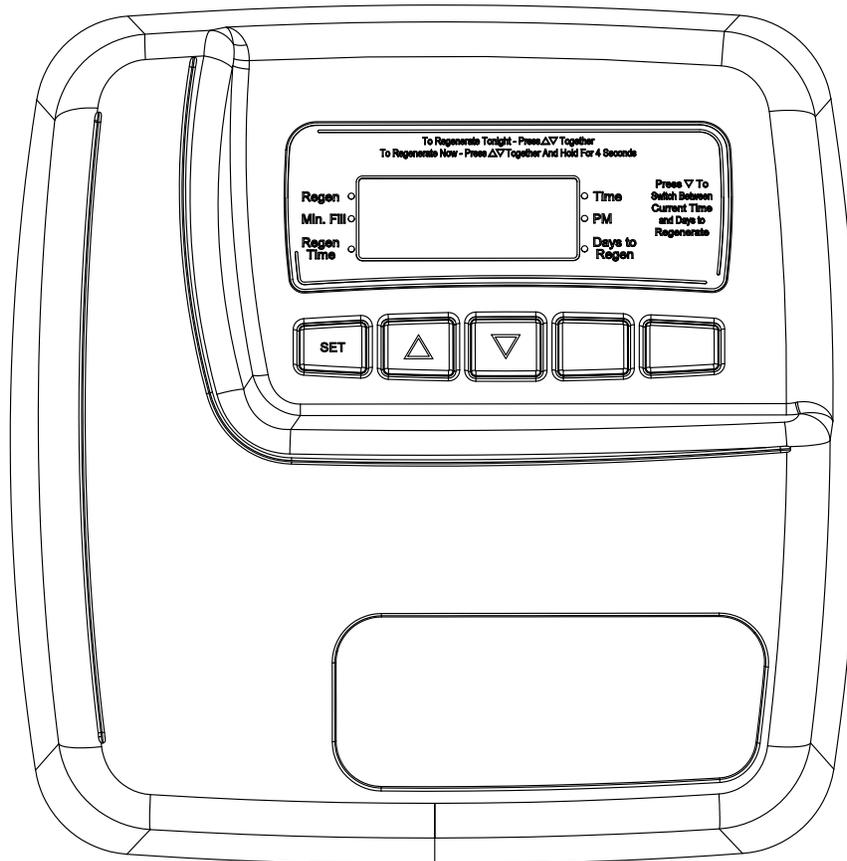


# Water Specialist

**1" Control Valve Series Model: WS1CT**

**1.25" Control Valve Series Model: WS1.25CT**





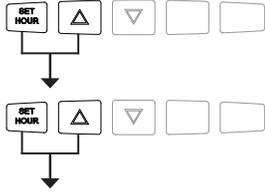
# Table of Contents

OEM System Setup.....4  
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## OEM General Instructions

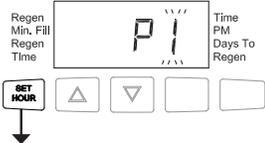
### OEM System Setup

#### STEP 1SS



**STEP1SS** – From normal mode, press SET and ▲ simultaneously for 3 seconds and release. Then press SET and ▲ simultaneously for 3 seconds and release.

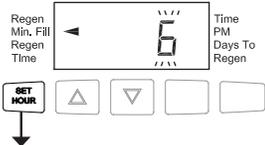
#### STEP 2SS



**STEP2SS** – Choose the desired program by pressing ▲ or ▼. Press SET to go to Step 3SS

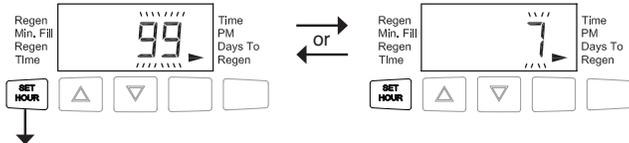
Program	All times in Minutes				
	C1 1st Backwash	C2 Regenerate	C3 2nd Backwash	C4 Rinse	C5 Fill
P0	3	50	3	3	1-99
P1	8	50	8	4	1-99
P2	8	70	10	6	1-99
P3	12	70	12	8	1-99
P4	10	50	Skipped	8	1-99
P5	4	50	Skipped	4	1-99
P6	12	6	Skipped	12	1-99
P7	6	Skipped	Skipped	4	Skipped
P8	10	Skipped	Skipped	6	Skipped
P9	14	Skipped	Skipped	8	Skipped

#### STEP 3SS



**STEP3SS** – If program P0 through P6 was selected, enter in the minutes of fill using ▲ or ▼. The allowable values vary from 1 to 99. If program P7, P8 or P9 was selected, this screen will not appear. Press SET to go to Step 4SS. Note: For each minute of fill 0.5 gallons of water is added to the solution tank. With Sodium Chloride, each 0.5 gallon of water will dissolve 1.5 pounds of salt.

