AmeriWater
The Water Purification Specialists

Dealkalizers

Fleck Model 7000 SXT Series

Operation and Service Manual

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PN: 98-0110A

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1.0 INTRODUCTION & WARNINGS

Congratulations on your decision to use AmeriWater Healthcare Water Purification Equipment! Federal law restricts this device to sale by or on the order of a physician for use as a water purification device for hemodialysis.

Your Water Purification Equipment was thoroughly tested and in excellent condition when it was shipped to you. However, because damage during shipment is possible, please unpack and carefully inspect as soon as you receive it. Please notify AmeriWater immediately if any problems or shipping damage are identified.

Please read the Operations Manual before using the system. Contact AmeriWater Customer Service with any questions at 1-800-535-5585 Monday through Friday 8:00 a.m. to 5:00 p.m. eastern standard time. For after hours emergencies call 1-800-535-5585 and follow the instructions on the recorded message. Our on-call technician will return your call as soon as possible.

NOTE: This entire Operations Manual should be read before operating or servicing the device. This Operations Manual should then be kept near the device and used as a reference and troubleshooting guide**.**

WARNING: The selection of water treatment equipment for dialysis and the maintenance of the equipment following its installation is the responsibility of the dialysis physician. The product water should be tested periodically to verify that all equipment is operating within specifications.

WARNING: *DO NOT* operate the water purification system without properly functioning carbon filtration! Suspend dialysis treatments immediately if chlorine or chloramines level after the polisher tank exceeds 0.1 mg/L!

WARNING: Dealkalizers are intended to be used as pretreatment for reverse osmosis or deionization; and are not meant to be used as the primary means of water purification.

NOTE: Dealkalizer tanks that are less than 18” in diameter are loaded with media at the factory. Tanks that have a diameter of 18” and larger must be loaded onsite during installation. Reference Section 8.0 for loading diagrams.

WARNING: No person should attempt to operate or service the system without prior authorization, instruction, and training from AmeriWater and/or your medical facility director!

2.0 Fleck 7000 SXT System Specifications

2.1 Series 7000 SXT Dealkalizer

SERIES 7000 SXT FLECK DEALKALIZER							
Model Number	**Grain** Capacity**	**Max* Flow Rate**	**Resin Tank Size in Inches**	**Brine Tank Size in Inches**	**Brine Tank Capacity in Lbs.**	**Shipping Weight in Lbs.**	**Media Installed**
009515	13,500	4.5	10 x 54	18 x 40	388	113	Yes
009516	22,500	7.5	14 x 47	18 x 40	388	175	Yes
009517	31,500	10.5	14 x 65	24 x 50	835	279	Yes
009518	40,500	13.5	16 x 65	24 x 50	835	378	Yes
009519	49,500	16.5	18 x 65	24 x 50	835	442	No
* Max flow based on 3 GPM per cubic foot. ** Capacity depends on water analysis. Contact AmeriWater.							

HEADERS	
Part Number	**Description**
009591	1" Header By-Pass Assy.
009592	1 1/4" Header By-Pass Assy.
009593	3/4" Header By-Pass Assy.

3.0 Series 7000 SXT Dealkalizer Operation Summary

3.1 DESCRIPTION

The Dealkalizer reduces the alkalinity in the feed water present as bicarbonate, carbonate, or hydroxide to prevent high pH water from interfering with the performance of the carbon filtration and the reverse osmosis system.

3.2 HOW IT WORKS:

Dealkalizers are basically anion water softeners (standard softeners use cation resin rather than anion resin). The Dealkalizer reduces the alkalinity of the water through an ion exchange process. The water passes over resin beads charged with chloride ions. The resin beads attract the bicarbonate, carbonate, and hydroxide ions in the water and exchange them with chloride ions. The supply of chloride ions is progressively depleted until reaching a state of exhaustion. Regeneration of the dealkalizer replenishes the supply of chloride ions and eliminates the previously removed bicarbonate, carbonate, and hydroxide ions.

3.3 MONITORING:

1. Verify at the beginning of each day that the control head timer is set to the correct time of day and record that this verification was done. This prevents inadvertent regeneration during clinical operation, which would cause the RO to shut down via the interlock mechanism.

2. Test and record the pH level of the water at the dealkalizer inlet and outlet to ensure that the pH level is lower at outlet. This testing must be done at least once per day at the end of the treatment day.

3. Monitor the brine tank daily to ensure that the salt level fills at least half of the tank. Salt added to the brine tank must be clean pellet type, cube, or solar salt only. Do not use rock salt.

4. High pH results at the dealkalizer outlet may indicate a lack of salt in the brine tank resulting in insufficient regeneration, dealkalizer not going into or exiting regeneration, a degeneration in the chemical properties of the resin, or an open bypass valve. Notify the medical director if high pH results are obtained at the dealkalizer outlet.

4.0 Fleck 7000 SXT System Installation

4.1 Installation Requirements

Water Pressure

A minimum 20 pounds per square inch of inlet water pressure, is required for the regeneration valve to effectively operate .

Electrical Facilities

An uninterrupted alternating current(A/C) supply is required. Make sure:

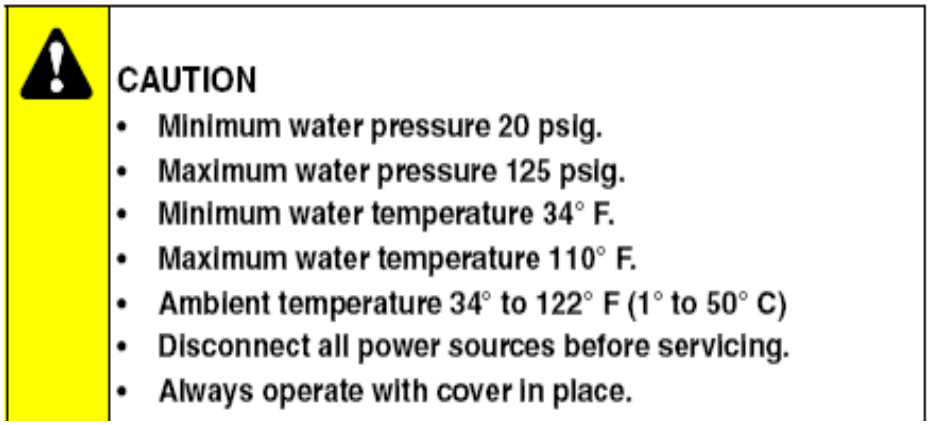
- Voltage supply is compatible with unit before installation.
- Current supply is always hot and cannot be turned off with another switch.

Location of Dealkalizer

Locate the Dealkalizer close to a clean working drain after the water softener and prior to carbon tanks. Then, connect according to the local plumbing codes.

Bypass Valves

Always provide for installation of a bypass valve, if unit is not equipped with one.



Note: This product should be installed by qualified personnal.
Comply with all plumbing codes when installing this product.
Comply with all electrical codes when installing this product.

4.2 Installation Instructions

1. Pace the tank where you want to install the unit. Verify that the tank is level and on a firm base, and that the tank label and control face are visible.

    a) Always install devices as shown on the AmeriWater Piping and Instrumentation Drawing (P&ID) provided with the water purification system. Failure to do so may adulterate the marketing clearance on the device and void all AmeriWater warranties.

2. Connect all plumbing in accordance to your local plumbing codes. The dealkalizer should be installed using the appropriate AmeriWater Bypass Header. This allows the device to be bypassed for service. **The dealkalizer must be installed prior to the carbon filters.**

HEADERS	
Part Number	Description
009591	1” Header, By-Pass Assembly
009592	1¼” Header, By-Pass Assembly
009593	¾” Header, By-Pass Assembly

3. Place in the header in the BYPASS position.

    a) Turn on the main water supply.

    b) Open a sample port downstream and let the water run a few minutes or until the system is free of foreign material resulting from installation. Close the water tap when the water runs clean.

4. Make plumbing connections to the Fleck 7000 SXT valve.

5. Plug the Fleck 7000 SXT control valve into a 120-volt GFI receptacle.

6. Place the header in the SERVICE position and cycle the valve to the BACKWASH position. Let the water flow slowly into the mineral tank until the air is purged from the system.

