Pentair Water

Fleck 5600SXT Downflow

Service Manual

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JOB SPECIFICATION SHEET

Job Number: _____

Model Number: _____

Water Hardness: _____ ppm or gpg

Capacity Per Unit: _____

Mineral Tank Size: _____ Diameter: _____ Height: _____

Salt Setting per Regeneration: _____

1. Type of Timer:

A. 7 Day or 12 Day

B. Meter Initiated

2. Downflow: Upflow Upflow Variable

3. Meter Size:

A. 3/4" Std Range (125 - 2,100 gallon setting)

B. 3/4" Ext Range (625 - 10,625 gallon setting)

C. 1" Std Range (310 - 5,270 gallon setting)

D. 1" Ext Range (1,150 - 26,350 gallon setting)

E. 1-1/2" Std Range (625 - 10,625 gallon setting)

F. 1-1/2" Ext Range (3,125 - 53,125 gallon setting)

G. 2" Std Range (1,250 - 21,250 gallon setting)

H. 2" Ext Range (6,250 - 106,250 gallon setting)

I. 3" Std Range (3,750 - 63,750 gallon setting)

J. 3" Ext Range (18,750 - 318,750 gallon setting)

K. Electronic _____ Pulse Count _____ Meter Size _____

4. System Type:

A. System #4: 1 Tank, 1 Meter, Immediate, or Delayed Regeneration

B. System #4: Time Clock

C. System #4: Twin Tank

D. System #5: 2-5 Tanks, Interlock Mechanical
2-4 Tanks, Interlock Electronic
Meter per unit for Mechanical and Electronic

E. System #6: 2-5 Tanks, 1 Meter, Series Regeneration, Mechanical
2-4 Tanks, 1 Meter, Series Regeneration, Electronic

F. System #7: 2-5 Tanks, 1 Meter, Alternating Regeneration, Mechanical
2 Tanks only, 1 Meter, Alternating Regeneration, Electronic

G. System #9: Electronic Only, 2-4 Tanks, Meter per Valve, Alternating

H. System #14: Electronic Only, 2-4 Tanks, Meter per Valve. Brings

5. Timer Program Settings:

A. Backwash: _____ Minutes

B. Brine and Slow Rinse: _____ Minutes

C. Rapid Rinse: _____ Minutes

D. _____ Minutes

E. Pause Time: _____ Minutes

F. Second Backwash: _____ Minutes

6. Drain Line Flow Control: _____ gpm

7. Brine Line Flow Controller: _____ gpm

8. Injector Size#: _____

9. Piston Type:

A. Hard Water Bypass

B. No Hard Water Bypass

INSTALLATION

Water Pressure

A minimum of 20 pounds (1.4 bar) of water pressure is required for regeneration valve to operate effectively.

Electrical Facilities

An uninterrupted alternating current (A/C) supply is required. Note: Other voltages are available. Please make sure your voltage supply is compatible with your unit before installation.

Existing Plumbing

Condition of existing plumbing should be free from lime and iron buildup. Piping that is built up heavily with lime and/or iron should be replaced. If piping is clogged with iron, a separate

Location Of Softener And Drain

The softener should be located close to a drain to prevent air

By-Pass Valves

Always provide for the installation of a by-pass valve if unit is not equipped with one.

CAUTION **Water pressure is not to exceed 125 psi (8.6 bar), water temperature is not to exceed 110°F (43°C), and the unit cannot be subjected to freezing conditions.**

Installation Instructions

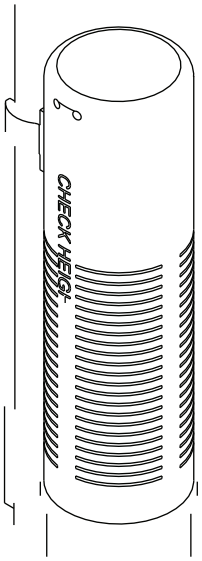
1. Place the softener tank where you want to install the unit
2. During cold weather, the installer should warm the valve to room temperature before operating.
3. All plumbing should be done in accordance with local plumbing codes. The pipe size for residential drain line

   in excess of 7 gpm (26.5 Lpm) or length in excess of 20' (6 m) require 3/4" (19 mm) drain line. Commercial drain
4. Refer to the dimensional drawing for cutting height of the distributor tube. If there is no dimensional drawing, cut the
5. Lubricate the distributor O-ring seal and tank O-ring seal. Place the main control valve on tank. Note: Only use silicone lubricant.
6. Solder joints near the drain must be done prior to

   Leave at least 6" (15 cm) between the DLFC and solder joints when soldering pipes that are connected on the DLFC. Failure to do this could cause interior damage to the DLFC.
7. common line.
8. tank and that it is level.
9. Place approximately 1" (25 mm) of water above the grid

   (Figure 1) in the salt tank. Do not add salt to the brine tank at this time.
10. On units with a by-pass, place in by-pass position. Turn on the main water supply. Open a cold soft water tap nearby and let run a few minutes or until the system is free from foreign material (usually solder) that may have resulted from the installation. Once clean, close the water tap.
11. Slowly place the by-pass in service position and let water

    open a cold water tap nearby and let run until the air is purged from the unit.
12. Plug unit into an electrical outlet. Note: All electrical connections must be connected according to local codes. Be certain the outlet is uninterrupted.



day, volume remaining or days to regeneration, and tank

(Daylight Saving Time Adjustment)

Daylight Saving Time Adjustment is between time of

Setting for the valve (power failure) and control type

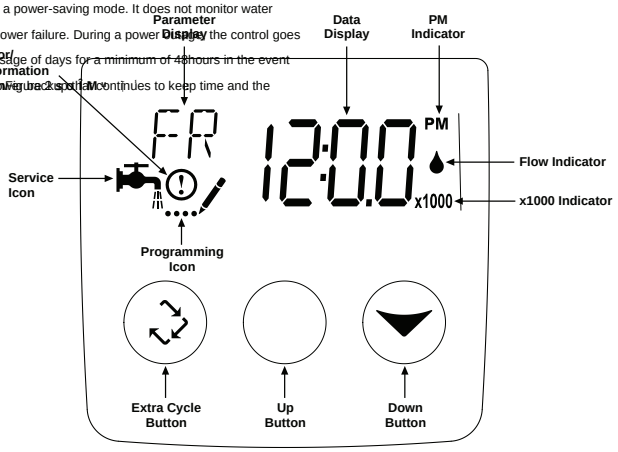
TIMER FEATURES

usage during a power failure, but it does store the volume

into a power-saving mode. It does not monitor water

of power failure. During a power failure the control goes

passage of days for a minimum of 48hours in the event



Queueing a Regeneration

1. indicate that a regeneration is queued.
2. To cancel a queued regeneration, press the Extra Cycle button.

