Cat. No. 01021717
Rev. B 06/01/10
DCO # 011761

Installation, Operation & Service Instructions with Parts List

CULLIGAN®
Premuim
Bottle-free Cooler

Featuring:

- **Biocote® Protection**
- **In-Tank UV Protection**
- **Built-In Leak Protection**

Models:

19-GU-CUL

Printed in USA

Attention Culligan Customer:

Your local independently operated Culligan dealer employs trained service and maintenance personnel who are experienced in the installation, function and repair of Culligan equipment. This publication is written specifically for these individuals and is intended for their use.

We encourage Culligan users to learn about Culligan products, but we believe that product knowledge is best obtained by consulting with your Culligan dealer. Untrained individuals who use this manual assume the risk of any resulting property damage or personal injury.

Culligan Premium Coolers are combined with selected Culligan water treatment components to create a system specifically tailored to match the customer application.

WARNING! Prior to servicing equipment, disconnect power supply to prevent electrical shock.

NOTE This system is not intended for use where water is microbiologically unsafe or with water of unknown quality.

WARNING! If incorrectly installed, operated or maintained, this product can cause severe injury. Those who install, operate, or maintain this product should be trained in its proper use, warned of its dangers, and should read the entire manual before attempting to install, operate, or maintain this product.

Culligan International Company

9399 West Higgins Road, Suite 1100
Rosemont, Illinois 60018

For Technical Service Help call: 1-800-723-3426 ext. 2

To Order Innowave Parts call: 1-800-723-3426 ext.1

To Order Culligan Parts call: 1-800-428-2828

www.culligan.com

WARNING! This device complies with part 15 of the FCC rules subject to the two following conditions: 1) This device may not cause harmful interference, and 2) This device must accept all intereference received including interference that may cause undesired operation.

This equipment complies with Part 15 of the FCC rules. Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Installation
and
Operation
Instructions

Culligan® Premium
Bottle-free Cooler
Models from 2010

Contents

Cat. No. 01021717

Key Pre-Delivery Activities

	**CAUTION! The cooler and the water treatment equipment must be properly prepared before the system is delivered to the customer.**

Verify Premium Cooler Reverse Osmosis System Configurations

Premium RO—see Appendix A, Figure 12 on pages 32–33.

- Uses: sediment filter, carbon block filter and RO 30 cartridges in three (3) E-Z Change heads with inline post carbon filter. Premium units use an internal storage reservoir that requires no automatic shut-off valve.
- For detailed instructions about Aqua-Cleer® components please refer to the complete Installation, Operation and Service Manual, Cat. No. 01020219.

Premium LC-100 RO—see Appendix B, Figure 16 on pages 34–36.

- Uses: Preferred Series 250 Filter, LC-100 RO, and inline post carbon filter. Premium Cooler units use an internal storage reservoir that requires no automatic shut-off valve.
- For detailed instructions about Aqua-Cleer® LC components please refer to the complete Installation, Operation and Service Manual, Cat. No. 01882074.

Premium AC50 RO—see Appendix C, Figure 19 on page 37–38.

- Uses: AC50 and inline post carbon filter. Premium Cooler units use an internal storage reservoir and the AC50 includes an internal automatic shut-off valve and check valve.
- For detailed instructions about AC 50 components please refer to the complete Installation, Operation and Service Manual, Cat. No. 01018587.

	**CAUTION! All RO Membranes will require a 24-hour flush to drain. All flushing of membranes and filters must be done with chlorine-free, filtered, softened water.**

Prepare and Flush Water Treatment Components

CAUTION! All RO Membranes will require a 24-hour flush to drain. All flushing of membranes and filters must be done with chlorine-free, filtered, softened water.

