

Two-Button Controller

This appliance features a two-button controller with an LCD display. The controller can be used to view the appliance's status, perform regenerations, and change settings. See Figure 7. The controller must be set up correctly for the appliance to perform properly. **Note:** Ensure that the bottom of the controller is firmly locked onto the four tabs on the top of the drive end cap assembly. See Figure 8.

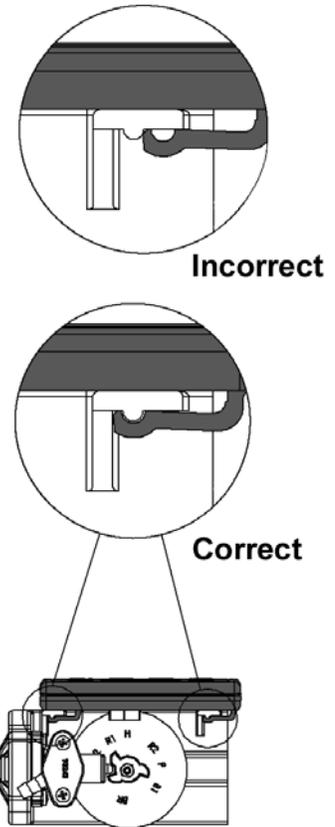
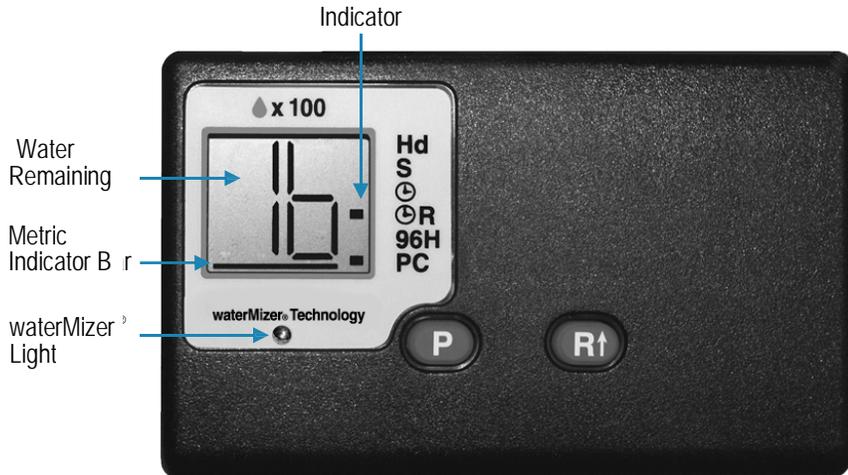


Figure 8: Controller Tab Lock Detail

Controller Part	Function										
LCD Display	Shows the status of the controller										
Soft Water Remaining (▲ x 100)	Shows the gallons (or liters) of soft water remaining until the next automatic regeneration. Typically, each person in the household uses about 75 gallons (284 L) per day. Water remaining is in gallons (or liters) in hundreds. For example 5 = 500 gallons (19 = 1900 liters).										
Recharge/Regeneration Status	Shows regeneration cycle numbers during regeneration. The display will blink the cycle number. The blinking regeneration numbers are: <table style="margin-left: 40px; border: none;"> <tr> <td>First cycle</td> <td>(01) First Backwash</td> </tr> <tr> <td>Second and Third cycles</td> <td>(02) Brine/Slow Rinse</td> </tr> <tr> <td>Fourth cycle</td> <td>(03) Second Backwash</td> </tr> <tr> <td>Fifth cycle</td> <td>(04) Brine Refill</td> </tr> <tr> <td>Sixth cycle</td> <td>(HO) Service (Briefly)</td> </tr> </table> <p>When regeneration is complete, the display shows the number of gallons (or liters) in hundreds of soft water remaining. (See above) Regeneration is typically completed in about 30 minutes.</p>	First cycle	(01) First Backwash	Second and Third cycles	(02) Brine/Slow Rinse	Fourth cycle	(03) Second Backwash	Fifth cycle	(04) Brine Refill	Sixth cycle	(HO) Service (Briefly)
First cycle	(01) First Backwash										
Second and Third cycles	(02) Brine/Slow Rinse										
Fourth cycle	(03) Second Backwash										
Fifth cycle	(04) Brine Refill										
Sixth cycle	(HO) Service (Briefly)										
waterMizer® Technology LED	Indicates that water is flowing through the appliance; the waterMizer® light flashes green when water is being used. This is useful for checking for proper plumbing and leaks.										

Two-Button Controller, Cont.