Regenerating Immediately

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.

each day to either “off” or “on.” The control will initiates a regeneration cycle on days that have been set to “on” at the

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

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
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

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.

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

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

compensate for regeneration delays.

MASTER PROGRAMMING MODE CHART

Caution: Before entering Master Programming, please contact your local professional water dealer.

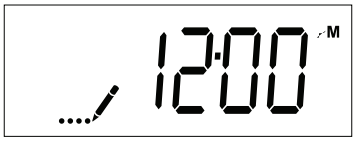
Master Programming Options			
Abbreviation	**Parameter**	**Option Abbreviation**	**Options**
DF	Display Format	GAL	Gallons
		Ltr	Liters
VT	Valve Type	dF1b	
		dF2b	
		Fltr	Filter
		UFbd	
		UFtr	
		Othr	Other
CT	Control Type	Fd	Meter (Flow) Delayed
		Fl	Meter (Flow) Immediate
		tc	Time Clock
		dAY	Day of Week
NT	Number of Tanks	1	Single Tank System
		2	Two Tank System
TS	Tank in Service	U1	Tank 1 in Service
		U2	Tank 2 in Service
C	Unit Capacity		Unit Capacity (Grains)
H	Feedwater Hardness		Hardness of Inlet Water
RS	Reserve Selection	SF	Percentage Safety Factor
		rc	Fixed Reserve Capacity
SF	Safety Factor		Percentage of the system capacity to be used as a reserve
RC	Fixed Reserve Capacity		Fixed volume to be used as a reserve
DO	Day Override		The system's day override setting
RT	Regen Time		The time of day the system will regenerate
BW, BD, RR, BF	Regen Cycle Step Times		The time duration for each regeneration step. Adjustable from OFF and 0-199 minutes. **NOTE: If "Othr" is chosen under "Valve Type", then R1, R2, R3, etc, will be displayed instead**
D1, D2, D3, D4, D55A000300251.25 T28 TC1q 1 0 000F0003 Td(-i3.1 320037J3.12rol)18tion for each relCve			

MASTER PROGRAMMING MODE

When the Master Programming Mode is entered, all available option setting displays may be viewed and set as needed. Depending on current option settings, some parameters cannot be viewed or set.

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.



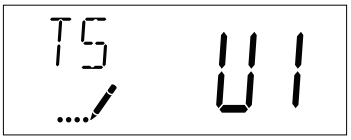
5. Tank in Service (Display Code TS)

Press the Extra Cycle button. Use this display to set whether tank one or tank two is in service. This option setting is

This parameter is only available if the number of tanks has been set to 2. There are two possible settings:

Tank One in Service: U1

Tank Two in Service: U2

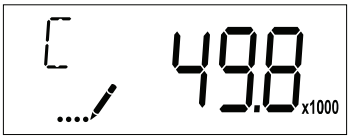


6. Unit Capacity (Display Code C)

Press the Extra Cycle button. Use this display to set the Unit

system media. Enter the capacity of the media bed in grains

of the screen. The Unit Capacity parameter is only available if the control type has been set to one of the metered options. Use the Up and Down buttons to adjust the value as needed.

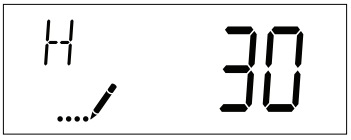


Range: 1-999,900 gallons (100-9,999,000 Liters)

7. Feedwater Hardness (Display Code H)

Press the Extra Cycle button. Use this display to set the Feedwater Hardness. Enter the feedwater hardness in grains

corner of the screen. The feedwater hardness parameter is only available if the control type has been set to one of the metered options. Use the Up and Down buttons to adjust the value as needed.



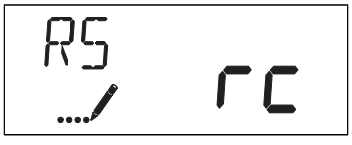
Range: 1-199 hardness

8. Reserve Selection (Display Code RS)

Press the Extra Cycle button. Use this display to set the Safety Factor. Use this display to select the type of reserve to be used

left-hand corner of the screen. The reserve selection parameter is only available if the control type has been set to one of the metered options. There are two possible settings.

FS	Safety Factor
rc	Fixed Reserve Capacity

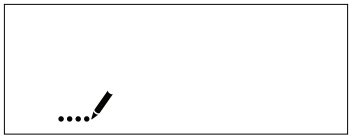


9. Safety Factor (Display Code SF)

Press the Extra Cycle button. Use this display to set the

system capacity will be held as a reserve. Since this value is expressed as a percentage, any change to the unit capacity or feedwater hardness that changes the calculated system capacity will result in a corresponding change to the reserve

hand corner of the screen. Use the Up and Down buttons to adjust the value from 0 to 50% as needed.



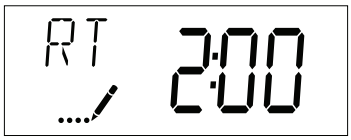
MASTER PROGRAMMING MODE

12. Regeneration Time

Press the Extra Cycle button. Use this display to set the

control will initiate a delayed, manually queued, or day override

in the upper left hand corner of the screen. Use the Up and Down buttons to adjust the value as needed.



