742/762 Control
255 and Performa Series Valves
(263, 268, 268FA)

Operation Manual

For Sales & Service questions please contact your dealer:

Your local dealer is:

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QUICK-START SHEET

Have a 742 or 762 Control on page 26 to identify your

tronic time clock control capable of doing 7-day (day of
r up to a 99 interval day regeneration. This control will
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lectronic metered-demand (volumetric) controller which
d on the water usage of the installation site. A calendar
dard feature on this controller.

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ling the camshaft.

Initial Start-up Step-by-step Instructions

Step 1: Select Valve Type

This step may have been performed by your system's OEM manufacturer. In this case, proceed to step 2.

- Identify your valve body type by looking at the silver ID sticker on the back or side of the valve body.
- Select your valve body type using the UP or DOWN buttons.
-

Display	Valve Body
255	255, 7-cycle conditioner
263	Performa filter 263, 3-cycle filter
268	Performa conditioner 268, 7-cycle conditioner
273	Performa Cv 273, 3-cycle filter
278	Performa Cv 278, 5-cycle conditioner
293	Magnum Cv filter, 3-cycle filter
298	Magnum Cv conditioner, 7-cycle conditioner

NOTE:

Step 2: Program System Size

This step may have been performed by your system's OEM manufacturer. In this case, proceed to step 3.

- Input system size - resin volume - in cubic feet or liters.
- Use UP and DOWN buttons to scroll through resin volume choices.
- Choose the nearest volume to your actual system size.
- To choose a 3-cycle filter operation - press DOWN until an "F" is displayed.
- Press SET to accept the system size you've selected.
- If incorrect setting is programmed, see "Resetting the Control" section below.

Step 3: Program Time of Day

- While "12:00" is blinking, set the correct time of day.
- Use the UP and DOWN buttons to scroll to the correct time of day.
- "PM" is indicated, "AM" is not indicated.
- Press SET to accept the correct time of day and advance to the next parameter.

Step 4: Set Day of Week

- Press SET to make the arrow under SU flash.
- Use the UP and DOWN buttons to advance the arrow until it is under the correct day of week.
- Press SET to accept and advance to the next parameter.

Step 5: Set Regen Time

- 2:00 (AM) is the default time of regeneration. To accept this time, press the DOWN button to move to step 6.
- To change the regen time, press SET - causing 2:00 to flash.
- Use the UP and DOWN buttons to advance to the desired regen time.
- Press SET to accept the time and advance to the next parameter.

Step 6: Set Days to Regenerate (742 Time-clock Control Only)

- If using 762 control - proceed to step 6a.
- Set number of days between time-clock regeneration (regen frequency).
- Default time is 3 days.
- Days can be adjusted from 1/2 (.5) to 99 days.
- To change, press SET to make the "3" flash.
- Use the UP and DOWN buttons to change to the number of days desired.
- Press SET to accept the regen frequency, and advance to the next cycle.

To use the 7-day timer option - see full Dealer Installation Manual.

Step 6a: Set Calendar Override (762 Demand Control Only)

- If using 742 control - proceed to step 7.
- Set number of days for calendar override on demand control.
- "0" days is the default for calendar override.
- Days can be adjusted from 1/2 (.5) to 99 days.
- To change, press SET to make the "0" flash.
- Use the UP or DOWN buttons to change to the number of days desired.
- Press SET to accept the regen frequency, and advance to the next cycle.

Step 7: Set Salt Amount (Regenerant Amount)

- Default setting is "9 pounds per ft^3 (110 g/L)".
- Use UP or DOWN to select regenerant amount.
- Press SET to accept the setting and advance to next parameter.

See page 33 for more complete information on regenerant settings for different system sizes, capacities and expected efficiencies.

Step 8: Estimated Capacity

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Resetting The Control

Icons That Appear In T

General

- Observe all warnings that appear in this manual.
- Keep the media tank in the upright position. Do not turn on side, upside down, or drop. Turning the tank upside down will cause media to enter the valve.
- Operating ambient temperature is between 34°F (1°C) and 120°F (49°C).
- Operating water temperature is between 34°F (1°F) and 100°F (38°C).
- Working water pressure range is 20 to 120 psi (1.38 to 8.27 bar). In Canada the acceptable working water pressure range is 20 to 100 psi (1.38 to 6.89 bar).
- Use only regenerant salts designed for water softe se

Valve Features

Figure 2
255 Valve Identification

Figure 3
Performa Valve Identification

Time & DayRegen Time & DaySaltSU

- Moisture — The valve and 700 controller are rated for NEMA 3 locations. Falling water should not affect performance.