Controller Part	Function
Indicator	Shows the controller settings and used to indicate status during programming.
Hd	Blinks when setting the water hardness value.
S	Blinks when choosing a salt setting. Options S1 (S1), S2 (S2), or SA (SA) will also display.
⊕	Blinks when setting Time of Day (24-hour clock).
⊕ & ⊕R	Both blink when setting Time of Regeneration (24-hour clock).
⊕R	Blinks when setting Demand/Delayed mode. Blinks when Delayed mode is off (- -); remains lit when Delayed mode is on (OR). When Delayed mode is off (- -), the appliance is in Demand mode.
96H	Blinks when setting 96-Hour mode. Blinks when 96-Hour mode is off (- -); remains lit when 96-Hour mode is on (OR).
PC	Blinks when setting powerClean™ mode. Blinks when powerClean™ is off (- -); remains lit when powerClean™ is on (OR). Note: powerClean™ is a service/maintenance step for water supplies that have an excessive amount of iron. In powerClean™ mode, each appliance will regenerate every other day with either 5 pounds (2.3 kg) (model Pro Series 1400) of salt or 7 pounds (3.2 kg) (model Pro Series 2300) of salt. Leave the feature on for a minimum of two weeks at a time, every six months, so that the frequent regenerations can eliminate iron buildup in the resin bed. Salt with an iron cleaning agent or iron out cleaner is recommended for continuous use as a preventive measure against iron fouling of the resin bed. Properly using this feature and following these tips will help to ensure a long service life for your appliance.
Button	Function
P	Used to program and save Customer Settings.
R↑	Used to change Customer Setting values and to start an immediate regeneration (for example, to restore capacity if you run out of salt). To Start an Immediate Regeneration <ol style="list-style-type: none"> 1. Press and hold the R↑ button until the cycle begins. 2. The appliance is in regeneration mode and will display the status of each cycle (for example, 01). 3. After all regeneration cycles are complete, the display will return to Normal Operation. To Quickly Advance Through the Regeneration Cycles (used when starting up or diagnosing the appliance only) <ol style="list-style-type: none"> 1. Press and hold the R↑ button until the cycle begins. 2. The cycle position will display (for example, 01). 3. If the controller does not advance to the next cycle position after 20 seconds, press and hold the R↑ button until the cycle number changes (about 2 seconds). Each cycle can be advanced by pressing the R↑ button. Always wait until the cycle position displays before advancing to the next cycle position.

Setting the Controller

Step 1 Determine the Controller Setting Number

Using the hardness test kit follow the instructions, once you have determine your ppm use the table below for model water softener to find your controller setting number.

Note: Round up to whole numbers

Pro Series 1400 / 2300	
Range in Parts per million, milligrams per litre, ppm, mg/l (CaCO ₃)	Controller Setting Number, Grains per gallon
0 to 160	10
161 to 176	11
177 to 192	12
193 to 208	13
209 to 224	14
225 to 240	15
241 to 256	16
257 to 272	17
273 to 288	18
289 to 304	19
305 to 320	20
321 to 336	21
337 to 352	22
353 to 368	23
369 to 384	24
385 to 400	25
401 to 416	26
417 to 432	27
433 to 448	28
449 to 464	29
465 to 480	30
481 to 496	31
497 to 512	32
513 to 528	33
529 to 544	34
545 to 560	35
561 to 576	36
577 to 592	37
593 to 600	38

Pro Series 2300 only	
Range in Parts per million, milligrams per litre, ppm, mg/l (CaCO ₃)	Controller Setting Number, Grains per gallon
601 to 624	39
625 to 640	40
641 to 656	41
657 to 672	42
673 to 688	43
689 to 704	44
705 to 720	45
721 to 736	46
737 to 752	47
753 to 768	48
769 to 784	49
785 to 800	50
801 to 816	51
817 to 832	52
833 to 848	53
849 to 864	54
865 to 880	55
881 to 896	56
897 to 912	57
913 to 928	58
929 to 944	59
945 to 960	60
961 to 976	61
977 to 992	62
993 to 1008	63
1009 to 1024	64
1025 to 1040	65
1041 to 1056	66
1057 to 1072	67
1073 to 1088	68
1089 to 1104	69
1105 to 1120	70
1121 to 1136	71
1137 to 1152	72
1153 to 1168	73
1169 to 1184	74
1185 to 1200	75

Step 2 Enter Your Controller Setting Number Into the Controller

- Press and hold the **P** button for about 5 seconds until 25 displays and the **Hd** indicator is blinking.
- Press the **R↑** button until the display matches your compensated controller setting number. Once you pass 70, the display will reset to 03.
- Press **P** to save the controller setting number.
- To recheck the controller setting number, press and hold the **P** button for about 5 seconds until the controller setting number displays. Press the **P** button again to return to Normal Operation.

Your controller is now set.

Advanced Customer Settings

Most customers will want to use the factory default settings, so no changes are necessary. However, you can reset the controller settings if the factory default settings are not suitable for your needs. If at any time you wish to change the units to metric or restore the controller completely back to factory default settings, see *Additional Features*.