#### STEP 4SS

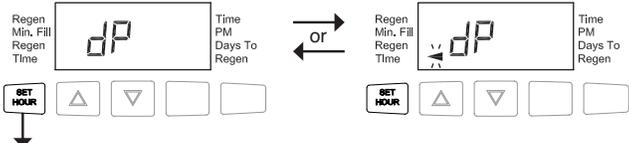


**STEP 4SS** – Use ▲ or ▼ to switch between:

- 1-99 Days Between Regen; or
- 7-Day.

Press SET to go to Step 5SS.

#### STEP 5SS



**STEP 5SS** – If a differential pressure switch is installed and actuated for a total of 2 minutes:

- a regeneration will occur immediately if no arrow points at Regen Hour; or
- a regeneration will occur at the delayed regeneration hour if an arrow points at Regen Hour.

Use ▲ or ▼ to switch between the two choices. If a differential switch is not installed the settings in this display are ignored. Press SET to go to Step 6SS.

#### STEP 6SS

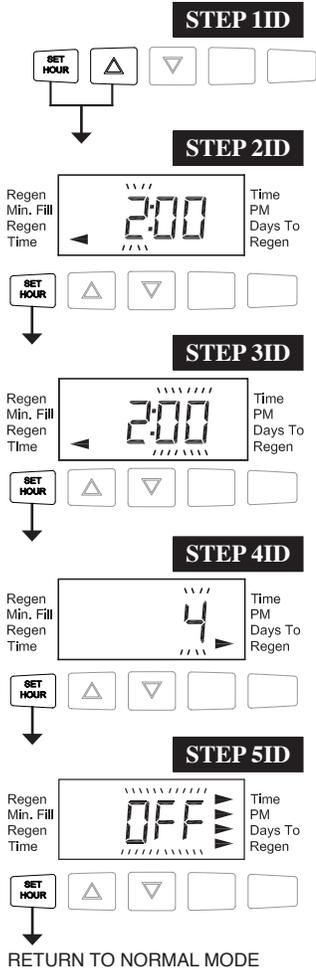


**STEP6SS** – Timekeeping format – only viewed when DC power supply is used. Use ▲ or ▼ to select 12 for 12 hour AM/PM format or 24 for 24 hour format.

Press SET to exit OEM System Setup.

RETURN TO  
NORMAL MODE

**Installer Displays & Settings (1-99 Days Between Regeneration option)**



**Step 1ID** - Access this mode by pressing SET and ▲ for approximately 3 seconds. The number of days between regenerations may need to be varied based on usage and water conditions.

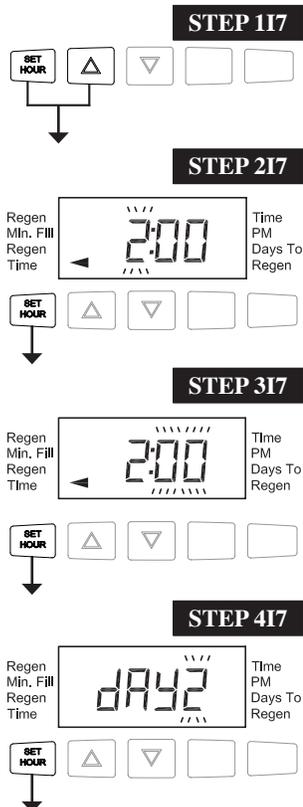
**Step 2ID** - Set Regeneration Time Hour. Set the time for regeneration to start. Press SET to go to the next step.

**Step 3ID** - Set Regeneration Time Minutes. Press SET to go to the next step.

**Step 4ID** - Set number of Days between regeneration cycles. The allowable range is 1-99. Press SET to go to Step 5ID. (This step will not appear if the 7-day clock option is selected.)

**Step 5ID** - LCD Backlight Operation. Set the backlight to be normally ON or OFF. When set to OFF, the backlight will go off after 5 minutes of no keypad activity. Press SET to exit Installer Displays and Settings.

**Installer Displays & Settings (7 day option)**



**Step 1I7** - Access this mode by pressing SET and ▲ for approximately 3 seconds. The number of days between regenerations may need to be varied based on usage and water conditions.

