

User Guide

SOL-2CI Commercial Series Automatic Volume Based Water Softening Appliance

What's Inside

Puretec Customer Service	3
Installation Record	4
Before Installation.....	5
Specifications.....	7
Exploded Diagram.....	8
Parts Identification.....	9
Installation Procedure.....	10
Programming.....	14
Advanced Programming.....	17
Start-Up	22
Regeneration.....	22
Replenishment of Salt Supply	23
Type of Salt to Use	23
Brine Tank Clean-Out (Yearly).....	23
Media Replacement.....	23
Troubleshooting Guide	24
Warranty	26

Puretec Customer Service

Thank you for purchasing a Puretec Softrol Water Softening System. Your system is a proven performer manufactured from only quality materials and components. It will give years of reliability and trouble free operation if maintained properly.

This user guide is designed for Puretec SOL-2CI Water Treatment Systems. Be careful to ensure the information and illustration is applicable to your particular unit.

Caution: Do not use with water that is microbiologically unsafe or without adequate disinfection before or after the system.

The systems are designed for metropolitan supply water but can be used in other situations. For other types of water supply, please contact your local Puretec dealer.

Puretec Water Softeners are designed to run economically for many years, dependent on the initial installation and periodic maintenance.

- Flush system for 5 minutes or more, after any period of non-use, greater than 2 weeks.
- For point of entry installations an approved dual check backflow prevention device must be installed.
- When line pressure exceeds 600 kPa, a pressure limiting valve must be installed.

Note: Water softener salt not supplied.

Installation Note: A water filter system/tap, like any product, has a limited life and may eventually fail. Also sometimes failure happens early due to unforeseen circumstances. To avoid possible property damage, this product should be regularly examined for leakage and/or deterioration and replaced when necessary. A drain pan, plumbed to an appropriate drain or outfitted with a leak detector, should be used in those applications where any leakage could cause property damage, and/or the water supply should be turned off if no one is home/present.

Installation Record

For future reference, fill in the following data:

Product Information	
Model Number:	
Serial / Batch Number:	
Purchased from:	
Date of Installation:	
Installer / Plumber Details:	
Regen Frequency:	_____ Days

Water Analysis Information	
Hardness:	_____ ppm / mg/L
Iron:	_____ ppm / mg/L
Manganese:	_____ ppm / mg/L
pH:	_____
TDS (Total Dissolved Salts):	_____ ppm / mg/L
Conductivity:	_____ EC / uS/cm
Chloride:	_____ ppm / mg/L
Sodium:	_____ ppm / mg/L

Before Installation

Professional Installation Required

- Installation typically requires shutting the water supply, cutting the water supply pipe and using a welding torch to add piping and fittings. Specialised tools and skills are required; this must be completed by a qualified tradesperson.

Make Sure Your Water Has Been Thoroughly Tested

- An analysis of your water should be made prior to the selection of your water treatment equipment. Enter your analysis information on page 4 for your permanent record.
- Softeners are designed to reduce hardness but can handle reasonable amounts of soluble iron if consideration is given to content when selecting model and regeneration settings. For best results contact Puretec to discuss.

Install Water Conditioning Equipment Correctly

Select the location of your water softener with care. Various conditions which contribute to proper location are as follows:

- Install as close as possible to a drain.
- Install in correct relationship to other water treatment equipment. Contact Puretec for assistance.
- Install the softener in the supply line BEFORE the water heater. Temperatures above 40°C (104°F) will damage the softener and void the warranty.
- DO NOT install the softener in a location where freezing temperatures occur. Freezing may cause permanent damage and will also void the warranty.
- DO NOT install where water hammer conditions may occur without installing an arrestor.
- Allow sufficient space around the installation for easy servicing. Provide a non-switched 240V power source for the control valve.

Things to Remember While Planning Your Installation:

- All installation procedures **MUST** conform to local plumbing codes.
- If lawn sprinklers, a swimming pool, or geothermal heating/cooling or water for other devices/activities are to be treated by the softener system, a larger model **MUST** be selected to accommodate the higher flow rate, treated water volume, plus the backwashing requirements of the softener system. Contact Puretec for assistance.



WARNINGS

- The control valve, fittings and/or bypass are designed to accommodate minor plumbing misalignment but are not designed to support the weight of a system or the plumbing.
- Do not use petroleum jelly, oils, other hydrocarbon lubricants or spray silicone anywhere. A silicon lubricant may be used on the black o-rings but it is not necessary.
- Do not use pipe dope or other sealants on threads. Thread seal tape is the preferred sealant but is not necessary on the nut connection or caps because of O-ring seals.
- All plumbing should be done in accordance with local plumbing codes. The pipe size for the drain line should be a minimum of 1"-1½ (depending on your model, see page 9).
- Avoid getting primer and solvent cement on filter system.
- Install grounding strap on metal pipes if required.
- Ensure the system is protected against high pressure and extreme temperatures.

Note: Solder joints must be done prior to connecting to the valve fittings. Leave at least 6" between the fitting and solder joints when soldering pipes. Failure to do this could cause heat damage to the fittings.

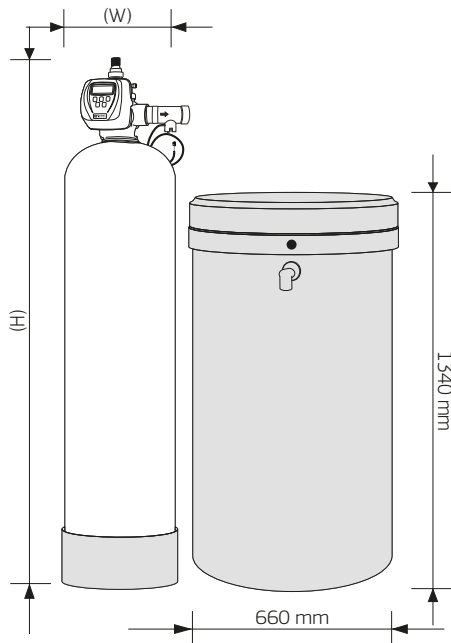
This should be carried out by a qualified tradesperson.