To Enter Advanced Customer Settings Mode

Press and hold the **P** and **R↑** buttons at the same time for 3 seconds. The display should show only the controller type 40 (model Pro Series 1400) or 18 (model Pro Series 2300).

Step 1 **Set Salt Setting**

- A. The **S** indicator will blink and the display reads **S1** (S1), designating the default of Salt Setting #1.
- B. Press the **R↑** button momentarily to cycle through the salt settings. There will be two available fixed salt settings and the Automatic Salt Setting.
 1. **S1** (S1) ensures that for each regeneration, the appliance gets at least 4000 grains per pound (570 grams/kg) of salt. This choice meets or exceeds the requirements some states currently have in regards to salt efficiency.
 2. **S2** (S2) will provide more capacity between regenerations than S1.
 3. **SA** (SA) is the automatic salt setting that uses the average daily water usage to determine an appropriate salt dosage, not to exceed the appliance's maximum capacity.
Note: This salt setting is recommended for large families and/or water with high levels of hardness. It gives the greatest capacity, if needed.
- C. When the desired setting is displayed, press the **P** button.
Note: All models are equipped with patented capacity guard to prevent the over-exhaustion of the resin bed.

Step 2 **Set Time of Day**

- A. The **⊕** indicator will blink and the display reads 00.
- B. Press the **R↑** button to cycle through values 00 to 23 representing the Time of Day on a 24-hour clock.
Note: Set time to the nearest hour.
- C. When the desired setting is displayed, press the **P** button.
Note: Whenever you experience an electrical outage, check your controller for the correct time. Make any necessary corrections.

Advanced Customer Settings, Cont.

Step 3 *Set Time of Regeneration*

- A. Both the ⊕ and the ⊕R indicator will blink and the display reads 02 for the default Regeneration Time of 2:00 a.m.
- B. Press the R↑ button to cycle through values 00 to 23 representing the desired Time of Regeneration on a 24-hour clock.
Note: Set time to the nearest hour.
- C. When the desired setting is displayed, press the P button.

Step 4 *Set Demand or Delayed Mode*

- A. The ⊕R indicator will blink and the display reads - -, indicating the default setting of Demand mode.
- B. Press the R↑ button to cycle between - - (Demand mode) or on (Delayed mode). If the Delayed mode is active, the ⊕R indicator is displayed during Normal Operation.
 - **Delayed mode** allows regeneration at a specific time (for example, at 2 a.m. when less water is typically being used).
 - **Demand mode** triggers a regeneration as soon as softening capacity is exhausted. This is the factory default.
- C. When the desired setting is displayed, press the P button.

Step 5 *Set 96-Hour Mode*

- A. The 96H indicator will blink and the display reads on, indicating the default status of on.
- B. Press the R↑ button to cycle between - - and on. If the 96-Hour mode is on, the 96H indicator is displayed during Normal Operation. The 96-Hour mode prevents the appliance from going longer than 4 days without a regeneration.
Note: If there is iron in your water, select 96H. On most municipal water supplies or if no water will be used for an extended period of time (for example, going on vacation), turn this option off.
- C. When the desired setting is displayed, press the P button and move to the next function.

Step 6 *Set powerClean™ Mode*

- A. The PC indicator will blink and the display reads - -, indicating the default status of off.
- B. Press the R↑ button to cycle between - - and on. This is the only way to turn the powerClean™ mode on or off. Turning on the powerClean™ mode, turns off the 96-Hour mode.
- C. When the desired setting is displayed, press the P button and return to Normal Operation.

Advanced programming is now complete.

Additional Features

The controller also has the capability of operating in metric units and of restoring factory defaults. To access these features, follow these steps.

Step 1 *Accessing Additional Features*

- A. Press and hold the **P** and **R↑** buttons at the same time for about 6 seconds. The display should show only the controller type 40 (model **Pro Series 1400**) or 18 (model **Pro Series 2300**) in solid numbers, change to blinking numbers, and then go back to solid numbers.
- B. Once the numbers are solid again, release the buttons and enter the code **P, P, R↑, P**. This code will enter you into the Unit Selection screen.

Note: Entering any combination other than the above code will put you into Advanced Settings.

Step 2 *Set Units*

- A. The indicator bar below the digits will blink and the display reads - -, designating the default of English units (gallons).
- B. Press the **R↑** button to cycle between - - (off) and **on** (on). Choosing **on** will set the units to metric (liters). When metric units are active, the indicator bar below the digits is displayed during Normal Operation.
- C. When the desired setting is displayed, press the **P** button.

Step 3 *Restore Factory Defaults*

- A. All of the side indicators will blink and the display reads - -.
- B. To restore factory defaults, press the **R↑** button to cycle the display to **on**. If you want to retain your current settings, leave the display showing - -.
Note: Restoring the factory defaults will erase any programming you have done, including changing the controller units and setting the clock.
- C. When the desired setting is displayed, press the **P** button and return to Normal Operation.