

# Installation Instructions for Water Softeners with Fleck 5600 and 5600SXT

Covers standard water softeners using a separate brine tank.

## THANK YOU

Thank you for purchasing a new Water Softener from Premier Water Systems. We appreciate the opportunity you have given us to provide you with better water. We are committed to providing the best customer experience possible and have provided these installation instructions to make things as simple as possible. If you have read through these entire instructions and FAQ section and still have questions feel free to contact us for further help. Our office hours are Monday-Friday 10:00 AM - 4:00 PM PST, and you can call us at 661-575-0033.

## BEFORE YOU BEGIN

- **BASIC PLUMBING SKILLS ARE REQUIRED FOR INSTALLATION. IF YOU ARE UNSURE OF YOUR ABILITIES TO INSTALL THE SYSTEM USING THESE INSTRUCTIONS PLEASE HIRE A QUALIFIED PLUMBER.**
- **READ THROUGH YOUR PARTS LIST AND VERIFY ALL COMPONENTS ARE ACCOUNTED FOR AND IN GOOD CONDITION BEFORE SCHEDULING A PLUMBER.**
- **PLEASE READ THROUGH THE ENTIRE INSTRUCTION MANUAL CAREFULLY. IF HIRING A PLUMBER ENSURE THEY HAVE A COPY BEFORE THEY START.**
- **MOST COMMON QUESTIONS ARE ANSWERED IN THE INSTRUCTIONS OR FAQ SECTION. IF YOU HAVE READ BOTH OF THOSE AND STILL HAVE QUESTIONS YOU MAY CONTACT US FOR FURTHER HELP.**
- **PLUMBING RELATED QUESTIONS NEED TO BE DIRECTED TO A LOCALLY QUALIFIED PLUMBER. WE ARE NOT PLUMBERS AND ANY PLUMBING QUESTIONS WE RECEIVE WILL NOT BE ANSWERED.**

# SYSTEM REQUIREMENTS

Your chosen installation location and water supply must meet ALL of the following requirements:

- 20-90 PSI (1.38-6.20BAR)
- 34-110°F (1.1-43.3°C)
- System must be protected from freezing
- Firm level surface AFTER the pressure tank
- 3-prong, 120V outlet within 5 ft. (1.5 m) of the control head with constant power. GFCI outlet is recommended. Use of an extension cord is NOT recommended.
- A 1.5-inch standpipe, sump pit, or outside drain. **Please note:** The drain line is pressurized and can be ran vertically if necessary.

## 1. VERIFY SYSTEM INVENTORY

System Size	0.5 ft <sup>3</sup>	0.75 ft <sup>3</sup>	1 ft <sup>3</sup>	1.5 ft <sup>3</sup>	2 ft <sup>3</sup>	2.5 ft <sup>3</sup>	3 ft <sup>3</sup>	3.5 ft <sup>3</sup>
Tank (in inches)	8 x 44	8 x 44	9 x 48	10 x 54	12 x 52	13 x 54	14 x 65	14 x 65
Gravel/Garnet	10 lb.	10 lb.	12 lb.	16 lb.	20 lb.	35 lb.	50 lb.	50 lb.
Media	0.5 ft <sup>3</sup>	0.75 ft <sup>3</sup>	1 ft <sup>3</sup>	1.5 ft <sup>3</sup>	2 ft <sup>3</sup>	2.5 ft <sup>3</sup>	3 ft <sup>3</sup>	3.5 ft <sup>3</sup>

**Tank Size and Media Qty**

Use the following table to help verify the parts that are included with your system and verify that they are all accounted for. Inspect all parts for damage and report any damage immediately. **Damage claims must be made within 7 days of delivery to be eligible for replacement.**

Depending on system size you can see what tank size and media amounts you will receive:

## Polyglass Tank

A tall slender tank 44–65 inches in height with an opening on the top. Larger tanks may have a gray threaded adapter to reduce tank opening to match control head. **Please Note:** If you have the Vortech tank upgrade, the Vortech tank replaces the standard tank, so a system with the Vortech tank upgrade will still have only one polyglass tank.

Note for loaded systems: Tanks that are shipped loaded may arrive on their side or even upside down. The

tanks are closed and the media will return to the bottom once placed in the correct position. Any mixing of tank contents will correct itself after being placed in service.



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## Riser/Distributor Tube

A tall pipe that runs from the bottom of the tank to the control valve. If your tank is loaded (empty tanks only weigh 20-30 pounds) DO NOT pull the riser tube out of the tank. One end has a basket (basket design varies) and it usually ships inside the tank. Please Note: On systems with the

Vortech tank there is no basket as the pipe is connected to the bottom tank plate and is not removable. (Tank cutaway shown)



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## Control Head

Screws on top of the tank and controls the water flow and backwashing cycles. Digital SXT has LCD panel. The mechanical has control knobs. Please note: Some SXT systems may have labels referring to the older SE model number. This is an internal designation and does NOT indicate that you received an SE controller. This image will show the differences for easy reference.



