


ICE 900 PRINCIPLES OF OPERATION

The ice making system of the *ICE 900* automatically operates according to designed program settings based upon inputs from the Cold-water, Ice, and Environmental Sensors. You must allow time for water fill and refrigeration system to cool before the *ICE 900* will start to make ice.

1. Ensure the ICE making function is enabled (Red ICE LED should be on as shown: 
2. Level of purified water must be at proper operating level. The compressor and heater will turn on once minimum water level is reached.
3. To produce cold-water, the compressor and circulation pump must operate properly. (The cold-water production process automatically operates according to designated programming).

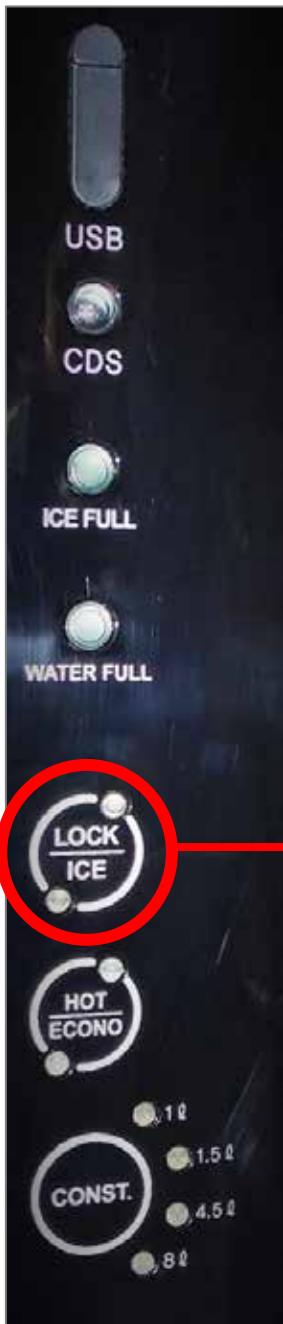
Cold-water operation: This refers to an operation that makes cold-water by continuously circulating and supplying water over the cooling fingers in the ice tray and into the cold-water reservoir. Water temperature in the cold-water tank is automatically checked by the cold-water temperature sensor, and if it drops below the set temperature, the cold-water operation will automatically stop (set point is reached).





4. Cold-water reservoir must be cold before the ice making system will start to produce ice.
 - a. Water supply action: this refers to an action to supply about .25g (1L) of cold-water every 50 seconds into ice making mechanism to make ice.
 - b. Ice making action: this refers to the making of ice by way of an ice tray by supplying cold refrigerant onto the fingers with tray full of water.
 - c. Harvest action: this refers to an action to separate the ice created in the ice tray by supplying hot refrigerant into fingers to release the cubes.
5. When the ice storage house is full, the ice detection sensor will automatically stop the ice making process.
6. If ice in the storage house is not used for long periods of time, Ice may melt, and during ice dispensing, smaller melted ice cubes can come out.

TDSs (Total Dissolved Solids) of ice may increase depending on environment in which the ice is created.

Higher temperatures surrounding the machine will result in longer ice making process her temperatures surrounding the machine will result in longer ice making process





DISPLAY AND SYSTEM FUNCTION SETTINGS



 USB	USB Port	Auxiliary Charging port for cell phone and other devices.
 CDS	Light Detection Sensor	When in Power Saving Mode (ECONO LED is Red), the <i>ICE 900</i> detects the amount of light surrounding the machine. The hot water will automatically be turned off when there is no light and turned on when there is sufficient light surrounding the unit.
 ICE FULL	Ice Storage Full	Indicates when ice storage is full.
 WATER FULL	Ambient Water Tank Full	Indicates when ambient water tank is full.

LOCK/ICE FUNCTIONS

The LOCK FUNCTION is a safety function that allows or prevents hot water and ice from dispensing from the *ICE 900*. To change LOCK setting, touch and hold the button for approximately 3 seconds until the LED light indicates the desired setting. The ICE FUNCTION enables and disables ice making process. To change ICE setting, touch and hold the button for approximately 10 seconds until the LED light indicates the desired setting.

	LOCK OFF - Hot water and Ice dispense are <u>enabled</u> ICE OFF - Ice making is <u>disabled</u>
	LOCK ON - Hot water and Ice dispense are <u>disabled</u> ICE OFF - Ice making is <u>disabled</u>
	LOCK OFF - Hot water and Ice dispense are <u>enabled</u> ICE ON - Ice making is <u>enabled</u>
	LOCK ON - Hot water and Ice dispense are <u>disabled</u> ICE ON - Ice making is <u>enabled</u>

* Default Setting
Most Applications

DISPLAY AND SYSTEM FUNCTION SETTINGS




HOT/ECONO FUNCTIONS

The HOT FUNCTION enables or disables the production of the Hot Water. To change HOT setting, touch and hold the button for approximately 3 *seconds* until the LED light indicates the desired setting.



The ECONO FUNCTION enables and disables Power Saving Mode. To change ECONO setting, touch and hold the button for approximately 10 *seconds* until the LED light indicates the desired setting.

When in Power Saving Mode, the *ICE 900* detects the amount of light surrounding the machine. Hot Water production will automatically be turned off when there is no light, and turned on when there is sufficient light surrounding the *ICE 900*.



