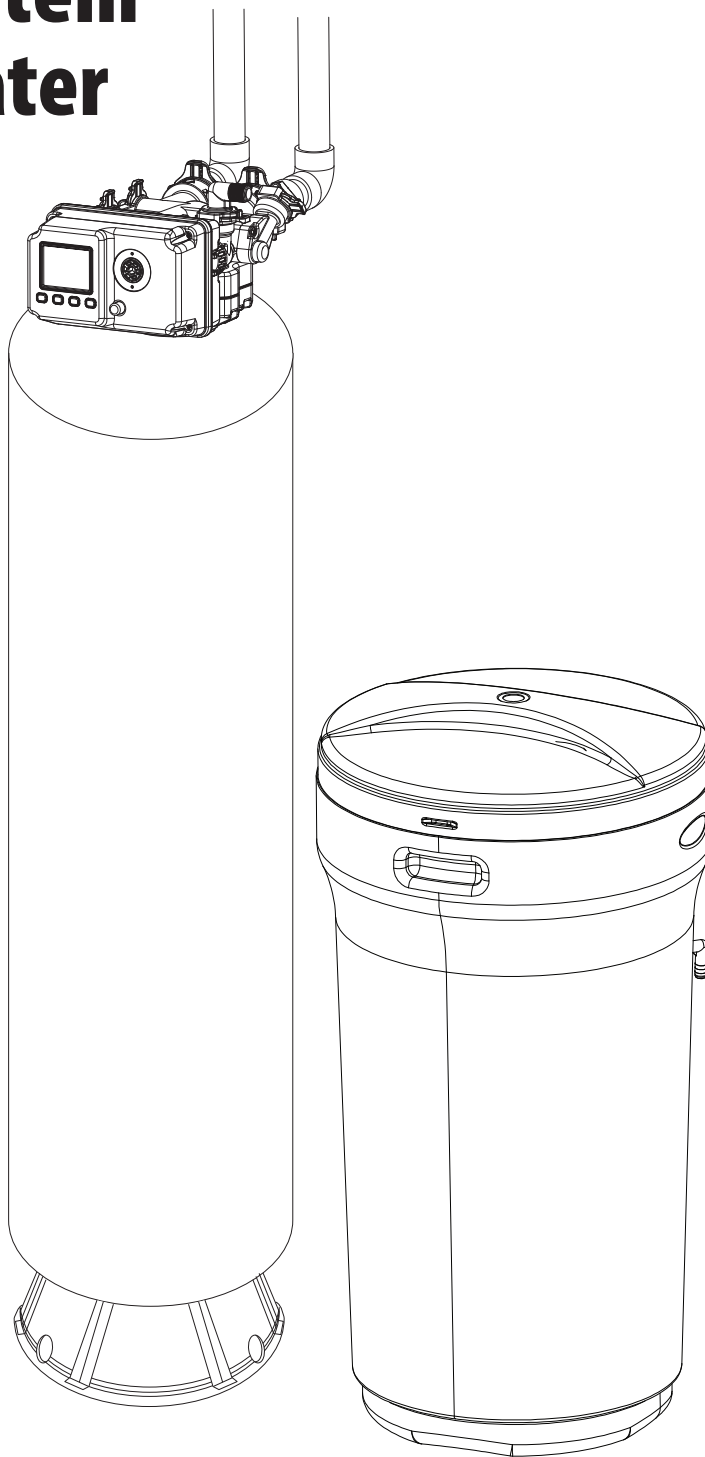


95STS

Single Tank System Commercial Water Softener



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SAFETY GUIDE

For your safety, the information in this manual must be followed to minimize the risk of electric shock, property damage or personal injury.

- Check and comply with your provincial / state and local codes. You must follow these guidelines.
- Use care when handling the water softening system. Do not turn upside down, drop, drag or set on sharp protrusions.
- The water softening system works on 12 volt-60 Hz electrical power only. Be sure to use only the included transformer.
- Transformer must be plugged into an in-door 120 volt, grounded outlet only.
- Use clean water softening salts only, at least 99.5% pure. NUGGET or PELLET salts are recommended. Do not use rock, block, granulated or ice cream making salts. They contain dirt and sediments, or mush and cake, and will create maintenance problems.
- Keep the salt lid in place on the softener unless servicing the unit or refilling with salt.
- **WARNING:** This system is not intended for treating water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

PROPER INSTALLATION

This water softening system must be properly installed and located in accordance with the Installation Instructions before it is used..

- Install or store where it will not be exposed to temperatures below freezing or exposed to any type of weather. Water freezing in the system will break it. Do not attempt to treat water over 100°F.
- Do not install in direct sunlight. Excessive sun or heat may cause distortion or other damage to non-metallic parts.
- Properly ground to conform with all governing codes and ordinances.
- Use only lead-free solder and flux for all sweat-solder connections, as required by state and federal codes.
- The water softening system requires a minimum water flow of three gallons per minute at the inlet.
- Maximum allowable inlet water pressure is 125 psi. If daytime pressure is over 80 psi, night time pressure may exceed the maximum. Use a pressure reducing valve to reduce the flow if necessary.
- Softener resins may degrade in the presence of chlorine or chloramines above 2 ppm. If you have chlorine or chloramines in excess of this amount, you may experience reduced life of the resin. In these conditions, you may wish to consider purchasing a carbon filter softener system with a chlorine or chloramine reducing media.
- **WARNING:** Discard all unused parts and packaging material after installation. Small parts remaining after the installation could be a choke hazard.

UNPACKING / INSPECTION

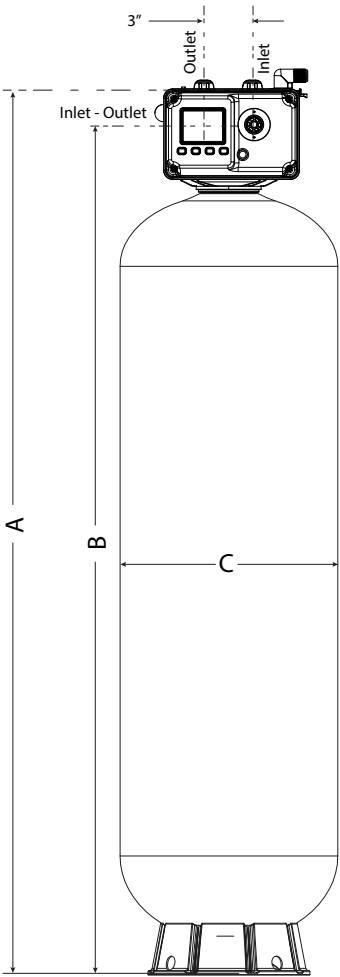
Be sure to check the entire softener for any shipping damage or parts loss. Also note damage to the shipping cartons. Contact the transportation company for all damage and loss claims. The manufacturer is not responsible for damages in transit.

Small parts, needed to install the softener, are in a parts bag. To avoid loss of the small parts, keep them in the parts bag until you are ready to use them.

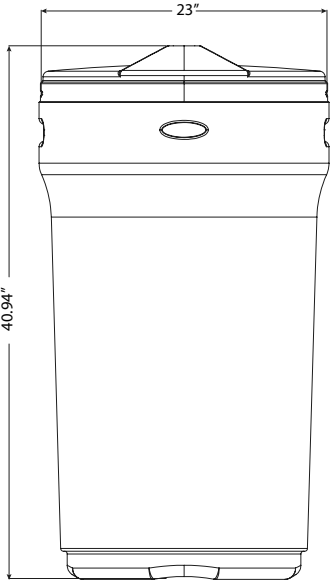
SPECIFICATIONS

Model	Capacity	Resin	Salt Usage		Flow Rates per Tank				Dimensions	
					Critical	95 - 1.5"***		Max Flow		
					Flow	@ 15 PSI	@ 25 PSI	To Drain		
					USGPM	USGPM	USGPM	USGPM		
					l/s	l/s	l/s	l/s		
STS90	90,000	3	45 (20.5)	30 (13.6)	15	25	35	5	14 x 65	24 x 37
	81,000	0.08			0.95	1.58	2.20	0.32	356 x 1651	610 x 940
STS120	120,000	4	60 (27.3)	40 (18.2)	20	27	38	7	16 x 65	24 x 37
	108,000	0.11			1.26	1.70	2.40	0.44	403 x 1651	610 x 940
STS150	150,000	5	75 (34.1)	50 (22.7)	25	32	43	9	18 x 65	24 x 37
	135,000	0.14			1.58	1.96	2.71	0.57	475 x 1651	610 x 940
STS180	180,000	6	90 (40.9)	60 (27.3)	30	31	42	12	21 x 62	29 x 50
	162,000	0.17			1.89	1.96	2.65	0.76	533 x 1575	740 x 1275
STS210	210,000	7	105 (47.7)	70 (31.8)	31	31	42	12	21 x 62	29 x 50
	189,000	0.20			2.21	1.96	2.65	0.76	533 x 1575	740 x 1275
STS240	240,000	8	120 (54.5)	80 (36.4)	32	32	44	15	24 x 72	33 x 53
	189,000	0.27			2.02	2.02	2.78	0.95	610 x 1829	840 x 1335
STS270	270,000	9	135 (61.4)	90 (40.9)	32	32	44	15	24 x 72	33 x 53
	243,000	0.25			2.02	2.02	2.78	0.95	610 x 1829	840 x 1335
STS300	300,000	10	150 (68.2)	100 (45.5)	32	32	43	15	24 x 72	33 x 53
	270,000	0.28			2.02	2.02	2.71	0.95	610 x 1829	840 x 1335
STS330	310,000	11	165 (74.8)	110 (49.9)	32	31	42	15	24 x 72	33 x 53
	279,000	0.31			2.02	1.96	2.65	0.95	610 x 1829	840 x 1335

- Continuous operation at flow rates greater than the service flow rate may affect capacity and efficiency performance.
- 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.