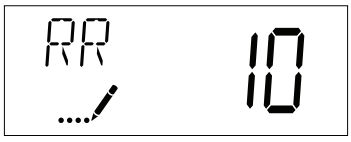
13. Regeneration Cycle Step Times

Press the Extra Cycle button. Use this display to set the Regeneration Cycle Step Times. The different regeneration cycles are listed in sequence based on the valve type selected

upper left-hand corner of the screen. The abbreviations used

as R1, R2, R3, R4, R5, and R6. Each cycle step time can be set from 0 to 199 minutes. Setting a cycle step time to 0 will cause the control to skip that step during regeneration, but keeps the following steps available. Use the Up and Down buttons to adjust the value as needed. Press the Extra Cycle button to accept the current setting and move to the next parameter.

Abbreviation	Cycle Step
BD	Brine Draw
BF	Brine Fill
BW	Backwash
RR	Rapid Rinse
SV	Service

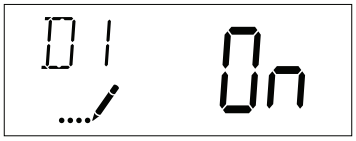


Range: 0-199 minutes

14. Day of Week Settings

Press the Extra Cycle button. Use this display to set the

D1, D2, D3, D4, D5, D6, and D7 in the upper left-hand corner of the display. Set the value to “ON” to schedule a regeneration or “OFF” to skip regeneration for each day. Use the Up and Down buttons to adjust the setting as needed. Press the Extra Cycle button to accept the setting and move to the next day. Note that the control requires at least one day to be set to “ON.” If all 7 days are set to “OFF”, the unit will return to Day One until one or more days are set to “ON.”



15. Current Day (Display Code CD)

Press the Extra Cycle button. Use this display to set the current

corner of the screen. Use the Up and Down buttons to select from Day 1 through Day 7.

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	
CD	Current Day	The current day of week

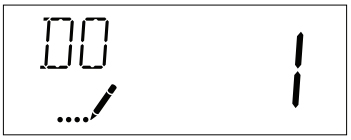
NOTE: Some items may not be shown depending on timer con f guration. The timer will discard any changes and exit User Mode if any button is not pressed for sixty seconds.

User Programming Mode Steps

1.
service, and the time of day is NOT set to 12:01 PM.

2. Use this display to adjust the Day Override. This option

the screen.



3. Press the Extra Cycle button. Use this display to adjust the

in the upper left hand corner of the screen.

DIAGNOSTIC PROGRAMMING MODE

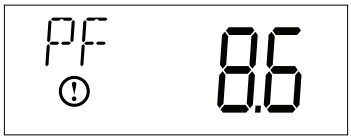
Diagnostic Programming Mode Options		
Abbreviation	**Parameter**	**Description**
FR	Flow Rate	
PF	Peak Flow Rate	rate measured since the last regeneration
HR	Hours in Service	Displays the total hours that the unit has been in service
VU	Volume Used	Displays the total volume of water treated by the unit
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 con f guration. 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.

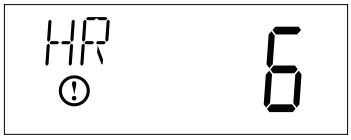
Diagnostic Programming Mode Steps

1. while in service.
2. Use this display to view the current Flow Rate. This option the screen.

3. Press the Up button. Use this display to view the Peak Flow Rate since the last regeneration cycle. This option setting screen.



4. Press the Up button. Use this display to view the Hours in Service since the last regeneration cycle. This option the screen.

