

DISPENSING TROUBLESHOOTING INDEX

1. Irregular / Intermittent Dispensing from One Side
2. Dispensing won't stop when not holding the Dispensing Button
3. Steady Drip out of Faucet
4. Hot Water or Steam coming out of both the Faucet and the Vent Hole
5. Hot Water coming out of Faucet Vent Hole
6. Restricted Flow of Hot Water
7. Hot Water Drip out of Faucet
8. Dispenses Hot and Cold Water at the same time
9. No cold water available
10. Water does not dispense from unit
11. Cold Water dispenses from Faucet and Vent Outlet Simultaneously
12. Small amount of water periodically dispenses from faucet automatically
13. Dispense Buttons Stick
14. Run-On - Water continues to dispense out of faucet after releasing the dispense button

Also includes related instruction for Hot Tank Descaling

DISPENSING TROUBLESHOOTING

1. Irregular / Intermittent Dispensing from one side

Possible Reason	Solution
<p>Too much water pressure. Recommend 40 to 60 psi for the WL100 Water Treatment System to operate properly.</p>	<p>Check water pressure at the inlet bulkhead with a water pressure gauge.</p> <p>Additional method of verification is to turn off water to unit and press the dispense button. Does the Solenoid open without water pressure to the unit? Listen for Solenoid to activate, not to mistaken for the button “click”.</p> <p>Adjust water pressure to 40-60 psi. <i>The correct input water pressure is critical to the performance of the unit to allow Solenoids to open.</i></p>
<p>Loose or bad connection on the Front Dispensing PCB or Solenoid Connector</p>	<p>Check that they are connected properly and tightened.</p>
<p>Solenoid</p>	<p>If both the Water Pressure and PCB have been ruled out, then it is the Solenoid.</p> <p>Replace Solenoid.</p>
<p>Dispensing button is broken on PCB</p>	<p>Check PCB for loose or damaged button. Replace PCB as necessary.</p>

2. Dispensing Won't Stop When Not Holding the Dispensing Button

Possible Reason	Solution
<p>Too much water pressure. Recommend 40 to 60 psi for the WL100 Water Treatment System to operate properly.</p>	<p>Check water pressure at the inlet bulkhead with a water pressure gauge.</p> <p>Additional method of verification is to turn off water to unit and press the dispense button. Does the Solenoid open without water pressure to the unit? Listen for Solenoid to activate, not to mistaken for the button "click".</p> <p>Adjust water pressure to 40-60 psi. <i>The correct input water pressure is critical to the performance of the unit to allow Solenoids to open.</i></p>
<p>Stem of the switch is broken on the PCB - Printed Circuit Board.</p>	<p>Remove Display PC and inspect switches.</p> <p>Replace Display PCB if switches appear broken.</p> <p><i>Part Number 20-0040 (Factory PN EN-6130)</i></p>
<p>Debris in the Solenoid</p>	<p>Inspect Solenoid for debris and clean out as needed.</p>
<p>Dispensing Button Stuck</p>	<p>Dirt or Foreign material is filling the gap around the push-buttons. Inspect the push buttons and clean surrounding area. Inspect faucet assembly inside the unit and clean as necessary.</p>

3. Steady Drip Out of Faucet

Possible Reason	Solution
<p>Debris in Solenoid</p>	<p>Inspect Solenoid for debris and clean out as needed.</p>

4. Hot Water or Steam Coming out of both the Faucet and Vent Hole

Possible Reason	Solution
Improper Tubing attachment from the Hot Tank to faucet or vice versa.	Check that the Tubing is connected from Tank Outlets to correct Faucet attachments. Connect Tubing to Outlets as needed.