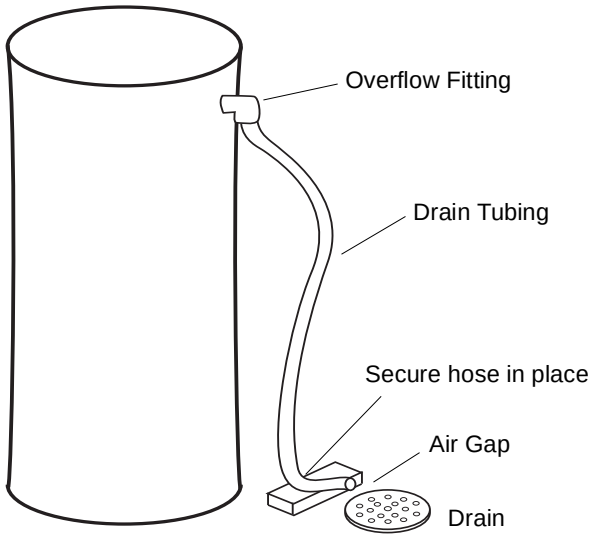
Figure 5

Drain Line Connection

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) providing 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. Where 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

Figure 8
Drain Line Connectn

Figure 9
Overflow Line Connection



Regenerant Line Connection
(not used with 3-cycle filter system)

The regenerant line from the tank connects to the valve. Make the connections and hand tighten. 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.

Most installations utilize a tank check valve. This is not necessary when using the 255 valve with the built-in aircheck. Using a tank check valve with the 255 valve with aircheck will result in premature checking of the aircheck valve, before the tank is empty.

Figure 10
Air Check for 255 valve

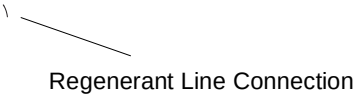
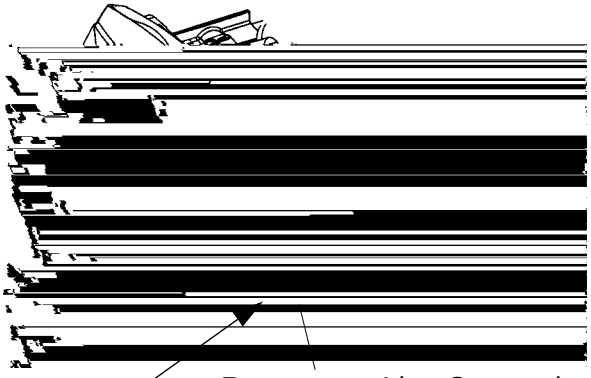


Figure 11
Regenerant Connection
for Performa Valve



NOTE: Be sure to use a 3/8 inch NPT plumbing connection when attaching regenerant line to the Performa valve.

NOTE: When installing a 3-cycle filter (253, 263, or 273 valve) use a cap on the regenerant line connection to prevent water seepage from the port. See *Parts and Accessories* section for part number.

An aircheck must be used in the regenerant line when installing a Performa valve.

Figure 12
Regenerant Tank Check Valve (not provided)*

* Furnished as an option from conditioner system manufacturer.

Electrical Connection

CAUTION:

100 VAC, 120 VAC and 230 VAC 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 8 hours may cause the controller to lose the time and day settings. When power is restored, the day and time settings must then be re-entered.

The 700 Series controller is available in two power configurations. The North American controller operates on 60 Hz. If the incoming power is 50 Hz, the "North American" controller will not function. The error code "ERR 2" will show on the display.

The "World" controller will sense the input power as 50 or 60 Hz and operate accordingly.

Controller Location

The 700 Series controllers are designed to be mounted on the valve or attached to a flat surface. Installations that do not provide easy access to the valve can have the controller mounted for remote operation.

A remote mount connection, P/N 1256257, is available for the 700 Series controller.

Valve Camshaft

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

The numbers can be seen with the cover off, from the front over the top of the controller. The number at the top indicates which regeneration cycle is currently in progress.

Figure 13
Camshaft Front End for 255, 263, and 268 valve bodies

The corresponding slot for the number is positioned at the optical sensor which is approximately 90 ygrees out of phase.