	<p>Hot Water production is disabled.</p> <p>ECONO (Power Saving Setting) is disabled.</p>
	<p>Hot Water production is enabled.</p> <p>ECONO (Power Saving Setting) is disabled.</p>
<p>*Default Setting Most Applications</p> 	<p>Hot Water production is enabled.</p> <p>ECONO (Power Saving Setting) is enabled.</p> <p>When in Power Saving Mode, the <i>ICE 900</i> detects the amount of light surrounding the machine. The hot water will automatically be turned off when there is no light, and turned on when there is sufficient light surrounding the <i>ICE 900</i>.</p>

TURN ON / OFF SOUND FUNCTION

		<p><u>Turn off or on the Sound Function</u> - Push and hold the HOT/ECONO button and the Hot Product Select Button at same time for 5 seconds to turn on/off sound function.</p>
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It may take up to 10 minutes for the hot tank to reach set point temperature when coming out of ECONO Mode. Ensure customers understand ECONO function or we recommend disabling to avoid needless service calls for no hot water upon initial use.

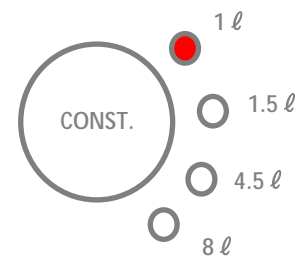
CONST (CONTINUOUS DISPENSE) FUNCTION

The purpose of the CONST (Continuous Dispensing) function is to provide the option of continuous dispensing of Ambient or Cold-water for 1, 1.5, 4.5 or 8 Liters (.26, .40, 1.2 or 2.1 Gallons) at a time. Hot Water is not an option for continuous dispensing.

To enable the CONST (continuous dispensing) option, touch the touch sensor button for approximately 3 seconds until the 1 Liter (.26 Gallons) indication turns red. Touch the touch sensor button again until the amount of water desired to continually dispense is selected.



1. Touch CONST (continuous dispense) touch sensor for 3 seconds turn on CONST function. Repeatedly touch sensor to select the amount of cold or ambient water amount desired. The 1, 1.5, 4.5, or 8 Liters light will turn red to indicate selection.
2. Select Ambient or Cold-water to dispense. Hot Water is not an option for continuous dispensing.
3. Place container big enough to hold the amount of water selected to dispense at one time under the dispenser.
4. Push container against water dispensing button to start continuous dispense.



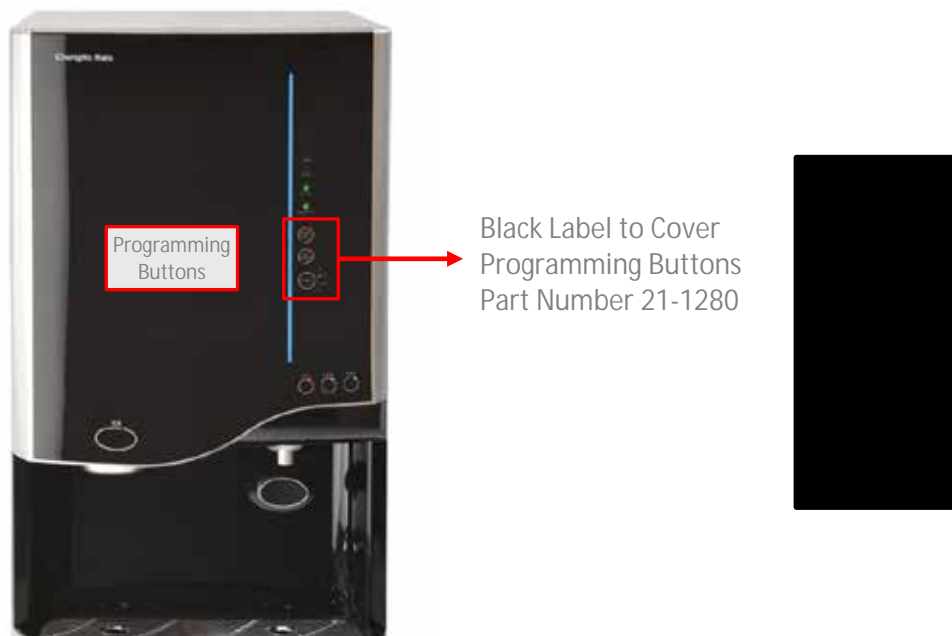
To STOP CONTINUOUS DISPENSE, touch the Hot, Cold, or Ambient water selection button

ERROR PROOFING THE FRONT DISPLAY

We **strongly recommend** covering the LOCK/ICE and the HOT/ECON buttons and LED indicators once programmed to prevent users from disabling machine function inadvertently.

Covering programming buttons prevents accidental disabling of ICE making and Hot water functions by end users and will reduce unnecessary emergency service calls accordingly.

Tip - Use black tape or Part Number 21-1280 to Cover Programming Buttons LED lights before installing decal to help prevent light from coming thru.



SERVICE REQUIREMENTS

⚠ WARNING! *Read and understand the contents of this manual before attempting to service ICE 900 Water Treatment System. Failure to follow the instructions in this manual could result in death, serious personal injury, or severe property damage. Only trained and qualified technicians should attempt to install, maintain, or service the ICE 900.*

⚠ DANGER! *HIGH VOLTAGE ELECTRICAL HAZARD. Unplug before inspection and service.*

Annual preventative maintenance is the key to performance and should be performed off-site if possible as this takes approximately 4 hours to complete. Rotating inventory is strongly encouraged.