The nuts and caps are designed to be unscrewed or tightened by hand or with the special plastic spanner provided. If necessary pliers can be used to unscrew the nut or cap. Do not use a pipe wrench to tighten or loosen nuts or caps. Do not place screwdriver in slots on caps and/or tap with a hammer.

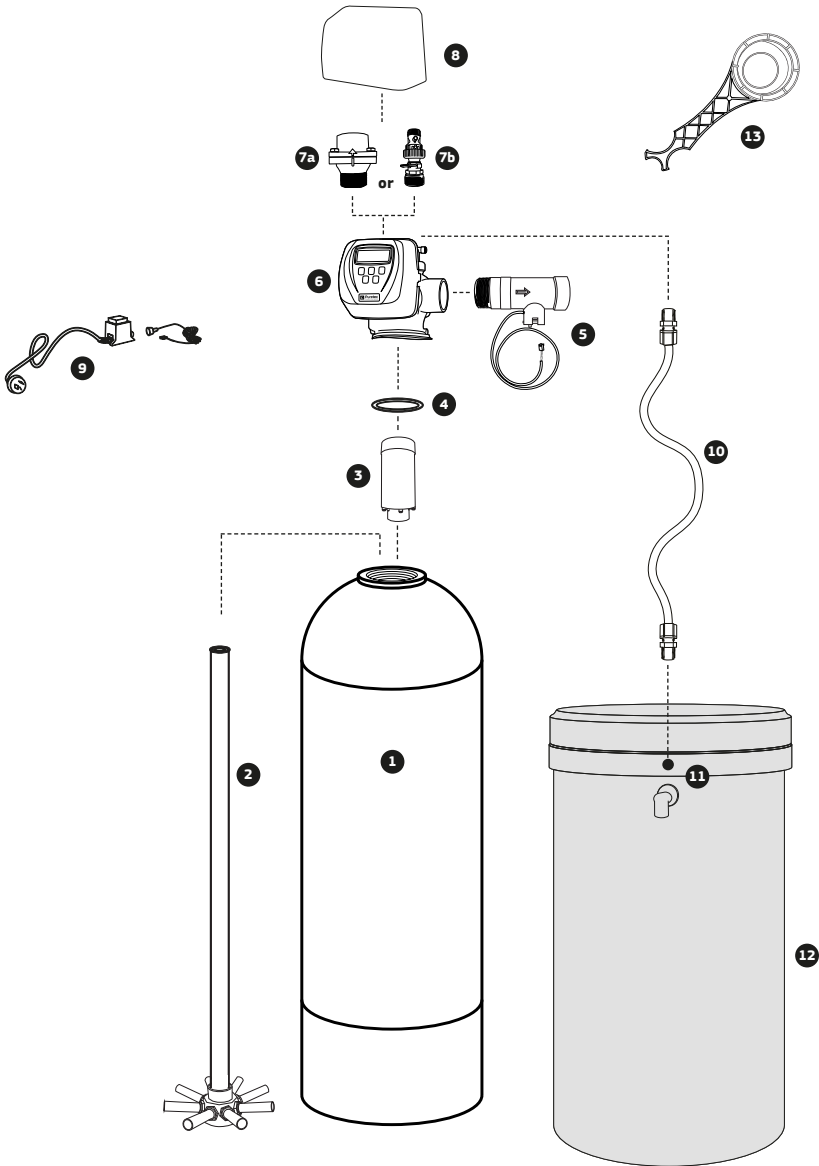
Specifications

Operating Pressure Min/Max	200 - 600 kPa
Operating Temperature Min/Max:	0 - 40 °C (protect from freezing)
Electrical Connection:	240V / 50 Hz
Inlet/outlet Connection:	2" BSP
Drain Connection:	1" or 1½" BSP
Brine Connection:	½" BSP

	SOL110-2CI	SOL160-2CI	SOL270-2CI	SOL380-2CI
Width (mm) (W):	406 mm	533 mm	610 mm	762 mm
Height (mm) (H):	1980 mm	2040 mm	2230 mm	2170 mm



Exploded Diagram



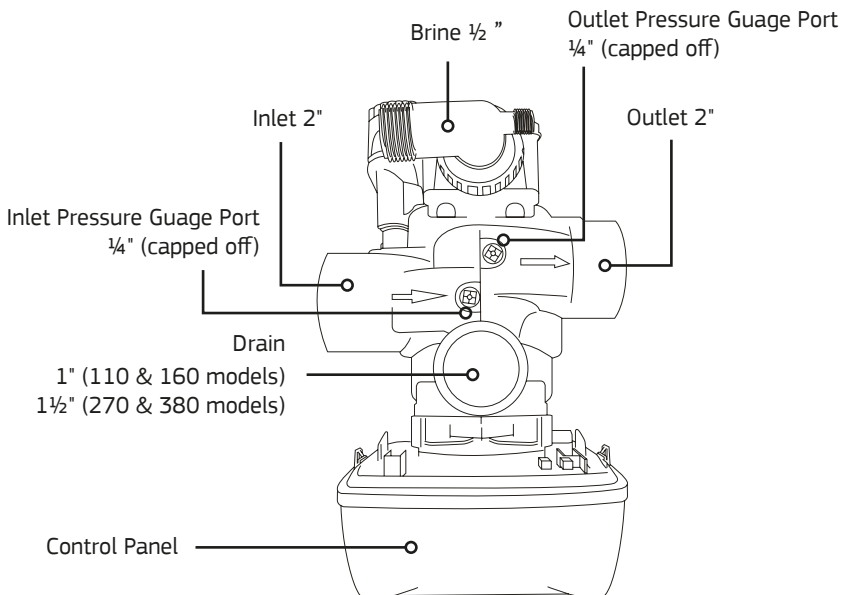
Parts Identification

Item	Part no	Description
1	-	Pressure Tank
2	WTD3320	Riser Pipe
3	WTD3100	Top Screen
4	WTD3040	Pressure Tank UV Shield
5	WTV7210	Flow Meter
6	WTV7100	Volumetric Valve
7a	WTV7150	1½" Drain Line Flow Controller (270 & 380 models only)
7b	WTV7330	1" Drain Line Flow Controller (110 & 160 models only)
8	WTV7200	Valve Cover

