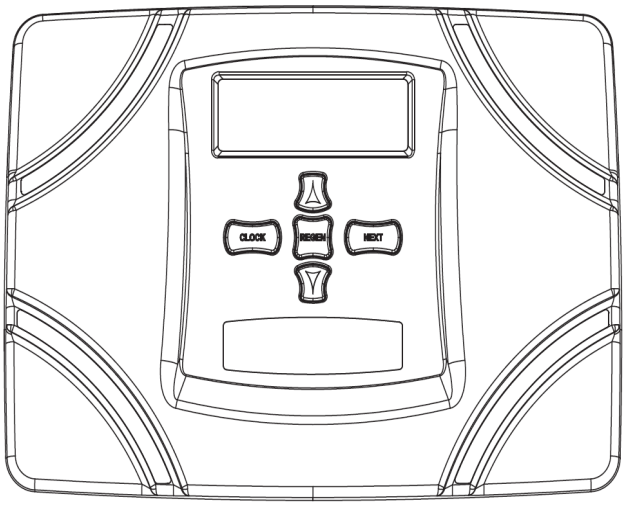
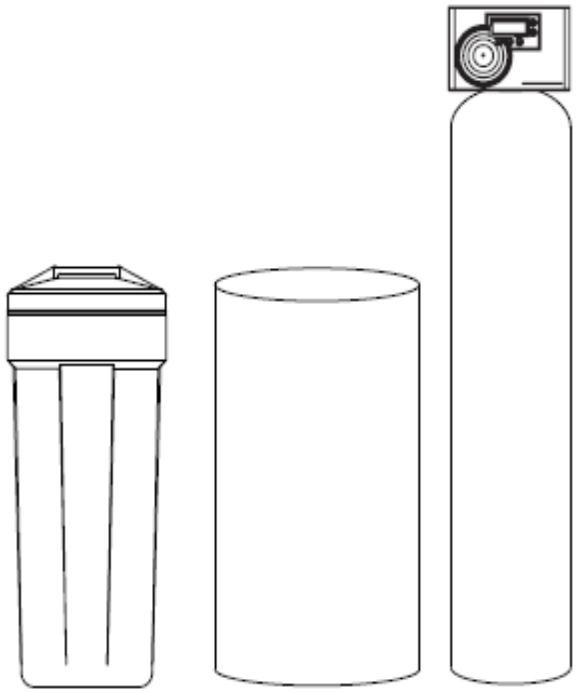
CERTIFLOW WATER





WATER SOFTENER INSTALLATION & USER MANUAL

Not for installations in California

Installed By: _____
Company Name: _____
Install Date: _____
Serial #: _____
Model #: _____

Your Water Test:

Hardness _____ gpg
Iron _____ ppm
pH _____ number
Manganese _____ ppm
Sulphur _____ yes/no
Total Dissolved Solids (TDS) _____

WATER PRESSURE TESTED AT:_____**PSI**

SERVICE RECORDS:

DATE: **COMPANY:** **DETAILS/NOTES:**

Pre-Installation Instructions

Not for Installation in California

The manufacturer has preset the water treatment unit's cycle times, salt dose, exchange capacity and the salt dose refilltime.

The dealer should read this page and guide the installer through setting the Hardness, Days Override, and Time of Regeneration prior to installation.

Protect your system from chlorine and chloramines found in municipal raw water supplies.

For the installer the following settings should be used:

1. Program Installer Settings

    Hardness (set to local conditions)
    Day Override (factory set to 14)
    Time of Regeneration (preset to 2:00AM)

2. Set Time of Day

For the homeowner, please read user display settings.

Water Softeners:
During operation, the normal user display is time of day or volume remaining. Other displays are available and can be viewed by pressing the NEXT button to scroll through them. When stepping through any programming, if no buttons are pressed within 5 minutes, the display returns to a normal user display. Any changes made prior to the 5 minute time out are incorporated.

To quickly exit any Programming, Installer Settings, etc., press the CLOCK button. Any changes made prior to the exit are incorporated. If desired, two regenerations within 24 hours are possible with a return to the preset program. To do a double regeneration:
1. Press the REGEN button once. "REGEN TODAY" will flash on the display.
2. Press and hold the REGEN button for three seconds until the regeneration begins.

Once the control valve has completed the immediate regeneration it will do another one at the next scheduled regeneration time.

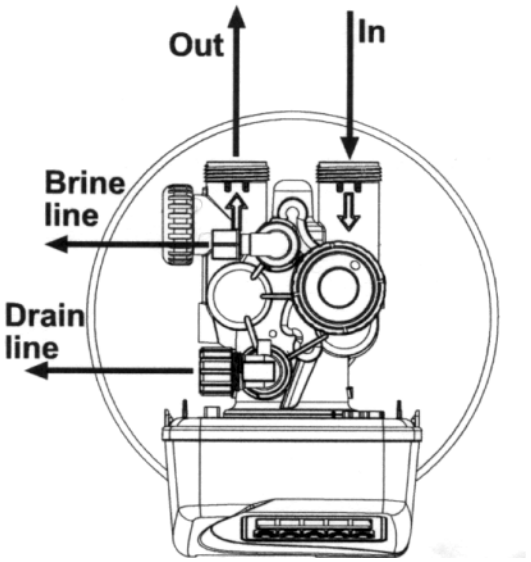
*****Protect this system from Hot Water Back-feed and from Vacuum. Install a working expansion tank on the inlet line of the water heater, and a vacuum breaker on the piping if this installation is prone to vacuum*****

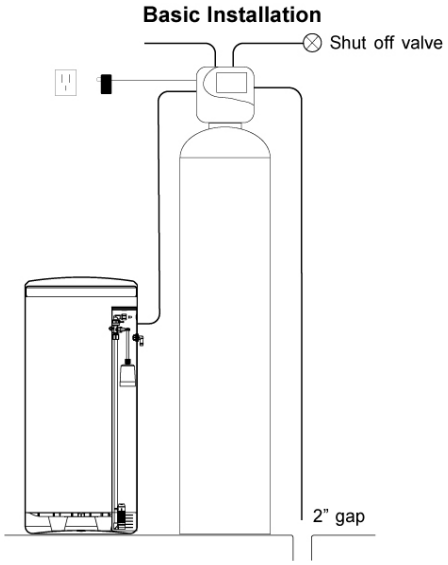
****Protect this system from direct UV sunlight and from freezing or where weather elements can have direct contact with system. Failure to do so can damage your system and VOID warranty****

****Protect this system from high chlorinated and chloramine water supplies. High chlorine and chloramines will ruin the water softener resin over time and is NOT covered under warranty****
****Refer to Warranty on the last page of this manual****

****Not for installation in California****

BASIC INSTALLATION





General installation & Guide

General installation & Guide

The control valve, fittings and/or bypass are designed to accommodate minor plumbing misalignments but are not designed to support the weight of a system or the plumbing.

Do not use Vaseline, oils, other hydrocarbon lubricants or spray silicone anywhere. A silicone lubricant may be used on black O-rings but is not necessary. Avoid any type of lubricants, including silicone on red or clear lip seals.

Do not use pipe dope or other sealants on threads. Teflon tape must be used on the threads of the 1" or 1.25" connection and on the threads for the drain line connection. Teflon tape is not necessary on the nut connections or cap because O-rings seals are used. The nuts and caps are designed to be tightened by hand or with the special plastic service wrench, #V3193-XXX. If necessary, pliers can be used to unscrew the nut or cap. **Do not** use a pipe wrench. **Do not** place screwdriver in slots on caps and/or tap with a hammer.

