PENTAIR

PRO ELITE™ PROFESSIONAL SERIES
PRO ELITE ANALYZER WATER TREATMENT SYSTEM BY PENTAIR
OPERATION MANUAL



TABLE OF CONTENTS

Performance Data Sheet . . . 3
How To Use This Manual . . . 4
Safety Information . . . 4
Valve Layout . . . 5
Analyzer Control Layout . . . 5
System Specifications 716 . . . 5
Location Selection . . . 6
Outdoor Locations . . . 6
System Features . . . 7
Equipment Installation . . . 8
Water Line and Bypass Connections . . . 11
Drain Line Connection . . . 12
Regenerant Line Connections . . . 12
Overflow Line Connection . . . 13
Electrical Connection . . . 13
System Operation . . . 14
Cycle Water Flows . . . 14
Camshaft Cycle Positions . . . 15
Valve Disc Location/Function . . . 15
Disinfection of Water Conditioning Systems . . . 16
Displays, Icons and Cursors . . . 17
Button Functions . . . 17
Programming Overview . . . 18
Analyzer Control Operation . . . 18
Level I Programming . . . 18
Level I Programming - Analyzer Conditioner . . . 19
Level II Programming – P Values . . . 20
Programming the Lockout Feature . . . 20
Level III Cycle Programming – C Values . . . 21
Level IV Viewing History - H Values . . . 22
Program Reset . . . 22
Placing 268 Water Conditioning System Into Operation (Fill Brine Tank Last) . . . 23
Placing 268r Water Conditioning System Into Operation (Fill Brine Tank First) . . . 24
The Water Conditioning System is Now Fully Operational . . . 25
Manual Regeneration Options . . . 25
Pro Elite Valve - Exploded View and Parts List . . . 26
Conditioner Tank and Regenerant Tank Assembly - Exploded View and Parts List . . . 28
Brine Well Assembly - Exploded View and Parts List . . . 30
Troubleshooting . . . 31

PERFORMANCE DATA SHEET

Pro Elite Analyzer Water Softener System Performance Data Sheet			
Model	**Pro Elite PE-26-01 Analyzer**	**Pro Elite PE-40-01 Analyzer**	**Pro Elite PE-60-01 Analyzer**
Rated Service Flow (gpm)	12.0	13.0	14.4
Pressure Drop at Rated Service Flow Rate (psi)	11	12	15
Rated Capacity (grains @ lb of salt)	15,122 @ 3.3 lbs 21,716 @ 9.0 lbs 27,641 @ 15.0 lbs	25,746 @ 4.95 lbs 36,972 @ 13.5 lbs 47,059 @ 22.5 lbs	36,102 @ 6.6 lbs 51,844 @ 18.0 lbs 65,988 @ 30.0 lbs
Rated Efficiency (grains/lb Salt @ lb of salt)	4,582 /lb. salt @ 3.3 lbs	5,201/lb. salt @ 4.95 lbs	5,470/lb. salt @ 6.6 lbs
Maximum FLow Rate During Regeneration (gpm)	5.5	5.5	5.5
10% Cross Linked Ion Exchange Resin (cu ft)	1.0	1.5	2.0
Tank Size	10" x 44"	12" x 48"	12" x 48"
Backwash - GPM	2.7	3.9	3.9
Rapid Rinse/Purge - GPM	5.5	5.5	5.5

Operating Pressure:20 -125 psi or 1.4 – 8.8 kg/Centimeter2, Operating Temperature: 34 - 100° F or 1.1 – 38° C
Acceptable Salt Type: Sodium Chloride – Pellet or solar salt water softeners

All Systems above tested at 35psi +/- 5 psi, pH of 7.5 +/- 0.5, Capacity Testing Flow Rate = 50% of the rated service flow rate for the various size systems.

These water softener systems have been tested by WQA and conform to NSF/ANSI 44 for specific performance claims as verified and substantiated by test data. The rated salt efficiencies above were also determined in accordance with NSF/ANSI 44 and are only valid at the salt dosage referenced above. An efficiency rated water softener is a demand initiated regeneration (DIR) softener which also complies with specific performance specifications intended to minimize the amount of regenerant brine and water used in its operation. Efficiency rated water softeners shall have a rated salt efficiency of not less that 3350 grains of total hardness exchanged per pound of salt (based on NaCl equivalency) (477 grams of total hardness exchanged per kilogram of salt), and shall not deliver more salt than its listed rating. The rated efficiency of the water softener, the salt dosage at that efficiency, the capacity at that salt dosage and that of the efficiency is only valid at the stated salt dosage. Efficiency is measured by a laboratory test described in NSF/ANSI 44. The test represents the maximum possible efficiency the system can achieve. Operational efficiency is the actual efficiency achieved after the system has been installed. It is typically less than the efficiency due to individual application factors including water hardness, water usage, and other contaminants that reduce the water softener's capacity. These systems are not intended to be used for treating water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. Refer to the system Installation and Service Manuals for set-up and programming instructions.

Contact your local dealer for parts and service. See your owner's manual for warrant information



Tested and Certified by WQA against NSF/ANSI Std. 44 & 372 for "lead free" compliance & CSA B483.1.

PENTAIR Residential Filtration, LLC
13845 Bishops Drive Suite 200
Brookfield, WI 53005
PHONE: (262) 238-4400

02/01/19

HOW TO USE THIS MANUAL

This installation manual is designed to guide the installer through the process of installing and starting water conditioning systems featuring Pro Elite equipment.

This manual is a reference and will not include every system installation situation. The person installing this equipment should have:

- Training in the Pro Elite Demand systems.
- Knowledge of water conditioning and how to determine proper control settings.
- Adequate plumbing skills and qualifications per local and state laws, codes, and ordinances.

Icons That Appear In This Manual



WARNING: Failure to follow this instruction can result in personal injury or damage to the equipment.

Note: Note: Helpful hint to simplify procedure.

SAFETY INFORMATION

- Observe all warnings that appear in this manual.
- Please review the entire Installation and Operation Manual before installing the water conditioning system.
- As with all plumbing projects, it is recommended that a trained professional water treatment dealer install the water conditioning system. Please follow all local plumbing codes for installing this water conditioning system.



WARNING: Excessive Weight Hazard. Use two or more people to move and install the conditioner. Failure to do so can result in injury (including back injury).

- System is not intended to be used for treating water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.
- This water conditioning system is to be used only for potable water.
- Inspect the water conditioning system for carrier shortage or shipping damage before beginning installation.
- Use only lead-free solder and flux, as required by federal and state codes, when installing soldered copper plumbing.
- Use caution when installing soldered metal piping near the water conditioning system. Heat can adversely affect the plastic control valve and bypass valve.
- All plastic connections should be hand tightened. plumber tape may be used on connections that do not use an O-ring seal. Do not use pipe dope type sealants on the valve body. **Do not use pliers or pipe wrenches**.
- Do not use petroleum-based lubricants such as Vaseline, oils, or hydrocarbon-based lubricants. Use only 100% silicone lubricants.
- Use only the power transformer supplied with this water conditioning system.
- All electrical connections must be completed according to local codes.
- The power outlet must be grounded.

Install an appropriate grounding strap across the inlet and outlet piping of the water conditioning system to ensure that a proper ground is maintained.



WARNING: Dry location use only, unless used with a Listed Class 2 Power Supply suitable for outdoor use.

- To disconnect power, unplug the AC adapter from its power source.
- Observe drain line requirements. The drain line must be a minimum of 1/2-inch diameter. Use 3/4-inch pipe if the backwash flow rate is greater than 5 gpm (19 Lpm) or the pipe length is greater than 20 feet (6 m).
- Do not support the weight of the system on the control valve fittings, plumbing, or the bypass.
- Do not allow this water conditioning system to freeze. Damage from freezing will void this water conditioning system's warranty.
- Operating ambient temperature: 34° to 120°F (1° to 49°C).
- Operating water temperature: 35° to 100°F (1.7° to 38°C).
- Operating water pressure range : 20 to 125 psi (1.38 to 8.62 bar). In Canada the acceptable operating water pressure range is 20 to 100 psi (1.38 to 6.89 bar).

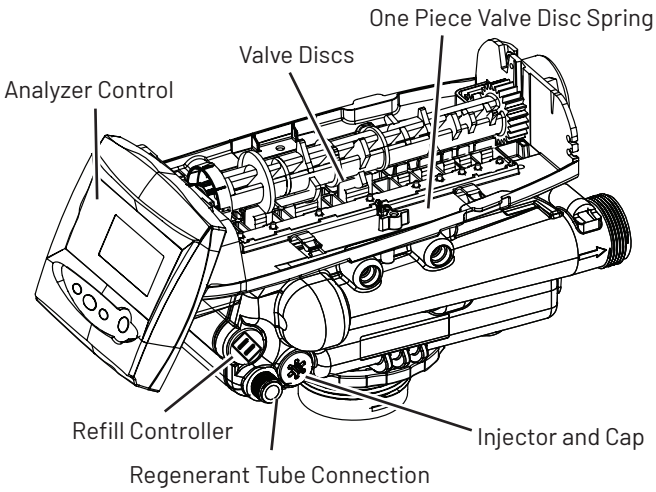


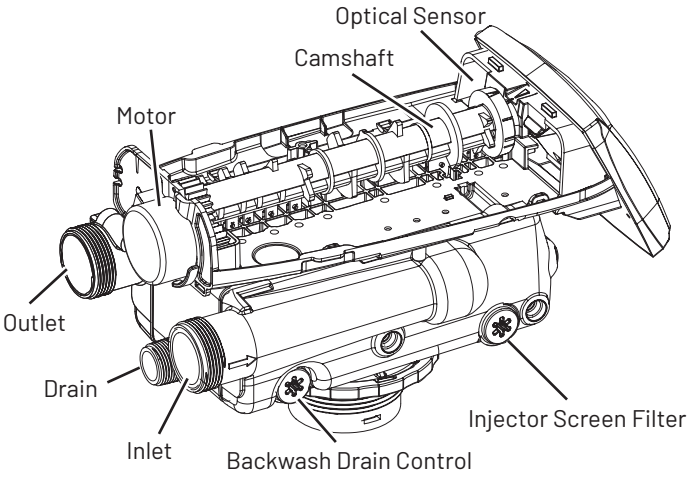
WARNING: The valve and tank components of this Pro Elite unit have been assembled and tightened to the proper factory torque specifications. Over tightening may result in improper valve, probe and tank alignment and may damage the tank O-ring (PN1010154).

- Keep the media tank in the upright position. Do not turn upside down or drop. Turning the tank upside down or laying the tank on its side can cause media to enter the valve.
- Ensure that all wiring and plumbing connections on the mineral and brine tanks are installed correctly.

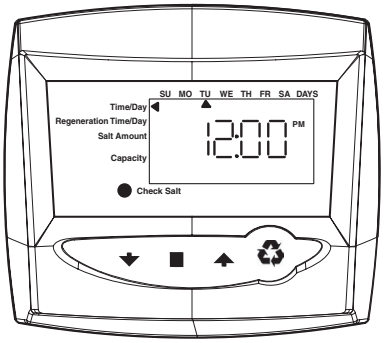
Use only regenerants designed for water conditioning. Do not use ice melting salt, block salt or rock salt.

