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An Employee-Owned Company

MFT SERIES

WATER SOFTENERS

OWNER'S MANUAL

Water Control Corporation
7150 143rd Ave NW • Ramsey, MN 55303
1-866-405-1268 • www.watercontrolinc.com

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Water Control Corporation
7150 143rd Ave NW • Ramsey, MN 55303
Phone: 763-427-9638 • Fax: 763-427-5665
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WARNINGS

SYSTEM MUST BE INSTALLED AND MAINTAINED PER THE MANUFACTURER'S RECOMMENDATIONS IN THIS MANUAL. FALURE TO DO SO MAY CAUSE INJURY, EQUIPMENT FAILURE AND/OR DAMAGE, AND WILL RESULT IN WARRANTY BEING VOID.

RISK OF SHOCK! ELECTRICAL INSTALLATION SHOULD BE DONE BY QUALIFIED, TRAINED ELECTRICIANS. INSTALLATION SHOULD BE TO LOCAL CODES.

ALWAYS TURN OFF THE UNIT, SHUT OFF THE FEEDWATER, RELIEVE PRESSURE, AND DISCONNECT THE ELECTRICAL POWER BEFORE WORKING ON THE UNIT.

DO NOT USE WHERE THE WATER IS MICROBIOLOGICALLY UNSAFE OR OF UNKNOWN QUALITY WITHOUT ADEQUATE DISINFECTION BEFORE OR AFTER THE SYSTEM.

NEVER ALLOW THE UNIT TO FREEZE OR OPERATE WITH A FEEDWATER TEMPERATURE/ PRESSURE OUTSIDE THE RECOMENDED PARAMETERS (34-110°F / 20-125 PSI).

SYSTEM MUST BE INSTALLED IN ACCORDANCE WITH LOCAL PLUMBING CODES AND REGULATIONS. CONTACT WCC (WATER CONTROL CORPERATION) FOR MORE INFORMATION.

READ THE ENTIRE MANUAL BEFORE INSTALLING, OPERATING, OR MAINTAINING THIS EQUIPMENT.

THIS SYSTEM CONTAINS FLOWING WATER, UNDER PRESSURE. ENSURE THAT INSTALL LOCATION HAS ADEQUATE DRAINAGE AND WATERPROOFING TO ACCOMMODATE POTENTIAL LEAKAGE AND/OR OVERFLOW SITUATIONS. FAILURE TO DO SO COULD RESULT IN FLOODING/DAMAGE.

A VACUUM BREAK IS REQUIRED ANY TIME A VACUUM SITUATION MAY OCCUR. THIS IS COMMON ON WELLS, SYSTEMS WITH BOOSTER PUMPS AFTER THE UNIT, OR WHEN THE SYSTEM IS INSTALLED IN AREAS OF VARYING ALTITUDES. NO WARRANTY IS CONSIDERED IF THE SYSTEM HAS BEEN SUBJECTED TO A VACUUM. A VACUUM BREAK SHOULD BE INSTALLED BETWEEN THE SOFTENER AND THE POTENTIAL CAUSE OF A VACUUM.

BASIC PRINCIPLES

A water softener works via a process known as Ion Exchange. In this process, a special media bed is used to exchange undesirable hardness minerals, including calcium, potassium, and magnesium (as well as low levels of iron and manganese) for something more desirable -- in this case, a small amount of sodium.

A water softener uses a mechanically driven control valve. During normal operation, this valve distributes the flow of raw (hard) water evenly over the top of the media bed. As the hard water passes down through the media, hardness minerals -- primarily calcium, which exists in solution in a calcium bicarbonate form -- are removed from solution and affixed to the media. In place of this calcium, trace amounts of sodium ions are released. What was calcium carbonate dissolved in the water becomes sodium bicarbonate (i.e., baking soda).

Once the resin has absorbed all the hardness minerals, and released all the sodium, that it can, regeneration is required. Regeneration is the process of removing calcium/hardness minerals from the media and resetting it with fresh sodium ions. To achieve this, a piston in the softener control valve changes position. The media is first backwashed, to lift and unpack the bed. Next, it is bathed in a supersaturated brine (sodium chloride) solution. This bombards the media with sodium ions, forcing the calcium/hardness minerals off and sending them down the drain. A relatively small percentage of sodium ions remain on the media, though the majority pass to the drain as well. After this brine cycle, the media is rinsed off, the brine tank is refilled, and the system goes back into service.

Twin-Alternating softener's feature 24/7 service functionality. While one tank is online, the other remains in standby mode. Once the capacity of the online tank has expired, regeneration is signaled, and the standby tank comes online. The two tanks alternate online and standby mode as needed. This ensures 24/7 soft water, and regeneration occurs one tank at a time.

For more information on commercial water softening systems, please visit WCC's website at: watercontrolinc.com or call us at 763-427-9638.

We thank you for your business!

SOFTENER OPERATION

As water enters the softener, it passes over a resin bed in a special tank. The resin consists of tiny beads of a plastic called styrene. These beads attract and hold sodium ions and exchange the sodium for hardness ions when encountered. Over time, the resin becomes saturated with hardness ions and no longer removes hardness materials. The softener goes into a "regeneration" to flush hardness materials to the drain and refresh the resin with sodium. Regeneration of single tank systems is typically programmed to take place in the middle of the night when little or no water is in use. Regeneration of individual tanks in a Twin-Alternating system occurs immediately (as needed), with the other tank remaining available.

REGENERATION CONSISTS OF FOUR CYCLES:

1. **CYCLE: BACKWASH POSITION**
   Backwash is a rapid upward flow of water that loosens the resin bed and flushes iron particles, dirt and sediments filtered in the bed out to the drain.

2. **CYCLE: BRINE DRAW / SLOW RINSE POSITION**
   Brine Draw is the process in which brine is drawn out of the brine cabinet and passed through the resin in a downward direction. This rinses the resin and large amounts of sodium ions re- place the hardness ions accumulated during service.
   Slow Rinse. After brine is completely removed from the brine cabinet into the resin tank the brine valve closes. Water replaces any remaining brine from the resin, flushing hardness ions removed from the resin to drain.

3. **CYCLE: FAST RINSE POSITION**
   Fast Rinse is a fast flow of water down through the resin tank that follows a Backwash. This flushes all remaining brine from the tank and packs the resin bed for softening efficiency.

4. **CYCLE: BRINE FILL**
   Brine is water saturated with large amounts of a salt (sodium chloride). During Brine Fill, water flows into the salt storage area after each regeneration and dissolves salt. During the regeneration process, hardness ions on the resin beads are replaced or exchanged for sodium ions from the brine solution.

NOTE: SERVICE
When the softener is in service, normal operation is occurring. Water is flowing through the softener and hardness minerals are being removed from the water. In service, one resin tank will be online while the other resin tank is in standby.

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MFT SERIES

TWIN ALTERNATING WATER SOFTENERS

WCC's "MFT" Series softeners feature 1½" service connections, heavy duty electronic (dual-service) control valves, two (2) high-strength fiberglass-reinforced mineral tanks, and long-lasting synthetic cation resin. This series is perfectly designed for apartments, hotels, commercial laundry, schools, hospitals, and other applications where 24 hour soft water is required. "MFT" Series softeners feature a dual tank, alternating system, allowing one tank to be in service at all times. Available options include steel resin tanks and specialty filtration systems.

