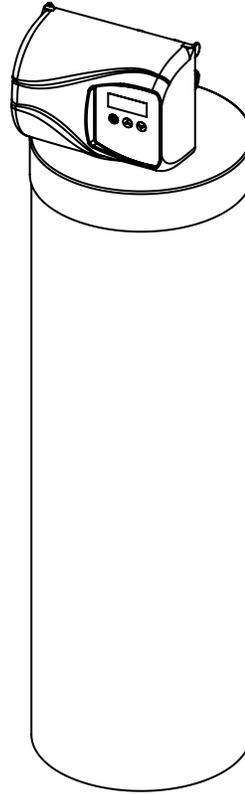


6200 SXT Automatic Backwashing Filter



Activated Carbon

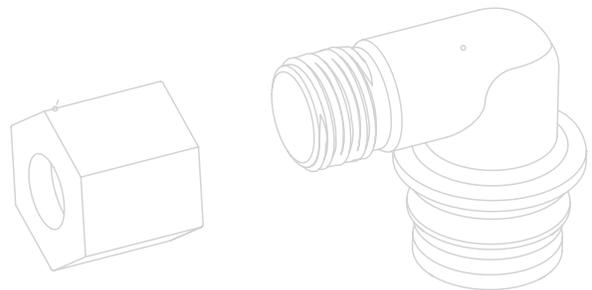
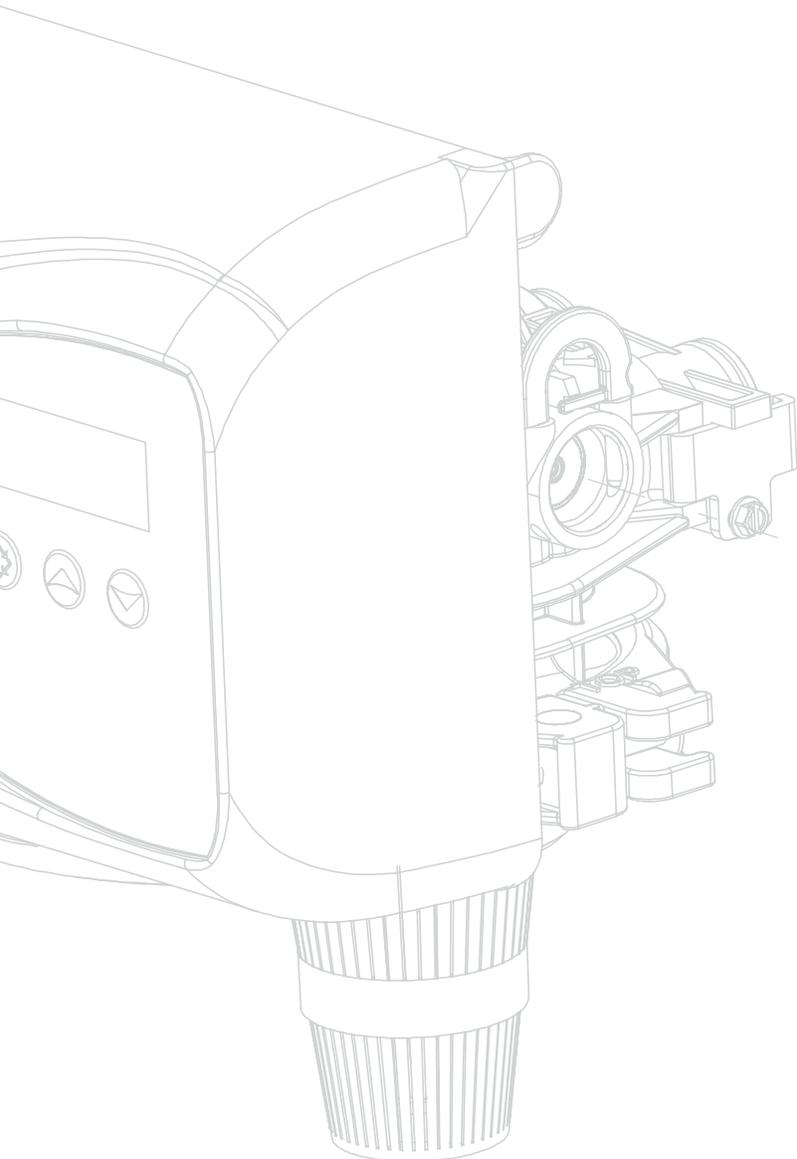
For Chlorine and Bad Taste and Odor Reduction

Multimedia

For Turbidity Reduction

Neutralizer

For Acidic Water



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 filter 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 softener.
- This unit is capable of operating at temperatures between 40°F and 110°F (4°C - 43°C). Do not use this water filter 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

Basic Principles

The success of the installation will depend, to a great extent, on advanced planning and preparation. Careful attention to the location of the unit, accessibility to electrical and drain facilities, and the availability of the proper tools will ensure a professional-looking installation. Of utmost importance is the assurance that the filter has been properly applied and meets all specifications.

Application

Correct application is directly associated with the performance and life expectancy of any water filter. It is important, therefore, to understand how your WaterGroup Water Filter functions and to know its capabilities and limitations so that a correct application can be made. By following the guidelines and recommendations set forth in this manual, you can be certain your filter is applied correctly.

MMF Filter

The Automatic Water Filter is capable of removing particulate matter particle size as small as 30 microns. It will not remove color, organics, colloidal turbidity or dissolved solids. Some applications include:

- Removal of suspended matter in any water system
- Removal of particulate matter, such as clay, mud, etc.
- Prefiltration of oxidized iron prior to an automatic or manual softener
- Removal of light sand

The quality and number of gallons of filtered water between backwashes will depend upon the amount, type, and size of the particulate matter being filtered. If a water sample is sent to a laboratory, where application of a MMF Type unit is contemplated. The laboratory will test for Nephelometric Turbidity Units (NTU) and suspended solids (mg/L). The sample will also be filtered through 10 micron filter paper and NTU run on a filtered sample. If the NTU of the raw water exceeds 150, suspended solids exceed 150 mg/L, or the filter water throughout the 10 micron filter paper has unacceptable quality, a MMF filter might not be applicable. As a guide, the U.S. Public Health Drinking Water standards states the turbidity should not exceed 1 NTU. The exact number of gallons filtered between backwashes can not be given because of many variables.

ACF Filter

Automatic Water Filter with Activated Media will control chlorine taste and odor, and it will also remove most objectionable organic colors. It will not remove hydrogen sulfide. It is important to note that whenever the cause of an objectionable taste or odor has not been established, Health Authorities should determine if the water is safe to drink. Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

NF Filter

Automatic Water Filter with Neutralizing Media will neutralize slightly acid water (pH 5.2 to >6.8) and thus help to prevent unsightly brown or green stains due to corrosion of household plumbing. If the pH is between 5 and 6, one part of Magnesium Oxide Media should be mixed with five parts of Calcite Media to provide additional neutralizing capability. If the water to be treated has a pH less than 5, a high hardness, or a high carbon dioxide level, NF might not be applicable; a solution feeder should be used. Because NF adds hardness, it should be used prior to a softener.

NOTE Under dynamic conditions it might be necessary to mix five parts Calcite with one part Magnesium Oxide to effectively raise the pH. In order to size and apply the equipment correctly, a complete analysis of the water supply should be obtained.



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

Specification

Unit Item #	Model #	Tank Size	Media (CF)	Service Flow Rate (gpm)	Peak Service Flow Rate (gpm)	Backwash Flow Rate (gpm)	Shipping Weight (lbs)
Activated Carbon Filters (ACF)							
	4440	NACF75SXT	8 X 47	0.75	4	5	45
	4441	NACF10SXT	10 X 47	1	5	7	65
	4442	NACF15SXT	12 X 52	1.5	7	10	93
	4443	NACF20SXT	14 X 50	2	10	12	105
Multimedia Filters (MMF)							
	4444	NMMF75SXT	8 X 47	0.75	4	5	95
	4445	NMMF10SXT	9 X 48	1	5	7	145
	4446	NMMF15SXT	10 X 54	1.5	7	10	213
	4447	NMMF20SXT	12 X 52	2	10	12	265
Neutralizer Filter (NF)							
	4452	NNF75SXT	8 X 47	0.75	2	3.5	75
	4453	NNF10SXT	9 X 48	1	3	5	115
	4454	NNF15SXT	10 X 54	1.5	5	8	165
	4455	NNF20SXT	12 X 52	2	6	10	215
	4456	NNF15SXT-DH	10 X 54 (DH)	1.5	5	8	165
	4457	NNF20SXT-DH	12 X 52 (DH)	2	6	10	215

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.
- 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.

Peak flow rates intended for intermittent use only (10 minutes or less) and are for residential applications only. Do not use peak flow rate for commercial applications or for a continuous rate when treated water supplies are geothermal heat pump, swimming pool, etc.

For satisfactory operation, the pumping rate of the well system must equal or exceed indicated backwash flow rate.

Water and Time Consumed during regeneration

Unit Item #	Model #	Tank Size	Media (CF)	Service Flow Rate (gpm)	Peak Service Flow Rate (gpm)	Back-wash Flow Rate (gpm)	Shipping Weight (lbs)	Bypass	Back-Wash Time (Minutes)	Rapid Rinse (Minutes)	Total Regeneration Time (Minutes)	Water used during Regeneration (gallons)
Activated Carbon Filters												
4440	NACF75SXT	8 X 47	0.75	4	5	3.5	45	Plastic	6	4	10	35
4441	NACF10SXT	10 X 47	1	5	7	7	65	Plastic	6	4	10	70
4442	NACF15SXT	12 X 52	1.5	7	10	8	93	Plastic	6	4	10	80
4443	NACF20SXT	14 X 50	2	10	12	10	105	Plastic	6	4	10	100
Multimedia Filters												
4444	NMMF75SXT	8 X 47	0.75	4	5	4	95	Plastic	6	4	10	40
4445	NMMF10SXT	9 X 48	1	5	7	5	145	Plastic	6	4	10	50
4446	NMMF15SXT	10 X 54	1.5	7	10	7	213	Plastic	6	4	10	70
4447	NMMF20SXT	12 X 52	2	10	12	10	265	Plastic	6	4	10	100
Neutralizer Filter												
4452	NNF75SXT	8 X 47	0.75	2	3.5	3.5	75	Plastic	6	4	10	35
4453	NNF10SXT	9 X 48	1	3	5	4	115	Plastic	6	4	10	40
4454	NNF15SXT	10 X 54	1.5	5	8	5	165	Plastic	6	4	10	50
4455	NNF20SXT	12 X 52	2	6	10	7	215	Plastic	6	4	10	70
4456	NNF15SXT-DH	10 X 54 (DH)	1.5	5	8	5	165	Plastic	6	4	10	50
4457	NNF20SXT-DH	12 X 52 (DH)	2	6	10	7	215	Plastic	6	4	10	70

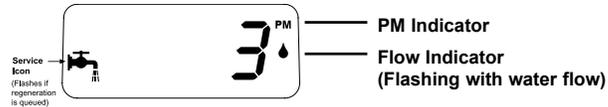
How a Novatek Automatic Backwashing Filter Works

Raw water enters your home through the main supply line, enters your filter, and passes downward through the media bed. Impurities such as turbidity and sediment (MMF) and organics (ACF) are removed from the water. The filtered water then flows up and into your household water lines. The neutralizing filter (NF) is designed to raise the pH of your water to eliminate corrosive characteristics. Periodic regeneration is required to flush entrapped material from the system.

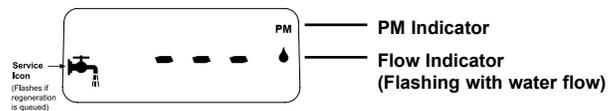
Example: A pH of 5.5 can be raised to 7.0 which is neutral. When the water is neutralized it is then possible to remove the iron with the addition of an iron filter.