1. Visually inspect all electrical and water connections for signs of wear or damage.
2. Visually inspect the water inlet solenoid (SV Raw Water) for heat damage.
Replace the water inlet solenoid #21-1095 if any sign of heat damage (discoloration or melting) is noticed. Recommend changing inlet solenoid annually as proactive preventative maintenance.
3. **Change Filters.** Filter replacement based upon 20 liters (5.3 gallons) usage per day. Local water conditions will dictate your exact filters requirements and service intervals

Sediment Filter (5 micron) #21-1200 – every 6 Months

Pre-Carbon Filter (10 micron) #21-1205 – every 12 Months

RO Membranes (0.0001 micron) #21-1210 – every 24 Months or once TDS is > 10% incoming supply. 2 each 80 gallon per day RO membranes are in parallel for increased production and recovery rates.

Post-Carbon Filter (1 micron) #21-1210 – every 12 Months

Flush 19 Liters (5 gallons) of water through the carbon filters to rinse carbon fines. Do not rinse the Filters through the unit Solenoid Valve(s) and Tanks if at all possible to avoid contamination. Flush RO membrane to rinse preservative from the membrane for 4 hours.

4. **Change the ice (#21-1040), cold (#21-1030), and environmental (#21-1045) sensors** *See “Design changes to main PCB and environmental sensor affecting serial numbers Z-10369 and beyond” elsewhere in this manual” on a regular basis (annually) to prevent unexpected downtime and avoid emergency service calls.
5. Ensure there is adequate (minimum of 4”) clearance around the unit and clean the condenser grill and Compressor fan to provide efficient cooling system operation.
6. Test the drip tray overflow function. Water should drain through the Drain Outlet into a floor drain. Clean and dry out the drip tray. Clean or replace the drain pump if present.
7. Sanitize entire unit including cold reservoir, ice making tray, and ice storage bin per instructions.
8. Clean and sanitize external surfaces of the unit. Use soap and water or chemicals that are compatible with ABS plastic and will not damage or degrade the product surfaces.

⚠ WARNING! *SANITIZER MAY CONTAIN HAZARDOUS CHEMICALS. Use of proper personal protective equipment such as rubber gloves and eye protection is required.*

DESIGN CHANGES TO MAIN PCB AND ENVIRONMENTAL SENSOR

Change implemented effective Serial Numbers Z-10369

Environmental Sensors are not interchangeable – verify sensor part number to the applicable serial number listed below.

Location of Environmental Sensor

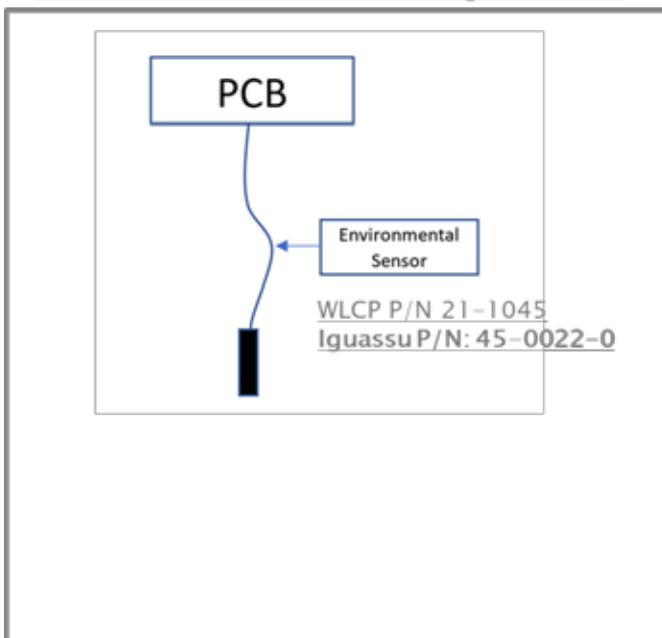


OLD LOCATION
 Serial Numbers: Prior to Z-10368
 Date of Manufacture: Prior to 7-6-2017
WLCP PN 21-1045
 Iguassu PN 45-0022-0

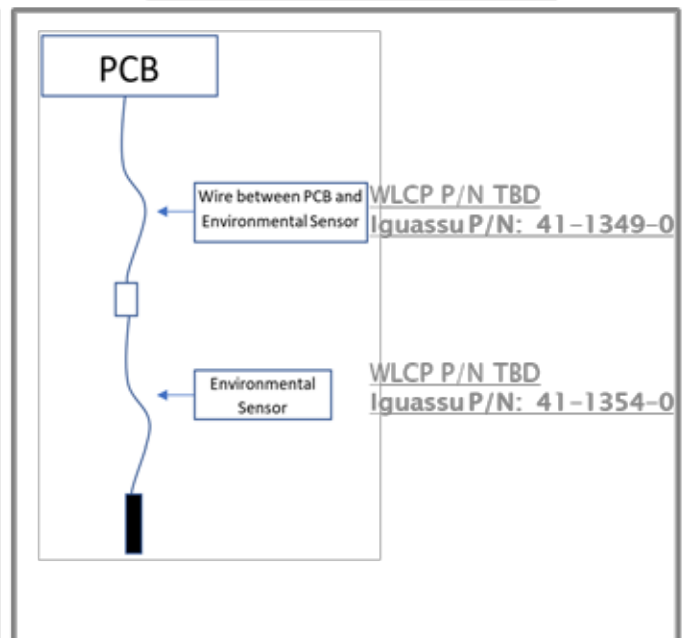
NEW LOCATION
 Serial Numbers: Z-10369 and beyond
 Date of Manufacture: After 7-6-2017
WLCP PN 21-1046
 Iguassu PN 41-1354-0

Environmental Sensor Part Number Changes

Serial Numbers Z-10064 through Z-10368



Serial Numbers after Z-10369



Main PCB Design Changes

The two different designs of the Main PCB are not interchangeable – verify Main PCB part number to the applicable serial number listed below.