Regeneration Cycle Indicators

SYSTEM DISINFECTION

Disinfection Of Water Conditioners

The materials of construction of the modern water conditioner 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

Application

These materials are satisfactory for use with polystyrene resins, synthetic gel zeolite, greensand 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
   A. Polystyrene resin; 1.2 fluid ounce (35.5 mL) per cubic foot.
   B. Non-resinous exchangers; 0.8 fluid ounce (23.7 mL) per cubic foot.
2. Brine 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.

**Clorox is a trademark of the Clorox Company.*

Calcium Hypochlorite

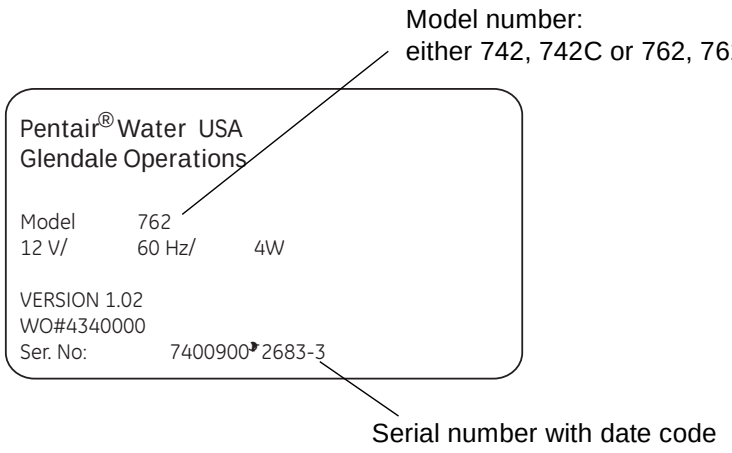
Calcium hypochlorite, 70% available chlorine, is available in several forms including tablets and granules. These solid materials may be used directly without dissolving before use.

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.

DETERMINING IF YOU HAVE A 742 OR 762 CONTROL

If you are unsure of your control model, simply remove the cover and disconnect the controller module from the control valve. In the back of the control valve is a silver label that will show your model number and version revision.

Figure 16



Display Icons 700 Controller

Figure 17

1. Days of the week. The flag immediately below the day will appear when that day has been programmed as a day the system should regenerate (used with 7-day timer programming).
2. See #3
3. This cursor is displayed when the days between regeneration are being

11. Locked/unlocked indicator. In Level I programming this is displayed when the current parameter is locked-out. It is also used in Level II programming to indicate if the displayed parameter will be locked (icon will flash) when controller is in Level I.
12. When "x2" is displayed, a second regeneration has been called for.
13. The recycle sign is displayed (flashing) when a regeneration at the next time of regeneration has been called for. Also displayed (continuous) when in regeneration.
14. The display cursor is next to "SALT" when programming the amount of regenerant. If the controller is on a 3-cycle filter then backwash time is programmed.
15. The display cursor is next to "REGEN TIME & DAY" when programming the time of regeneration and the days of regeneration.
16. The display cursor is next to "TIME & DAY" when programming the current time and day.
17. The hourglass is displayed when the motor is running. The camshaft should be turning.
18. These cursors will appear next to the item that is currently displayed.
19. X100 multiplier for large values.
20. When Lbs/ft^3 is displayed the value for regenerant amount entered is in pounds/cubic foot.
21. Faucet is displayed when the current flow rate is displayed. Control may show the faucet and "0", indicating no flow.
22. Maintenance interval display turns on if the months in service exceed the value programmed in P11.
23. Used with #24, #25, and #26. Displays a sequence number or a value.
24. History Values (H). The number displayed by #23 identifies which history value is currently displayed.
25. Parameter (P). Displayed only in Level II Programming. The number displayed by #23 identifies which parameter is currently displayed.
26. Cycle (C). The number displayed by #23 is the current cycle in the regeneration sequence.
27. Hardness setting—only used with 760 and 762 controllers.
28. Capacity display—shows estimated system capacity.

Keypad — Buttons

Figure 18

1. DOWN arrow. Generally used to scroll down or increment through a group of choices.
2. SET. Used to accept a setting that normally becomes stored in memory. Also used together with the arrow buttons.
3. UP arrow. Generally used to scroll up or increment through a group of choices.
4. Regenerate. Used to command the controller to regenerate. Also used to change the lock mode.