7. Add water to the brine tank until the top of the air check is covered. Manually step the valve to the BRINE DRAW position, and allow the valve to draw water from the brine tank until it stops.

    NOTE: The air check will check at approximately the midpoint of the screened intake area.

    a) Manually step the valve to the BRINE REFILL position, and allow the valve to return to SERVICE automatically.

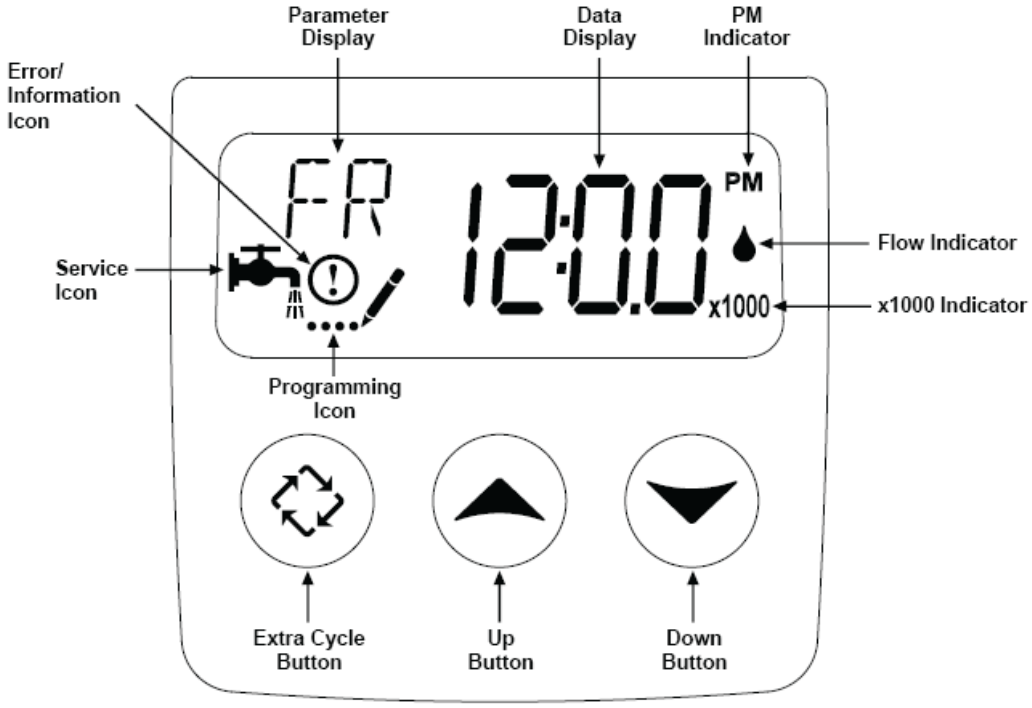
    b) With the valve in SERVICE, check that there is at least 1” of water above the grid in the brine tank, if used.

    c) Fill the brine tank with salt. Allow the control to run automatically. Setup is now complete.

8. Pre-Treatment lock-out must be set-up as shown in drawing in section 8.7.

5.0 Fleck 7000 SXT Operation and Programming

5.1 Fleck 7000 SXT Operation



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 a 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.

- 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. During regeneration, the user can force the control to advance to the next step immediately by pressing the Extra Cycle button. Do not press the Extra Cycle button until it has entered the next cycle.

- The parameter display shows 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.

5.2 Master Programming Options

Master Programming Options			
Abbreviation	**Parameter**	**Option Abbreviation**	**Options**
DF	Display Format	GAL	Gallons
		Ltr	Liters
		Cu	Cubic Meters
VT	Valve Type	St1b	Standard Downflow/Upflow Single Backwash (Not Used)
		St2b	Standard Downflow/Upflow Double Backwash (7000 Default)
		Fltr	Filter (7000 Default)
		UFbF	Upflow Brine First (Not Used)
		8500	TwinFlo100SXT (Not Used)
		Othr	Other (Not Used)
		dFFF	Downflow Fill First (Fixed Fill)
		IF	Air Injected Oxidizer, AIO Valve Only.
CT	Control Type	Fd	Meter (Flow) Delayed
		FI	Meter (Flow) Immediate
		tc	Time Clock
		dAY	Day of Week
NT	Number of Tanks	1	Single Tank System
		2	Two Tank System (Not Used)
TS	Tank in Service	U1	Tank 1 in Service
		U2	Tank 2 in Service (Not Shown)
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**

Master Programming Options			
CD	Current Day		The Current day of the week
FM	Flow Meter Type	t0.7	3/4" Turbine Meter
		P0.7	3/4" Paddle Wheel Meter
		t1.0	1" Turbine Meter
		P1.0	1" Paddle Wheel Meter
		t1.5	1.5" Turbine Meter (7000 Default)
		P1.5	1.5" Paddle Wheel Meter
		Gen	Generic or Other Meter
K	Meter Pulse Setting		Meter pulses per gallon for generic/other flow meter

CAUTION: Before entering Master Programming, please contact AmeriWater customer service.

5.3 Fleck 7000 SXT Master Programming

Fleck 7000 SXT 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 TD.

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.

Entering Master Programming Mode

Set the Time of Day display to 12:01PM. Press the Extra Cycle button(to exit setting Time of Day mode). Then press and hold the Up and Down buttons together until the programming icon replaces the service icon and the Display Format screen appears.

Exiting Master Programming Mode
Press the Extra Cycle button to accept the displated settings and cycle to the next parameter. Press the Extra Cycle button at the last parameter to save all settings and return to normal operation. The control will automatically disregard any programming changes and return to normal operation, if it is left in Master Programming mode for 5 minutes without any keypad input.

Queuing 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.

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 initiate a regeneration cycle on days that have been set to “on” at the specified time.

Control Operation During Regeneration
During regeneration, the control displays a special regeneration display. In this display, the Control shows the current 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 Programming Mode when valve is in service. While in Program Mode, the control continues to operate normally, keeping all displays up to date. Control programming is stored in memory permanently, eliminating the need for battery backup power.

Control Operation During A Power Failure
The SXT includes integral backup. In the event of a power failure, the control shifts into a power-saving mode. The display and motor shut down, but it continues to keep track of 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 a power failure. Press any button to stop the Time of Day from flashing.

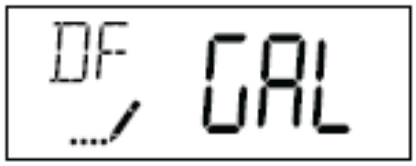
If power fails while the unit is in regeneration, the control will save the current valve position before it shuts down. When power is restored, the control will resume the regeneration cycle from the point where power failed. Note that if power fails during a regeneration cycle, the valve will remain in it's current position until power is restored.

The 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.

1. Display Format(Display Code DF)

This is the first screen that appears when entering Master Programming Mode. The Display Format setting specifies the unit of measure that will be used for volume and how the control will display the Time of Day. This option setting is identified by "DF" in the Upper left hand corner of the screen. There are three possible settings:

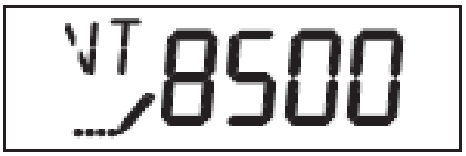
Display Format Setting	Unit of Volume	Time Display
GAL	U.S. Gallons	12-Hour AM/PM
Ltr	Liters	24-Hour
Cu	Cubic Meters	24-Hour



2. Valve Type(Display Code VT)

Press the Extra Cycle button. Use this display to set the Valve Type. The Valve Type setting specifies the type of cycle that the valve follows during regeneration.Note that some valve types require that the valve be built with specific subcomponants. Ensure the valve is configured properly before changing the Valve Type setting. This option setting is identified by "VT" in the upper left hand corner of the screen. There are 5 possible settings:

Abbreviation	Parameter
St1b	Standard Downflow/Upflow, Single Backwash
St2b	Standard Downflow/Upflow, Double Backwash
Fltr	Filter
UFbF	Upflow Brine First
8500	TwinFlo 100
Othr	Other



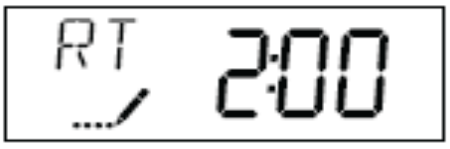
3. Control Type(Display Code CT)

Press the Extra Cycle button. Use this display to set the Control Type. This specifies how the control determines when to trigger a regeneration. This option setting is identified by “CT” in the upper left hand corner of the screen. There are four possible settings:

Meter Delayed:	Fd
Meter Immediate:	FI
Time Clock:	tc
Day of Week:	dAY

4. Regeneration Time(Display Code RT)

Press the Extra Cycle button. Use this display to set the Regeneration Time. This setting specifies the time of day the control will initiate a delayed, manually queued, or day override triggered regeneration. This option setting is identified by “RT” in the upper left hand corner of the screen. Use the Up and Down buttons to adjust the value as needed.



