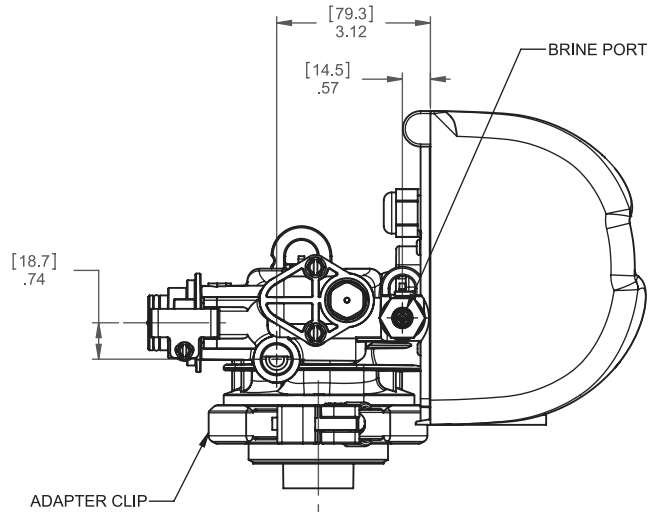
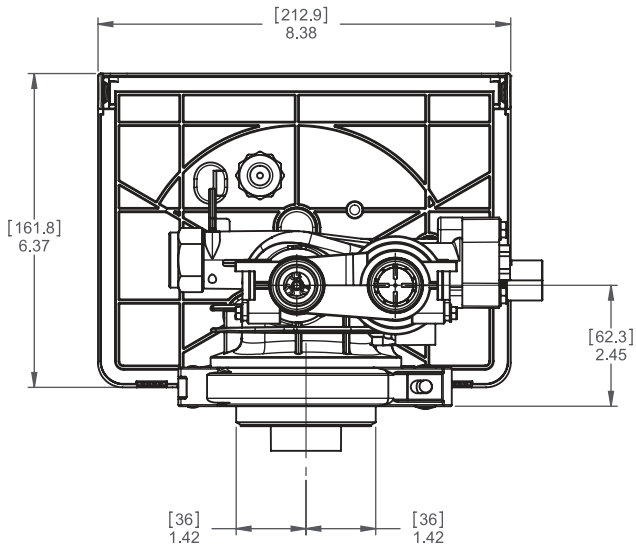
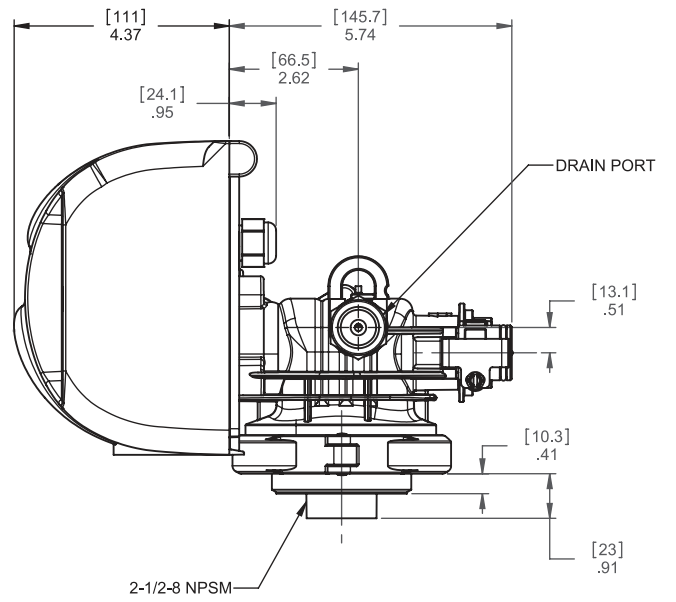
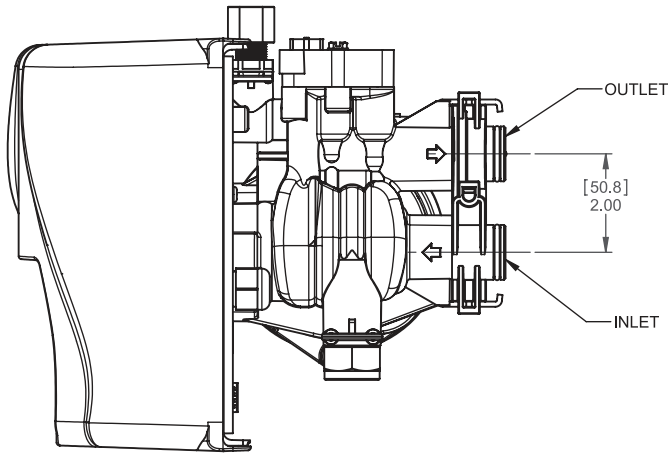
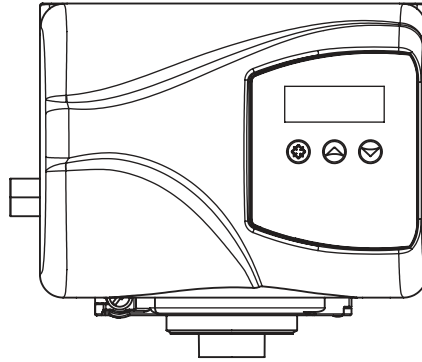
1. Reconnect brine tube and drain line.
2. Return bypass or inlet valve to normal in service position. Water Pressure will automatically build in the softener.