In normal operation, the Time of Day display will alternate being viewed with the Day Remaining display. As day passes, the day remaining 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 3 Days Remaining to Regenerate



0 Days 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.

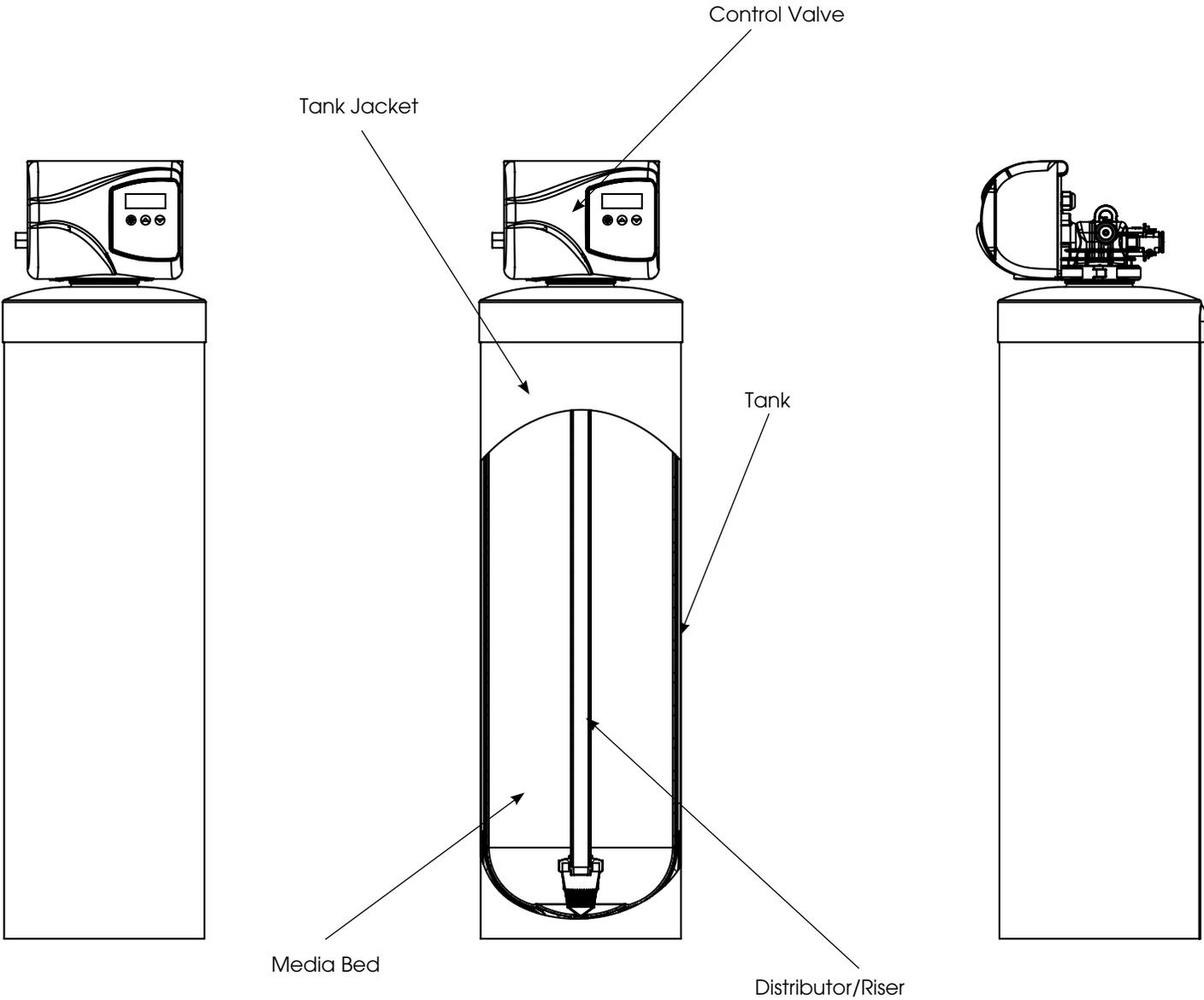
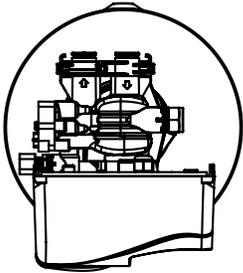
Example Less than 6 minutes remaining in Regeneration Step Rapid Rinse



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.

Figure 1a: Taste and Odor Filter (ACF) Typical Installation

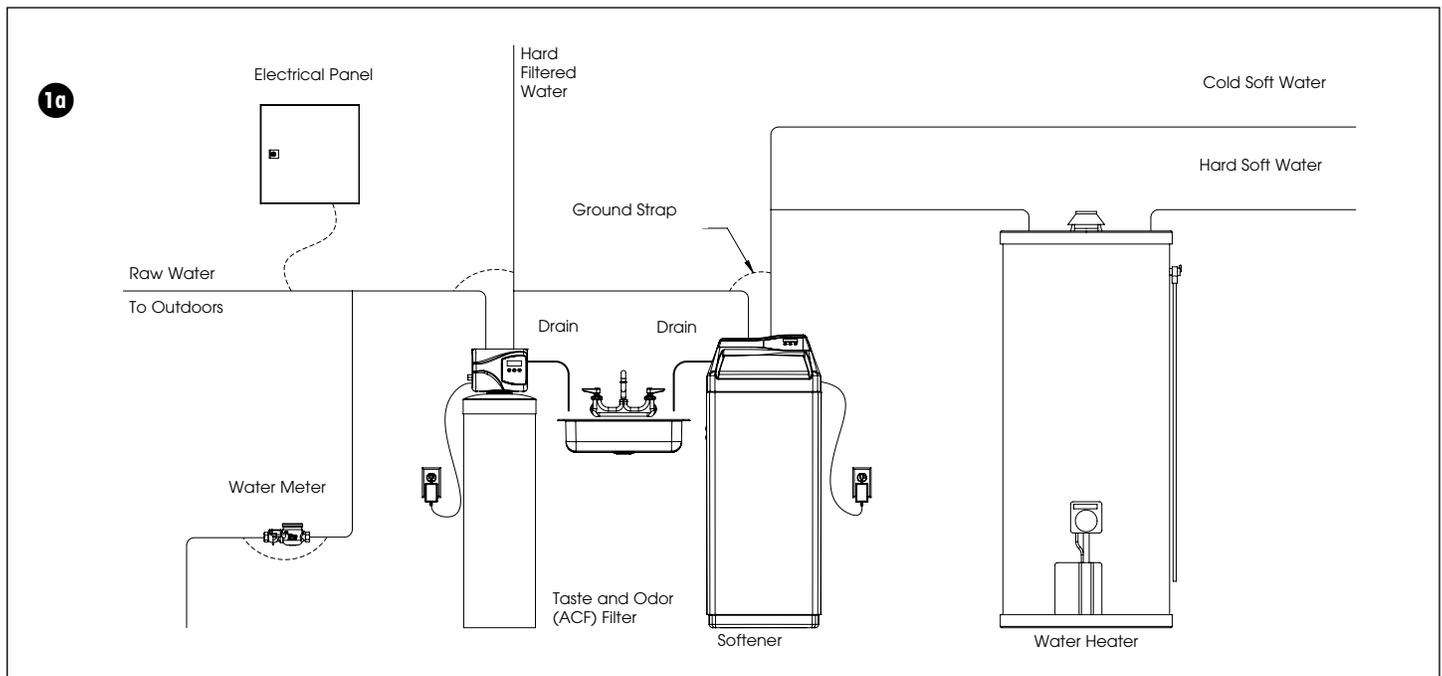


Figure 1b: Mulit Media Filter (MMF) Typical Installation

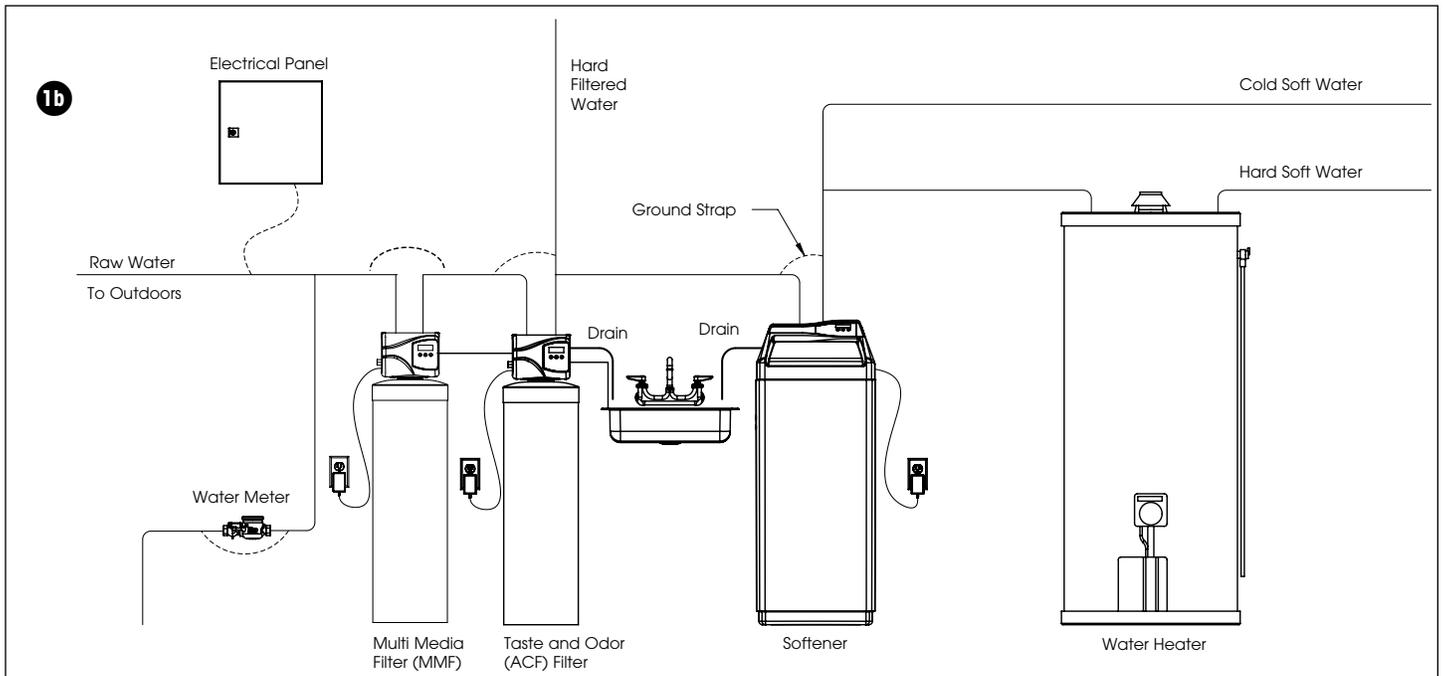


Figure 1c: Neutralizing Filter (NF) Typical Installation

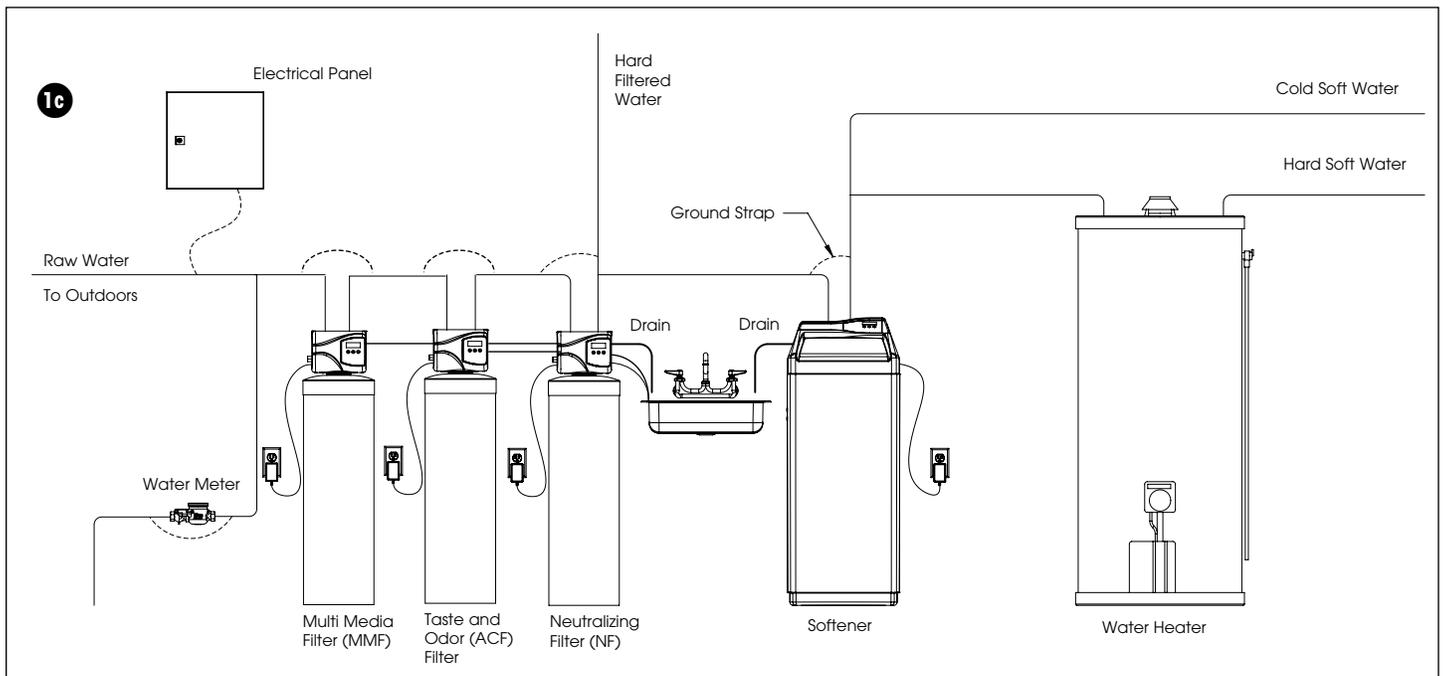
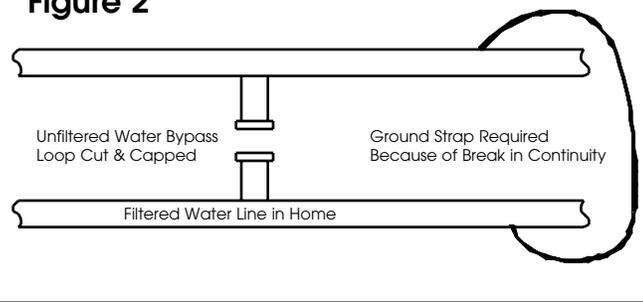
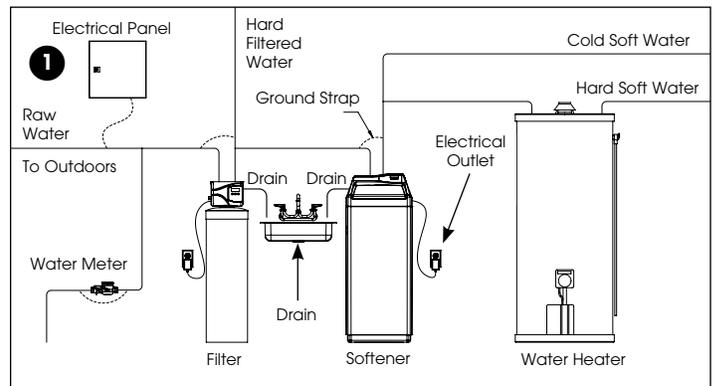


Figure 2

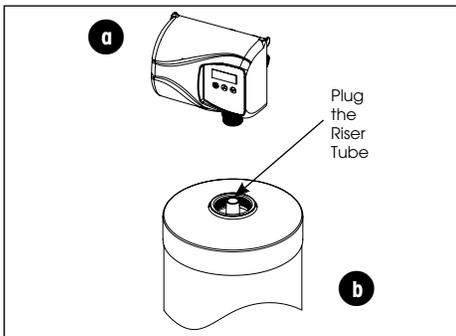


Preparations

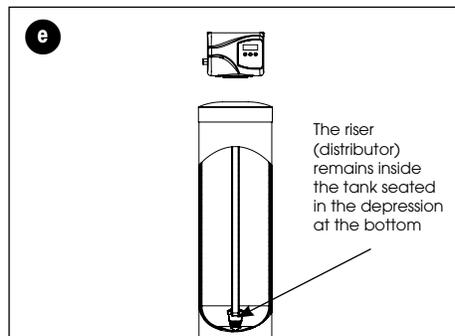
- Determine the best location** for your water filter, bearing in mind the location of your water supply lines, drain line and 120 volt AC electrical outlet. Subjecting the filter to freezing or temperatures above 43°C (110°F) will void the warranty.
- Media Installation (When Necessary).** Models including 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.