5. 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 for the system, and are identified by an abbreviation in the upper left hand corner of the screen. The abbreviations used are listed below. Each cycle step time can be set from 0 to 199 minutes, or “OFF”. Setting a cycle step to “OFF” will disable all of the following steps. Setting a cycle step 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 next parameter.

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

Range: 0-199 minutes

6. Day of Week Settings

Press the Extra Cycle button. Use this display to set the regeneration schedule for a system configured as a Day of Week control. The different days of the week are identified as 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 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”.

7. Current Day(Display Code CD)

Press the Extra Cycle button. Use this display to set the current day on systems configured as Day of Week controls. This setting is identified by “CD” in the upper left hand corner of the screen. Use the Up and Down button to select from Day 1 through Day 7.

8. Day Override (Display Code DO)

Press the Extra Cycle button. Use this display to set the Day Override. This setting specifies the maximum number of days between regeneration cycles. If the system is set to a timer-type control, the day override setting determines how often the system will regenerate. A metered system will regenerate regardless of usage if the days since last regeneration cycle equal the day override setting. Setting the day override value to “OFF” disables this function. This option setting is identified by “DO” in the upper left hand corner of the screen. Use the Up and Down buttons to adjust the value as needed.

Range: Off-99 days

5.4 AmeriWater Programming Tables For Fleck 7000 SXT

Table 7.3.1 Dealkalizers Fleck 7000 SXT

Model Number		**009515**	**009516**	**009517**	**009518**	**009519**
Tank Size (Dia x Height)		10 x 54	14 x 47	14 x 65	16 x 65	18 x 65
Cubic Feet Resin		1.5	2.5	3.5	4.5	5.5
Injector Size		#0	#2	#3	#4	#5
Refill Flow Control		0.25	0.25	0.25	0.25	0.5
Backwash Flow Control		1.85	2.4	2.4	3.5	4.5
Programming						
Step	**Description**					
1	US / Metric	GAL	GAL	GAL	GAL	GAL
2	Down Flow	St2B	St2B	St2B	St2B	St2B
3	Days of Week	dAY	dAY	dAY	dAY	dAY
4	Regen Time	Set	Set	Set	Set	Set
5	Current Day of Week	D2,D4,D6-ON	D2,D4,D6-ON	D2,D4,D6-ON	D2,D4,D6-ON	D2,D4,D6-ON
6	Regen Cycles					
	1 Backwash	10MIN	10MIN	10MIN	10MIN	10MIN
	2 BrineDraw	60MIN	60MIN	60MIN	60MIN	60MIN
	3 2nd Backwash	5MIN	5MIN	5MIN	5MIN	5MIN
	4 Fast Rinse	10MIN	10MIN	10MIN	10MIN	10MIN
	5 Brine Refill*	30MIN	50MIN	70MIN	90MIN	55MIN
7	**Regen Days of Week					
**Regen Days of Week, Set to Desired Days: D1 = Sun, D2 = Mon, D3 = Tue, D4 = Wed, D5 = Thurs, D6 = Fri, D7= Sat D1 = ON or OFF, D2 = ON or OFF, D3, D4, D5, D6, D7 – Set which days you want to regenerate, see note ** Example: Tues Backwash = D3-ON						
8	Electrical Frequency	LF 60	LF 60	LF 60	LF 60	LF 60
* 5 Lbs. per Cubic Foot.						

****<u>IMPORTANT NOTE:</u> AmeriWater's current day of week settings are factory set to Monday, Wednesday and Friday. If you are regenerating every 7 days, you will need to enter the master programming to set up for 7-day regeneration. Once in master programming mode, select "tc" – time clock. This puts controller into the time clock mode. Press the extra cycle button to accept "tc". Scroll through programming mode till you reach "DO"- Day Override appears. Press the Extra Cycle button. Use this display to set the Day Override. This setting specifies the maximum number of days between regeneration cycles. If the system is set to a timer-type control, the day override setting determines how often the system will regenerate. Select number of days between regeneration that you need in day override screen, this will tell the control how many days between regeneration cycles. Accept change by pressing the extra cycle button, and exit Master programming mode.**