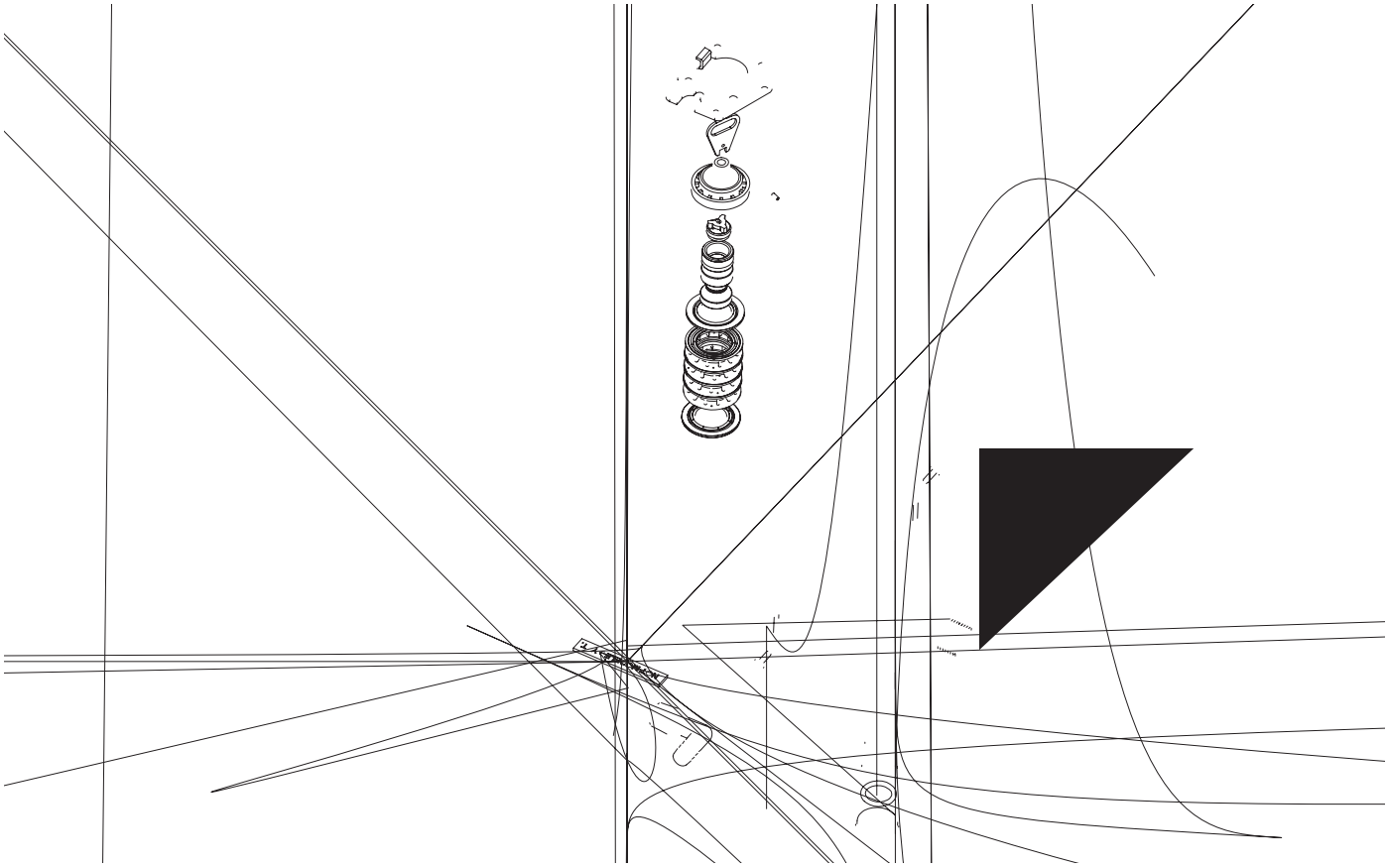


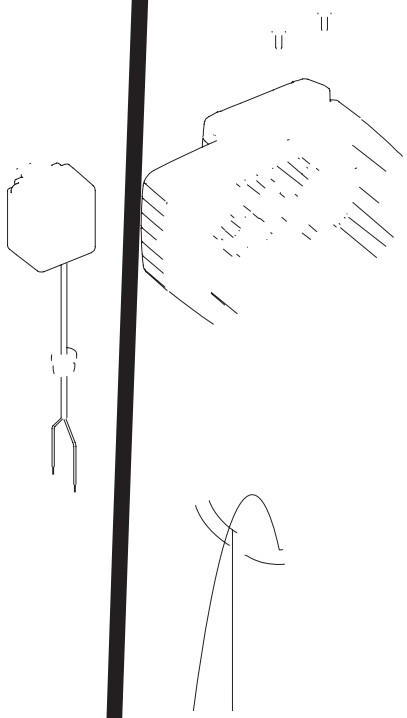
5. Press the Up button. Use this display to view the Volume Used since the last regeneration cycle. This option setting screen.

6. Press the Up button. Use this display to view the Reserve upper left hand corner of the screen.

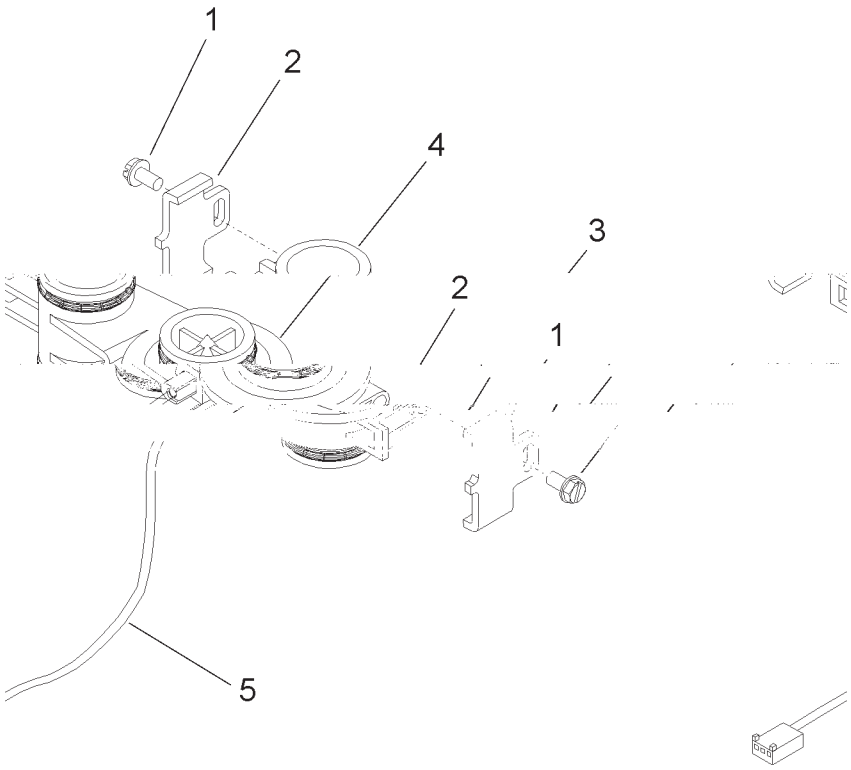
7. Press the Up button. Use this display to view the Software left hand corner of the screen.

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





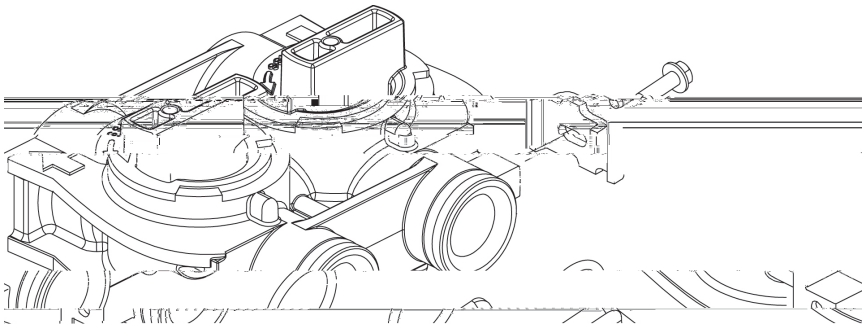
3/4" TURBINE METER ASSEMBLY



60626 Assy Rev A

Item No.	QTY	Part No.	Description
1	2	13314	Screw, Hex Washer, 8-18 x 5/8
2	2	19569	Clip, Flow Meter
3	1	19797	Meter Body Assembly, 3/4" Turbine
4	4	13305	O-ring, 119
5	1	19791-01	Harness Assembly, Flow Meter
6	1	14613	Flow Straightener (not shown)