Item	Part no	Description
9	WTV5135	Transformer, Suit Auto Valve
10	-	Brine Draw Line Connector
11	-	Overflow
12	WTB2230	Brine Tank
13	WTV5180	Spanner
-	WTV7220	Spacer Stack*
-	WTV7250	2CI Volumetric Circuit Board*

*Not shown but pre-installed.

Diagram Identification



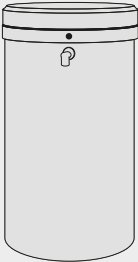
Installation Procedure

1 Unpack the Equipment

Ensure all parts are present and have not been damaged in transport. You should have:



Water Softener



Spanner



Media



Brine Draw Line Connector



User Guide

2 Extra Items Required



Bag of Salt (refer to page 16 for the type of salt to be used)

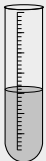


1" (110 & 160 models)
or 1½" (270 & 380 models)
Tubing for drain (refer to page 13)

1" Polypipe for overflow
(refer to page 13)

3 Testing & Analysis

Ensure water has been tested, Input values into Table on page 4 and the analysis has been inspected by Puretec.



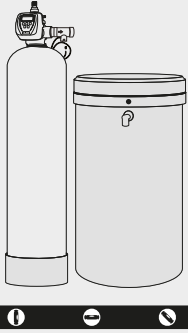
Water Analysis Information	
Hardness	... 5.50 ... ppm / mg/L
Iron	... 0.5 ... ppm / mg/L
Manganese	... 0.5 ... ppm / mg/L
pH	... 7 ...
TDS (Total Dissolved Solids)	... 2.72 ... ppm / mg/L
Conductivity	... 404 ... EC / uS/cm
Chloride	... 121 ... ppm / mg/L
Sodium	... 9.6 ... ppm / mg/L



Customer Service Helpline
1300 140 140 (AU) 0800 130 140 (NZ)



4 Position the Softener System on a Level Surface



Environmental conditions

Operating temperature: 0 - 40 °C
(protect from freezing)

Water conditions

Temperature: 0 - 50 °C
Pressure: 200 - 600 kPa

5 Media Installation

The Media has been shipped separately to avoid damage in transit.

The length of the internal riser pipe is pre-set and does not need adjustment.

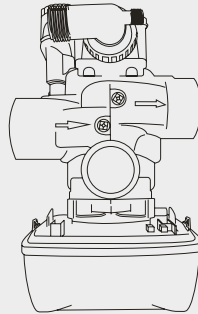
1. Position the system on a flat surface close to a drain or a properly trapped outlet, in a position when the system can service all lines requiring treated water. The system should be placed far enough away from any water heaters to avoid any hot water backflow into the system. A weatherproof power point and surge protector is recommended.
2. Plug or cover the top end of the riser pipe in the tank making sure no media can enter the tube.
3. Ensure that the riser pipe is sitting in the cradle at the base of the tank. Then using a wide mouth funnel, place the media in the tank as per the numbering on the buckets. (Buckets are labelled 4, 5 etc. Put No. 4 in first, followed by 5, etc. as required.)

Note: The head is No. 1, the vessel No. 2 and the tank is labelled No.3.

Remove the plug or cover from the riser pipe making sure you do not lift the riser pipe. Top up tank with water. Screw valve onto the tank (hand tight is usually sufficient), making sure the distributor tube is properly inserted into the valve.

6 Connecting the Softrol System

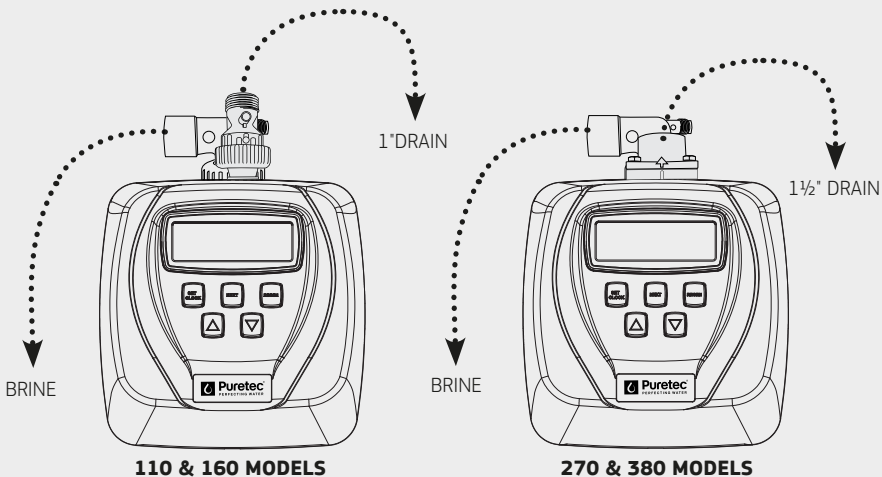
Connect the Softrol system to main plumbing. Do not solder brass adapters while they are inserted in the control module.