Programming Conventions

The 700 series controller is programmed using the buttons on the keypad. The programming instructions will be described two ways whenever a section has keypad input.

First, a table shows simplified instructions. Second, text follows that describes the action. In each table:

"Action" lists the event or action desired.

"Keys" are listed as:

UP for up arrow

DOWN for down arrow

SET for set

REGEN for regeneration

"Duration" describes how long a button is held down:

P/R for press and release
HOLD for press and hold
X sec for a number of seconds to press the button and hold it down

"Display" calls out the display icons that are visible.

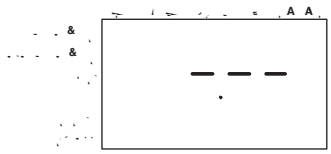
Regeneration Modes

The 700 Series controllers can be regenerated either automatically or manually. During a regeneration, the total time remaining of the regeneration will be displayed on the controller. The current cycle is shown in the lower left of the display.

To Initiate a Manual Regeneration:

- Press REGEN once for delayed regeneration. System will regenerate at next set regen time (2:00 AM).

742/762 Series Initial Power-Up



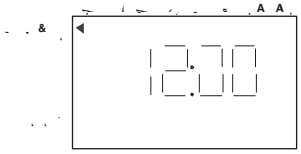
Step 2: Program System Size

This step may have been performed by your system's OEM manufacturer. In this case, proceed to step 3.

NOTE: Capacity is the result of the amount of media in the tank(re)-22(30.13725 0s)-

- Input system size – media volume (For FA filters, choose your closest media volume) – in cubic feet or liters.
- Use UP and DOWN buttons to scroll through resin volume choices.
- Choose the nearest volume to your actual system size.
- Press SET to accept the system size you've selected.
- If incorrect setting is programmed, see "Resetting the Control" section below.

NOTE:



Set 3: Program Time of Day

- While "12:00" is blinking, set the correct time of day.
- Use the UP and DOWN buttons to scroll to the correct time of day.
- "PM" is indicated, "AM" is not indicated.
- Press SET to accept the correct time of day and advance to the next parameter.

Step 4: Set Day of Week

- Press SET to make the arrow under "SU" flash.
- Use the UP and DOWN buttons to advance the arrow until it is under the correct day of week.
- Press SET to accept and advance to the next parameter.

After steps 1-4, the controller will operate most systems. Proceed to step 5 if further adjustments to your system's programming is needed.

Step 5: Set Regen Time

- 2:00 (AM) is the default time of regeneration. To accept this time, press the DOWN button to move to step 6.
- To change the regen time, press SET – causing "2:00" to flash.
- Use the UP and DOWN buttons to advance to the desired regen time.
- Press SET to accept the time and advance to the next parameter.

Step 6: Set Days to Regenerate (742 Time-Clock Control Only)

- If using 762 control – proceed to step 6a.
- Set number of days between time-clock regeneration (regen frequency).
- Default time is 3 days.
- Days can be adjusted from ½ (.5) to 99 days.
- To change, press SET to make the “3” flash.
- Use the UP and DOWN buttons to change the number of days desired.
- Press SET to accept the regen frequency, and advance to the next cycle.

- To use the 7-day timer option –see *Dealer Installation Manual*

Table 1- High Efficiency Exchange Capacity

Salt lbs/cu ft	Exchange Capacity grains/cu ft	Salt grams/ liter	Exchange Capacity grams/liter
3	14100	50	33.6
4	18307	60	40.0
5	21160	70	44.5
6	23490	80	48.4
7	25460	90	51.8
8	27167	100	54.9
9	28673	110	57.7
10	30019	120	60.2
11	31238	130	62.6
12	32350	140	64.8
13	33373	150	66.8
14	34320	170	70.4
15	35202	200	75.2
16	36027	230	79.3
17	36802	260	82.9
18	37533	290	86.1

Table 2

To Convert Capacity in	Into Capacity in	Multiply by
kilograms (kg)	kilograins (kgr)	15.43
kilograins (kgr)	kilograms (kg)	0.0648
moles of $CaCO^3$	kilograms (kg)	0.10
equivalents of $CaCO^3$	kilograms (kg)	0.05

- To program the regenerant amount, press SET to enter the change mode. The 9 (lbs/ft^3) default will begin to flash. Use UP and DOWN to scroll through the available settings. Press SET to enter the amount.