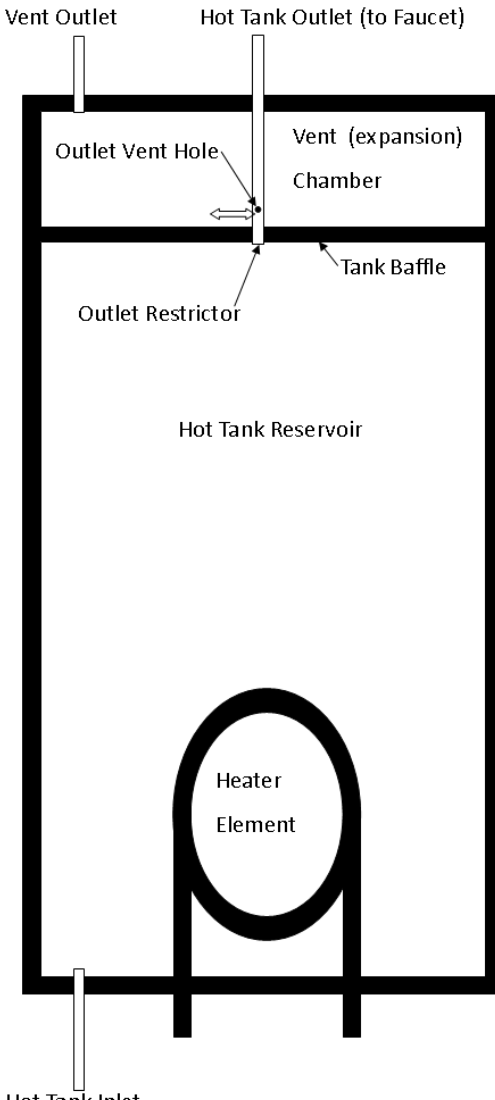
5. Hot Water Coming out of Faucet Vent Hole

Possible Reason	Solution
Too much water pressure. Recommend 40 to 60 psi for the WL100 Water Treatment System to operate properly.	<p>Check water pressure at the inlet bulkhead with a water pressure gauge.</p> <p>Additional method of verification is to turn off water to unit and press the dispense button. Does the Solenoid open without water pressure to the unit? Listen for Solenoid to activate, not to mistaken for the button “click”.</p> <p>Adjust water pressure to 40-60 psi. <i>The correct input water pressure is critical to the performance of the unit to allow Solenoids to open.</i></p>
Improper tubing attachment from the tank to faucet or vice versa.	Verify tubing is connected properly from tank outlets to correct faucet attachments.
Hot Tank outlet hole is scaled over.	<p>Inspect and Descale Tank as needed.</p> <p><u>See Hot Tank Descaling Instructions that are included further below in this Troubleshooting Section.</u></p>
Expansion chamber is not sealed properly.	Replace the Hot Tank.

6. Restricted Flow of Hot Water

Possible Reason	Solution
Partially closed Water Supply Valve to the unit.	Open Water Supply Valve.
Hot Tank outlet hole is scaled over.	Descale Tank. <u>See Hot Tank Descaling Instructions that are included further below in this Troubleshooting Section.</u>
Tubing is creased or has a “kink” in it.	Inspect and replace tubing as necessary.
Faucet nipple screen mesh has obstruction(s)	Unscrew faucet nipple from faucet and remove any obstruction(s) from screen mesh.
Exhausted Filter	Replace the Filter
Solenoid connection to the Display PCB	Turn power off; unplug the unit and visually inspect Solenoid connections into the Display PCB. Verify the soldering points on connections are secure into the board. Remove the PCB to inspect the front of the board.
Solenoid Valve is Malfunctioning	Inspect valve components for proper function. Replace as necessary.


7. Hot Water Drip out of Faucet

Possible Reason	Solution
<p>Small Outlet Vent Hole susceptible to scale build up.</p>	<p>Descale Tank.</p> <p><u>See Hot Tank Descaling Instructions that are included further below in this Troubleshooting Section.</u></p>
 <p>The diagram illustrates the internal structure of a hot water tank. At the top left is the Vent Outlet. To its right is the Hot Tank Outlet (to Faucet). Below the vent outlet is the Outlet Vent Hole. A Tank Baffle separates the Vent (expansion) Chamber at the top from the Hot Tank Reservoir below. An Outlet Restrictor is located at the base of the Hot Tank Outlet. At the bottom of the tank is the Heater Element. A Hot Tank Inlet is shown at the bottom left. Arrows point from the Hot Tank Outlet into the Vent Chamber, indicating the path of air and water during heating.</p>	<p>All Waterlogic Hot Tanks have a built in Vent or Expansion Chamber in the top of the tank except for WL270 (GF) units.</p> <p>The Vent Chamber allows for expansion of the water when it is heated.</p> <p>The chambers are separated by a welded-in tank baffle.</p> <p>Water always flows into the bottom of the tank and out the top to the faucet.</p> <p>The Hot Tank outlet tube has a restrictor in its base. This ensures the reservoir is always full by allowing more water in than out.</p> <p>There is a small hole in the side of the tank outlet tube that allows air and water to pass into the vent chamber as it is heated.</p> <p>Water in the vent chamber is suctioned back through the outlet tube vent hole when water is dispensed.</p> <p>Expansion of water as it is heated in the reservoir will push the water out the faucet when the outlet tube vent hole becomes plugged with debris or scale.</p> <p>The small Outlet Vent Hole is susceptible to scale build up and is a key indicator that descaling is required.</p> <p>It is critical to descale the Hot Tank through the vent line and outlet line on a regular basis to prevent this problem.</p> <p>Descaling through the inlet and/or outlet lines only will not clean the vent chamber and outlet vent hole properly.</p>