**NOTE:** Be sure to shut off any bypass line.

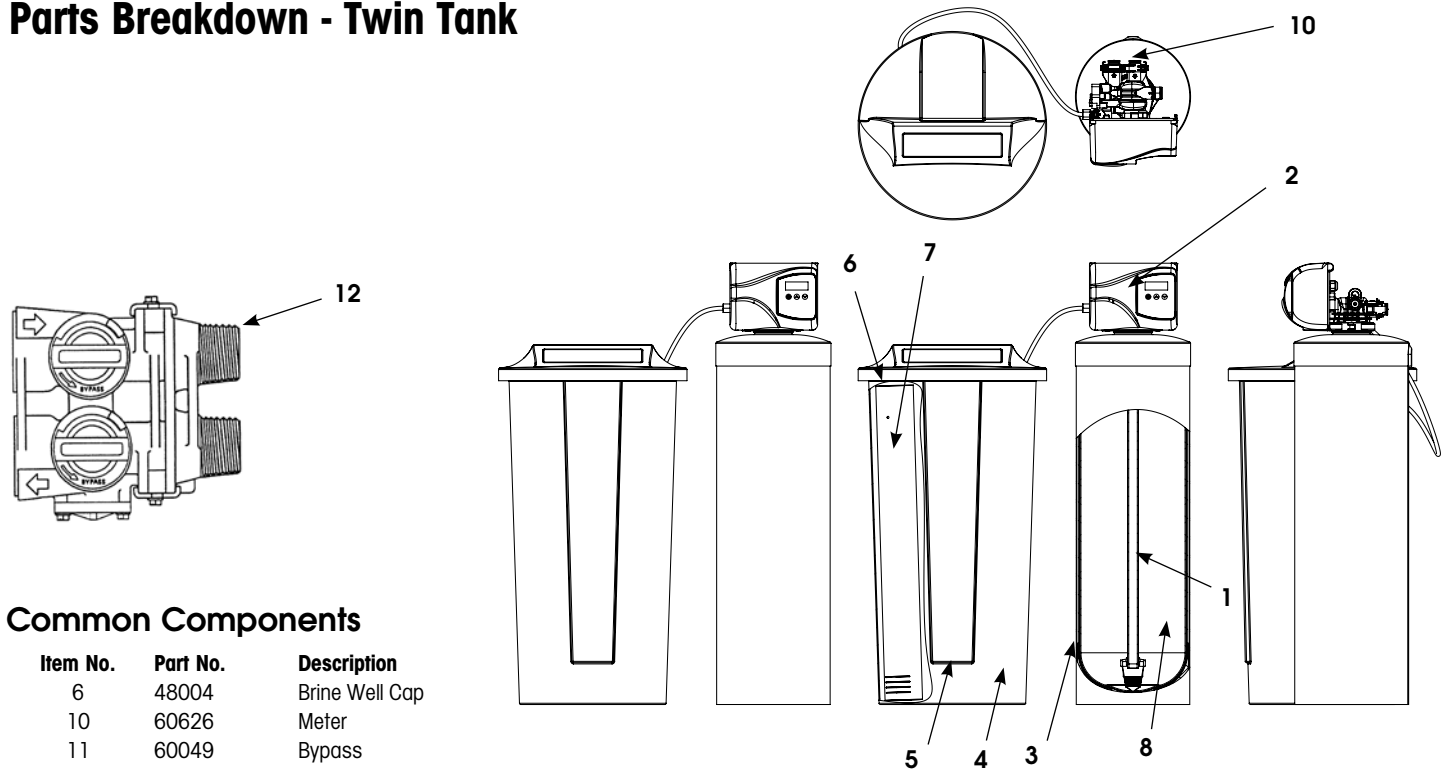
3. Check for leaks at all sealed areas. Check Drain seal with the control in the backwash position.
4. Plug electrical cord into outlet.
5. Set Time of Day and cycle the control valve manually to assure proper function. Make sure control valve is returned to the In Service position.
6. Verify the salt level in the brine tank is sufficient. Start regeneration cycle manually if water is hard.