6.0 Fleck 7000 Flow Diagrams

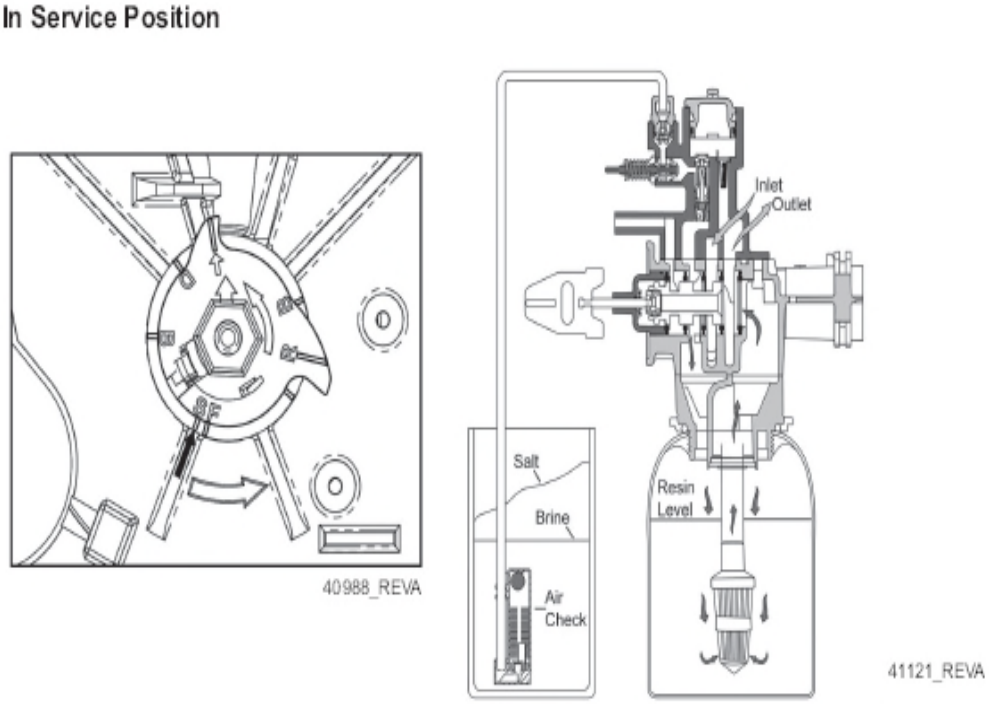


Figure 4.1 In Service Position

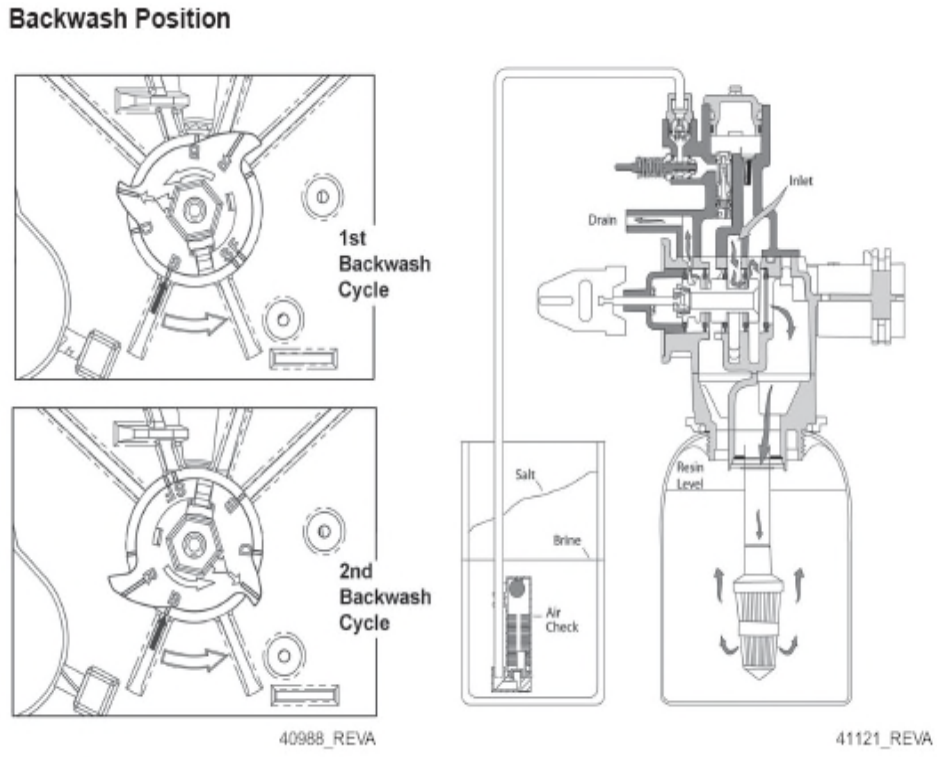


Figure 4.2 Backwash Position

Brine Position

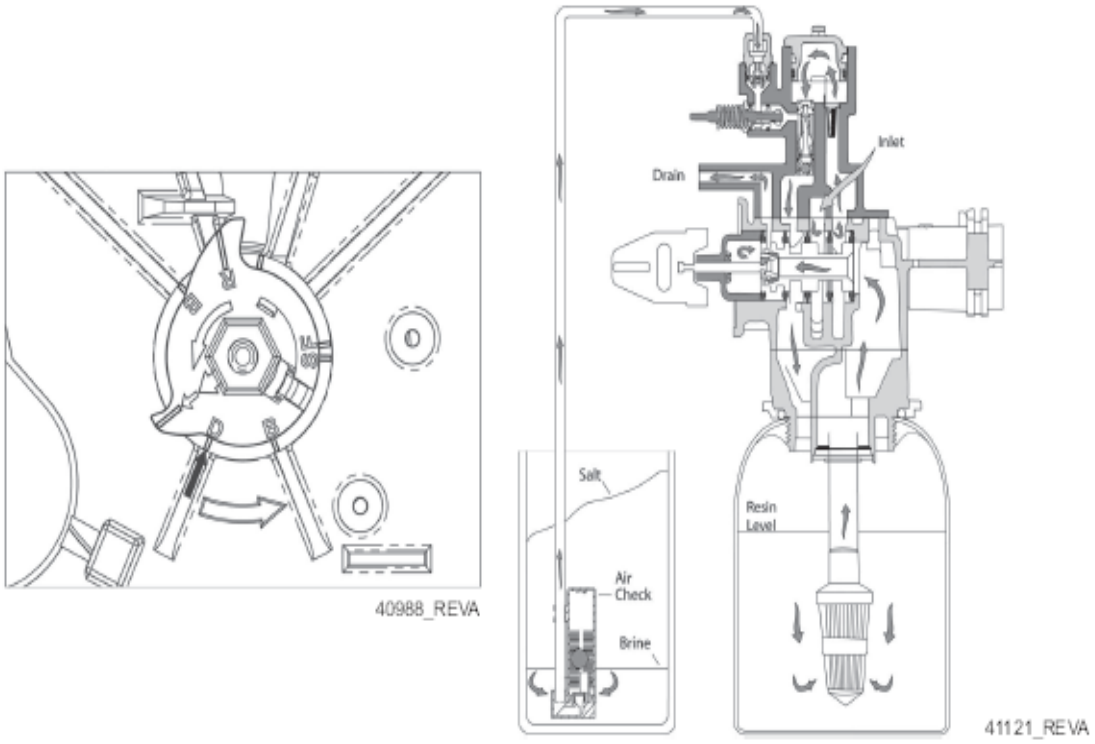


Figure 4.3 Brine Position

Slow Rinse Position

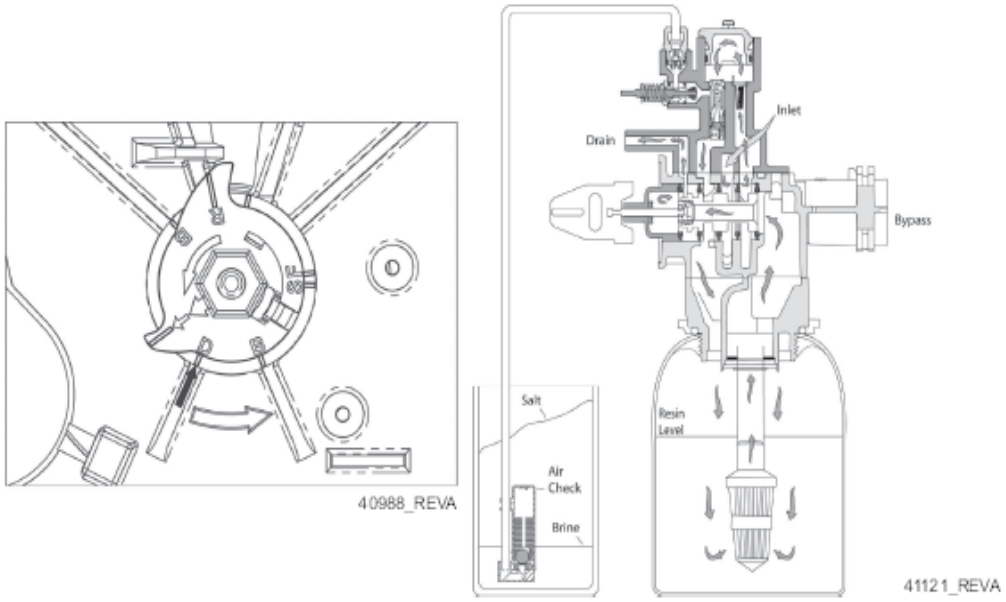


Figure 4.4 Slow Rinse Position

Rapid Rinse Position

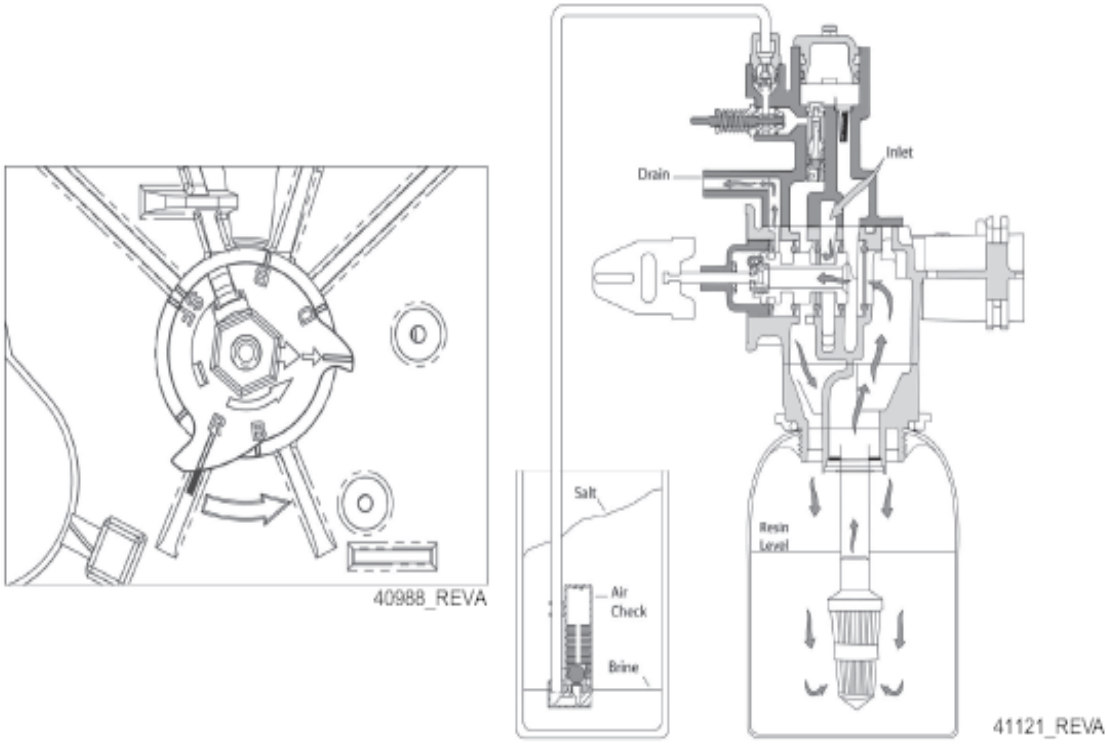


Figure 4.5 Rapid Rinse Position

Brine Tank Refill Position

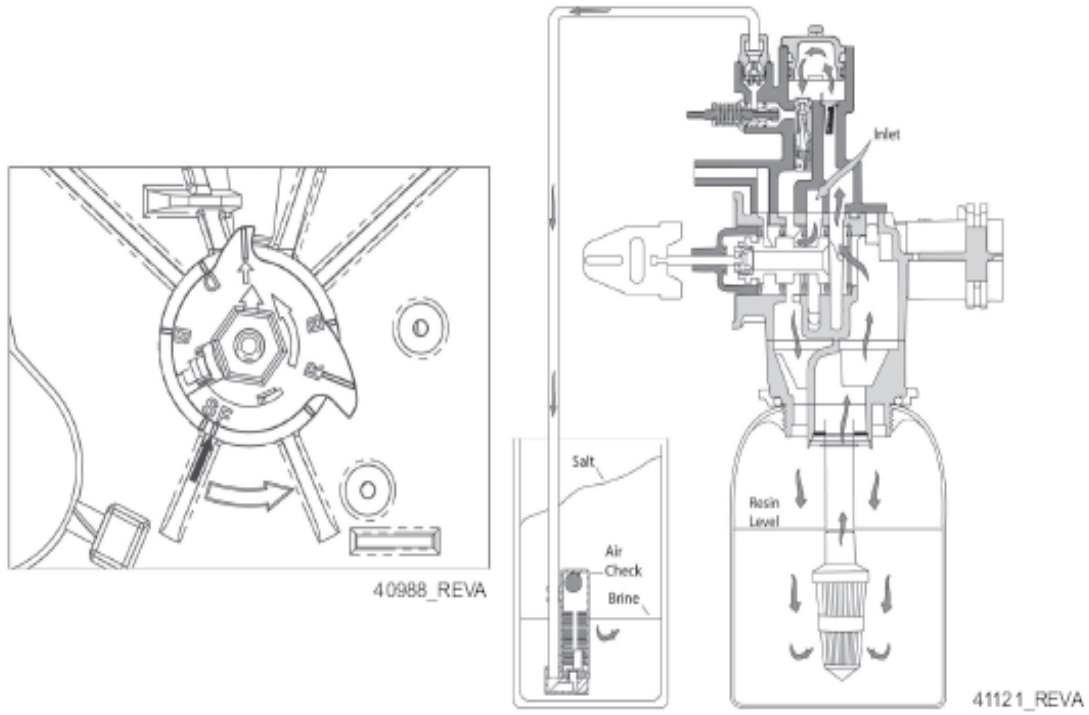


Figure 4.6 Brine Tank Refill Position

7.0 Troubleshooting

Problem	Cause	Correction
1. Water conditioner fails to regenerate.	A. Electrical service to unit has been interrupted.	A. Check fuse, plug, pull chain, or switch.
	B. Timer is defective	B. Replace timer
	C. Power failure	C. Reset time of day
2. Hard Water	A. By-pass valve is open.	A. Close by-pass valve.
	B. No salt is in brine tank.	B. Add salt to brine tank and maintain salt level above water level.
	C. Injector screen plugged.	C. Clean injector screen.
	D. Insufficient water flowing into brine tank.	D. Check brine tank fill time and clean brine line flow control, if plugged
	E. Hot water tank hardness.	E. Repeated flushings of the hot water tank is required.
	F. Leak at distributor tube.	F. Make sure distributor tube is not cracked. Check O-ring and tube pilot.
	G. Internal valve leak.	G. Replace seals and spacers and/or piston.
3. Unit used too much salt.	A. Improper salt setting.	A. Check salt usage and salt setting.
	B. Excessive water in brine tank.	B. See problem 7.
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 mineral cleaner to mineral bed. Increase frequency of regeneration.
	C. Inlet of control plugged due to foreign material broken loose from pipes by recent work done on plumbing system.	C. Remove piston and clean control.
5. Loss of mineral through drain line.	A. Air in water system	A. Check for dry well condition.
	B. Improperly sized drain line flow control.	B. Check for proper drain rate.

Problem	Cause	Correction
6.Iron in conditioned water.	A. Fouled mineral bed.	A. Check backwash, brine draw, and brine tank fill. Increase frequency of regeneration. Increase backwash time.