Serial Numbers Z-10064 through Z-10368



Environmental Sensor
Connection to PCB

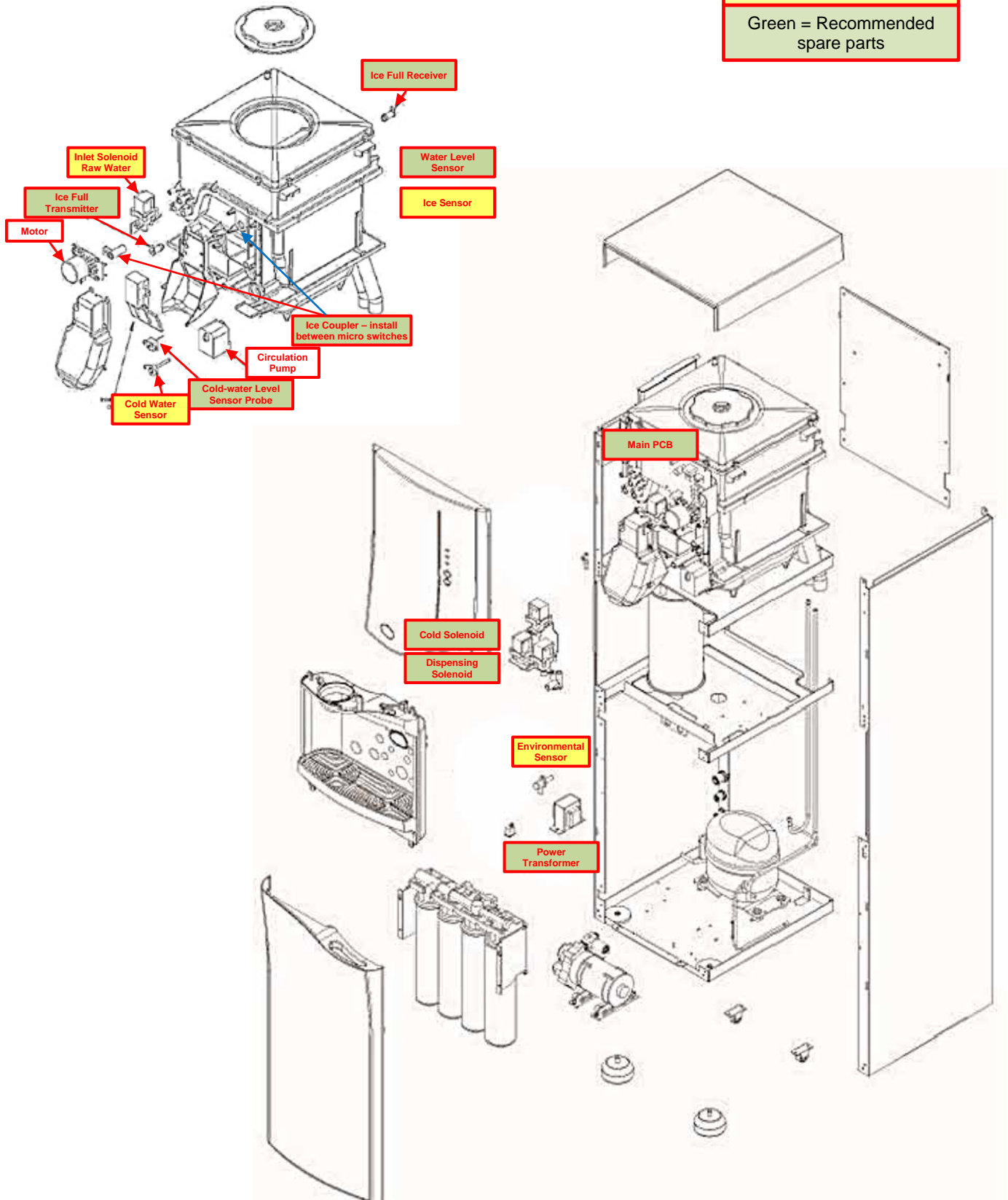
Serial Numbers after Z-10369



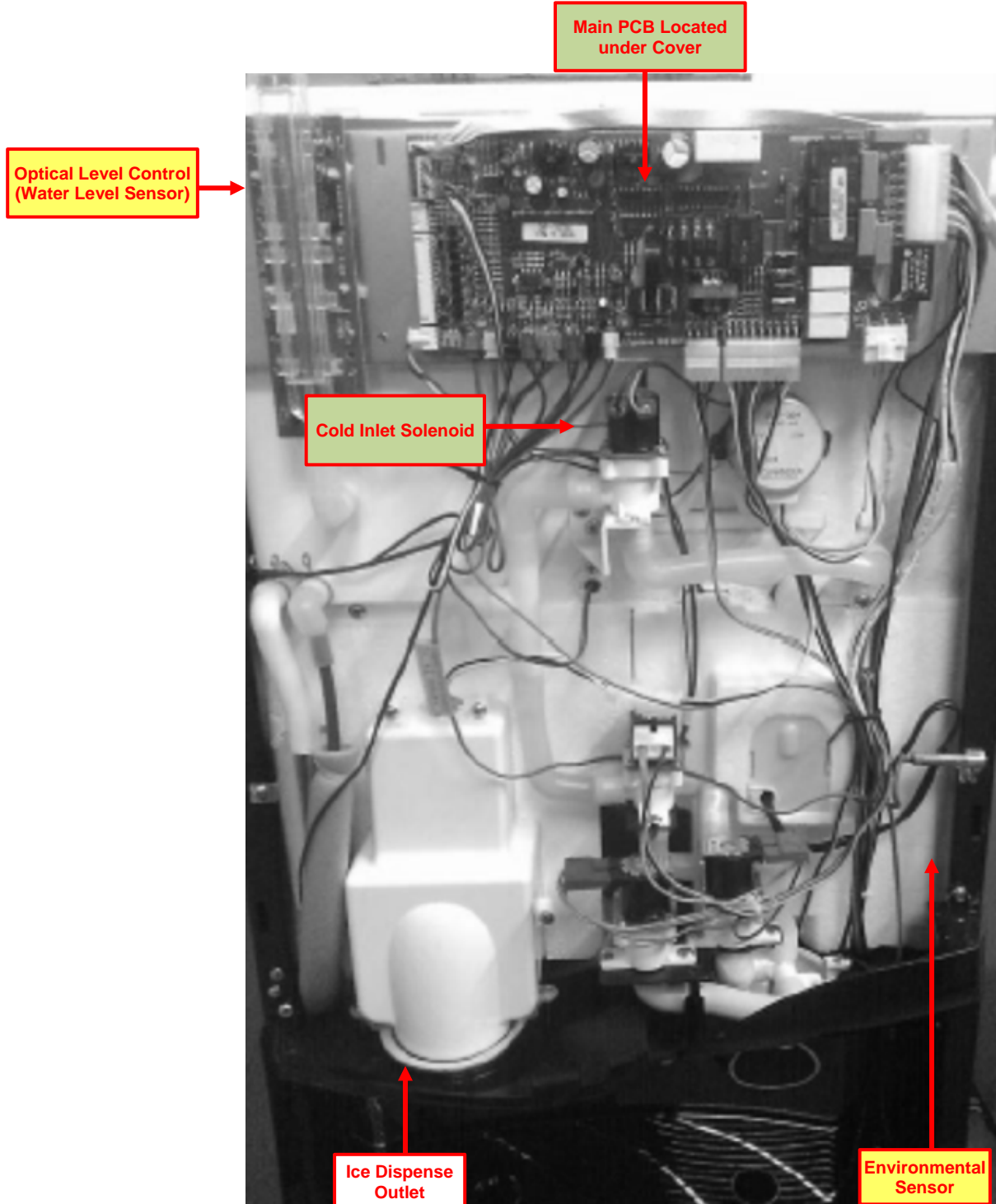
Environmental Sensor
Connection to PCB

CONSUMABLES AND RECOMMENDED SPARE PARTS DRAWINGS

Yellow = Consumables
Green = Recommended spare parts















CONSUMABLES AND RECOMMENDED SPARE PARTS DRAWINGS



REPLACEMENT COMPONENTS (CONSUMABLES)

Component	Part No.	Frequency of Replacement	Stocked?	
Sediment Filter	21-1200	Every 6-12 months or as required.	Yes	
Pre-Carbon Filter	21-1205	Every 12 months or as required.	Yes	
Post-Carbon Filter	21-1215	Every 12 months or as required.	Yes	
Membranes – requires 2 each	21-1210	Inspect every 12 months and replace if needed. At the least membranes should be replaced every 24 months.	Yes	
Cold Sensor Probe	21-1030	Every 12 months or as required.	Yes	
Ice Sensor	21-1040	Every 12 months or as required.	Yes	
Environmental Sensor	21-1045	Every 12 months or as required. <i>*For for serial numbers between Z-10064 to Z-10368 Mfg. P/N: 45-0022-0</i>	Yes	
Environmental Sensor	TBD	Every 12 months or as required. <i>*For serial numbers after Z-10369. Mfg. P/N: 41-1354-0</i>	Yes	
Wire from Main PCB to Environmental Sensor	TBD	Every 12 months or as required. <i>*Use this P/N for serial numbers after Z-10369. Mfg. P/N 41-1349-0</i>	Yes	
Inlet Solenoid (SV Raw Water)	21-1095	Every 12 months or as required.	Yes	