Filter backwash time (filter mode only)

If the system is set up as a filter, regenerant amount is unnecessary. The controller deactivates the regenerant amount setting, and changes to an adjustable backwash time in minutes.

- Press SET to change the time.
- The default time of 14 minutes will begin to flash.
- Use UP and DOWN to select the appropriate backwash time for the media type and amount used. The controller can use 0 to 99 minutes for backwash.
- Press SET again to enter that time.

Step 8: Estimated Capacity

- System capacity is displayed in total kilograins or kilograms of hardness removed before a regeneration is necessary.
- Value is derived from the system's resin volume input, and salt amount input.
- The capacity displayed is a suggested value – as recommended by resin manufacturers.

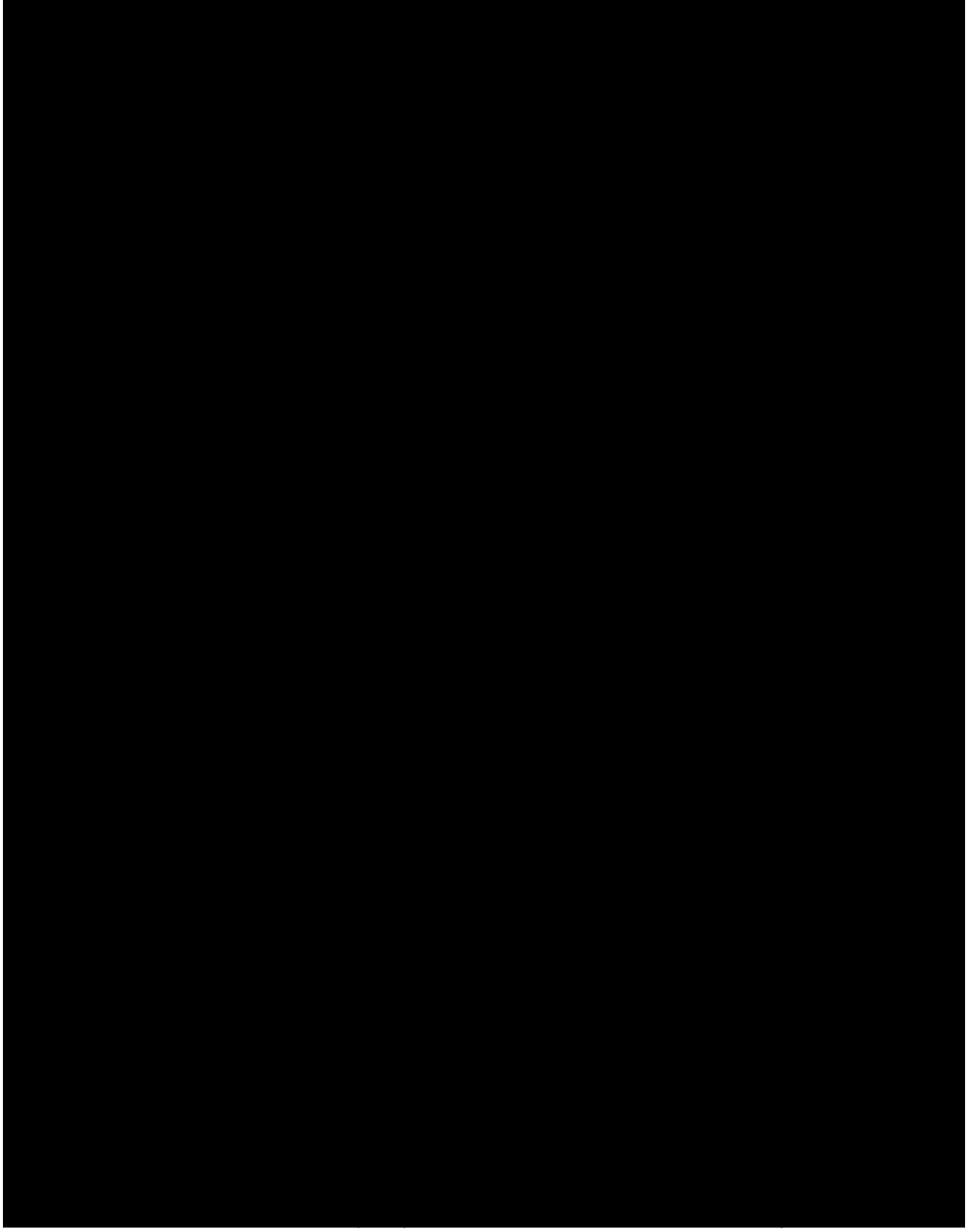
PLACING CONDITIONER INTO OPERATION (turning on the water)

Conditioner and FA Filter Start-Up

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 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. Hold the REGEN button on the controller down for 5 seconds. This will initiate a manual regeneration.