	A	B	C	D
1054	61.38"	58.90"	10"	2.5"
1252	59.38"	56.90"	12"	2.5"
1465	72.38"	69.90"	14"	4"
1665	72.38"	69.90"	16"	4"
1865	72.38"	69.90"	18"	4"
2162	69.38"	66.90"	21"	4"
2472	79.38"	76.90"	24"	4"



BEFORE STARTING INSTALLATION

TOOLS, PIPE, AND FITTINGS, OTHER MATERIALS

- Pliers
- Screwdriver
- Teflon tape
- Razor knife
- Two adjustable wrenches
- Additional tools may be required if modification to home plumbing is required.
- Plastic inlet and outlet fittings are included with the softener. To maintain full valve flow, 3/4" or 1" pipes to and from the softener fittings are recommended. You should maintain the same, or larger, pipe size as the water supply pipe, up to the softener inlet and outlet.
- Use copper, brass, or PEX pipe and fittings.
- Some codes may also allow PVC plastic pipe.
- ALWAYS install the included bypass valve, or 3 shut-off valves. Bypass valves let you turn off water to the softener for repairs if needed, but still have water in the house pipes.
- 5/8" OD Drain line is needed for the valve drain. A 10' length of hose is included. with some models.
- A length of 5/8" OD drain line tubing is needed for the brine tank over flow fitting (optional).
- Nugget or pellet water softener salt is needed to fill the cabinet tank.

WHERE TO INSTALL THE SOFTENER

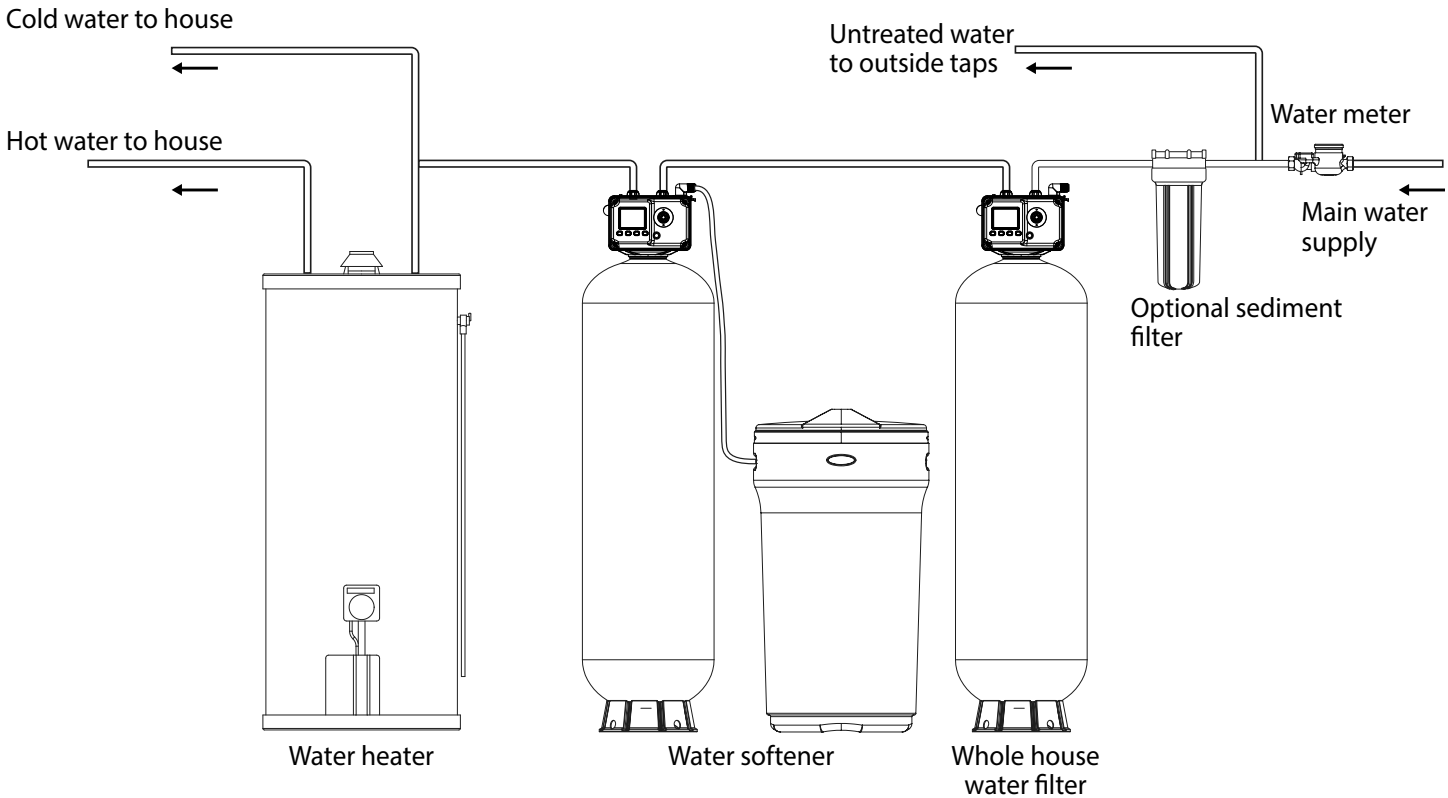
- Place the softener as close as possible to the pressure tank (well system) or water meter (city water).
- Place the softener as close as possible to a floor drain, or other acceptable drain point (laundry tub, sump, standpipe, etc.).
- Connect the softener to the main water supply pipe BEFORE the water heater. **DO NOT RUN HOT WATER THROUGH THE SOFTENER.** Temperature of water passing through the softener must be less than 100 deg. F.
- Keep outside faucets on hard water to save soft water and salt.
- Do not install the softener in a place where it could freeze. **Damage caused by freezing is not covered by the warranty.**
- Put the softener in a place water damage is least likely to occur if a leak develops. The manufacturer will not repair or pay for water damage.
- A 120 volt electric outlet, to plug the included transformer into, is needed within 6 feet of the softener. The transformer has an attached 6 foot power cable. **Be sure the electric outlet and transformer are in an inside location, to protect from wet weather.**
- If installing in an outside location, you must take the steps necessary to assure the softener, installation plumbing, wiring, etc., are as well protected from the elements, contamination, vandalism, etc., as when installed indoors.
- **Keep the softener out of direct sunlight.** The sun's heat may soften and distort plastic parts.

GENERAL INSTALLATION

TYPICAL SOFTENER LOCATION

You must first decide how to run in and out pipes to the softener. Look at the house main water pipe at the point where you will connect the softener. Is the pipe soldered copper, glued plastic, PEX, or threaded brass/galvanized? What is the pipe size?

Now look at the typical installation illustrations below. Use it as a guide when planning your particular installation. Make sure you have correctly identified the inlet of the system. **Be sure to direct raw, hard water to the softener valve inlet fitting.** The bypass valve is marked IN and OUT arrows.



INSTALLATION INSTRUCTIONS

1. If your hot water tank is electric, turn off the power to it to avoid damage to the element in the tank.
2. If you have a private well, turn the power off to the pump and then shut off the main wa-ter shut off valve. If you have municipal water, simply shut off the main valve. Go to the faucet, (preferably on the lowest floor of the house) turn on the cold water until all pres-sure is relieved and the flow of water stops.
3. Locate the softener tank and brine tank close to a drain where the system will be in-stalled. The surface should be clean and level.
4. Connect the inlet and outlet of the softener using appropriate fittings. Perform all plumb-ing according to local plumbing codes.
 - Use a 1/2" minimum pipe or tubing size for the drain line
 - **ON COPPER PLUMBING SYSTEMS BE SURE TO INSTALL A GROUNDING WIRE BETWEEN THE INLET AND OUTLET PIPING TO MAINTAIN GROUND-ING.**

Any solder joints near the valve must be done before connecting any piping to the valve. Always leave at least 6" (152 mm) between the valve and joints when soldering pipes that are connected to the valve. Failure to do this could cause damage to the valve.

Installation Instructions

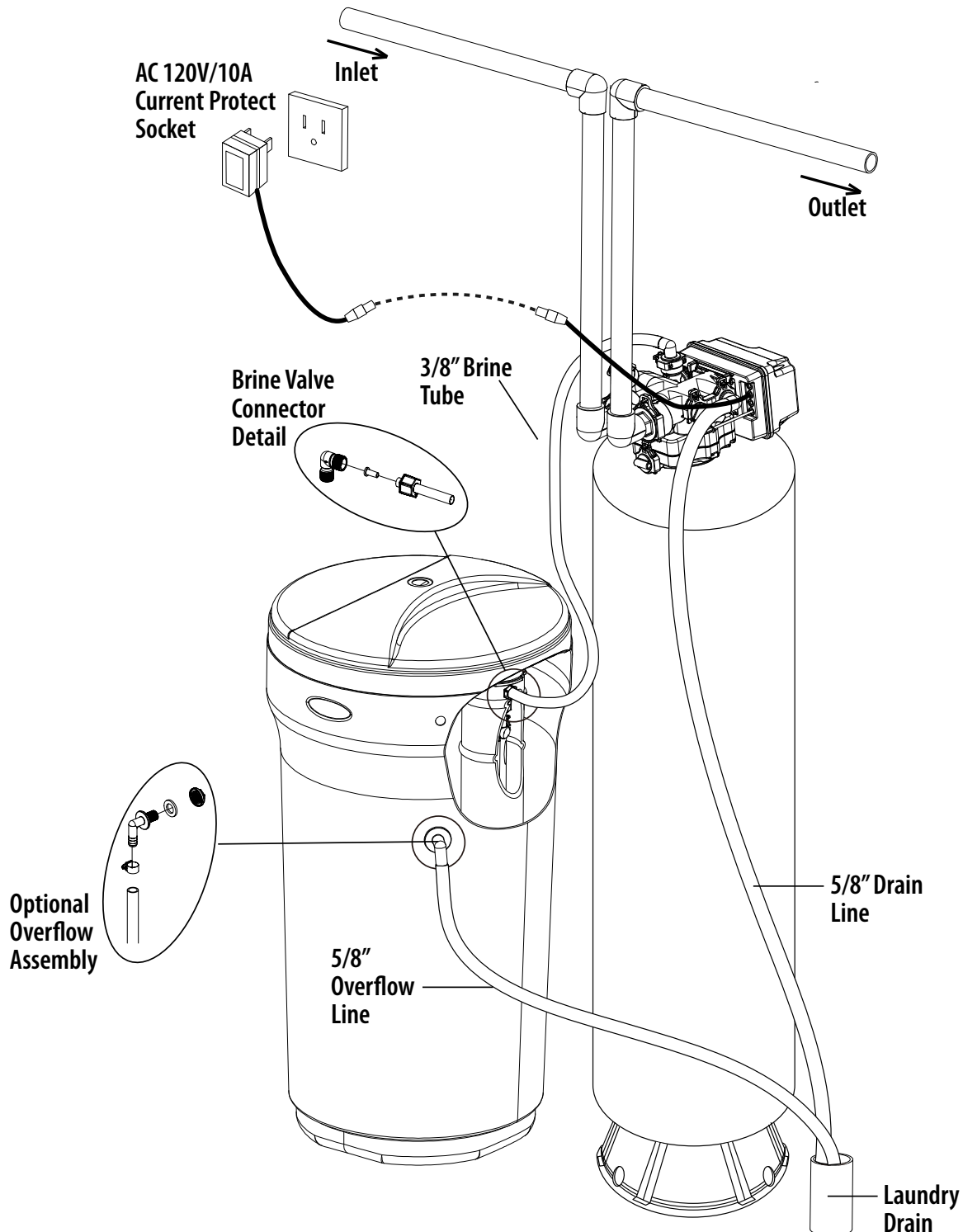
5. Connect the drain hose to the valve and secure it with a hose clamp (also included). Run the drain hose to the nearest laundry tub or drain pipe. This can be ran up overhead or down along the floor. If running the drain line more than 20 ft overhead, it is recom-mended to increase the hose size to 3/4". NEVER MAKE A DIRECT CONNECTION INTO A WASTE DRAIN. A PHYSICAL AIR GAP OF AT LEAST 1.5" SHOULD BE USED TO AVOID BACTERIA AND WASTEWATER TRAVELLING BACK THROUGH THE DRAIN LINE INTO THE SOFTENER.