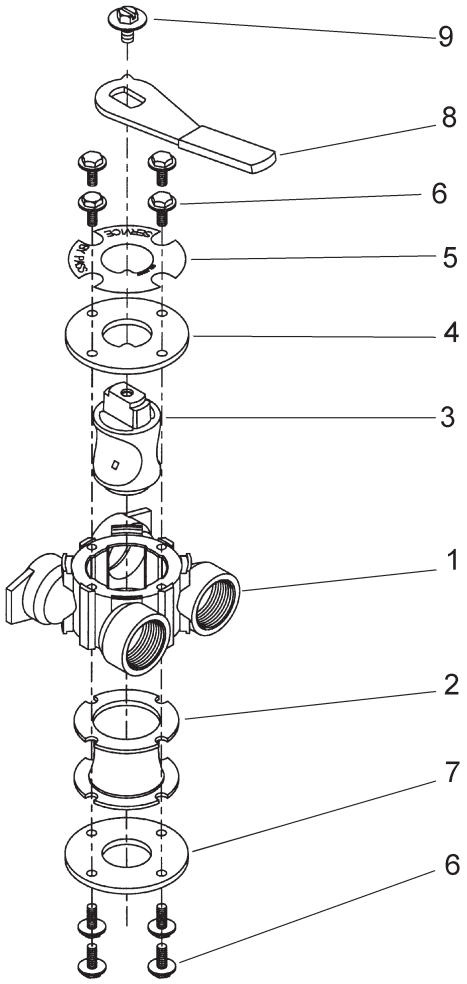
BYPASS VALVE ASSEMBLY (PLASTIC)



60049 Rev G

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

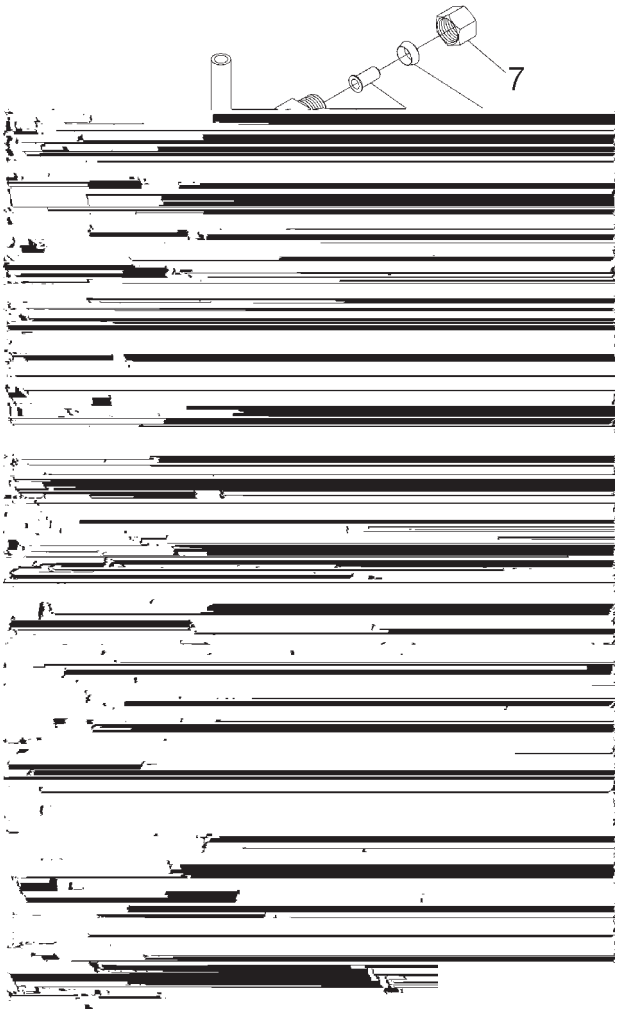
BYPASS VALVE ASSEMBLY (METAL)



60040SS Rev R
60041SS Rev T

Item No.	QTY	Part No.	Description
1	1	17290	Bypass Valve Body, 3/4”
	1	17290NP	Bypass Valve Body, 3/4” Nickel Plated
	1	13399	Bypass Valve Body, 1”
	1	13399NP	Bypass Valve Body, 1”, Nickel Plated
2	1	11726	Seal, Bypass
3	1	11972	Plug, Bypass
4	1	11978	Side Cover
5	1	13604-01	Label
6	8	15727	Screw
7	1	11986	Side Cover
8	1	11979	Lever, Bypass
9	1	11989	Screw, Hex Head, 1/4-14

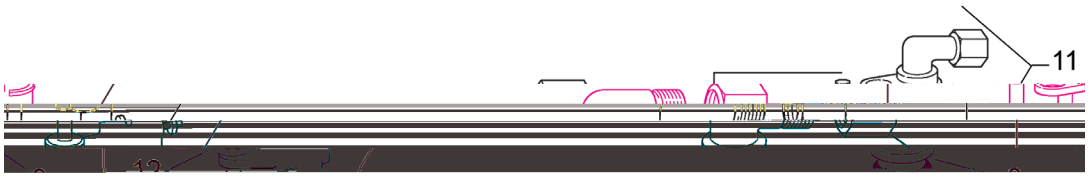
2300 SAFETY BRINE VALVE



60027 Rev D

Item No.	QTY	Part No.	Description
1	1	11942	Brine Valve Body 1/4” NPT
2	1	10138	Ball, 3/8”
3	1	11566	Bull Stop
4	1	10328	Elbow, 1/4” x 1/4” T
5	2	10332	Insert, 3/8”
6	2	10330	Sleeve, 3/8”
7	2	10329	Tube Nut, 3/8”
8	1	10186	Nut, Hex, 10-32, Nylon
9	1	60002	#500 Air Check
10	1	10149	Float Rod, 30”
11	1	10700	Float Assembly, White
12	4	10150	Grommet

2310 SAFETY BRINE VALVE



Item No.	QTY	Part No.	Description
1	1	19645	Safety Brine Valve Body
2	1	19803	Safety Brine Valve Arm Assembly
3	1	19804	Stud, 10-24
4	1	19805	Nut, 10-24
5	1	19652-01	Poppet and Seal
6	1	19649	Flow Dispenser
7	1	11183	O-ring, 017
8	1	19647	Elbow, Safety Brine Valve
9	2	19625	Nut Assembly, 3/8
10	1	18312	Retaining Clip
11	1	60014	Safety BrineValve, 2310 (includes items 1-10)
12	2	10150	Grommet (included with item 13)
13	1	60068-30	Float Assembly, 2310, w/30” Rod
14	1	60002-34	Air Check, #500, 34” long