1. The distance between the drain and the water softener should be as short as possible (20 feet max on same elevation). Drain tube/pipe should be a minimum of 5/8" size, rigid or semi rigid tubing. Do not use soft collapsible piping.
2. All plumbing should be done in accordance with local plumbing codes.
3. Do not install any Water Softener with less than **15 feet** of piping between its outlet and the inlet of a water heater.
4. ***Protect your water softener from hot water back feed. Install a working expansion tank on the cold water inlet of the water heater. Hot water back feed will ruin your water softener and VOID the warranty. Hot water back feed can also cause a leak to your water softener.
5. Install a vacuum breaker if the installation could be prone to vacuum.
6. Do not locate unit where it or its connections (including the drain and overflow lines) will ever be subjected to room temperatures under 34F. Outdoor installations are NOT recommended. Direct UV sunlight, freezing and weather will damage system and VIOD warranty.
7. Inlet/outlet plumbing: connect to a supply line and install an inlet shutoff valve.
8. Drain line: Be sure that the drain can handle the backwash rate of the system and install a flexible plastic tube or rigid pipe to the Drain Line Assembly.
9. Never insert drain line directly into a drain, sewer line or trap. Always allow a code legal airgap between the drain line and the waste water to prevent the possibility of sewage being back-siphoned into the water softener.
10. Brine tank over flow line connection: Install a drain line off of the barbed brine tank overflow connection. This drain line is gravity flow to a floor drain. DO NOT TEE together the discharge line of the water softener to the brine tank overflow.
11. ****Check you water pressure!!! Water pressure exceeding 90 PSI will VOID your warranty. Install a pressure regulator if your pressure is over 80 PSI. Water pressure over 90 PSI will VOID THE WARRANTY OF THE SYSTEM.**

****Protect this system from high chlorinated and chloramine water supplies. High chlorine and chloramines will ruin the water softener resin over time and is NOT covered under warranty****

****Refer to Warranty on the last page of this manual****

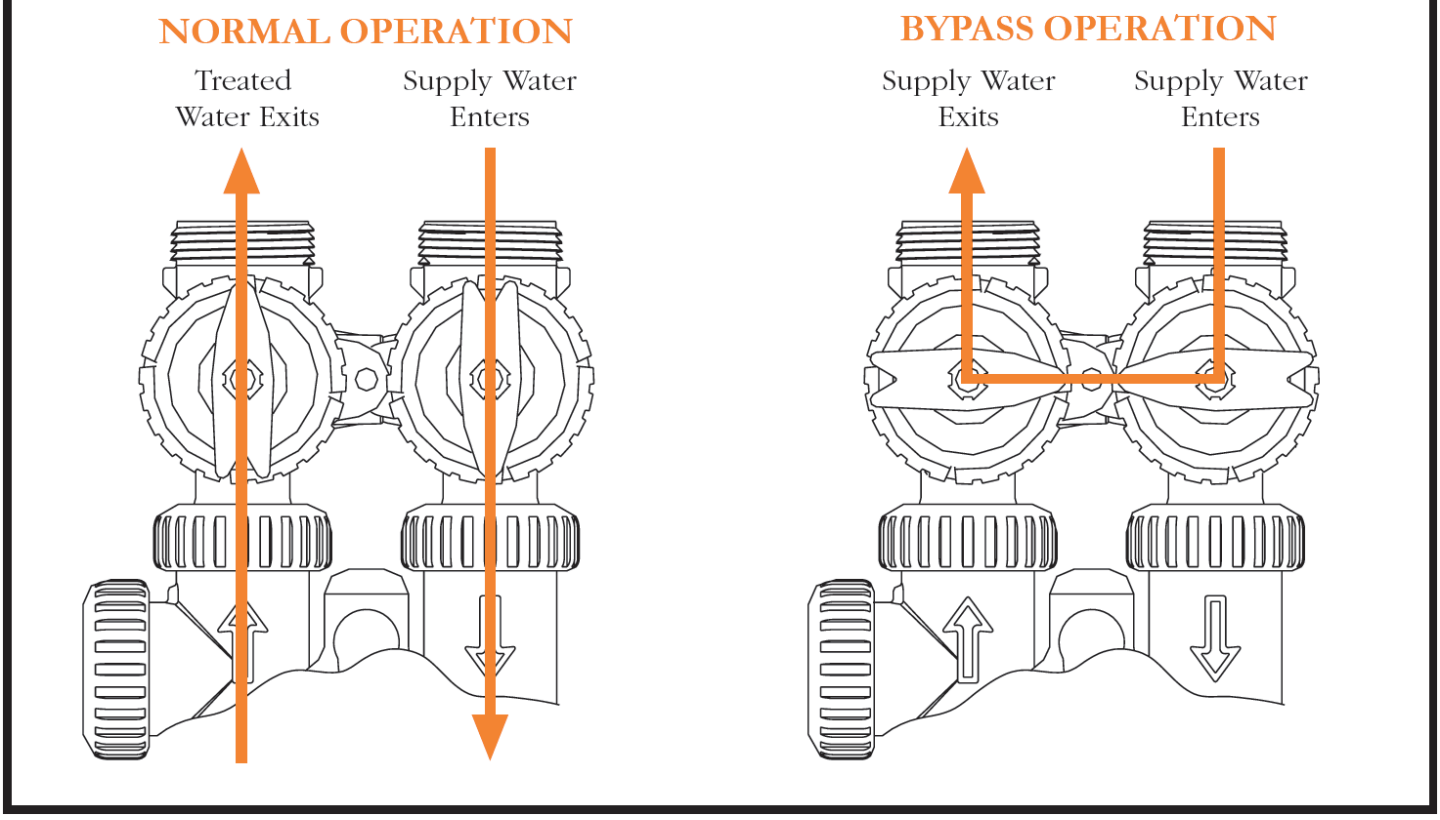
****Not for Installation in California****

Bypass Valve

The bypass valve is used to isolate the control valve from the plumbing system in order to perform valve repairs or maintenance.

1. **Normal Operation Position:** The inlet and outlet handles point in the direction of flow indicated by the engraved arrows on the control valve.
2. **Bypass Position:** The inlet and outlet handles point to the center of the bypass. Untreated water is supplied to the plumbing system.

To **shut-off water** to the system, please position arrow handles as shown in the **bypass operation** diagram below. If your valve doesn't look like the diagram below, contact your service technician for instructions on how to shut-off water.



Setting the Time of Day:

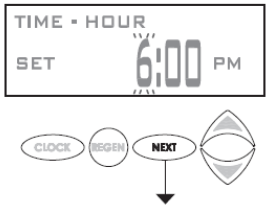
Set Time of Day

The user can also set the time of day. Time of day should only need to be set if the battery has been depleted because of extended power outages or when daylight saving time begins or ends. If an extended power outage occurs, the time of day will flash on and off which indicates the time of day should be reset. The non rechargeable battery should also be replaced.

STEP 1U

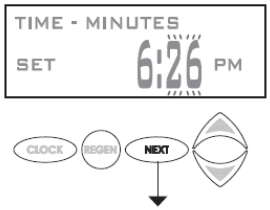
STEP 1U – Press CLOCK.

STEP 2U



STEP 2U - Current Time (hour): Set the hour of the day using ▼ or ▲ buttons. AM/PM toggles after 12. Press NEXT to go to Step 3U.

STEP 3U



STEP 3U - Current Time (minutes): Set the minutes of the day using ▼ or ▲ buttons. Press NEXT to exit Set Time of Day. Press REGEN to return to previous step.

RETURN TO NORMAL MODE

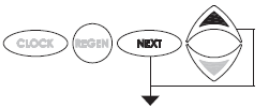
Power Loss

If the power goes out the system will keep time until the battery is depleted. If an extended power outage occurs, the time of day will flash on and off which indicates the time of day should be reset and the non rechargeable battery replaced. The system will remember the rest.

Setting the Hardness, Calendar Override Day & Regeneration Time:

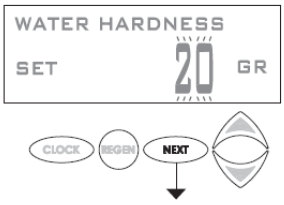
Installer Display Settings

STEP 1I



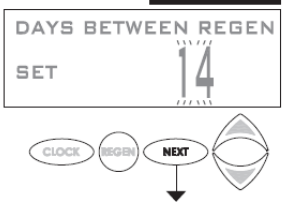
STEP 1I - Press NEXT and ▲ simultaneously for 3 seconds.

STEP 2I



STEP 2I – Hardness: Set the amount of hardness in grains of hardness as calcium carbonate per gallon using the ▲ or ▼ buttons. The default is 20 with value ranges from 1 to 150 in 1 grain increments. Note: The grains per gallon can be increased if soluble iron needs to be reduced. This display will not show if "FILTER" is selected in Step 2F or if 'AUTO' is not selected in Set Volume Capacity in OEM Softener System Setup. Press NEXT to go to step 3I. Press REGEN to exit Installer Display Settings.

STEP 3I

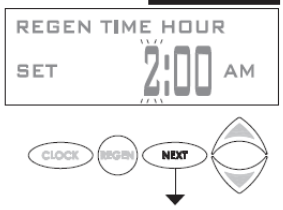


STEP 3I – Day Override: When volume capacity is set to "OFF", sets the number of days between regenerations. When volume capacity is set to AUTO or to a number, sets the maximum number of days between regenerations. If value set to "OFF", regeneration initiation is based solely on volume used. If value is set as a number (allowable range from 1 to 28) a regeneration initiation will be called for on that day even if sufficient volume of water were not used to call for a regeneration. Set Day Override using ▲ or ▼ buttons:

- number of days between regeneration (1 to 28); or
- "OFF".

See Setting Options Table for more detail on setup. Press NEXT to go to step 4I. Press REGEN to return to previous step.