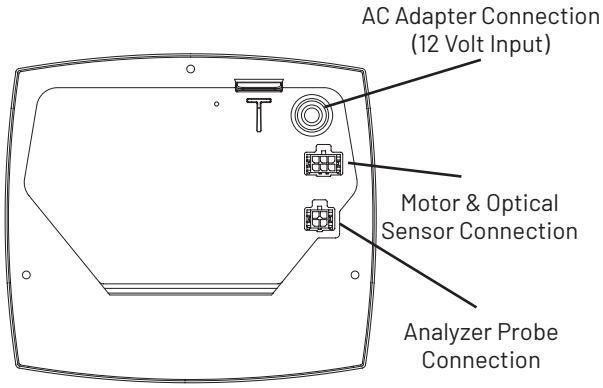
VALVE LAYOUT





ANALYZER CONTROL LAYOUT





SYSTEM SPECIFICATIONS 716

Model Number	PE-26-01	PE-40-01	PE-60-01
Recharge Style	Analyzer	Analyzer	Analyzer
Media Tank Size	10" x 44" (25 x 112 cm)	12" x 48" (30.5 x 122 cm)	12" x 48" (30.5 x 122 cm)
Resin Volume	1 ft^3 (0.03 m^3)	1.5 ft^3 (0.04 m^3)	2 ft^3 (0.056 m^3)
Recharge (Salt) Tank Size	19" x 36" (48.3 x 91.5 cm)	19" x 36" (48.3 x 91.5 cm)	19" x 36" (48.3 x 91.5 cm)
Salt Storage	240 lbs (109 kg)	240 lbs (109 kg)	240 lbs (109 kg)
Drain Water Rate	2.7 gpm (10.2 L/m)	3.9 gpm (14.7 L/m)	3.9 gpm (14.7 L/m)
Service Connection Size	1" NPT	1" NPT	1" NPT
Drain Connection Size	3/4" NPT	3/4" NPT	3/4" NPT
Recharge (Brine) Connection Size	3/8" NPT	3/8" NPT	3/8" NPT
Installation Space Requirements	21" x 42" x 72" (53.3 x 106.6 x 182.8 cm)	21" x 42" x 72" (53.3 x 106.6 x 182.8 cm)	21" x 42" x 72" (53.3 x 106.6 x 182.8 cm)
Shipping Weight	140 lbs (63.5 kg)	165 lbs (74.8 kg)	200 lbs (90.7 kg)

LOCATION SELECTION

Location of a water conditioning system is important. The following conditions are required:

- Level platform or floor.

Note: The Pro Elite System can be provided with optional leveling feet that may be used on the two tanks. Order part number 4000409.

- Room to access equipment for maintenance and adding regenerant (salt) to tank.
- Ambient temperatures over 34°F (1°C and below 120°F (49°C).
- Water pressure below 125 psi (8.62 bar) and above 20 psi (1.38 bar).
- In Canada the water pressure must be below 100 psi (6.89 bar).
- Constant electrical supply to operate the control.
- Total minimum pipe run to water heater of ten feet (three meters) to prevent backup of hot water into system.
- Local drain for discharge as close as possible.
- Water line connections with shutoff or bypass valves.
- Must meet any local and state codes for site of installation.
- Valve is designed for minor plumbing misalignments. Do not support weight of system on the plumbing.
- Be sure all soldered pipes are fully cooled before attaching plastic valve to the plumbing.



WARNING: Dry location use only, unless used with a Listed Class 2 Power Supply suitable for outdoor use.

OUTDOOR LOCATIONS

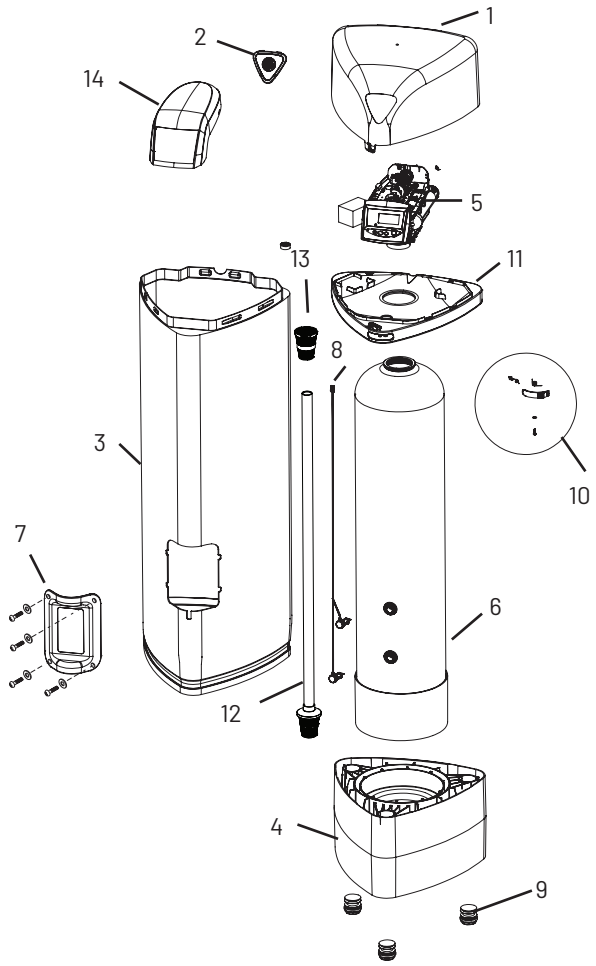
It is recommended that the Pro Elite conditioner be installed in a protected environment.

When installing the water conditioning system outdoors, several items must be considered:

- Moisture – The valve and control are rated for NEMA 3 locations. Falling water should not affect performance. The system is not designed to withstand extreme humidity or water spray from below. Examples are: constant heavy mist, near corrosive environment, or upwards spray from sprinkler. Ensure that the Analyzer probe access panel is installed on the unit.
- Direct Sunlight – The materials used will fade or discolor over time in direct sunlight. The integrity of the materials will not degrade to cause system failures.
- Temperature – Extreme hot or cold temperatures will cause damage to the valve or control. Freezing temperatures will freeze the water in the valve. This will cause physical damage to the internal parts as well as the plumbing and conditioning resin. High temperatures will affect the control. The display may become unreadable but the control should continue to function. When the temperature returns to normal operating limits, the display will re-appear. A protective cover should assist with high temperature applications.
- Insects – The control and valve have been designed to keep all but the smallest insects out of the critical areas. Any holes in the top plate can be covered with duct tape. The top cover should be installed securely in place.

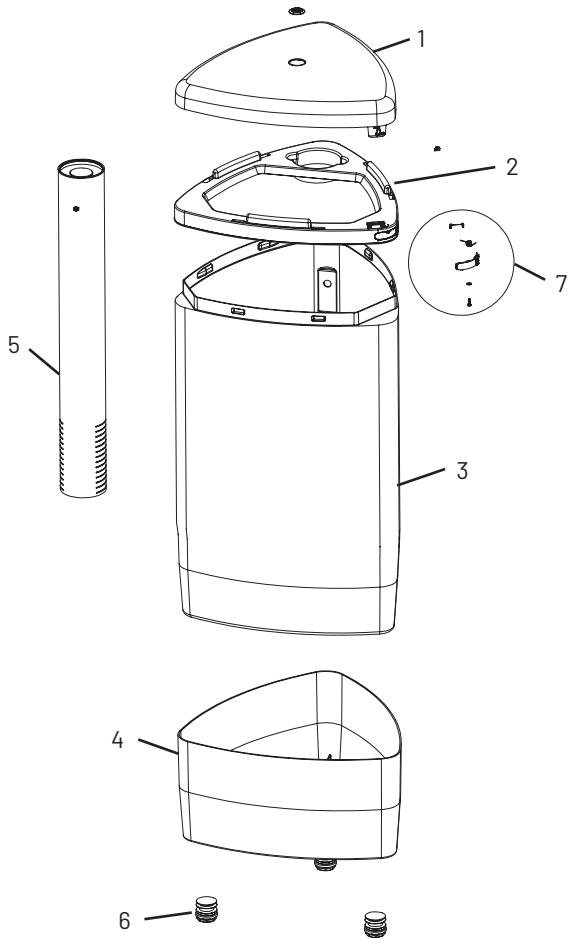
SYSTEM FEATURES

Resin Tank



1	Cover	9	Foot, Leveling
2	Cap, Cover	10	Latch Mechanism
3	Jacket,Resin Tank	11	Tank Collar
4	Base	12	Riser Tube
5	268 Logix PE Valve w/716 Control	13	Upper Basket
6	Resin Tank	14	Cover
7	Door, Access, Sensor		
8	Sensors Wired Probes		

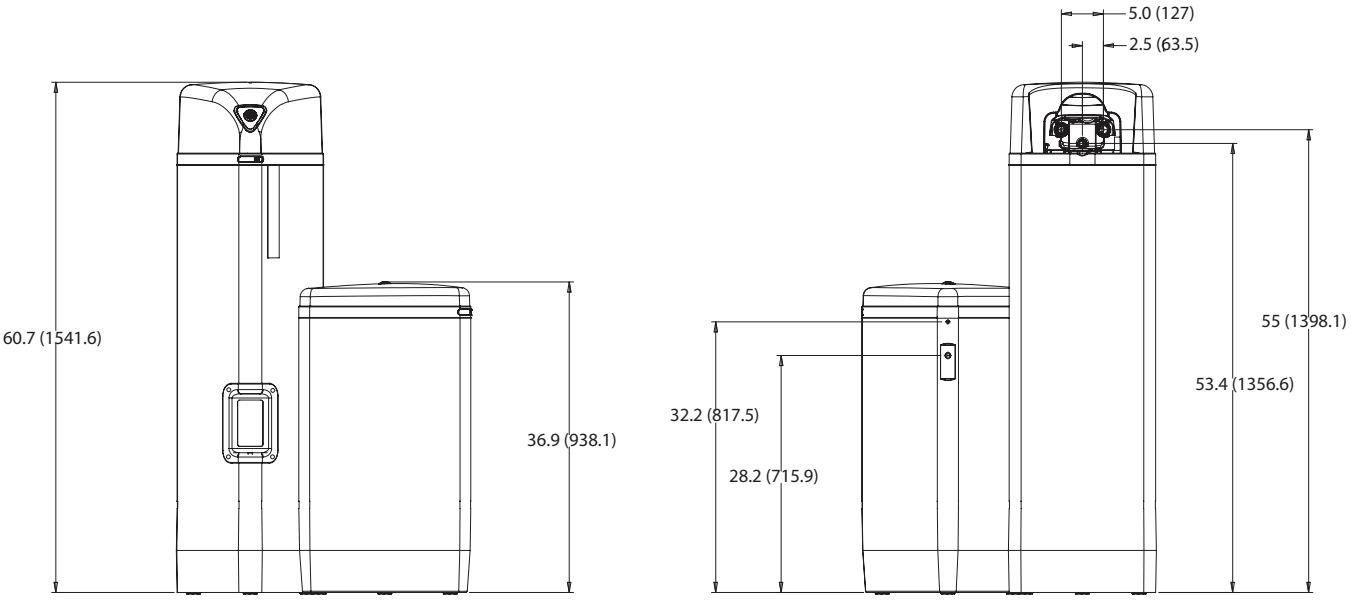
Brine Tank



1	Cover	5	Brine Tube Assembly
2	Collar, Tank	6	Foot, Leveling
3	Tank, Brine	7	Latch Mechanism
4	Base, Tank		

EQUIPMENT INSTALLATION

Dimensions



Typical System Layout

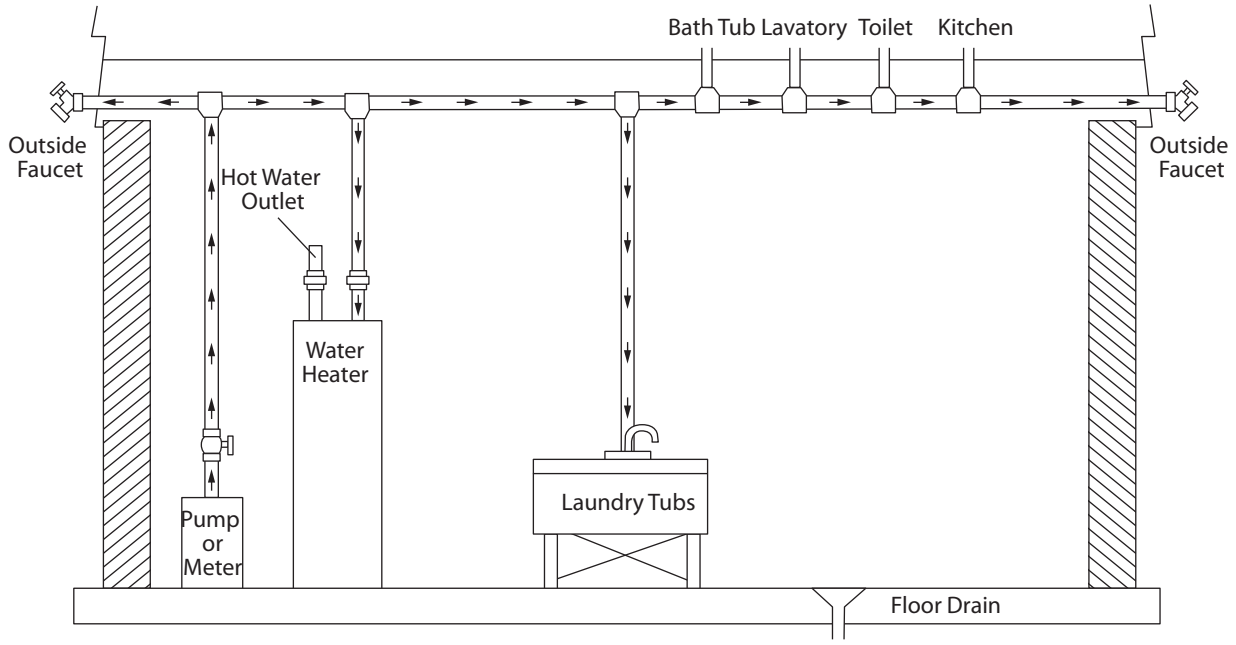


Figure 1. Standard Basement Before Installation. Cold water lines shown.