SPECIFICATIONS

Model Series Number	Exchange Capacity Per Tank* (grains)					Flow Rate (GPM)			Pipe Size (in)		Back Wash (GPM)	Resin (cu ft)	Brine Tank Capacity (lbs)	Regen. Time (min)	Tank Size (in)		Approx. Ship Weight (lbs)
	Min [1]	Mid [2]	Max [3]	Valve Size (in)	Cv	7 psid	Cont. 15 psid	Peak 25 psid	Service	Drain					Resin	Salt	
MFT-90	63000	90000	96000	1.5	8.4	22	30	42	1.5	1	5	3/tank	650	90	14 X 65	24 x 50	625
MFT-120	84000	120000	128000	1.5	9	24	33	45	1.5	1	7	4/tank	650	92	16 X 65	24 x 50	725
MFT-150	105000	150000	160000	1.5	8.2	22	30	41	1.5	1	5	5/tank	625	94	16 X 65	24 x 50	850
MFT-180	126000	180000	192000	1.5	10.2	27	40	51	1.5	1	12	6/tank	600	90	21 X 62	24 x 50	1175
MFT-210	147000	210000	224000	1.5	10	27	39	50	1.5	1	10	7/tank	575	92	21 X 62	24 x 50	1300
MFT-240	168000	240000	256000	1.5	11.2	30	42	56	1.5	1	15	8/tank	900	94	24 X 72	30 x 50	1450
MFT-300	210000	300000	320000	1.5	10.8	29	40	54	1.5	1	12	10/tank	850	96	24 X 72	30 x 50	1675

[1] Based on 6 lbs salt per cubic foot.

[2] Based on 10 lbs salt per cubic foot.

[3] Based on 15 lbs salt per cubic foot.

All "MFT" Series softeners utilize series 9500 SXT controllers..

**Exchange capacity based on treating water with 10 gpg total hardness as CaCo3 and 400 ppm total dissolved solids. Capacities may vary with different influent water characteristics and other factors. Due to varying water conditions, tank sizes and water pressures, the above should only be used as a guideline. Capacity listed is per tank, and should therefore be multiplied by 2 for total system capacity.*

WITH OVER 50 YEARS OF EXPERIENCE IN THE WATER CONDITIONING AND PLUMBING INDUSTRIES, WCC CAN DESIGN AND MANUFACTURE EQUIPMENT FOR VIRTUALLY ANY APPLICATION. WE OFFER A COMPLETE MENU OF SERVICES, INCLUDING WATER TESTING, SYSTEM SIZING, BIM MODELING (REVIT®), DELIVERY, SETUP, STARTUP, AND AFTER-MARKET SERVICE PLANS. WE MAINTAIN A UNIQUE FOCUS ON MECHANICAL ENGINEERS, CONTRACTORS, AND THE PLUMBING INDUSTRY. DEPEND ON US TO PROVIDE QUALITY, INNOVATIVE SOLUTIONS FOR ALL YOUR COMMERCIAL WATER CONDITIONING NEEDS.

HOW TO SPECIFY "MFT" SERIES SOFTENERS:

ORDER CODE:

MFT - [ ] - TWIN - ALT

MODEL (from other side)

SYSTEM SIZE

Two Tank (Alternating): TWIN - ALT

Additional Options: (check options below)

- ☐ Steel Tank(s) (optional ASME Rating)
- ☐ Accu-Pipe Skid-Mounted System (pre-plumbed*, pre-wired system, mounted on heavy-duty powder-coated steel skid)
- ☐ Accu-Pipe LS: Same as Accu-Pipe System, less skid base (piping/wiring only)
- ☐ Brine Silo (large volume salt storage / brine generation & delivery system)
- ☐ Salt Sock and Access Door (lockable) for blow-in salt delivery

**Standard piping is grooved, type L copper, other materials available.*

For a detailed, model-specific specification, please contact WCC (Water Control Corporation). Detailed drawings also available upon request (CAD® or Revit®).

Water softening system requires a minimum inlet water pressure of 30 psig and maximum of 120 psig. If resin tank is subject to vacuum, an adequate vacuum relief valve must be properly installed. Tank warranty is void if subjected to vacuum. Feed water temperature shall be between 40ºF and 100ºF. Each control valve requires a 120 volt wall outlet (2-prong , 1.3FLA, 60Hz).

CONTACT YOUR LOCAL SALES REPRESENTATIVE

To find your authorized WCC representative, please visit: www.watercontrolinc.com/representative-locator/.

VISIT US ONLINE

Go to www.watercontrolinc.com, where you'll find detailed product specification info and application design questionnaires.

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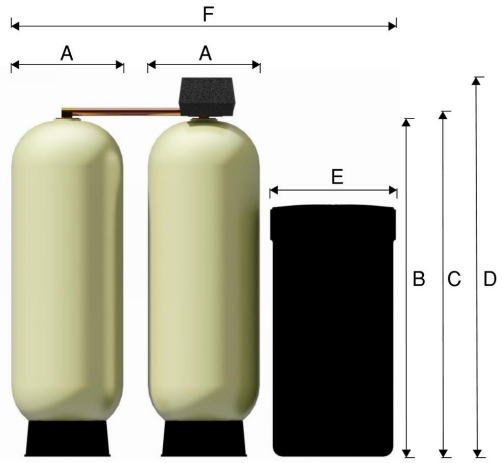
Two Tank (TWIN ALTERNATING) Models

WATER SOFTENER DIMENSIONS



Model Series Number	(A) Resin Tank Diameter (+/-0.5 in)	(B) Resin Tank Heiht (+/-1 in)	(C) Inlet/ Outlet Height (in)	(D) Overall Height (in)	(E) Brine Tank Diameter (in)	(F) Overall Length (in)
EFT-60-MR	12.0	53.4	55.7	60.7	18.0	49.0
EFT-90-MR	14.0	66.1	68.4	73.4	24.0	57.0
EFT-120-MR	16.0	66.2	68.5	73.5	24.0	59.0
EFT-150-MR	16.0	66.2	68.5	73.5	24.0	59.0
MFT-60-MR	12.0	53.4	56.0	61.2	18.0	55.0
MFT-90-MR	14.0	66.1	68.7	73.9	24.0	57.0
MFT-120-MR	16.0	66.2	68.8	74.0	24.0	59.0
MFT-150-MR	16.0	66.2	68.8	74.0	24.0	59.0
MFT-150X-MR	18.0	67.0	69.6	74.8	24.0	73.0
MFT-180-MR	21.0	67.0	69.6	74.8	24.0	73.0
MFT-210-MR	21.0	67.0	69.6	74.8	24.0	73.0
MFT-240-MR	24.0	74.2	76.8	82.0	30.0	81.0
MFT-300-MR	24.0	74.2	76.8	82.0	30.0	81.0

All dimensions are approximate and subject to change without notice. Please consult our technical department for additional system information.

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MFT SET-UP PROCEDURES

Inspect distributor assembly inside of each tank for damage. The distributor assembly is shipped secured to the resin tank, but damage can occur during shipping. If the distributor is damaged, do not fill resin tank with gravel/media as it will need to be removed for distributor repair.
Contact WCC at 763-427-9638.

1. Unpackage the resin tanks and place them into/near their installation location. Leave the knockout plug on the distributor tube. This will be removed after the gravel/media has been loaded into the resin tanks.
2. Load the gravel into the resin tanks using the supplied funnel. The funnel is shipped in the brine tank. See gravel chart for number of gravel bags per tank.
3. Load the softening media into the resin tanks using the supplied funnel. The funnel is shipped in the brine tank. See chart for number of resin bags to install per tank.
4. Remove the knockout plug on the distributor tube.
5. Snap on black deflector onto the bottom of valve.
6. Screw valve onto resin tank..
7. Silicone O-rings on yolk.
8. Connect the resin tanks together with yolk.
9. Install flow meter on outlet side of the softener valve.
10. Install the brass fitting provided onto the inlet side of the softener valve.
11. Contact WCC for startup instructions: (763) 427-9638.