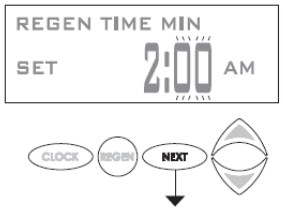
STEP 4I



STEP 4I – Next Regeneration Time (hour): Set the hour of day for regeneration using ▲ or ▼ buttons. AM/PM toggles after 12. The default time is 2:00 AM. This display will show "REGEN IMMEDIATE ON ZERO GAL" if "IMMEDIATE" is selected in Set Regeneration Time Option in OEM Softener System Setup Step 9S. Press NEXT to go to Step 5I. Press REGEN to return to previous step.

When Step 6CS is set to a value of two to four, additional regeneration time settings will be viewed. These displays are used to set additional times of day where a regeneration cycle may be initiated by the control as needed. When this feature is active a number (#1 - #4) will be added to the upper right corner of this display to indicate which of the additional regeneration time settings is currently being viewed.

STEP 5I



STEP 5I – Next Regeneration Time (minutes): Set the minutes of day for regeneration using ▲ or ▼ buttons. This display will not be shown if "IMMEDIATE" is selected in Set Regeneration Time Option in OEM Softener System Setup Step 9S. Press NEXT to go to Step 6I. Press REGEN to return to previous step. When this feature is active a number (#1 - #4) will be added to the upper right corner of this display to indicate which of the additional regeneration time settings is currently being viewed.

RETURN TO NORMAL MODE

Start-up Instructions

1- Test raw water in the home with a hardness test kit. Set the hardness on the water softener to match what you tested on the raw water. If you do not have a hardness test kit, purchase one from the distributor that you purchased the water softener from.

2- After setting the Time of Day, Water Hardness, Day Override and Regeneration Time, the Water Softener is now ready to Start-Up.

3- Rotate the two red colored bypass handles to the BYPASS OPERATION position.

4- Turn main water line in home back on and run cold water faucets to expel air and rid pipes of debris, which may have occurred during installation. Let cold water faucets run until the water is clear and has expelled all of the air out of the lines.

5- Manually pour 2 gallons of water into the empty salt/brine tank.

6- Press and hold the REGEN button for about 5 seconds, or until you hear the water softener drive motor start, then release the button. Wait until the motor stops running and the display will now read “BACKWASH”. The BACKWASH time will start to count down.

7- Slightly open the inlet bypass handle to the ¼ way open position. This will start to allow water to enter in and fill the water softener and expel air through the drain line. Do not fully open the inlet bypass handle at this time.

8- Once air has expelled and water is flowing to drain, slowly open the inlet bypass handle to the fully open position. The bypass will now be in the “DIAGNOSTIC MODE”. Refer to bypass reference page in this manual. Allow water to run to drain until there is 1 minute left showing in the BACKWASH cycle.

9- With 1 minute left showing in the BACKWASH cycle, press and release the REGEN button. The control valve will now travel to the BRINE position and start counting down. Once counting down, press and release the REGEN button again. When the drive motor stops, the display will now read 2 BACKWASH. Leave water softener in this position and allow it to finish its regeneration cycles on it is own. The Water Softener control will automatically travel from BACKWASH to RISNSE, then to the FILL position, then to the service position.

10- Once control valve is back in the service position, fully open the outlet bypass handle to the fully open position, which is NORMAL OPERATION position.

11- Fill salt/brine tank with pelletized water softener salt. Always keep salt/brine tank at least ½ way full of salt at all times.

12- SANITZE! AFTER INITIAL START-UP OR AFTER VERVICING THE CONTROL VALVE. Add 4 ounces of 5.25% household chlorine bleach to the water in the brine tank brine well. Press and hold the REGEN button for 5 seconds to begin the regeneration. Allow water softener to complete the full manual regeneration on its own. Once regeneration is complete, the Water Softener will be operational and servicing the home.

Regeneration Mode

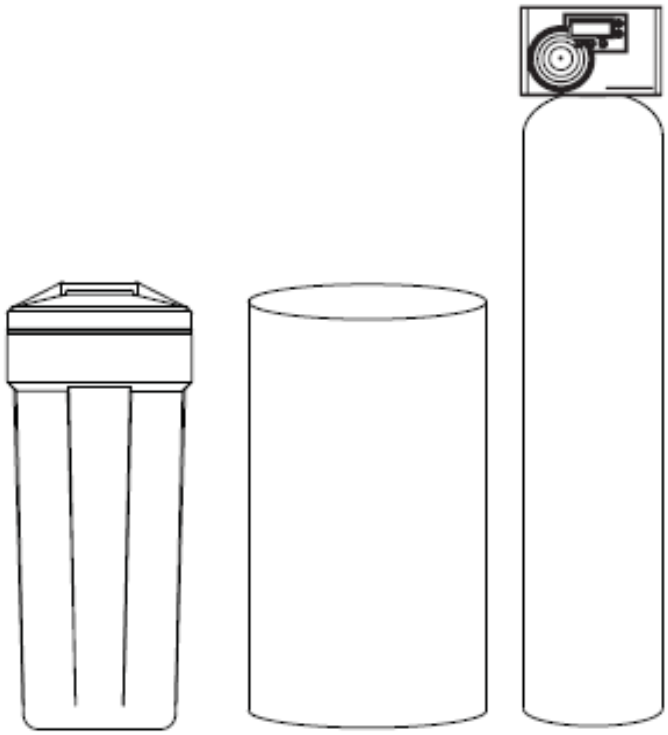
Typically a system is set to regenerate at a time of low water usage. An example of a time with low water usage is when a household is asleep. If there is a demand for water when the system is regenerating, untreated water will be used.

When the system begins to regenerate, the display will change to include information about the step of the regeneration process and the time remaining for that step to be completed. The current cycle display will alternate with the regen time remaining screen. The system runs through the steps automatically and will reset itself to provide treated water when the regeneration has been completed.

Manual Regeneration

Sometimes there is a need to regenerate the system sooner than when the system calls for it, usually referred to as manual regeneration. There may be a period of heavy water usage because of guests or a heavy laundry day.

To initiate a manual regeneration immediately, press and hold the "REGEN" button for three seconds. The system will begin to regenerate immediately. The request cannot be cancelled.



User Display Settings

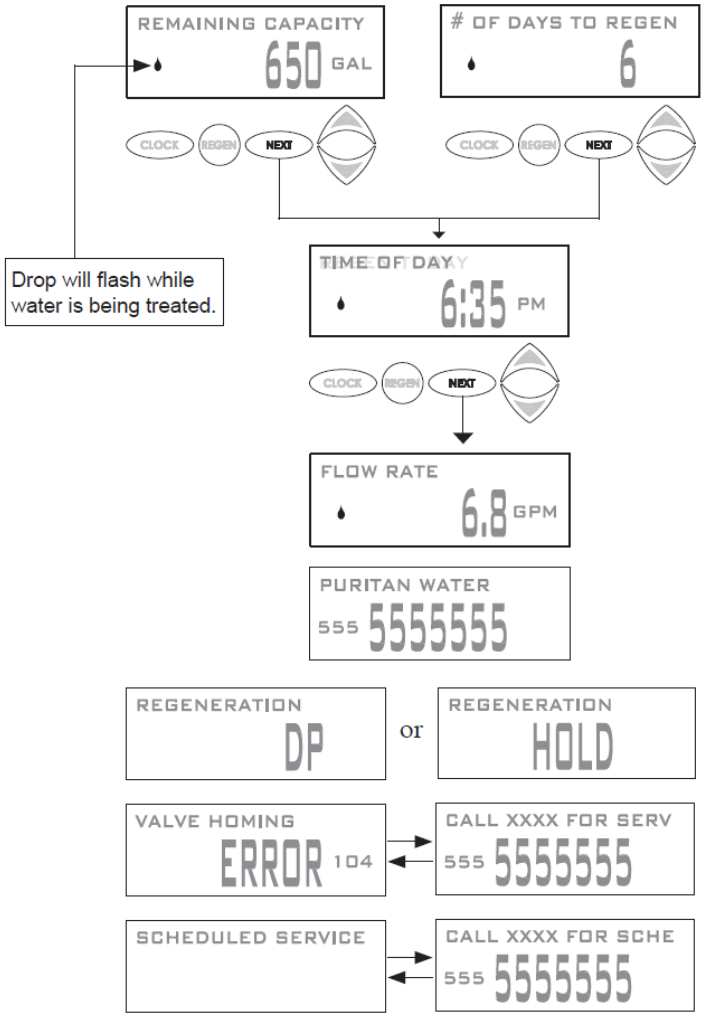
General Operation

When the system is operating, one of six displays may be shown. Pressing NEXT will alternate between the displays. One of the displays is always the current time of day. The second display is one of the following: days remaining or volume remaining. Days remaining is the number of days left before the system goes through a regeneration cycle. Capacity remaining is the gallons that will be treated before the system goes through a regeneration cycle. Pressing the ▼ button while in the Capacity Remaining or Days Remaining displays will decrease the capacity remaining in 10 gallon increments or the Days Remaining in 1 day increments, and will also increase the volume used impacting the recorded values in Diagnostics Steps 3D, 4D and 5D and Valve History, Step 4VH.