8. Dispenses Hot and Cold Water at the Same Time

Possible Reason	Solution
<p>Too much water pressure. Recommend 40 to 60 psi for the WL100 Water Treatment System to operate properly.</p>	<p>Check water pressure at the inlet bulkhead with a water pressure gauge.</p> <p>Additional method of verification is to turn off water to unit and press the dispense button. Does the Solenoid open without water pressure to the unit? Listen for Solenoid to activate, not to mistaken for the button “click”.</p> <p>Adjust water pressure to 40-60 psi. <i>The correct input water pressure is critical to the performance of the unit to allow Solenoids to open.</i></p>
<p>Hot or Cold Solenoid is stuck open.</p>	<p>Remove Top Cover.</p> <p>Check Hot Solenoid: Dispense cold water and visually inspect tubing for water flow from both tanks.</p> <p>Check Cold Solenoid: Disconnect elbow from outlet of cold Solenoid. Select hot water and dispense (quickly releasing dispensing button to avoid much water coming out of cold Solenoid.</p> <p>Replace Solenoid as necessary.</p>

9. No Cold Water Available

Possible Reason	Solution
<p>Too much water pressure. Recommend 40 to 60 psi for the WL100 Water Treatment System to operate properly.</p>	<p>Check water pressure at the inlet bulkhead with a water pressure gauge.</p> <p>Additional method of verification is to turn off water to unit and press the dispense button. Does the Solenoid open without water pressure to the unit? Listen for Solenoid to activate, not to mistaken for the button “click”.</p> <p>Adjust water pressure to 40-60 psi. <i>The correct input water pressure is critical to the performance of the unit to allow Solenoids to open.</i></p>
<p>Closed Water Supply Valve</p>	<p>Open the Water Supply Valve</p>
<p>Cold Water Solenoid Valve malfunction</p>	<p>Inspect the valve components for proper functionality.</p>
<p>Red Heater and Compressor Switch on unit is off.</p>	<p>Turn Red Heater and Compressor Switch on. <i>I = ON</i></p> 
<p>Loose connection(s) on the Display PCB</p>	<p>Turn power off; unplug the unit and visually inspect Solenoid connections into the Display PCB. Verify the soldering points on connections are secure into the board.</p> <p>Remove the PCB to inspect the front of the board.</p>
<p>Exhausted Filter</p>	<p>Replace filters as needed.</p>

10. Water does not dispense from Unit

Possible Reason	Solution
Too much water pressure. Recommend 40 to 60 psi for the WL100 Water Treatment System to operate properly.	<p>Check water pressure at the inlet bulkhead with a water pressure gauge.</p> <p>Additional method of verification is to turn off water to unit and press the dispense button. Does the Solenoid open without water pressure to the unit? Listen for Solenoid to activate, not to mistaken for the button “click”.</p> <p>Adjust water pressure to 40-60 psi. <i>The correct input water pressure is critical to the performance of the unit to allow Solenoids to open.</i></p>
Closed Water Supply Valve	Open the Water Supply Valve.
The unit is not properly plugged into electrical outlet	Check electrical outlet connection, or for blown circuit breaker.
Red Heater and Compressor Switch on unit is in the off position	<p>Turn Red Heater and Compressor switch on. <i>I = ON</i></p> 
15 Amp Fuse Blown	Replace the 15 Amp Fuse as needed.
Hot and Cold Solenoid connections into the Display PCB are loose.	<p>Turn power off; unplug the unit and visually inspect Solenoid connections into the Display PCB. Verify the soldering points on connections are secure into the board.</p> <p>Remove the PCB to inspect the front of the board.</p>
Exhausted Filter	Replace filters as needed.