RECOMMENDED SPARE PARTS

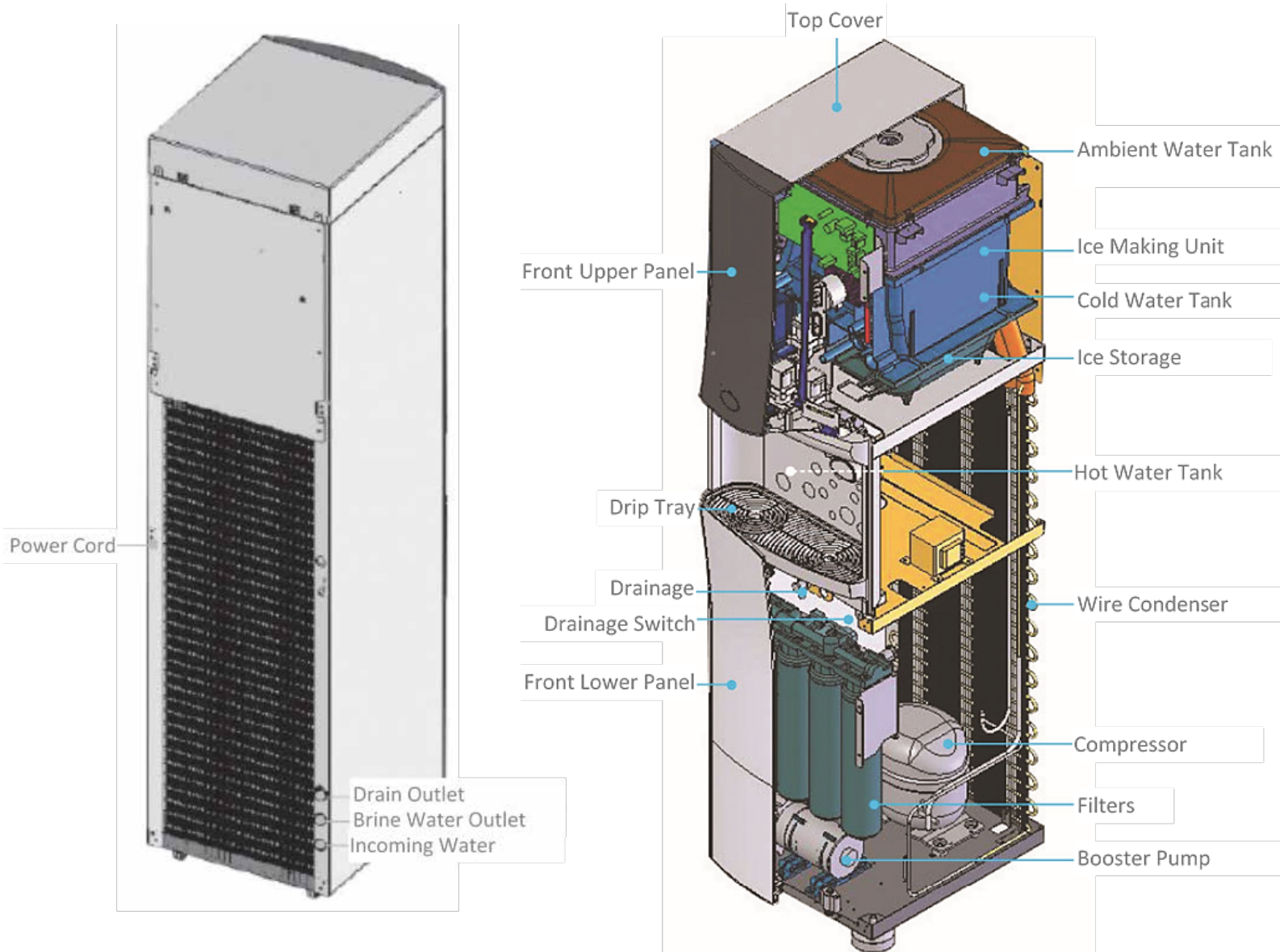
Component	Part No.	Stocked?	
Filter O-ring	21-1275	Yes	
Power Transformer	21-1090	Yes	
Ice Coupler	21-1050	Yes	
Optical Level Control (Water Level Sensor)	21-1085	Yes	
Main Printed Circuit Board (PCB) <i>*For for serial numbers between Z-10064 to Z-10368</i>	21-1070	Yes	
Main Printed Circuit Board (PCB) <i>*Use this P/N for serial numbers after Z-10369.</i>	TBD	Yes	
Cold Solenoid (SV)	21-1105	Yes	
Dispensing Solenoid (SV)	21-1110	Yes	
Ice Full – Transmitter	21-1020	Yes	
Ice Full – Receiver	21-1025	Yes	
Cold-water Level Sensor (Probe)	21-1250	Yes	
Front Panel Programming Sticker	21-1280	Yes	

Replacement and recommended spare parts can be obtained from *Waterlogic* or an *Authorized Waterlogic Dealer*.