MODEL SERIES NUMBER	# OF RESIN BAGS (per tank)	# OF GRAVEL BAGS (per tank)
MFT-90	3	1
MFT-120	4	1
MFT-150	5	1
MFT-180	6	2
MFT-210	7	2
MFT-240	8	2
MFT-300	10	2

INSTALLATION PROCEDURES

1. **IDENTIFY INSTALLATION LOCATION FOR WATER SOFTENER.** Piping should be such that all hard water, except for outside hydrants, flows through softener. This system and installation must comply with state and local laws and regulations.

2. **CONNECT WATER PIPING.** See install diagrams for plumbing layout. Important: Make all sweat-solder connections within 6 inches of softener before applying threaded fittings. Overheating may cause damage to valve. Note: WCC recommends installing isolation valves on the inlet and outlet of each control valve, as well as a full system bypass.

3. **CONNECT DRAIN LINE.** Be sure not to submerse drain line end into drain, as a 1-1/2" minimum air gap must be maintained to prevent potential backflow hazard. Firmly secure at drain, while maintaining a minimum 1-1/2" air gap. Note: Floor drain must be capable of handling full backwash flow rate (see page 6 for backwash rates).

4. **CONNECT BRINE LINE.** Connect brine line (supplied in parts bag) to fitting on brine tank, and on the control valve. Tighten both fittings with an adjustable wrench. Note: If you have purchased a setup/startup service, startup agent will connect brine line on site.

5. **INSTALL BRINE TANK OVERFLOW LINE.** Install overflow fitting into hole inside of brine tank. An owner-supplied overflow line should then be attached and run to a nearby drain. Failure to run overflow line could cause flooding and water damage should the brine tank overflow. *See the table below for brine tank overflow recommended line size. Note: Line sizes over 0.5 inches are to be hard plumbed to the drain.*

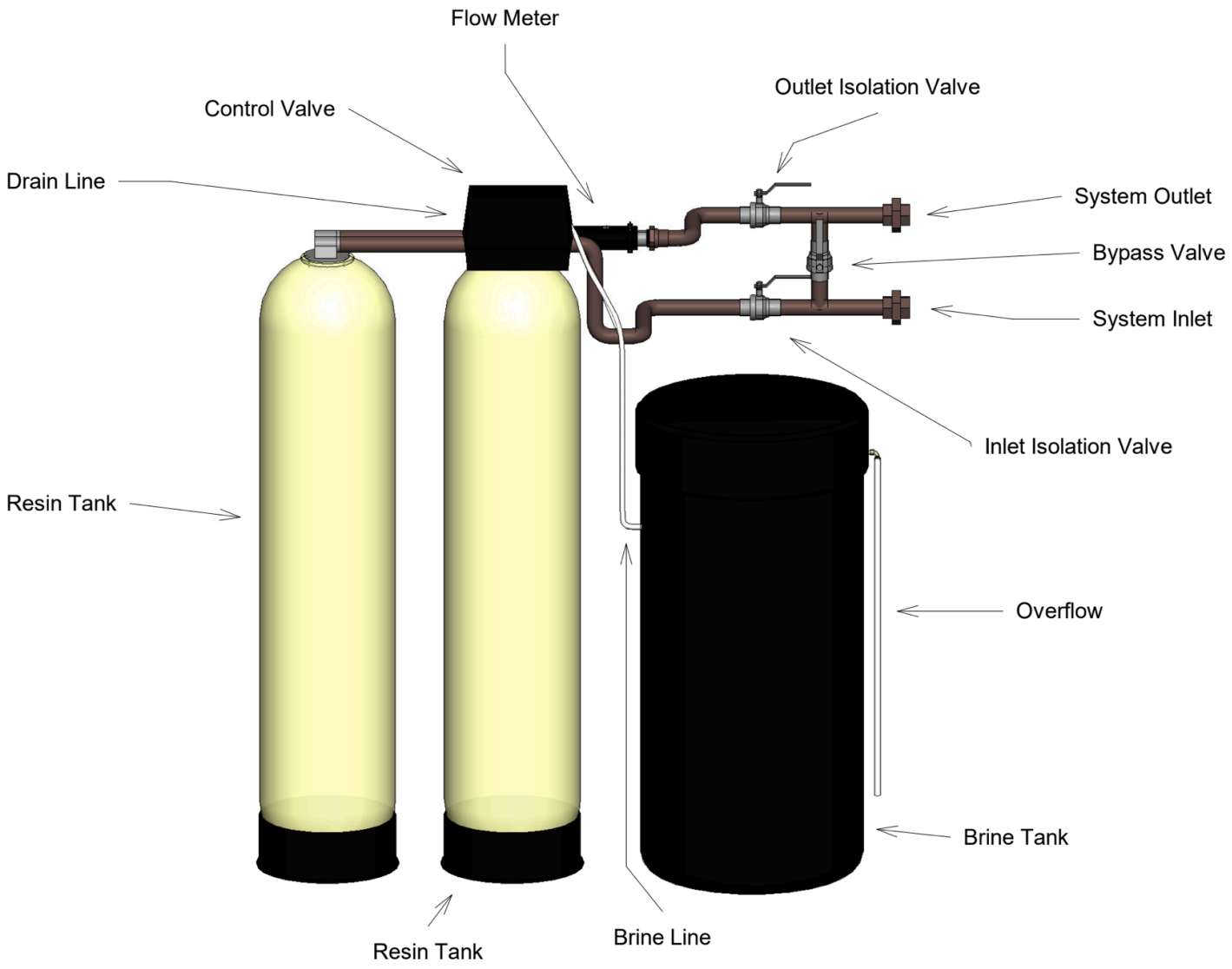
BLFC (gpm)	SOFTENER CAPACITY (kgrains)	BRINE TANK OVERFLOW (in)
1	up to 150	0.5
2	150X - 300	0.75
5	360 - 600	1
10	800 and up	1.5

6. **CONNECT TO ELECTRICAL POWER SOURCE.** Connect power cord to a separate 120v, 15-amp, ground fault interrupt (GFI) outlet. Note: Each control valve should have a dedicated 120V outlet

NOTE: This system is not intended to be used for treating water that is microbiologically unsafe or of unknown quality without disinfection before or after the system.

A vacuum break is required any time a vacuum situation may occur. This is common on wells, systems with booster pumps after the unit, or when the system is installed in areas of varying altitudes. No warranty is considered if the system has been subjected to a vacuum. A vacuum break should be installed between the softener and the potential cause of a vacuum.