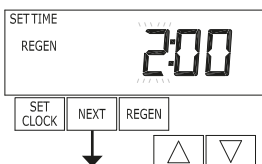
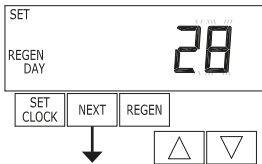
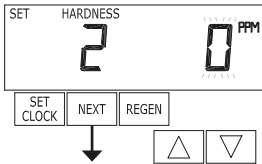
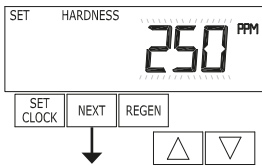
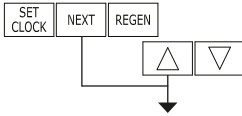
FOLLOW LOCAL
PLUMBING CODES

7 Connecting the Drain Line

Locate the drain line flow controller (see page 9 for identification) and attach to the tubing (tubing not supplied) from the valve to the drain. Ensure the drain line is not kinked. The line must not travel more than 2.4 m up from the valve, otherwise an increase of the diameter of the drain line will be required. Connect drain and overflow (see step 9) to sewer or storm water, whichever is approved by local authority for salty discharge water. Ensure drain line has an adequate air gap.



Programming



Installer Display Settings

Note: Press "REGEN" at any time to return to previous step.

1. Press "NEXT" and ▲ simultaneously for 3 seconds.
2. **Hardness:** Set the amount of influent hardness using ▼ or ▲. Units are ppm, which is equal to mg / L.

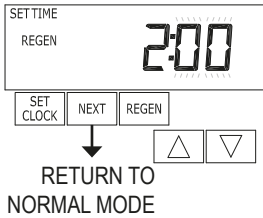
Press "NEXT" to go to the next step.
0 - 100 ppm - Adjustable in increments of 1 ppm.
100 + ppm - Adjustable in increments of 10 ppm.
3. **Service Water Hardness:** Preset to default (0 ppm). Changing this value will not alter the outlet hardness.

Press "NEXT" to go to the next step.
4. **Day Override:** Preset to default (28 days). Set Day Override using ▲ or ▼. Adjustments are in increments of 10 ppm (always round-up to nearest ppm).
 - Number of days between regeneration (1 to 28); or
 - oFF

When volume capacity set to "oFF" or to a number, sets the number of days between regenerations. If volume is set to AUTO a regeneration initiation will be called for on that day even if sufficient volume of water were not used to call for regeneration.

Press "NEXT" to go to the next step.
5. **Next Regeneration Time (hour) Preset to default to 2:00am :** Set the hour of the day for regeneration using ▲ or ▼ buttons. The default time is 2:00. This display will show "REGEN on 0 m³" if "on 0" is selected in Set Regeneration Time Option in Advanced Programming.

Press "NEXT" to go to the next step.



6. **Next Regeneration Time (minutes):** Set the minutes of the day for regeneration using ▲ or ▼.

This display will not be shown if "on 0" is selected in Set Regeneration Time Option in Advanced Programming.

Press "NEXT" to exit Installer Display Settings.

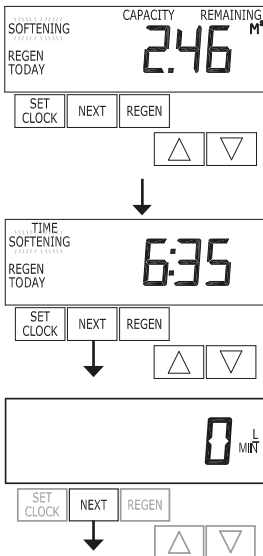
User Display Settings

General Operation: When the system is operating, one of the following displays may be shown. Pressing "NEXT" will alternate between the displays:

- **Current Time of Day**
- **Days or Volume Remaining:** Days remaining is the number of days left before the system goes through a regeneration cycle. Capacity remaining is the cubic meters that will be treated before the system goes through a regeneration cycle.
- **Current Treated Water Flow Rate:** The current treated water flow rate through the system.

If the system has called for a regeneration that will occur at the present time of regeneration, the words "REGEN TODAY" will appear on the display.

If a water meter is installed, the word "SOFTENING" flashes on the display when water is being treated (i.e. water is flowing through the system).



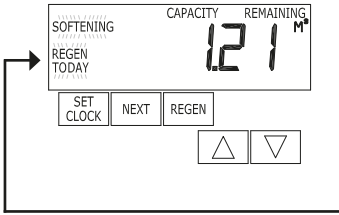
Regeneration Mode

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 include information about the step of the regeneration process and the time remaining for that step to be completed. The system runs through the steps automatically and will reset itself to provide treated water when the regeneration has been completed.

Manual Regeneration

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



Immediate Regeneration: To initiate a manual regeneration immediately, press and hold the "REGEN" button for three seconds. The system will begin to regenerate immediately.

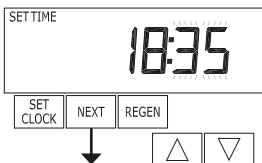
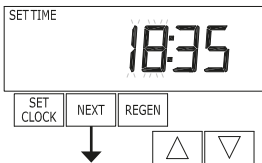
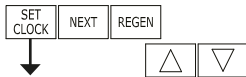
Note: The control valve may be forced through the various regeneration cycles by pressing the "REGEN" button.

Delayed Regeneration: To initiate a manual regeneration at the preset delayed regeneration time, press and release "REGEN". The words "REGEN TODAY" will flash on the display to indicate that the system will regenerate at the preset delayed regeneration time.

If you pressed the "REGEN" button in error, pressing the button again will cancel the request.

If the regeneration time option is set to "on 0" there is no set delayed regeneration time so "REGEN TODAY" will not activate if "REGEN" button is pressed.

Note: For softeners, if brine tank does not contain salt, fill with salt and wait at least two hours before regenerating.