CAUTION! The unit should be de-pressurized before installing or replacing media



- a) Remove the valve from the mineral tank.

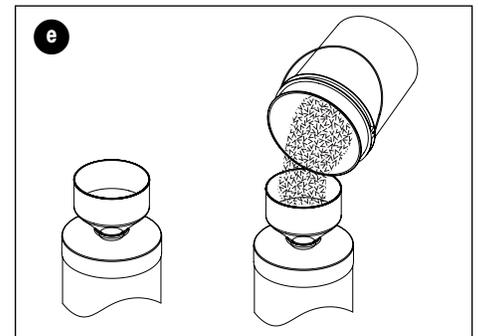


- b) Temporarily plug the open end of the riser tube to ensure that no resin or gravel falls down into the distribution.

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

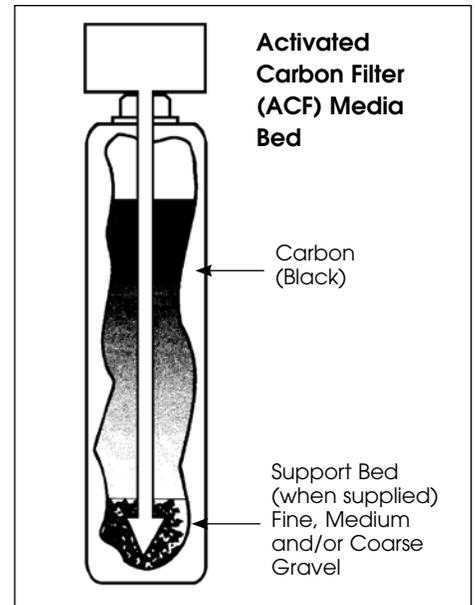
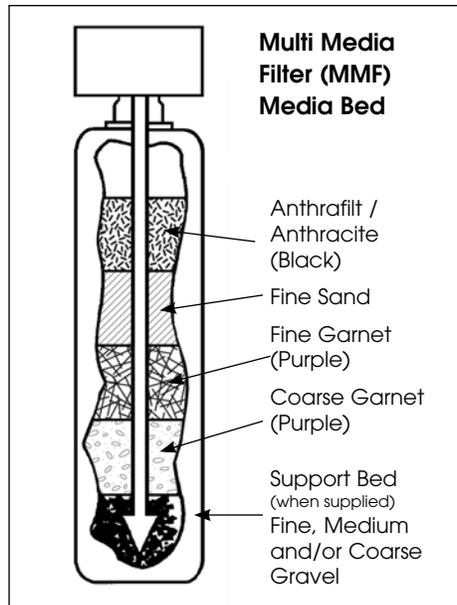
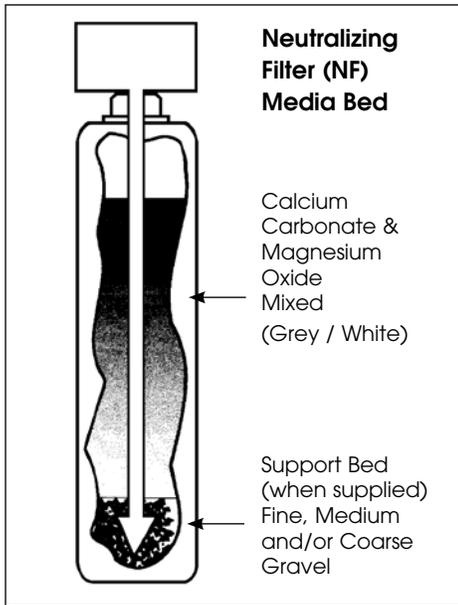
Plug tube with a tape.

Remove after media is loaded



- Fill support bed first (if supplied)

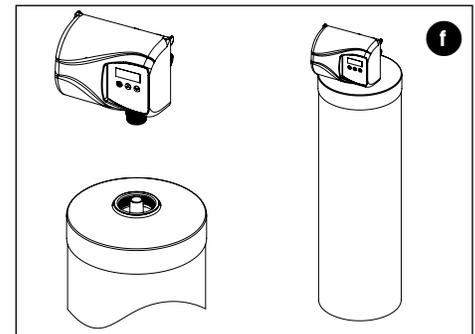
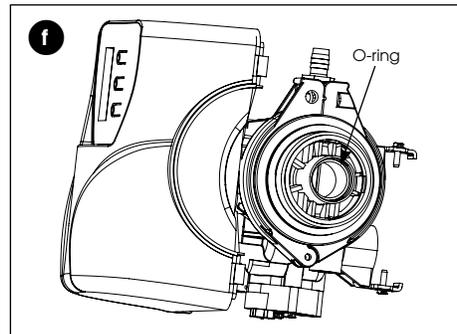
The media will not always spill down inside the tank and may need to be swept inside.



- 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.

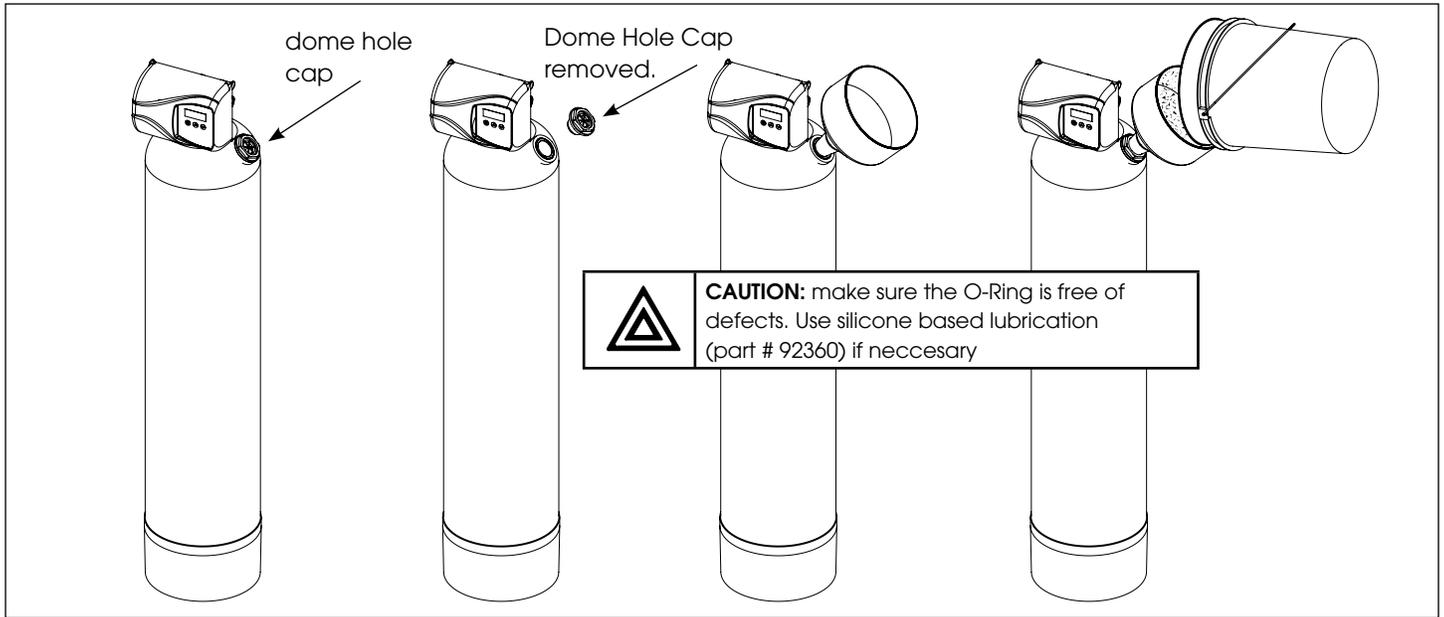
The large funnel (sold separately part # 43000) makes filling the tank easier and neater. (Or an empty 1 gallon or 4 liter container with the bottom cut out makes a good funnel.)



- 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.

NOTE: Some medias like used in Neutralizer Filter are sacrificial and deplete faster depending on inlet water conditions and usage. The media replenishment is more frequent in high water usage and more acidic water cases.

A dome hole models are available and supplied in which the dome hole is available for a quick addition or replenishment of media in the tank



 **CAUTION!** Make sure that the unit is de-pressurized before conducting this task.



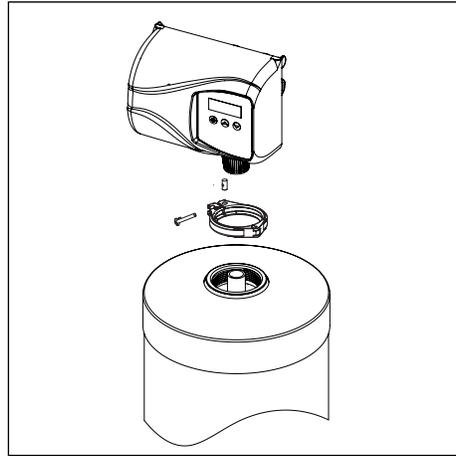
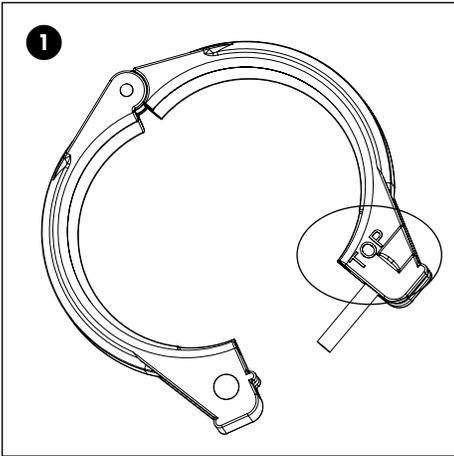
 **DO NOT use petroleum based lubricants as they will cause swelling of O-ring seals.**

The filter is now charged with media.

- 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.

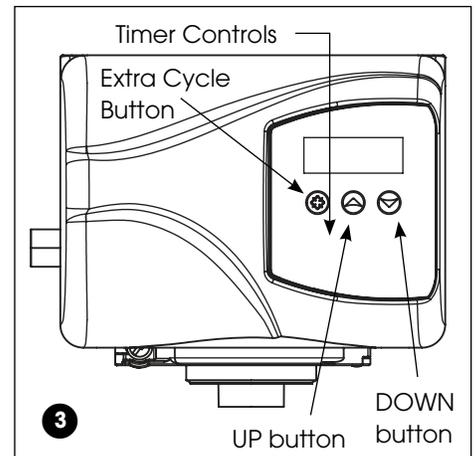
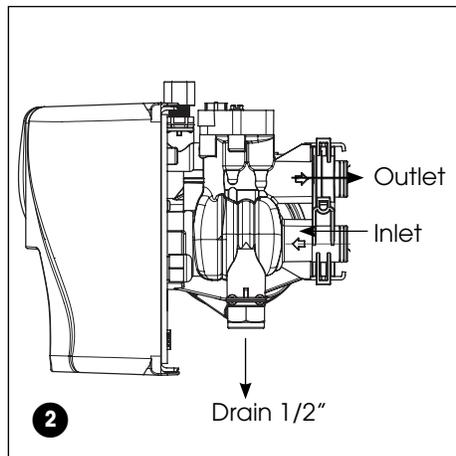
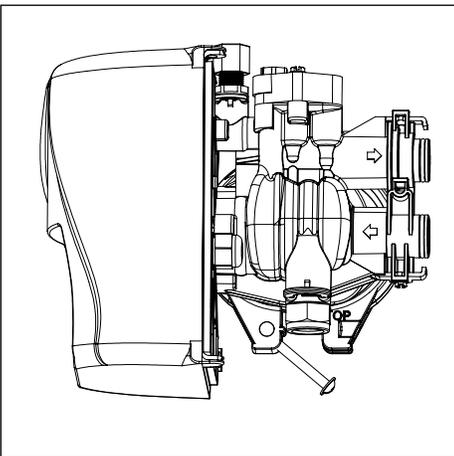
Installation Steps:



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

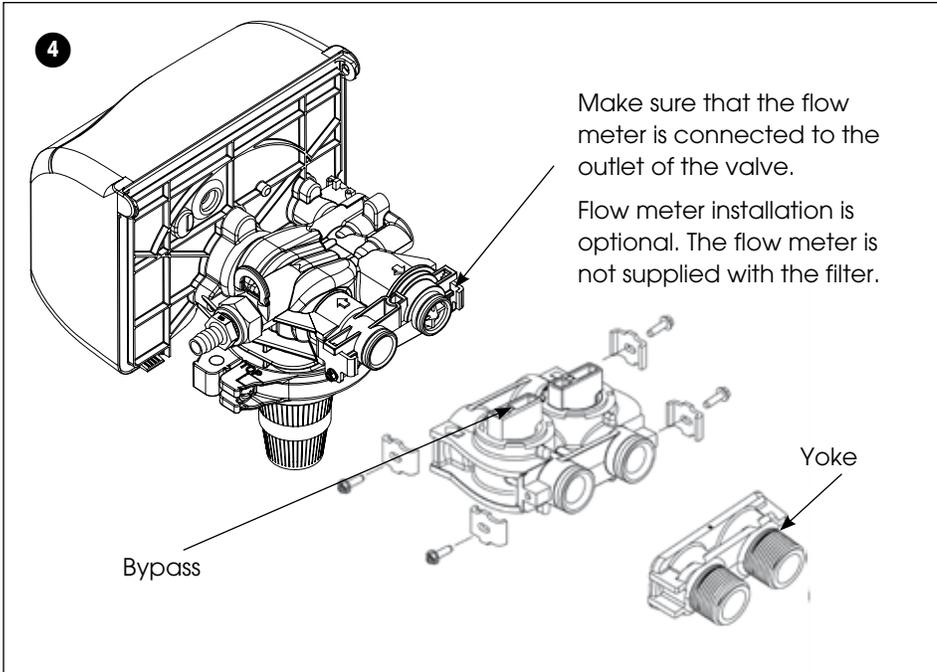


The "Clamp Ring" should secure the valve with the top of the flange facing up. Please note "top" on the clamp ring.



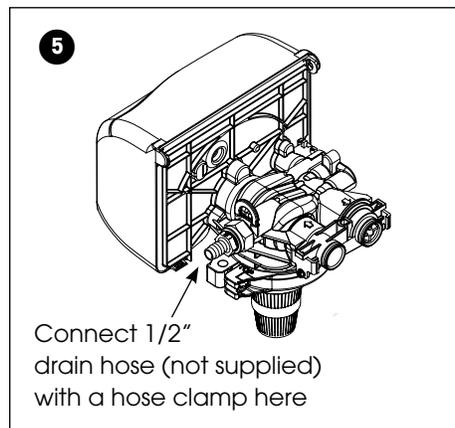
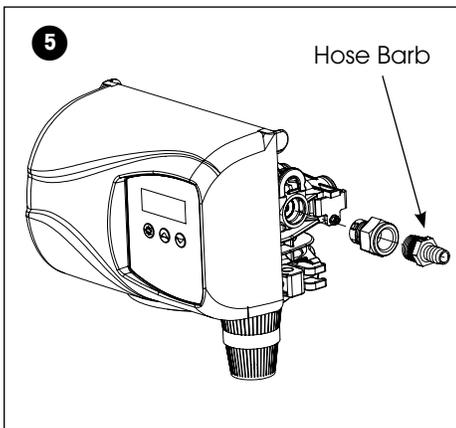
2. Familiarize yourself with the location of the inlet, outlet and drain on the control valve. Be very careful not to get the controls wet.

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.

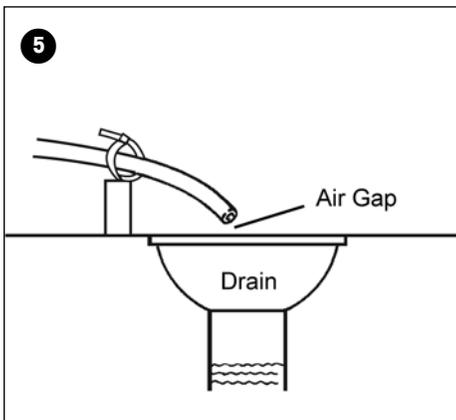
⚠ Do not use pipe thread compound as it may attack the material in the valve body

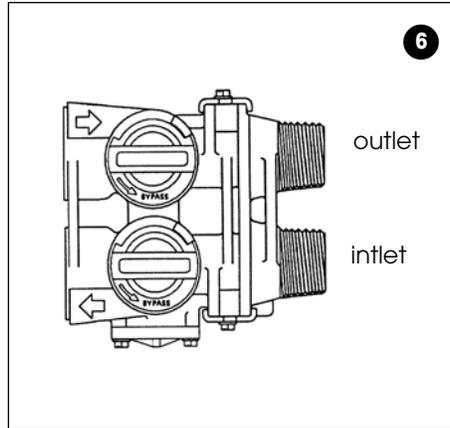


5. Drain Line Connection: Using teflon tape, screw the 1/2" hose barb into the drain port in the valve. Attach 1/2" drain hose to the hose barb and tighten securely with a hose clamp. Run the drain line to a floor drain or a laundry drain. Complete any necessary plumbing.

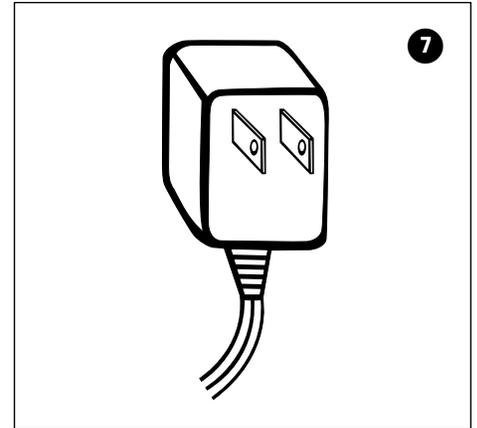
⚠ Waste connections or drain outlet shall be designed and constructed to provide for connection to the sanitary waste system through an air-gap of 2 pipe diameters or 1 inch (22 mm) whichever is larger.

⚠ 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.

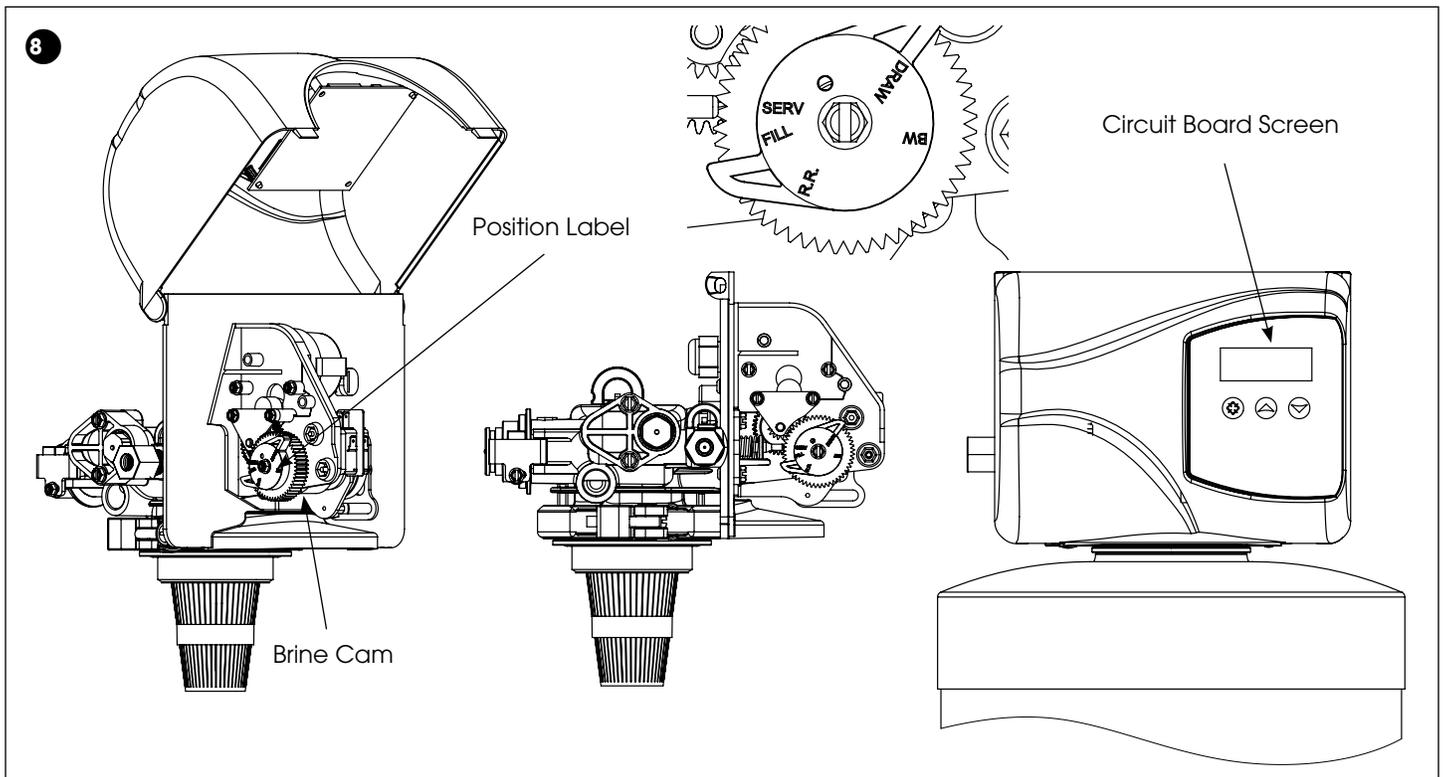




6. Make sure the bypass valve is in the service position.



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



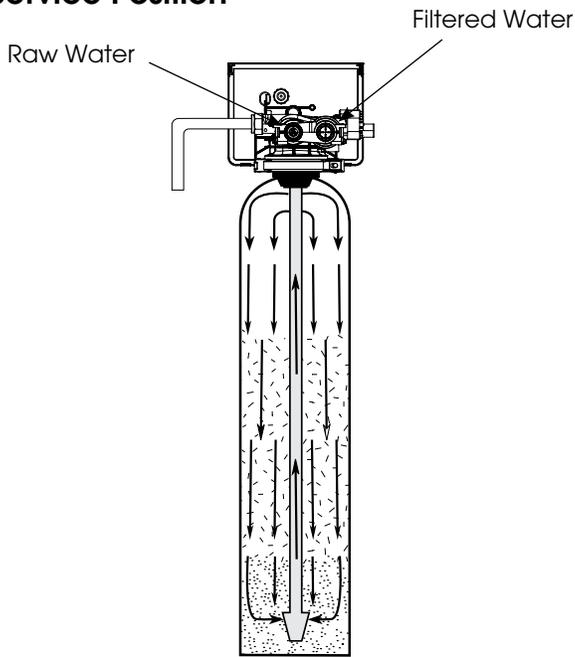
8. This valve has two positions:
 1) Backwash and 2) Rapid Rinse.
 When the valve is in the Service position (⊞) must be pressed and held for 5 seconds before it activates. Press and hold the (⊞) pic for 5 seconds to advance the valve into the "1" Backwash position. Press once more to advance to the "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.

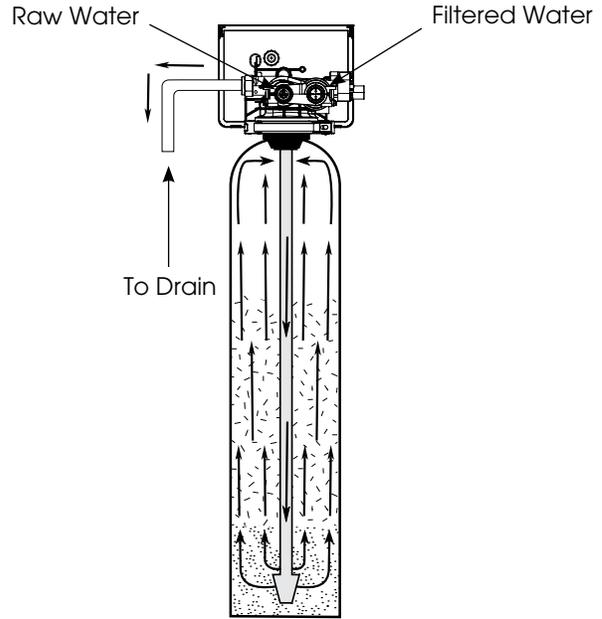
Cycle Step	Abbreviation
BW	Backwash
RR	Rapid Rinse
SV	Service

Water Conditioner Flow Diagrams

Service Position



Backwash Position



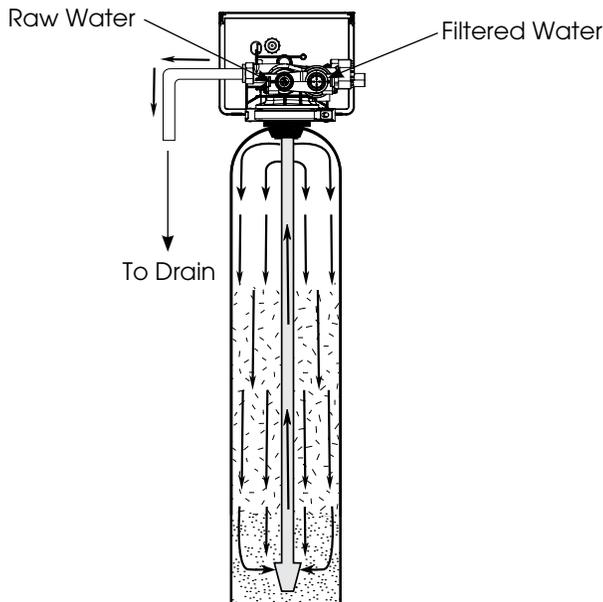
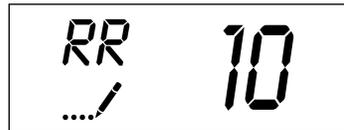
9. Press to advance the valve to the "1" Backwash position. Slowly turn on the water supply and allow the unit to backwash until the air purges out of the tank and clears the system.