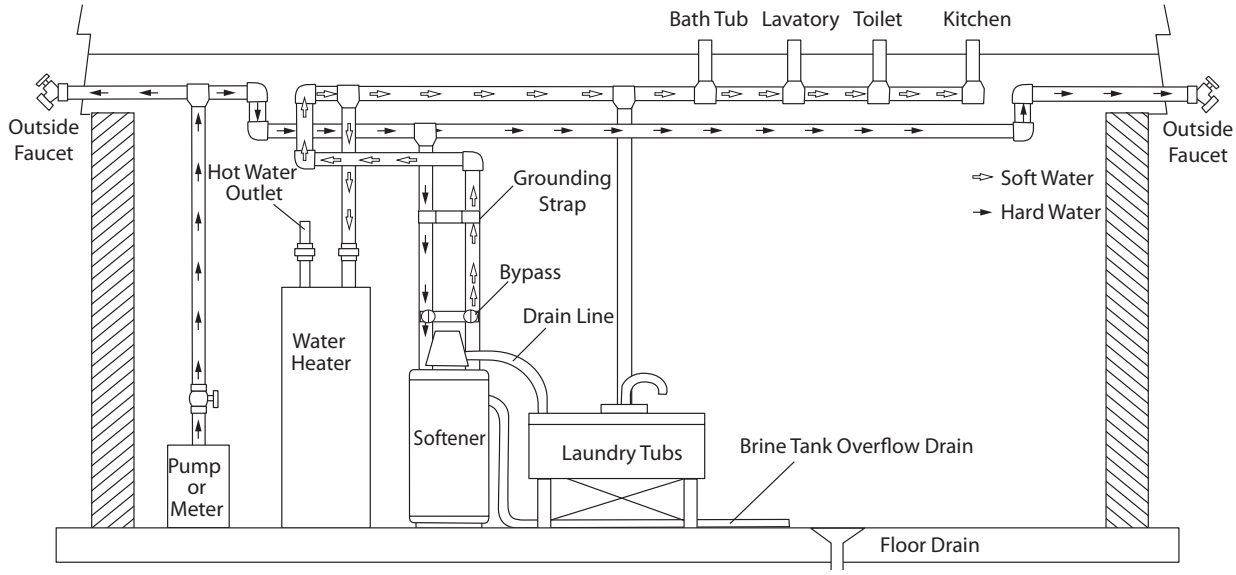


Figure 2. Softened Water Flow Diagram.

Inspection

The Pro Elite system is shipped with several parts unassembled. When parts are removed from the packing, they should be inspected for damage. If any parts are damaged or missing, contact your supplier.

WARNING: When handling the media tank do not turn it upside down or drop on its side.

When the carton is first opened, the softener will be standing upright. The salt tank will be turned over and covering the softener ("Figure 3.").

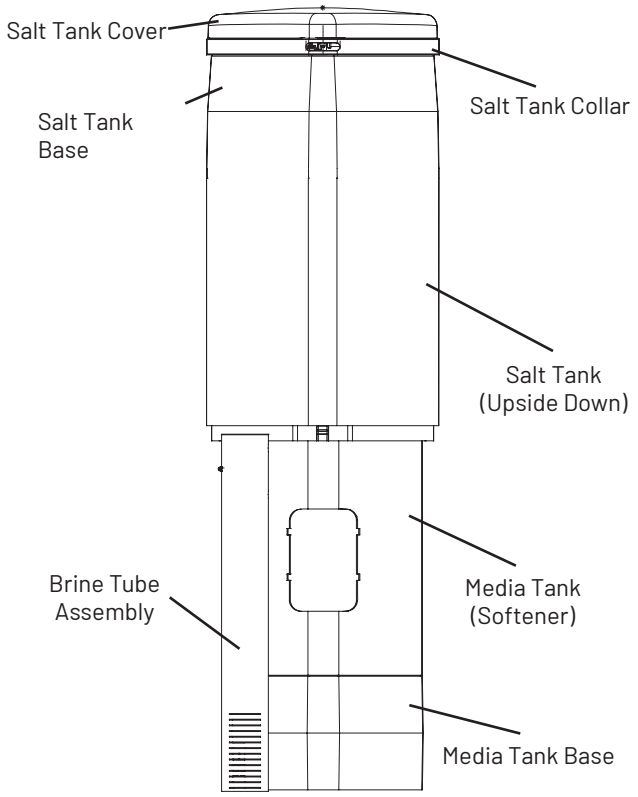


Figure 3.

To assemble the system, remove the salt tank components (cover, collar, base and brine tube assembly) from the shipping container. The media tank can now be removed. Locate the miscellaneous parts bag.

To assemble the Salt Tank:

1. If the floor under the salt tank is uneven, the leveling feet may be installed. Lay the empty salt tank on its side. Press or tap the feet into the pockets.
2. Stand the salt tank up and in position. Level as needed. The tank has two ports that will be connected. One to a drain and one to the valve.
3. Place the brine tube in position inside the pocket at the bottom of the tank. Install the overflow fitting.
4. Place the tank collar over the top of the brine tube. Position the collar and push it down into the tank. Lay the cover aside for now.

To Assemble the Media Tank:

1. If the floor under the media tank is uneven, the leveling feet may be installed. Slowly lay the tank on its side. Press or tap the feet into the pockets.

WARNING: The media tank contains loose particles that will shift. If the tank is turned upside down or laid back quickly, the particles may enter the valve. If this happens, the valve may need to be disassembled and cleaned.

2. Stand the tank up and in position. Level as needed.
3. Remove cover by pressing in on the latch and lifting cover ("Figure 4."). When the cover is removed, the valve is visible. Remove the power adapter. They should be secured to the tank collar near the inlet/outlet connections.

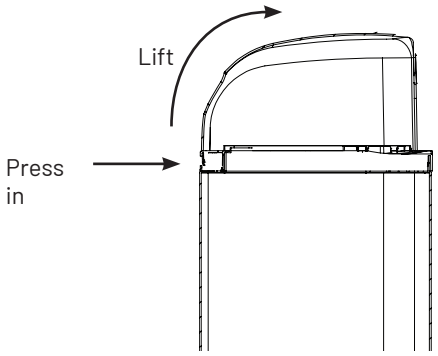


Figure 4.

Tank and Probe Assembly

The probes are preinstalled to the media tank. The probes are located behind an access panel on the jacket of the media tank. To remove the access panel, remove the four screws and washers.

Use only 100% silicone lubricant on the probe O-rings ("Figure 5."). Do not allow the lubricant to come into contact with the probe pins. Install the probe assemblies into the tank and secure with the locking clasp ("Figure 6.").

Important: The pins on the probes will only fit into the bulkhead fittings one way. The pins must go into the matching holes at the bottom of the fitting. The probe with the shortest length of wire must be on top.

Install the protective shield ("Figure 6.").

Note: Do not attempt to tighten or loosen the Bulkhead fittings, as they are secured with a locking adhesive.

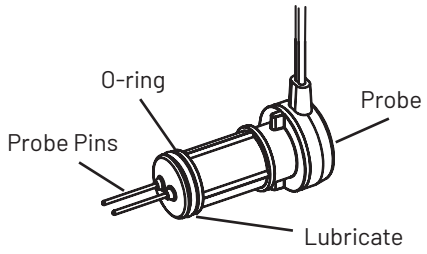


Figure 5.

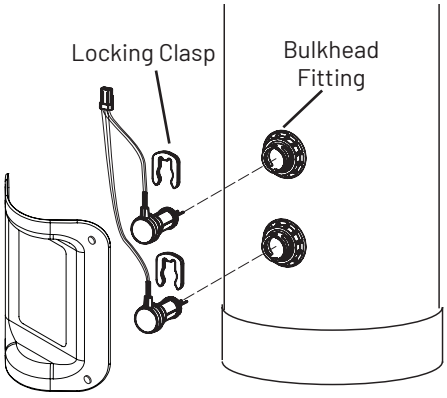


Figure 6.

WATER LINE AND BYPASS CONNECTIONS

A bypass valve system should be installed on all water conditioning systems. A model 1265 bypass is included with this system. The bypass valve isolates the conditioner from the water system and provides unconditioned water to service during routine maintenance and servicing procedures. See "Figure 7. Model 1265 Bypass (Included)" and "Figure 8. Typical Three Valve Bypass Configuration
(Not provided by manufacturer)".

Note: Before turning on the water to the valve, rotate the two handles on the bypass valve 2-3 times. This will help seat the O-rings and prevent leaking.

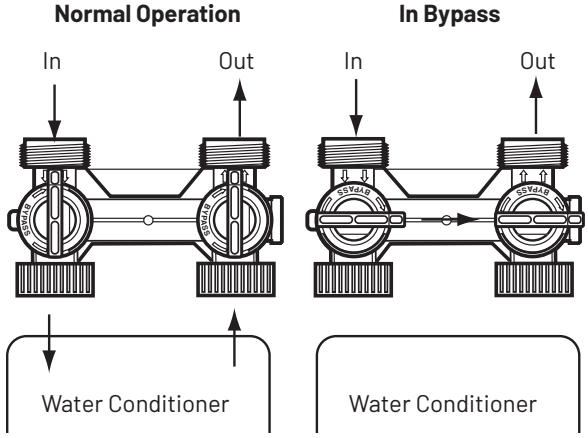


Figure 7. Model 1265 Bypass (Included)

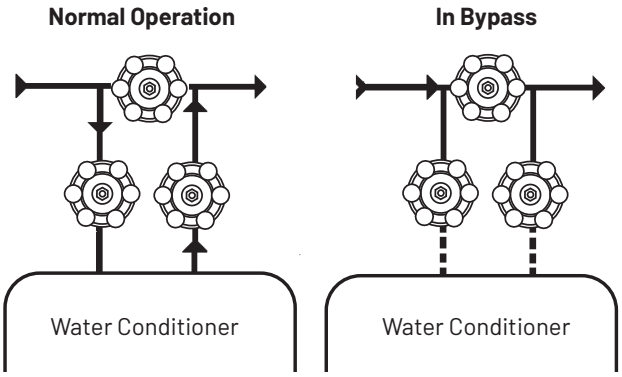


Figure 8. Typical Three Valve Bypass Configuration
(Not provided by manufacturer)

WARNING: Do not use tools to tighten plastic fittings. Over time, stress may break the connections. Hand tighten the nuts.

WARNING: Do not use petroleum grease on gaskets when connecting bypass plumbing. Use only 100% silicone grease products when installing any Pro Elite brand valve. Non-silicone grease may cause plastic components to fail over time.

WARNING: The inlet water must be connected to the inlet port of the valve. When replacing non-Pro Elite valves, it is possible that the inlet and outlet plumbing is installed in a reversed position. Ensure that the plumbing is not installed in the opposite order. Tank media may be pushed into the valve.

DRAIN LINE CONNECTION

Note: Standard commercial practices are expressed here. Local codes may require changes to the following suggestions. Check with local authorities before installing a water conditioning system.