OR



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### Bypass Valve

Depending on your order your system will have either a single piece stainless steel bypass or a two part plastic bypass with yoke connection. This is what connects to your control head and provides standard fitting connections to hook up to your plumbing.

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### Drain Fitting

Fitting(s) that connect the control head to the drain line. **Please Note: Drain line is not included.** Depending on the system ordered there are multiple options, and the pictures shown are common examples but actual fitting may vary.



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### Brine Tank

A large plastic tank (round OR square/rectangular) similar to a trash can. Inside the tank is the brine well—a small cylinder about 4 inches (10.1 cm) in diameter—which contains the safety float. The brine tank holds the salt (**not included**) used for regeneration. There will also be an overflow fitting and tubing. Some systems may have a salt grid—a plastic grid on the bottom of the tank—but most do not as



they are not needed when using salt pellets as recommended. This tank holds the salt, **DO NOT load the resin in brine tank.**

Tubing and fittings used to connect the control head to the brine tank. Tubing is usually inside the brine tank, the fittings are usually in a small bag, either with the tubing, with the instructions, or with the control head. Fittings include the brass brine nut, ferrule, insert, and screen.



## Before you start plumbing

### 1. PRE-INSTALLATION PREPARATION

**Money-saving tip:** If hiring a plumber to do the installation you can save some money by preparing the tank ahead of time. This cuts down on the time the plumber has to spend and doing so is simple enough that most people can accomplish it in less than an hour.

#### 1. Verify riser tube position

***\*\*Most of our systems are sent out Pre-Loaded so this step can be skipped***

**NOTE REGARDING LOADED TANKS:** Systems that arrive loaded will have the riser tube in place and attempting to remove it will require the tank to be emptied and refilled. **DO NOT try to remove the riser tube from a loaded tank.**

The riser tube sits in an indentation centered in the bottom of the tank. With the riser tube properly positioned, ensure that it is within 1/3 inch (8 mm) above or below the lip of the tank. If it is not contact us for help correcting the problem.

### For tanks that were not loaded or Partially loaded:

#### 1. Load media and gravel—**gravel goes in first**

**Make sure to cover the opening of the riser tube.** Simply put something over the end of the tube such as a piece of tape, to prevent anything from falling into the riser tube.

**If you have gravel with your system it will go in first!**

**Please note:** MOST systems upgraded with a Vortech Tank do NOT require gravel. With some medias (such as Filox/Mang-Ox) gravel is still required for the best results, so if you have gravel, use it. Make sure to empty all boxes to verify it is not in the bottom of the tank box or in a box with the media.

When filling the tank, do so slowly and ensure the riser tube stays correctly positioned and centered in the tank. If you have more than one bag of media, after gravel the order does not matter and **all of it should be used**. Once all the media is loaded the tank will not be completely full, this is normal.

## 2. Finish filling tank with water **Optional**

Once the media is loaded you may finish filling the tank with water. Allow media to soak for 12-24 hours. This can help reduce air bubbles, reduce initial flush time, and ease initial startup.

## ATTACH THE CONTROL HEAD

Lubricate the O-rings **DO NOT use Vaseline**

The tank O-ring—Image 4—seals the control valve to the tank, and the pilot O-ring—Image 5—seals around the riser tube. Verify they are present and free from nicks or kinks. Use a silicone lubricant or vegetable oil to both O-rings.

**DO NOT use petroleum based lubricants!**

**Please note that the pilot O-ring is up inside the control head and you will usually have to reach up inside to feel it.** It is very secure inside the head and almost impossible for it to come out. It is also a good idea to verify that the riser tube fits snugly into the pilot hole and that the O-ring seals around it.



image 4



image 5

**3. Inspect and install top distributor basket if applicable (We use downflow systems – Upper basket NOT NEEDED)**

Depending on system configuration your system may include a top distributor basket—. If your system includes one it is recommended that you use it. **If you do not have one then it is not needed.** If you do have one the larger end will fit inside the bottom of your control valve, with the smaller end sliding over the riser tube pointing down into the tank—. Please note that locking tabs hold it in place so a fair amount of force is needed to install or remove it.



**4. Screw on control head **hand tight only****

**DO NOT apply anything (pipe dope, plumbers paste, Teflon tape, etc.) to the threads on the control head or the resin tank!**

Ensure the riser tube slips inside the pilot opening in the bottom of the head. Screw the head down onto the resin tank until solid contact is made between the tank and O-ring, then tighten about another 1/4–1/3 of a turn and STOP. **Do not over tighten the control head as this can cause damage.** Once properly tightened down check to ensure the tank and control head meet evenly all the way around.