   The controller will indicate that the motor is turning the camshaft to the cycle C1 (Backwash) position by flashing an hourglass. The controller will display the total regen time rema10.9(i)-0(t)-10.9g. t1.2 TD0 6667c-0



regenerant tank. Let the water flow through the line until all air bubbles have been purged from the line.

D. Do not let the water flow down the line to the tank for more than one to two minutes, or the tank may overfill.

E. Once the air is purged from the line, press the SET button and the UP button simultaneously to advance to cycle C0 (Treated Water) position.

7. Draw water from the regenerant tank.
   A. From the treated water position (cycle C0), advance the valve to the draw regenerant position. Hold the REGEN button down for five seconds.

      The controller will begin a manual regen, and advance the control valve to the cycle C1 (Backwash). Press the SET and UP button to advance to cycle C2 (Draw).

   B. 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.

   C. Observe the water being drawn from the regenerant tank for at least three minutes. If the water level does not recede, or goes up, check all hose connections. C2 should be displayed.
8. If the water level is receding from the regenerant tank you can then advance the controller back to the treated water (C0) position by pressing SET and the UP buttons simultaneously to advance the controller to the C0 position.
9. Finally, turn on a faucet plumbed after the water conditioner. Run the faucet until the water runs clear.

PROGRAMMING THE 700 FOR 5-CYCLE FILTER APPLICATIONS

Manganese Greensand Systems

Sizing FA Filters

Potassium permanganate regenerating iron filters should be sized for the appropriate backwash and injector sizes.

Backwash Controller

Be sure to choose the appropriate backwash flow rate control (see *Parts* section) as recommended byomced .2(o)-a .4(m)-aned unict

Things You Might Need to Know

- When the controller is first plugged in, it may display a flashing hourglass and the message Err 3, this means that the controller is rotating to the home position. If the Err 2 is displayed, check that the incoming power frequency matches the controller. The North American controller will not run with 50 Hz input.
- The preset default time of regeneration is 2:00 AM.
- English or Metric? The World controller senses the electrical input and decides which is needed. The North American controller only runs on 60 Hz and defaults to English units.
- The 700 Series controller can be programmed to regenerate on specific days of the week.
- If electrical power is not available, the camshaft can be rotated counterclockwise by hand if the motor is removed.
- The 700 Series controllers send commands to the motor for camshaft movement. However, water pressure/flow are required during the regeneration cycle for backwash, purge and refill, and brine draw to actually take place.
- Make sure control power source is plugged in. The transformer should be connected to a non-switched power source.
- You can start programming at the beginning by resetting the amount of media. When viewing H0 (History Value) push and hold SET for five seconds. The display reverts back to **---** and any programmed information is lost. Return to *700 Series Initial Power Up*.

742/762 Level II Professional Programming

The 742/762 features a special programming level that allows the installing dealer to make changes to the control for more demanding applications. The home owner/end user should never have to access this level.

To enter Level II programming press and hold UP and DOWN for 5 seconds. A "P" value will be displayed indicating Level II.

Level II menus include:

P1 = Time of day

P2 = Day of week

P3 = Time of regeneration

P4 = Number of days between regeneration (99 day calendar override)

P5 = Not used (742 only)

P6 = Amount of regenerant used per regeneration or filter backwash time (salt setting)

P7 = System capacity

P8 = Hardness

P9 = Units of measure

P10 = Clock mode

P11 = Service interval

P12 = Remote regeneration switch delay

P13 = Refill sens

Accessing History Values

The 742/762 features a review level that displays the operation history of the system. This is a great troubleshooting tool for the control valve.

To access history values, press and hold SET and DOWN for five seconds to view the "H" levels.