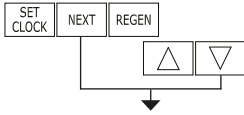
RETURN TO NORMAL MODE

Set Time of Day

Time of day should only need to be set on installation or when daylight saving time begins or ends. If the time flashes on & off after a power loss the time of day should be reset & the CR2032 button battery replaced. Note: All other settings will not require reprogramming. In the unlikely event of a power loss during a backwash, when the power is restored, a dry-reset should be performed (see page 27), followed by a manual regeneration (refer to above) if convenient.

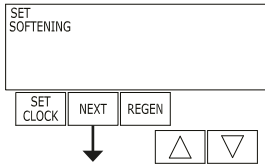
1. Press "SET CLOCK".
2. **Current Time (hour):** Set hour of the day by using ▲ or ▼. Press "NEXT" to go to next step.
3. **Current Time (minutes):** Set the minutes of the day using ▲ or ▼. Press "NEXT" to exit Set Clock.

Advanced Programming



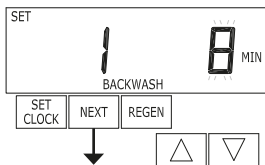
1. Press "NEXT" and ▼ simultaneously for 5 seconds and release.

Note: Press "REGEN" at any time to return to the previous step.



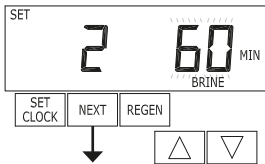
2. Choose "SOFTENING" using ▲ or ▼.

Press "NEXT" to go to the next step.



3. **Select the Time for the First Cycle** using ▲ or ▼. Default is 8.

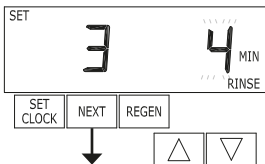
Press "NEXT" to go to the next step.



4. **Select the Time for the Second Cycle** using ▲ or ▼. Default is 60.

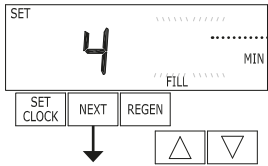
Note: The display will flash between cycle number, time and brine direction (dn).

Press "NEXT" to go to the next step.



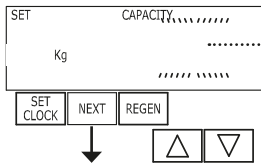
5. **Select the time for the Third cycle** using ▲ or ▼. Default is 4.

Press "NEXT" to go to the next step.



7. **Select the "FILL" for the Forth Cycle** using ▲ or ▼.
See Fill Chart below.

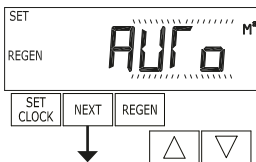
Fill Chart	
Model No.	Min.
SOL110-2CI	5.4
SOL160-2CI	9.5
SOL270-2CI	14.5
SOL380-2CI	20.5



8. **Set System Capacity** using ▲ or ▼.
See Volume Capacity Chart below.

Volume Capacity Chart	
Model No.	kg
SOL110-2CI	6.2
SOL160-2CI	11
SOL270-2CI	17
SOL380-2CI	23.5

Press "NEXT" to go to the next step.

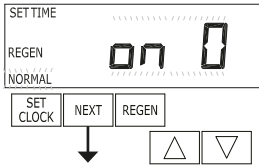


9. **Set Volume Capacity** using ▲ or ▼.

- **AUTO:** Capacity will be automatically calculated.
- **oFF:** Regeneration will be based solely on the day override set (see Installer Display Settings step 4);
- **A Number:** Regeneration initiation will be based on the value specified (in M³).

If "oFF" or a number is used, Installer Display Settings step 2 & 3 will not be displayed.

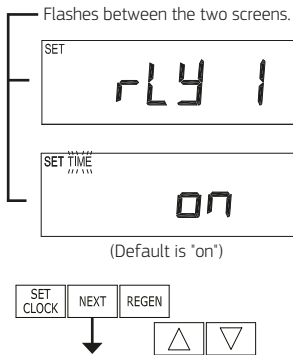
Press "NEXT" to go to the next step.



10. **Set Regeneration Time Options** using ▲ or ▼.

- **NORMAL:** Regeneration will occur at the preset time
- **On 0:** Regeneration will occur immediately when the volume capacity reaches 0 (zero); or
- **NORMAL + on 0:** Regeneration will occur when:
 - The preset time when the volume capacity falls below the reserve or the specified number of days between regenerations is reached, whichever comes first; or
 - Immediately after 10 minutes of no water usage when the volume capacity reaches 0 (zero).

Press "NEXT" to go to the next step.

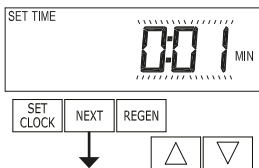


11. **Set Relay 1 Operation** using ▲ or ▼.

Note: Relay points provide a 12v DC, 100 MA output.

- **Time On:** Relay activates after a set time at the beginning of a regeneration cycle and then deactivates after a set period of time. The start of regeneration is defined as the first backwash cycle or Dn brine/Up brine cycle, whichever comes first.
- **L Softening On:** Relay activates after a set number of litres has been treated and then deactivates after a set period of time or after the meter stops registering flow, whichever comes first.
- **L Softening Regen On:** Relay activates after a set number of litres have been used while in service or during regeneration and then deactivates after a set period of time or after the meter stops registering flow, whichever comes first.
- **Off:** If set to "OFF", steps 12 & 13 will not be shown.

Press "NEXT" to go to the next step.

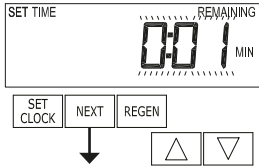


12. **Set Relay 1 Actuation Time or Litres** using ▲ or ▼.