TWIN-ALTERNATING INSTALLATION DIAGRAM



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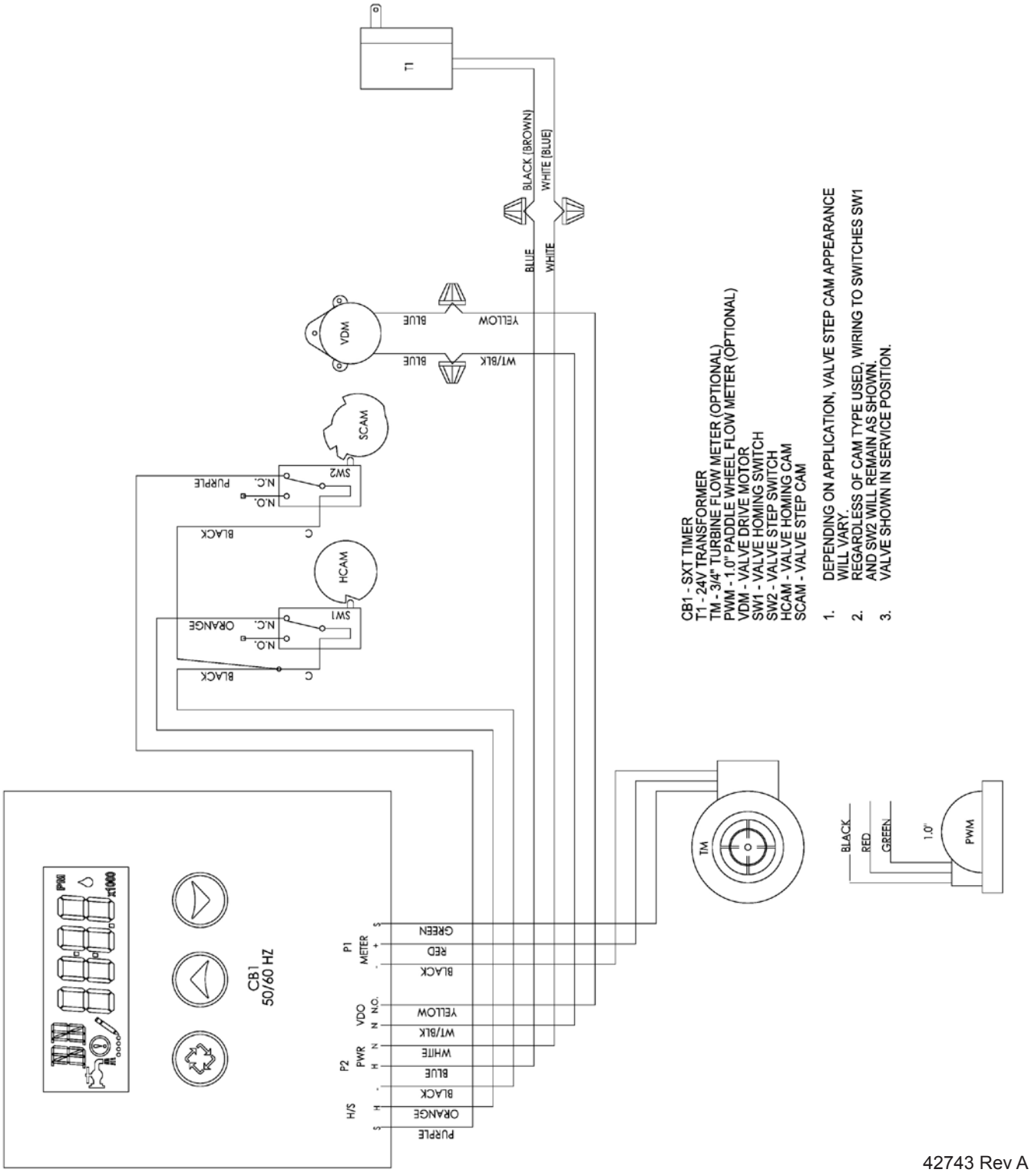
9000SXT/9100SXT/9500SXT WIRING DIAGRAM



42743 Rev A

FLECK® SXT
ELECTRONIC CONTROLLER

COMPLETELY CUSTOMIZE-ABLE

MADE IN THE USA
OF FOREIGN & DOMESTIC PARTS

FEATURES/BENEFITS

Time of day super capacitor backup for power loss

Large LCD display with blue backlit

Service and queued regeneration faucet icon

Easy electronic programming

LCD display alternates between time of day, volume remaining or days till regen, and tank in service

Displays regeneration step and time remaining during regeneration

Programming stored in memory and will not be lost due to power outages

Regeneration tonight and regeneration now option

Diagnostics

- Current Flow Rate
- Peak Flow Rate (can be reset)
- Reserve Capacity
- Software Version
- Hours in Service
- Volume Used

SYSTEM TYPE

System Type 4

VALVE TYPE

2750	9500
2850s	5600SXT
2850	5800
9000	7000
9100	5000SXT

REGENERATION TYPE

Meter Delayed
Meter Immediate
Time Clock Delayed
Volume Override Delayed
Volume Override Immediate
Day of the Week

REGENERATION FLOW

Upflow Brine First
Downflow Double Backwash
Downflow Backwash
Upflow Backwash
Filter
Upflow Filter
Other

ELECTRICAL RATING

12V DC (5800 only)
24V Transformers:

- 115V AC +/- 20% input, 24V AC output
- 230V AC +/- 20% input, 24V AC output

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TIMER FEATURES

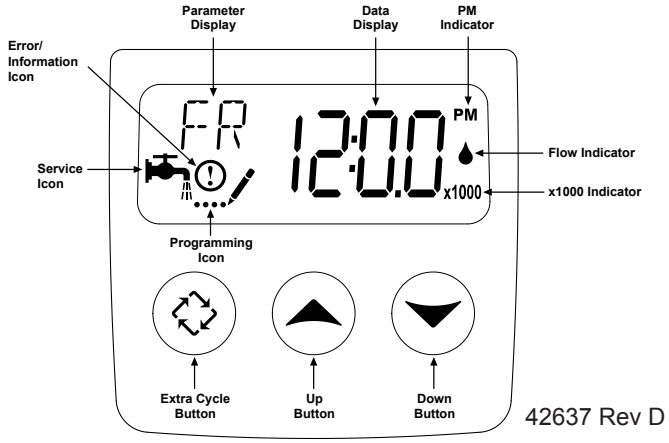


Figure 1

Features of the SXT:

- Power backup that continues to keep time and the passage of days for a minimum of 48 hours in the event of power failure. During a power outage, the control goes into a power-saving mode. It does not monitor water usage during a power failure, but it does store the volume remaining at the time of power failure.
- Settings for both valve (basic system) and control type (method used to trigger a regeneration).
- Day-of-the-Week controls.
- While in service, the display alternates between time of day, volume remaining or days to regeneration, and tank in service (twin tank systems only).
- The Flow Indicator flashes when outlet flow is detected.
- The Service Icon flashes if a regeneration cycle has been queued.
- A Regeneration can be triggered immediately by pressing the Extra Cycle button for five seconds.
- The Parameter Display displays the current Cycle Step (BW, BF, RR, etc) during regeneration, and the data display counts down the time remaining for that cycle step. While the valve is transferring to a new cycle step, the display will flash. The parameter display will identify the destination cycle step (BW, BF, RR, etc) and the data display will read "----". Once the valve reaches the cycle step, the display will stop flashing and the data display will change to the time remaining. During regeneration, the user can force the control to advance to the next cycle step immediately by pressing the extra cycle button.

Setting the Time of Day

1. Press and hold either the Up or Down buttons until the programming icon replaces the service icon and the parameter display reads DO.
2. Adjust the displayed time with the Up and Down buttons.
3. When the desired time is set, press the Extra Cycle button to resume normal operation. The unit will also return to normal operation after 5 seconds if no buttons are pressed.

Queueing a Regeneration

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

Regenerating Immediately

Press and hold the Extra Cycle button for five seconds.

TIMER OPERATION

Meter Immediate Control

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

Meter Delayed Control

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

Time Clock Delayed Control

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

Day of the Week Control

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

Control Operation During Regeneration

During regeneration, the control displays a special regeneration display. In this display, the control shows the current regeneration step number the valve is advancing to, or has reached, and the time remaining in that step. The step number that displays flashes until the valve completes driving to this regeneration step position. Once all regeneration steps are complete the valve returns to service and resumes normal operation.

Pressing the Extra Cycle button during a regeneration cycle immediately advances the valve to the next cycle step position and resumes normal step timing.

Control Operation During Programming

The control only enters the Program Mode with the valve in service. While in the Program Mode, the control continues to operate normally monitoring water usage and keeping all displays up to date. Control programming is stored in memory permanently, eliminating the need for battery backup power.

Manually Initiating a Regeneration

1. When timer is in service, press the Extra Cycle button for 5 seconds on the main screen.
2. The timer advances to Regeneration Cycle Step #1 (rapid rinse), and begins programmed time count down.
3. Press the Extra Cycle button once to advance valve to Regeneration Cycle Step #2 (backwash).
4. Press the Extra Cycle button once to advance valve to Regeneration Cycle Step #3 (brine draw & slow rinse).
5. Press the Extra Cycle button once to advance valve to Regeneration Cycle Step #4 (brine refill).
6. Press the Extra Cycle button once more to advance the valve back to in service.