TROUBLESHOOTING

Problem	Cause	Correction
Water conditioner fails to regenerate.	Electrical service to unit has been interrupted	Assure permanent electrical service (check fuse, plug, pull chain, or switch)
	Timer is defective.	Replace timer.
	Power failure.	Reset time of day.
Hard water.	By-pass valve is open.	Close by-pass valve.
	No salt is in brine tank.	Add salt to brine tank and maintain salt level above water level.
	Injector screen plugged.	Clean injector screen.
		control if plugged.
	Hot water tank hardness.	required.
	Leak at distributor tube.	Make sure distributor tube is not cracked. Check O-ring and tube pilot.
	Internal valve leak.	Replace seals and spacers and/or piston.
Unit used too much salt.	Improper salt setting.	Check salt usage and salt setting.
	Excessive water in brine tank.	See "Excessive water in brine tank".
Loss of water pressure.	Iron buildup in line to water conditioner.	Clean line to water conditioner.
	Iron buildup in water conditioner.	Clean control and add mineral cleaner to mineral bed. Increase frequency of regeneration.
	Inlet of control plugged due to foreign material broken loose from pipes by recent work done on plumbing system.	Remove piston and clean control.
Loss of mineral through drain line.	Air in water system.	Assure that well system has proper air eliminator control. Check for dry well condition.
		Check for proper drain rate.
Iron in conditioned water.	Fouled mineral bed.	Increase frequency of regeneration. Increase backwash time.
Excessive water in brine tank.		
	Plugged injector system.	Clean injector and screen.
	Timer not cycling.	Replace timer.
	Foreign material in brine valve.	Replace brine valve seat and clean valve.
Softener fails to draw brine.		
	Injector is plugged.	Clean injector
	Injector screen plugged.	Clean screen.
	Line pressure is too low.	Increase line pressure to 20 psi
	Internal control leak	Change seals, spacers, and piston assembly.
	Service adapter did not cycle.	Check drive motor and switches.
Control cycles continuously.	Misadjusted, broken, or shorted switch.	Determine if switch or timer is faulty and replace it, or replace complete power head.
	Valve is not programming correctly.	Check timer program and positioning of control. Replace power head assembly if not positioning properly.
	Foreign material in control.	Remove power head assembly and inspect bore. Remove foreign material and check control in various regeneration positions.
	Internal control leak.	Replace seals and piston assembly.

TROUBLESHOOTING

Error Codes

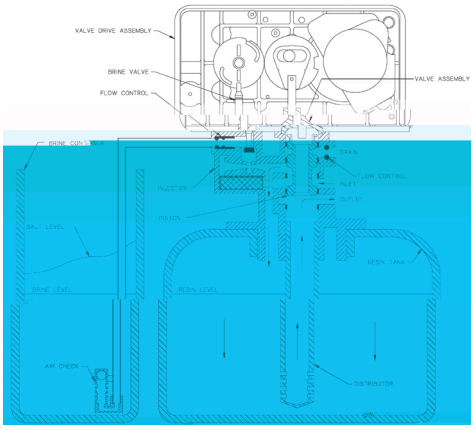
NOTE: Error codes appear on the In Service display.

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. meter is functioning properly. system capacity has been selected, that the day override is set properly, Week system, verify that at least one day is set ON. Correct the settings as necessary.
3	Memory Error	Control board memory failure	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.

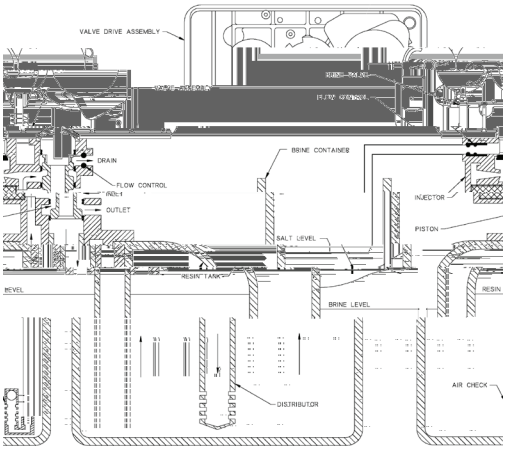
WATER CONDITIONER FLOW DIAGRAMS

Single Backwash Positions Black Cycle Cam (Part Number 17438)	Double Backwash Positions Blue Cycle Cam (Part Number 40609)
Service Position	Service Position
1. Backwash Position	1. First Backwash Position
2. Brine/Slow Rinse Positon	2. Brine/Slow Rinse Positon
3. Rapid Rinse Position	3. Second Backwash Position
4. Brine Tank Fill Position	4. Rapid Rinse Position
Service Postion	5. Brine Tank Fill Position
	Service Postion

Service Position

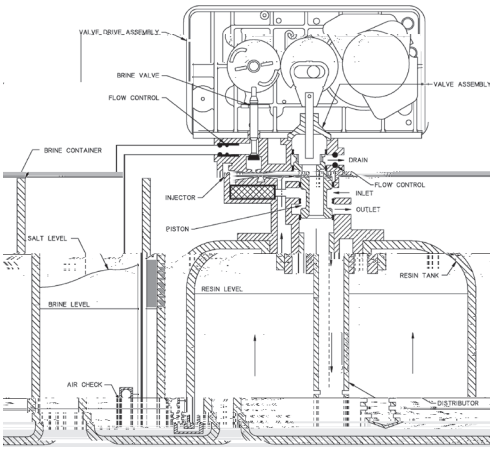


Backwash Position

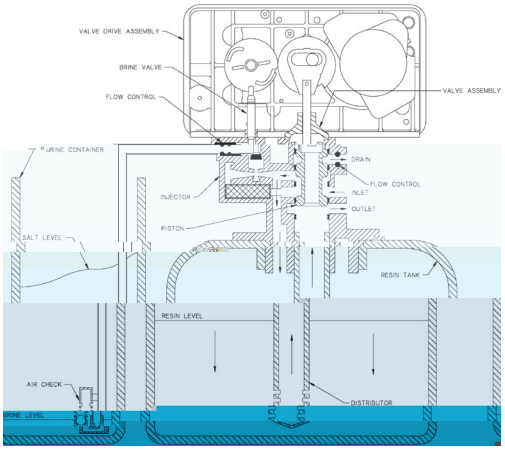


Brine/Slow Rinse Position

Second Backwash Position (Double Backwash Units Only)