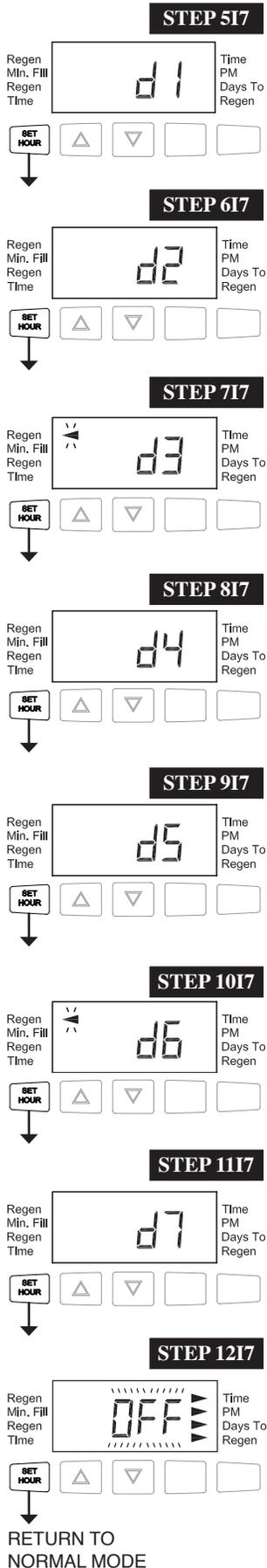
**Step 2I7** - Set Regeneration Time Hour. Set the time for regeneration to start. Press SET to go to the next step.

**Step 3I7** - Set Regeneration Time Minutes. Press SET to go to the next step.

**STEP 4I7** - Current Day of Week:  
Set the current day of the week by using ▲ or ▼  
(See chart at right for date codes).  
Press SET to go to STEP 5I7.  
(This step will not appear if the 99-day option is selected.)

Display	Day of Week
day 1	d1 Sunday
day 2	d2 Monday
day 3	d3 Tuesday
day 4	d4 Wednesday
day 5	d5 Thursday
day 6	d6 Friday
day 7	d7 Saturday

**Installer Displays & Settings (7 day option)**



**STEP517** – Sunday Regeneration: To regenerate on Sunday use ▲ or ▼ until the arrow points to Regen. If the arrow does not point to Regen a regeneration will not occur on Sunday. Press SET to go to STEP 617.

**STEP617** – Monday Regeneration: To regenerate on Monday use ▲ or ▼ until the arrow points to Regen. If the arrow does not point to Regen a regeneration will not occur on Monday. Press SET to go to STEP 717.

**STEP717** – Tuesday Regeneration: To regenerate on Tuesday use ▲ or ▼ until the arrow points to Regen. If the arrow does not point to Regen a regeneration will not occur on Tuesday. Press SET to go to STEP 817.

**STEP817** – Wednesday Regeneration: To regenerate on Wednesday use ▲ or ▼ until the arrow points to Regen. If the arrow does not point to Regen a regeneration will not occur on Wednesday. Press SET to go to STEP 917.

**STEP917** – Thursday Regeneration: To regenerate on Thursday use ▲ or ▼ until the arrow points to Regen. If the arrow does not point to Regen a regeneration will not occur on Thursday. Press SET to go to STEP 1017.

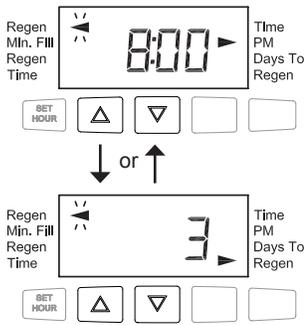
**STEP1017** – Friday Regeneration: To regenerate on Friday use ▲ or ▼ until the arrow points to Regen. If the arrow does not point to Regen a regeneration will not occur on Friday. Press SET to go to STEP 1117.

**STEP 1117** – Saturday Regeneration: To regenerate on Saturday use ▲ or ▼ until the arrow points to Regen. If the arrow does not point to Regen a regeneration will not occur on Saturday. Press SET to go to STEP 1217.  
 NOTE: If all arrows are turned off in d1-d7, the program will default to d7.

**STEP1217** – LCD Backlight Operation. Set the backlight to be normally ON or OFF. When set to OFF, the backlight will go off after 5 minutes of no keypad activity. Press SET to exit Installer Displays and Settings.

## User Displays

### General Operation



When the system is operating one of two displays will be shown. Pressing ▲ or ▼ will alternate between the displays. One of the displays is always the current time of day. The second display is the days remaining until the next regeneration. If the days remaining is equal to one, a regeneration will occur at the next preset regeneration time. The user can scroll between displays as desired.

If the system has called for a regeneration that will occur at the preset time of regeneration, the arrow will point to Regen.