1. The unit should be above and not more than 20 feet (6.1 m) from the drain. Use an appropriate adapter fitting to connect 1/2-inch (1.3 cm) plastic tubing to the drain line connection of the control valve.
2. If the backwash flow rate exceeds 5 gpm (22.7 Lpm) or if the unit is located 20-40 feet (6.1 – 12.2 m) from drain, use 3/4-inch (1.9 cm) tubing. Use appropriate fittings to connect the 3/4-inch tubing to the 3/4-inch NPT drain connection on valve.
3. The drain line may be elevated up to 6 feet (1.8 m) provided the run does not exceed 15 feet (4.6 m) and water pressure at the conditioner is not less than 40 psi (2.76 bar). Elevation can increase by 2 feet (61 cm) for each additional 10-psi (.69 bar) of water pressure at the drain connector.
4. When the drain line is elevated but empties into a drain below the level of the control valve, form a 7-inch (18 cm) loop at the far end of the line so that the bottom of the loop is level with the drain line connection. This will provide an adequate siphon trap. Tie or wire the hose in place at the drain point. Also provide an air gap of at least 1-1/2 inch between the end of the hose and the drain point.
5. When the drain empties into an overhead sewer line, a sink-type trap must be used.
6. Secure the end of the drain line to prevent it from moving.

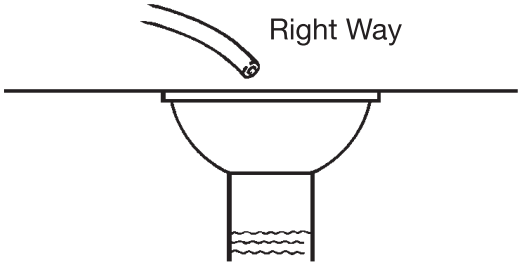


Figure 9. Drain Line Connection

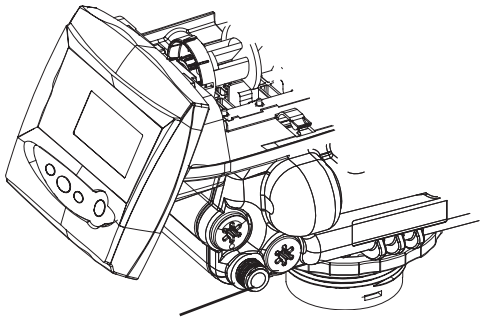
WARNING: Never insert drain line directly into a drain, sewer line or trap (Figure 9). Always allow an air gap between the drain line and the wastewater to prevent the possibility of sewage being back-siphoned into the conditioner.

REGENERANT LINE CONNECTIONS

The regenerant line from the brine tank safety brine valve (Figure 11) connects to the valve. Make sure both safety valve tube fittings are tight. Make the connections and hand tighten.

Note: Be sure that the regenerant line is secure and free from air leaks. Even a small leak may cause the regenerant line to drain out, and the conditioner will not draw regenerant from the tank. This may also introduce air into the valve causing problems with valve operation.

Ensure that plumber tape pipe sealant is applied to the 3/8-inch NPT regenerant line connection ("Figure 10.").



Regenerant Line Connection

Figure 10.

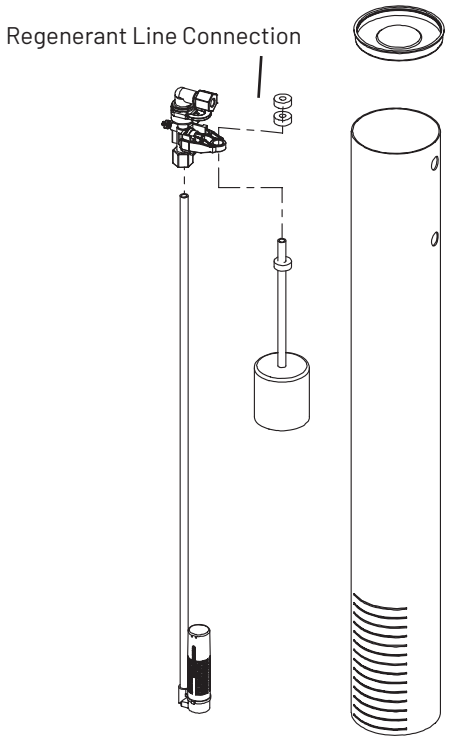


Figure 11. Salt Tank Safety Brine Valve and Brine Well Assembly

OVERFLOW LINE CONNECTION

In the event of a malfunction, the regenerant tank overflow will direct "overflow" to the drain instead of spilling on the floor. This fitting should be on the side of the cabinet or regenerant tank, "Figure 12.".

To connect the overflow line, locate the connection on side of the regenerant tank. Insert overflow fitting into tank and tighten with plastic thumbnut and gasket. Attach length of 1/2-inch (1.3 cm) I. D. tubing (not supplied) to fitting and run to drain. Do not elevate overflow line higher than overflow fitting.

Do not tie into drain line of control unit. Overflow line must be a direct, separate line from overflow fitting to drain, sewer or tub with an air gap at the drain.

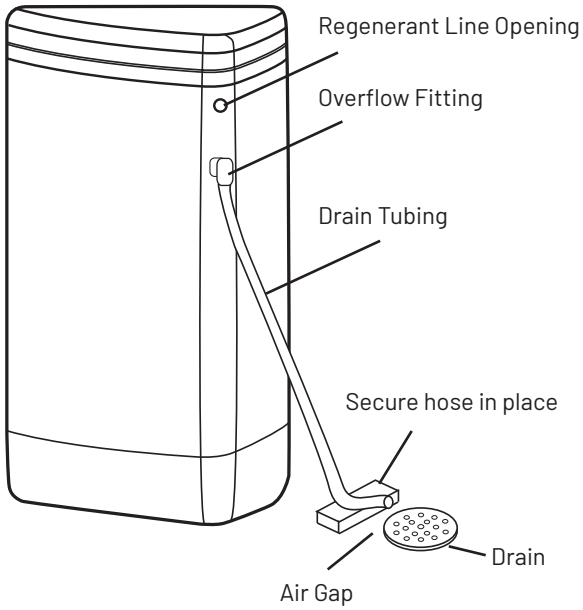


Figure 12.

ELECTRICAL CONNECTION

Note: There are no user serviceable parts in the AC adapter, motor or the control board.

The Analyzer control operates on a 12-volt alternating current power supply. This requires use of the Pentair Water supplied AC adapter. AC adapters are available from your supplier for different applications. They include:

AC Adapter	Input Voltage	Application	Part Number
Standard wall-mount	120V 60 Hz	UL listed for dry locations	44149
Outdoor rated	120V 60 Hz	UL listed for outdoor installations	44156

120V AC Adapters:

Make sure power source matches the rating printed on the AC adapter.

Note: The power source should be constant. Be certain the AC adapter is not on a switched outlet. Power interruptions longer than eight hours may cause the control to lose the day and time settings. When power is restored, the control will display four dashes (- - :- -) indicating that the day and time settings must be re-entered.

SYSTEM OPERATION

Treated Water (Downflow)

Untreated water is conditioned as it flows through the resin bed and up the riser.

If the model selected at first start-up was 268r, this is a system that will refill the salt tank at the start of a regeneration cycle. When a regeneration cycle begins, the salt tank is filled and brine is allowed to develop before Cycle 1 starts.

Backwash (Upflow) – Cycle C1

Flow is reversed by the control valve, directed down the riser, up through the resin bed and sent to drain. The bed is expanded and debris is flushed to the drain.

Regenerant Draw (Downflow) – Cycle C2*

Water passes through the injector and regenerant is drawn from the regenerant tank. The regenerant is directed to the resin bed. The hardness ions are displaced by sodium ions. Regenerant draw is completed when the air check closes.

Slow Rinse (Downflow) – Cycle C3*

Water flow moves the regenerant through the resin at a specific rate and rinses to the drain. The resin is regenerated.

Repressurization – Cycle C4

Pressure is balanced in the valve before continuing the regeneration.

Fast Rinse (Downflow) - Cycle C5

Water passes through the resin bed and up through the riser to drain. All remaining regenerant residual is rinsed from the resin bed.

2nd Backwash (Upflow) – Cycle C6

Flow is identical to C1 Backwash. The resin is reclassified.

2nd Rinse (Downflow) - Cycle C7

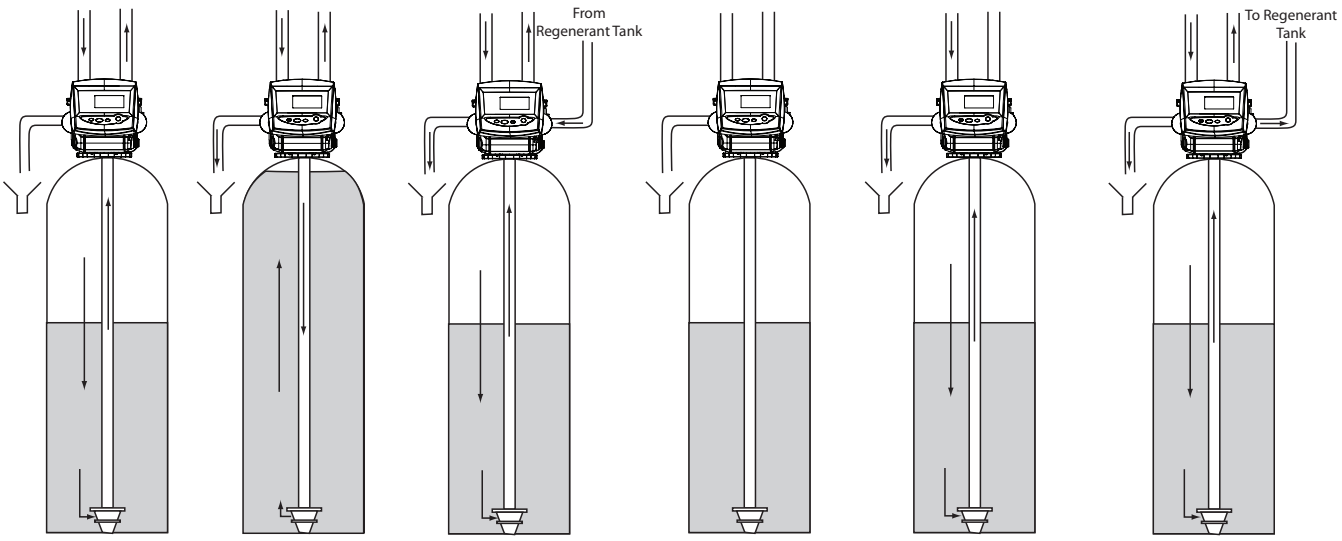
Flow is identical to C5 Fast Rinse. The resin bed is rinsed to quality.

Regenerant Refill Last – Cycle C8

Refill last only occurs if the model selected at first power up was 268.

Water is directed to the regenerant tank to create regenerant for the next regeneration.

CYCLE WATER FLOWS



CAMSHAFT CYCLE POSITIONS

The front end of the camshaft has an indicator cup. The cup has slots in the outer edge and cycle numbers on the inside face (Figure 13).

Remove the cover and look over the top of the Analyzer control to view the cycle numbers. The number at the top indicates the current cycle position of the control valve. The corresponding slot for the number is positioned at the optical sensor, which is rotated approximately 90 degrees out of phase.

Note: If electrical power is not available, the camshaft can be rotated counterclockwise by hand if the motor is removed.

Cycle Indicators:

0 = Treated Water or brine make-up if recharge cycle has started.

1 = Backwash Cycle

2 = Regenerant Draw Cycle

3 = Slow Rinse Cycle

4 = System Pause

5 = Fast Rinse Cycle 1

6 = 2nd Backwash

7 = 2nd Fast Rinse

8 = Regenerant Refill (if system is 268r, regenerant refill takes place before backwash cycle #1)

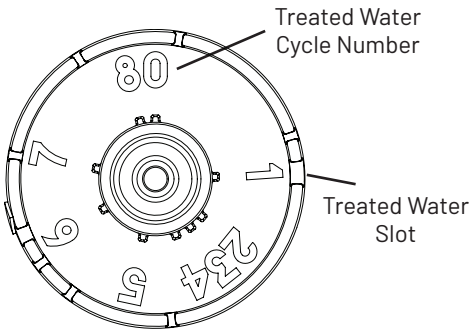


Figure 13.