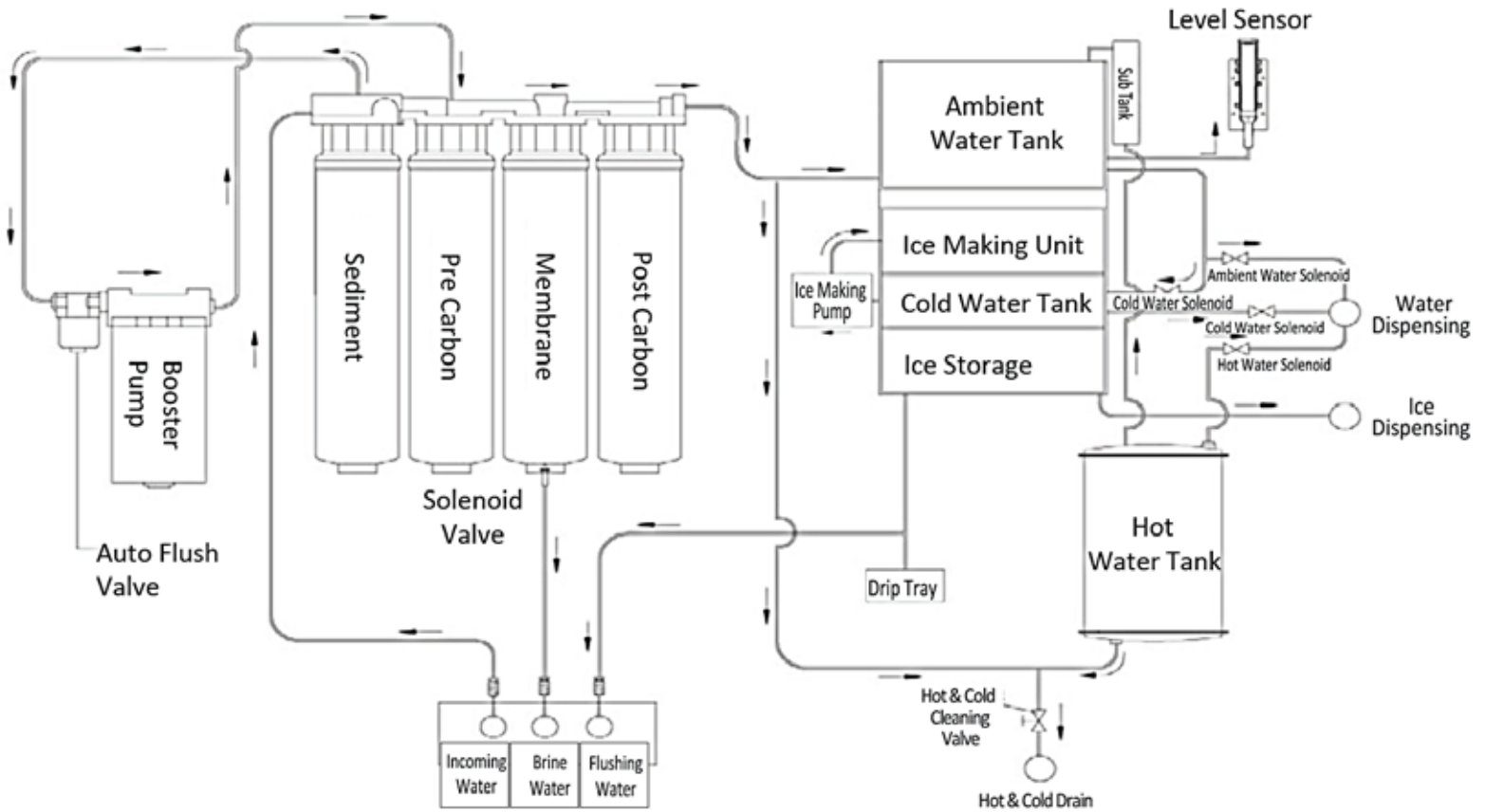
NOTE:

At the **end of this product's life**, ensure that it is disposed of in an environmentally friendly manner which is fully compliant with all Federal/State/Local Requirements and Guidelines.

OVERVIEW DRAWINGS



FLOW DIAGRAM



FILTER REPLACEMENT

Remove Front Bottom Cover Panel to gain access to the main filter housing area.



1. Push down panel compressing spring loaded pins.
2. Gently pull towards you to release the front panel hooks.

Remove and Flush Filter to be replaced:

1. Remove front lower panel per above. Turn off incoming water supply. Power On.
2. Use Filter Station 1 (Sediment) to Flush Sediment and Carbon Filters.
3. Remove filter to be changed. The Filter Block identifies the correct location of the filters. Unscrew by hand or use strap wrench if needed.



Install new filter.

⚠ CAUTION! *ENSURE OUTER O-RING REMAINS IN PLACE AT TOP OF FILTER. DO NOT DISCARD THE O-RING AT TOP OF FILTER.*

Failure to keep the O-ring in place will result in the filter leaking.



4. Turn on Incoming Water Supply



5. Flush Filter to drain or basin.

⚠ CAUTION! FILTERS FLUSH REQUIRED.

In order for filters to perform as represented and to provide the best quality water possible, it is essential that filters be replaced periodically. The frequency of Filters changes depends upon your water quality and your water usage. For example, if there is a lot of sediment and/or particles in your water, then you will have to change your sediment filters more frequently than a location with little to no sediment. Be sure to replace your Filters whenever you notice a decline in the performance, whether it is a drop in flow rate and/or pressure or an unusual taste in the water.

Flush preservative from RO membrane to drain before use. Check incoming and output Total Dissolved Solids (T.D.S.). The product water (output) should be <10% of the incoming feed water.

Do not flush carbon fines into RO membranes as this will degrade the membranes.

Filters should not be flushed prior to 24 hours before installation to limit Microbial Growth.

Always use Potable and Safe Water Supply

Flush Filters in the following order:

1. Pre-Carbon
2. Post-Carbon
3. Sediment

*Do not flush filters through the RO membranes as it will foul and degrade the membranes.






Note: Move the filter being flushed to the Sediment Filter Location to flush filter.

Sediment Pre-Carbon Membranes Post Carbon

*Do not flush carbon thru RO membrane

ICE TRAY MOTOR AND COUPLER ASSEMBLY

		
<p>Ice tray motor removed with the coupler still attached.</p> <p>(1) Micro switches (2) Coupler fits into the tray itself in between the switches</p>	<p>Coupler removed from the Ice Tray Motor</p>	<p>Coupler Location</p> <p>Coupler inserted into ice tray between two (3) micro switches with the (2) two-way motor detached.</p>

Note: It may be necessary to activate the drain switch to reposition the motor to reassemble the Coupler/ Motor Assembly.

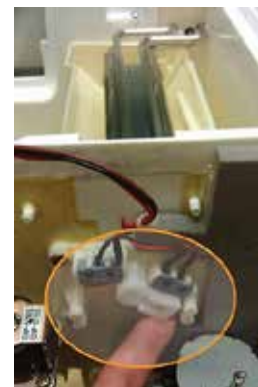
ICE TRAY COUPLER POSITION SWITCHES



Ice releasing Function



Rotating to make ice position



Ice making position

ENVIRONMENTAL TEMPERATURE SENSOR REPLACEMENT

Environmental Temperature Sensor (aka Surrounding Temperature Sensor) is located below the PCB controller – behind the upper front assembly.