11. Cold Water Dispenses from Faucet and Vent Outlet Simultaneously

Possible Reason	Solution
Improper tubing attachment from the tank to faucet or vice versa	Verify tubing is connected properly from tank outlets to correct faucet attachments.
Scale has formed inside Cold Tank outlet tube.	Remove Cold Water Outlet Tube from Cold Tank to Faucet, clean or replace as necessary.
Expansion chamber in Cold Tank is not sealed properly.	Replace Cold Tank.

12. Small Amount of Water Periodically Dispenses from Faucet Automatically

Possible Reason	Solution
Too much water pressure. Recommend 40 to 60 psi for the WL100 Water Treatment System to operate properly.	<p>Check water pressure at the inlet bulkhead with a water pressure gauge.</p> <p>Additional method of verification is to turn off water to unit and press the dispense button. Does the Solenoid open without water pressure to the unit? Listen for Solenoid to activate, not to mistaken for the button “click”.</p> <p>Adjust water pressure to 40-60 psi. <i>The correct input water pressure is critical to the performance of the unit to allow Solenoids to open.</i></p>
Cold or Hot Water Solenoid valve malfunction	Inspect valve components for proper function. Replace as necessary.
Obstruction in Solenoid housing is preventing proper sealing of component.	<p>Pre-determine whether water being dispensed is hot / cold. Isolate the water supply; push the DISPENSE button to release the line pressure, and remove the coil affixed to the Solenoid stem.</p> <p>Remove the stem from the Solenoid housing and allow water from the tank to flush out the contaminant(s).</p>

13. Dispense Buttons Stick

Possible Reason	Solution
Dirt or Foreign material is filling the gap around the push-buttons.	<p>Inspect the push buttons and clean surrounding area.</p> <p>Inspect faucet assembly inside the unit and clean as necessary.</p>

14. Run On – Water continues to dispense out of faucet after releasing the dispense button

Reason																														
<p>“Run On” or “Carry On” is present in all Waterlogic pressure fed units without outlet Solenoids.</p> <p>“Run On” is defined is the amount of water that continues to dispense out of the faucet after releasing the dispense button.</p> <p>Run On exists because the tanks pressurize as water is being dispensed. Every Waterlogic tank has an outlet restrictor to ensure the tanks remain full of water and water is controlled as it is released to the faucet. The inlet Solenoid controls flow into the tanks. The tanks will “depressurize” once the dispense button is released the inlet Solenoid closes. A small amount of water will “Run On” through the faucet as the tank depressurizes to atmospheric conditions.</p> <p>Typical “Run On” is 2-3 seconds.</p> <p>“Run On” can be reduced by installing a pressure limiting device.</p> <p>The amount of inlet or supply pressure directly impacts the amount of “Run On” as quantified below.</p>																														
<table border="1"> <thead> <tr> <th colspan="5" data-bbox="180 1514 1349 1549">WLCP Lab Testing of Rn On 7-31-2013</th> </tr> <tr> <th data-bbox="180 1549 370 1589">Pressure</th> <th data-bbox="370 1549 618 1589">Pressure</th> <th data-bbox="618 1549 824 1589">Time</th> <th data-bbox="824 1549 1097 1589">Flow Rate</th> <th data-bbox="1097 1549 1344 1589">Run On</th> </tr> <tr> <th data-bbox="180 1589 370 1629">Static PSI</th> <th data-bbox="370 1589 618 1629">Dynamic PSI</th> <th data-bbox="618 1589 824 1629">4 Liters</th> <th data-bbox="824 1589 1097 1629">l/min</th> <th data-bbox="1097 1589 1344 1629">Seconds</th> </tr> </thead> <tbody> <tr> <td data-bbox="180 1629 370 1669">68</td> <td data-bbox="370 1629 618 1669">40</td> <td data-bbox="618 1629 824 1669">61</td> <td data-bbox="824 1629 1097 1669">2.9508197</td> <td data-bbox="1097 1629 1344 1669">3</td> </tr> <tr> <td data-bbox="180 1669 370 1709">50</td> <td data-bbox="370 1669 618 1709">30</td> <td data-bbox="618 1669 824 1709">72</td> <td data-bbox="824 1669 1097 1709">2.5</td> <td data-bbox="1097 1669 1344 1709">2.5</td> </tr> <tr> <td data-bbox="180 1709 370 1749">32</td> <td data-bbox="370 1709 618 1749">20</td> <td data-bbox="618 1709 824 1749">92</td> <td data-bbox="824 1709 1097 1749">1.956217</td> <td data-bbox="1097 1709 1344 1749">2</td> </tr> </tbody> </table> <p data-bbox="180 1766 1344 1835">Pressure measured at inlet line to unit. Static with unit closed. Dynamic with unit dispensing cold water.</p> <p data-bbox="180 1843 1344 1877">No filters were installed in unit.</p>	WLCP Lab Testing of Rn On 7-31-2013					Pressure	Pressure	Time	Flow Rate	Run On	Static PSI	Dynamic PSI	4 Liters	l/min	Seconds	68	40	61	2.9508197	3	50	30	72	2.5	2.5	32	20	92	1.956217	2
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HOT TANK DESCALING INSTRUCTIONS