NOTE: If the unit is a filter or upflow, the cycle step order may change.

NOTE: A queued regeneration can be initiated by pressing the Extra Cycle button. To clear a queued regeneration, press the Extra Cycle button again to cancel. If regeneration occurs for any reason prior to the delayed regeneration time, the manual regeneration request shall be cleared.

Control Operation During A Power Failure

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

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

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

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

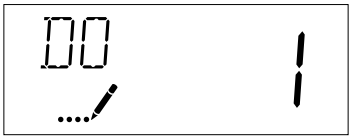
USER PROGRAMMING MODE

User Programming Mode Options		
Abbreviation	**Parameter**	**Description**
DO	Day Override	The timer's day override setting
RT	Regeneration Time	The time of day that the system will regenerate (meter delayed, timeclock, and day-of-week systems)
H	Feed Water Hardness	The hardness of the inlet water - used to calculate system capacity for metered systems
RC or SF	Reserve Capacity	The fixed reserve capacity
CD	Current Day	The current day of week

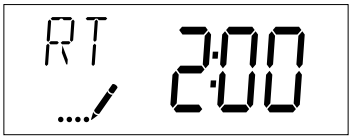
NOTE: Some items may not be shown depending on timer configuration. The timer will discard any changes and exit User Mode if any button is not pressed for sixty seconds.

User Programming Mode Steps

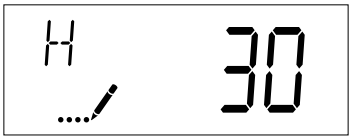
1. Press the Up and Down buttons for five seconds while in service, and the time of day is NOT set to 12:01 PM.
2. Use this display to adjust the Day Override. This option setting is identified by "DO" in the upper left hand corner of the screen.



3. Press the Extra Cycle button. Use this display to adjust the Regeneration Time. This option setting is identified by "RT" in the upper left hand corner of the screen.

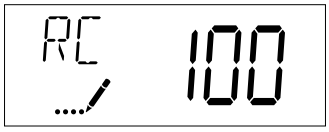


4. Press the Extra Cycle button. Use this display to adjust the Feed Water Hardness. This option setting is identified by "H" in the upper left hand corner of the screen.

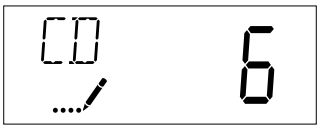


Range: 1-199 hardness

5. Press the Extra Cycle button. Use this display to adjust the Fixed Reserve Capacity. This option setting is identified by "RC" or "SF" in the upper left-hand Corner of the screen.



6. Press the Extra Cycle button. Use this display to set the Current Day of the Week. This option setting is identified by "CD" in the upper left hand corner of the screen.



7. Press the Extra Cycle button to end User Programming Mode.

DIAGNOSTIC PROGRAMMING MODE

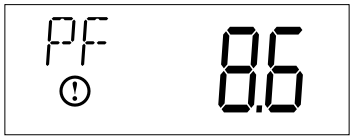
Diagnostic Programming Mode Options		
Abbreviation	**Parameter**	**Description**
FR	Flow Rate	Displays the current outlet flow rate
PF	Peak Flow Rate	Displays the highest flow rate measured since the last regeneration
HR	Hours in Service	Displays the total hours that the unit has been in service
VU	Volume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

NOTE: Some items may not be shown depending on timer configuration. The timer will exit Diagnostic Mode after 60 seconds if no buttons are pressed. Press the Extra Cycle button to exit Diagnostic Mode at any time.

Diagnostic Programming Mode Steps

1. Press the Up and Extra Cycle buttons for five seconds while in service.
2. Use this display to view the current Flow Rate. This option setting is identified by "FR" in the upper left hand corner of the screen.

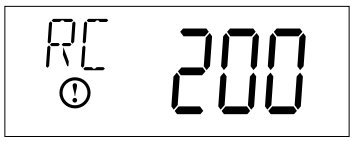
3. Press the Up button. Use this display to view the Peak Flow Rate since the last regeneration cycle. This option setting is identified by "PF" in the upper left hand corner of the screen.



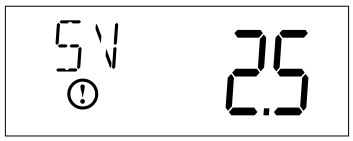
4. Press the Up button. Use this display to view the Hours in Service since the last regeneration cycle. This option setting is identified by "HR" in the upper left hand corner of the screen.

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

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



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



8. Press the Extra Cycle button to end Diagnostic Programming Mode.

COMMERCIAL

WCC
Where NATURE & SCIENCE meet.™

An Employee-Owned Company

Commercial Water Softener Startup Procedures

(TECHNICIAN TO INITIAL EACH ITEM SUCCESSFULLY TESTED.)

Date _____

Project Name/Location _____

Technician _____

Model/Serial Number _____

Number/Size of Resin Tanks _____

Size of Brine Tank _____

Brine Reclaim System _____

☐ Meter ☐ Timeclock ☐ Progressive Flow ☐ Alternating

Installation Verification

1. ☐ Confirm the system O&M manual is onsite.
2. ☐ Confirm 120 VAC power supplied.
3. ☐ Verify water lines are all properly plumbed, and water is available.
4. ☐ Verify drain lines properly plumbed.
5. ☐ Verify meter(s) plumbed in correct direction.
6. ☐ Verify brine reclamation properly plumbed (if applicable).
7. ☐ Verify salt is available onsite
8. ☐ Bypass installed? Yes ☐ No ☐ Master Bypass ☐ Each Valve ☐
9. ☐ Water test kit provided to end user (only if specified).
10. ☐ Fully photographed system and system plumbing.

Pre-Startup

1. ☐ Install brine line tubing.
2. ☐ Install meter cables.

3. ☐ Wire brine reclamation valves (if applicable).
4. ☐ Install communication cables between valves
5. ☐ Plug in all valves to GFCI approved wall receptacle.
6. ☐ Open system bypass and isolate off softener inlets/outlets.

Startup

1. ☐ Set time of day on Valve #1.
2. ☐ Initiate Manual Regeneration, advance to regeneration cycle 3 (Rapid Rinse) and slowly open softener inlet valve (roughly halfway) to fill mineral tank with water
3. ☐ Once water is running to the drain, advance from regeneration cycle 3 (Rapid Rinse) back to the home screen. Reinitiate a manual regeneration and remain in cycle 1 (Backwash). With inlet valve halfway open, allow water flow and air expulsion. Verify all air is purged.
4. ☐ Once all air is purged, fully open softener inlet valve to allow full backwash flow to drain. Continue until discharge water is free and clear of resin/debris.
5. ☐ Advance to regeneration cycle 4 (Brine Tank Refill). Allow approximately 6 inches of water to fill in brine tank.
6. ☐ Advance back through Service cycle (home screen) and cycle 1 (Backwash), to cycle 2 (Brine and Rinse). Verify water is properly drawn from brine tank.
7. ☐ Close softener inlet bypass valve again. Repeat steps 2-5 for the additional resin tank.
8. ☐ When purging and testing the final valve, allow cycle 2 (Brine & Rinse) to run until brine tank is dry.
9. ☐ Once step 7 is complete, advance final valve to cycle 4 (Brine Tank Refill) and allow cycle to run completely, so that brine tank has correct service water level upon completion.
10. ☐ Open system inlets/outlets and close system bypass.

