

S4

Service Manual



Note:

Please read these instructions before operating the unit.
Unit appearance, specifications, etc. are subject to change
Without prior notice if necessary for improving unit performance.

The rated voltage of this unit is AC 120v/60 Hz only.

Before You Begin

Please read the information contained in this manual carefully before proceeding with installation. Failure to do so can cause damage and may void the manufacturer's warranty.

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CONDITIONS FOR USE

Caution

DO NOT USE WITH WATER THAT IS MICROBIOLOGICALLY UNSAFE OR OF UNKNOWN QUALITY WITHOUT ADEQUATE DISINFECTION BEFORE OR AFTER THE SYSTEM IS INSTALLED.

THIS DRINKING WATER SYSTEM IS FOR USE ON POTABLE WATER SUPPLIES ONLY.

Source Water Supply

Municipal/Private:	Potable Water
Supply System Pressure:	25~100 PSI (1.7-6.9 bar)
Temperature:	40°~100°F (4°~38°C)

Warning

A pressure regulator must be installed before the system water inlet if the water pressure or any possible pressure spikes could exceed 80 PSI (5.5 bar). Failure to comply will void all warranties. The manufacturer accepts no liability for damage caused by excessive water pressure.

Environmental Conditions

System should be installed in areas that are protected from severe environmental conditions. System is not manufactured or approved for installation in areas that are exposed to direct sunlight, rain/snow and/or extreme temperature variation.

Compliance

Installation and service must be performed by qualified personnel to ensure compliance with all applicable local, state, federal and international codes.

Note:

Always check applicable plumbing codes before tapping into a water or drain line.

SYSTEM OVERVIEW

The Wellsys S4 Bottle Free Cooler comes equipped with features one can expect from a state-of-the-art POU system from Wellsys.

HIGHLIGHTS INCLUDE:

- Touch free PSD sensors for selecting water temperature and dispensing water
- 11.16 dispense area
- ADA wheelchair height compliant (when installed in accordance with ADA requirements)
- Improved leak stop technology
- Color changing dispense area indicator light (Blue for cold, Red for hot)
- Optional drip tray to drain connection
- Wellsys proprietary quick-change filters
- Antimicrobial surface protection on dispense point
- Temperature indicating dispense light
- Height of 17.8 inches allows for an easy fit under most cabinets
- Scratch resistant glass front panels

THE WELLSYS S4 IS AVAILABLE IN TWO FILTER CONFIGURATIONS:

1. **Wellsys S4 UF:** This Wellsys S4 UF model filters your water through the following filters:
 - A. 10-micron Sediment filter
 - B. Pre-carbon GAC filter
 - C. UF Membrane
 - D. Bio Sure Plus UF to boost alkalinity and add electrolytes
 - E. GAC post filter with 1 micron mesh

2. **Wellsys S4 RO:** This Wellsys S4 RO model filters your water through a series of filters and an RO membrane to remove contaminants. RO filter is recommended only when TDS exceeds 300 ppm. These are:
 - A. 10-micron Sediment filter
 - B. Pre-carbon GAC filter
 - C. 80 gallon per day RO membrane
 - D. Bio Sure Plus RO filter to increase alkalinity and add electrolytes
 - E. GAC post filter with 1 micron mesh

RECEIVING YOUR EQUIPMENT

A common carrier will be delivering your Wellsys S4 product.

Upon Receipt you should check the following:

1. Are the systems still on the pallet?
2. Count the number of boxes you are signing for.
3. Is there any obvious damage to the product or the boxes?

If there are any discrepancies or any obvious damage to the equipment or boxes, please note it on the “Bill of Lading” and/or refuse shipment.

After receiving the equipment from the carrier, remove packaging and inspect for any hidden freight damage. If freight damage has occurred, call the freight company and customer service (877) 386-0823 to report the damage. Photograph all damages to be submitted with claim. THIS MUST BE DONE WITHIN FIVE BUSINESS DAYS OF DELIVERY. If not reported within 3 business days, Wellsys and/or carrier will not be responsible for replacement or repair.