**1. PREPARE AND CONNECT BRINE TANK**

**Use 3/8 inch line to connect brine tank to control head**



The brine line will connect from the brine fitting on the control head to the fitting on the float inside the brine tank. To attach it to the float put the tubing through the hole in the brine tank and push the tubing into the fitting until it stops, then push a little harder to get it to lock in place.

To remove the tubing, hold the collet ring that sits around the tubing while pulling the tubing out. The other end of the tubing will connect to the control head.

Place the fittings on the tubing as shown and connect it to the control head. **Please Note:** If your brine tank uses the compression style fitting it will connect to the brine tank in a manner similar to how it connects to the control head.



**Add salt to the brine tank, water is not necessary**

Add salt to the brine tank. We recommend high quality salt pellets designed for water softeners for the best results. You will need to add at least one bag of salt and can fill it up to the top of the brine well. Ensure there is salt in the brine tank at all times. **You do NOT need to add water to the brine tank.** The resin is precharged and able to treat the water out of the box and the initial regeneration ran after installing the system will place the initial volume of water in the brine tank.

## SETUP CONTROL HEAD

### Plug control head in

Plug the control head into a qualifying outlet as stated in the requirements section. **Please Note:** The control head can be plugged in and operated without water, this will not damage the control head. Once plugged in, verify the system is receiving power and ensure the outlet is not on a switch that might get turned off. On digital valves the display should light up and start flashing a time, on mechanical valves you may hear a quiet hum of the motor or you may have to wait to see if the time dial keeps track of time. **Please note:** The **service icon** (the icon that looks like a faucet) indicates that the system is IN SERVICE, that is the system is running and working. It DOES NOT indicate the system needs serviced.

### 1. DIGITAL CONTROLLER - Initial valve setup

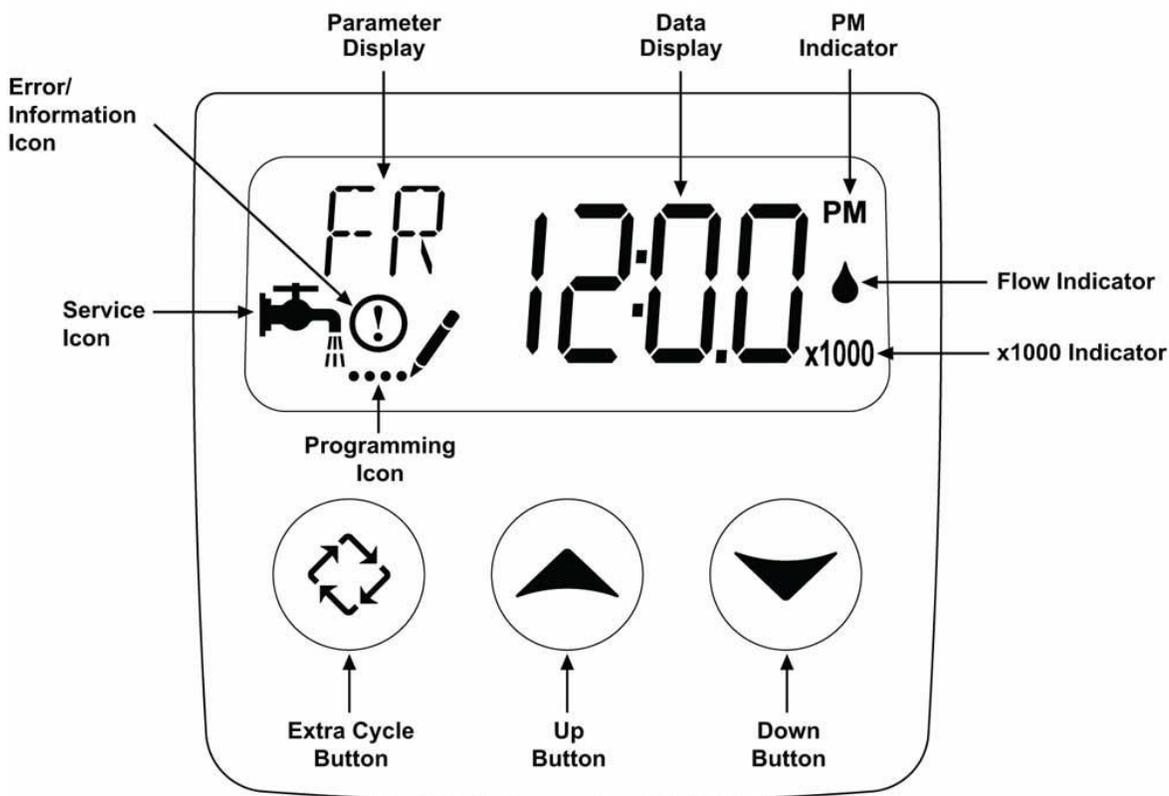
**If you have the mechanical valve skip the digital controller sections and proceed with the mechanical setup**

For initial programming enter master programming by setting the clock to 12:01 pm. To set the time of day press and hold the up OR down arrow until the service icon is replaced with the programming icon. Use the up and down arrows to set the time of day (PM is indicated in the upper right corner of the screen). Hold the arrow button to advance quickly through the time. Once the time is set, press the extra cycle button to save the setting. Once the parameter display is gone, press and hold the up AND down arrow buttons together for 5-10

seconds until the programming icon appears and [DF] is shown in the parameter code. Once each setting has been entered, use the extra cycle button to advance to the next setting.