Operation Verification

1. ☐ Run softened water fixtures in facility and verify proper meter operation for each valve, individually (use regen button to advance to different valves).
2. ☐ If possible, run larger loads in facility to verify Progressive Flow (tank staging) is functioning correctly, per the flow rates indicated in the system specifications (Note, if necessary, valves may be temporarily re-programmed to actuate Progressive Service at lower flow rates, for confirmation of operation. This requires entering the system Master Programming Functionality. It also requires returning all set points to their previous levels when completed! Contact WCC for more details).
3. ☐ If Brine Reclamation system is installed, initiate regeneration steps 2–4 (Brine Draw, Rapid Rinse, and Brine Refill) on Valve #1. Observe steps 2–4 to ensure that Brine Reclamation solenoid valves are functioning properly.

Brine Tank Fill and Final Observations

1. ☐ Add salt to brine tank. How many lbs.?_____

2. ☐ Other thoughts/concerns about this system

_____

_____

3. ☐ Warranty Activated? Yes ☐ No ☐ If no, list any items that must be addressed prior to warranty activation:

_____

_____

Trainees Present

Name	Organization	Email
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Signature(s) of Start-Up Agents

Signature: _____

Signature: _____

Signature: _____

Signature of Installing Contractor

I CERTIFY THAT STARTUP AND TRAINING HAVE BEEN COMPLETED PER AGREEMENT.

Name: _____

Company: _____

Signature: _____

Date: _____

Commercial Water Softener Maintenance Procedures

(TECHNICIAN TO INITIAL EACH ITEM SUCCESSFULLY TESTED.)

Date _____

Project Name/Location _____

Technician _____

Model/Serial Number _____

Pre-Maintenance Audit Checklist

1. ☐ Test Water Quality Levels (Hardness on Cold/Hot)
2. ☐ Check for Blinking Time? Yes ☐ No ☐
3. ☐ Check Volume of Meter (Per System)
4. ☐ Verify Appropriate Inlet Pressure (If Applicable)
5. ☐ Verify System Outlet Pressure (If Applicable)
6. ☐ Inspect Brine Tank and Overflow
7. ☐ Check Brine Tank for Bridging/Salt Quality/Water Level
8. ☐ Verify Correct Solenoid Valve Operation (If Applicable)
9. ☐ Verify Correct Programming for Specific Softener
10. ☐ Test/Verify Brine Reclamation Operation
11. ☐ Check Inlet/Outlet Bypass

Scheduled Maintenance Procedures

1. ☐ Cycle Test Water Softener (Manual Regeneration)
   - ☐ Check for Leaks
   - ☐ Check Meters Counts Down Properly
   - ☐ Check If Brine Line Draws Water
   - ☐ Check Brine Line Refill

2. ☐ Replace Any Parts That Have Failed
3. ☐ Inspect/Clean Injectors and Brine Line
4. ☐ Photograph System for Job Folder
5. ☐ Record Pentair Serial Number
6. ☐ Perform Any Work Covered by Warranty (If Applicable, see notes)
7. ☐ Include 12 postage-paid water sample bottles per year, plus testing by WCC lab (if needed) (Results will include testing for hardness, iron, TDS, pH)
8. ☐ Re-Examine Water Quality Levels (Hardness)

Notes:

_____

_____

Billing Information

Name: _____

Phone: _____

Street: _____

City/State/Zip: _____

Purchase Order #: _____

Acceptance of Work:

Tech. Signature: _____

Client Printed: _____

Client Signature: _____

SERVICE

You must keep salt in the tank. The salt tank operates best when the salt level is below half full. If the tank is filled more than that the salt pellets me Bridge. The salt pellets wedge against each other and do not fall into the water at the bottom. Bridging will eventually provide no salt to make brine. The softener will re-charge but not recondition the media. A salt bridge can be broken up using a broom handle or similar rod. Carefully pound it into the salt and the pellets will collapse. After loosening the salt pellets, wait 2 hours and start a regeneration. A second recharge may be needed to fully recondition the media. You should also use sodium chloride pellet salt for water softeners. Other types of salt (rock or snow melting) will contain dirt or chemicals that will affect your softener.

Checking for a Salt Bridge:

A hard crust or "salt bridge" can form in the lower half of the salt storage tank. This can be deceiving because the tank will appear to have plenty of salt, but underneath, salt is hardened and when the system regenerates, water cannot quite reach this level to be made into brine (water and salt).

Breaking a Salt Bridge:

Take a wooden broom handle and carefully push it down into the salt, working it up and down. If the tool strikes a hard object, (be sure it's not the bottom or sides of the tank), it's probably a salt bridge. Carefully break the bridge with the broom handle. Do not pound on the walls of the tank.

Note: Salt bridges are typically caused by high humidity or using the wrong kind of salt. And humid areas, it is best to fill the with less salt, more often. Use only nugget, pellet or coarse solar salt with a purity of 99.5% or higher. DO NOT use rock, block, granulated, and ice cream-making salts, or salt with iron removing additives.

Cleaning the Brine Injector Assembly:

It is recommended to clean the injector and injector screen annually to ensure proper system operation.

From time to time, a softeners brine water injection assembly can become clogged with dirt and debris. This resulted in for water softener regeneration, which, in-turn, can lead to poor softening performance. Plugging of a brine injector can also cause brine tanks to fill up with water, and eventually overflow.

Water Control Corporation
7150 143rd Ave NW • Ramsey, MN 55303
Phone: 763-427-9638 • Fax: 763-427-5665
www.watercontrolinc.com

Troubleshooting

1. Softener Fails To Regenerate.	A. Electrical service to unit has been interrupted.	A. Assure permanent electrical service (check fuse, plug, pull chain or switch).
	B. Timer programming bad (improper programming).	B. Check programming and reset as needed.
2. Softener Delivers Hard Water.	A. By-pass valve is open.	A. Close by-pass valve.
	B. No salt in brine tank.	B. Add salt to brine tank and maintain salt level above water level.
	C. Injectors or screen plugged.	C. Clean or replace injectors and screen.
	D. Insufficient water flowing into brine tank.	D. Check brine tank fill time and clean brine line flow if plugged.
	E. Hot water tank hardness.	E. Repeated flushings of the hot water tank is required.
	F. Flow meter jammed.	F. Check flow indicator light for flow. Remove obstruction from flow meter.
	G. Flow meter cable disconnected or not plugged into meter.	G. Check meter cable connection to timer and meter.
	H. Improper programming.	H. Reprogram the control to the proper regeneration type, inlet water hardness, capacity or flow meter size.
	I. Plugged brine line or air check.	I. Remove and clean any sediment from brine tank and brine valve assembly.
	J. Salt bridge has formed.	J. Refer to *Breaking a Salt Bridge* section in manual.
	K. No water in brine tank.	K. Ensure safety float is not stuck.
	L. Unit is plumbed backwards.	L. Check that the unit is plumbed correctly.
	M. Water hardness has increased or is set incorrectly.	M. Retest hardness and change settings.
	N. Water pressure is too low.	N. Line pressure must be at least 20 PSI.
3. Unit Uses Too Much Salt.	A. Improper salt setting.	A. Check salt usage and salt setting.
	B. Excessive water in brine tank.	B. See problem No. 7.
	C. Improper programming.	C. Check programming and reset as needed.
4. Loss of Water Pressure.	A. Iron buildup in line to water conditioner.	A. Clean line to water conditioner.
	B. Iron buildup in water conditioner.	B. Clean control and add resin cleaner to resin bed. Increase frequency of regeneration.