The third display shows the current treated water flow rate through the system. The fourth display will display contact screen information, if it was edited. The fifth display will show either dP or hold if the dP switch is closed. The sixth display indicates the user should call for service. The service display will not appear if OFF is selected in Step 12S of OEM Softener System Setup. To clear the Service Call reminder, press the ▲ and ▼ buttons simultaneously while the number and banner text screen is displayed.

If the system has called for a regeneration that will occur at the preset time of regeneration, the words REGEN TODAY will alternate with the header on the display.

If a water meter is installed, the water drop flashes on the display when water is being treated (i.e. water is flowing through the system).



BYPASS VALVE OPERATION

Figure 1

NORMAL OPERATION

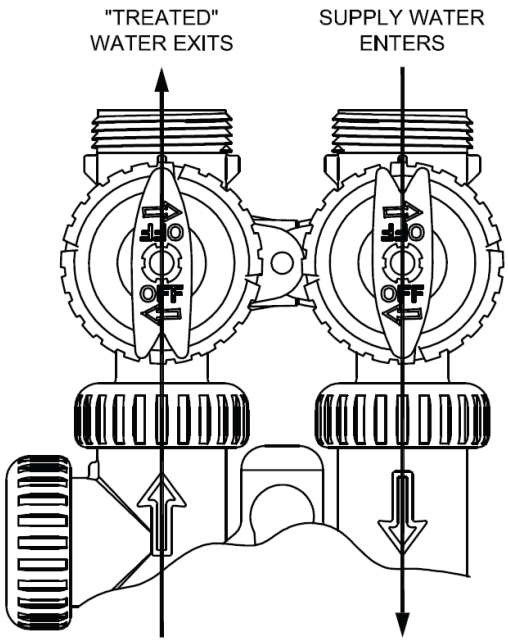


Figure 2

BYPASS OPERATION

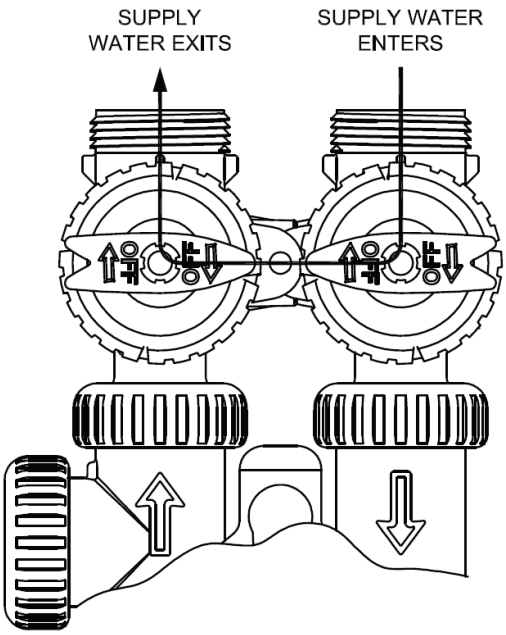


Figure 3

DIAGNOSTIC MODE

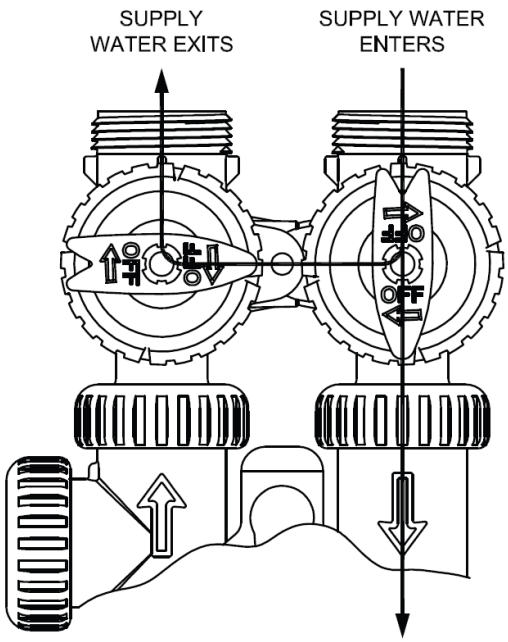
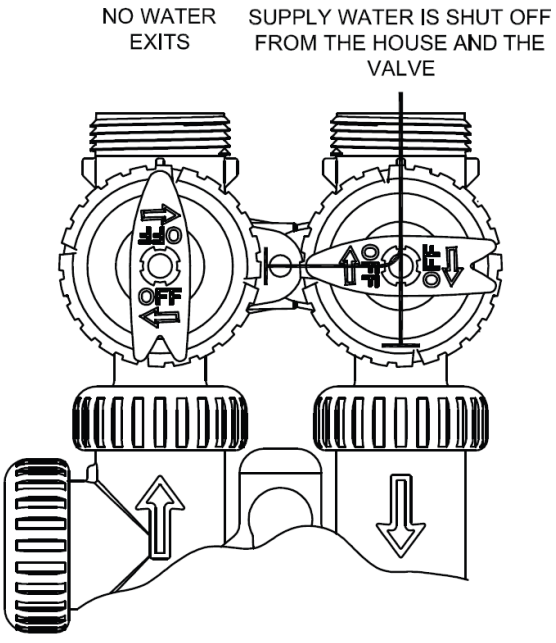


Figure 4

SHUT OFF MODE



PR Front Cover and Drive Assembly

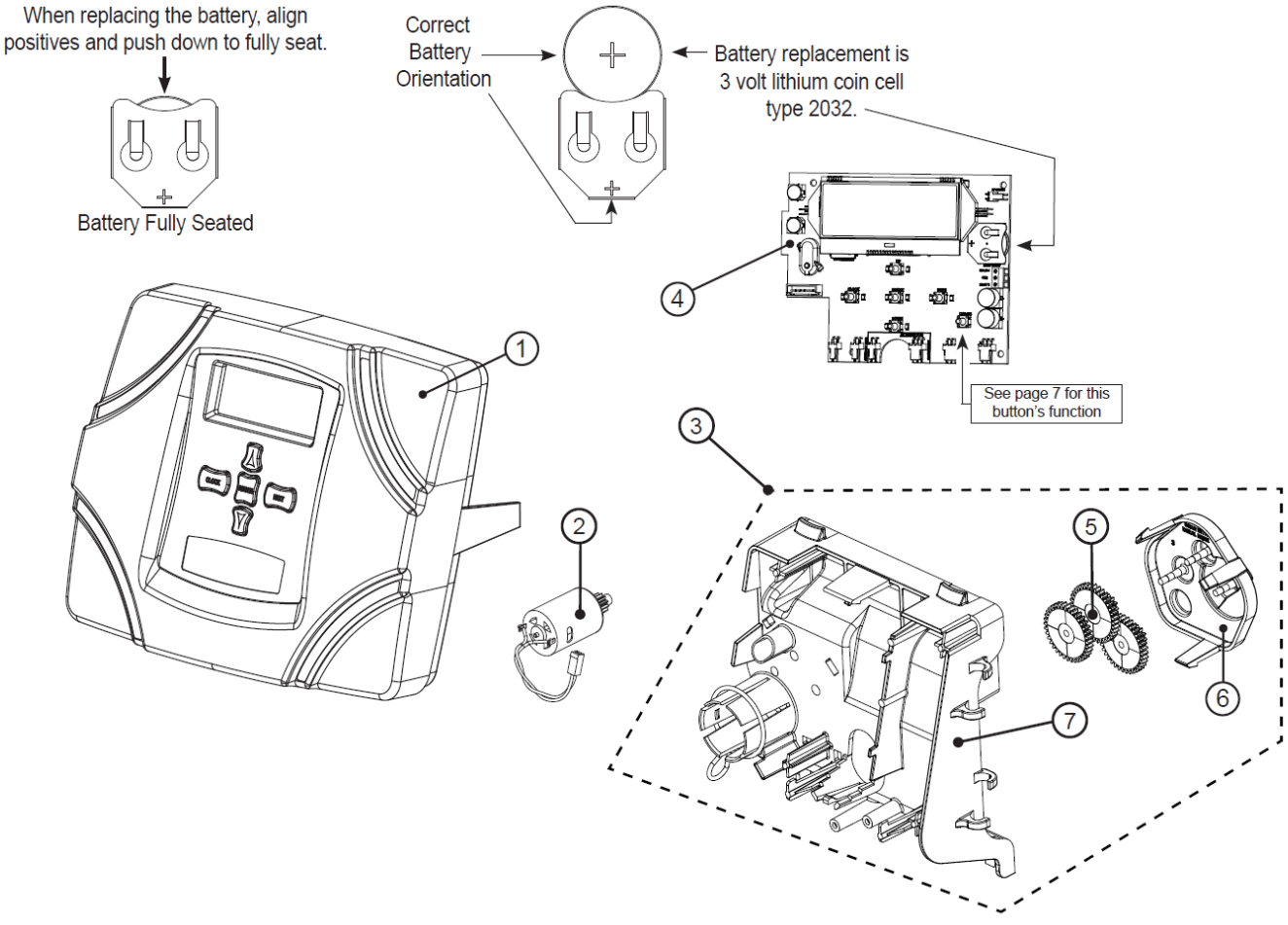
Drawing No.	Order No.	Description	Quantity
1	V4392-01	WS1NA FRONT COVER ASY	1
2	V3107-01	WS1 MOTOR	1
3	V3002-A	WS1 DRIVE BRACKET ASY	1
4	V3757PR-03BOARD	WS1THRU2L/2 PR PC BOARD 20POS REPLACE	1
5	V3110	WS1 DRIVE GEAR 12X36	3
6	V3109	WS1 DRIVE GEAR COVER	1
7	V3106-01	WS1 DRIVE BRACKET & SPRING CLIP	1
Not Shown	V3186-05	WS1 POWER SUPPLY US 15VDC VI	1
	V3186EU-05	WS1 POWER SUPPLY EU 15VDC VI	
	V3186UK-05	WS1 POWER SUPPLY EK 15VDC VI	
	V3186-01	WS1 POWER CORD ONLY	
Not Shown	V3343	WS1 DRIVE BACK PLATE	1