IMPORTANT: The filter should be backwashed for 15 minutes before using this for first time

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

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

Rapid Rinse Position



IMPORTANT NOTE: Automatic water filters are supplied from the factory in the backwash position, ready for start up. Turn on the water supply to the unit. Open the supply line slowly and allow the air to escape from the filter before turning the supply water on all the way. Allow the unit to backwash until all the air and media fines are no longer showing at the drain. This may take up to 15 minutes so you need to unplug the timer until you are ready to continue.



12. 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.

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 THIS IS AN OPTION ONLY. PLEASE DO NOT ADJUST BEFORE CONSULTING AN AUTHORIZED DEALER.
RT	Regeneration Time	The time of day that the system will regenerate (meter delayed, timeclock, and day-of-week systems)
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 "12" parameter for softeners.
3. Press the button. Use this display to adjust the Regeneration Time.
4. 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.
5. Press the button to end User Programming Mode.

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 following chart:

Regeneration Cycle Step Programming	
1. Backwash	6 minutes
2. Rapid Rinse	4 minutes

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.

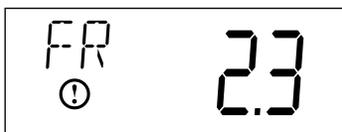
The timer will exit Diagnostic Mode after 60 seconds if no buttons are pressed.

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

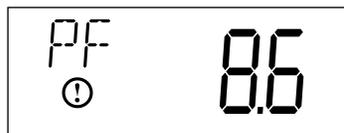
Diagnostic Programming Mode Steps

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

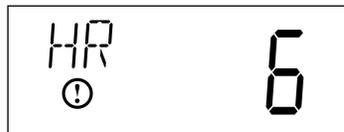
2. Use this display to view the current Flow Rate. This option setting is identified by "FR" in the upper left hand corner of the screen.



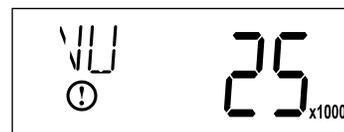
3. Press . Use this display to view the Peak Flow Rate since the last regeneration cycle. This option setting is identified by "PF" in the upper left hand corner of the screen.



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 days and keeping all displays up to date. Control programming is stored in memory permanently, eliminating the need for battery back-up power.

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 15 minutes, after which treated water service will be restored. During regeneration, untreated 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.

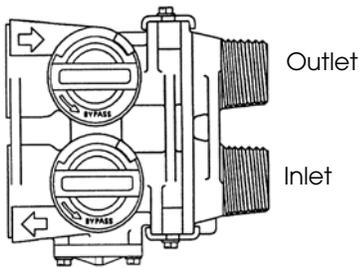
IMPORTANT: This is why the automatic regeneration is set for sometime during the night and manual regenerations should be performed when little or no water will be used in the household.

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

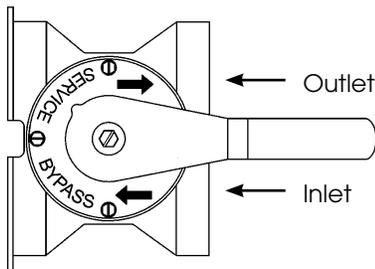
Figure 5A



Manual Bypass (Figure 5A)

In case of an emergency such as an overflowing brine tank, you can isolate your water filter 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 filter, 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 treated 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

Care of Your Filter

To retain the attractive appearance of your new water filter, 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 seals and spacer cartridge should be inspected/cleaned or replaced every year depending on the inlet water quality and water usage.
- The media should be replenished or replaced depending of inlet water quality and water consumption. Check with your water treatment expert on the media bed change frequency. Below are some guidelines

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.

Maintenance of your new water filter requires very little time or effort but it is essential. Regular maintenance will ensure many years of efficient and trouble free operation.

Replacing Media Bed

NF - the media bed in a neutralizing filter is slowly dissolved and has to be replaced. The frequency of replacement varies, depending on water quality - consult your dealer to determine the expected life of your media bed.

ACF - under normal operating conditions the effective life of the filter media is approximately one to three years depending on the water quality, after which, taste and odor problems may return. When this happens contact your dealer for a replacement media bed.

MMF - under normal operating conditions, the media should never need to be replaced. If you experience pressure loss and cannot correct it with a manual regeneration, your media bed may need replacing - contact your dealer

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.
3. Unplug Electrical Cord from outlet.
4. Disconnect drain line connection.

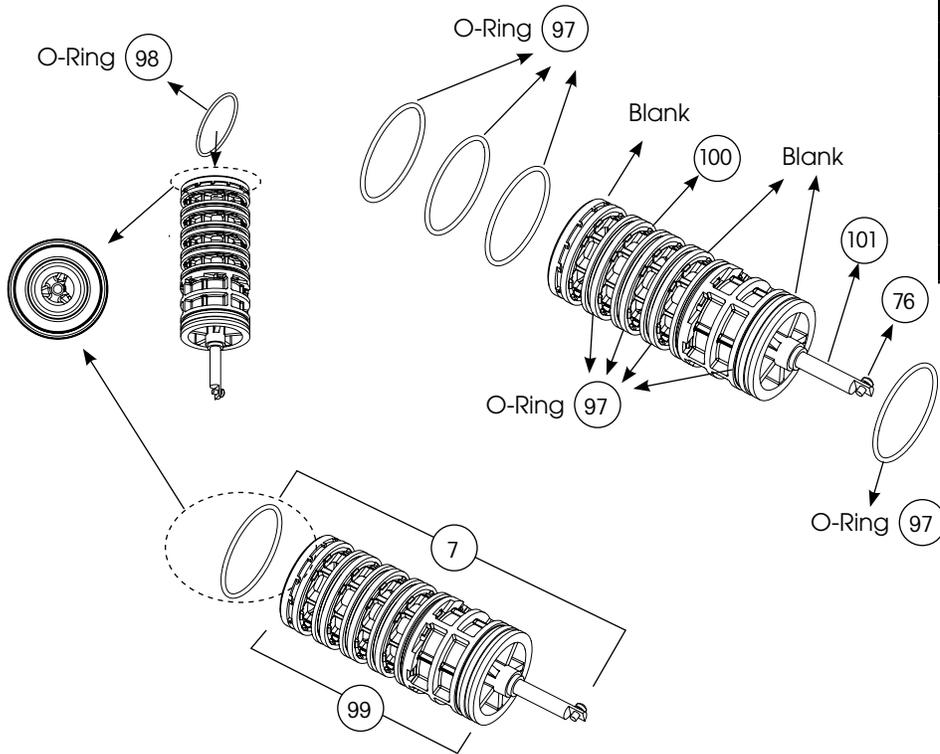


WARNING! ELECTRICAL SHOCK HAZARD! UNPLUG THE UNIT BEFORE REMOVING THE COVER OR ACCESSING ANY INTERNAL CONTROL PARTS.



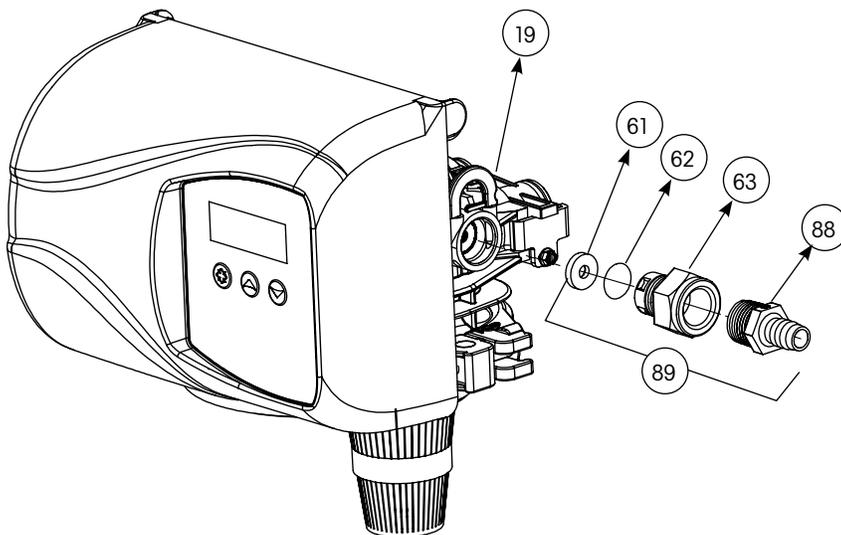
CAUTION! Disassembly while under pressure can result in flooding. Always follow these steps prior to servicing the valve.

6200 Service Kits – Piston and Cartridge Assembly



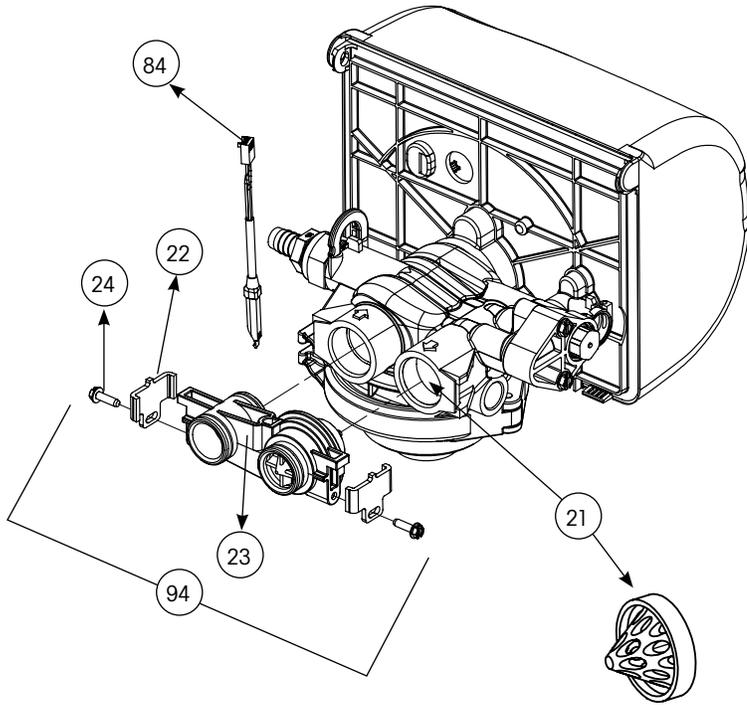
Dwg #	Part #	Part Description
7	61799-01	Cartridge Assembly with Piston
76	11335	Screw, 4-40X3/16
97	16394	O-Ring, 029
98	13287	O-Ring, 123
99	61799	Seal and Spacer Cartridge
100	42920	Piston
101	19984	Piston Rod

6200 Service Kits – Drain Line Flow Control Kits

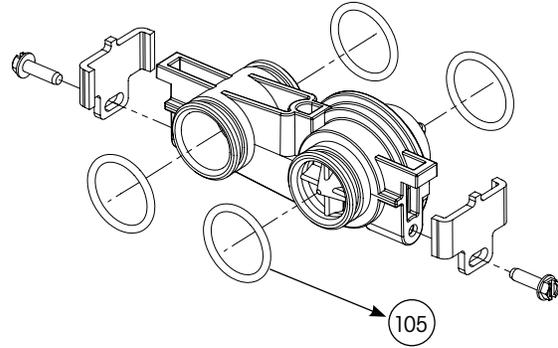


Dwg #	Part #	Part Description
61	12085	Washer, Flow, 1.2 GPM
	12086	Washer, Flow, 1.50 GPM
	12087	Washer, Flow, 2.0 GPM
	12088	Washer, Flow, 2.4 GPM
	12089	Washer, Flow, 3.0 GPM
	12090	Washer, Flow, 3.5 GPM
	12091	Washer, Flow, 4.0 GPM
	12092	Washer, Flow, 5.0 GPM
62	11183	O-Ring, 017
63	11385-01	Adapter, 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

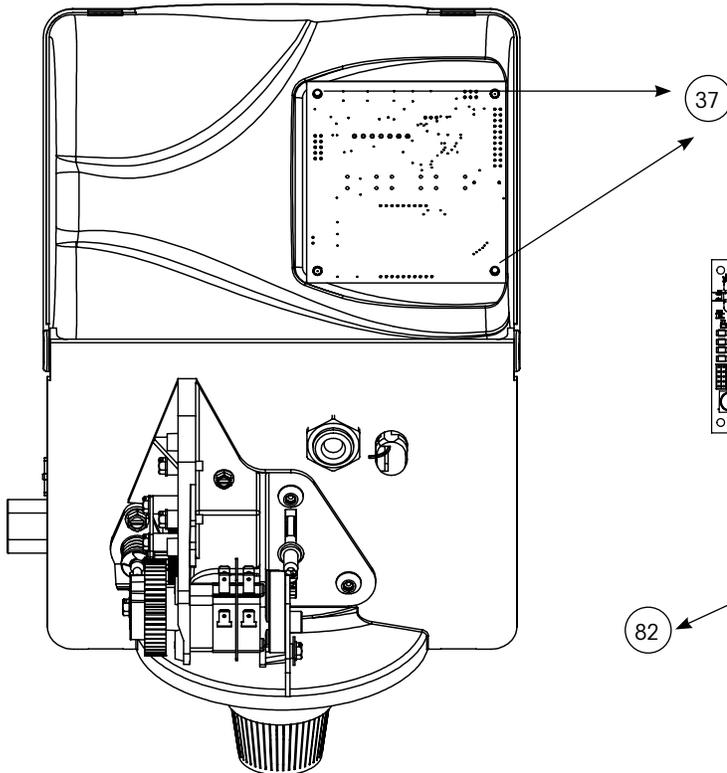
6200 Service Kits – Flow Meter (Optional)