- **Relay Actuation Time:** After the start of a regeneration the amount of time that should pass prior to activating the relay. The start of regeneration is defined as the first backwash cycle or Dn brine cycle, whichever comes first. Ranges from 1 second to 200 minutes.

Set to Total of: Backwash + Brine + Rinse + Fill + 1 min.

- **Relay Actuation Litres:** Relay activates after a set number of litres has passed through the meter when the valve is in service mode. Ranges from 1 to 200L.



Press "NEXT" to go to the next step.

13. **Set Relay 1 Deactivate Time** using ▲ or ▼.

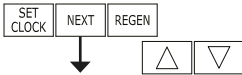
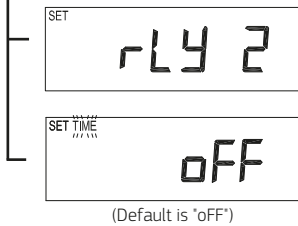
- If "on" is selected in step 10, the relay will deactivate after the time set has expired. Ranges from 1 second to 200 minutes.
- If "L on" or "L softening regen on" is selected in step 10, the relay will deactivate after the time set has expired or after the meter stops registering flow, whichever comes first. Ranges from 1 second to 20 minutes.

Press "NEXT" to go to the next step.

14. **Set Relay 2 Operation** using ▲ or ▼.

- **On:** Relay activates after a set time at the beginning of a regeneration cycle and then deactivates after a set period of time. The start of regeneration is defined as the first backwash cycle or Dn brine cycle, whichever comes first.
- **Set L Softening On:** Relay activates after a set number of litres has been treated and then deactivates after a set period of time or after the meter stops registering flow, whichever comes first.
- **L Softening Regen On:** Relay activates after a set number of litres have been used while in service or during regeneration and then deactivates after a set period of time or after the meter stops registering flow, whichever comes first.
- **Error:** Relay closes whenever the control enters the error mode and immediately deactivates when the error mode is exited.
- **Off:** If set to "oFF", steps 15 & 16 will not be shown.

Flashes between the two screens.

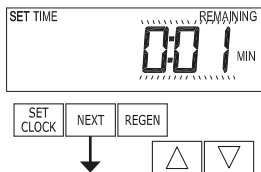


Press "NEXT" to go to the next step.

15. **Set Relay 2 Actuation Time or Litres** using ▲ or ▼.

- **Relay Actuation Time:** After the start of a regeneration the amount of time that should pass prior to activating the relay. The start of regeneration is defined as the first backwash cycle or Dn brine/Up brine cycle, whichever comes first. Ranges from 1 second to 200 minutes.
- **Relay Actuation Litres:** Relay activates after a set number of litres has passed through the meter when the valve is in the service mode. Ranges from 1 to 200 litres.





RETURN TO NORMAL MODE

Press "NEXT" to go to the next step.

16. **Set Relay 2 Deactivate Time** using ▲ or ▼.

- If "on" is selected in step 14 the relay will deactivate after the time set has expired. Ranges from 1 second to 200 minutes.
- If "L on" or "L softening regen on" is selected in step 14 the relay will deactivate after the time set has expired or after the meter stops registering flow, whichever comes first. Ranges from 1 second to 20 minutes.

Press "NEXT" to exit Advanced Programming.

Start-Up

Now programming is completed (if required) you are ready to start the system.

1. Fill the brine tank with 'water softener' salt to approximately half full (salt not included). Minimum start-up amount is 75 kg.
2. Add approximately 40 litres of water to the salt in the brine tank. This is only required for the initial setup.

Note: the water level will change, this is normal.

3. Open the nearest tap downstream of the filter system (after the filter system).
4. Allow water to flow through the system slowly, and allow all air to escape out of the closest tap. Wait until the water is flowing out of the tap and then increase the flow slowly up to full flow. Allow to run for 5 - 10 minutes.
5. Close the opened tap and check for leaks.
6. Conduct a full manual regeneration.
7. Your system is ready for use.

Regeneration

2CI Valve (Regeneration Time: 90 mins) - Default

This valve is designed to regenerate when the capacity is reached or the day override has been actuated due to insufficient water volume. The calculated capacity is subject to the size of the unit and inlet water hardness.

Replenishment of Salt Supply

During each regeneration a small amount of salt is consumed, thus requiring periodic replenishment for a continuous supply of treated water (the frequency and salt dosage level is dependent on the regeneration schedule).

We recommend to maintain the salt level in the brine tank to 1/2 to 2/3 full. The water level in the brine tank is maintained automatically and does not require manual intervention.

Note: The water level is usually below the salt level & therefore cannot be seen (this is as it should be).

Always replenish salt before the supply is exhausted.

Note: No extra water is required when topping up the salt level.

Type of Salt to Use

Any type of water softener salt may be used, but for best results, we recommend using coarse solar salt called "water softener salt" or alternatively "pool salt".

Brine Tank Clean-Out

To help prevent service problems the brine tank should be emptied and flushed out with a garden hose, when dirt and other insolubles accumulate.

Clean out with a wet/dry vacuum. Then add approximately 15L of water and refill with salt.

Media Replacement

Resin ordering code: **RMK-SOL110** for SOL110-2CI, **RMK-SOL160** for SOL160-2CI, **RMK-SOL270** for SOL270-2CI & **RMK-SOL380** for SOL380-2CI .

Customer Service Helpline at **1300 140 140** (AU) and **0800 130 140** (NZ) for more details.

Media Replacement Instructions:

1. Unscrew and remove the valve from the pressure tank.
2. Use a wet/dry vac to remove old media.
3. Follow Media Installation as per step 5 on page 11.
4. Follow Start-Up on page 22.