Refer to Control Valve Service Manual for other drawings and part numbers.

Relay Driver Output Type – Dual Solid-State 12VDC "wet" contacts - N.O.
Relay Driver Output Capacity - 12VDC @100mA per relay output (total current through both outputs not to exceed 200mA).
NOTE: Check for proper mounting dimensions on valve backplate prior to mounting an external relay under control cover.

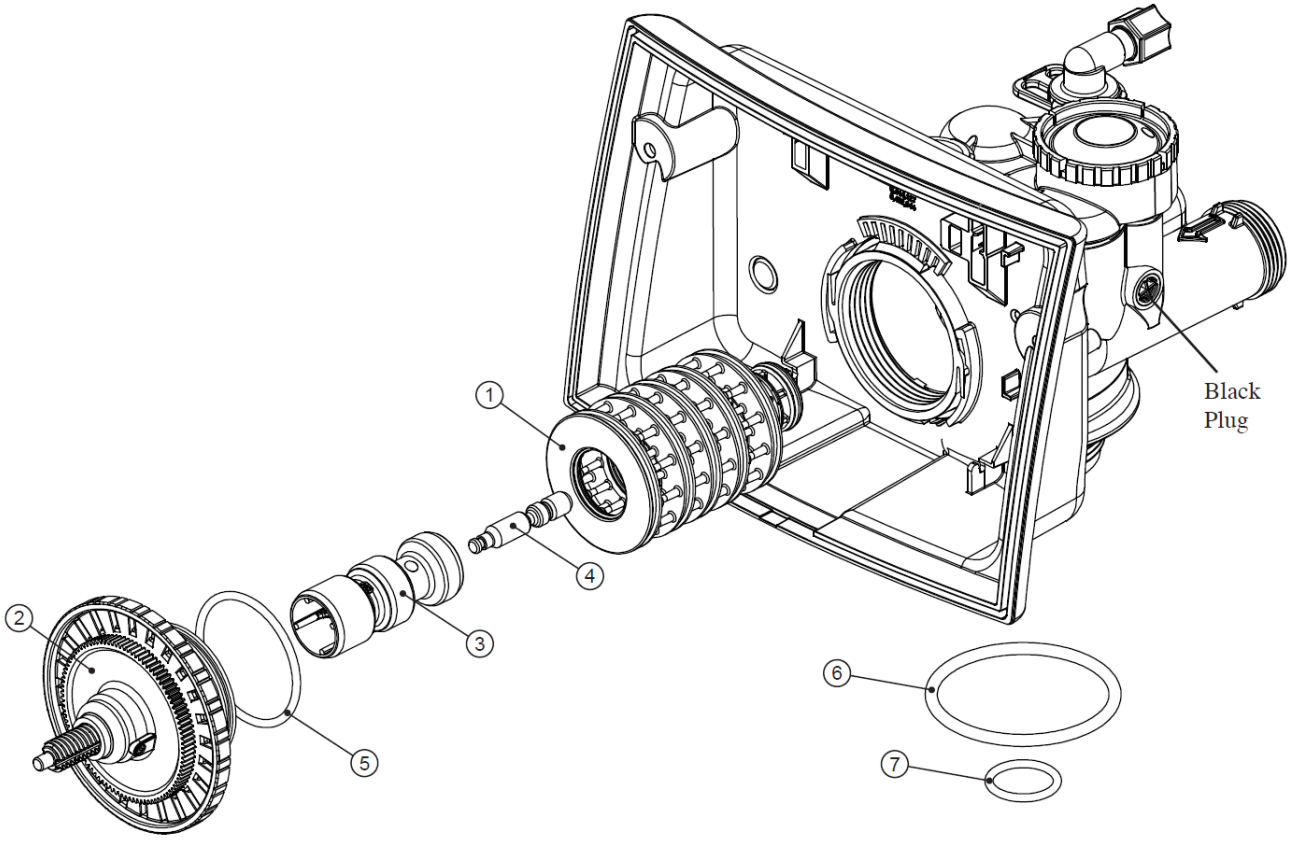
Power Supply	U.S.	International
Supply Voltage	100-120 VAC	100-240 VAC
Supply Frequency	50/60 Hz	50/60 Hz
Output Voltage	15 VDC	15 VDC
Output Current	500 mA	500 mA

Wiring For Correct On/Off Operation	
PC Board Relay Terminal Block	Relay
RELAY1	Coil -
COM	Coil +
RELAY2	Coil -



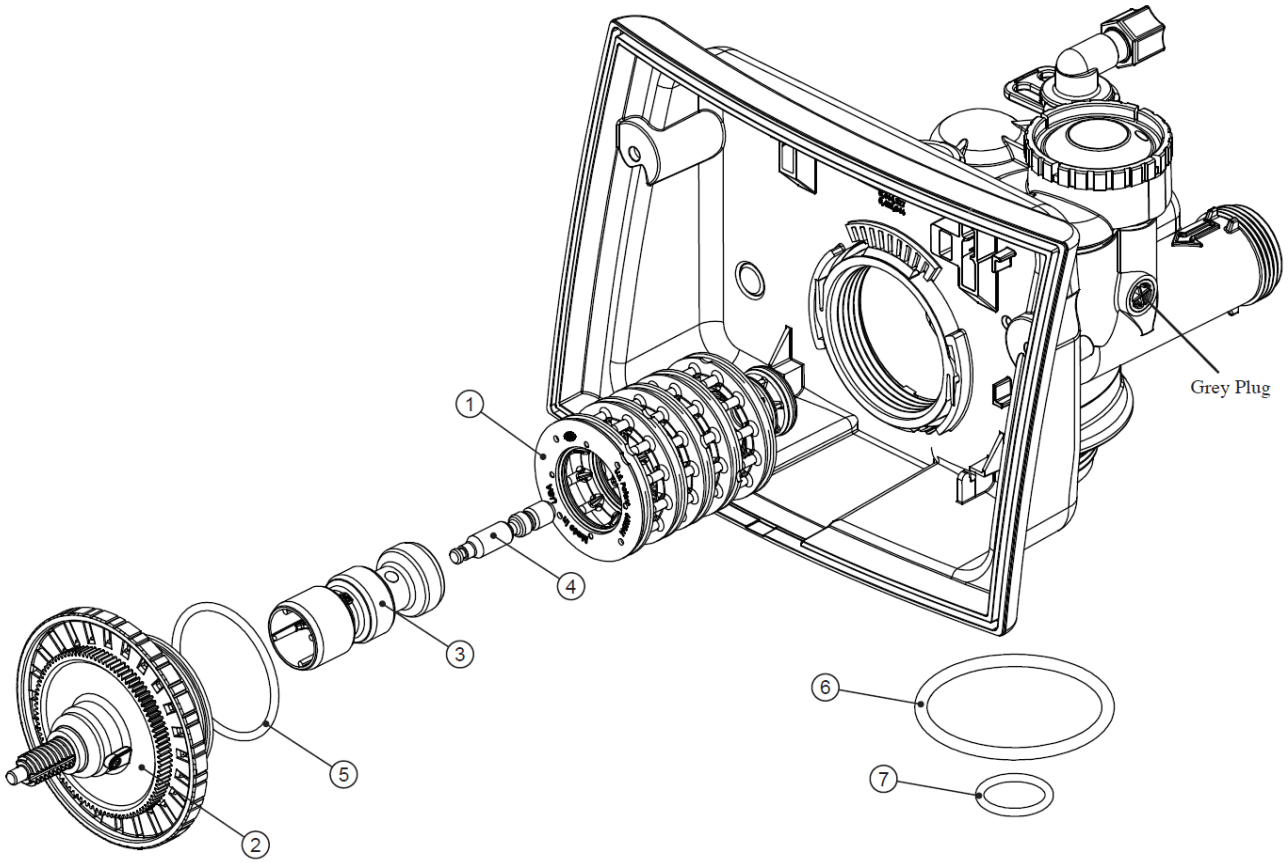
1” Control Valve (48, 60 & 70 Series)