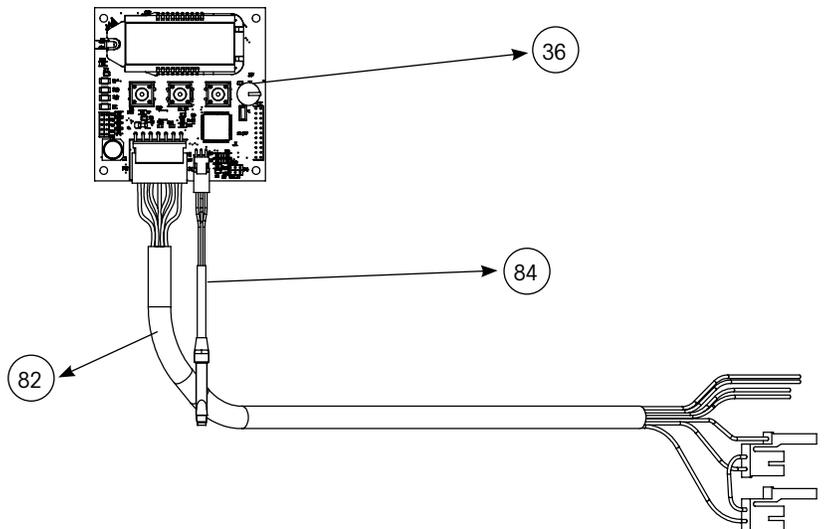
Dwg #	Part #	Part Description
84	19791-01	Cable, Meter
22	19569	Clip, Flow Meter
24	13314	Screw, Slot Hex, 8-18 X0.6
23	19797	Meter, Assy, 3/4" Dual Port
105	13305	O-Ring, -119
21	14613	Flow Straightener
94	60626	Meter Only, Electronic Turbine



6200 Service Kits – Circuit Board

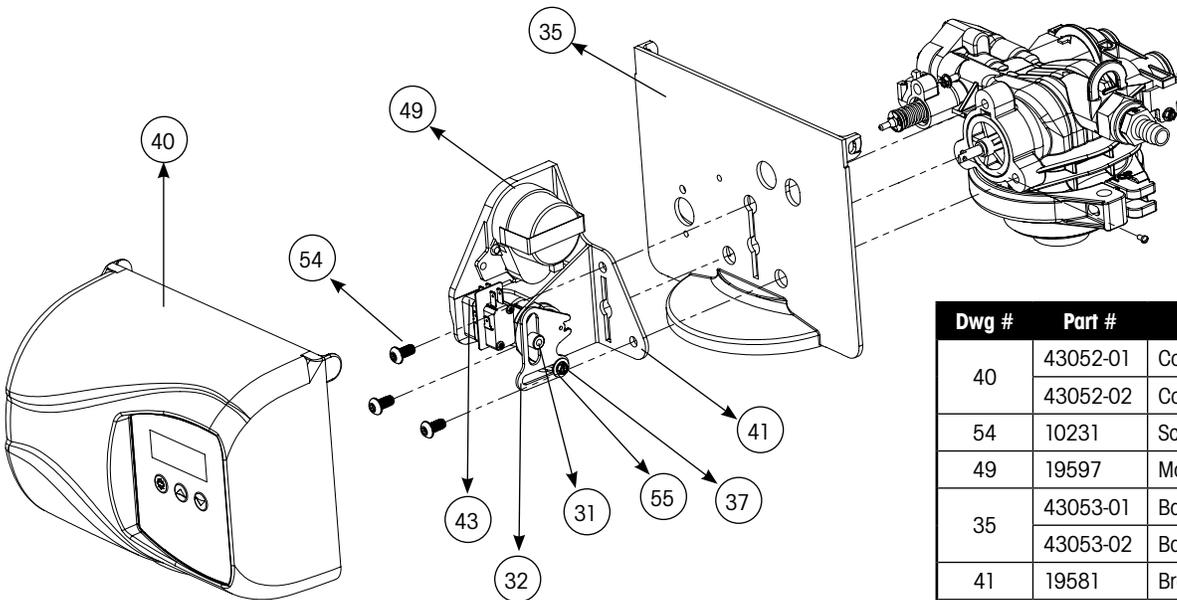
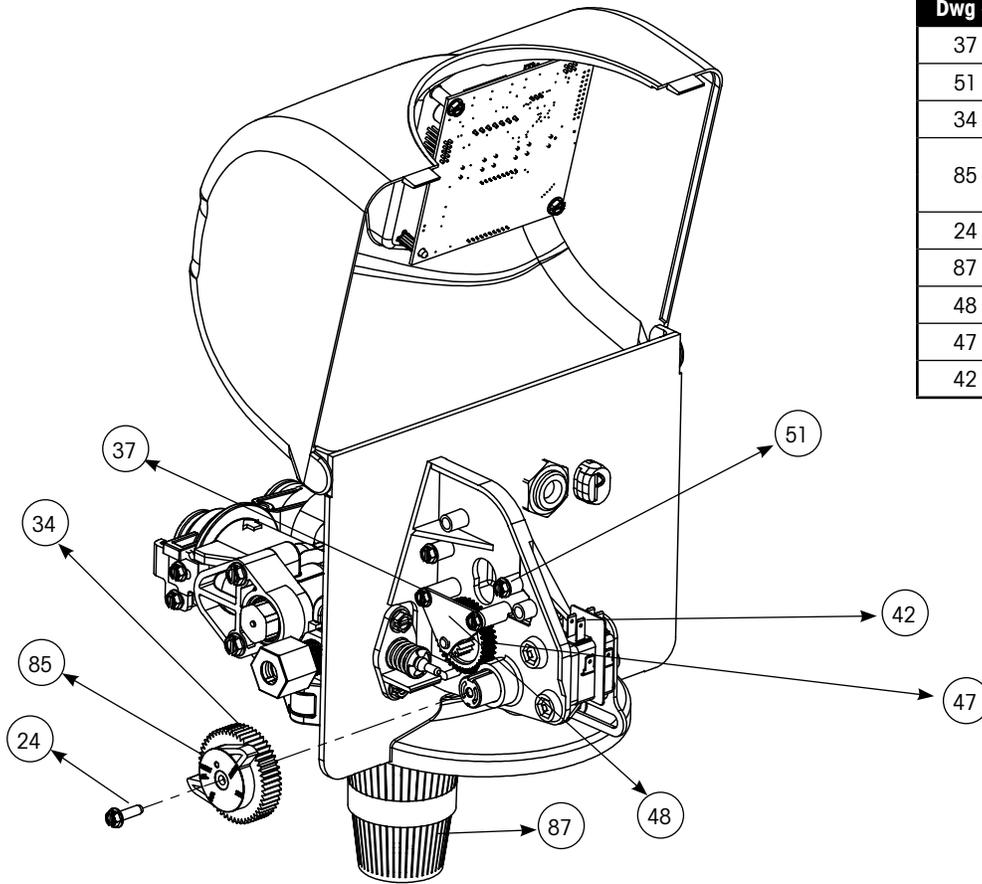


Dwg #	Part #	Part Description
82	19474-01	Harness, Power, SXT
84	19791-01	Cable Meter
36	42766-02	Circuit Board, SXT
37	17020	Screw



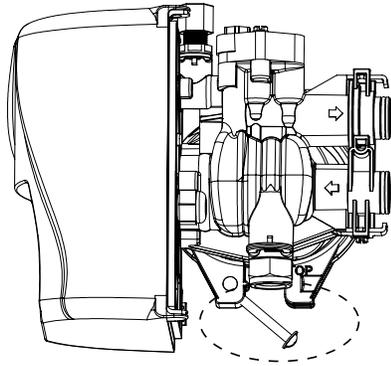
6200 Service Kits – Other Parts

Dwg #	Part #	Part Description
37	17020	Screw, Stl Hex, 6-20 X 3/8
51	040050	Screw, Hex Washer
34	42919	Cam, Brine
85	43107	Label, Cam Position, Softener
	43121	Label, Cam Position, Filter
24	13314	Screw, Slot, Hex, 8-18 X 0.60
87	18280	Collector, Top, 1"
48	19619	Bracket, Idler
47	43298	Gear Idler
42	10218	Switch, Micro

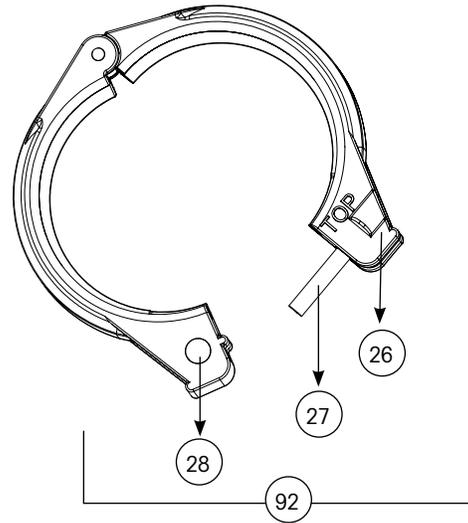


Dwg #	Part #	Part Description
40	43052-01	Cover, Black
	43052-02	Cover, Cream
54	10231	Screw, Slot Hex, 1/4-20 X 1/2
49	19597	Motor, 24V, 50/60 Hz
35	43053-01	Backplate, Black
	43053-02	Backplate, Cream
41	19581	Bracket, Drive
43	10302	Insulator, Limit Switch
32	019688	Link, Piston Rod
31	019493	Shaft,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

6200 Service Kits – Other Parts Continued

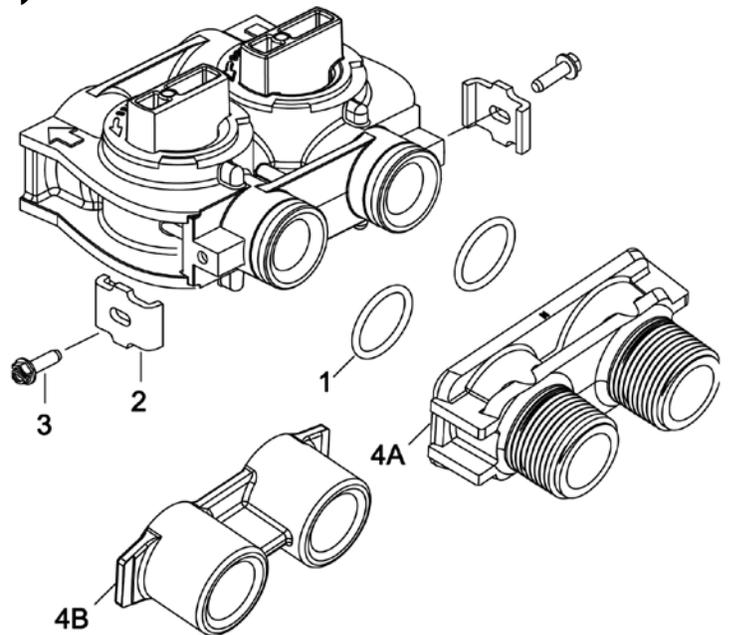


Dwg #	Part #	Part Description
28	19998	Shaft, Drive
27	40057	Screw, Hex Washer Head
26	40254	Clamp, Ring
92	60503	Clamp Ring Assembly

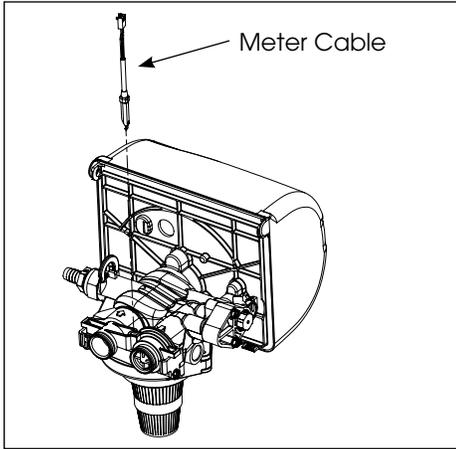


Bypass Valve Assembly & Yokes (Plastic)

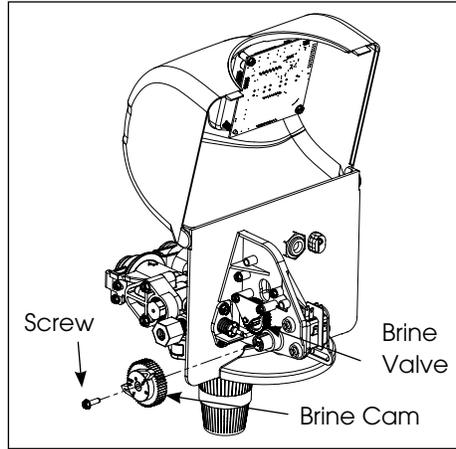
Item No.	Quantity	Part No.	Description
1	2	13305	O-ring, -119
2	2	13255	Clip, Mounting
3	2	13314	Screw, Hex Washer Head, 8-18 x 5/8
4A	1	18706	Yoke, Plastic, 1" NPT
		18706-02	Yoke, Plastic, 3/4" NPT
4B	1	13708	Yoke, Brass, 3/4" NPT
		13708NP	Yoke, 3/4" NPT Nickel Plated
		13398	Yoke, Brass, 1" NPT
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