Troubleshooting (continued)

5. Loss of Resin Through Drain Line.	A. Air in water system.	A. Assure that well system has proper air eliminator control and check for dry well condition.
	B. Drain line flow control is too large.	B. Ensure drain line flow control is sized correctly.
6. Iron in Conditioned Water.	A. Fouled resin bed.	A. Check backwash, brine draw and brine tank fill. Increase frequency of regeneration. Increase backwash time.
	B. Iron content exceeds recommended parameters.	B. Add iron removal filter or system.
7. Excessive Water in Brine Tank.	A. Plugged drain line flow control.	A. Clean flow control.
	B. Brine valve failure.	B. Clean brine valve.
	C. Improper programming.	C. Check programming and reset as needed.
8. Salt Water in Service Line.	A. Plugged injector system.	A. Clean injector and replace screen.
	B. Improper programming.	B. Check programming and reset as needed.
	C. Foreign material in brine	C. Clean or replace brine valve.
	D. Foreign material in brine line	D. Clean brine line flow control.
	E. Low water pressure.	E. Raise water pressure.
9. Softener Fails to Draw Brine.	A. Drain line flow control is plugged.	A. Clean drain line flow control.
	B. Injector is plugged.	B. Clean or replace injectors.
	C. Improper programming.	C. Check programming and reset as needed.
	D. Line pressure is too low.	D. Increase line pressure (line pressure must be at least 20 PSI at all times.)
10. Drain Flows Continuously.	A. Foreign material in control.	A. Remove piston assembly and inspect bore, remove foreign material & check control in various ports.
12. Loss of capacity.	A. Increased raw water hardness	A. Reset unit to the new capacity.
	B. Brine concentration and/or quantity.	B. Keep brine tank full of salt at all times. Clean it yearly. Salt may be bridged. If using a salt grid plate ensure refill water is over it.
	C. Resin fouling. Future fouling.	C. Call Water Control Corp, find out how to confirm it, clean the resin and prevent.
	D. Poor distribution, channeling (uneven bed surface).	D. Call Water Control Corp. Check distributors and backwash flow.

TROUBLESHOOTING

Error Codes

NOTE: Error codes appear on the In Service display.

Error Code	Error Type	Cause	Reset and Recovery
0	Cam Sense Error	The valve drive took longer than 6 minutes to advance to the next regeneration position	Unplug the unit and examine the powerhead. Verify that all cam switches are connected to the circuit board and functioning properly. Verify that the motor and drive train components are in good condition and assembled properly. Check the valve and verify that the piston travels freely. Replace/reassemble the various components as necessary. Plug the unit back in and observe its behavior. The unit should cycle to the next valve position and stop. If the error re-occurs, unplug the unit and contact technical support.
1	Cycle Step Error	The control experienced an unexpected cycle input	Unplug the unit and examine the powerhead. Verify that all cam switches are connected to the circuit board and functioning properly. Enter Master Programming mode and verify that the valve type and system type are set correctly with regard to the unit itself. Step the unit through a manual regeneration and verify that it functions correctly. If the error re-occurs unplug the unit and contact technical support.
2	Regen Failure	The system has not regenerated for more than 99 days (or 7 days if the Control Type has been set to Day-of-Week)	Perform a Manual Regeneration to reset the error code. If the system is metered, verify that it is measuring flow by running service water and watching for the flow indicator on the display. If the unit does not measure flow, verify that the meter cable is connected properly and that the meter is functioning properly. Enter a Master Programming Mode and verify that the unit is configured properly. As appropriate for the valve configuration, check that the correct system capacity has been selected, that the day override is set properly, and that meter is identified correctly. If the unit is configured as a Day-of-Week system, verify that at least one day is set ON. Correct the settings as necessary.
3	Memory Error	Control board memory failure	Perform a Master Reset and reconfigure the system via Master Programming Mode. After reconfiguring the system, step the valve through a manual regeneration. If the error re-occurs unplug the unit and contact technical support.
UD	Upper Drive Sync	Power failure install programming change	Valve will automatically recover.

FLECK® 9500
1-1/2 INCH TWIN TANK CONTROL VALVE

MADE IN THE USA
OF FOREIGN & DOMESTIC PARTS

FEATURES/BENEFITS

Lead free brass valve body for superior strength and durability

Continuous service flow rate of 38 GPM with a backwash of 16 GPM

Backwash capability accommodates softener tanks up to 24"

Fully adjustable 5 cycle control for efficient and reliable water treatment system

Time-tested, hydraulically-balanced piston for service and regeneration

Rugged-built electromechanical timer designed with heavy duty 3/8" wide plastic gears

Salt and water savings by using 100% capacity of the tank in service before switching to the second tank

Regenerates immediately when needed for continuous soft water

Regenerates with soft water keeping system clean for optimum operating efficiency and minimum maintenance

OPTIONS

Brine cam auxiliary switch

Electro-mechanical timer auxiliary switch

Hot water

XT- Offers a two-line, 16 character LCD backlit display for easy entering of master and user programing as well as view of diagnostics.

SXT-Large LCD display and user-selectable time clock or metered function; usable for filtration and softener systems.

Electro-mechanical Timer- Simple to adjust and easy to service with quick access to all internal components.

TESTED and CERTIFIED by the WQA to NFS/ANSI Standard 61 Section 8 Material Safety Only

TESTED and CERTIFIED by the WQA to NFS/ANSI Standard 372 for Lead Free Compliance

UL recognized to 979

Restriction of Hazardous Substance Compliant

VALVE SPECIFICATIONS

Valve Material	Lead-free brass*
Inlet/Outlet	1-1/2" NPTF
Cycles	5

FLOW RATES (50 PSI INLET) – VALVE ALONE

Continuous (15 psi drop)	38 GPM (8.6 m^3/h)
Peak (25 psi drop)	49 GPM (11.1 m^3/h)
Cv (flow at 1 psi drop)	9.8
Max. Backwash (25 psi drop)	16 GPM (3.6 m^3/h)

REGENERATION

Downflow/Upflow	Downflow only
Adjustable Cycles	Yes
Time Available	Electromechanical: 82 or 164 minutes
	SXT: 0 - 199 minutes per cycle
	XT: 240 minutes per cycle

METER INFORMATION

Meter Accuracy	1.5 - 75 GPM
Meter Capacity Range (gal.)	Standard: 625 - 10,625
	Extended: 3,125 - 53,125
	SXT: 1 - 999 900
	XT: 1,000 - 9,900,000

DIMENSIONS

Distributor Pilot	1.9" O.D.
Drain Line	1" NPTM
Injector Brine System	1600 or 1650 3/8"
Brine Line	1700 or 1710 1/2"
Mounting Base	1/2" - 8 UN
Height from Top of Tank	7.25"

TYPICAL APPLICATIONS

Water Softener	10"-24" diameter

ADDITIONAL INFORMATION

Electrical Rating	24V, 110V, 220V; 50 Hz, 60 Hz
Max. VA	8.9
Estimated Shipping Weight	Metered valve: 48 lbs
Pressure	Hydrostatic: 300 psi (20 bar) Working: 20 - 125 psi (1,4 - 8,5 bar)
Temperature	Cold Water Valve 34-110°F (1-43°C)
	Hot Water Valve 34-150°F (1-66°C)
	Metered 1600 or Brine System 1700

*As defined in the U.S. EPA Safe Drinking Water Act; the product also meets California Proposition 65 Standards for lead-free brass.

PENTAIR

FILTRATION & PROCESS
5730 NORTH GLEN PARK ROAD, MILWAUKEE, WI 53209
P: 262.238.4400 | F: 262.518.4404 | WWW.PENTAIRAQUA.COM | CUSTOMER CARE: 800.279.9404

WATER PURIFICATION
STAINLESS STEEL METERS

HIGH EFFICIENCY AND TIMELY REGENERATIONS

1”

1-1/2”

2”

3”

Reduce your SKUs with Pentair’s Stainless Steel Meters. Manufactured with truly lead-free stainless steel materials, SS meters are designed to meet today’s water treatment needs.