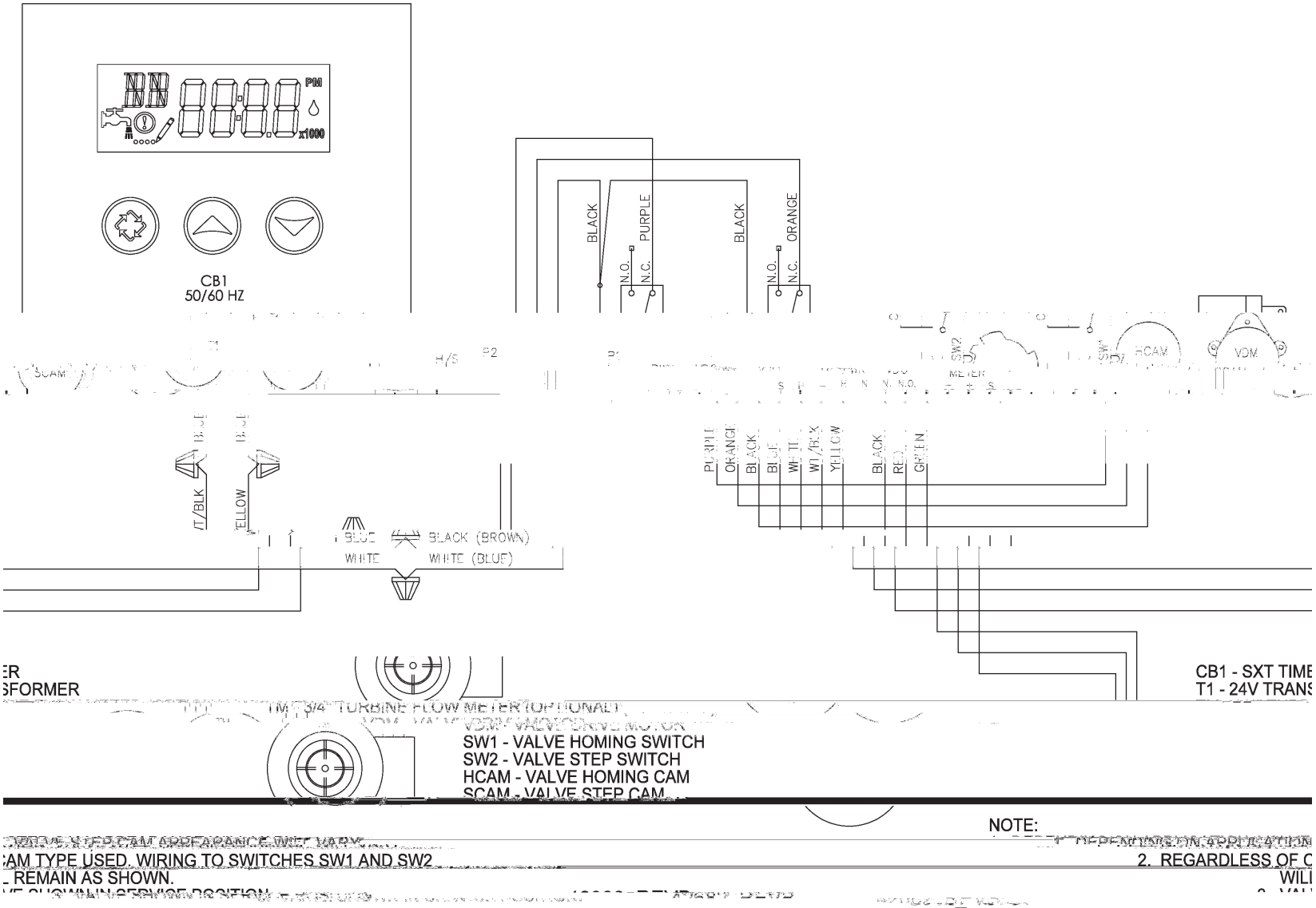


Rapid Rinse



Brine Tank Fill Position

WIRING DIAGRAM



SERVICE INSTRUCTIONS

Replacing Brine Valve, Injectors and Screen

1. Turn off water supply to conditioner:
   If the conditioner installation has a “three valve” bypass

   the valves at the conditioner inlet and outlet.
   If the conditioner has an integral bypass valve, put it in the Bypass position.
   If there is only a shut-off valve near the conditioner inlet, close it.
2. Relieve water pressure in the conditioner by stepping the control into the Backwash position momentarily. Return the control to the In Service position.
3. Unplug electrical cord from outlet.
4. Disconnect brine tube and drain line connections at the injector body.
5. Remove the two injector body mounting screws. The injector and brine module can now be removed from the control valve. Remove and discard brine body O-rings.

Brine Valve Replacement

1. Pull brine valve from injector body. Also remove and discard O-ring at bottom of brine valve hole.
2. Apply silicone lubricant to new O-ring and reinstall at bottom of brine valve hole.
3. Apply silicone lubricant to O-ring on new valve assembly and press into brine valve hole. Be sure shoulder on

Injectors/Screen Replacement

1. Remove injector cap and screen, discard O-ring. Unscrew injector nozzle and throat from injector body.
2. Screw in new injector throat and nozzle, be sure they are sealed tightly. Install a new screen.
3. Apply silicone lubricant to new O-ring and install around oval extension on injector cap.
4. Apply silicone lubricant to three new O-rings and install over three bosses on injector body.
5. Insert screws thorough injector cap and injector. Place this assembly thorough hole in timer housing and into mating holes in the valve body. Tighten screws.
6. Reconnect brine tube and drain line.
7. Return bypass or inlet valve to normal In Service position. Water pressure automatically builds in the conditioner

   NOTE: Be sure to shut off any bypass line.
8. Check for leaks at all seal areas. Check drain seal with the control in the Backwash position.
9. Plug electrical cord into outlet.
10. Set Time Of Day and cycle the control valve manually to assure proper function. Make sure control valve is returned to the In Service position.
11. Be sure there is enough salt in the brine tank.
12. Start regeneration cycle manually if water is hard.