Drawing No.	Order No.	Description	Quantity
1	CV-P-V3005	Spacer Stack Assembly	1
2	CV-P-V3004	Drive Cap ASY	1
3	CV-P-V3011	Piston Downflow ASY	1
4	CV-P-V3174	Regenerant Piston	1
5	CV-P-V3135	O-ring 228	1
6	CV-P-V3180	O-ring 337	1
7	CV-P-V3105	O-ring 215 (Distributor Tube)	1



1 ¼” Control Valve (90 Series)

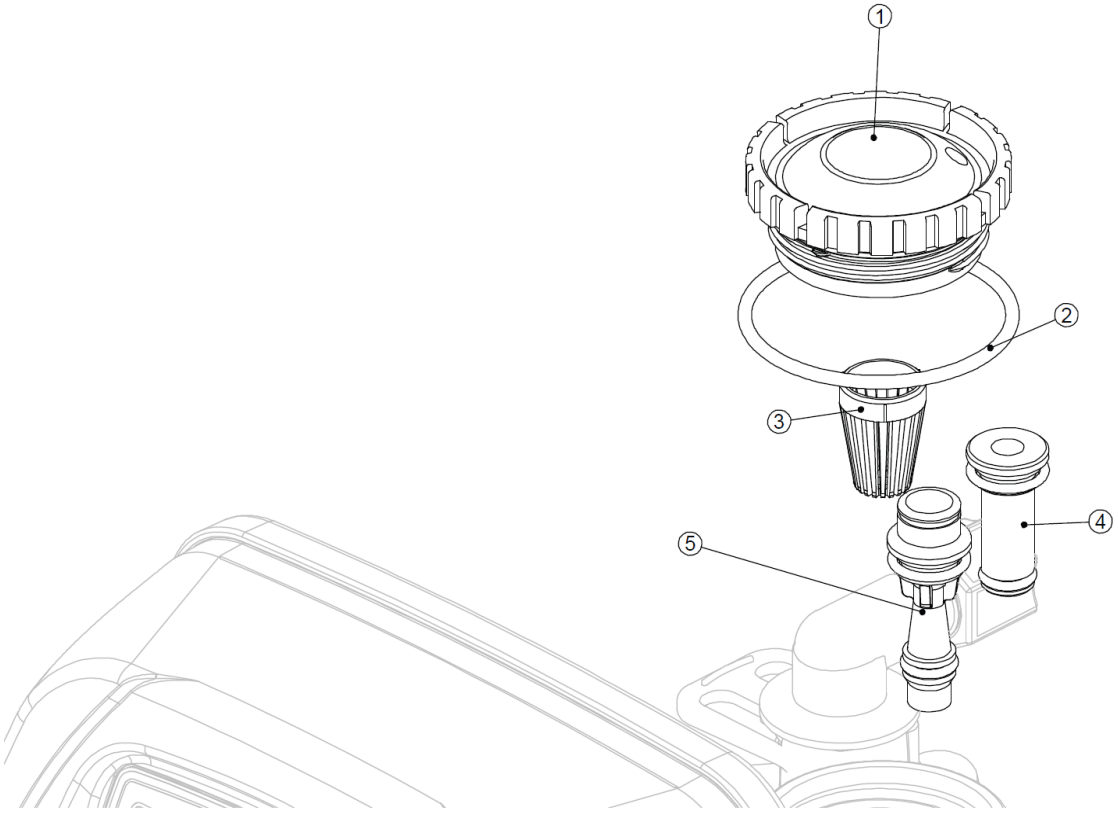
Drawing No.	Order No.	Description	Quantity
1	CV-P-V3430	1.25 Spacer Stack Assembly	1
2	CV-P-V3004	Drive Cap ASY	1
3	CV-P-V3407	1.25 Piston Downflow ASY	1
4	CV-P-V3174	Regenerant Piston	1
5	CV-P-V3135	O-ring 228	1
6	CV-P-V3180	O-ring 337	1
7	CV-P-V3358	O-ring 219 (Distributor Tube Opening 1.32")	1



Injector Cap, Injector Screen, Injector, Plug and O-Ring

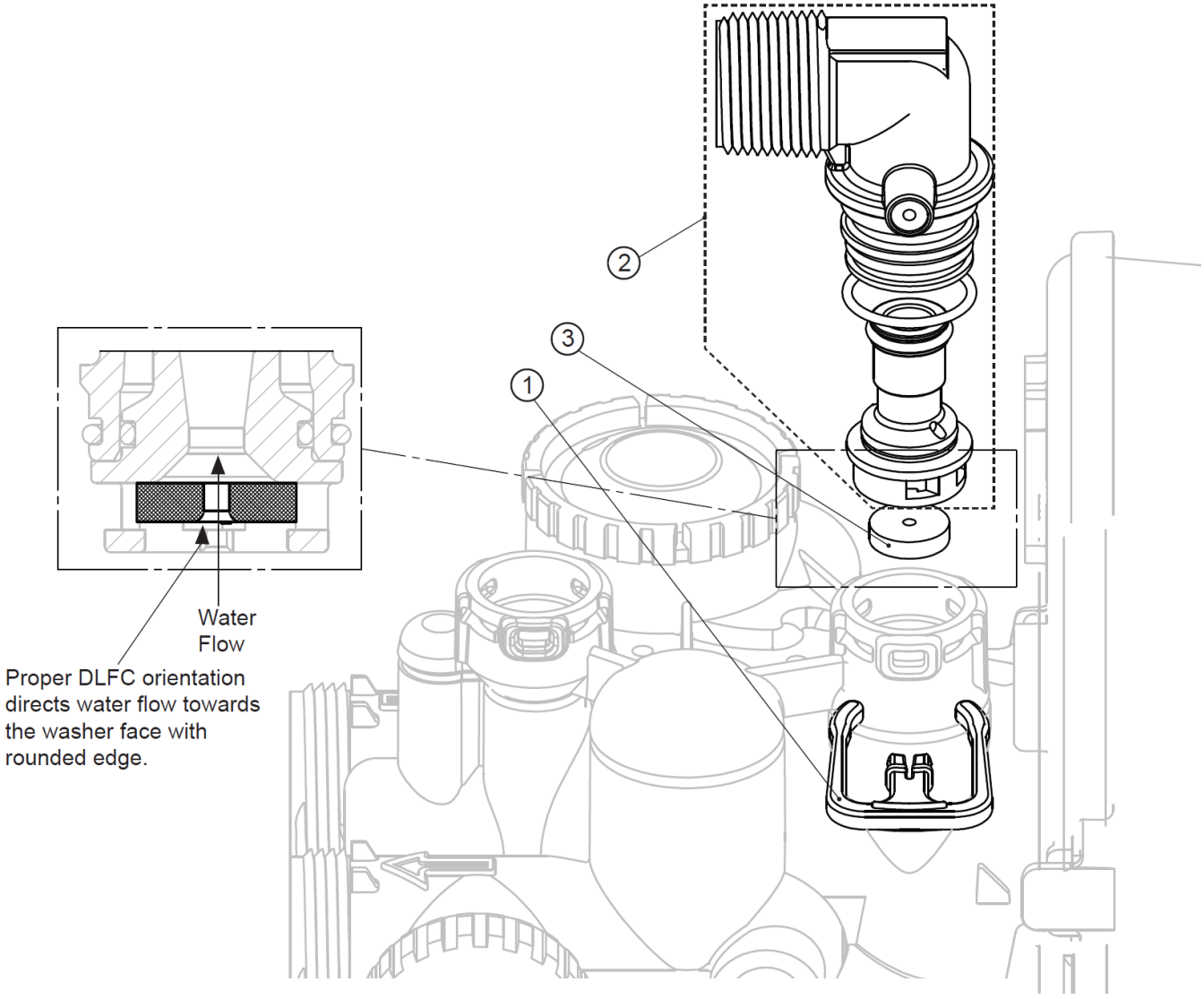
Drawing No.	Order No.	Description	Quantity
1	CV-P-V3176	INJECTOR CAP	1
2	CV-P-V3152	O-RING 135	1
3	CV-P-V3177-01	INJECTOR SCREEN CAGE	1
4	CV-P-V3010-1Z	INJECTOR ASY Z PLUG	1
5	CV-P-V3010-1E	INJECTOR ASY E WHITE	1
	CV-P-V3010-1F	INJECTOR ASY F BLUE	
	CV-P-V3010-1G	INJECTOR ASY G YELLOW	
Not Shown	CV-P-V3170	O-RING 011	*
Not Shown	CV-P-V3171	O-RING 013	*

* The injector plug and the injector each contain one 011 (lower) and 013 (upper) o-ring.