LEAD-FREE

Truly lead-free 316 grade stainless steel material eliminates the risk of lead leaching into the water

DURABLE MATERIALS

Rust-resistant

Corrosion-resistant

1”, 1-1/2” and 2” models are hot-water rated to 150°F

MULTIPLE APPLICATIONS

Widely used in commercial and industrial applications

Single and multi-tank system compatibility

BENEFITS

Simplified service and reduced inventory

No tools needed to install sensor

All-in-one electronic and mechanical flow sensing

RELIABILITY

Mechanical meters record water usage even during power outages

CONVENIENCE

Optional stainless steel union for ease of installation and maintenance (purchased separately)

TESTED and CERTIFIED by the WQA to NSF/ANSI Standard 61 Section 8 Material Safety Only.

TESTED and CERTIFIED by the WQA to NSF/ANSI Standard 372 for Lead Free Compliance.

RoHS Restriction of Hazardous Substance Compliant

SPECIFICATIONS

METER TYPE	MAX FLOW RATE (GPM)	PRESSURE DROP @ MAX FLOW RATE (PSI)	K-FACTOR (PULSES/GALLON)	*ACCURACY RANGE +/- 5% (GPM)	STANDARD RANGE (GAL)	EXTENDED RANGE (GAL)	CV
1" PADDLE	40	4.9	8	.7-40	310-5,270	1,550-26,350	18
1-1/2" PADDLE	75	4.3	4	1.5-75	625-10,625	3,125-53,125	36
2" PADDLE	150	4.6	2	3.0-150	1,250-21,250	6,250-106,250	70
3" PADDLE	300	9.0	0.67	7.0-300	3,750-63,750	18,750-318,750	100

**Allow inlet straight pipe runs of at least ten pipe diameters and outlet pipe runs of at least five pipe diameters of the same size of the flow meter for best results.*

WIRING

(black) = Ground
(green) = Signal
(red) = +VDC

PENTAIR

WATER QUALITY SYSTEMS
5730 NORTH GLEN PARK ROAD, MILWAUKEE, WI 53209
P: 262.238.4400 | F: 262.238.4404
WATERPURIFICATION.PENTAIR.COM
CUSTOMER CARE: 800.279.9404 | tech-support@pentair.com

4004887 REV B OC16

18 Inch Round Brine Tanks

18x40 Brine Tank with Blow Molded Cover

18x33 Brine Tank with Black Injection Molded Cover

Clack's 18 inch blow molded round brine tanks offer a refreshing look in the residential and light commercial brine tank field. Durable materials and the latest in plastic processing technology provide trouble-free performance. Ultraviolet inhibitors (UVI) are now standard in all tanks except black, which has a natural resistance to the sun's rays. Three different sizes are available for up to 450 lbs. of salt capacity.

Advantages:

- Attractive design to meet customer appeals with four modern stock colors to choose from — almond, blue, black and white. (Custom colors available.)
- Blow molded from high-density polyethylene to give exceptional environmental stress-crack properties providing years of trouble-free service.
- These tanks can be top loaded on other Clack water treatment components and drinking water systems to substantially reduce total shipping costs.
- All round brine tanks are individually shipped in a durable 150# test reshipper carton.
- Optional injection molded grid promotes uniform brining and reduced salt bridging.

ORDER NUMBER	DESCRIPTION
G21826BB1C00	18x36 Blue Brine Tank with Blow Molded Cover
G21833[*]B1C00	18x33 Brine Tank with Blow Molded Cover
G21833[*]G7CWG	18x33 Brine Tank with Black Injection Molded Cover
G21840[*]B1C00	18x40 Brine Tank with Blow Molded Cover
G21840[*]G7CWG	18x40 Brine Tank with Black Injection Molded Cover

[*] Color code digit: A - Almond, B - Blue, C - Black, W - White

TANK SIZE	LIQUID CAPACITY		SALT CAPACITY		DIAMETER		HEIGHT W/ LID		SHIPPING WEIGHT		MASTER CARTON
in.	gal.	liters	lbs.	Kg	in.	cm	in.	cm	lbs.	Kg	ft.³/units per
18 x 26	27	102	275	125	18½	47	25	64	12	5.5	5.5/1
18 x 33	36	136	375	170	18½	47	33¼	84	12	5.5	7/1
18 x 40	43	163	450	205	18½	47	40¾	104	15	6.8	9/1

Clack®
www.clackcorp.com

Clack Corporation
4462 DURAFORM LANE • WINDSOR, WISCONSIN 53598-9716 USA
PHONE (608) 846-3010 FAX (608) 846-2586 SALES/CUSTOMER SERVICE FAX (800) 755-3010

Form No. 1894 • 7/27/2010

Commercial/Industrial Rotationally Molded Brine Tanks

Commercial and industrial water softeners require a large volume of brine during each regeneration.

From a capacity of 95 gallons to 500 gallons, our Rotationally Molded Brine Tanks are built to last.

Molded out of durable, chemically resistant high density polyethylene, their ¼" seamless walls won't bulge.

Rotationally Molded Brine Tanks are strong enough to handle your toughest brine requirements. (All tanks and covers are black.)

Also Available:

24" Plastic Grids

30" Plastic Grids

TANK SIZE	ORDER NUMBER	DIAMETER	HEIGHT	SALT CAPACITY	VOLUME	WEIGHT
24 x 48	G22448CB1P00	24"	48"	800 lbs.	95 gal.	30 lbs.
24 x 60	G22460CB1P00	24"	60"	1000 lbs.	115 gal.	32 lbs.
30 x 48	G23048CB1P00	30"	48"	1200 lbs.	145 gal.	48 lbs.
30 x 60	G23060CB1P00	30"	60"	1600 lbs.	180 gal.	56 lbs.
39 x 48	G23948CB1P00	39"	48"	2200 lbs.	250 gal.	67 lbs.
39 x 60	G23960CB1P00	39"	60"	2700 lbs.	300 gal.	80 lbs.
42 x 60	G24260CB1P00	42"	60"	3100 lbs.	350 gal.	84 lbs.
50 x 60	G25060CB1P00	50"	60"	4500 lbs.	500 gal.	107 lbs.

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Form No. 2613 • 7/27/2010

Official Warranty

Water Control Corporation

Commercial Water Softeners

Limited Warranty

Water Control Corporation warrants the water softener control valve, plastic brine tank(s), and fiberglass-reinforced mineral tank(s) to be free of manufacturers defects for the lesser of 18 months from shipment or 12 months from system startup. Epoxy-lined steel mineral tank(s) shall be free from manufacturers defects for the lesser of 30 months from shipment or 24 months from system startup. We will, at our discretion, repair or replace defective products. This warranty does not include any costs associated with removal of defective products, or installation of replacement products. All replacement parts will be provided FOB Ramsey, MN. This warranty is transferable.

DISCLAIMER OF IMPLIED WARRANTIES

Water Control Corporation makes no warranties except those expressly stated in this document. To the extent permitted by the laws of the applicable state, **ALL WARRANTIES CONTAINED IN THIS DOCUMENT ARE EXPRESSLY IN LIEU OF, AND WATER CONTROL CORP ORATION EXPRESSLY DISCLAIMS, ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

WHAT IS NOT COVERED BY THESE WARRANTIES

1. Conditions and damages resulting from any of the following:

   - Wear caused by unfavorable water conditions
   - Improper installation, delivery, or maintenance
   - Failure to provide system with adequate salt
   - Any repair, modification, alteration, or adjustment not authorized by the manufacturer or an authorized servicer
   - Misuse, abuse, accidents, or unreasonable use
   - Improper setting of any control
   - Incorrect electric current, voltage, or supply

2. Warranties are void if the original serial numbers have been removed, altered, or cannot be readily determined

3. The cost of service or service call to:

   - Correct installation errors
   - Instruct the user on proper use of the product
   - Transport the product to the servicer

4. Any costs associated with removal of defective products, or installation of replacement products.

5. Consequential, special, or incidental damages sustained by any person as a result of the breach of these warranties. Some states do not allow the exclusion or limitation of consequential or incidental damages, so the above exclusion may not apply to you.