Environmental Sensor – Part and Location



OLD

Serial Numbers: Prior to Z-10368
Date of Manufacture: Prior to 7-6-2017

WLCP PN 21-1045

Iguassu PN 45-0022-0

NEW

Serial Numbers: Z-10369 and beyond
Date of Manufacture: After 7-6-2017

WLCP PN 21-1046

Iguassu PN 41-1354-0

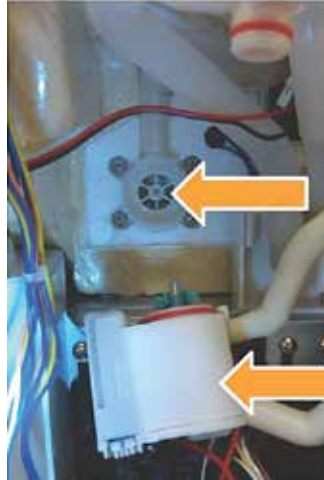
COOLING SENSOR REPLACEMENT

1. Remove the insulation cover to gain access to the cooling sensor.

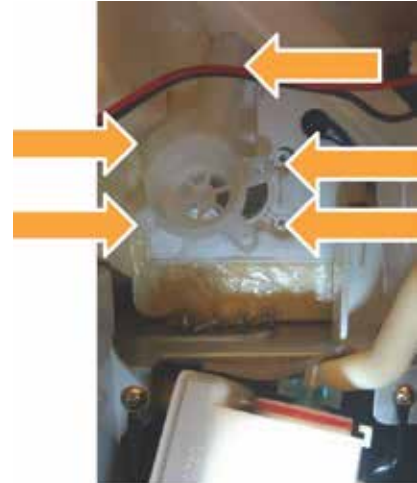


*Cover has been removed in this picture

2. Twist circulation pump to the right to unlock and gently pull out.



3. Remove the four screws



Access to the cooling sensor after removing insulation.



4. Remove the two screws holding the cooling sensor in place. **Do not remove the plastic water is not removed with the sensor.*



ICE SENSOR REPLACEMENT

1. Remove Back Cover.



2. Pull insulation down to access the evaporator line.



3. Locate the Ice Making Sensor attached to the holding clip on the evaporator line.



4. Remove the sensor from the holding clip and replace.



SENSOR TABLES

Ice Making Temp Sensor, Cold Water Temp Sensor Table

(°F)	(KΩ)	(°F)	(KΩ)	(°F)	(KΩ)
-22	117	41	22.2	104	5.8
-13	90	50	18.1	113	4.9
-4	70	59	14.7	122	4.1
5	55	68	12.1	131	3.5
14	43.3	77	10	140	3
23	34.5	86	8.3	149	2.6
32	27.6	95	6.9	158	2.2



Environmental Temp Sensor Table

(°F)	(KΩ)	(°F)	(KΩ)	(°F)	(KΩ)
-22	885	41	127	104	26.6
-13	652	50	99.5	113	21.8
-4	485	59	78.5	122	18
5	364	68	62.5	131	14.9
14	276	77	50	140	12.4
23	211	86	40.3	149	10.4
32	170	95	32.6	158	8.7



Ice Making Time - Minutes

(°F)	Minutes	(°F)	Minutes	(°F)	Minutes
32	6.4	59	7.4	86	10
41	6.4	68	8	95	10.8
50	6.7	77	9	104	12.9



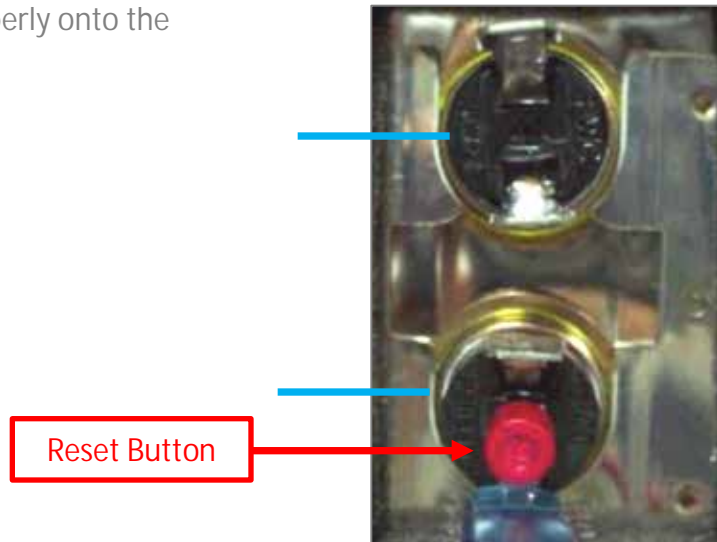
HOT TANK RESET

If hot water overheated, the ambient tank's temperature goes up and can cause overflow.

Check electric resistance of hot water temp sensor and metal bimetal.

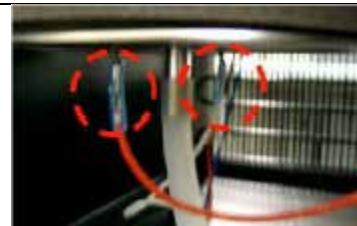


Check if bimetals are affixed properly onto the hot tank's surface.



Check heater wire connection and applied voltage.

Applied voltage: AC 120V



ELECTRICAL SCHEMATIC