**Please Note:** Most of these settings will be left alone.

Depending on your system some settings may not be shown, and some settings may be different than shown here. **Do not change any settings unless specifically instructed to do so by these instructions or one of our techs.**



# SXT Master Programming Chart

Ensure the time is set to 12:01pm, hold BOTH up and down arrows until programming icon appears			
		<b>Required</b>	This setting is required and should be changed if it does not match
		<b>Variable</b>	This setting will vary depending on the system and application. Use these instructions to set appropriately.
<b>PLEASE NOTE:</b>		Any setting on your system that is not specifically highlighted below will be left at default. This is a list of all possible options, and many will NOT be shown on your system and are included for informational purposes only.	
Code	Parameter	Options	Description
DF	Display Format	<b>GAL</b>	Volume is displayed in gallons and time in a 12-hour AM/PM format - These instructions are based on the GAL setting
		Ltr	Volume is displayed in liters and time in 24-hour format
VT	Valve Type	<b>dF1b</b>	Downflow single backwash - used on softeners that require the brine draw.
		Fltr	Filter - used for basic backwashing systems that do not need the brine draw
		dF2b	Downflow double backwash - similar to the dF1b but with 2 backwashes. Not commonly used.
		UFbd	Upflow brine first - not commonly used.
		UFtr	Upflow filter - not commonly used.
		Othr	Other - not commonly used
CT	Control Type	FI	Metered (Flow) Immediate - counts down from the programmed gallon capacity and begins a regeneration immediately after reaching 0. Only used on dual tank water softeners.
		Fd	Metered (Flow) Delayed - counts down from the programmed gallon capacity and when 0 is reached queues a regeneration cycle for the set regeneration time. Only used on water softeners.
		Tc	Time Clock - will begin a regeneration cycle at the set regeneration time after the set number of days has passed. Common setting on all backwashing systems except water softeners to ensure consistent cleaning of the media.
		dAY	Day of the Week - will begin a regeneration cycle on the set day(s) at the set regeneration time. More consistent Time Clock setting is recommended in most situations.
NT	Number of Tanks	1	For systems with only 1 media tank (all systems except dual tank softeners).
		2	For systems with 2 media tanks (dual tank softeners only).
UT	Indicates current tank in service	U1	Tank 1 is in service
		U2	Tank 2 is in service (dual tank softeners only).
C	Capacity	<b>1-999.9 (x1000)</b>	System capacity, in grains. Metered softeners only. This will be set to match your system size, so a 48k or 48,000 grain system will be set to 48. Reference the tank size chart above for help in matching up your tank size with capacity.
H	Hardness	<b>1-199</b>	Hardness of the water, in grains. Metered softeners only. Hardness, this is the hardness of the water as measured in grains per gallon (GPG). If your test shows hardness as parts per million (ppm) or milligrams per liter (mg/l) simply divide by 17.1 to get grains per gallon.