INSTALLATION INSTRUCTIONS (CONTINUED)

6. Using the Allen Key (included), place the unit in the bypass position. Slowly turn on the main water supply. At the nearest cold treated water tap nearby remove the faucet screen, open the faucet and let water run a few minutes or until the system is free of any air or foreign material resulting from the plumbing work.
7. Make sure there are no leaks in the plumbing system before proceeding. Close the water tap when water runs clean.
8. Open the brine tank / cabinet salt lid and add water until there is approximately 3" (75 mm) of water in the tank. Do not add salt to the brine tank at this time.
9. Proceed to start up instructions.

Note: The unit is not ready for service until you complete the start-up instructions.



SYSTEM START-UP

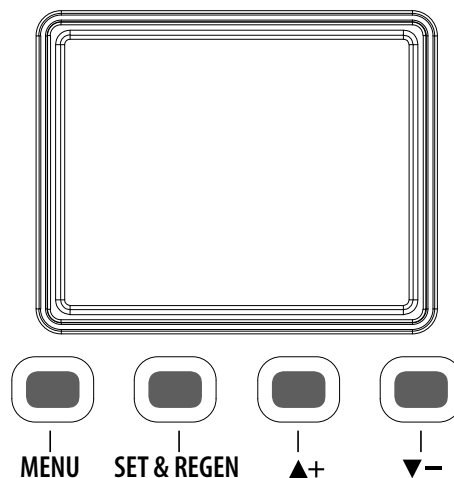
START-UP INSTRUCTIONS

1. Plug the valve into an approved power source.
2. When power is supplied to the control, the screen will display "Advancing to Service Wait Please" while it finds the service position.
3. If screen is locked, press MENU for 3 seconds to unlock. Press and hold the SET / REGEN button for 3 seconds to enter the manual regeneration screen. An option for delayed or immediate regeneration will appear. Press SET REGEN, then press the DOWN button to select IMMEDIATE. Press the MENU button to save setting and immediately start moving to the BACKWASH position.
4. Open the inlet on the bypass valve slowly and allow water to enter the unit. Allow all air to escape from the unit before turning the water on fully then allow water to run to drain for 3-4 minutes or until all media fines are washed out of the softener indicated by clear water in the drain hose.
5. Press any button to advance to the BRINE position. Check the water level in the brine tank to insure the valve is drawing brine properly.
6. Press any button to advance to the RINSE position. Check the drain line flow. Allow the water to run for 3-4 minutes or until the water is clear.
7. Press any button to advance to the REFILL position. Check that the valve is filling water into the brine tank. Allow the valve to refill for the full amount of time as displayed on the screen to insure a proper brine solution for the next regeneration.
8. The valve will automatically advance to the SERVICE position. Open the outlet valve on the bypass, then open the nearest treated water faucet and allow the water to run until clear, close the tap and replace the faucet screen.
9. Add salt into the brine tank.

PROGRAMMING INSTRUCTIONS

KEY PAD CONFIGURATION

- MENU -** Enter or exit the system menu. Press and hold the button for 3 seconds to unlock the screen.
- SET/REGEN -** Press this button to select a program or to save the settings. Press and hold the button for 3 seconds to initiate a manual regeneration.
- DOWN / UP -** Press these buttons to increase or decrease the value of the settings. Press the buttons to enter the previous or the next menu.



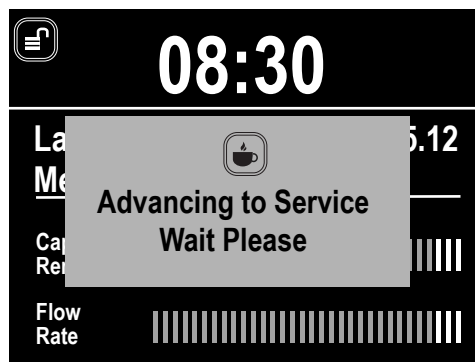
CHANGE SETTING PROCEDURE

1. Press the MENU button to enter and exit the menu.
2. Press the UP or DOWN button to select the parameter.
3. Press the SET/REGEN button to enter or activate the parameter for editing.
4. Press the UP or DOWN button to change the value.
5. Press the SET / REGEN button to save the value.
6. Press the UP or DOWN button to select other parameters.
7. Follow the above steps to change other parameters.
8. Press the MENU button to save and exit settings.

You can only change flashing parameters.

MAIN DISPLAY

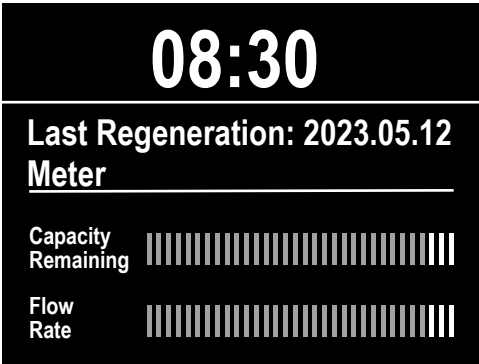
When power is first supplied, the valve may take up to two minutes to find the service position. During this time the valve will show:



PROGRAMMING INSTRUCTIONS (CONTINUED)

MAIN DISPLAY (CONTINUED)

Do not touch any buttons at this time. When the valve reaches the service position it will display:



The above diagram shows the current time, last regeneration day, and the regeneration mode. The number of blue bars represent the capacity remaining and the flow rate.

The screen will be locked after 3 minutes. To unlock the screen press and hold the MENU key for 3 seconds:



MANUAL REGENERATION

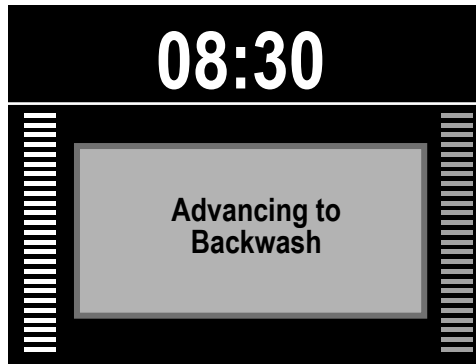
Press and hold the SET REGEN button for 3 seconds to enter the manual regeneration page. The screen will display:



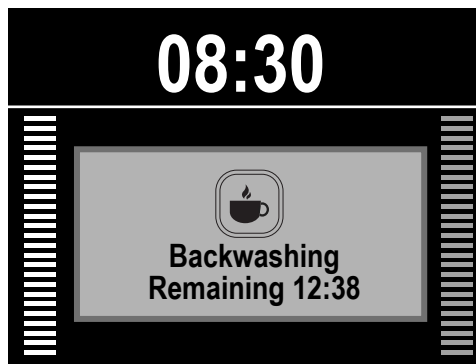
PROGRAMMING INSTRUCTIONS (CONTINUED)

MANUAL REGENERATION (CONTINUED)

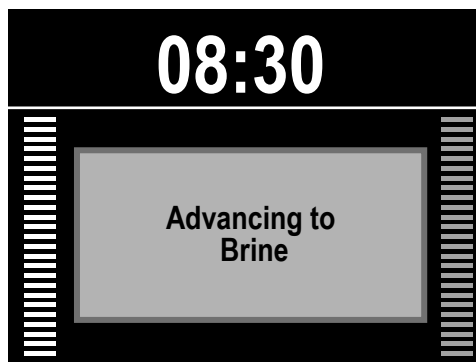
1. Press the UP or DOWN button to choose option.
2. If you choose DELAY, the valve will start a regeneration at the next regeneration time(default is 2:00 AM).
3. If you choose IMMEDIATE, the valve will start a regeneration immediately. When a regeneration is started, the screen will display:



When the valve reaches the Back Wash position. The screen will display:



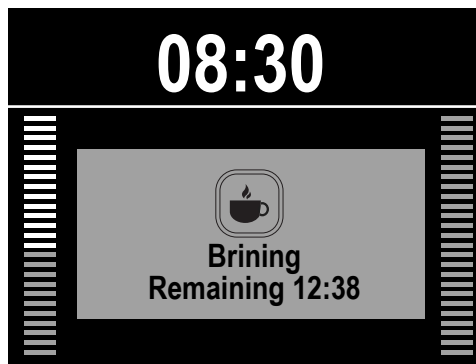
When Back Wash remaining time reaches zero or any button is pressed, the valve will advance to the next position. The screen will display:



PROGRAMMING INSTRUCTIONS (CONTINUED)

MANUAL REGENERATION (CONTINUED)

When the valve reaches the Brine position. The screen will display:



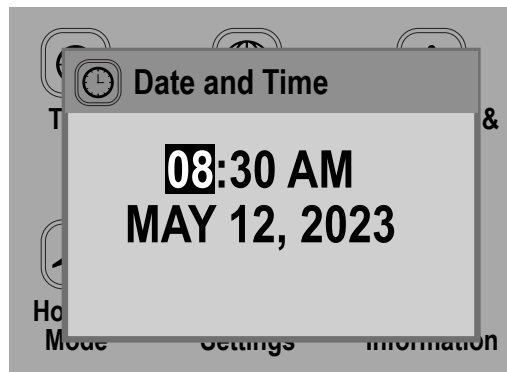
When Brining remaining time reaches zero or any button is pressed, the valve will advance to the Rinse position and then the Refill position just like the examples above.