VALVE DISC LOCATION/FUNCTION

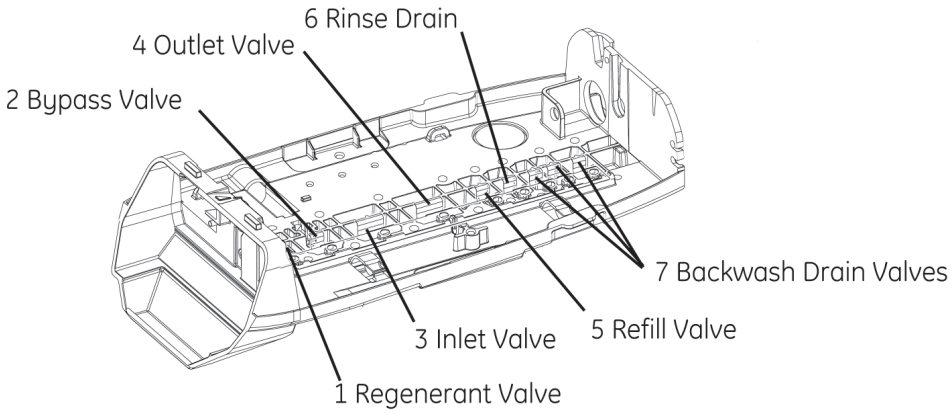


Figure 14. Valve

DISINFECTION OF WATER CONDITIONING SYSTEMS

The materials of construction in the modern water conditioning system will not support bacterial growth, nor will these materials contaminate a water supply. During normal use, a conditioner may become fouled with organic matter, or in some cases with bacteria from the water supply. This may result in an off-taste or odor in the water.

Some conditioners may need to be disinfected after installation and some conditioners will require periodic disinfection during their normal life.

Depending upon the conditions of use, the style of conditioner, the type of ion exchanger, and the disinfectant available, a choice can be made among the following methods.

Sodium or Calcium Hypochlorite

These materials are satisfactory for use with polystyrene resins, synthetic gel zeolite, and bentonites.

5.25% Sodium Hypochlorite

These solutions are available under trade names such as Clorox*. If stronger solutions are used, such as those sold for commercial laundries, adjust the dosage accordingly.

1. Dosage

- Polystyrene resin; 1.2 fluid ounce (35.5 mL) per cubic foot.
- Non-resinous exchangers; 0.8 fluid ounce (23.7 mL) per cubic foot.

2. Regenerant tank conditioners

A. Backwash the conditioner and add the required amount of hypochlorite solution to the well of the regenerant tank. The regenerant tank should have water in it to permit the solution to be carried into the conditioner.

B. Proceed with the normal regeneration.

Calcium Hypochlorite

Calcium hypochlorite, 70% available chlorine, is available in several forms including tablets and granules. These solid materials may be used directly without dissolving before use.

1. Dosage

A. Two grains (approximately 0.1 ounce (3 mL) per cubic foot.

2. Regenerant tank conditioners

A. Backwash the conditioner and add the required amount of hypochlorite to the well of the regenerant tank. The regenerant tank should have water in it to permit the chlorine solution to be carried into the conditioner.

B. Proceed with the normal regeneration.

DISPLAYS, ICONS AND CURSORS

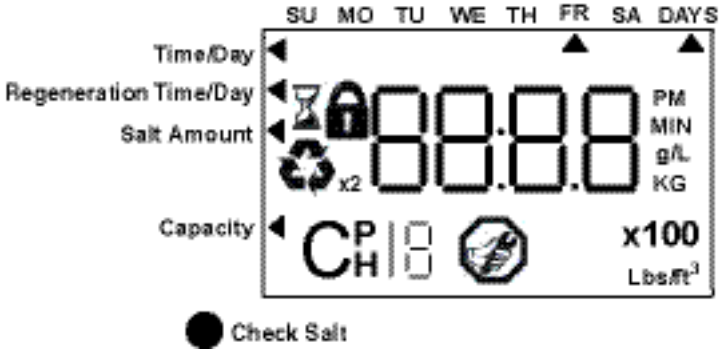


Figure 15.

Note: In normal operation and during programming, only a few of the icons will actually be displayed.

1. Used to select and indicate the actual Day of the Week setting.
2. This cursor is displayed when programming the Days Override.
3. PM indicator displayed when setting Time of Day and Time of Regeneration. Note: There is no AM indicator.
4. Indicates displayed value in minute increments.
5. Indicated kilograins or kilograms when estimated capacity is displayed.
6. Used to display "P", "H", and "C" parameter.
7. Indicates access into "H" Level IV History viewing.
8. Indicates access into "P" Level II programming.
9. Used to display cycle position during regeneration. Also indicates access into "C" Level III cycle programming.
10. This cursor is displayed during Level I programming: Time of Day, Regen Time, Day, Salt, etc.
11. When flashing, this indicates regeneration is to occur at next Time of Regen. Appears as a solid icon during regeneration.
12. When hourglass is flashing, this indicates that the control is moving to a regeneration cycle. Appears as a solid icon during a cancelled regeneration and the control is cycling directly back to the home position.
13. Indicates the selected program setting has been locked out. Lock settings are changed in Level II programming.
14. Indicates double regeneration.
15. Normally off. Will glow red if salt brine is not reaching the valve during recharge. Indicates out-of-salt condition.
16. Maintenance display turns on if the months in service exceed the value programmed in P11 "Service Interval".
17. When Lbs/ft^3 is displayed, the value for regenerant amount entered is in pounds per cubic foot.
18. X100 multiplier for large values.
19. When "g/L" is displayed the valve is in grams per liter.

BUTTON FUNCTIONS

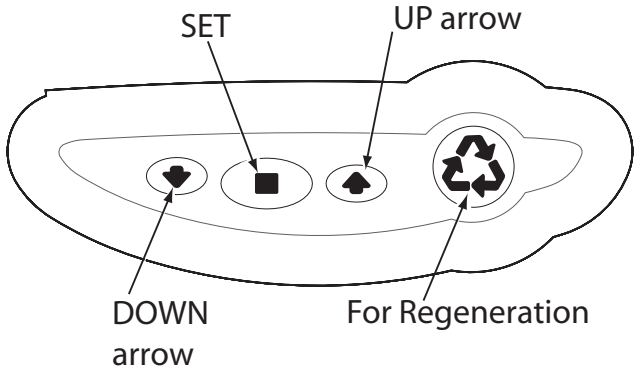


Figure 16.

DOWN and UP Arrows: Used to scroll through settings or change setting value.

SET: Used to enter a setting into memory or activate a setting to be changed.

REGEN: Used to command the control to regenerate and enable or disable lockout setting.

PROGRAMMING OVERVIEW

The Analyzer control includes multiple program levels that allow the Water Treatment Professional to customize the system for many water conditions. Additionally, historical data can be viewed allowing quick and easy troubleshooting. In most cases, Level I programming is all that is required to set up the water conditioning system for proper operation. A brief description of each program level is listed below.

- Level I: Used to program control for normal applications..
- Level II: (P-Values) Allows the installer to customize programming for non-standard applications.
- Level III: (C-Values) Allows the installer to adjust the length of select cycles for non-standard applications.
- Level IV: History (H-Values) Allows access to historical information for troubleshooting the system.

Note: If a button is not pushed for thirty seconds, the control returns to normal operation mode.

ANALYZER CONTROL OPERATION

Power Loss Memory Retention

The Analyzer control features battery-free Time of Day and Day of Week retention during loss of power. A super capacitor is designed to hold the information in memory for 8 to 24 hours depending on the installation. If the super capacitor is exhausted, the Analyzer control will display four dashes (- - :- -) immediately upon power up. The Time of Day and Day of Week must be reset.

All other programmed parameters are stored in the static memory and are retained during power outages.

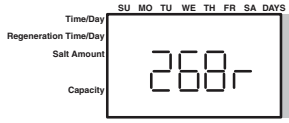
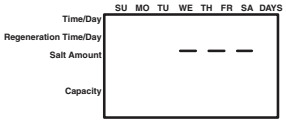
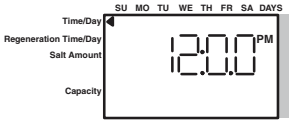
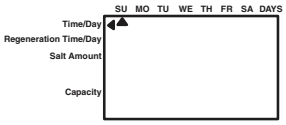
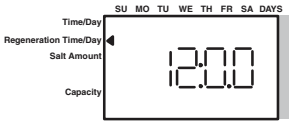
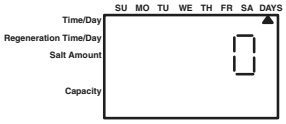
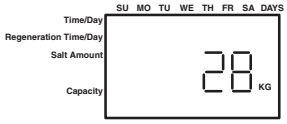
LEVEL I PROGRAMMING

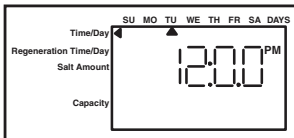
The Analyzer control can be quickly programmed by following the sequential procedure on the following page. Level I program parameters are those that can be accessed by pressing the UP or DOWN buttons.

- Valve Type: Select 268 for traditional refilling the salt tank last. Select 268r to have a normally dry salt tank that is filled when the regeneration cycle starts.
- Resin Volume Setting: Set to match the volume (cubic feet) of resin in the mineral tank.
- Time of Day: Includes PM indicator. Can be set to display as a 24-hour clock. See Level II Programming.
- Day of Week: Set to actual day of the week.
- Time of Regeneration: Fully adjustable. Default is 2:00 AM.
- Days Override: Range 0.5 to 99 days. Leave at 0 to disable.
- Salt Dosage: Set at pounds of salt per cubic foot of resin in the conditioner tank.

Note: When the control is set up for a twelve-hour clock a PM indicator will illuminate when the displayed time is in the PM hours. There is no AM indicator.

LEVEL L PROGRAMMING - ANALYZER CONDITIONER

Screen	Buttons to Press	Description	Range
	*press* ■ *then* ▼ or ▲ *press* ■	1. Valve Type Select Model	Model: 268r (Refill First) 268 (Refill Last)
	*then* ▼ or ▲ *press* ■	2. Resin Volume Select correct resin volume	Cubic feet: 1.0 to 2.0
	*press* ■ *then* ▼ or ▲ *press* ■	3. Time of Day (12 hr.) Set to time of day Note: Setting includes PM indicator.	
	*press* ■ *then* ▼ or ▲ *press* ■	4. Day of Week Set to actual day of the week	
	*press* ■ *then* ▼ or ▲ *press* ■	5. Time of Regeneration Set to desired time of regeneration	
	*press* ■ *then* ▼ or ▲ *press* ■	6. Days Override Leave at 0 to disable or Set to desired days between regeneration	Days:1 to 30
	*press* ■ *then* ▼ or ▲ *press* ■	7. Salt Dosage Set to desired desired dosage lbs per cubic feet of resin	Lbs/ft^3 : 3 to 18
	*press* ▼	**Programming is complete** Estimated exchange capacity (view only) based on resin volume and salt setting	



Service Display
Displays actual day of the week and time of day. The In Service LED located on the front of the tank jacket will be on (steady green).

Note: Upon completing the Level l Programming, the Regen icon will begin flashing, indicating that a delayed regeneration will occur at the next programmed time of regeneration. If a delayed regeneration is not desired, press the REGEN button to disable the delayed regeneration and the system will regenerate by water usage.

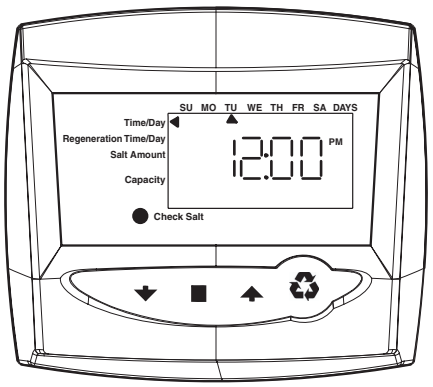
LEVEL II PROGRAMMING – P VALUES

Level II program parameters can be adjusted and used to fine-tune the conditioner's operation. The parameters are accessible by pressing and holding the UP and DOWN buttons until the control displays a "P" value. Note: The control must be in the home position to change settings. See Table below for Level II parameters. Typically the Level II parameters will not need to be adjusted, as the default settings accommodate most applications. Contact your Water Treatment Professional before attempting any programming.