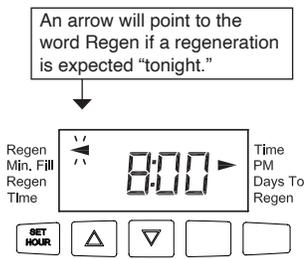
### Regeneration Mode



Typically a system is set to regenerate at a time of low water usage. An example of a time with low water usage is when a household is asleep. If there is a demand for water when the system is regenerating, untreated water will be used.

When the system begins to regenerate, the display will change to the Regeneration Cycle Display to indicate the current regen cycle step and time remaining. An arrow will also point to Regen. The system will run through the steps automatically and will reset itself to provide treated water when the regeneration is completed.

### Manual Regeneration

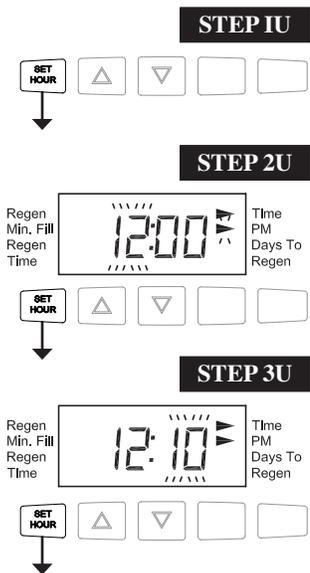


Sometimes there is a need to regenerate the system sooner than when the system calls for it, usually referred to as a manual regeneration. There may be a period of heavy water usage because of guests or a heavy laundry day.

To initiate a manual regeneration at the preset delayed regeneration time, simultaneously press ▲ and ▼ and release. The arrow will point to the word Regen if a regeneration is expected “tonight.” To cancel the regeneration simultaneously press ▲ and ▼ and release.

To initiate a manual regeneration immediately, simultaneously press ▲ and ▼ for three seconds. The system will begin to regenerate immediately. The request cannot be cancelled. Note: For softeners, if brine tank does not contain salt, fill with salt and wait at least two hours before regenerating.

### Set Time of Day



STEP 1U – Press SET.

Step 2U – Current time: Adjust hour with ▲ or ▼. With 60 Hz line frequency detection on power-up, timekeeping is 12 hour with PM indicator. With 50 Hz line frequency detection on power-up, timekeeping is 24 hour without the PM indicator. Press SET to go to Step 3U.

Step 3U - Adjust minutes with ▲ or ▼. Press SET to exit Set Time of Day.