MAIN PROGRAM

Press the MENU key to view the main page.



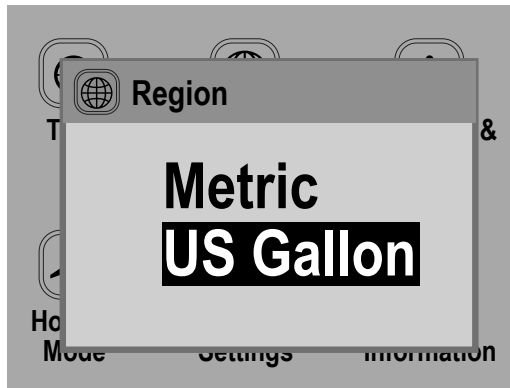
1. Press the MENU button to enter and exit the menu.
 2. Press the UP or DOWN button to select the parameter.
 3. Press the SET/REGEN button to enter or activate the parameter for editing.
 4. Press the UP or DOWN button change the value.
 5. Press the SET / REGEN button to save the value.
 6. Press the UP or DOWN button to select other parameters.
 7. Follow the above steps to change other parameters.
 8. Press the MENU button to save and exit settings.
- You can only change flashing parameters.**
- Choose Time icon to adjust the current date and time.



PROGRAMMING INSTRUCTIONS (CONTINUED)

MAIN PROGRAM (CONTINUED)

Choose Region icon to change the display unit of measures. Choose Language icon to change the display language. Note English may be only option depending on version of software.



Choose Water Hardness & People to adjust the Water hardness and People. The Water Hardness value is the maximum compensated water hardness of the water supply. If Ferrous Iron is present, add 4 gpg for every 1 ppm Ferrous Iron. The People setting is the number of people living in the home and is used to determine the reserve capacity.



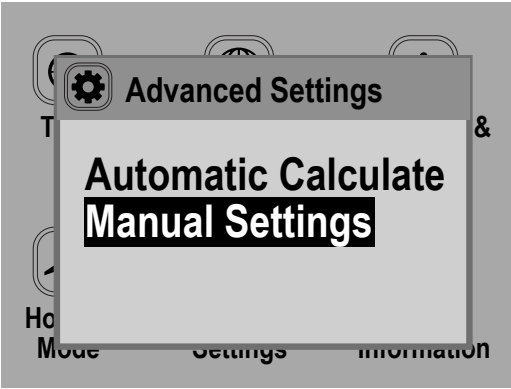
Choose Holiday Mode icon to activate it. The system will perform a brief back wash and rinse every 7 days. When turning Holiday Mode ON, remember to add the end date. This will insure the valve will return to normal operation on that date.



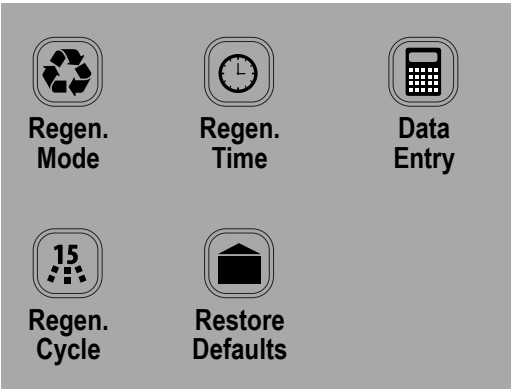
PROGRAMMING INSTRUCTIONS (CONTINUED)

MAIN PROGRAM (CONTINUED)

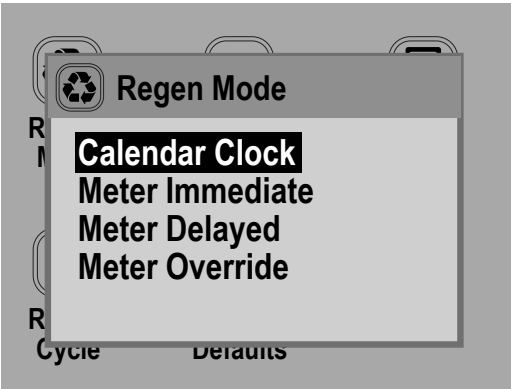
Advance settings has two options. Press SET REGEN button for 3-5 seconds to enter menu. Choose Automatic Calculate to let the system determine the capacity and refill times. To manually adjust the gallon capacity and refill time, choose Manual Settings.



Automatic Calculate mode contains advanced system settings.



In Regen Mode you can select four different regeneration modes. The system should be set to Meter Delayed for proper operation.



Calendar Clock: the unit will initiate regeneration at the next pre-set regeneration time based on the interval of days between regeneration days.

Meter Immediate: the unit will initiate regeneration immediately after the volume remaining reaches zero.

Meter Delayed: this is the most common setting. When the volume remaining reaches zero, the system will initiate regeneration at the next preset regeneration time.

Meter Override: when the volume remaining reaches zero, the system will initiate regeneration at the next pre-set regeneration time. If the days between regeneration are reached before the volume remaining reaches zero, the system will override the meter setting and initiate regeneration.

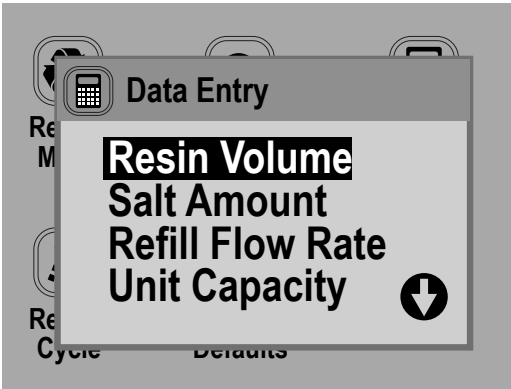
PROGRAMMING INSTRUCTIONS (CONTINUED)

MAIN PROGRAM (CONTINUED)

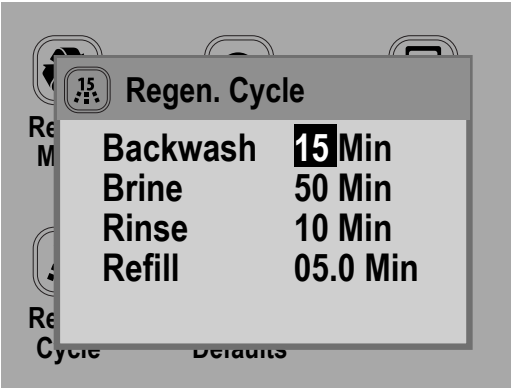
Choose Regen Time to adjust the time of day for a regeneration to occur.



Choose Data Entry to enter the Resin Volume, Salt Amount, and Refill Flow Rate, Unit Capacity, and Reserve Capacity. If your system is assembled from the factory, it has already been programmed with the proper settings.



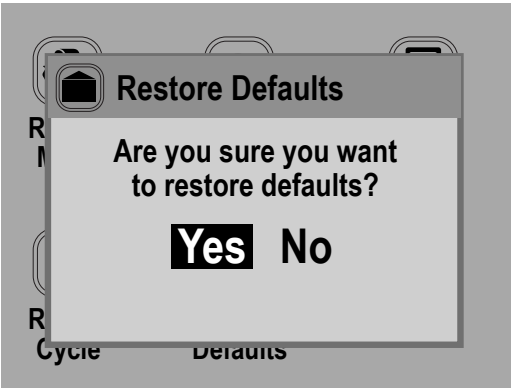
Choose Regen. Cycle to adjust the length of time for each cycle. If your system is assembled from the factory, it has already been programmed with the proper settings. Note that Refill is automatically calculated based on the Data Entry parameters.



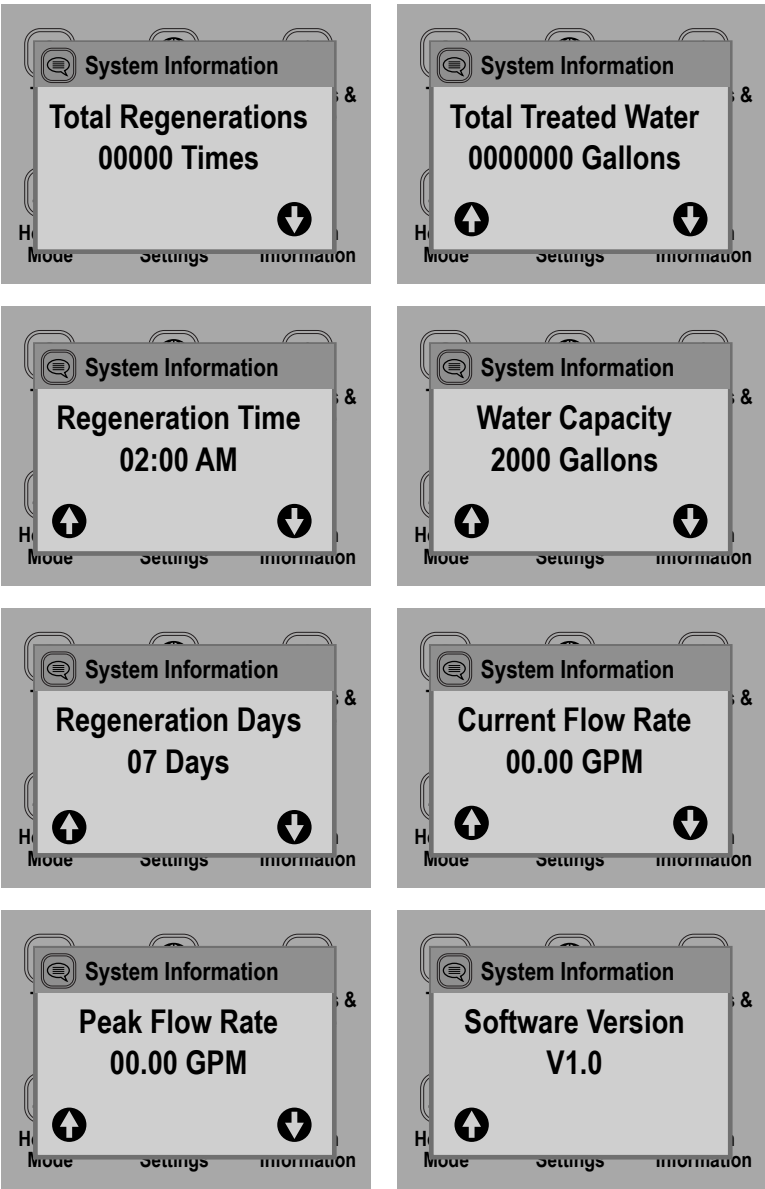
PROGRAMMING INSTRUCTIONS (CONTINUED)

MAIN PROGRAM (CONTINUED)

Restore Defaults will erase all the current settings. Be careful when choosing this since you will lose all the current settings and the default settings loaded back in may not be the correct settings for your system.