# 6200 SXT Valve Dimensional Drawings

All dimensions are in Inches (mm).



# Parts Breakdown - Twin Tank



## Common Components

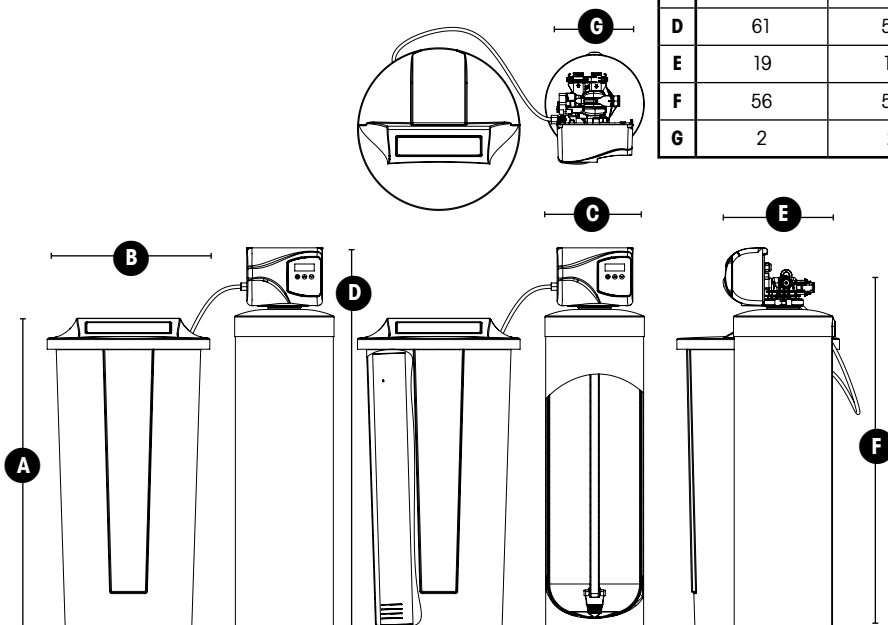
Item No.	Part No.	Description
6	48004	Brine Well Cap
10	60626	Meter
11	60049	Bypass

Part Number	Model Description	Distributor (1)	Valve (2)	Tank (3)	Brine Tank (4)	Grid (5)	Safety Float (7)	Resin	Gravel (#22001)	Inlet Flow Control (Housing and Flow Washer)
4924	OCR15-850SXT	19477	6200311	110541	100362		13623	1.25 CF	0.08 CF	15177 (12091)
4925	OCR20-850SXT	19477	6200312	112521	100192	95009-21	13623	2.00 CF	0.12 CF	15177 (12408)
4926	OCR30-850SXT	60098	6200313	114651	100192	19706	13526	3.00 CF	0.15 CF	019480 (16529)
4927	OCR15-860SXT	19477	6200311	110541	100362		13623	1.25 CF	0.08 CF	15177 (12091)
4928	OCR20-860SXT	19477	6200312	112521	100192	95009-21	13623	2.00 CF	0.12 CF	15177 (12408)
4929	OCR30-860SXT	60098	6200313	114651	100192	19706	13526	3.00 CF	0.15 CF	019480 (16529)

4924, 4925 & 4926 use Resin #21494  
 4927, 4928 and 4929 use Resin #21491

**NOTE:** All USA units come standard with #60040SS - Stainless Steel Bypass

Dimensions (inches)						
	OCR15-850SXT	OCR20-850SXT	OCR30-850SXT	OCR15-860SXT	OCR20-860SXT	OCR30-860SXT
<b>A</b>	36	38	38	36	38	38
<b>B</b>	21	22	22	21	22	22
<b>C</b>	10	12	14	10	12	14
<b>D</b>	61	59	72	61	59	72
<b>E</b>	19	19	19	19	19	19
<b>F</b>	56	54	67	56	54	67
<b>G</b>	2	2	2	2	2	2