### Error Message

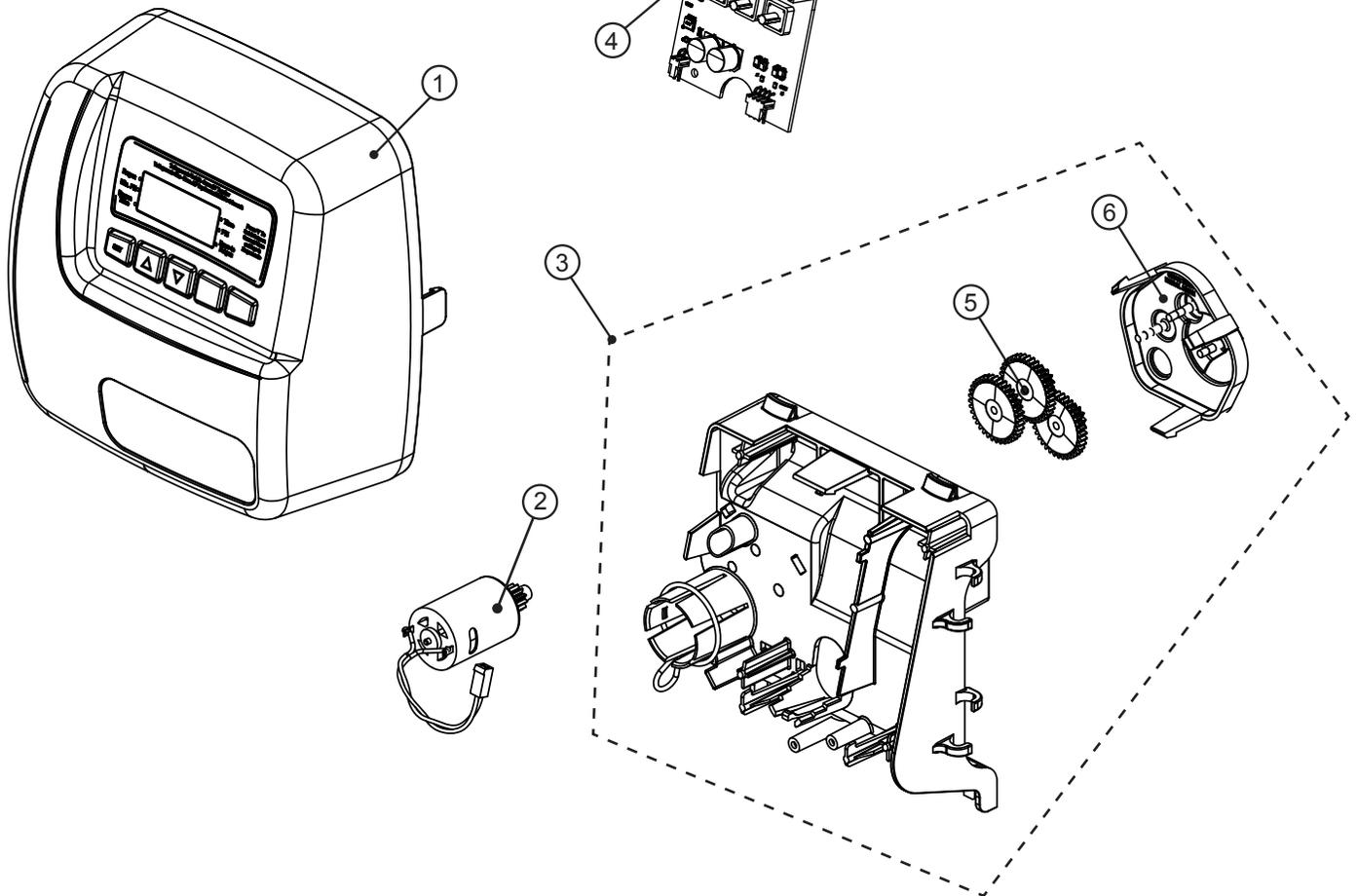
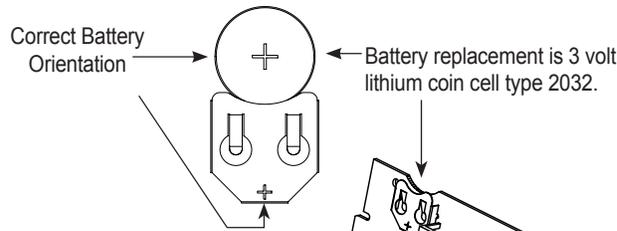
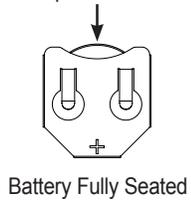


If “E1,” “E2,” “E3” or “E4” appears on the display contact the OEM for help. This indicates that the valve did not function properly.

Front Cover and Drive Assembly

Drawing No.	Order No.	Description	Quantity
1	V3545-02	WS1CT FRONT COVER ASSEMBLY	1
2	V3107-01	WS1 MOTOR	1
3	V3002-A	WS1 DRIVE BRACKET ASY	1
4	V3818CT-01BOARD	WS1/125 CT-01 4-DIGIT PCB REPL	1
5	V3110	WS1 DRIVE REDUCING GEAR 12X36	3
6	V3109	WS1 DRIVE GEAR COVER	1
Not Shown	V3186-06	WS1 POWER SUPPLY US 15VDC HOCP	1
	V3186EU-06	WS1 POWER SUPPLY EU 15VDC HOCP	
	V3186UK-06	WS1 POWER SUPPLY UK 15VDC HOCP	
	V3186-01	WS1 POWER CORD ONLY 15FT	

When replacing the battery, align positives and push down to fully seat.









**Revision History:****6/4/2020****PAGE 4:**

STEP 2SS - Update display

**PAGE 5:**STEP 4ID - Press SET to go to Step 5ID  
Added STEP 5ID**PAGE 6:**STEP 11I7 - Press SET to go to Step 12I7  
Added STEP 12I7**PAGE 8:**

4	V3818TC-01 BOARD	WS1/125 CT PCB REPLACE	1
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Removed #7 V3106-01 from table and drawing.

Not Shown	V3186-06	WS1 POWER SUPPLY US 15VDC HOCP	1
	V3186EU-06	WS1 POWER SUPPLY EU 15VDC HOCP	
	V3186UK-06	WS1 POWER SUPPLY UK 15VDC HOCP	
	V3186-01	WS1 POWER CORD ONLY 15FT	

Updated drawing of board (#4)

**8/25/2021****PAGE 8:**

4	V3818CT-01BOARD	WS1/125 CT-01 4-DIGIT PCB REPL	1
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