The Hot Tank requires removal of mineral deposits (descaling) on a regular basis. Typically descaling should take place every 6 to 12 months to preserve the long-term health of your unit.

Use non-toxic cleaner such as ScaleKleen, DEZCAL, 20% Citric Acid Solution, or Undiluted Vinegar Solution to remove mineral deposits as directed by the manufacturer depending upon filtration and local water conditions.

Descaling is an important process that removes calcium deposits, or scale, that can build up inside a tank over time. Calcium and scale is non-toxic but left unattended will hinder your unit's performance.

⚠️ WARNING! **PERSONAL PROTECTIVE EQUIPMENT REQUIRED.** *Always ensure proper ventilation and use rubber or nitrile gloves and eye protection when using chemicals. Refer to Material Safety Data Sheet for specific requirements of each product.*


⚠️ CAUTION! **STAINLESS STEEL TANK DESCALING.**
The Hot Tank is made from stainless steel. Ensure descaling solution is compatible with stainless and always flush the unit completely. Dispose in an environmentally safe manner.

Materials Needed:

- Personal Protective Equipment. Rubber or Nitrile Safety Gloves and Protective Eyewear
 - Phillips Screwdriver
 - Temperature Gauge
 - Water Pitcher or Container to collect water from the faucet
 - 19 Liter (5 gallon) container or drain basin
 - Citric Acid Based Cleaner
 - ¼" Plastic Tubing, at least 4 feet in length, and assorted ¼" quick connect fittings
 - Sanitizing Cartridge – an empty Waterlogic Filter with cartridge removed
 - Food Coloring
1. Bypass Filters before starting the Descaling Procedure.
 2. Put descaler per directions and 3 drops of food coloring into the descaling cartridge.
 3. Connect Descaling Cartridge to the inlet water supply and connect to Inlet Bulkhead Fitting on the back of **WL100 Water Treatment System**. Turn on Water Supply.
 4. Select Hot Water and depress the Main Dispensing Button on the Front Control Panel until descaling solution (colored water) comes out of the Faucet. Container and drain basin will be required to catch water from the faucet.
 5. Turn off water supply and remove Sanitizing Cartridge from inlet water supply. Reconnect water supply to Inlet Fitting.

6. Allow descaling solution to remain in the Hot Tank for 15 minutes (length of time may vary depending on water conditions).
7. Place a pitcher, catch basin or other container under the faucet of the **WL100 Water Treatment System**.
8. Flush the Hot Tank until water runs clear.
9. Once clear Water dispenses from the Faucet, the Hot Tank has been descaled. Always ensure unit is performing to the customer's satisfaction.
10. Replace Filters.

 **WARNING! HOT WATER.** *Unit produces Hot Water up to 87°C (189°F). Water above 52°C (125°F) can cause severe burns or scalding. Hot water should be dispensed carefully into insulated container to avoid injury.*

 **CAUTION! MUST REPLACE HOT TANK EVERY 3-5 YEARS DEPENDING ON USAGE.** *The Hot Tank and its controls must be replaced a minimum of every 3-5 years depending on usage to ensure efficient and dependable operation.*

 **WARNING! REINSTALL ALL PANELS AND COVERS.** *Always reinstall all Panels, Protective Covers, and Fasteners after servicing equipment. Failure to do so could result in severe personal injury and will void the certifications and warranty of the equipment.*