7. Excessive water in brine tank.	A. Plugged drain line flow control.	A. Check flow control.
	B. Plugged injector system.	B. Clean injector and screen.
	C. Timer not cycling.	C. Replace timer.
	D. Foreign material in brine valve.	D. Replace brine valve seat and clean valve.
	E. Foreign material in brine line flow control.	E. Clean brine line flow control.
8. Softener fails to draw brine.	A. Drain line flow control is plugged.	A. Clean drain line flow control.
	B. Injector is plugged.	B. Clean injector.
	C. Injector screen plugged.	C. Clean screen.
	D. Line pressure is too low.	D. Increase line pressure to 20psi.
	E. Internal control leak.	E. Change seals, spacers, and piston assembly.
	F. Service adapter did not cycle.	F. Check drive motor and switches.
9. Control cycles continuously.	A. Misadjusted, broken, or shorted switch.	A. Determine if switch or timer is faulty and replace it, or replace complete power head.
10. Drain flow continuously.	A. Valve is not programming correctly.	A. Check timer program and positioning of control. Replace power head assembly, if not positioning properly.
	B. Foreign material in control.	B. Remove power head assembly and inspect bore. Remove foreign material and check control in various regeneration positions.
	C. Internal control leak.	C. Replace seals and piston assembly.

Note: Error codes appear on the In Service Display.

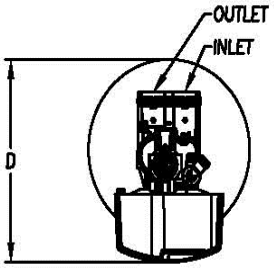
Error Code	Error Type	Cause	Reset and Recovery
0	Cam Sense Error	The valve drive took longer than 6 minutes to advance to next regeneration position.	Unplug the unit and examine the powerhead. Verify that all cams switches are connected to the circuit board and functioning properly. Verify that the motor 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 it's 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 cams 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 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. Check that at least one day is set "ON" for regeneration.
3	Memory Error	Control board memory failure.	Perform a Master Reset and reconfigure the system via Master Programming mode. After reconfiguring the system, set the valve through a manual regeneration. If the error re-occurs, unplug the unit and contact technical support.