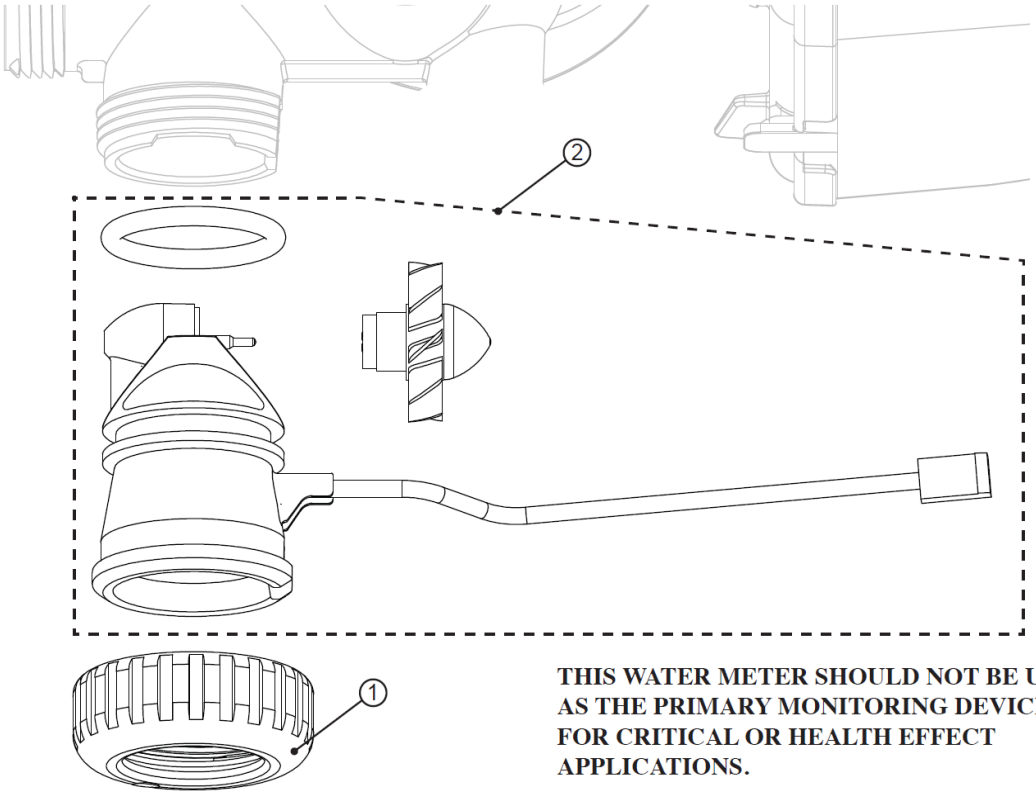
Drain Line – 3/4”

Drawing No.	Order No.	Description	Quantity
1	CV-P-H4615	ELBOW LOCKING CLIP	1
2	CV-P-V3331	DRAIN ELBOW & RETAINER ASSY	1
3	CV-P-V3162-027	DLFC 2.7 GPM FOR ¾	1
	CV-P-V3162-032	DLFC 3.2 GPM FOR ¾	
	CV-P-V3162-042	DLFC 4.2 GPM FOR ¾	



Water Meter

Drawing No.	Order No.	Description	Quantity
1	CV-P-V3151	Nut 1" QC	1
2	CV-P-V3003	Meter ASY	1

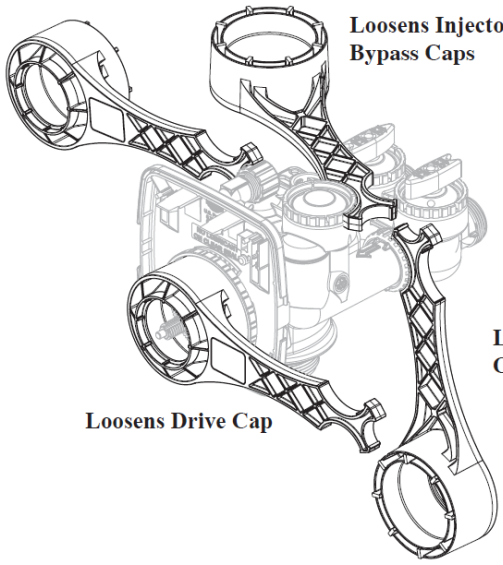


THIS WATER METER SHOULD NOT BE USED AS THE PRIMARY MONITORING DEVICE FOR CRITICAL OR HEALTH EFFECT APPLICATIONS.

Service Wrench - CV-P-V3193-02

Not provided with system. Separate purchase required. Bypass and depressurize system before using wrench.

Loosens Drain Nut in Polytube Applications



Loosens Injector And Bypass Caps

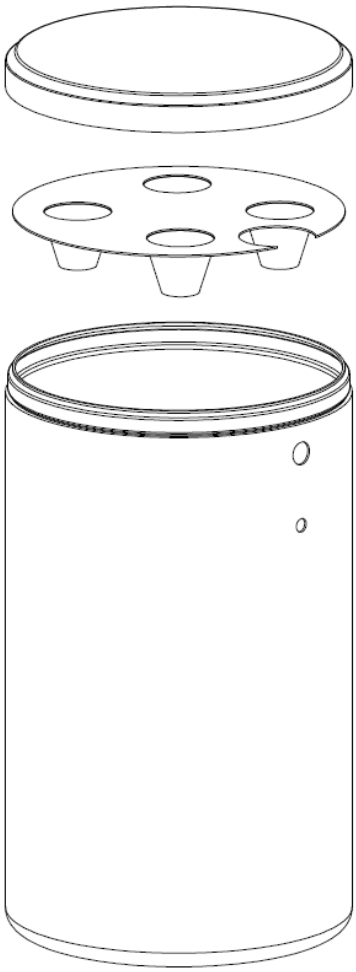
Although no tools are necessary to assemble or disassemble the valve, the Service Wrench, (shown in various positions on the valve) is available to aid in assembly or disassembly.

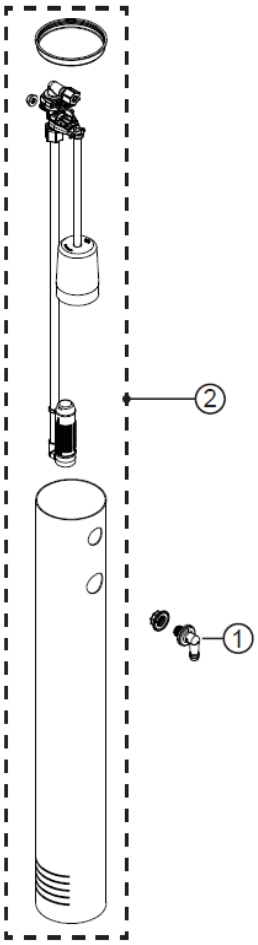
Loosens Quick Connect Nuts

Loosens Drive Cap

Brine Tank Assembly 18 x 40

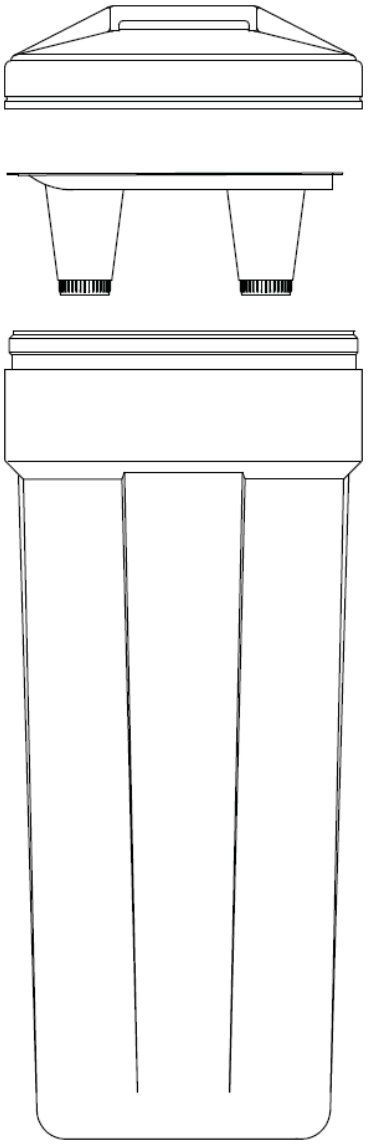
Item No.	Part No.	Description	Qty.
1	BTP-OVERFLOW	2 PIECE OVERFLOW SET	1
2	BTP-474 ASSY 4-36"	BRINE FLOAT ASSY 474-36	1