RS	Reserve Selection	SF	Percentage safety factor - this uses a percentage of the capacity for a reserve. Softener systems only. A fixed reserve is recommended over this setting.
		rc	Fixed reserve capacity - uses a set volume for a reserve. Softener systems only. This is the recommended setting for softeners.
SF	Safety Factor	0-50%	Only applies to softeners with RS set to SF
RC	Reserve Capacity	1-(half of calculated capacity)	Fixed reserve capacity, softeners only. This is the number of gallons the system reserves as a safety factor to ensure the system will treat the water until the next regeneration. It is commonly set to the average number of gallons used in a day. If you are unsure of your actual usage, a good rule of thumb is to set it to the number of people in the house times 75. Example, if there are 4 people in the house, you would set it to 300 gallons (4x75).
DO	Day Override	14	This setting will start the regeneration cycle after the set number of days regardless of water usage. Typically set to 14 or less to ensure the resin gets lifted and cleaned off regularly. This ensures effective filtration and long resin life.
RT	Regen Time	2:00	This sets the time that the regeneration cycle will start. This process can take up to 2 hours depending on system size and configuration, so schedule it when water will not be used. It is common to set to run when everyone is asleep or out of the house, and ensure it does not conflict with any other systems you may have.
BW	Backwash	10	This sets the length of the backwash portion of the cycle. During this cycle water flows through the system in reverse to lift the resin and rinse off accumulated contaminants, with a strong flow of water going out the drain line. Reducing this cycle can lead to reduced resin life and premature system failure. For very dirty water longer times may be needed.
BD	Brine Draw	60	This sets the length of the brine draw portion of the cycle. During this cycle the water from the brine tank is rinsed slowly through the resin tank to regenerate the resin. A slow flow of water will go down the drain during this cycle, and the brine tank will be emptied. <b>Please note:</b> The brine tank will typically empty fairly quickly, with significant time remaining in the cycle, this is normal as the remaining portion of the cycle is used to saturate the resin with the solution to ensure effective regeneration.
RR	Rapid Rinse	10	The rapid rinse cycle runs water through the tank in the normal direction to rinse off any excess salt and settle the resin for normal operation. During this cycle there will be a steady flow of water down the drain.
BF	Brine Fill	12	This sets the length of the brine fill portion of the cycle. During this cycle the system will put water into the brine tank. <b>Please note:</b> The brine tank will have water in it after this cycle completes and it will remain in the tank until the next regeneration, this is normal. Exact amount will vary, and water level in the brine tank may be above OR below the salt level depending on system, brine tank, and amount of salt in the tank.
D1-D7	Day of the Week Setting	OFF	Set to On or OFF for each day of the week. Only applies to systems with Control Type dAY, not typically used.
CD	Current Day	1-7	Used to set the current day. Only applies to systems with Control Type dAY, not typically used.
FM	Flow Meter Type	P0.7	3/4" Paddle Wheel Meter For the larger domed meter used on most softeners.
		Gen	Generic or Other Meter
		P2.0	2" Paddle Wheel Meter
		t1.5	1.5" Turbine Meter

		P1.5	1.5" Paddle Wheel Meter
		t1.2	1.2" Turbine Meter
		t1.0	1" Turbine Meter
		P1.0	1" Paddle Wheel Meter
		<b>t0.7</b>	3/4" Turbine Meter For the smaller meter used on some softeners. Not as common as the paddle wheel meter.
K	Meter Pulse Setting	0.1-999.9	Pulses per gallon. Only applies to systems with FM set to Gen, not typically used.

Pressing the extra cycle button after the final setting will save your changes. If no buttons are pressed for 60 seconds while in programming mode the changes will be cancelled.

**If you accidentally change a setting that does not have a recommended or variable value: Please do a hard reset as outlined in the resets section to return all values to default. You can then go back through the programming to set it up according the the chart above.**

Once you have finished programming use the arrows to set the current time of day. Once the time is set the display should then show the service icon, with the data display flashing between the current time of day and remaining system capacity. As water flows through the system the flow indicator will flash and the system capacity will count down. Once it reaches 0 the system will queue a regeneration for the set time. A flashing service icon indicates that a regeneration is queued. A manual regeneration can be queued by pressing the extra cycle button. An immediate regeneration can be initiated by holding the extra cycle button for about 5 seconds. **The service icon indicates that the system is "In Service" and functioning correctly, it does NOT mean that the system needs service.**

After initial setup the master programming should not need to be used again unless a system reset is performed. Even in the event of a power outage all settings are retained. If your water use or water quality changes you can use the user programming to make common changes to the programming as lined out below.

## SXT User Programming Chart

<b>Ensure the time is NOT set to 12:01pm, hold BOTH up and down arrows until programming icon appears</b>			
Please refer to the master programming chart for proper values each setting.			
Code	Parameter	Options	Description
DO	Day Override	14	This setting will start the regeneration cycle after the set number of days regardless of water usage.
RT	Regen Time	2:00	This sets the time that the regeneration cycle will start.
H	Hardness	1-199	Hardness of the water, in grains.
RC	Reserve Capacity	1-(half of calculated capacity)	Fixed reserve capacity.
Pressing the extra cycle button after the final setting will save your changes. If no buttons are pressed for 60 seconds while in programming mode the changes will be cancelled.			

## 1. DIGITAL Controller - Resets

If your controller is showing odd behavior such as erratic display, no display, or showing an error code, the first step is to try and reset it. Start with the soft reset, and if that does not solve the problem move on to the master reset. If the problem persists contact one of our technicians.

Reset	Directions	Effect
Soft Reset	Hold Extra Cycle and Down buttons for 25 seconds	This will reset all parameters to the system default values, but leaves the days since the last backwash intact. This is a good place to start if you feel you may have changed a default setting. After resetting proceed through the master programming section.
Hard Reset	Hold Extra Cycle button while plugging the unit in	This will reset all parameters in the system. This is typically reserved for erratic behavior that a soft reset does not resolve. After resetting proceed through the master programming section.