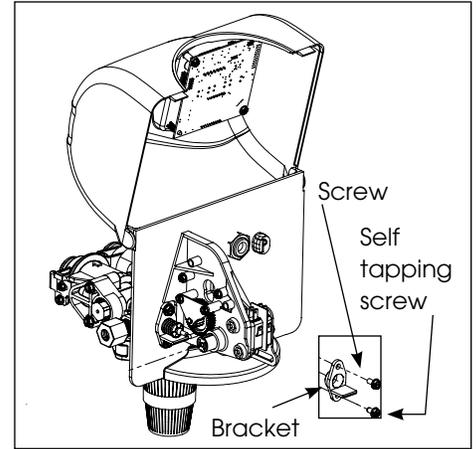
Timer Replacement



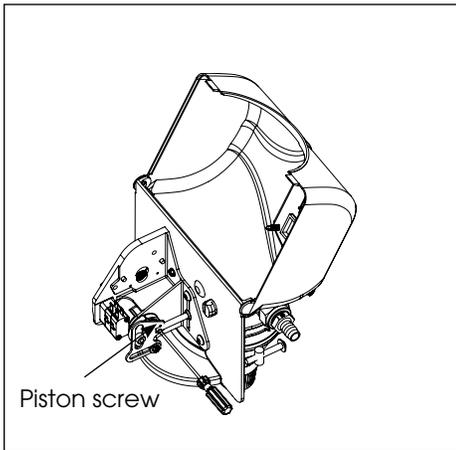
1. Disconnect the meter cable from the meter. (If flow meter is attached)



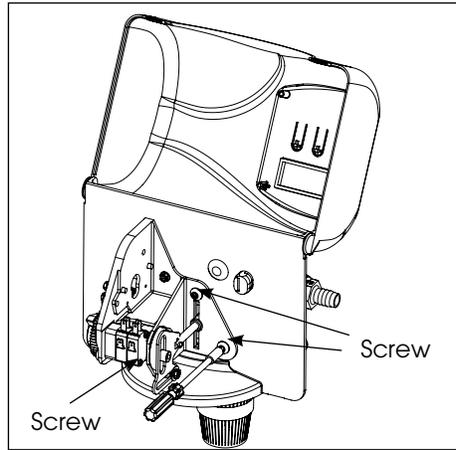
2. Open the front cover of the control valve, unscrew the brine cam and push the brine valve in order to remove the cam.



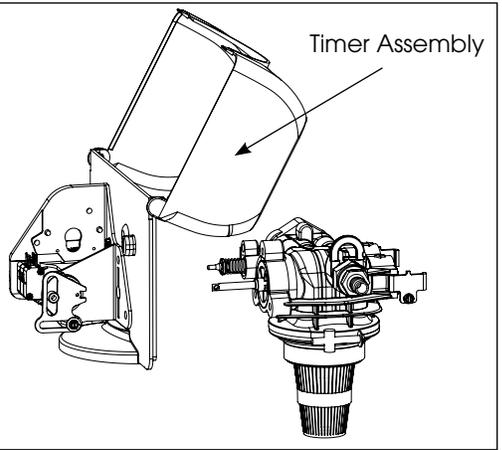
3. Remove the two screws from the grey brine valve bracket and remove it from the valve back plate.



4. Remove the piston screw from the piston rod.

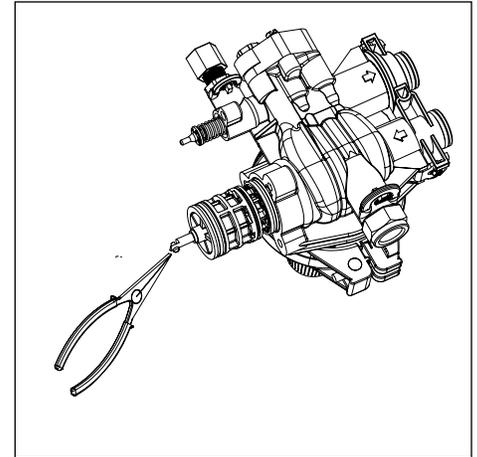
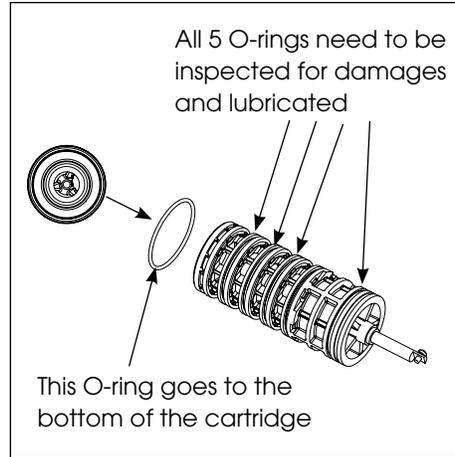
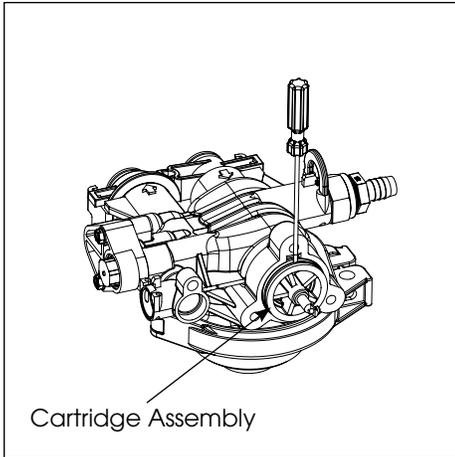


5. Remove the three screws from the front bracket. The entire timer assembly will disconnect from the valve body.



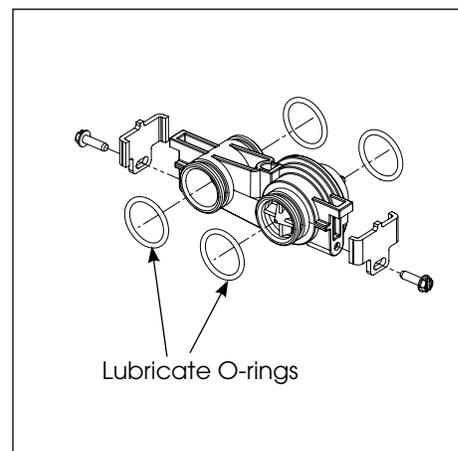
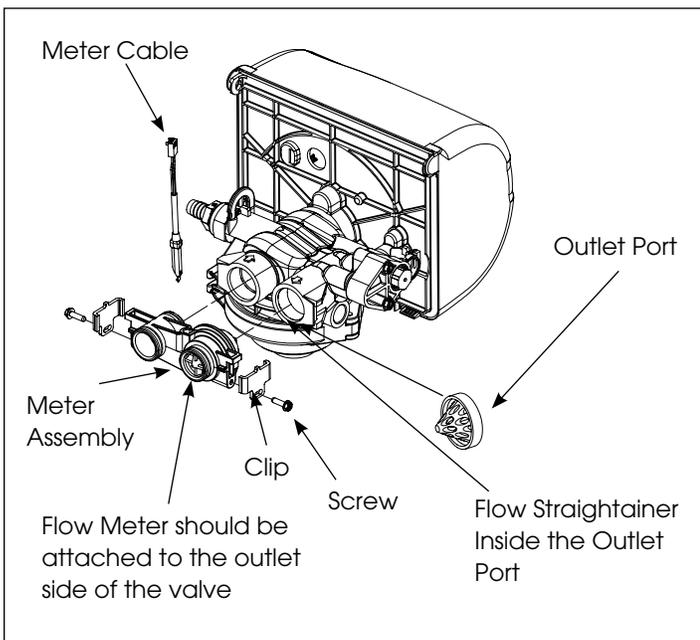
6. Replace the timer with a new one. Attach the three screws to the front bracket and piston screw to the piston rod. Reinstall the brine valve bracket. Reinstall brine cam. Close the front cover of the control valve.
7. Reconnect meter cable. (If flow meter is attached)

Piston Cartridge Assembly Replacement



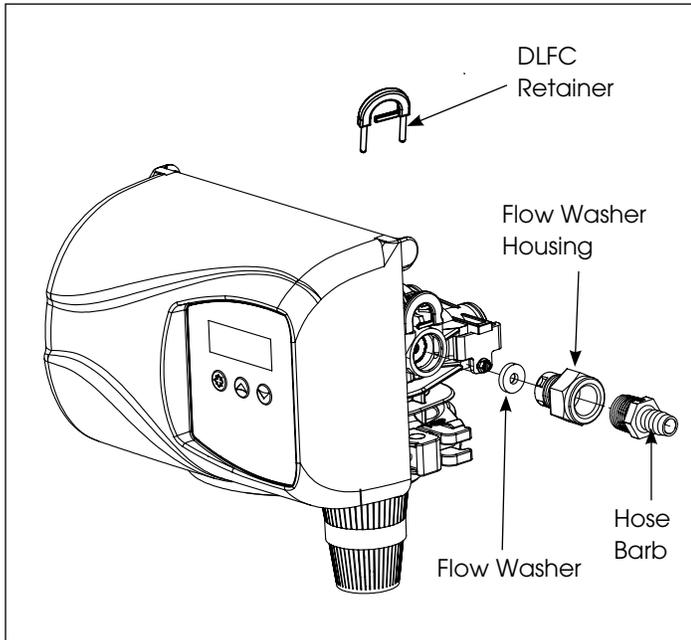
1. Follow steps 1 to 5 of timer replacement.
2. Use a flat head screw drive on the notch of the valve body as shown to loosen the piston cartridge, pull the cartridge out of the body using pliers.
3. Inspect the inside of the valve to make sure that there is no foreign matter that would interfere with 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



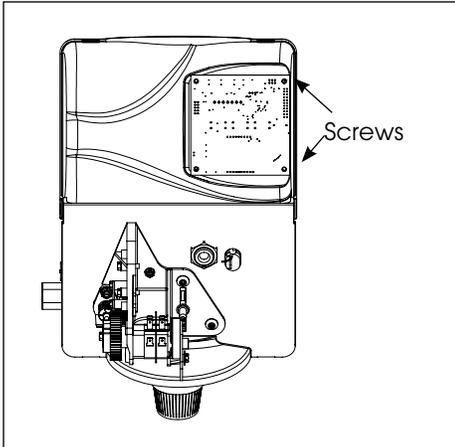
1. Disconnect the meter cable from the meter.
2. Remove two screws and clips at bypass valve or yoke. Pull resin tank away from plumbing connections.
3. Pull meter module out from control valve.
4. Apply silicone lubricant to four new o-rings and assemble to four ports on new meter module.
5. Assemble 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 Drain Line Flow Control (DLFC)

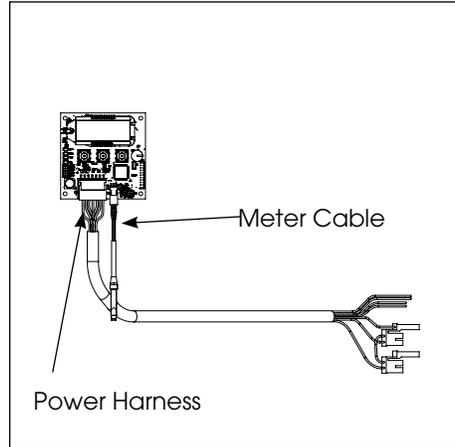


1. Disconnect the drain line retainer clip.
2. Remove the DLFC assembly and pull the flow washer out of the DLFC housing with the help of plier.
3. Remove the flow washer from the housing and clean it with water to remove any debris. Replace it with a new washer if necessary.
4. Re-install the DLFC housing and retainer.