System Information will provide diagnostic information about your system. Hold the SET/REGEN button for 3 seconds to reset values to zero.



ABOUT THE SYSTEM

CONTROL OPERATION DURING A POWER FAILURE

In the event of a power failure, the valve will keep track of the time and day for 48 hours. The programmed settings are stored in a non-volatile memory and will not be lost during a power failure. If power fails while the unit is in regeneration, the valve will finish regeneration from the point it is at once power is restored. If the valve misses a scheduled regeneration due to a power failure, it will queue a regeneration at the next regeneration time once power is restored.

AUTOMATIC HARD WATER BYPASS DURING REGENERATION

The regeneration cycle can last 30 to 80 minutes, after which soft water service will be re-stored. 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. This is why 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.

Normal regeneration time is 2:00 AM. It can be changed by going into the PROGRAM menu and selecting REGEN TIME.

SAFETY FLOAT

The brine tank is equipped with a safety float which prevents your brine tank from overfilling as a result of a malfunction such as a power failure.

NEW SOUNDS

You may notice new sounds as your water softener operates. The regeneration cycle lasts up to 80 minutes. During this time, you may hear water running intermittently to the drain.

REGENERATION PROCESS

When the system capacity is near exhausted, a regeneration is necessary to restore the system to full capacity. The table below explains the regeneration steps.

Step	Name	Description
#1	Back Wash	Fresh water is introduced to the bottom of the tank flowing upwards expanding the ion exchange resin to rinse out any dirt or small particles to the drain and to un-compact the bed to restore full service flow rates.
#2	Brine	The brine solution is introduced slowly from the top of the tank flowing down through the ion exchange resin pushing the hardness out to drain and restoring system capacity.
#3	Rinse	Fresh water is introduced from the top of the tank flowing down through the ion exchange resin rinsing any excess brine solution out to the drain.
#4	Refill	Fresh water is added to the salt tank to prepare and insure fully saturated brine for the next regeneration.

SYSTEM CONFIGURATION

95HF System Configuration			
Tank Size (Diameter)	Injector Set	Brine Line Flow Control (BLFC)	Drain Line Flow Control (DLFC)
12"	#4S Black	0.9 GPM	#2S (3.5 GPM)
13"	#4S Black		#3S (4.5 GPM)
14"	#4S Black		#4S (5.0 GPM)
16"	#5S Orange/Black		#7S (7.0 GPM)
18"	#1 Gray		#1 (8.0 GPM)
21"	#3 Red		#2 (11.0 GPM)
24"	#4 White		#4 (17.0 GPM)

MAINTENANCE

ADDING SALT

Use only crystal water softener salt. Check the salt level monthly. It is important to maintain the salt level above the water level. To add salt, simply lift the salt lid and add the salt directly into the brine tank. Be sure the brine well cover is on and fill only to the height of the brine well.

BRIDGING

Humidity or 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 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 re-generate the softener.

CARE OF YOUR SYSTEM

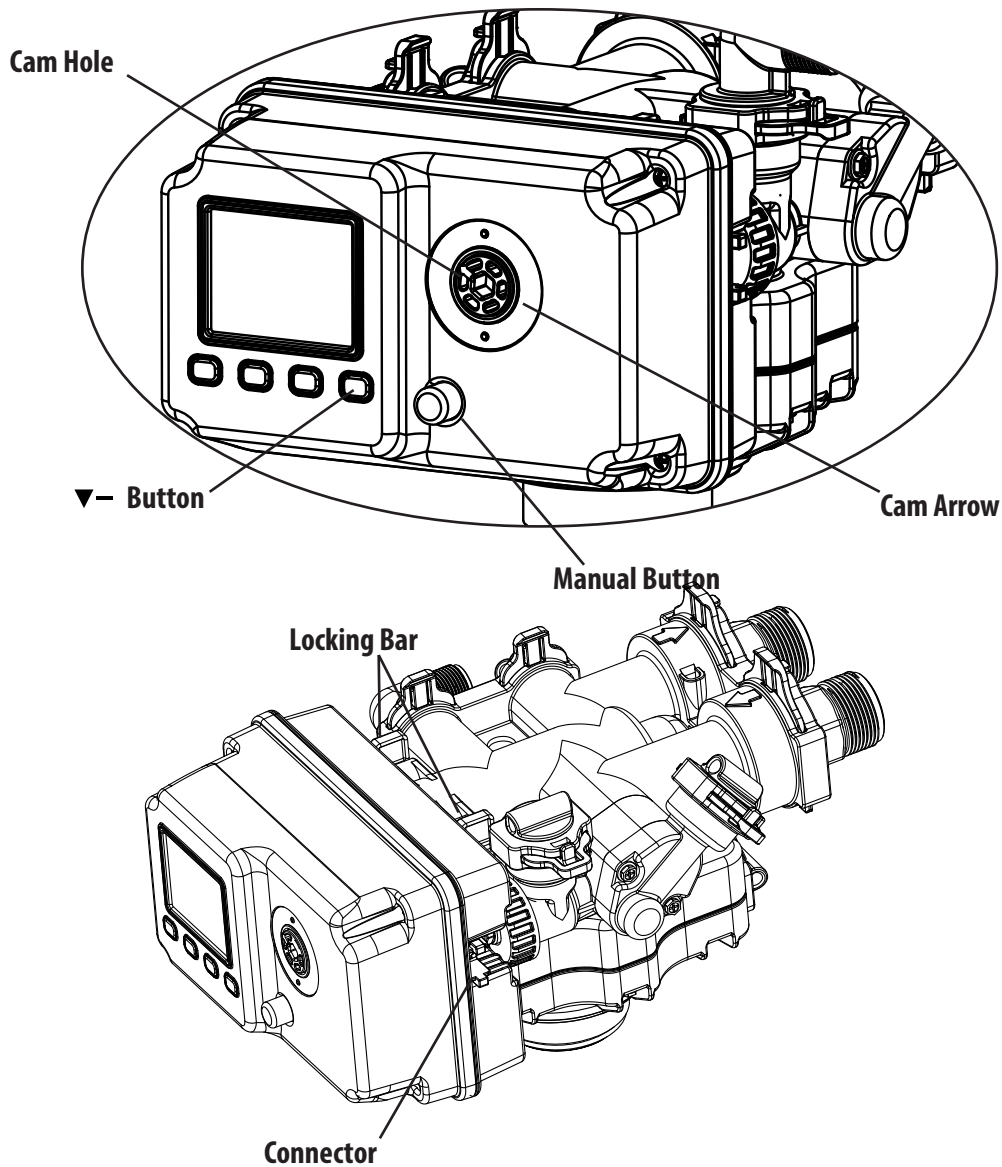
To retain the attractive appearance of your new water softener, clean occasionally with mild soap solution. Do not use abrasive cleaners, ammonia or solvents. Never subject your softener to freezing or to temperatures above 100°F.

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).

MAINTENANCE (CONTINUED)

REMOVING POWER HEAD ASSEMBLY



Manually remove the Power Head Assembly:

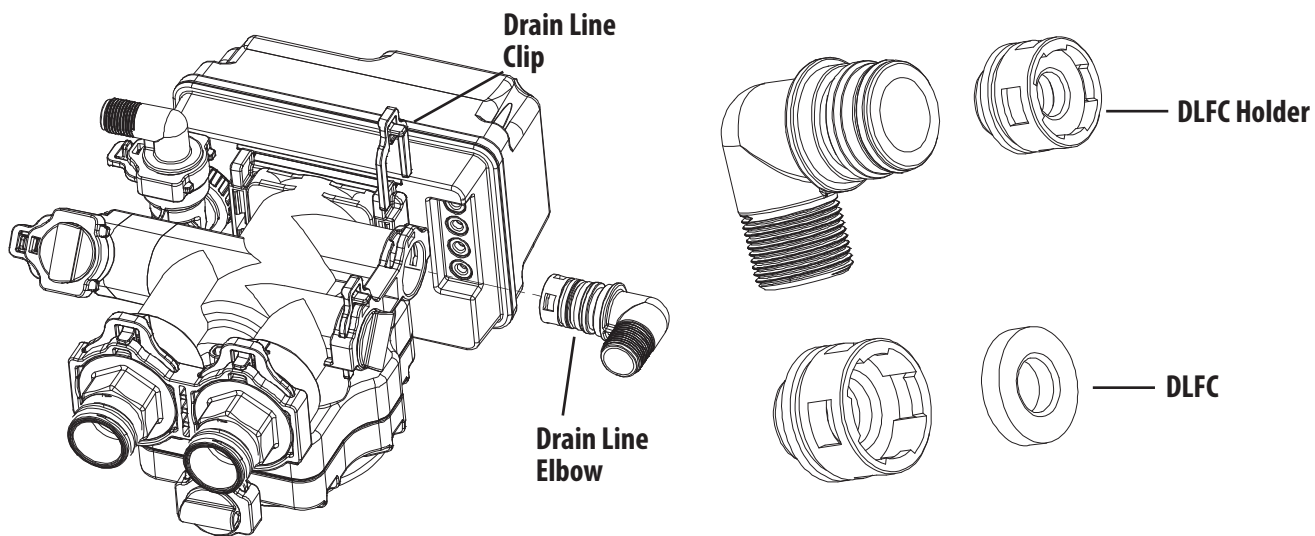
- Press and hold Manual Button
- With 8 hex key, insert Cam Hole, turn the Cam anti-clockwise to the backwash position
- Remove the Connector
- Remove the Locking Bar
- Pull the Power Head Assembly outwards.

Automatically remove the Power Head Assembly:

- Unlock the screen
- Press and hold Down button, the valve will advance the Cam to the backwash position
- Remove the Connector
- Remove the Locking Bar
- Pull the Power Head Assembly outwards.