## Error Codes

Note: Error codes appear on the In Service display

Error Code	Probable Cause	Recover and Resetting
[Err 0]	Drive motor is stalled	Unplug the unit from the power source
[Err 1]	Drive motor is running continuously	When power is restored to the unit, the Err _ display code clears. If the condition causing the error has not been resolved the Err _ code reappears in the four digit display. Do not attempt to troubleshoot this problem any further.
[Err 2]	There have been more than 99 days since the last Regeneration. If the Day of the Week mode of regeneration is selected and days since last regeneration exceeds 7 days.  [ 7 - - 5 ]: There have been more than 7 days since the last regeneration. All individual settings (d1, d2, d3, d4, d5, d6, d7) are set to 0.	Regeneration must occur for the unit to recover, the display to clear and the valve to function normally.  [ 7 - - 5 ]: To recover from [Err2], the user must initiate a regeneration or set at least one individual day to 1.
[Err 3]	Control board memory failure.	Perform a Master Reset. If the error returns, do not attempt to troubleshoot this problem any further.

### Error Display Example



NOTE: Unit will flash when an error exists.

# Trouble Shooting Guide

<b>PROBLEM:</b> Fishy or unpleasant odour is apparent in the treated water that is not present in the untreated water.	
1. pH of the incoming water may be high.	<ul style="list-style-type: none"> <li>This odour may be apparent on startup and will typically be reduced or eliminated after a couple service runs and regenerations cycles of the OCR filter.</li> </ul>
2. pH of the incoming water maybe high in combination with chlorine present for disinfection.	<ul style="list-style-type: none"> <li>The addition of chlorine along with high pH typically increases the chances that an odour will be present in the treated water With the presence of chlorine, it is unlikely odour will be eliminated. Chlorine can be removed through the use of an activated carbon filter, however it is highly recommended that additional disinfection methods be re-employed downstream of the OCR filter with Ultraviolet Sterilizers or Chlorination Pumps</li> </ul>
<b>PROBLEM:</b> OCR unit was removing colour from water, but then starts to show colour again until regeneration. Then colour is removed again.	
1. Capacity of OCR unit is being overrun and resulting in tannins not being removed near the end of service run.	<ul style="list-style-type: none"> <li>Decrease the gallons between service runs to a point where no coloured water is appearing between one regeneration to the next.</li> </ul>
<b>PROBLEM:</b> OCR unit was removing colour from water, but then starts to show colour earlier and earlier into service run. OR <b>PROBLEM:</b> OCR unit was removing colour from water, but no longer seems to be effective.	
1. Regeneration is not being performed adequately.	<ul style="list-style-type: none"> <li>Check to see if salt is in brine tank. If no salt is present, last regeneration(s) may have been done without salt brine. Add salt to brine tank and manually regenerate OCR until after allowing brine to dilute in water for at least four (4) hours.</li> <li>Check to see if brine tank is being refilled with water properly at the end of the regeneration cycle and/or if water is being drawn into the valve during the brine draw cycle. Injector &amp; Screen or Brine Valve may be plugged and require cleaning.</li> <li>Check to see that valve settings are correct.</li> </ul>
2. Regeneration is not being performed at all.	<ul style="list-style-type: none"> <li>Check gallonage setting between regenerations. Capacity set may be too large.</li> <li>Check to see that meter is turning and properly connected via the meter cable to the timer.</li> <li>Check to ensure that Bypass Valve is not open and bypassing the OCR unit with untreated water.</li> </ul>
3. Resin Media may be backwashing to drain.	<ul style="list-style-type: none"> <li>Confirm backwash flow control is installed on drain line and check that backwash flow control has not been swapped for service line flow control.</li> <li>Monitor drain line during regeneration cycle and check that no resin beads are exiting the OCR unit.</li> </ul>
4. OCR unit resin media may be fouled with organics. Check resin visually to confirm.	<ul style="list-style-type: none"> <li>Try manually regenerating OCR unit two or three times in a row. Allowing approximately four (4) hours between regenerations to allow salt brine to be saturated.</li> </ul>