SAFETY PRECAUTIONS

Warning

Do not install or use this drinking water system somewhere the source water is microbiologically unsafe or, with water of unknown quality without adequate disinfection before or after the system.

Warning

A pressure regulator, such as a slow flow regulator, must be installed before the systems water inlet if the water pressure (including any possible spikes) could exceed 80 PSI (5.5 bar). Failure to comply will void all warranties. The manufacturer accepts no liability for damage caused by excessive water pressure.

Warning

When connecting a Co2 tank to the system, please ensure that the Co2 tank is securely fastened to avoid falling. Failure to secure tank can result in property damage and/or bodily harm.

Warning

These systems are manufactured with 134A refrigerant. Repairs to the refrigeration system must be performed by a certified refrigeration technician

only.

Warning

To prevent damage fire or shock hazard, do not expose this system to rain or other extreme elements.

Power System

Available in operating voltages of 120 V 60 Hz

Caution

- To prevent electric shock and fire hazards, do not use any power source other than the specified power source.
- Changes or modifications not approved by WELLSYS will void any product warranty.
- If system begins to leak, unplug, turn off water supply and call service center immediately.
- Before moving the system, disconnect power supply and wait for water to reach ambient temperature before draining.
Hot water is extremely hot! Do Not dispense hot water directly to hands. Hot water may cause serious injury.
- If system will not be used for an extended period (5 days or longer), drain the system completely. Sanitize system prior to re-use. Should the system not perform as specified, unplug, turn off water supply and call the service center.
- Do not place any type of water container or heavy item on top of the system.
Water may leak into the electrical system causing a fire hazard. Heavy items may fall off causing injury.

INSTALLATION PROCEDURES

WARNING: Maximum water pressure (including any potential pressure spikes) of the water supply line to the system must not exceed 80 PSI (5.5 bar) Failure to comply will void the warranty. The manufacturer accepts no liability for damage caused by excessive water pressure.

1. Always check local plumbing codes before tapping into water supply line and drain line. Tap into the supply line with an approved connector.
2. Once the unit and filtration system flushing procedures are complete, determine the best installation location. Consider user convenience, electrical access and water access. The unit performs optimally if within 20 feet of a cold-water supply line. Connect only to a cold-water supply. Do not install Feed Water Assembly on the Hot Water Line. Do not place unit where it will be exposed to rain, freezing temperatures or direct sunlight.
3. The rear of the unit should be installed at least 2" (5 cm) from any vertical

surface to ensure proper air circulation.

4. Use only ¼" OD copper or plastic tubing to connect your water supply and drain to the cooler water inlet and drain port. The inlet and drain ports are quick connect fittings. Units are shipped with plugs in each fitting. Remove the plugs prior to inserting water supply and drain lines. A water shut off valve is recommended between the inlet connection to the cooler and the water supply connection.
5. If using the S2 RO system, which is only recommended when TDS exceeds 300 ppm, the RO membrane requires a waste or drain line. The drain line should include an Air Gap and back flow restrictor. See diagram.
6. Check the available power supply to assure proper electrical service. In the U.S., the voltage specification is 110/120 volt 60 hertz. Voltage outside of this specification will affect the system performance
7. Water filtration system must be flushed in accordance with the instructions. Once operating, verify proper water production.
8. Be sure to dispense water from the hot tank prior to turning on the hot tank switch on the rear of the unit. When ready, turn the Heating System switch on the back of the unit to the "ON" position.
9. Perform final inspection of all installed water lines to ensure a leak free installation.
10. Instruct user on proper system operation.

INSTALLATION PROCEDURES

To Dispense Cold Water:

Allow at least 30 minutes for adequate cooling, then wave hand over "Dispense"

To Dispense Hot Water:

Wave hand over "Hot Select". The dispense light will change from blue to red. Then wave hand over "Dispense".