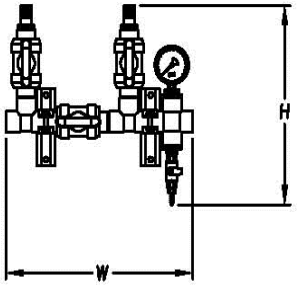
8.0 LOADING DIAGRAMS, PARTS LIST, AND REPAIR DIAGRAMS

8.1 Loading Diagrams

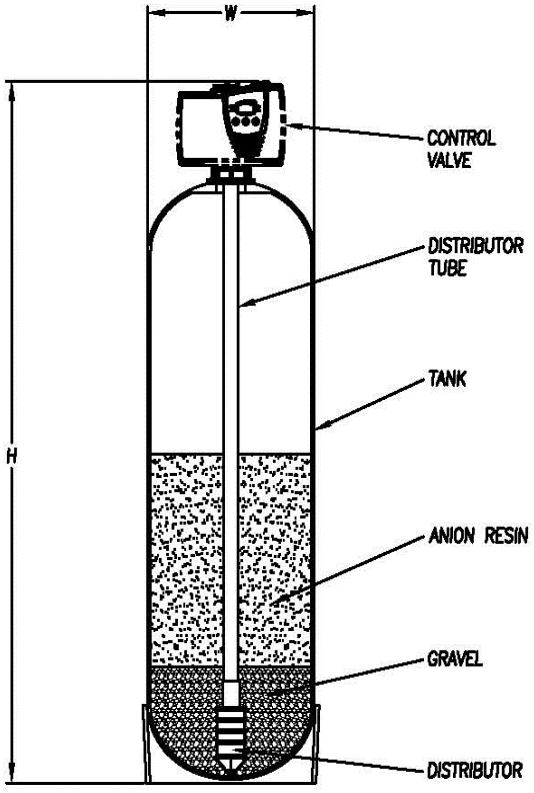
Note: Contact AmeriWater for loading diagrams for tanks with a diameter smaller than 18".

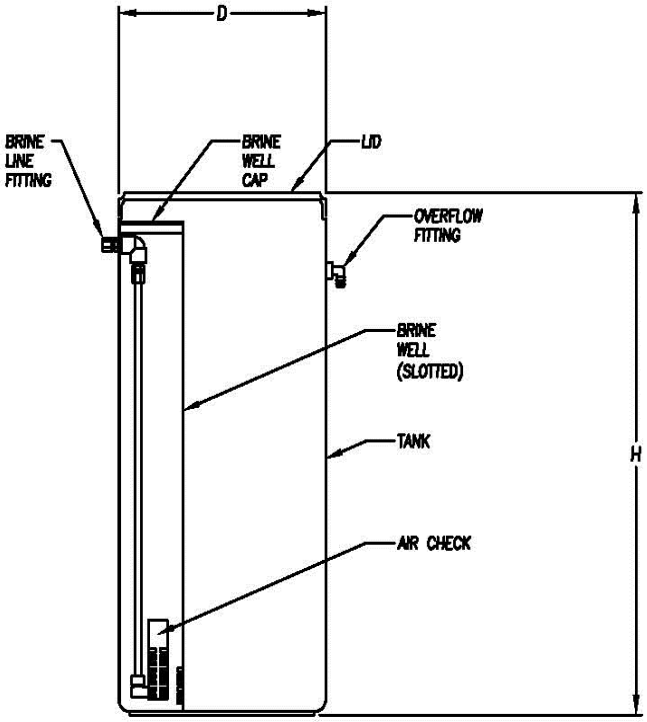
FLECK CONTROL POWER REQUIREMENT 115V 1PHASE <5AMP





BYPASS HEADERS		
MODEL	W x H	INLET/OUTLET
009591	17" x 16"	1.00" SOCKET
009592	21" x 19"	1.25" SOCKET
009593	14" x 19"	0.75" SOCKET



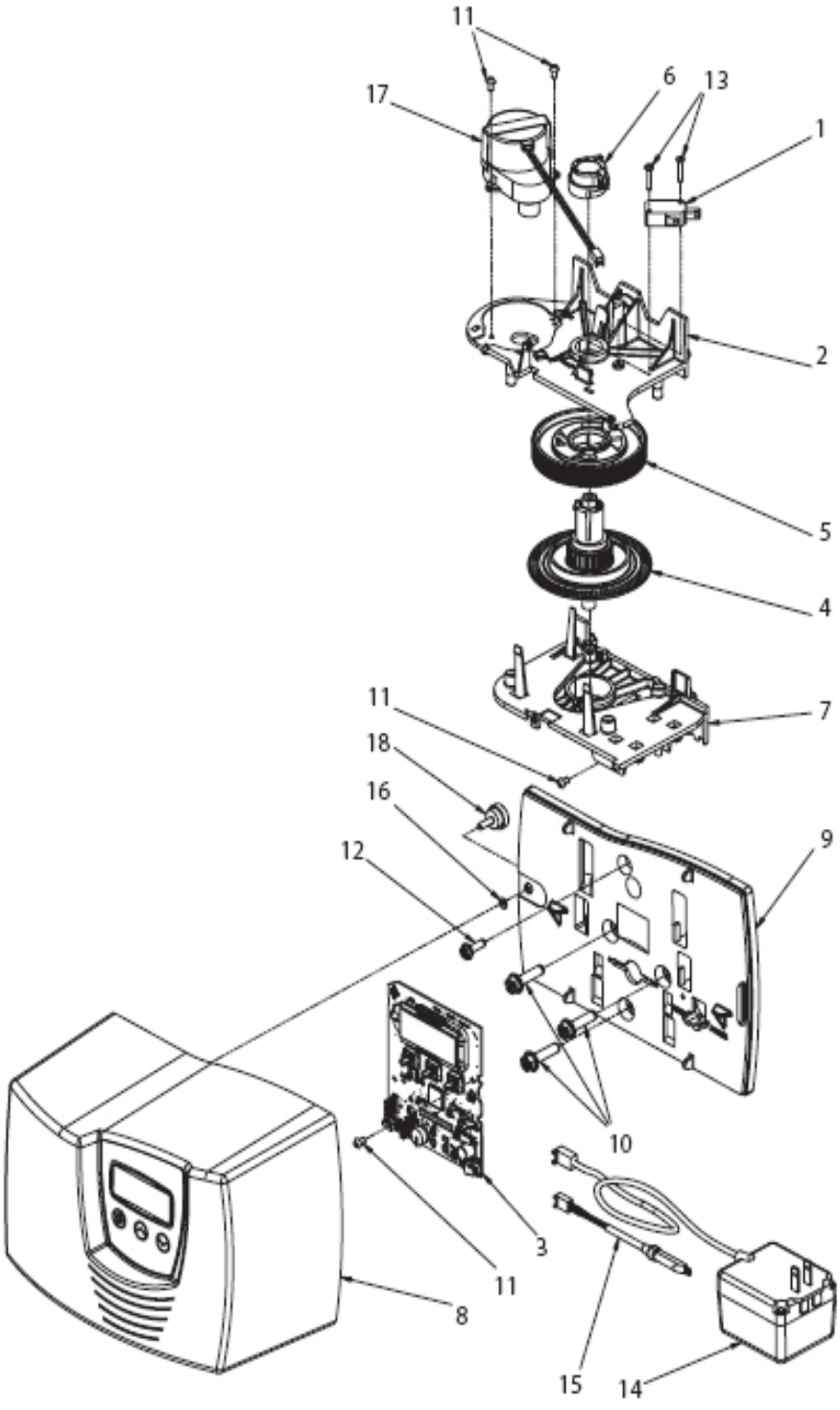


NOTE:
18" DIAMETER TANKS AND LARGER ARE FIELD LOADED.

TANK LOADING		
MODEL	ANION RESIN	GRAVEL 1/2"x1/4"
009515	1.5 CU.FT.	.50 CU.FT.
009516	2.5 CU.FT.	.50 CU.FT.
009517	3.5 CU.FT.	.50 CU.FT.
009518	4.5 CU.FT.	.50 CU.FT.
009519	5.5 CU.FT.	.75 CU.FT.