P#	Description	Range	Minimum Increments	Default	Units	Notes
P1	Time of Day	12 Hr 24 Hr	1 Min	12:00PM	Hr./Min.	Range dependent on P10 setting
P2	Day of Week	Sun-Sat	1 Day	Sun	Days	Set to actual day of the week
P3	Time of Regen	12 Hr 24 Hr	1 Min	12:00PM	Hr./Min.	Range dependent on P10 setting
P4	Day Override	0-30	1 Day	0	Days	0 = Disabled
P5	Not Used					
P6	Salt Setting	3-18 50-290	1 10	9 110	Lbs/Cu ft^3 g/L	Set in Level I Programming
P7	Capacity (View Only)	1-140 0.1-14.0	1 0.1	Calculated	Kilograins Kilograms	Values dependent on P9 setting
P8	Not Used					
P9	Units of Measure	0-1	1	0		0 = US 1 = Metric
P10	Clock Mode	0-1	1	0		0 = 12 Hr 1 = 24 Hr
P11	Service Interval	0-99	1	0	Months	0 = Disabled 30 Day Month
P12	Minimum Days Between Regeneration	0-14	1	0	Days	
P13	Low Salt Sensitivity	0-2	1	2		0 = Highest Sensitivity 1 = Mid Sensitivity 2 = Lowest Sensitivity 3 = Turn Off Check Salt Light Function
P14	Disable Probes	0-1	1	0		0 = Normal Operation 1 = Probes Disabled; No Err6

PROGRAMMING THE LOCKOUT FEATURE

All parameters can be locked out when the control is in Level II programming. Simply press the REGEN button during Level II programming and a Lock icon will appear indicating that the specific setting has been locked out. When locked out, the setting cannot be adjusted. To disable the Lock Out Feature, press the REGEN button when in Level II. The lock icon will not be displayed.



LEVEL III CYCLE PROGRAMMING – C VALUES

Several Level III program parameters can be adjusted to fine-tune a conditioner's operation for non-standard applications. Typically these parameters will not need to be adjusted, as the default settings accommodate most applications. Contact your Water Treatment Professional before attempting any programming. The parameters are accessible by pressing and holding the UP and SET buttons until the display shows a "C" value.

Note: The control must be in the treated water position to change settings.

C#	Description	Range	Minimum Increments	Default Setting	Notes
C1	Backwash	0 – 200	1 Min	10	Flow rate dictated by size of drain line flow controller
C2	Regenerant Draw	Not Adjustable	1 Min	See Notes	Automatically calculated from resin volume and salt dosage settings
C3	Slow Rinse	0 – 200	1 Min	See Notes	Automatically calculated from resin volume and salt dosage settings
C4	Repressurization	0 – 200	1 Min	3	Allows system to equalize water pressure across valve discs
C5	Fast Rinse	0 – 200	1 Min	4	Rinses residual regenerant from tank
C6	2nd Backwash	0 – 200	1 Min	1	Disperses non-regenerated areas of the resin bed
C7	2nd Fast Rinse	0 – 200	1 Min	1	Rinses to Quality
C8	Regenerant Refill	Not Adjustable	1 Min	See Notes	Automatically calculated from resin volume and salt dosage settings
C0	Service/Brine Prep	0 - 200	1 Min	120	Used in fill first models only. Brine prep allows brine to come up to concentration after refill.

LEVEL IV VIEWING HISTORY - H VALUES

Historical information can be viewed by pressing the SET and DOWN buttons simultaneously with the Analyzer control in the home position. Release both buttons when the control displays an "H" value. Press the UP or DOWN buttons to navigate to each setting.

H#	Description	Range	Notes
H0	Resin Volume: Cubic Feet Liters	0.25 –3.00 5 - 100	Resin Volume
H1	Days since last regeneration	0 - 255	
H2	Average Number of Days Between Regenerations	0 – 99 days	Last 4 regenerations
H3	Calendar Adaptive Override Days	0 - 30 days	
H4	Number of regenerations since last reset	0 -65536	
H5	Total amount of salt used since last reset	0 - 999900 Lbs or Kg	
H6	Number of regenerations due to Calendar Override	0 - 65536	
H7	Number of Low Salt Alarms since last reset	0 - 65536	
H8	Number of Reduced Capacity Alarms since last reset	0 - 65536	
H9	Months since unit last serviced	0 - 255	
Holding the set key down for three seconds while H4 (number of regenerations since last reset) is being displayed will reset the numbers stored in H4, H5, H6, H7 and H8. Holding the set key down for three seconds while H9 (months since last serviced) is being displayed will reset the numbers stored in H4, H5, H6, H7, H8 and H9.			

PROGRAM RESET

The Analyzer control can be reset to original factory parameters when viewing the H0 parameter. Press and hold the SET button for three seconds while H0 is displayed. Release the button. All settings except for Time of Day and Day of Week will be reset. The Analyzer control will now display three dashes indicating that the resin volume must be set.

System Capacities

The Analyzer control software contains the following preloaded system capacities for each salt setting (please see the Performance Data Sheet on page 3 for certified claims):

Salt: Lbs/Ft3	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Cap KG: 10x44 1.00	14	18	21	23	25	27	28	30	31	32	33	34	35	36	36	37
Cap KG: 12x48 1.50	21	27	31	35	38	40	43	45	46	48	50	51	52	54	55	56
Cap KG: 12x48 2.00	28	36	42	46	50	54	56	60	62	64	66	68	70	72	72	74

PLACING 268 WATER CONDITIONING SYSTEM INTO OPERATION (Fill Brine Tank Last)

Quick Cycling the Analyzer Control

It is required that the control be quick cycled to specific regeneration cycles when placing the conditioner into operation. Please review the following instructions for quick cycling the control before proceeding to startup.

1. With the control in the treated water position, press and hold the REGEN button on the control for five seconds. This will initiate a manual regeneration. The control will display an hourglass indicating that the motor and camshaft are turning. The control also displays the total regeneration time remaining. When the control reaches the backwash cycle, the hourglass is no longer displayed and the motor will turn off. Pressing the SET button will display the time remaining for the current cycle.
2. Press and release the UP and SET buttons to move the control to the next cycle.

Note: The control can be sent directly back to the treated water position from any regeneration cycle. Press the UP and SET buttons (about 5 seconds) until the hourglass icon appears solid. The control will now skip all remaining regeneration cycles.

Startup

After you have programmed the control, the conditioner will need to be placed into operation. Follow these steps carefully, as they differ from previous Pro Elite valve instructions.

1. Remove the cover from the valve. Removing the cover will allow you to see that the camshaft is turning, and in which cycle the camshaft is currently positioned.
2. With the supply water for the system still turned off, position the bypass valve to the "not in bypass" (normal operation) position.
3. Press and hold the REGEN button on the Analyzer control for five seconds. This will initiate a manual regeneration. The control will display an hourglass, indicating that the motor and camshaft are turning to the backwash cycle (C1). The control also displays the total regeneration time remaining. When the control reaches the backwash cycle, the hourglass is no longer displayed and the motor will turn off. Pressing the SET button will display the time remaining for the current cycle.
4. Fill the media tank with water.
   A. While the Analyzer control is in cycle (Backwash), open the water supply valve very slowly to approximately the 1/4 open position. Water will begin to enter the media tank. Air will begin to be purged to drain as the media tank fills with water.



WARNING: If the supply valve is opened too rapidly or too far, media may be lost out of the tank into the valve or the plumbing. In the 1/4 open position, you should hear air slowly escaping from the valve drain line.

   B. When all of the air has been purged from the media tank (water begins to flow steadily from the drain line), open the main supply valve all of the way. This will purge the remaining air from the tank.
   C. Allow water to run to drain until the water runs clear from the drain line. This purges any debris from the media bed.
5. Add water to the regenerant tank.
   D. With a bucket or hose, add approximately 4 gallons (15 liters) of water to the regenerant tank. If the tank has a salt platform in the bottom of the tank, add water until the water level is approximately 1 inch (25 mm) above the platform.

Note: It's recommended that you do not put regenerant into the tank until after the control valve has been put into operation. With no regenerant in the tank, it is much easier to view water flow and motion in the tank.

6. Prime the regenerant line.
   A. Slowly open the main water supply valve again to the fully open position. Be sure not to open too rapidly, as that would push the media out of the media tank.
   B. Quick cycle the control to the regenerant tank Refill position (C8).

Note: As you advance through each cycle, there will be a slight delay before you can advance to the next cycle. There will be a pause after the regenerant draw and slow rinse cycles. This cycle (C4) is a repressurization cycle and is designed to allow the water pressure to equalize on each side of the valve discs. Allow the control to repressurize (three minutes) before cycling the control to the regenerant tank refill position.

   C. The control will cycle to the regenerant tank refill cycle and water will be directed down through the regenerant line to the regenerant tank. Let the water flow through the line until all air bubbles have been purged from the line.
   D. Once the air is purged from the line, press the SET button and the UP button simultaneously to advance to Treated Water position.
7. Check Regenerant Draw.
   A. From the treated water position, initiate a manual regeneration.
   B. The control will begin a manual regeneration, and advance the control valve to the backwash cycle. Press the SET and UP button to advance to regenerant draw/slow rinse cycle.
   C. C2 will be displayed. With the control in this position, check to see that the water is being drawn out of the regenerant tank. The water level in the regenerant tank should recede very slowly.
   D. Observe that water is being drawn from the regenerant tank for at least three minutes. If the water level does not recede, check all regenerant line connections for air leaks.
8. If the water level is receding from the regenerant tank, you can quick cycle the control back to the treated water position by pressing SET and the UP buttons simultaneously.
9. Finally, turn on a faucet plumbed after the water conditioner. Run the faucet until the water runs clear.
10. Add the appropriate amount of regenerant to the regenerant tank.

THE WATER CONDITIONING SYSTEM IS NOW FULLY OPERATIONAL.

PLACING 268r WATER CONDITIONING SYSTEM INTO OPERATION (Fill Brine Tank First)

Quick Cycling the Analyzer Control

It is required that the control be quick cycled to specific regeneration cycles when placing the conditioner into operation. Please review the following instructions for quick cycling the control before proceeding to startup.

1. With the control in the treated water position, press and hold the REGEN button on the control for five seconds. This will initiate a manual regeneration. The control will display an hourglass indicating that the motor and camshaft are turning. The control also displays the total regeneration time remaining. When the control reaches the pre-pressurize cycle, the hourglass is no longer displayed and the motor will turn off. Pressing the SET button will display the time remaining for the current cycle.
2. Press and release the UP and SET buttons to move the control to the next cycle.

Note: The control can be sent directly back to the treated water position from any regeneration cycle. Press and hold the UP and SET buttons (about five seconds) until the hourglass icon appears solid. The control will now skip all remaining regeneration cycles.

Startup

After you have performed the previous initial power-up steps, you will need to place the conditioner into operation. Follow these steps carefully, as they differ from previous Pro Elite valve instructions.

1. Remove the cover from the valve. Removing the cover will allow you to see that the camshaft is turning, and in which cycle the camshaft is currently positioned.
2. With the supply water for the system still turned off, position the bypass valve to the "not in bypass" (normal operation) position.
3. Press and hold the REGEN button on the Analyzer control for five seconds. This will initiate a manual regeneration. The control will display an hourglass indicating that the motor and camshaft are turning. The control also displays the total regeneration time remaining. When the control reaches the repressurize cycle (C4), the hourglass is no longer displayed and the motor will turn off. Pressing the SET button will display the time remaining for the current cycle.
4. Press and release SET and UP simultaneously to advance to each cycle.
5. Advance the control to the Backwash cycle (C1). See Cycle Sequence Table.

Cycle Sequence Table

C#	Cycle Description	Time in Minutes
C0	Service	
C4*	Repressurize	3
C8	Brine Refill	Calculated
C0	Brine Make-up	120
C1	Backwash	14
C2	Brine Draw	Calculated
C3	Slow Rinse	Calculated
C4*	2nd Repressurize	3
C5	Fast Rinse	6
C6	2nd Backwash	1
C7	2nd Fast Rinse	1
*Note: C4 repressurization does not have flow to drain.		