NOTE:

Hot water will require about 30 minutes to properly heat after the tank is full. Cold water will require about 1 hour to chill.

NOTE:

Check UPC and Local Plumbing Codes to confirm that all connections are in

compliance.

FILTER FLUSHING PROCEDURES

Filter Flushing Procedures for S4 Filter Configuration

Flushing the Filtration for the Wellsys S4 UF:

1. Install the supply water line to “Water In” bulkhead.
2. Do not plug the system into the AC socket. (No Power)
3. Remove lower front panel to access filters. Remove single screw behind drip tray, push down on the front panel and then gently pull the panel off.
4. Remove the sediment, carbon and post filters and flush in an external flush station for 5 minutes per filter.
5. Reinstall the filters in their original places.
6. Add a drain to the output of the last filter, turn the water on for 20-30 minutes.
 - a. This will flush the UF membrane and also help regulate the TDS and alkalinity in the post filters.
7. Replace lower front panel.

FILTER FLUSHING PROCEDURES

Filter Flushing Procedures for S4 Filter Configuration

All filters and RO membranes must be flushed sufficiently prior to installation. RO filter is only recommended when TDS exceeds 300ppm.

NOTE:

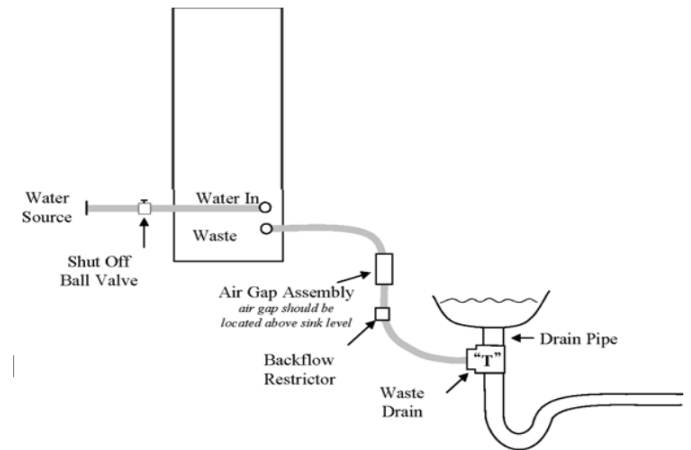
The ball valve located on the filter box will turn off the water to the filters and RO membrane. Turn to closed position before removing filters. Remember to open the valve after replacing filters to turn the water back on.

Flushing the Purification for the Wellsys S4 RO:

1. Install the supply water line to “Water In” bulkhead and water drain line to “RO Drain” bulkhead in back of unit.
2. Do not plug the system into the AC socket. (No Power)
3. Remove lower front panel to access filters. Remove single screw behind drip tray, push down on the front panel and then gently pull the panel off.
4. Remove the sediment, carbon and post carbon filters and flush on a pre- flush station for 5 minutes each.
5. Reinstall the sediment and carbon filters in their original places.
6. Connect the drain line to the bottom of the RO and then install the RO membrane in the vacant filter head.
7. Add a drain line to the output of the last filter head.
8. Turn on the water to the filters, plug the system in and let the water run for 30 minutes or greater.

9. Check the TDS
 - a. Prior to turning off the water supply, ensure:
 - b. For RO only systems, the TDS is .02% vs the tap water TDS (98% reduction).
 - c. For Systems using the Mineral filter, the TDS will increase about 20 ppm higher than the output directly from the RO.
 - i. If you have issues achieving these reading, make sure you have 60-70 PSI feeding the system, the drain is not restricted in any way including a reversed check valve, the inline flow restrictor is in place and working properly and the unit is properly flushed. Please contact technical support for further assistance.
10. Filter flushing is now complete.
11. Replace lower front panel

NOTE Example of RO Drain Installation:
Check UPC & Local Plumbing Codes to confirm that all connections are in compliance.