### SXT Controller Resets

#### MECHANICAL CONTROLLER - Frequency

You will need to calculate the gallon capacity of your system (how many gallons the system can go through before it needs to regenerate). To calculate this number you will need to know the system capacity, (for example, a 48k system has a 48,000 grain capacity) and the hardness of the water in grains per gallon (GPG). If your test shows hardness as parts per million (ppm) or milligrams per liter (mg/l) simply divide by 17.1 to get grains per gallon. Take the capacity of the system and divide by this number, this is your total capacity. Multiply the number of people in the house by 75, this is your reserve capacity. Subtract the reserve capacity from the total capacity and this is how many gallons you will set your system to. The gallon capacity of the system is denoted by a gear with the numbers 1-21, these numbers represent the number of gallons x 100 that your system is set to regenerate at. To set your system, pull out the capacity knob and rotate the knob until the correct number is lined up with the white dot. As an example, if the water hardness is 24 GPG and you have a 48k system with 3 people, your gallon capacity would be  $(48,000/24)-(75 \times 3) = 1775$  gallons. You would line the white dot up between the numbers 17 & 18. You can use the chart below to help. If unsure of the size of your system you may contact us for assistance. Be sure to include the name the system was ordered under when contacting us. If your water is extremely hard or if you have high water use a larger reserve capacity may be needed.

The chart below represents typical settings for the given hardness with a family of 4. Numbers shown match up with the 1-21 numbers shown on the dial and indicate number of gallons x 100

Hardness	System Capacity						
	24k	32k	40k	48k	64k	80k	96k
up to 10 grains	21	21*	21*	21*	21*	21*	21*
15 grains	13	18	21*	21*	21*	21*	21*
20 grains	9	13	17	21	21*	21*	21*
25 grains	**	9	13	16	21*	21*	21*
30 grains	**	7	10	13	18	21*	21*
35 grains	**	**	8	10	15	19	21*
40 grains	**	**	7	9	13	17	21
45 grains	**	**	**	7	11	14	18
50 grains	**	**	**	**	9	13	16
55 grains	**	**	**	**	8	11	14
60 grains	**	**	**	**	7	10	13
65 grains	**	**	**	**	**	9	11
70 grains	**	**	**	**	**	8	10
75 grains	**	**	**	**	**	7	9
80 grains	**	**	**	**	**	7	9
85 grains	**	**	**	**	**	**	8
90 grains	**	**	**	**	**	**	7
95 grains	**	**	**	**	**	**	7
100 grains	**	**	**	**	**	**	**

\*Indicates the actual gallon capacity exceeds maximum setting of mechanical valve

\*\*System size not recommended for this hardness level

**Mechanical Softener Setting Chart**

### **MECHANICAL CONTROLLER - Time**

To set the time, locate the 24 hour time gear (the large gear located behind the manual cycle knob) and note the current time arrow. Push the red time set button in and rotate the 24 hour time gear until the current time arrow lines up with the current time of day. A white arrow will point at the current gallon capacity remaining. Once the countdown reaches zero the system will run a regeneration cycle that night at midnight or 2 AM (depending on the system, the time is usually indicated on a label located on the back of the valve). During regeneration there should be no water being used, and the default time is usually fine for most homes. To have it run at a different time (for example if you work late and are up and using water at the default time) you will need to adjust the current time of day to trick the system into doing so at the desired time. For example: if the system is set to run at 2 AM and you want it to run at 8 AM, set the current time of day 6 hours behind, that way the system will think it is 2 AM when it is actually 8 AM.

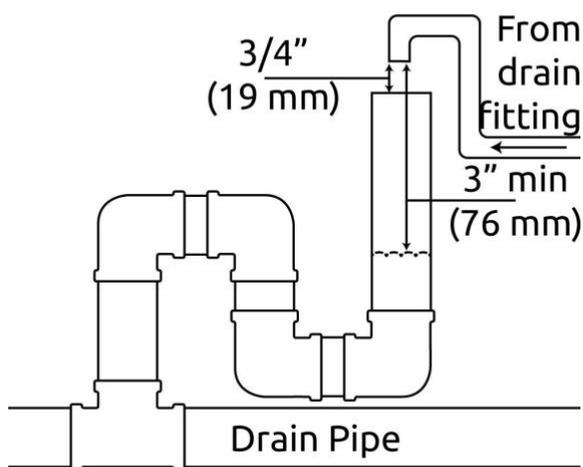
# Plumbing the system in

## 1. PLUMBING GUIDELINES

**Before you continue** Many homeowners install their own water systems with basic plumbing skills; if you are not comfortable with projects like this, please hire a professional plumber. Make sure to check local plumbing codes and follow any codes that apply. These instructions offer basic plumbing tips and cannot cover every situation. They are intended as a supplement and should not replace local plumbing codes or actual plumbing experience.

### 1. Drain Line Connection

**Please note:** Drain water comes out under line pressure, so it can be run vertically to connect to an overhead drain pipe.