6. Fill the media tank with water.
   E. While the controller is in the backwash (C1) cycle, open the water supply valve very slowly to approximately the 1/4 open position.



WARNING: If opened too rapidly or too far, media may be lost out of the tank into the valve or the plumbing. In the 1/4 open position, you should hear air slowly escaping from the valve drain line.

   A. When all of the air has been purged from the media tank (water begins to flow steadily from the drain line), open the main supply valve all of the way. This will purge the remaining air from the tank.
   B. Allow water to run to drain until the water runs clear from the drain line. This purges any refuse from the media bed.
   C. Turn off the water supply and let the system stand for about five minutes. This will allow any air trapped to escape from the tank.
7. Add water to the regenerant tank (conditioner only).
   A. With a bucket or hose, add enough water to the regenerant tank to have water visible.

Note: We recommend that you do not put regenerant into the tank until after the control valve has been put into operation. With no regenerant in the tank, it is much easier to view water flow and motion in the tank.

8. Press and hold the SET and UP button for five seconds to cancel regeneration, and cycle the control back to the service position.
9. Start another regeneration. Advance the controller to the brine refill position (C8) to prime the line between the regenerant tank and the valve (conditioner only).
   A. Slowly open the main water supply valve again to the fully open position. Be sure not to open too rapidly, as that would push the media out of the media tank.

Note: As you advance through each cycle, there will be a slight delay before you can advance to the next cycle. There will be a pause after the brine draw and slow rinse cycles (system pause). This cycle allows the water/air pressure to equalize on each side of the valve discs.

B. With the water supply completely open, when you arrive at the brine tank refill cycle, the controller will direct water down through the line and into the tank. Watch the bottom of the tank until all air bubbles have been purged from the line and the water level is rising.

C. Let the water flow down the line to the tank only until the rising water is visible.

D. Simultaneously press and release the SET and UP buttons to advance to the Brine Make-up cycle. After the Brine Make-up cycle is reached, press the SET and UP buttons to advance to the Brine Draw/Slow Rinse cycle.

10. Draw water from the regenerant tank.
    A. With the controller in this position, check to see that the water in the regenerant tank is being drawn out of the tank. The water level in the tank should recede very slowly.
    B. If the water in the regenerant tank does not recede, or goes up, refer to the Troubleshooting section.
11. If the water level is receding from the regenerant tank, wait for the tank check valve to stop the water flow. Press the SET and UP buttons to advance the controller back to the treated water position.
12. Finally, turn on a faucet plumbed after the water conditioner. Run the faucet until the water runs clear.

THE WATER CONDITIONING SYSTEM IS NOW FULLY OPERATIONAL.

MANUAL REGENERATION OPTIONS

The Analyzer control features several options that offer additional flexibility for manually regenerating the conditioner.

Delayed Manual Regeneration

Pressing and releasing the REGEN button starts a delayed manual regeneration. The Regeneration icon on the display will flash indicating a regeneration will start when the time of day reaches the programmed time of regeneration. Pressing the REGEN button again will turn off the regeneration icon and cancel the delayed regeneration.

Immediate Manual Regeneration

Pressing and holding the REGEN button for three seconds starts an immediate manual regeneration. A solid regeneration icon will be displayed. The control will immediately begin a regeneration.

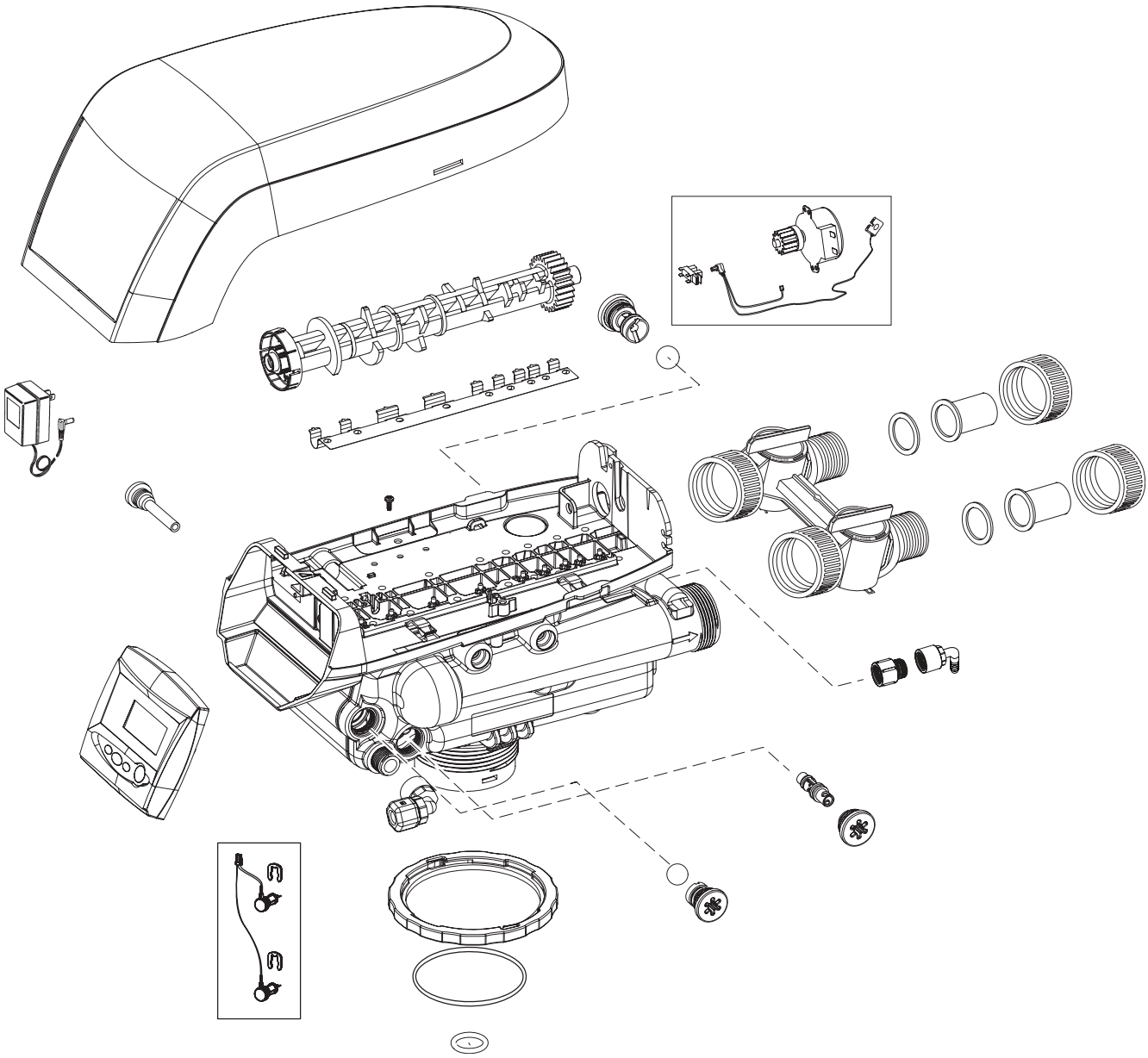
Delayed Second Regeneration

Pressing and releasing the REGEN button while the control is in regeneration will program the control for a delayed second regeneration. A flashing x2 icon next to the regeneration icon will appear, indicating a second regeneration will start when the time of day reaches the programmed time of regeneration.

Double Immediate Manual Regeneration

Back-to-Back manual regenerations are initiated by pressing and holding the REGEN button for three seconds while the control is in the regenerating mode. A solid x2 icon next to the regeneration icon will appear, indicating a second manual regeneration will start immediately after current regeneration is complete.

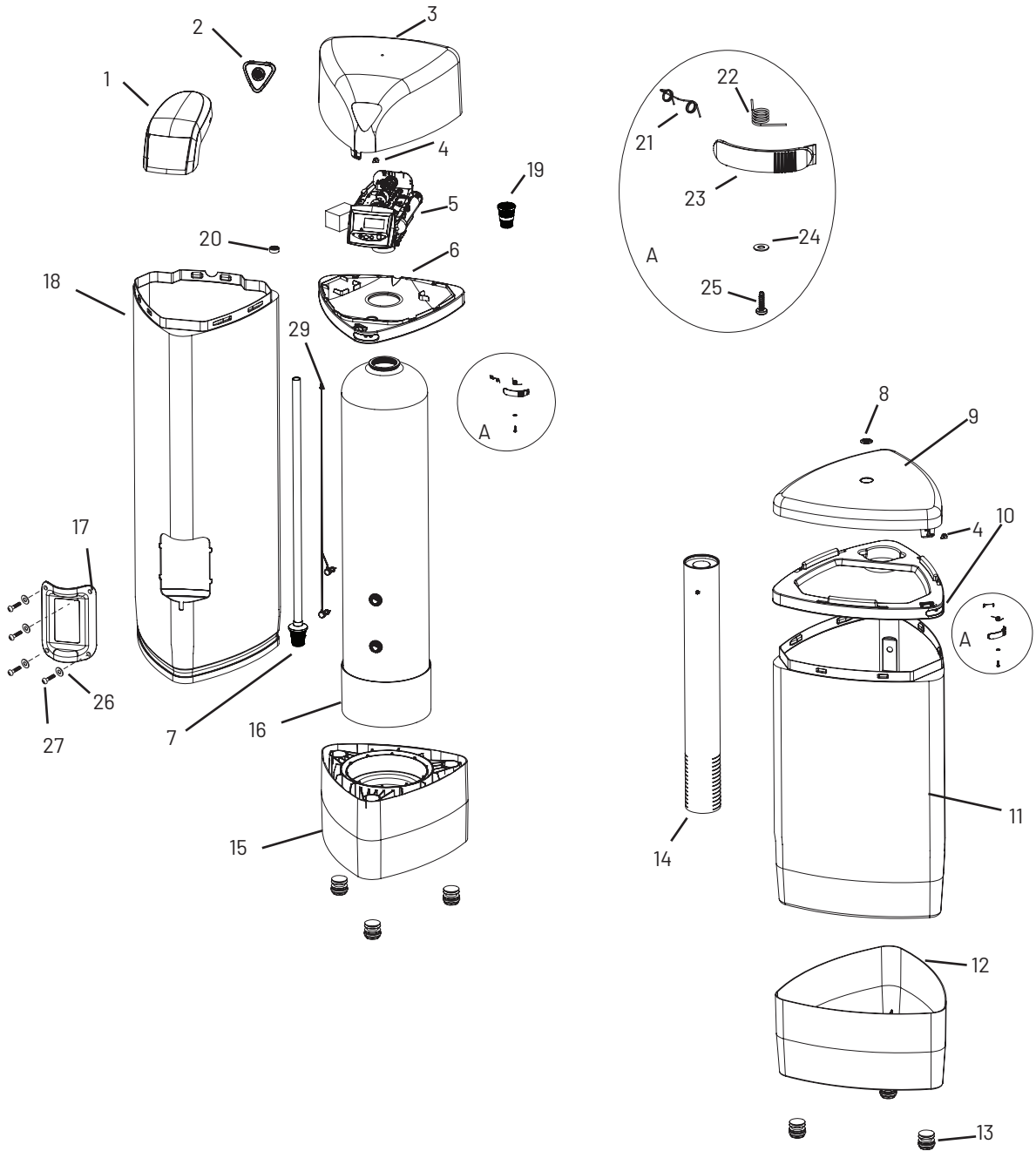
PRO ELITE VALVE - EXPLODED VIEW AND PARTS LIST