FLUSHING THE ENTIRE SYSTEM

During the following steps you should be checking for any leaks, loose fittings, hotwater, cold water and production rate. **See next Section- Final inspection.**

1. Turn the water to the system on, plug the system in and let the reservoir fill. RO systems will fill in one to two hours and UF systems will fill in 5 to10 minutes.
2. Wave hand over “Dispense” to ensure water dispenses from cold, wave hand over “Hot Select” and ensure dispense light changes Red. Wave hand over dispense again while the dispense light is red and ensure hot water dispenses.
3. Drain cold water into container using the dispense nozzle. Activate touchless dispense sensor until water flow ceases. Water will stop dispensing after 45 seconds. Active again until cold tank is drained.
4. Located behind the front panel is a hot tank drain that will drain the hot and about half of the cold tank. Holding a bucket under the drain, remove drain cap and allow the system to drain until water flow stops. Replace drain cap.
5. Repeat steps 1 through 4.
6. Allow system to fill.
7. Turn hot switch located on back of unit to “ON” position.
8. Allow unit to sit for 2-3 hours to fill and reach optimal operating temperature.

FINAL INSPECTION

Verify the following:

1. There are no leaks or loose components.
2. The hot water is over 160°F.
3. The cold water is below 50°F.
4. Confirm acceptable product water flow
5. Wellsys S4 RO system should fill at a rate of about 5.1 L/min.
 - a. **Note:** Incoming water pressure and drain correctly functioning will have a significant impact on water flow. The flow will also improve as the membrane breaks in.
6. Wellsys S4 UF system should fill in about 5-10 min
7. If the system is not filling, then check the water supply and also make sure you did not trip the leak stop.
 - a. The leak stop can be reset by removing the cap below the unit and draining the water out.
8. Ensure the system's exterior is clean and all components are in place.

Other Items:

1. Once a system has been flushed it should remain plugged in and water should at a minimum be dispensed occasionally.
 - a. Avoid storing in your vehicle or warehouse with residual water in the tank, this will result in a bad taste after installation.
2. Always drain the system before moving it. It is not necessary to drain the Hot Tank completely through the rear Hot Tank drain if installing same day. Leaving water in the Hot Tan will allow turning on the Hot Tank immediately after installation of the system but if left overnight may result in a taste complaint that could even impact the cold tank.
3. Never lay the system on its side.

SYSTEM INSTRUCTIONS

Sanitizing the Cold Tank:

It is strongly encouraged that all systems are sanitized using a mixture of Hydrogen Peroxide and water prior to placing in the field. Please follow these steps to properly perform this important step.

1. Remove two screws on rear of top lid and remove top lid

2. Remove the cold tank lid.

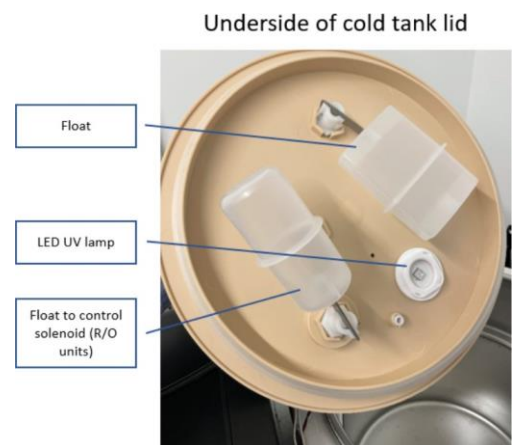
3. Using ~3% concentrate Hydrogen Peroxide, spray the inside of the tank, lid, floats, and all parts visible parts with a heavy mist of spray.