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	<ul style="list-style-type: none"> <li>• Add small amount of Soda Ash to the brine well. Allow time to mix with saturated brine solution and perform a manual regeneration. Recommended Product: PRO SODA ASH — see instructions for cleaning tannin water softeners on bottle.)</li> <li>• As a last resort, try adding approximately four (4) ounces of household bleach (5.25%) into the brine well. Begin a manual regeneration. Monitor the drain line for a strong chlorine odour which should occur in the brine draw cycle . When odour is present, halt regeneration by unplugging unit and shutting down water flow to the OCR unit via the bypass valve. Shutdown OCR unit for approximately two (2) hours, then continue regeneration by plugging unit back in and replacing bypass valve to service position. Only try this step as a last resort as chlorine will degrade the resin bed. If unsuccessful, see next step.</li> <li>• Resin bed may have become permanently fouled due to infrequency of regenerations or nature oftannins causing colour in water. Replace resin media bed and check to see that regeneration frequency is adequate or consult your dealer.</li> </ul>
<p>5. OCR filter resin media may be fouled with Iron. Check visually to confirm.</p>	<ul style="list-style-type: none"> <li>• Iron should typically be removed prior to the OCR unit. Install an iron filter upstream of OCR unit or if small amounts of iron are being removed with a softener, check to see that water softener is working correctly.</li> <li>• Clean iron from resin media bed with a reducing agent such as sodium bisulfite or sodium hydrosulfite by adding it to the brine tank down the brine well and allowing time to mix. Manually regenerate softener. Recommended Product: PRO RUST OUT — see instructions on bottle on cleaning of water softeners.</li> <li>• If resin bed cannot be cleaned, it may be permanently fouled with iron. Replace resin media bed and install treatment upstream of OCR unit to remove iron.</li> </ul>
<p>6. OCR filter resin media may be fouled with Calcium Carbonate.</p>	<ul style="list-style-type: none"> <li>• Calcium Carbonate fouling is the result of hardness precipitating onto the resin media. If a softener is installed, check to see that it is functioning properly. If no water softener is installed, have a water analysis done to confirm hardness and install water softener upstream of OCR unit.</li> <li>• Clean calcium carbonate from resin media with a mild acid solution such as phosphoric acid. Do this by adding cleaning product to the brine tank via the brine well and then manually regenerate. Once complete, manually regenerate again with salt brine. Recommended Product: PRO Res-Care — see instructions on bottle on cleaning of water softeners.</li> </ul>

# Trouble Shooting Guide

<b>PROBLEM:</b> OCR unit appear to be causing a high pressure drop in home water system.	
1. Pressure drop may be due other factors.	<ul style="list-style-type: none"> <li>• Confirm pressure loss is due to the OCR unit, and not the result of distribution or well pump problem.</li> <li>• Confirm pressure loss is due to OCR unit by checking flow while in BYPASS mode.</li> <li>• Check that flow demand is not exceeding rated flow rate of OCR unit. OCR units are supplied with a SERVICE LINE FLOW CONTROL to ensure maximum effectiveness is maintained. Attempting to exceed this flow control rating will result in a pressure drop. OCR unit should be increased in size to compensate for larger demand. <b>NOTE:</b> Do not remove this FLOW CONTROL from valve outlet. It will likely result in a decrease in OCR unit performance.</li> </ul>
2. Pressure loss may be due to fouling from Organics, Iron or Calcium Carbonate.	<ul style="list-style-type: none"> <li>• See troubleshooting notes above on dealing with fouling problems.</li> </ul>
3. Pressure loss may be due to Resin Media being plugged with Silt and Turbidity.	<ul style="list-style-type: none"> <li>• Try manually regenerating OCR unit and extending the backwash by unplugging unit during the first cycle that begins to send water to the drain. Monitor water to the drain and watch for dirt and silt. If present, continue this backwash cycle until water runs clear then plug unit and allow valve to finish regeneration normally.</li> <li>• Install multi-media filter or 5 micron cartridge filter ahead of OCR unit to remove Silt and Turbidity.</li> </ul>
<b>PROBLEM:</b> OCR unit appears to be removing most of the colour in the water, but some still passes through.	
1. Raw water may be partially slipping past OCR unit OR the Organics (Tannins) not being removed may be impervious to the resin media in the OCR unit.	<ul style="list-style-type: none"> <li>• Check to see that SERVICE LINE FLOW CONTROL is in place on the valve outlet. Flowrates higher than recommended through the OCR unit may be causing some leakage of colour.</li> <li>• Check to see that BYPASS valve is not partially open and bleeding some raw water to distribution lines.</li> <li>• Check that pipelines after OCR unit are not lined with organics that are slowly being stripped away. Lines may require flushing.</li> <li>• If all equipment and distribution sources of problem have been eliminated, consult your water treatment dealer, who may try to "polish" the remaining colour after the OCR unit with an ACTIVATED CARBON filter or cartridges or other treatment method.</li> </ul>

# **WaterGroup Guarantee**

WaterGroup Inc. guarantees that your new water conditioner is built of quality material and workmanship. When properly installed and maintained, it will give years of trouble free service.

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