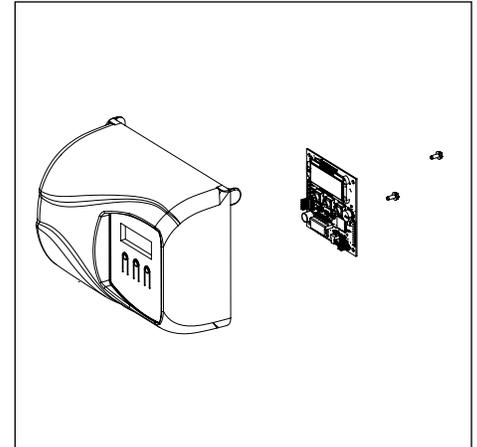
Circuit Board Replacement



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

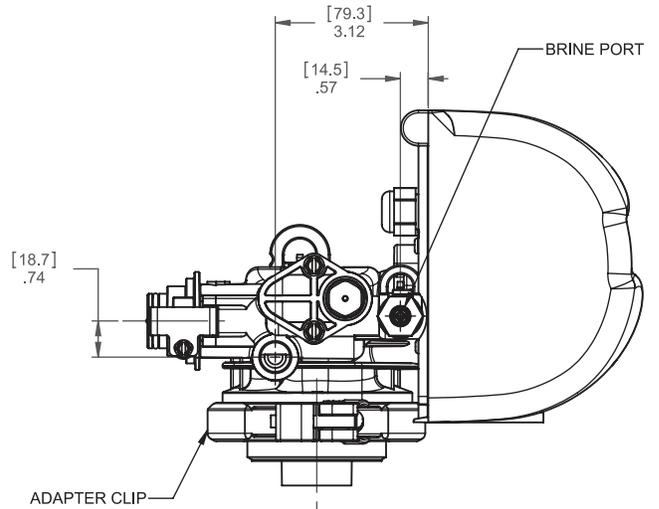
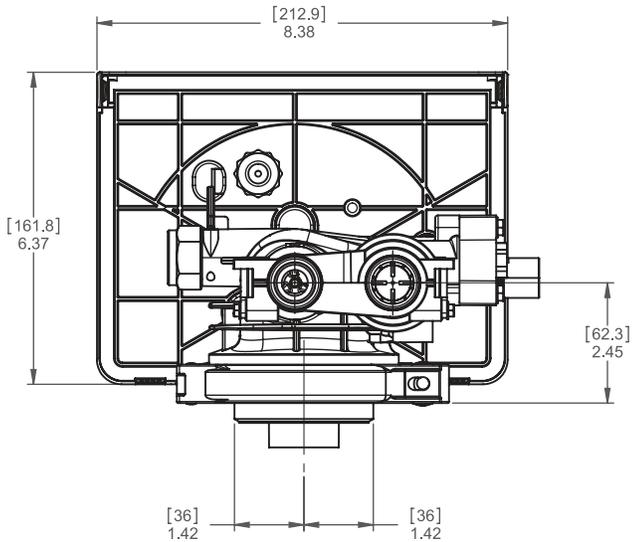
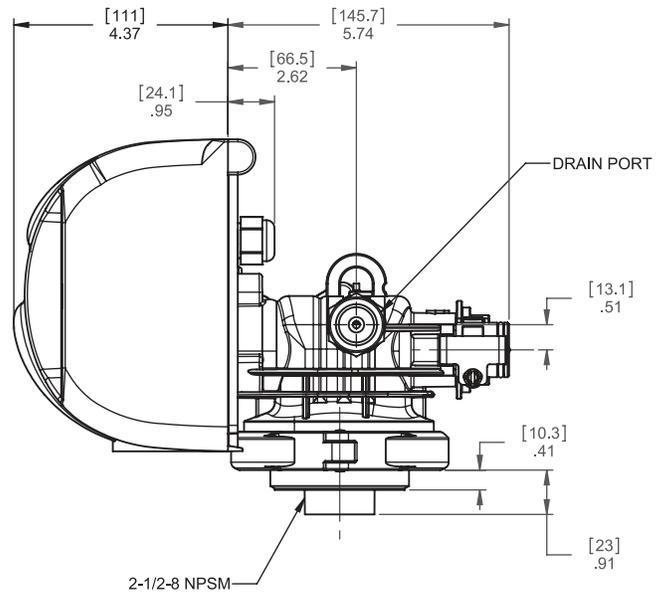
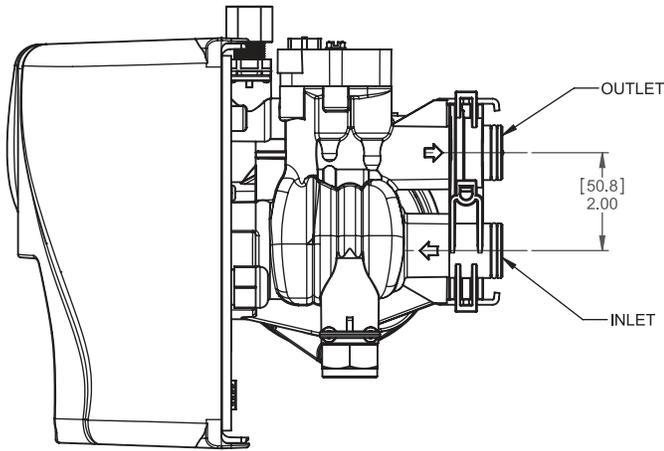
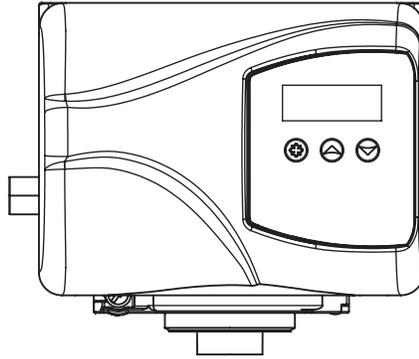
1. Reconnect drain line.
2. Return bypass or inlet valve to normal in service position. Water Pressure will automatically build in the softener.

NOTE: Be sure to shut off any bypass line.

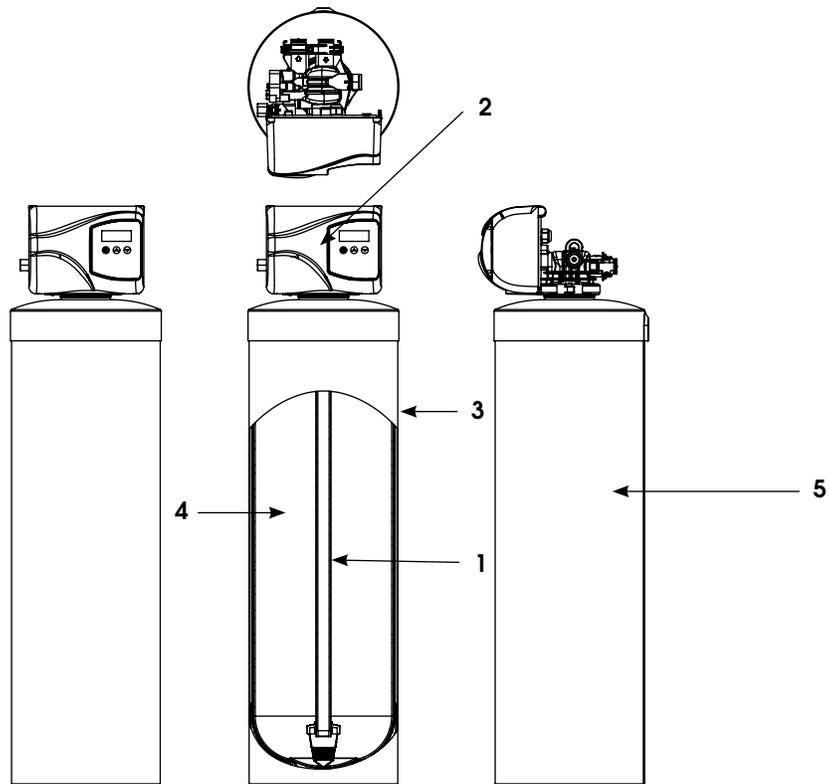
3. Check for leaks at all sealed areas. Check Drain seal with the control in the backwash position.
4. Plug electrical cord into outlet.
5. Set Time of Day and cycle the control valve manually to assure proper function. Make sure control valve is returned to the In Service position.
6. Start regeneration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

6200 SXT Valve Dimensional Drawings

All dimensions are in Inches (mm).



Parts Breakdown

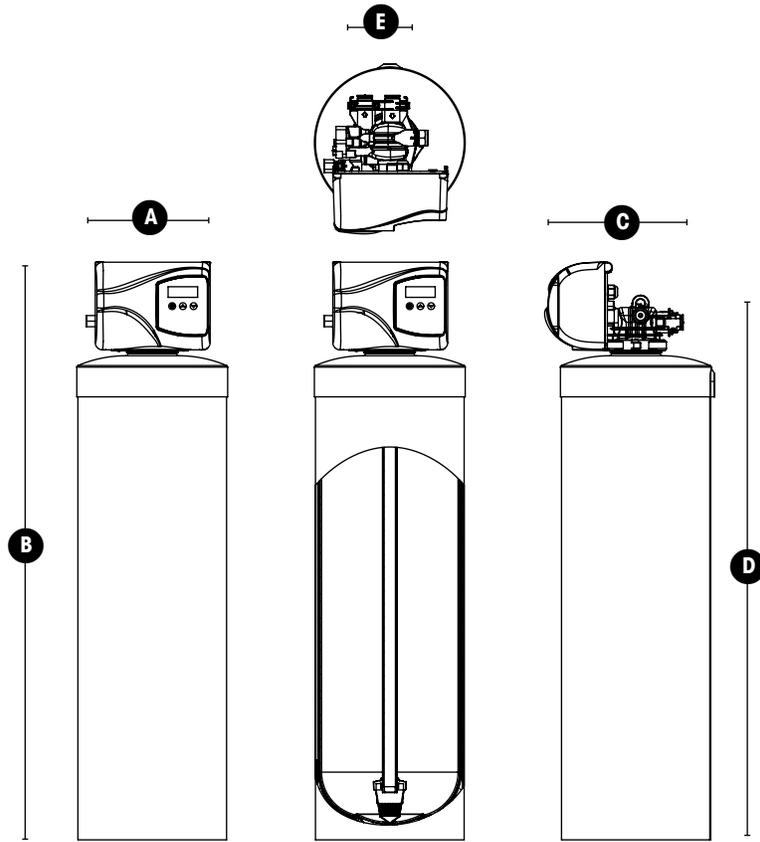


Activated Carbon Filters (ACF)						
Part Number	Model	Distributor (1)	Valve (2)	Tank (3)	Media Bed (4)	Tank Jacket (5)
4440	NACF75SXT	19478	6200111	18474	95401	100502
4441	NACF10SXT	19478	6200112	110474	95402	100507
4442	NACF15SXT	19477	6200113	112524	95403	
4443	NACF20SXT	19477	6200114	114501	95404	
Multimedia Filters (MMF)						
Part Number	Model	Distributor (1)	Valve (2)	Tank (3)	Media Bed (4)	Tank Jacket (5)
4444	NMMF75SXT	19478	6200115	18474	95418	100502
4445	NMMF10SXT	19478	6200116	194804	95415	100505
4446	NMMF15SXT	19477	6200117	110544	95416	100508
4447	NMMF20SXT	19477	6200118	112524	95417	
Neutralizer Filter (NF)						
Part Number	Model	Distributor (1)	Valve (2)	Tank (3)	Media Bed (4)	Tank Jacket (5)
4452	NNF75SXT	19478	6200123	18474	93500	100502
4453	NNF10SXT	19478	6200124	110474	93504	100507
4454	NNF15SXT	19477	6200125	112524	93505	
4455	NNF20SXT	19477	6200126	114501	93506	
4456	NNF15SXT-DH	19477	6200125	81150	93505	
4457	NNF20SXT-DH	19477	6200126	81151	93506	

Common Components

60049 Bypass

Parts Dimensions



Dimensions (inches)						
	NACF75SXT/ NMMF75SXT/ NNF75SXT	NACF10SXT	NACF15SXT/ NMMF20SXT/ NNF20SXT	NACF20SXT	NMMF10SXT/ NNF10SXT	NMMF15SXT/ NNF15SXT
A	8	10	12	14	9	19
B	54	54	59	57	55	61
C	19	19	19	19	19	19
D	49	49	54	52	50	56
E	2	2	2	2	2	2

Trouble Shooting Guide

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

Problem	Cause	Correction
1. Filter bleeds taste and odor or sediment	<ul style="list-style-type: none"> A. Bypass valve is open B. Electrical service to unit has been interrupted C. Defective or stripped media bed D. Quality of water has worsened E. Filter capacity too small F. Filter not backwashing enough G. Excessive water usage - calendar clock models 	<ul style="list-style-type: none"> A. Close bypass valve B. Assure permanent electrical service (check fuse, plug or switch) C. Replace media D. Have water sample analyzed to determine any change E. Replace with larger unit or add another filter F. Be sure flow control is not clogged or drain line restricted. Be sure water pressure has not dropped and that pump has sufficient capacity G. Increase frequency of regeneration. Make sure there are no leaks in toilets or sinks
2. Filter fails to regenerate	<ul style="list-style-type: none"> A. Electrical service to unit has been interrupted B. Timer is defective C. Power failure D. Timer motor does not run 	<ul style="list-style-type: none"> A. Assure permanent electrical service (check fuse, plug or switch) B. Replace timer C. Reset time of day D. Replace defective motor
3. Filter regenerates every day	<ul style="list-style-type: none"> A. Faulty gear train 	<ul style="list-style-type: none"> A. Check the mechanical linkage on the timer control to eliminate possible binding in the gear train
4. Loss of water pressure	<ul style="list-style-type: none"> A. Iron or turbidity build-up in filter B. Filter not regenerating often enough C. Not enough water volume or pressure to backwash properly 	<ul style="list-style-type: none"> A. Clean control and treat bed with Iron Out. Increase frequency of regeneration B. Increase frequency of regeneration C. Correct water supply problem
5. Loss of media through drain line	<ul style="list-style-type: none"> A. Air in water system B. Backwash rate too fast 	<ul style="list-style-type: none"> A. Assure that well system has proper air eliminator control. Check for dry well condition B. Check drain flow control for proper flow rates
6. Drain flows continuously	<ul style="list-style-type: none"> A. Foreign material in control B. Timer motor stopped or jammed 	<ul style="list-style-type: none"> A. Remove piston assembly and inspect bore. Remove foreign material and check control in various regeneration positions B. Replace timer motor

Novatek 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.

Seven Year Complete Parts Guarantee:

WaterGroup Inc. will replace any part which fails within 60 months from date of manufacture, as indicated by the serial number provided the failure is due to a defect in material or workmanship. The only exception shall be when proof of purchase or installation is provided and then the warranty period shall be from the date thereof.

Ten Year Guarantee on Mineral Tanks and Brine Tanks:

WaterGroup Inc. will provide a replacement mineral tank or brine tank to any original equipment purchaser in possession of a tank that fails within 120 months, provided that the water conditioner is at all times operated in accordance with specifications and not subject to freezing.

General Provisions:

WaterGroup Inc. assumes no responsibility for consequential damage, labor or expense incurred as a result of a defect or for failure to meet the terms of these guarantees because of circumstances beyond its control.



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