4. Using a clean towel or paper towel,
5. wipe the Hydrogen Peroxide away from the surfaces.

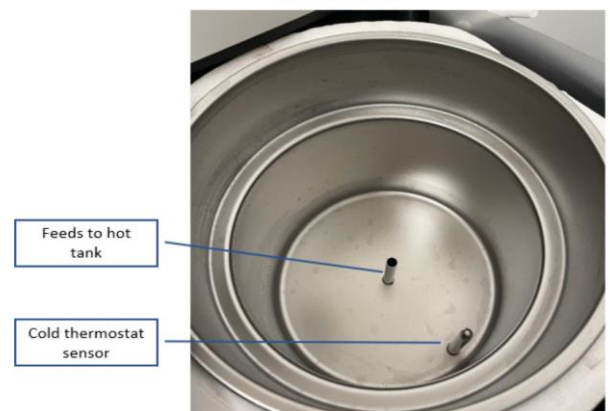
6. Spray a light mist of spray again on all parts and put the lid back onto the unit.

7. Allow one tank full of water to full up and drain a single time.

8. It is strongly encouraged to perform this step on each annual service call as well.



2.2 gallon cold tank



SYSTEM INSTRUCTIONS

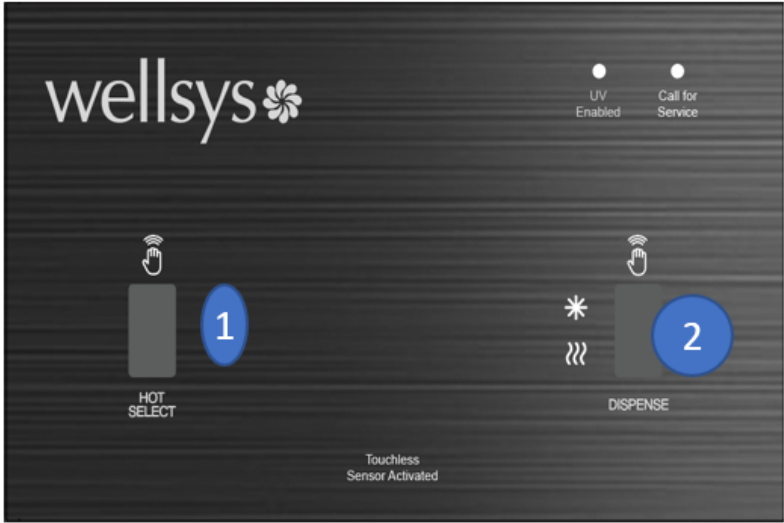
Circuit board schematics and Dip Switch Setting:

This system allows for the dealer to adjust the following by using dip switches:

1. Filter life measurement in time or gallons
2. If filter alert shows to customer
3. LED UV run time settings
4. Cold temperature range
5. Hot temperature range

DIP switch settings and default modes for W9			
DIP Switch #	Feature		Comment
DIP S/W1	Feature		Select installed filtration
ON	RO		
OFF	UF		
DIP S/W2	Service		Select ON to show illuminate "Service" Light when filters reach Capacity
ON	Filter alarm ON		
OFF	Filter alarm OFF		
DIP S/W3	RO	UF	Select a time capacity for filter life of RO / UF
ON	Lifetime: 24month	Lifetime: 24month	
OFF	Lifetime: 12month	Lifetime: 12month	
DIP S/W4	RO	UF	Select a gallon capacity for filter life of RO / UF
ON	Capacity: 2,000gal (3,785L)	Capacity: 1,000gal (3,785L)	
OFF	Capacity: 1,500gal (5,678L)	Capacity: 1,500gal (5,678L)	
DIP S/W5	Cold temperature		Change cold water range if too cold of freezing
ON	ON : 42.8°F (6°C) / OFF : 39.2°F (4°C)		
OFF	ON : 40.1°F (4.5°C) / OFF : 38.3°F (3.5°C)		
DIP S/W6	UV		Change UV runtime interval if desired (Impacts bulb life)
ON	1 hour ON / 2 hour off		
OFF	Always ON (24 hour)		
DIP S/W7	Model		Do not touch these settings
ON	Must be off		
OFF	W9		
DIP S/W8	Model		
ON	W9		
OFF	Must be off		