FLECK 7000SXT DEALKALIZERS		
MODEL	W x D x H	BRINE TANK D x H
009515	10" x 17" x 62"	18" x 40"
009516	14" x 17" x 55"	18" x 40"
009517	14" x 17" x 73"	18" x 40"
009518	16" x 17" x 73"	24" x 50"
009519	18" x 18" x 73"	24" x 50"

8.2 Power Head Assembly



BR61501-7000SXT

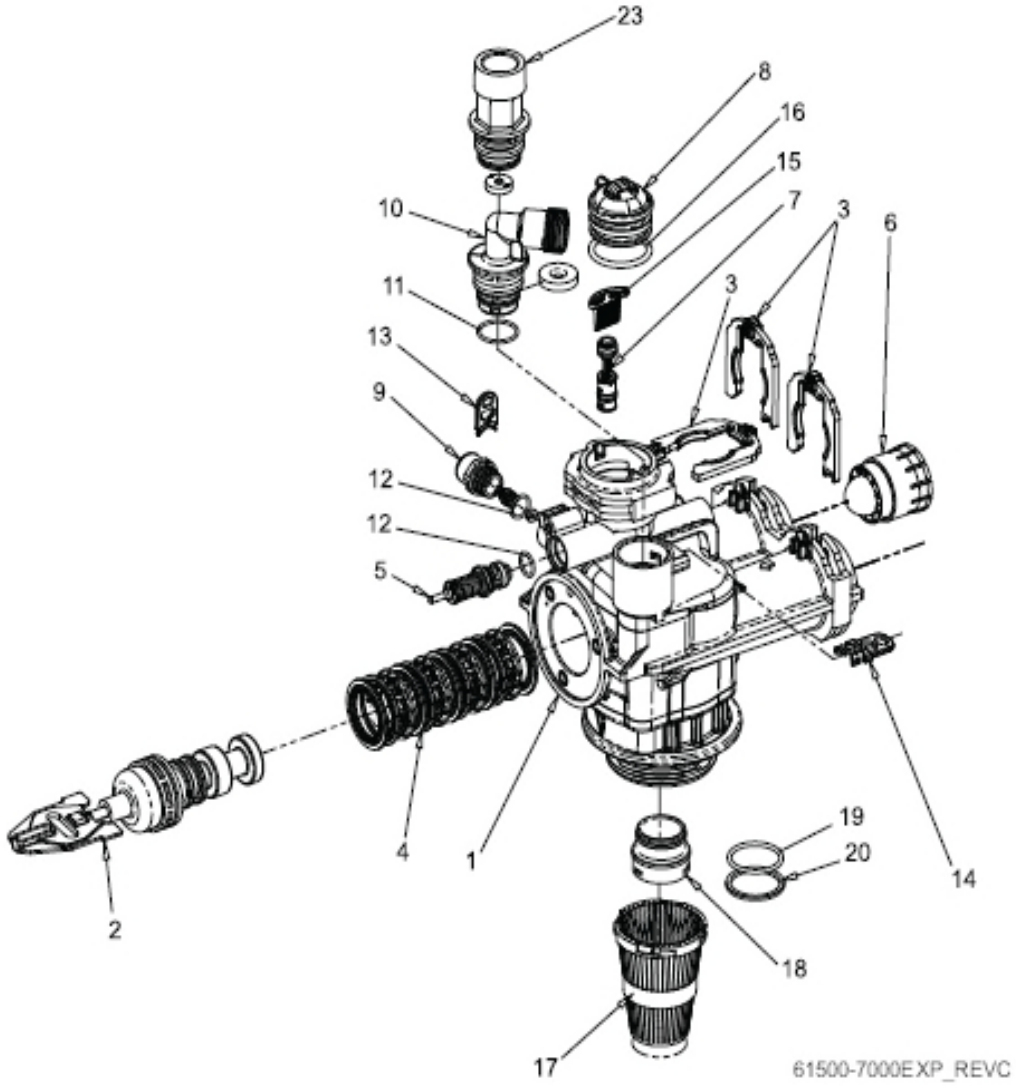
Power Head Assembly Parts List

Item No.	Quantity	Part No.	Description
1	1	10218	Switch,Micro
2	1	40978	Support, Upper Bearing,HF-35
3	1	40595	Circuit Board
4	1	40702	Shaft, Drive/Encoder, HF-35
5	1	40703	Gear, Main Drive
6	1	40704	Cam, Brin, Downflow, HF-35
7	1	40979	Plate, Lower Support, HF-35
8	1	61430	Cover Assy, HF-35
	1	40708-00	Cover, Grey, 7000
	1	18728	Nut, Tinnerman, U Type, 8-32
	1	19367	Screw, Designer Cover, Thumb
	1	40982	Label, Control Panel, 7000
	1	41122	O-ring,-007
9	1	40980	Back Plate, HF-35
10	3	40967	Screw, Sloted Hx Wshr Hd,1/4-20x1 LG
11	5	13602	Screw, Phil Rd Hd, 6-32 x 5/16
12	1	12473	Screw, Hx Wshr Hd, #10-24 x .625
13	2	11805	Screw, Rd Hd, 4-40 x 5/8 Type 1
14	1	40981	Transformer, US 24V, 9.6VA Transformer (24V) Receptable, 2 Circuit Molex Wire
15	2	19791-01	Meter Cable Assy, Turbine
16	1	41122	O-ring,-007
17	1	42349	Motor, 24V, 2rpm, 7000
18	1	19367	Screw, Designer Cover,Thumb

Not Shown

1	41091	Label, Blank Protective
1	42349	Pouch, Bubble Wrap
1	41086	Transformer, 230V/24V,European
1	40654	Carboard, Timer, Single
1	40960-03	Lable, UL Nameplate

8.3 Valve Assembly



Valve Assembly Parts List

Item No.	Quantity	Part No.	Description
1	1	61050	Valve Body Assy,7000,32mm Dist
2	1	61452-10	Piston Assy,7000,Soft,D/F 35gpm
		61453-10	Piston Assy,7000,Soft,D/F 28gpm
		61452-20	Piston Assy,7000,Filter, 35gpm
3	3	40576	Clip, H, Plastic, 7000
4	1	61438	Seal & Spacer Kit, 7000, DF
5	1	60016-01	Brine Valve Assembly, 7000, 560CD
6	1	40577	Turbine Meter Assembly, 7000
7	1	61XXX	Injector Assembly, 7000

Part No.	Injector No.
61454-000	#000
61454-00	#00
61454-0	#0
61454-1	#1
61454-2	#2
61454-3	#3
61454-4	#4
61454-5	#5

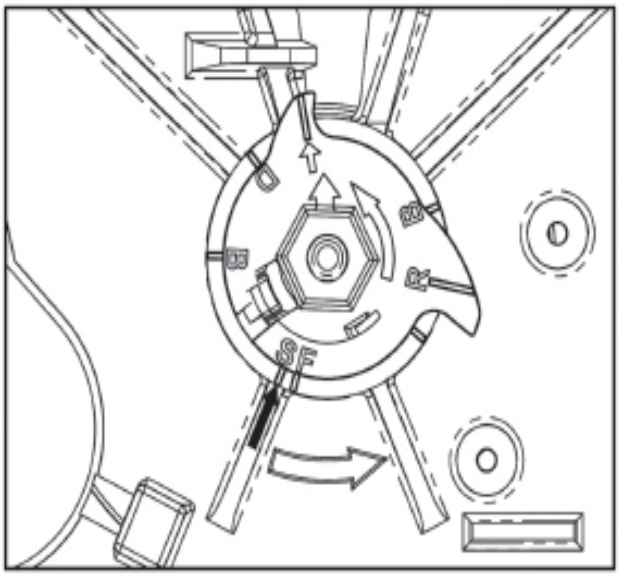
8	1	40556	Cap, Injector	
9	1	61XXX	BLFC Assemblies	

Part No.	BLFC Size	GPM
61450-00	3/8”	Blank
61450-12	3/8”	0.125
61450-25	3/8”	0.25
61450-50	3/8”	0.50
61450-100	3/8”	1.0
61451-00	1/2”	Blank
61451-12	1/2”	0.125
61451-25	1/2”	0.25
61451-50	1/2”	0.50
61451-100	1/2”	1.0

10	1	61XXX	DLFC Assemblies	
			Part No.	**DLFC Size**	**GPM**
			61455-00	3/4”	Blank
			61455-17	3/4”	1.7
			61455-20	3/4”	2.0
			61455-24	3/4”	2.4
			61455-30	3/4”	3.0
			61455-35	3/4”	3.5
			61455-40	3/4”	4.0
			61455-45	3/4”	4.5
			61455-50	3/4”	5.0
			61455-60	3/4”	6.0
			61455-70	3/4”	7.0
			61456-00	1”	Blank
			61456-8.0	1”	8.0
			61456-9.0	1”	9.0
			61456-10	1”	10.0
			61456-12	1”	12.0
			61456-15	1”	15.0
			61456-20	1”	20.0
			61456-25	1”	25.0
			61456-30	1”	0.0