**Never make a direct connection into a waste water drain.** A physical air gap of at least 3 inches (76 mm) between the end of the drain line and the wastewater level in the drain pipe should be used to avoid contamination of the line. An additional gap of 3/4 inch (19 mm) between the drain pipe and drain line is recommended to prevent any problems in the case of a pipe overflow. Using a simple P-trap as shown—is ideal as well, but a stand pipe with a diameter of at least 1.5 inches (38 mm) is adequate. As the water coming out is under pressure, make sure to **secure the drain line** so that it does not move and create a mess.

**Do not tie multiple systems into a single drain line.**

If hooking up multiple systems, each system needs a separate, independent drain line to ensure proper operation and prevent damage. Systems can all be run to the same standpipe/sump/outside drain, but the drain line from each system needs to be separate.

**Do not use additional fittings on the drain line.**

Avoid installing any additional fittings (check valves, ball/gate valves, etc.) as this can prevent proper backwash and cause premature system failure.



OR



## 1. Inlet/Outlet Connections

**Do not overtighten the screws.** The bypass valve will have some up and down movement, this is normal. The clips simply hold the connection fittings together and the screws only need tightened enough to keep the clips in place. Further tightening will not stop leaks and tightening too much can damage the system, which will not be covered under warranty.

**Verify flow direction.** Untreated water will enter the system on the side marked with an arrow pointing toward the front of the control head (on both the bypass valve and the control head itself). Treated water will exit the system on the side marked with an arrow pointing away from the front of the control head (on both the bypass valve and the control head itself).



OR



**Correct inlet/outlet connections are vital.** Improper flow direction will prevent proper operation and can damage your system and your plumbing. **The direction of flow cannot be changed.** Turning the bypass upside down will not change the direction of the water flow.

**It is recommended to keep the bypass in the service position when making plumbing connections and turn it to bypass when first turning the water back on.** shows the bypass position. In bypass position the handles will be turned 90-degrees and be perpendicular to the inlet and outlet fittings.

**When soldering do not solder directly to the included connection or close to the control head.** First solder a short (min 3-inch [7.6-cm]) piece of copper pipe onto the adapters, away from the valve, before connecting the adapter to the bypass or yoke fitting.

**For threaded connections, do NOT tighten the adapters into fittings while they are connected to the control head.** Disconnect the bypass or yoke fitting, and connect the adapter using a high-quality thread sealant (pipe joint compound or Teflon/PTFE tape), and replace.

**When installed the bypass valve can move up and down, this is normal.**

## PLACE SYSTEM IN SERVICE

Once all plumbing is done and plumbing connections have been checked for leaks you can place the system in service.

### Open bypass valve **slowly**

If you have more than one system, ensure the other systems are bypassed to prevent any possible problems. Open a faucet that is near the system, a laundry sink or outside faucet (if it will be treated by the system) is ideal, this will allow the air to bleed out of the system. **Slowly** open up the bypass valve just to the point of allowing water to enter the system at a trickle, and leave it like that until the tank is full of water. If you pre-filled the system it should only take a minute or two. Once the tank is full, slowly open the bypass valve the rest of the way. Allow water to run out of the faucet for 15-20 minutes to ensure all the air is worked out of the tank then close the faucet.

### **Check for leaks**

Check the system for any leaks, paying attention to the seal between the tank and control head as well as the connections between the bypass valve and control head. Open a nearby faucet and check to ensure there is no leaks that show up when water is running.

### Flush the system

Open a nearby faucet. The water may be discolored at first, this is normal. Let water run out of the faucet for at least 10 minutes, or until any discoloration clears up. Depending on the system this may be almost immediate, or it may take a couple of hours. Once the water is cleared up a manual regeneration should be run.

### Initiate manual regeneration

It is a good idea to allow the system to run through a manual cycle. On mechanical valves, turn the main knob until it clicks into the first position. On digital systems, hold the extra cycle button for 5-10 second until the backwash starts.

### Verify proper operation

Watch the system as it steps through each cycle, make sure it moves to each position, that water is not leaking from any other fittings, and that water is flowing down the drain line. The brine line will have water flowing through it during the appropriate cycles as well. **Please Note: Digital systems only** With the brine tank empty the system will not draw water out of the brine tank during the brine draw cycle. This cycle can be skipped during the initial startup by pressing the extra cycle button after the **[BD]** cycle has started counting down. The resin is pre-charged and the brine water is not needed for the first cycle, the initial cycle is run to ensure the brine tank has the correct amount of water for the first automatic cycle.

**Be sure to return any other systems to the service position.**

# Frequently Asked Questions

## INVENTORY AND SETUP

### What is the proper order to arrange multiple systems?

If you are installing more than one tank system the typical order for installation is:

**sediment filter > pH filter > iron filter > carbon filter > water softener > arsenic filter**

Whole house cartridge systems are typically installed after any tank systems, the Scale Sentry system after the cartridge system(s), and any UV systems will be last.