SYSTEM INSTRUCTIONS

Filter Reset	Press 1 for 5 seconds=>LED flash=>Press 1+2 for 5 seconds=>RESET(buzzer plays)
Flow Change	Press 1+2 for five secs => buzzer plays => press 1+2 for five times=>RESET(buzzer plays)
Buzzer remove	Press 1 for 1 second=>(In 4 seconds) touch 2 five time
Service mode	<p>How to enter : Press 2 once=>Press 1 once=>Press 2 once =>Press 1 once=>Press 1+2 once Cold/Hot dispense function stop(15mins later automatically returns) enter Dispense LED : Blue<=>RED flashes Turning off : Press 2 once=>Press 1 once=>Press 2 once=>Press 1 once=>Press 1+2 once or Main power turn off=>on</p>
	

The filter life indicator triggers the Service light to illuminate. This will prompt a call from the customer to service the unit and change the filtration. The indicator can be reset without opening the system, by using a sequence of motions with the sensors:

- a. To reset the filter life: Wave hand in front of hot select one time, wave hand in front of dispense 5 times, audible chime will sound, repeat steps again and audible chime will sound again.

TURNING OFF THE ACTIVITY TONE:

The Wellsys S4 purposefully makes a 'ding' noise when a sensor is activated to give audible feedback to the user. In a very quiet environment this feature may be unwanted. The audible tone can be deactivated without opening the system, by using a sequence of motions with the sensors:

- a. To deactivate the tone. **INFO MISSING**

PREVENTATIVE MAINTENANCE

1. Change filters according to the filter change schedule
2. Reset the filter alert using the instructions above
3. Descale the hot tank
 - Turn the power off
 - Disassemble Top Cover and Front Cover
 - Connect the drain hose to the drain hole (drain both Hot and Reservoir water)
 - Disconnect the drain hole
 - Open the Reservoir cover, slowly pour 2L of cleaning solution into Reservoir
 - Wait 30 minutes
 - Connect the drain hose and drain the cleaning solution out of Reservoir
 - Turn on the power (the rinse operation will take 5 minutes, wait until it reaches the level sensor in the Reservoir)
 - Turn off the power and drain the water that was used to rinse the Reservoir
 - Re-assemble the product
4. Drain the system and use Hydrogen Peroxide to sanitize the system
5. Check all fittings for signs of scale or wear and replace as needed
6. Check condition of the float mechanisms. Pay special attention to ensure no water has infiltrated the float balls
7. Check solenoids for proper function. Dripping solenoids should be replaced

Every 5 years, in addition to the above, perform the following:

1. Replace all internal fittings and tubing
2. Replace LED UV bulb assembly
3. Replace solenoid

FILTER CHANGING PROCEDURE

1. Verify filter configuration required for servicing. Flush the appropriate filters prior to installation using a filter pre-flush station. Protect flushed filters from extreme cold temperatures and potential sources of contamination.
2. Dispose of replaced filters in accordance with local laws. after removing filtration media. Filter housings may be recycled
3. Periodic replacement of the air filter is required. This should be done a minimum of every two years.

SYSTEM INSPECTION

When changing filters or performing service, the following items should be completed:

1. Visual Inspection
2. Hose & fitting inspection
3. Electrical inspection
4. Pressure & flow test
5. Filter monitoring system reset
6. Gallon counter reset to zero. Refer to procedure below.
7. Clean the exterior of system and condenser coils on rear of system.

8. Temperature check (Cold water should be below 50°F, Hot water should be above 160°F)
9. TDS check
10. Hot tank switch On
11. Site clean up

SPECIFICATIONS

Voltage: 115 VAC + 10% / 1 PH / 60

Hertz Size: 50-1/2" (128cm)H. 14" (35cm)W. 17" (44cm)D

Shipping Weight (Approx.) – No Hot: 90 lbs (41 kg)

Shipping Weight (Approx.) – With Hot: 93 lbs (43 kg)

Water Capacity: 2.2 gallons

HP Compressor (Full Load): 1.1 Amps

Compressor with Hot (Full Load): 5.5 Amps

Specifications subject to change without notice.