MAINTENANCE (CONTINUED)

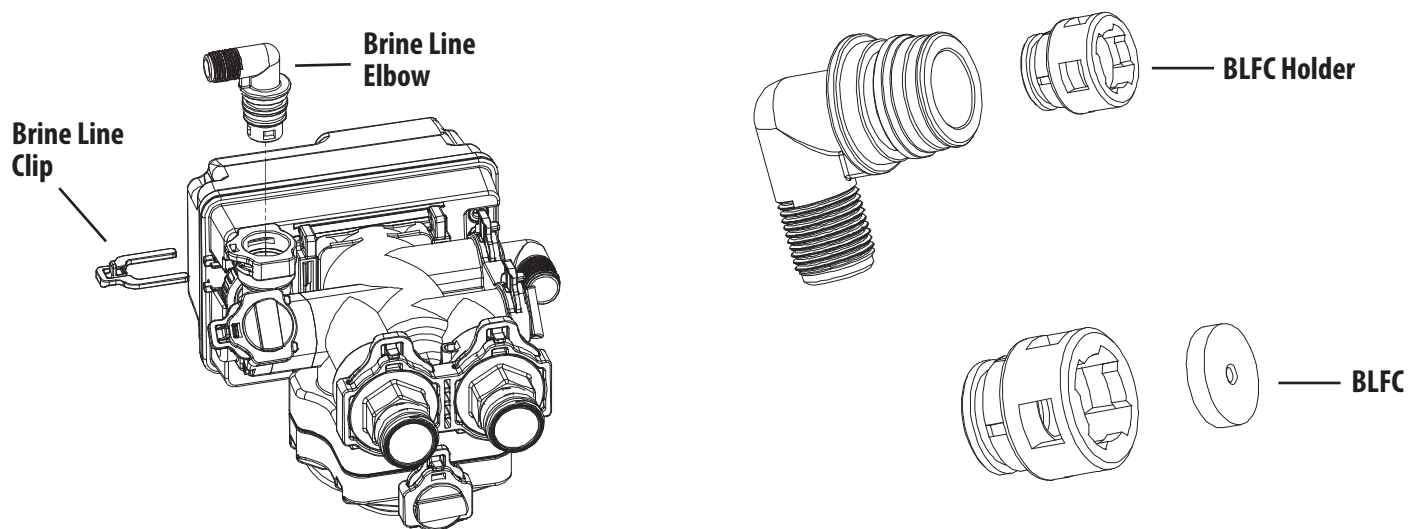
REPLACE DRAIN LINE FLOW CONTROL (DLFC)



To replace the Drain Line Flow Control (DLFC):

- Remove the Drain Line Clip
- Pull the Drain Line Elbow Assembly outward
- Pull the DLFC Holder outward from the Drain Elbow
- Replace the DLFC

REPLACE BRINE LINE FLOW CONTROL (BLFC)

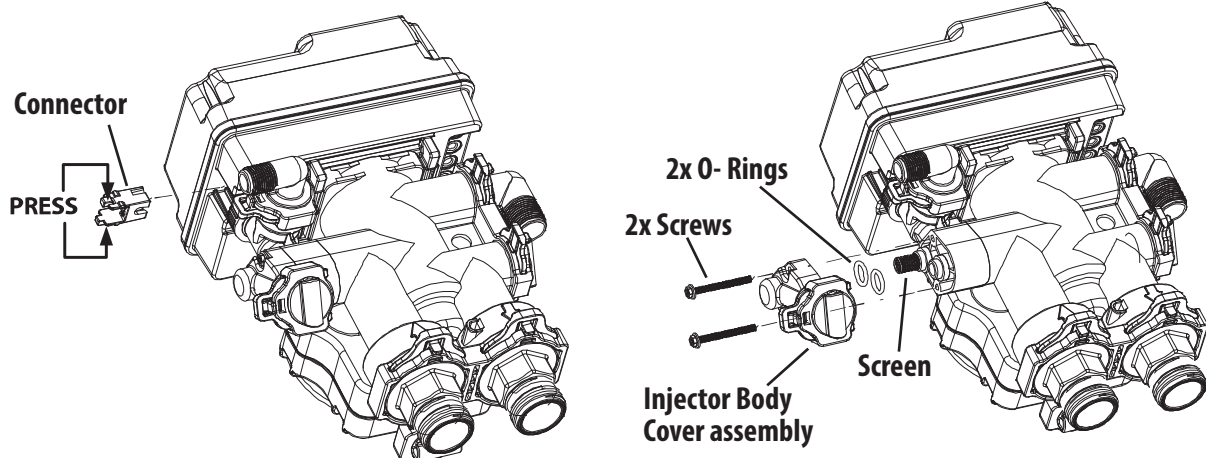


To replace the Brine Line Flow Control (BLFC):

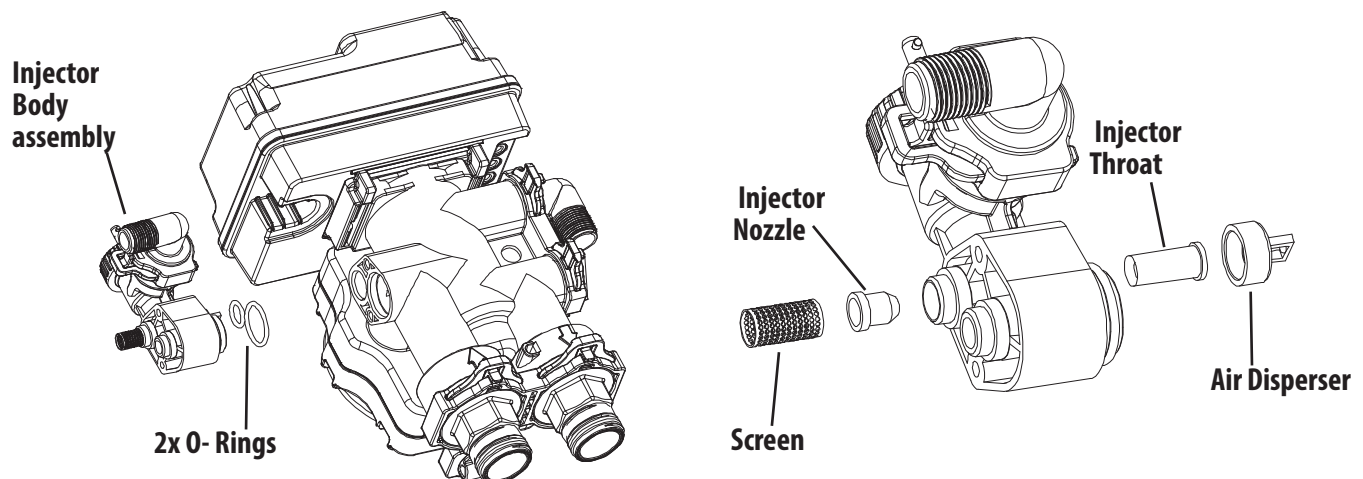
- Remove the Brine Line Clip
- Pull the Brine Line Elbow Assembly outward
- Pull the BLFC Holder outward from the Brine Elbow
- Replace the BLFC

MAINTENANCE (CONTINUED)

REPLACING OR CLEANING INJECTORS



Sediment, salt and silt will restrict or clog the injector. A clean water supply and pure salt will prevent this from happening. The injector assembly is located on the left side of the control valve (viewing valve from rear). This assembly is easy to clean.



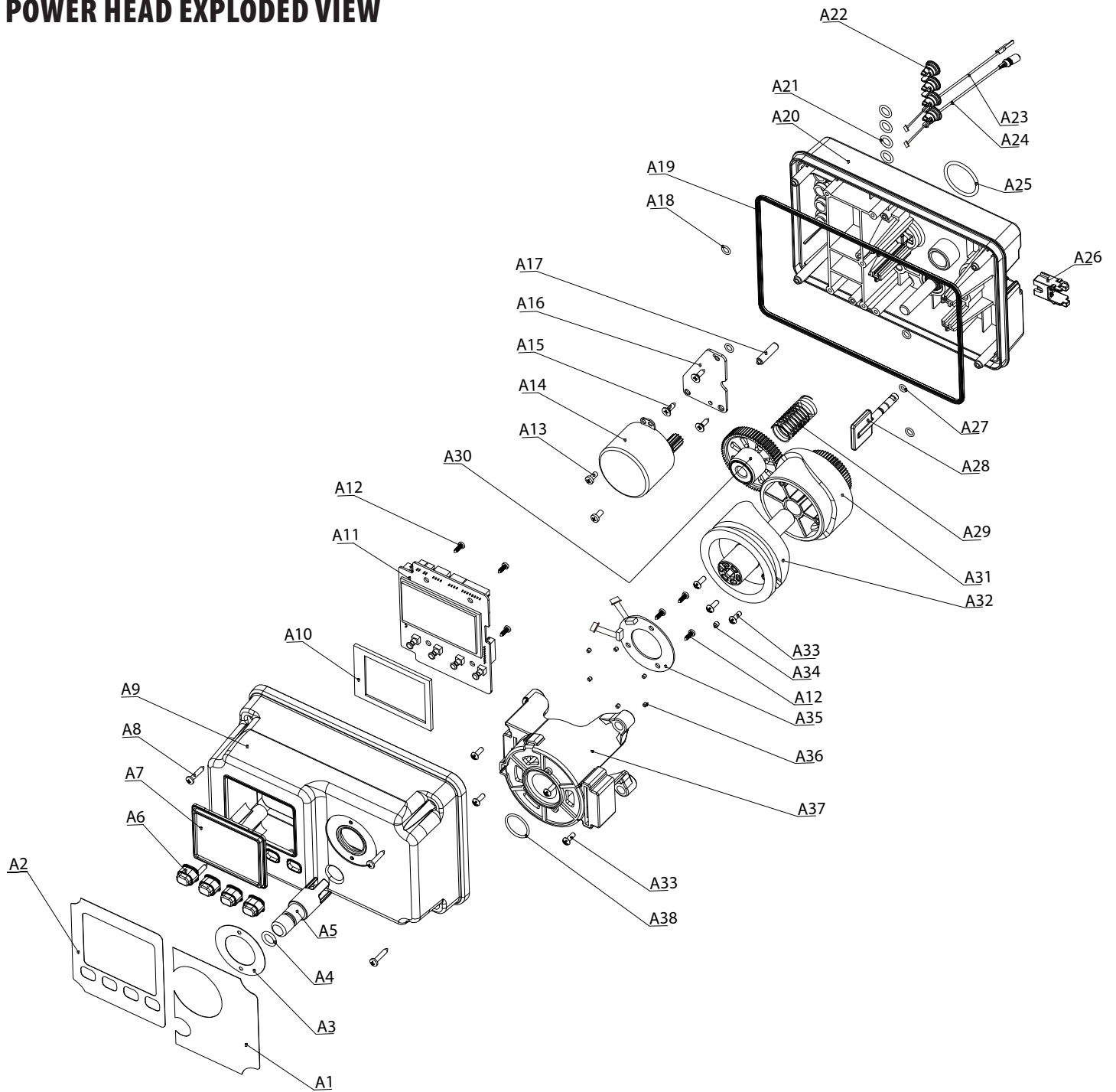
To replace the Injectors:

- Shut off the water supply to your softener and reduce the pressure by opening a cold soft water faucet.
- Remove the Connector
- Remove the 2x Screws
- Slightly pull the Injector Body and Injector Cover assembly outward
- Slightly pull out the Screen
- Replace the Injector Nozzle
- Slightly pull out the Air Disperser
- Replace the Injector Throat
- Reassemble using the reverse procedure

NOTE: Carefully flush all parts including the screen. Use a mild acid such as vinegar or Pro-Rust Out to clean the small holes in the orifice and throat.