Troubleshooting

'Dry' Reset Procedure	<p>Remove the faceplate, opening the tabs on either side of the valve. This will expose the Power Circuit board with a number of wires connected.</p> <p>On the bottom right hand corner is a 4 pin adaptor labelled '12VAC PWR', disconnect the adaptor and reconnect after 5 seconds. The valve will then whirl twice, and should return to the normal screen.</p> <p>If the error message is still present, refer to the troubleshooting guide.</p>
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Problem	Ref.	Possible Cause	Solution
1. No display on PC Board.	a.	No power at electric outlet.	Repair outlet or use working outlet.
	b.	Control valve Power Adapter not plugged into outlet or power cord end not connected to PC board connection.	Plug Power Adapter into outlet or connect power cord end to PC Board connection.
	c.	Improper power supply.	Verify proper voltage is being delivered to PC Board.
	d.	Defective power adapter.	Replace power adapter.
	e.	Defective PC Board.	Replace PC board.
2. PC Board does not display correct time of day.	a.	Power Adapter plugged into electric outlet controlled by light switch.	Use uninterrupted outlet.
	b.	Tripped breaker switch and/or tripped GFI.	Reset breaker switch and/ or GFI switch.
	c.	Power outage.	Reset time of day. The battery needs to be replaced.
	d.	Defective PC board.	Replace PC board.
3. Display does not indicate that water is flowing. Refer to user instructions for how the display indicates water is flowing.	a.	Bypass valve in bypass position.	Turn bypass handles to place bypass in service position.
	b.	Meter is not connected to meter connection on PC board.	Connect meter to three pin connection labelled METER on PC board.
	c.	Restricted/stalled meter turbine.	Remove meter and check for rotation or foreign material.
	d.	Meter wire not installed securely into three pin connector.	Verify meter cable wires are installed securely into three pin connector labelled METER.
	e.	Defective meter.	Replace meter.
	f.	Defective PC board.	Replace PC board.
Problem	Ref.	Possible Cause	Solution

4. Control valve regenerates at wrong time of day.	a.	Power outage.	Reset time of day. The CR2032 battery may need to be replaced.
	b.	Time of day not set correctly.	Reset to correct time of day.
	c.	Time of regeneration set incorrectly.	Reset regeneration time.
	d.	Control valve set at "on 0" (immediate regeneration).	Check programming setting and reset to NORMAL (for a delayed regen time).
	e.	Control valve set at "NORMAL + on 0" (delayed and/ or immediate).	Check programming setting and reset to NORMAL (for a delayed regen time).
5. Time of day flashes on and off.	a.	Power outage.	Reset time of day. The CR2032 battery may need to be replaced.
6. Control valve does not regenerate automatically when the REGEN button is depressed and held.	a.	Broken drive gear or drive cap assembly.	Replace drive gear or drive cap assembly.
	b.	Broken piston rod.	Replace piston rod.
	c.	Defective PC board.	Replace PC board.
7. Control valve does not regenerate automatically but does when the REGEN button is depressed and held.	a.	Bypass valve in bypass position.	Turn bypass handles to place bypass in service position.
	b.	Meter is not connected to meter connection on PC board.	Connect meter to three pin connection labelled METER on PC board.
	c.	Restricted/stalled meter turbine.	Remove meter and check for rotation or foreign material.
	d.	Incorrect programming.	Check for programming error.
	e.	Meter wire not installed securely into three pin connector	Verify meter cable wires are installed securely into three pin connector labelled METER.
	f.	Defective meter.	Replace meter.
	g.	Defective PC board.	Replace PC board.
8. Excessive water in regenerant tank.		Improper program settings.	Check refill setting.
		Plugged injector.	Remove injector and clean or replace.
		Drive cap assembly not tightened in properly.	Re-tighten the drive cap assembly.
		Damaged seal/stack assembly.	Replace seal/stack.
		Restricted or kinked drain line.	Check drain line for restrictions or debris and or un-kink drain line.
		Plugged backwash flow controller.	Remove backwash flow controller and clean or replace.
		Missing refill flow controller.	Replace refill flow controller.
Problem	Ref.	Possible Cause	Solution

9. Hard or untreated water is being delivered.	a.	Bypass valve is open or faulty.	Fully close bypass valve or replace.
	b.	Media is exhausted due to high water usage.	Check program settings or diagnostics for abnormal water usage.
	c.	Meter not registering.	Remove meter and check for rotation or foreign material.
	d.	Water quality fluctuation.	Test water and adjust program values accordingly.
	e.	No regenerant or low level of regenerant in regenerant tank.	Add proper regenerant to tank.
	f.	Control valve fails to draw in regenerant.	Refer to Trouble Shooting Guide number 12.
	g.	Insufficient regenerant level in regenerant tank.	Check refill setting. Check refill flow control for restrictions or debris and clean or replace.
	h.	Damaged seal/stack assembly.	Replace seal/stack assembly.
	i.	Control valve body type and piston type mismatched.	Verify proper control valve body type and piston type match
	j.	Fouled media bed.	Replace media bed.
10. Control valve uses too much regenerant.	a.	Improper refill setting.	Check refill setting.
	b.	Improper program settings.	Check program setting to make sure they are specific to the water quality and application needs.
	c.	Control valve regenerates frequently.	Check for leaking fixtures that may be exhausting capacity or system is undersized.
11. Residual regenerant being delivered to service.	a.	Low water pressure.	Check incoming water pressure – water pressure must remain at minimum of 25 psi.
	b.	Incorrect injector size.	Replace injector with correct size for the application.
	c.	Restricted drain line.	Check drain line for restrictions or debris and clean.
12. Control valve fails to draw in regenerant.	a.	Injector is plugged.	Remove injector and clean or replace.
	b.	Faulty regenerant piston.	Replace regenerant piston.
	c.	Regenerant line connection leak.	Inspect regenerant line for air leak.
	d.	Drain line restriction or debris cause excess back pressure.	Inspect drain line and clean to correct restriction.
	e.	Drain line too long or too high.	Shorten length and or height.
	f.	Low water pressure.	Check incoming water pressure – water pressure must remain at minimum of 25 psi.
Problem	Ref.	Possible Cause	Solution