These systems have been manufactured with R134a refrigerant.

WARNING

A pressure regulator, such as a slow flow regulator, must be installed in front of the system's water inlet if the water pressure (including any possible pressure Spikes) could exceed 80 PSI (5.5 bar) Failure to comply will void warranty. WELLSYS accepts no liability for damage caused by excessive water pressure. Do not use this drinking water system where the source water is microbiologically unsafe or with water of unknown quality without adequate disinfecting before or after the system.

TROUBLESHOOTING GUIDE

PRODUCT LIMITED WARRANTY

General Provision and Exclusions:

This warranty only applies in the fifty (50) United States and Canada.

This warranty does not apply, and no agreement, either written or implied, shall be applicable if the affixed serial number is removed, defaced or obliterated. This warranty does not apply to the filters or Ultra Violet system after exposure to water. Refer to service manual for filter requirements and expected performance.

This warranty does not apply if parts used as original or replacement equipment, including filters, are not obtained or authorized through WELLSYS, and such unauthorized usage shall void this warranty. This warranty does not apply to any wetted parts that become inoperative due to lime, scale or other water quality conditions. This warranty does not apply to any machine or components that become inoperable due to a failure by Dealer/Distributor or the end-user to satisfy standards or regulations adopted by any governmental agency. This warranty does not cover performance, failure or damages of any part resulting from external causes such as alterations, abuse, misuse, misapplication, neglect, accident, installation, operation contrary to printed material, corrosion or acts of God.

This warranty only applies to the operative components of the machine and does not apply to the exterior shell or frame to which the shell is attached and the appearance of the machine.

This warranty and any applicable industry certifications for this machine are automatically voided if the machine is altered, modified, or combined with any other machine, equipment or device. Alteration or modification of the machine may cause serious flooding and/or hazardous electrical shock or fire. Except as set forth herein, WELLSYS makes no other warranty, guarantee or agreement expressed, implied or statutory, including any implied of merchantability or fitness for a particular purpose.

The foregoing is in lieu of all other agreements expired or statutory and all other obligations or liabilities of WELLSYS. WELLSYS does not assume or authorize any person to assume any obligations of liability in connection with this product. In no event will WELLSYS be liable for special, incidental, consequential or punitive damages, or for any delay in performance of this warranty agreement due to causes beyond its control.

Export Warranty:

The WELLSYS export warranty shall apply to all area outside of the Continental limits of the United States and Canada. The export warranty shall mirror the domestic warranty set forth above in all respects except that a) the export warranty shall be limited to the Initial Term and there is no coverage for the additional warranty through the fifth year and b) the Dealer/Distributor shall be responsible for any and all transportation charges to implement the repairs.

ALL WARRANTY REPAIRS SUBJECT TO PRIOR APPROVAL BY PURE WATER TECHNOLOGY'S SERVICE DEPARTMENT IN ORDER TO VALIDATE THAT THE DEFECTIVE COMPONENT IS STILL UNDER WARRANTY.

WARRANTY PROCEDURE

Procedure for S4 warranty evaluation

Contact WELLSYS technical support.

Provide the following information:

1. Serial number
2. Failure
3. Full details around failure
4. Water pressure into the system
5. Tap TDS
6. TDS out of the cold and hot tanks
7. Pictures

Depending on the situation, technical support may request more information. Upon approval, WELLSYS will process warranty credit or replacement part to be fulfilled. Dealer must maintain possession of the part or system until authorized to discard, failure to do so may result in a denial of warranty. For system credits, technical support will provide a credit number which may be given to the account management team on the next qualifying system order.

The account management team will then provide a system credit.