PARTS

POWER HEAD EXPLODED VIEW



PARTS

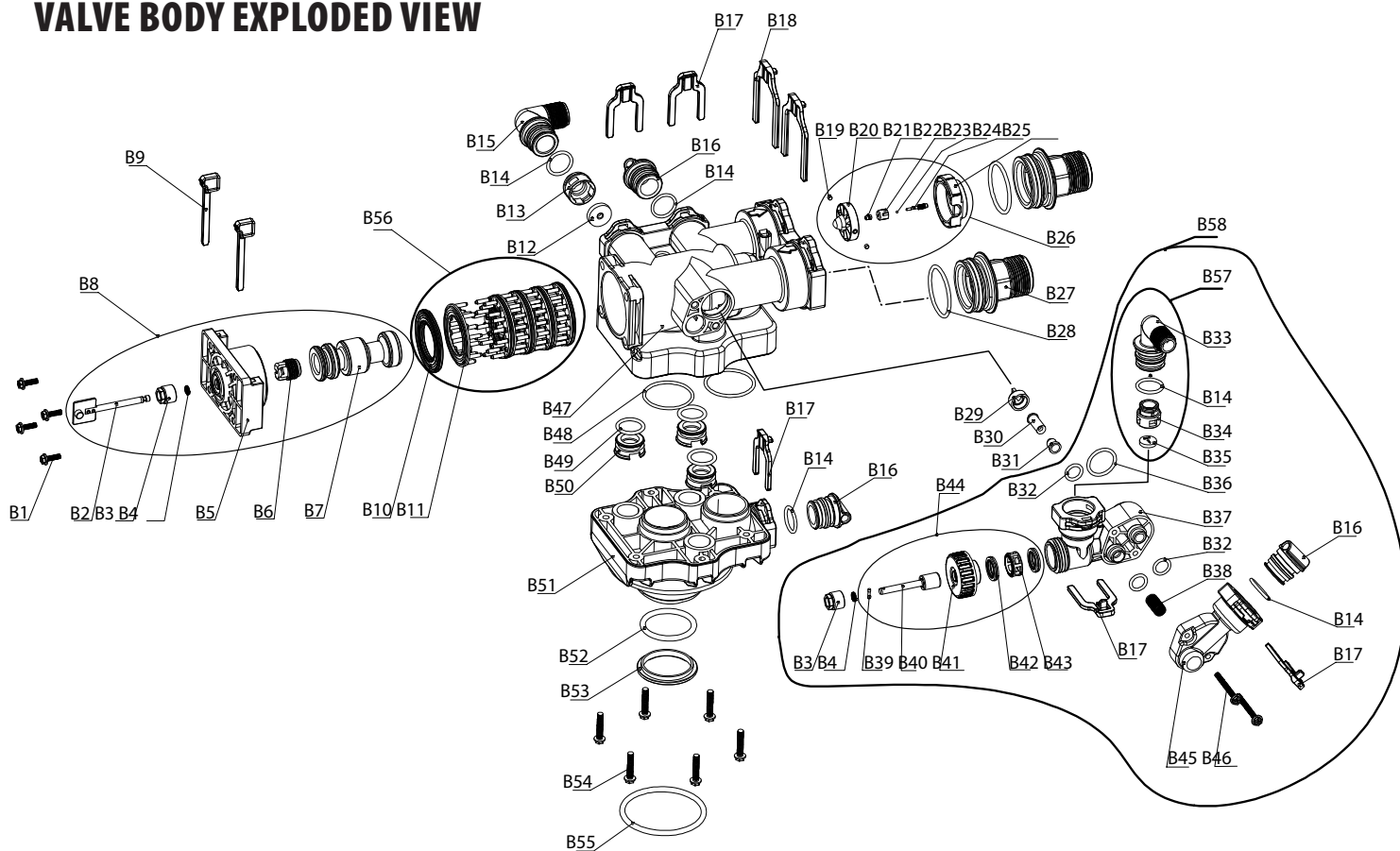
POWER HEAD PARTS NUMBERS

	95STS POWERHEAD			
	No.	Part # WG	Description	Qty
	A1	Included in 60010270-1	95STS Right Label	1
	A2	50031062	95 Left Label	1
	A3	60095019	95 Working Status Label	1
	A4	60010060	O-ring φ10×2.5	1
	A5	60095010	BNT95 Manual Button	1
	A6	60010615	Operating Button	4
	A7	60095018	Clear Cover on Display	1
	A8	05040136	Screw 3.5×20	4
	A9	50030062	95 Cover(Black)	1
	A10	60095714	PCB Rubber Protection	1
	A11	60010221	95 Display Board	1
	A12	60095005	Screw 2.9×9.5	7
	A13	05040137	Screw M4×8	2
	A14	60010222-1	Motor 12V 7W, with wire	1
		60010222	Bnt95 Motor (AC12V,2RPM) - Pre 2017	1
	A15	60095212	Screw ST 3.5×13, pan head	3
	A16	05040134	Motor Fixed Plate	1
	A17	60095001	Motor Pin	1
	A18	60095607	O-ring φ5.5×1.5	4
	A19	60095016	Sealing Gasket on Controller	1
	A20	60095000	95/95MTS Housing(Black)	1
	A21	60095605	O-ring φ8×2	4
	A22	05040038	95/95MTS Cable Jacket	2
	A23	60095611	Meter Cable	1
	A24	05040053	95STS Power Cable	1
	A25	26010028	O-Ring,28x2.65	1
	A26	60095031	Brine Valve Connector	1
	A27	60095606	O-ring φ4×1.5	1
	A28	60095013	Brine Piston Rod	1
	A29	60095015	Gear Spring	1
	A30	60095002	Gear	1
Cam Assembly	A31	02170186	Actuating cam	1
	A32		Inverted cam	1
	A33		Screw BT 3.5×13, flat head	7
	A34		Magnet φ4×3	1
	A35	60095009	Signal Sensor Board	1
	A36	05010047	Friction Block	6
	A37	60095007	Mounting Plate	1
	A38	60010562	O-ring φ23×3	1

PARTS NOT SHOWN	
Part #	Description
60010052	95STS Power Adaptor,Transformer, 120V Input, 12V Output
60010399	95 STS Power Adaptor,Transformer, 120V Input, 12V Output (outdoor)
50030062	Cover,95 Valve,Black, Outdoor
60010270-1	95STS Powerhead

PARTS

VALVE BODY EXPLODED VIEW



PARTS

VALVE BODY PARTS NUMBERS

95STS VALVE BODY		
No.	Part # WG	Description
B1	05056088	Screw M5×16
B8 95 Piston Assy	B2	95 Piston Rod
	B3	Quad Ring Holder
	B4	Quad Ring (5.81×1.83)
	B5	End Plug Retainer
	B6	Piston Rod Holder
	B7	95 Piston
	B9	Housing Locking Bar
	B10	95 Spacer Seal
	B11	95 Spacer
	B12	DLFC(5gpm)
	B13	DLFC Holder
	B15	Drain Line Elbow NPT1"
	B16	95 Plug
	B17	95 Small Clip
	B18	95 Large Clip
B26 - Meter Assembly	B19	Magnet φ4×3
	B20	95 Meter
	B21	Meter Pin Top Bush
	B22	Meter Pin Bush
	B23	Meter Ball
	B24	Meter Pin
	B25	Impeller Holder
	B27	Valve Connector, NPT 1.25"
	B28	O-ring φ48.7×3.55
	B29	Air Disperser
	B30	Injector Throat
	B31	Injector Nozzle
	B32	O-ring φ14×3
	B36	O-ring φ27×3
	B37	95 Injector Body
	B38	Brine Valve Screen
B44 - Brine Valve Assembly - Piston, Seal & Spacer	B39	Brine Valve Rod Pin
	B40	Brine Valve Piston
	B41	Brine Valve Seal Cover
	B42	Brine Valve Seal
	B43	Brine Valve Spacer
	B45	Included in 60010219 95 Injector Body Cover
	B46	Bolt M5×50
	B47	95 Valve Body
	B48	O-ring φ47×3
	B49	O-ring φ23.39×3.53
	B50	Auxiliary Hole Plug

PARTS

VALVE BODY PARTS NUMBERS (CONTINUED)

95STS VALVE BODY		
B51	60010243	95 Valve Body Base(4")
B52	05042005	O-ring $\phi 46.99 \times 5.33$
B53	05040091M	Sealing Collar
B54	60095034	Screw M6 $\times$ 30
B55	60010228	O-ring $\phi 108 \times 5.3$
B56	60010219	Seal & Spacer kit, 95
B57- BRINE ELBOW KIT 95	B14	O-ring $\phi 25 \times 3$
	B33	Brine Line Elbow BSP 1/2"
	B34	BLFC Holder
	B35	BLFC(0.95gpm)
B58	02171063	Injector,B.ValveAssy 95 valve c/w Body

PARTS NOT SHOWN		
	Part #	Description
DLFC Options	60010144	#2, 9.5 gpm, Flat
	60010145	#3, 12.5 gpm, Flat
	60010146	#4, 16.5 gpm, Flat
	60010143	DLFC,#1, 7.0 GPM,89,95
Connector Options	60010213	Valve Connector, NPT 1"
	60010215	Valve Connector, NPT 1.5"
Injector Throat Options	60010156	5S, Orange
	60095047	1, Grey
	60010157	3, Red
	60010158	4, White
	60010155	4S, Black
Injector Nozzle Options	60010154	4S, Black
	60095043	1, Grey
	60010151	3, Red
	60010152	4, White
BLFC Option	60010162	#7, 1.35 gpm
Options to connect tubing to brine line	60010217	CONNECTOR,STRAIGHT,1/2" BSP $\times$ 3/8" TUBE
	60010230	STRAIGHT CONNECTOR 1/2" BSP X 1/2" TUBE A7-FAB7