Item No.	**Quantity**	**Part No.**	**Description**
11	1	13303-01	O-ring,-021, 560CD
12	2	13302-01	O-ring,-014, 560CD
13	1	40946	Clip, Brine Retaining
14	1	40945	Clip, Drain Retaining
15	1	40950	Screen, Injector, 7000
16	1	40951	O-RING,-220
17	1	18280	Collector, Top, 1” x .011, GRAY
18	1	61419	Kit, 1.05” Distributor, Adapter
19	1	19054	O-ring,-124
20	1	40538	Retainer, 32mm, O-ring Dist, 7000
23	1	61XXX	DLFC Kits
Not Shown			
		18569	Retainer Tank Seal
		40677	Tube, Distributor, 32mm
		40924	Distributor, 32mm
		40697-02	Collector, 32mm Bayonet
		12763-10	Stuffer Tool Assy, 7000
		18303	O-ring,-336, Top of Tank
Filter Valves			
		40947-01	Plug, Brine Valve, w/O-ring
		40990-01	Plug, Injector, w/O-ring

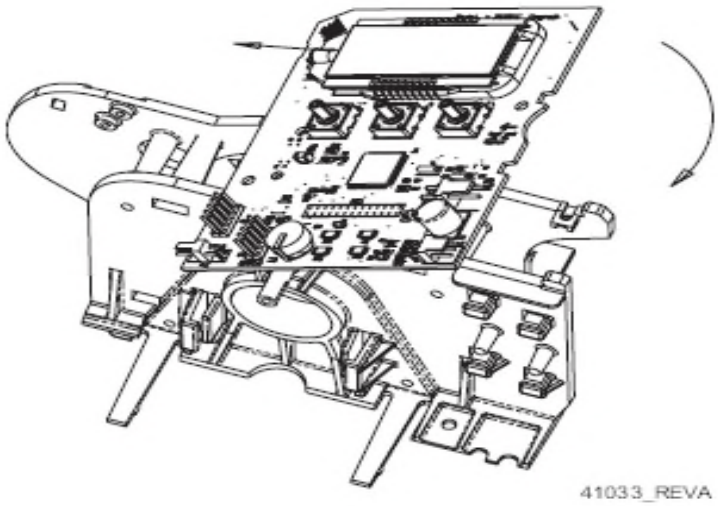
8.4 Removing Gear Box Assembly



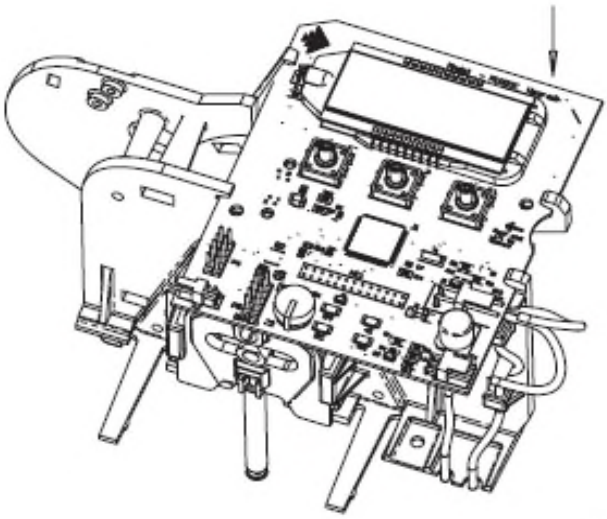
40988_REVA

1. Unplug the power source.
2. With 3/8” nut driver, turn the cycle cam counter-clockwise to the position shown in illustration above.
3. Slightly pull the two tabs outward and push the gearbox slightly upward to remove.
4. When returning valve to service after powerhead disassembly, manually step valve through regeneration using the Extra Cycle button, until valve is in service.

8.5 Inserting Circuit Board

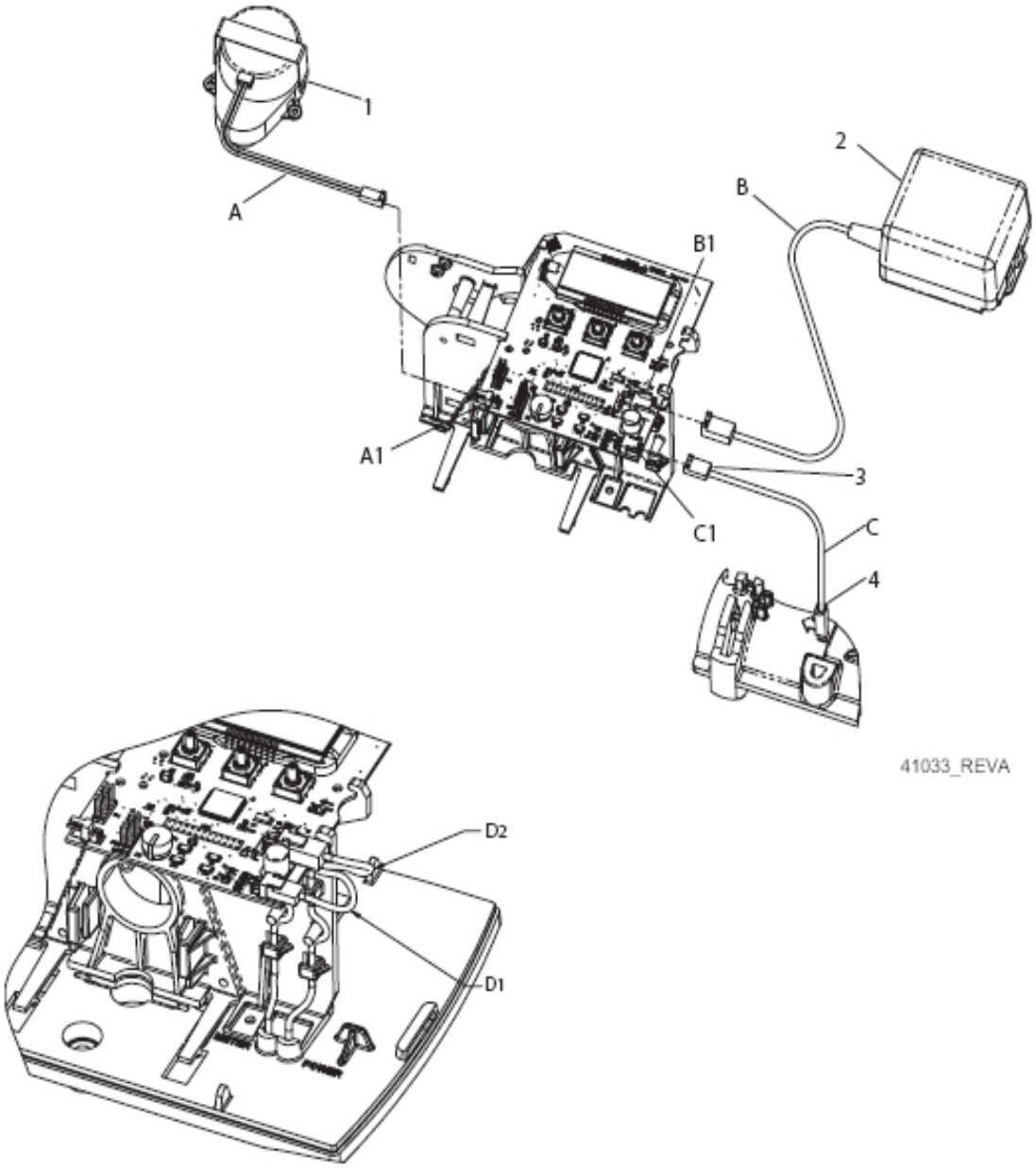


1. To insert the circuit board, align the notches on the left side of the board with the flexible finger on the power head. Apply pressure to the left, while rotating the board back.



2. When all the way down, snap the circuit board into place under the notches on the right.

8.6 Connecting The Circuit Board



After the circuit board is installed:
1. Connect the motor wires (A) to the motor connector (A1) on board.
2. Connect the transformer cable (B) to the transformer connector (B1)on board.
3. Connect the meter cable (C) to the meter connector (C1) on board.
4. Connect the meter cable sensor end to the opening on the valve body.
5. Thread meter cable (D1) and power wire (D2) along path shown in above illustration.

8.7 Pre-Treatment Lockout