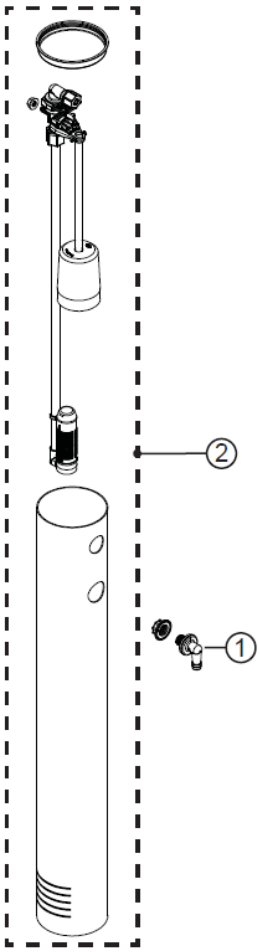




Brine Tank Assembly 14 x 14

Item No.	Part No.	Description	Qty.
1	BTP-OVERFLOW	2 PIECE OVERFLOW SET	1
2	BTP-474 ASSY 4-30"	BRINE FLOAT ASSY 474-30	1





Troubleshooting

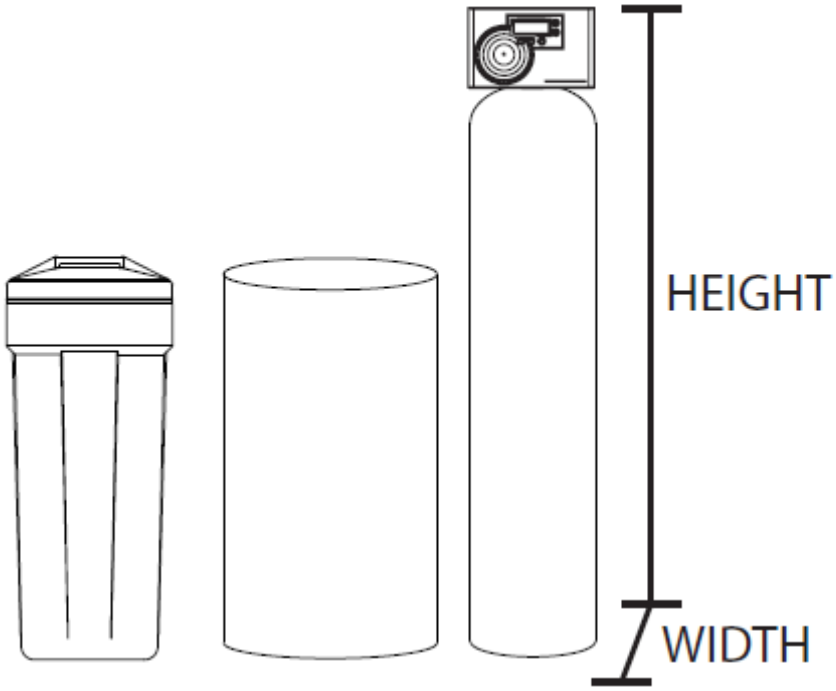
Problem	Possible Cause	Solution
1. No Display on PC Board	a. No power at electric outlet	a. Repair outlet or use working outlet
	b. Control valve Power Adapter not plugged into outlet or power cord end not connected to PC board connection	b. Plug Power Adapter into outlet or connect power cord end to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

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

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

Problem	Possible Cause	Solution
16. E3, Err – 1003, Err – 103 = Control valve motor ran too long and was unable to find the next cycle position	a. Motor failure during a regeneration	a. Check motor connections then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	b. Foreign matter built up on piston and stack assemblies creating friction and drag enough to time out motor	b. Replace piston and stack assemblies. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
	c. Drive bracket not snapped in properly and out enough that reduction gears and drive gear do not interface	c. Snap drive bracket in properly then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.
17. Err – 1004, Err – 104 = Control valve motor ran too long and timed out trying to reach home position	a. Drive bracket not snapped in properly and out enough that reduction gears and drive gear do not interface	a. Snap drive bracket in properly then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect.

Performance Data Sheet



MODEL		XT-48	XT-60	XT-70	XT-90
Rated Softener Capacity* (Grains/Lbs. Salt)	Low	23,500 @6	31,000 @8	39,000 @10	45,000 @11.5
	Medium	29,500 @11.0	39,000 @15.0	50,000 @19.0	58,000 @22
	High	36,000 @19.5	47,000 @25.5	60,000 @32.0	69,000 @37
Max. Service Flow Rate (gpm)		14.3	12.5	15.9	20.2
Max. Pressure Loss at Max Service Flow Rate (psi)		15	15	15	15
Minimum/Maximum Working Pressure (psi)		40/90	40/90	40/90	40/90
Minimum/Maximum Operating Temp. (°F)		40/100	40/100	40/100	40/100
Maximum Flow to Drain During Regeneration (gpm)		2.7	2.7	3.2	4.2
Amount of High Capacity Cation Resin (Cu. Ft.)		1.3	1.7	2.18	2.5
Electrical Requirements (volts-hertz)		120v 60Hz	120v 60Hz	120v 60Hz	120v 60Hz
Pipe Size		1″	1″	1″	1.25″
Total Dimensions:	Media Tank and Valve	10″W x 52″H	10″W x 62″H	12″W x 60″H	13″W x 62″H
	Brine Tank	14″ x 14″ x 34″	14″ x 14″ x 34″	18″ x 40	18″ x 40″

Manufacturer recommends the use of pelletized sodium chloride salt in these water softeners.

These water softeners are not intended to be used for treating water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

Certiflow Product Warranty

Congratulations on Purchasing one of the finest water conditioning products on the market today.

To the original purchaser: Your new water conditioning system carriers a comprehensive Product Warranty.

Warranty applies to Manufacturing defects only, to the original owner at original installation site

Not for Installation in California

Lifetime Warranty Items:

- Mineral Tank, Brine Tank Shell and Control Valve Body all carry a Lifetime Warranty against manufacture defects only.
  * Service, Labor and Freight Charges Not Included *

10-year Warranty Items:

- Cation Softening Resin carries a 10-year warranty on NON-chlorinated water only, against manufacture defects only.
  * Service, Labor and Freight Charges Not Included*

5-Year Warranty Items:

- All Digital and Mechanical parts carry a 5-Year warranty, against manufacture defects only.
  * Service, Labor and Freight Charges Not Included*

Certiflow Water will repair or replace defective part at their own option, provided that the part is returned to Certiflow Water, freight prepaid. All service must be performed by an authorized technician. *Service, Labor & Freight Charges are Not Included by Certiflow Water or Manufacture*

Maximum Replacement Charges (Per Item):

- Your Warranty provides for a MAXIMUM replacement charge PER item of $100.00 for any additional systems part not covered under the Lifetime Warranty section of the Warranty. Maximum Replacement charge is contingent to the below Warranty Exclusion section. If part or parts fail due to one of the below Warranty Exclusions, the part or parts will not be covered under the Maximum Replacement Charge section of this warranty. All parts being replaced or repaired must be returned freight prepaid to Certiflow Water, F.O.B. Certiflow Water, 19648 Lariat Circle Fairview, Utah 84629.
- *Service, Labor & Freight Charges are Not Included by Certiflow Water or Manufacture*

Warranty Exclusions:

- Defective warranty part or parts will be repaired or replaced at the option of Certiflow Water, F.O.B. Certiflow Water, 19648 Lariat Circle Fairview, Utah 84629.
- All systems must be installed correctly by a licensed installer and meet all state and local plumbing codes.
- All service work must be performed by an Authorized Technician.
- This Warranty does NOT apply to and is VOID on all systems that have high chlorine and or chloramines levels in the raw water exceeding 1 PPM, or on systems that have been neglected, installed incorrectly, wrongfully applied, or if they have had hot water introduced through them from back-feed or incorrect installation, or have had any sand, silt, turbidity, organic loading or high Iron fouling, direct UV sunlight, rain, weather elements, freezing, fire, flood, power surges, brown outs, earthquakes, or any other natural disaster. This warranty does not apply and is VOID if systems have had vacuum or reverse flow. Protect systems from vacuum and reverse flow.
- This Warranty does not apply on systems installed on waters of unknown quality. Do not install systems on waters that are microbiologically unsafe or of unknow water quality.

This Warranty gives you specific legal rights. You may also have other additional legal rights which may vary from state to state by statutory provisions. Certiflow water will not be liable for any freight, labor charges, loss or damages caused by defective part.

Certiflow Water LLC
19648 Lariat Circle
Fairview, Utah 84629
Phone: 800-946-8870