TROUBLE SHOOTING

Issue	Possible Cause	Possible Solution
A. Unit fails to initiate a regeneration cycle.	1. No power supply.	Check electrical service, fuse, etc.
	2. Defective circuit board.	Replace faulty parts.
	3. Power failure.	Reset time of day.
	4. Defective meter.	Replace turbine meter.
B. Water is hard.	1. By-pass valve open.	Close by-pass valve.
	2. Out of salt or salt level below water level.	Add salt to tank.
	3. Plugged injector / screen.	Clean parts.
	4. Flow of water blocked to brine tank.	Check brine tank refill rate.
	5. Hard water in hot water tank.	Repeat flushing of hot water tank required.
	6. Leak between valve and central tube.	Check if central tube is cracked or o-ring is damaged. Replace faulty parts.
	7. Internal valve leak.	Replace valve seals, spacer, and piston assembly.
	8. Reserve capacity setting too low.	Increase reserve capacity.
	9. Not enough capacity.	Increase salt dosage.
C. Salt use is high.	1. Refill time is too high.	Check refill time setting.
	2. Defective flow control.	Replace.
D. Low water pressure.	1. Iron or scale build up in line feeding unit.	Clean pipes.
	2. Iron build up inside valve or tank.	Clean control and add resin cleaner to clean bed. Increase regeneration frequency.
	3. Inlet of control plugged due to foreign material.	Remove piston and clean control valve.
	4. Deteriorated resin. (Maybe caused from high chlorine or chloramines.)	Re-bed unit. Consider adding carbon pre-treatment.
E. Resin in drain line.	1. Air in water system.	Check well system for proper air eliminator control.
	2. Incorrect drain line flow control (DLFC) button.	Check for proper flow rate.
F. Too much water in brine tank.	1. Plugged injector or screen.	Clean parts.
	2. Valve not regenerating.	Replace circuit board, motor, or control.
	3. Foreign material in brine valve.	Clean parts.
	4. Unit not drawing brine.	Check for vacuum leak in brine line connections.
G. Unit fails to draw brine.	1. Drain line flow control is plugged.	Clean parts.
	2. Injector or screen is plugged.	Clean parts.
	3. Inlet pressure too low.	Increase pressure to 25 PSI.
	4. Internal valve leak.	Replace seals, spacers, and piston assembly.
	5. Safety valve closed.	Check for leak in brine line connections. Replace safety float assembly.
	6. Vacuum leak in brine line.	Check for leak in brine line connections. Tighten all connections.
	7. Drain line has kink in it or is blocked.	Check drain line.
H. Valve continuously cycles.	1. Defective position sensor PCB.	Replace faulty parts.
I. Flow to drain continuously.	1. Valve settings incorrect.	Check valve settings.
	2. Foreign material in control valve.	Clean control.
	3. Internal leak.	Replace seals, spacers, and piston assembly.
	4. Piston is stuck in position. Motor may have failed or gears have jammed or disengaged.	Check for power to motor. Check for loose wire. Check for jammed gears or gears disengaged. Replace faulty parts.
J. Valve makes beeping sound.	1. The piston has not advanced to the next cycle position properly.	Check for power to motor. Check for loose wire. Check for jammed gears or gears disengaged.

MAINTENANCE LOGS

System Model:
The service below is to be performed on each tank

Annual Maintenance Log

: Installation Date
: Tank #

Date	Regeneration cycles times are correct	Valve advances through each cycle correctly	Injector(s) and screen(s) cleaned and free from damage	Flow control(s) cleaned and free from damage	Piston clean and free from damage	Confirm ball valve(s) fuction (if applicable)	Brine float cleaned and free of damage	Brine Tank cleaned	Flow meter is clean and free from damage

For warranty claims, Canature WaterGroup reserves the right to ask for this maintenance sheet. Failure to provide this completed form for the time period requested will void your warranty.

MAINTENANCE LOGS (CONTINUED)

System Model:

Monthly Maintenance log

Installation Date:

Date	Brine float moves freely (Y/N)	Leaks to drain during service? (Y/N)	Height of resin from floor (each tank)	Treated Water Hardness (each tank)	Brine tank overflow connection(s) installed to drain and clean	Total system treated water

For warranty claims, Canature WaterGroup reserves the right to ask for this maintenance sheet. Failure to provide this completed form for the time period requested will void your warranty.

MAINTENANCE LOGS (CONTINUED)

System Model:

Daily Maintenance Log

:Installation Date

[illegible][illegible]

For warranty claims, Canature WaterGroup reserves the right to ask for this maintenance sheet. Failure to provide this completed form for the time period requested will void your warranty.

MAINTENANCE LOGS (CONTINUED)

System Model:
Please print one of these for EACH brine tank

Brine tank salt addition sheet.

:Tank #

Date	Number of regeneration(s) for corresponding softener tank	Weight of Salt added

Date	Number of regeneration(s) for corresponding softener tank	Weight of Salt added

For warranty claims, Canature WaterGroup reserves the right to ask for this maintenance sheet. Failure to provide this completed form for the time period requested will void your warranty.

WARRANTY

COMMERCIAL SOFTENER & FILTER UNIT WARRANTY

NOTICE: THIS MANUAL CONTAINS A LIMITED WARRANTY. BY INSTALLING AND/OR USING THIS PRODUCT, YOU WAIVE CERTAIN LEGAL RIGHTS INCLUDING THE RIGHT TO SUE OR CLAIM COMPENSATION IN THE EVENT OF PROPERTY DAMAGE, INJURY AND/OR DEATH. PLEASE READ THE DOCUMENT CAREFULLY AS CONTAINS IMPORTANT INFORMATION ABOUT YOUR WARRANTY AND EXCLUSIONS.

Products manufactured and assembled by Canature WaterGroup™ are warranted to do the work for which they are intended where properly installed, operated and maintained. Canature WaterGroup™ warrants each new commercial water softener to be free from defects in materials and workmanship subject to the qualifications or exclusions below.

Commercial Systems are defined by pressure tank size and / or the amount of resin or filter media contained in the tank. Commercial systems use 14" [355mm] diameter tanks and can contain above 3.0 cubic feet [84.95 L] of resin or filter media.

Products manufactured by Canature WaterGroup™ are warranted to be free from defects in materials and workmanship where properly installed, operated and maintained. The length of the product warranties vary as per below.

WARRANTY TABLE FOR ASSEMBLED UNITS	
Fiberglass tanks 14"-63" in diameter or larger	5 Years
Control Valves & Electronics	5 Years
Diaphragm Valves, Meters & Electric Ball Valves	1 Year
Brine Tanks And Internal Assemblies	1 Year
Media	Limited to warranty provided by original manufacturer
Vinylester / Hot Water Application Max Temp 150F	1 Year
Steel Tanks (epoxy lined)	1 Year
Other Components Manufactured by Canature Watergroup	1 Year
Other Components Not Manufactured by Canature Watergroup	Limited to warranty provided by original manufacturer

Canature WaterGroup™ will replace any part (except for Wear and Tear Items – Media, Piston, Seals and Brine Valve) which fails within the time period specified in the chart above 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.

Warranty on Mineral Tanks and Brine Tanks:

Canature WaterGroup™ will provide a replacement mineral tank or brine tank to any original equipment purchaser in possession of a tank that fails within the time outline in the chart above, provided that the system is at all times operated in accordance with specifications and not subject to freezing or vacuum.

Exclusions: Damage to any part of this water softener or filter as a result of misuse, misapplication, neglect, alteration, accident, installation or operation contrary to our printed instructions, damage to ion exchange resin and seals caused by chlorine / chloramines in the water supply, damage to internal pistons and seals caused by wear and tear from iron, manganese, sediment and or silt, or damage caused by any force of nature is not covered in this warranty.

On fiberglass tanks 24" diameter or larger, due to slight expansion and contraction of the tanks, flexible connectors must have been properly installed between the tank openings and rigid piping. Also, a vacuum breaker(s) must have been properly installed to protect the tank from vacuum under all conditions. Failure to install flex connectors and/or vacuum breaker(s), or improper installation the tank warranty will be void.

In addition, if the fiberglass tank has a tripod base, it must have been properly and securely attached to the floor. If not done or improperly installed, the tank warranty will be void.

At our sole discretion, we will repair or replace defective parts if our warranty department determines it to be defective under the terms of this warranty. Canature WaterGroup™ assumes no responsibility for consequential damage, labor or expense incurred as a result of a defect or failure. Media and Resin coverage is limited to the warranty provided by the original manufacturer.

As a manufacturer, we do not know the characteristics of your water supply. The quality of water supplies may vary seasonably or over a period of time. Your water usage may vary as well. Water characteristics can also change if the appliance is moved to a new location. For these reasons, we assume no liability for the determination of the proper equipment necessary to meet your requirements, and we do not authorize others to assume such obligation for us. Further, we assume no liability and extend no warranties, express or implied, for the use of this product with a non-potable water source or a water source which does not meet the conditions for use as described in the Owners Guide.

CANATURE WATERGROUP'S™ OBLIGATIONS UNDER THIS WARRANTY ARE LIMITED TO THE REPAIR OR REPLACEMENT OF THE FAILED PARTS OF THE WATER TREATMENT SYSTEM AND WE ASSUME NO LIABILITY WHATSOEVER FOR DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL, SPECIAL, GENERAL OR OTHER DAMAGES.

Return of Goods: An authorization number must be obtained before returning any merchandise. NOTE: All material returned to Canature Watergroup must be returned freight prepaid. Upon inspection, if our warranty department determines the goods to be defective under the terms of this warranty, the warranty shall be limited to the defective parts to be repaired, replaced, or credited at Canature WaterGroup's discretion. You pay only freight to return defective parts to our factory and local dealer charges, including but not limited to labor charges, travel and transportation expenses, and handling fees.

Some State & Provincial jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Similarly, some State & Provincial jurisdictions do not allow exclusion of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from jurisdiction to jurisdiction. Consult your authorized Dealer for warranty and service information

Toll Free: 1-877-759-5159
www.canaturewgroup.com