Timer Replacement

To replace timer refer to Replacing Brine Valve, Injectors and Screen, steps 1–3.

1. Remove the control valve back cover. Remove the control valve front cover. Disconnect the meter dome signal wire from the front cover and feed it back through the control.
2. Remove screw and washer at drive yoke. Remove timer mounting screws. The entire timer assembly then lifts off easily.
3. Put new timer on top of valve. Be sure drive pin on main gear engages slot in drive yoke.
4. Replace timer mounting screws. Replace screw and washer at drive yoke. Replace meter signal wire.
5. Return bypass or inlet valve to normal In Service position. Water pressure automatically builds in the conditioner.

   NOTE: Be sure to shut off any bypass line.
6. Replace the control valve back cover.
7. Follow Injectors/Screen Replacement, steps 9–12.

Piston Assembly Replacement

To replace piston assembly refer to Replacing Brine Valve, Injectors and Screen, steps 1–3.

1. Remove the control valve back cover. Remove the control valve front cover. Disconnect the meter dome signal wire from the front cover and feed it back through the control.
2. Remove screw and washer at drive yoke. Remove timer mounting screws. The entire timer assembly will now lift off easily. Remove end plug retainer plate.
3. Pull upward on end of piston yoke until assembly is out of valve.
4. Inspect the inside of the valve to make sure that all spacers and seals are in place, and that there is no foreign matter that would interfere with the valve operation.
5. Take new piston assembly as furnished and push piston into valve by means of the end plug. Twist yoke carefully in a clockwise direction to properly align it with drive gear. Replace end plug retainer plate.
6. Place timer on top of valve. Be sure drive pin on main gear engages slot in drive yoke.
7. Replace timer mounting screws. Replace screw and washer at drive yoke.
8. Return bypass or inlet valve to normal In Service position. Water pressure automatically builds in the conditioner

   NOTE: Be sure to shut off any bypass line.
9. Replace the control valve back cover.
10. Follow Injectors/Screen Replacement, steps 9–12.

SERVICE INSTRUCTIONS

Seal and Spacer Replacement

To replace seals and spacers, refer to Replacing Brine Valve, Injectors and Screen, steps 1–3.

1. Remove the control valve back cover. Remove the control valve front cover. Disconnect the meter dome signal wire from the front cover and feed it back through the control.
2. Remove screw and washer at drive yoke. Remove timer mounting screws. The entire timer assembly will now lift off easily. Remove end plug retainer plate.
3. Pull upward on end of piston rod yoke until assembly is out of valve. Remove and replace seals and spacers.
4. Take piston assembly and push piston into valve by means of the end plug. Twist yoke carefully in a clockwise direction to properly align it with drive gear. Replace end plug retainer plate.
5. Place timer on top of valve. Be sure drive pin on main gear engages slot in drive yoke.
6. Replace timer mounting screws. Replace screw and washer at drive yoke.
7. Return bypass or inlet valve to normal In Service position. Water pressure automatically builds in the conditioner.

   NOTE: Be sure to shut off any bypass line.
8. Replace the control valve back cover.
9. Follow Injectors/Screen Replacement, steps 9–12.

Meter Replacement

To replace meter refer to Replacing Brine Valve, Injectors and Screen, steps 1–3.

1. Remove two screws and clips at bypass valve or yoke. Pull resin tank away from plumbing connections.
2. Pull meter module out of control valve.
3. Remove signal wire from meter module, (snap tab on end opposite wire cable).
4. Apply silicone lubricant to four new O-rings and assemble to four ports on new meter module.
5. Install signal wire into new meter module.
6. Assemble meter to control valve. Note, meter portion of module must be assembled at valve outlet.
7. Push resin tank back to the plumbing connections and engage meter ports with bypass valve or yoke.
8. Attach two clips and screws at bypass valve or yoke. Be

9. Return bypass or inlet valve to normal In Service position. Water pressure automatically builds in the conditioner.

   NOTE: Be sure to shut off any bypass line.
10. Check for leaks at all seal areas.
11. Follow Injectors/Screen Replacement, steps 9–12.

SERVICE ASSEMBLIES

Air Check
60002-34 .....Air Check #500 34”

Brine Line Flow Controls
60022-12 .....BLFC .125 gpm
60022-25 .....BLFC .25 gpm
60022-50 .....BLFC .50 gpm
60022-100 .....BLFC 1.0 gpm

Brine Line Flow Control Washers
17307.....Washer Flow .125 gpm
12094.....Washer Flow .25 gpm
12095.....Washer Flow .50 gpm
12097.....Washer Flow 1.0 gpm

Brine Valve Assembly
60032.....Brine Valve

Bypasses
60040.....Bypass, 3/4”, Brass
60040NP.....Bypass, 3/4”, Nickel
60041.....Bypass, 1”, Brass
60041NP.....Bypass, 1”, Nickel
60049.....Bypass, Plastic, 3/4”

Drain Line Flow Control Washers
19151.....Washer Flow 1.0 gpm
12085.....Washer Flow 1.2 gpm
12086.....Washer Flow 1.5 gpm
12087.....Washer Flow 2.0 gpm
12088.....Washer Flow 2.4 gpm
12089.....Washer Flow 3.0 gpm
12090.....Washer Flow 3.5 gpm
12091.....Washer Flow 4.0 gpm
12092.....Washer Flow 5.0 gpm

Floats
60068-30 .....Float Assy 2310 w/30” Rod
60028-30 .....Float Assy 2300 30” White

Front Panels
61672-0201 .....
Square, Black
61673-0201 .....
Curved, Black

Injector
.....Injector, Module Assembly (Specify Injector Number, DLFC Size, BLFC Size)

Injector	#	DLFC	#	BLFC	#
Red #0	00	Blank	0	Blank	0
White #1	01	1.2	1	0.25	1
Blue #2	02	1.5	2	0.50	2
Yellow #3	03	2.0	3	1.00	3
Green #4	04	2.4	4		
		3.0	5		
		3.5	6		
		4.0	7		
		5.0	8		
		7.0	9		

Meter
60626.....