### Do I need a prefilter?

In most cases a prefilter is not necessary. Since the system cleans itself most particulate in the water will be trapped and rinsed off by the backwash cycle, eliminating the need for a sediment prefilter.

### My polyglass tank arrived and sits crooked, what do I do?

The black boot on the bottom of the tank may get knocked out of alignment during shipment. If your tank is a bit tilted, simply pick the tank up 2–3 inches (5–8 cm) off the floor and drop it gently but firmly down, favoring the side that needs to be adjusted to make the tank stand straight.

### I have read or seen that I shouldn't install the top distributor basket, is that true?

***\*\*We use downflow systems, in downflow systems an upper basket is NOT NEEDED.***

Information For Upflow Systems: The top distributor basket is used to help prevent media from getting up into the control head and into your pipes, it also keeps the resin from going down the drain during water or air surges. While systems that are installed correctly and functioning properly will not have issues, the top basket is included as a safety measure to prevent problems and it is recommended to use it if present. Those who recommend leaving it off usually do so to prevent buildup on that basket that can lead to flow restrictions (more common in high iron waters), but it is usually easier to clean or replace a top basket periodically than cleaning out clogged fixtures if something does go wrong.

### After installing the bypass, it still moves up and down, is that normal?

Yes. The bypass seals with O-ring and even when tightened down some movement will occur, without leaking. The system requires this movement to allow for pressure changes in the system. **Do not overtighten the bypass valve.** As long as the screws are snug enough to keep the bypass from coming apart further tightening will just cause damage.

## **DRAIN LINE**

### **Can I run my drain line to a sewer/septic?**

Yes. These systems can be ran to your sewer or septic line and is typically the recommended place to run the drain. Most concerns are related to the amount of water going down the drain, and a properly designed septic/sewer system will not have a problem handling it.

### **Can my drain line be ran vertically?**

Yes. Water from the drain comes out under pressure and can be ran vertically if needed.

## **BRINE TANK**

### **Is there supposed to be water in the brine tank?**

### **How much water is supposed to be in the brine tank?**

During normal operation the system will have water in the brine tank so that it can dissolve the salt needed for the next regeneration. The amount of water in the brine tank will vary depending on brine tank size, system size, control head configuration, system settings, and how much salt is in the brine tank. Depending on those factors the water level in your brine tank may be only a few inches high or it may be close to the overflow.

### **How much salt should I put in the brine tank?**

You can fill the brine tank with as much salt as it will hold up to the top of the brine well. At a minimum there should be enough salt for the next regeneration, the amount needed will vary depending on system size and settings, but 1-2 bags of salt (40-80 pounds) will cover most systems.

### **How often do I need to add salt to the brine tank?**

The rate at which you use salt will vary depending on system size, settings, water quality, and water use. It is your choice to add salt frequently to keep the brine tank full or only add salt when it starts to get low. Average homes will use 1-2 bags (40-80 pounds) of salt per month. Homes with high hardness or high water usage can expect higher salt usage.

## **DIGITAL DISPLAY**

### **Why does my display flashing between the time of day and a number?**

This is normal, with the number displayed indicating the number of days until the next backwash.

### What does the faucet icon mean?

That is the service icon, meaning the system is in service. It does NOT mean the system needs service. If it is flashing then a backwash is queued for the next set time.

### What does the water drop icon mean?

That is the flow icon. Only used on metered softeners, it indicates water is flowing through the system.

### What does the circled exclamation icon mean?

That indicates an error. Match the number on your display with the number on the error chart below for troubleshooting tips.

## SXT Error Codes

Error Code	Error Type	Cause	Solution
0	Cam Sense Error	Piston took more than 6 minutes to advance	Unplug the system, disconnect the piston from the motor/gear, and verify that the piston moves freely inside the valve; if it does not replacement of the seal and spacers and possibly the piston is required. After reconnecting the piston, inspect the control head for any broken, worn, or disconnected parts, and replace or reconnect any that are found. Perform a hard reset. After verifying programming run the system through a backwash and watch the motor to ensure that it is moving the piston, if it is not the motor needs to be replaced. If error still occurs contact us for support.
1	Cycle Step Error	Unexpected cycle input	Unplug the system and check to ensure all electrical connections and cam switches are secure. Plug the unit back in and check the master programming and ensure valve type and system type are correct for your system. Initiate a manual regeneration and verify it progresses through the steps correctly. If error reoccurs, contact us for support.
2	Regen Failure	More than 99 days since last backwash (7 on day of the week setups)	Perform a manual backwash to reset the error. Check your settings to ensure the system is setup to backwash automatically. Check the meter to ensure it is not stuck and that the gallons remaining is counting down.
3	Memory Error	Circuit board memory failure	Perform a hard reset and go through the master programming to update the settings. If error occurs again contact us for support
UD	Upper Drive Sync	Piston is syncing	Common when changing programming or if system loses power. System will automatically recover from this state.