History Values

	Description	Range	Notes
H0	Initial setting value	Cubic feet or liters	Resin volume
H1	Days since last regeneration	0 – 255	
H2	Current flow rate	Depends on turbine used	762 only
H3	Water used today in gallons/m^3		

Resetting the Control

To reset the control:

1. Press and hold SET and DOWN simultaneously for 5 seconds.
2. H0 and the system's set resin volume (or "F" mode) will be displayed.
3. If a history value other the "H0" is displayed, use the UP button to scroll through the settings until "H0" is displayed.
4. To reset the control, press and hold SET for 5 seconds.
5. The control will be reset to an unprogrammed state.

6. Go to “Initial Set-up” section to reprogram control.

WARNING:

All further advance programming or set-up instructions can be found in the Dealer Installation and Service Manual, P/N 1255652.

255 Valve Parts List

Code	Part No.	Description	Qty.	Code	Part No.	NoNon2d

*Not Shown

255 Valve Parts List (Continued)

Code	Part No.	Description	Qty.
*		Piping Boss	
		Piping Boss Kit (includes hardware):	
	1040277	3/4-inch NPT, Brass 3/8-inch NPT Drain	
	1040278	1-inch NPT, Brass 1/2-inch NPT Drain	
	1040281	3/4-inch BSPT, Brass 3/8-inch BSPT Drain	
	1040282	1-inch BSPT, Brass 1/2-inch BSPT Drain	
	1040279	3/4-inch NPT, Plastic 1/2-inch NPT Drain	
	1040280	1-inch NPT, Plastic 1/2-inch NPT Drain	
	1040283	3/4-inch BSPT, Plastic 1/2-inch BSPT Drain	
	1040284	1-inch BSPT, Plastic 1/2-inch BSPT Drain	
*	1040339	Piping Boss Installation Kit	1
*		Meter Adapter	
	1032350	Kit, Meter Adapter	1
	1032351	Meter Install Kit	1
*		Bypass Valve	
	1040769	Bypass Body Assembly with Install Kit	1
	1040524	Bypass Installation Kit	1

Code	Part No.	Description	Qty.
		Tube Adapter Kits	
*	1001606	3/4-inch Copper Tube Adapter Kit	1
*	1001670	1-inch Copper Tube Adapter Kit	1
*	1001608	22-mm Copper Tube Adapter Kit	1
*	1001613	3/4-inch CPVC Tube Adapter Kit	1
*	1001614	1-inch CPVC Tube Adapter Kit	1
*	1001615	25-mm CPVC Tube Adapter Kit	1
*	1001769	3/4-inch NPT Plastic Pipe Adapter Kit	1
*	1001603	1-inch NPT Plastic Pipe Adapter Kit	1
*	1001604	3/4-inch BSPT Plastic Pipe Adapter Kit	1
*	1001605	1-inch BSPT Plastic Pipe Adapter Kit	1
*	1001611	3/4-inch BSPT Brass Pipe Adapter Kit	1
*	1001610	1-inch NPT Brass Pipe Adapter Kit	1
*	1001612	1-inch BSPT Brass Pipe Adapter Kit	1

*Not Shown

Performa Parts List

Code	Part No.	Description	Qty.
1	1244651	Valve Assembly w/o Flow Controls	1
2	1235338*	Top Plate, 268/700 Series Valves	1
3	1235339*	Valve Disc Spring, One Piece, Performa Valve	1
4	1236246*	Cover, Valve, 255/Performa 700/860 Series Controller	1
5		Performa Logix Camshafts	1
	1235352*	Cam, 263-268/700-860 Series Valve, STD, Black	
	1237402*	Cam, 269/700-860 Series Valve, STD, Green	
	1237403*	Cam, 273/700-860 Series Valve, STD, Gray	
	1237404*	Cam, 273/700-860 Series Valve, TWIN (insert)	
	1237405*	Cam, 278/700-860 Series Valve, STD, Brown	
	1237406*	Cam, 278/700-860 Series Valve, TWIN, Tan (insert)	
6		Drain Control Assembly:	1
	1000209	No. 7 (1.3 gpm; 4.9 Lpm)	
	1000210	No. 8 (1.7 gpm; 6.4 Lpm)	
	1000211	No. 9 (2.2 gpm; 8.3 Lpm)	
	1035735	“K” Injector (High Efficiency) - Pink (12-inch tank)	
	1035736	“L” Injector (High Efficiency) - Orange (13 & 14-inch tanks)	
	1032978	Plugged Injector for 263 Filter	
	1032985	Plugged Injector Cap	
10A	1000222	Regenerant Refill Controller, No Bal, 0.33 gpm	1
10B	1243510	Regenerant Refill Controller	
11	1030502	Ball, Refill Flow Control	
*	1030334	Plugged Refill Flow Control - for 263 Valve	
12	1002449	Drain Fitting Elbow (3/4-inch hose barbed)	1
13	1010428	O-Ring	1
14	1000269	Injector Cap with O-Ring	1
15	1035622	Tank Ring	1
*	1041174	Valve Disc Kit: Standard	
16	Plumbing Adapter Kits:		1
	1001606	3/4-inch Copper Tube Adapter Kit	
	1001670	1-inch Copper Tube Adapter Kit	
	1001608	22-mm Copper Tube Adapter Kit	
	1001613	3/4-inch CPVC Tube Adapter Kit	
	1001614	1-inch CPVC Tube Adapter Kit	
	1001615	25-mm CPVC Tube Adapta 9.3-0.024i(t)24-1202CCnseCa///j1jb23u; 2-	