13. Water running to drain.	a.	Power outage during regeneration.	Upon power being restored control will finish the remaining regeneration time. Reset time of day.
	b.	Damaged seal/stack assembly.	Replace seal/stack assembly.
	c.	Piston assembly failure.	Replace piston assembly.
	d.	Drive cap assembly not tight.	Re-tighten the drive cap assembly.
14. E1, Err – 1001, Err – 101 = Control unable to sense motor movement.	a.	Motor not inserted fully to engage pinion, motor wires broken or disconnected.	Disconnect power, make sure motor is fully engaged, check for broken wires, make sure two pin connector on motor is connected to the two pin connection on the PC Board labeled MOTOR. Conduct a dry reset.
	b.	PC board not properly snapped into drive bracket.	Properly snap PC Board into drive bracket and conduct a dry reset.
	c.	Missing reduction gears.	Replace missing gears.
15. E2, Err – 1002, Err – 102 Control valve motor ran too short and was unable to find the next cycle position and stalled.	a.	Foreign material is lodged in control valve.	Open up control valve and pull out piston assembly and seal/ stack assembly for inspection. Conduct a dry reset.
	b.	Mechanical binding.	Check piston and seal/ stack assembly, check reduction gears, check drive bracket and main drive gear interface.
	c.	Main drive gear too tight.	Loosen main drive gear. Conduct a dry reset.
	d.	Improper voltage being delivered to PC board.	Verify that proper voltage is being supplied. Conduct a dry reset.
16. E3, Err – 1003, Err – 103 Control valve motor ran too long and was unable to find the next cycle position.	a.	Motor failure during a regeneration.	Check motor connections then conduct a dry reset.
	b.	Foreign matter built up on piston and stack assemblies creating friction and drag enough to time out motor.	Replace piston and stack assemblies. Conduct a dry reset.
	c.	Drive bracket not snapped in properly and out enough that reduction gears and drive gear do not interface.	Snap drive bracket in properly then conduct a dry reset.
17. Err – 1004, Err – 104 Control valve motor ran too long and timed out trying to reach home position.	a.	Drive bracket not snapped in properly and out enough that reduction gears and drive gear do not interface.	Snap drive bracket in properly then conduct a dry reset.
Problem	Ref.	Possible Cause	Solution

<p>18. Err - 1006, Err - 106, Err 116</p> <p>MAV/SEPS/NHBP/AUX MAV valve motor ran too long and unable to find the proper park position.</p> <p>MAV = Motorized Alternating Valve</p> <p>SEPS = Separate Souce</p> <p>NHBP = No Hard Water Bypass</p> <p>AUX MAV = Auxiliary MAV</p>	a.	Control valve programmed for ALT A or b, nHbP, SEPS, or AUX MAV with out having a MAV or NHBP valve attached to operate that function.	Conduct a dry reset.
	b.	MAV/ NHBP motor wire not connected to PC board.	Connect MAV/ NHBP motor to PC Board two pin connection labeled DRIVE. Conduct a dry reset.
	c.	MAV/ NHBP motor not fully engaged with reduction gears.	Properly insert motor into casing, do not force into casing. Conduct a dry reset.
	d.	Foreign matter built up on piston and stack assemblies creating friction and drag enough to time out motor.	Replace piston and stack assemblies. Conduct a dry reset.
<p>19. Err - 1007, Err - 107, Err - 117</p> <p>MAV/ SEPS/ NHBP/ AUX MAV valve motor ran too short (stalled) while looking for proper park position.</p>	a.	Foreign material is lodged in MAV/ NHBP valve.	Open up MAV/ NHBP valve and check piston and seal/ stack assembly for foreign material. Conduct a dry reset.
	b.	Mechanical binding.	Check piston and seal/ stack assembly, check reduction gears, drive gear interface, and check MAV/ NHBP black drive pinion on motor for being jammed into motor body. Conduct a dry reset.

Warranty

Any claim under this warranty must be made within 1 year of the date of purchase of the product. This product is warranted to be free of defect of material and workmanship for 1 year from date of purchase. To make a claim under the warranty, take the product and proof of purchase to place where you purchased the product, and they will lodge a Warranty Request with Puretec. 1 year warranty is 1 year parts and labour. Excludes consumables.

Puretec will pay your reasonable, direct expenses of claiming under this warranty. You may submit details and proof of your expense claim to place of purchase for consideration.

The warranty only applies if the product was used and/or installed in accordance with the user guide and/or installation instructions. This warranty is given in lieu of all other express or implied warranties and manufacturer shall in no circumstance be held liable for damages consequential or otherwise or delays caused or faulty manufacturing except as excluded by law.

Applicable to all above, is that the warranties need to be approved by Puretec to ensure product was not incorrectly used, installed or claimed. False and incorrect claims will be pursued at Puretec's discretion, including chargeable inspection and labour costs incurred.

Warranty/Australia

This warranty is given by Puretec Pty Ltd, ABN 44 164 806 688, 37-43 Brodie Road Lonsdale SA 5160, telephone no. 1300 140 140 and email at sales@puretec.com.au.

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Australian Consumer Law. You are entitled to replacement or refund for a major failure and to compensation for other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Warranty/New Zealand

This warranty is given by Puretec Ltd, Reg. No 4464398, PO Box 875 Cambridge 3450 NZ, telephone no. 0800 130 140 and email at sales@puretec.co.nz.

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Consumer Guarantees Act. You are entitled to replacement or refund for a major failure and to compensation for other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

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