Item	Part Number	Description	Qty.	Item	Part Number	Description	Qty.
1	4000897	Analyzer Control	1	14		Injector Options:	1
2	1244651	Valve Assembly w/o Flow Controls	1		1035734	"J" Injector, Lt Blue 10-inch tank	
3	1235338	Top Plate, Valve	1		1035735	"K" Injector, Pink 12-inch tank	
4	1234170	Screw, Top Plate	18	15	1000269	Injector Cap with O-Ring	1
5	1235339	Valve Disc Spring, Valve	1	16	1243511	Refill Ball & Cone Type Flow Controller	1
6	1235352	Cam Valve, Black	1	17	1035622	Tank Ring	1
7	4000584	Cover, Pro Elite Lt Gray	1	18	1010154	O-Ring, Tank	1
8	44149	Transformer, 120 VAC, 60 Hz, N. American Plug	1	19	1232370	O-Ring, Riser Tube	1
9	3019221	Motor/Optical Cable	1	20	61893	Probe/Cable/Clips Kit	1
10	1000226	Screen/Cap Assembly w/O-Ring	1	*	1041174	Valve Disc Kit	1
11		Drain Control Assembly:	1	21	1040930	1265 Bypass, Valve	1
	1000212	No. 10 (2.7 gpm; 10.2 Lpm)		22		Drain Line Flow Control Options:	1
	1000213	No. 12 (3.9 gpm, 14.8 Lpm)			1264271	10" Drain Line Flow Control	
12	1030502	Ball, Flow Restrictor	1		1264402	12" Drain Line Flow Control	
13	Not Included	Adapter Kit, Multiple Options	1	23	4001129	Brine Fitting	1
				24	1002449	Valve Drain Connection Fitting, Elbow, 3/4 NPT x 1/2 Hose (Tubing)	1

*Not Shown on Drawing

CONDITIONER TANK AND REGENERANT TANK ASSEMBLY – EXPLODED VIEW AND PARTS LIST



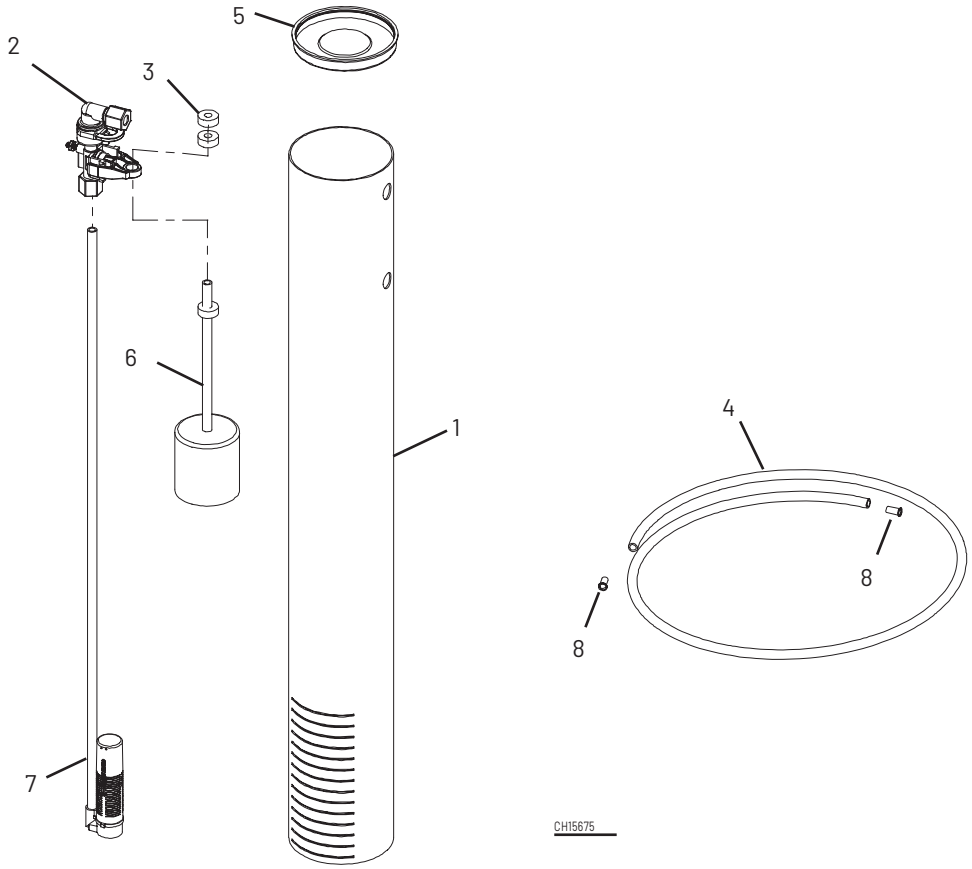
Item	Part Number	Description	Qty.	Item	Part Number	Description	Qty.
1	4000584	Cover, 268/716 Valve	1	16	CH34199	Tank Assembly with Sensors 12 x 48	1
2	4005421	Assembly, Cover Plate with Labels	1		CH34200	Tank Assembly with Sensors 10 x 44	1
3	4000351	Cover, Jacket, Resin Tank, Pro Elite	1	17	4005422	Assembly, Door, Access with Label (no holes)	1
4	4000458	Bracket, Lift Spring, Double Torsion, Pro Elite	1	18	4000353	Jacket, Resin Tank, Machined, Pro Elite	1
5	4000459	268 Logix Valve W/716 Cont. 10" Tank	2	19	4000562	Distributor, Basket, Upper	1
	4000460	268 Logix Valve w/716 Cont. 12" Tank	1	20	1239647	Bushing All Fit, Adjustable	1
6	4000352	Collar, Jacket, Resin Tank, Pro Elite	1	21	4000357	Spring, Double Torsion	2
7	4000988	Lower Distributor Assy 10x44 Tank	1	22	4000359	Spring, Torsion	2
	4000987	Lower Distributor Assy 12x48 Tank	1	23	4000358	Latch, Cover, Pro Elite	2
8	4005395	Label, Pentair	1	25	1396149	Washer Stainless Steel	2
9	4000347	Cover, Brine Tank, Pro Elite	1	26	4001265	Washer, Countersunk Finishing, SS	4
10	4000348	Collar, Brine Tank, Pro Elite	1	27	61893	Screw, Flat HD Phil, SS	4
11	4000349	Tank, Brine, Pro Elite	1	*	4001033	Kit, Logix Sensor	1
12	4000350	Base, Brine Tank, Pro Elite	1	*	4000871	Valve Brine Connection Fitting, Female Elbow, 3/8 NPT x 3/8 NPT	
13	4000409	Kit, Feet, Set of 6, Leveling, Pro Elite	N/A	*	4005420	Assy, Access Door & Label, Pro Elite also (includes #29 and #30)	
14	CH15675	Brine Tube Assembly	1		4001267	Kit, Access Door Fasteners, Pro Elite (includes only 4 ea of #29 and #30).	
15	4000354	Base, Resin Jacket, Pro Elite	1				

*Not Shown on Drawing

Kits - Not Shown on Drawing

Part Number	Description	Qty.
4000893	Assembly, Cover, Resin Tank; Includes Item Numbers 3, and 4	1
4005418	Assembly, Cover, Brine Tank; Includes Item Numbers 6, 8, and 9	1
4002024	Resin Tank Collar Assembly Includes Latch; Assembly A, Item numbers 7, 21, and Silver Decorative Band	1
4005419	Brine Tank Assembly Complete; Includes Brine Well Assembly	1
4002026	Brine Tank Collar Assembly; Includes Latch Assembly A, Item Number 11, and Silver Decorative Band	1

BRINE WELL ASSEMBLY - EXPLODED VIEW AND PARTS LIST



Item	Part Number	Description	Qty.
1	CH15013-1	Brine Well w/Slots	1
2	60014	Safety Brine Valve	1
3	CH15070	Grommet	2
4	CH16371-60	Tubing, 3/8" x 60" Long	1
5	CH15024	Cap, Brine Well 4" Dia. (Caplug STP -4)	1
6	60068-8.06	Brine Float w/One Grommet (As Purchased)	1
7	60002-27	Air Check Assembly	1
8	BR10332	Tubing Insert, Brass	2
*	CH20774	Overflow Fitting Assembly	1
	CH15031-1	Overflow Elbow	1
	CH15031-2	Overflow Nut	1
	CH16331	Gasket	1
	CH20731-1	Polypro Washer	1

*Items included, but not shown - Shipped in a plastic bag along with Brine Well Assembly

TROUBLESHOOTING

Analyzer Control – Error Codes and Check Salt Light

Problem	Possible Cause	Solution
ERR 1 is displayed.	Program settings have been corrupted.	Press any key and reprogram Level I settings.
ERR 2 is displayed.	The control is not a "North American" 60 Hz model.	Install 60 Hz Analyzer control.
ERR 3 is displayed.	Control does not know the position of the camshaft. Camshaft should be rotating to find Home position.	Wait for two minutes for the control to return to Home position. The hourglass should be flashing on the display indicating the motor is running.
	Camshaft is not turning during ERR 3 display.	Check that motor is connected. Verify that motor wire harness is connected to motor and control module. Verify that optical sensor is connected and in place. Verify that motor gear has engaged cam gear. If everything is connected, try replacing in this order: 1. Wire harness, motor, optical sensor assembly 2. Control
	Camshaft is turning more than five minutes to find Home position.	Verify that optical sensor is in place and connected to wire. Verify that camshaft is connected appropriately. Verify that no dirt or rubbish is clogging any of the cam slots. If motor continues to rotate indefinitely, replace the following components in this order: 1. Wire harness, motor, optical sensor assembly 2. Control
Err 6 is displayed.	Defective or disconnected probe.	Replace or reconnect probe.
Check Salt Light is displayed on valve control - Press the regen button to turn off the check salt light.	No regenerant draw or insufficient regenerant detected during regeneration.	Ensure salt/ regenerant is available. Check for regenerant draw. Inspect regenerant line for leaks.

System Troubleshooting

Problem	Possible Cause	Solution
Regenerant tank overflow.	a. Uncontrolled refill flow rate. b. Air Leak in regenerant line to air check. c. Drain control clogged with resin or other debris.	a. Remove refill flow control to clean ball and seat. b. Check all connections in regenerant line for leaks. c. Clean drain control.
Flowing or dripping water at drain or regenerant line after regeneration.	a. Valve stem return spring weak. b. Debris is preventing valve disc from closing.	a. Replace spring. (Contact dealer). b. Remove debris.
Hard water leakage after regeneration.	a. Improper regeneration. b. Leaking of external bypass valve. c. O-Ring around riser pipe damaged. d. System capacity too low due to incorrect resin volume setting.	a. Repeat regeneration after making certain correct regenerant dosage was set. b. Replace bypass valve. (Contact dealer). c. Replace O-ring. d. Reset control and program resin volume to correct setting.
Control will not draw regenerant.	a. Low water pressure. b. Restricted drain line. c. Injector plugged. d. Injector defective. e. Valve disc 2 and/or 3 not closed. f. Air check valve prematurely closed.	a. Make correct setting according to instructions. b. Remove restriction. c. Clean injector and screen. d. Replace injector and cap. (Contact dealer). e. Remove foreign matter from disc and check disc for closing by pushing in on stem. Replace if needed. (Contact dealer). f. Put control momentarily into brine refill. Replace or repair air check if needed. (Contact dealer).
Control will not regenerate automatically.	a. AC adapter or motor not connected. b. Defective motor.	a. Connect power. b. Replace motor. (Contact dealer).
Control regenerates at wrong time of day.	a. Control set incorrectly.	a. Correct the time setting according to instructions.
Intermittent or irregular regenerant draw.	a. Low water pressure. b. Defective injector.	a. Set pump to maintain 20 psi at conditioner. b. Replace injector (Contact dealer).
No conditioned water after regeneration.	a. No regenerant in regenerant tank. b. Injector plugged.	a. Add regenerant to regenerant tank. b. Clean injector and screen (Contact dealer).
Backwashes or purges at excessively low or high rate.	a. Incorrect drain controller used. b. Foreign matter affecting valve operation.	a. Replace with correct size control (Contact dealer). b. Remove drain controller and clean ball and seat.
Run out of conditioned water between regenerations.	a. Improper regeneration. b. Incorrect resin volume setting.	a. Repeat regeneration. b. Reset control and program resin volume to correct setting.

For Pentair Product Warranties visit: **waterpurification.pentair.com**

13845 BISHOPS DR., SUITE 200, BROOKFIELD, WI 53005 USA
P: 262.238.4400 | WATERPURIFICATION.PENTAIR.COM
CUSTOMER CARE: 800.279.9404 | tech-support@pentair.com
© 2019 Pentair Residential Filtration, LLC. All rights reserved.

§For a detailed list of where Pentair trademarks are registered, please visit waterpurification.pentair.com/brands. Pentair trademarks and logos are owned by Pentair plc or its affiliates. Third party registered and unregistered trademarks and logos are the property of their respective owners.

4005401 REV B FE19