*Not shown on drawing.

Logix 700 Series Controllers Parts List

742/762 Control

TROUBLESHOOTING

700 Series Controller Troubleshooting

Problem	Possible Cause	Solution
ERR 1 is displayed	Controller power has been connected and the control is not sure of the state of the operation.	Press the UP arrow and the control should reset.
ERR 2 is displayed	Controller power does not match 50 or 60 Hz.	Disconnect and reconnect the power. If problem persists, obtain the appropriate controller or AC adapter for either 50 or 60 Hz power.
ERR 3 is displayed	Controller does not know the position of the camshaft. Camshaft should be rotating to find Home position.	Wait for two minutes for the controller 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 controller module. Verify that optical sensor is connected

System Troubleshooting

Problem	Possible Cause	Solution
1. Brine tank overflow.	a. Uncontrolled brine refill flow rate.	a. Remove brine control to clean ball and seat.
	b. Air leak in brine line to air check.	b. Check all connections in brine line for leaks. Refer to instructions.
	c. Drain control clogged with resin or other debris.	c. Clean drain control.
2. Flowing or dripping water at drain or brine line after regeneration.	a. Valve stem return spring weak.	a. Replace spring. (Contact dealer.)
	b. Debris is preventing valve disc from closing.	b. Remove debris.
3. Hard water leakage after regeneration.	a. Improper regeneration.	a. Repeat regeneration after making certain correct salt dosage was set.
	b. Leaking of external bypass valve.	b. Replace bypass valve. (Contact dealer.)
	c. O-ring around riser pipe damaged.	c. Replace O-ring. (Contact dealer.)
	d. Incorrect capacity.	d. Verify appropriate salt amount and system capacity. (Contact dealer.)
4. Control will not draw brine.	a. Low water pressure.	a. Make correct setting according to instructions.
	b. Restricted drain line.	b. Remove restriction.
	c. Injector plugged.	c. Clean injector and screen.
	d. Injector defective.	d. Replace injector and cap. (Contact dealer.)
	e. Valve disc 2 and/or 3 not closed.	e. Remove foreign matter from disc and check disc for closing by pushing in on stem. Replace if needed. (Contact dealer.)
	f. Air check valve prematurely closed.	f. Put control momentarily into brine refill, C8. Replace or repair air check if needed. (Contact dealer.)
5. Control will not regenerate automatically.	a. AC adapter or motor not connected.	a. Connect power.
	b. Defective motor.	b. Replace motor. (Contact dealer.)
6. Control regenerates at wrong time of day.	a. Controller set incorrectly.	a. Correct time setting according to instructions.
7. Valve will not draw brine.	a. Low water pressure.	
	b. Restricted drain line.	
	c. Injector plugged.	
	d. Injector defective.	
	e. Air check valve closes prematurely on 255 valve or brine pickup tu Tc0ecd68(e)0.3(0244 8(0244 -1.2195 TD000547c-0.0163 Tw2)8.S15.)-23c0n	

8. System using more or less salt than regenerant setting.	a. Foreign matter in valve causing incorrect flow rates.	a. Remove brine control and flush out foreign matter. Advance control to brine/ slow rinse, C2 to clean valve (after so doing position control to "fast rinse, C7" to