Activity	Premium Aqua-Cleer® RO	Premium LC-100 RO	Premium AC50 RO
Verify system includes Air Gap (44403001 or equivalent) for system drain	☐	☐	☐
Flush the carbon block filter to drain for at least five (5) minutes until there are no more carbon fines observed.	☐		
Activate the Preferred Series 250 cartridge and thoroughly flush per the detailed instructions.		☐	
Flush the pre-carbon filter and sediment filters to drain			☐
Flush the RO cartridge to a drain with chlorine-free, filtered softened water for 24 hours prior to installation	☐	☐	☐
Flush the carbon post filter to drain	☐	☐	☐

Prepare and Flush Cooler for Service

Activity	Premium Cooler
Unpack the Premium Cooler.	☐
Inspect the Premuim Cooler for any shipping damage.	☐
Clean and sanitize the internal storage tank.	☐
Flush and test the Premium Cooler.	☐

See the appendixes for detailed instructions to perform these activities.

Introduction

The Culligan Premium Cooler brings a unique, fresh approach, and a new look, to point-of-use water treatment systems in the marketplace. A high tech “stainless steel” color scheme complements every office environment. Unlike a bottled water cooler, incoming tap water is treated as it is needed, so the water is always fresh and great tasting. Best of all, there are no bottles to change and the supply is unlimited.

The Culligan Premium Cooler is enhanced with BioCote® technology. BioCote® is a unique anti-microbial agent, based on silver ion technology that inhibits the growth of a broad range of micro-organisms. BioCote® is incorporated into the plastic parts of the Culligan Premium Cooler at the time of manufacture, giving it built-in, continuous anti-microbial protection against bacteria, mold and fungi, making it cleaner and safer.

All Premium Cooler systems come standard with a 1-gallon (4-liter) cold tank utilizing an 8-watt ultraviolet lamp for the in-tank sanitization system. In combination, the Culligan Premium Cooler systems are protected on the inside by UV and protected on the outside by BioCote®.

The Culligan Premium Cooler is configured with three empty EZ change single heads installed inside that will enable configurations for virtually any incoming water condition. You decide on the treatment package needed and then simply twist the filters selected into the three EZ Aqua-Cleer® filter heads factory-installed behind the lower front panel.

The Culligan Premium Cooler is designed with an internal storage reservoir for configuration as a staged Reverse Osmosis System. To create an RO system:

- First EZ Head: 5 micron sediment filter for pre-filtration
- Second EZ Head: 5 micron carbon block filter to reduce chlorine
- Third EZ Head: RO membrane to reduce TDS
- Filter Clip: In-line carbon post filter to polish the product water from the RO.
-

The Culligan Premium Cooler has been designed to facilitate the use of other Culligan RO options such as the

LC-100 RO with Preferred Series Filters and the AC-50 RO System. Diagrams and preparation instructions for these options are included in the APPENDIX of this manual.

This publication is based on information available when approved for printing. Continuing design refinements could cause changes that may not be included in this publication.

Safe Practices

Throughout this manual there are paragraphs set off by special headings.

Notice

Notice is used to emphasize installation, operation or maintenance information which is important, but does not present any hazard. For example,

NOTICE	**The nipple must extend no more than 1 inch above the cover plate.**

Caution

Caution is used when failure to follow directions could result in damage to equipment or property. For example,

	**CAUTION! Disassembly while under water pressure can result in flooding.**

Warning

Warning is used to indicate a hazard which could cause injury or death if ignored. For example,

	**WARNING! Electrical shock hazard! Unplug the unit before removing the timer mechanism or cover plates!**

The CAUTION and WARNING paragraphs are not meant to cover all possible conditions and situations that may occur. It must be understood that common sense, caution, and careful attention are conditions which cannot be built into the equipment. These MUST be supplied by the personnel installing, operating, or maintaining the system.

Be sure to check and follow the applicable plumbing codes and ordinances when installing this equipment. Local codes may prohibit the discharge of sanitizing or descaling solutions to drain.

Use protective clothing and proper face or eye protection equipment when handling chemicals or power tools.

NOTE	**The Culligan Premium Cooler is primarily designed to be used as an RO system and not used as a filtration only system.**

NOTE	**The Culligan Premium Cooler is not intended for use with water that is microbiologically unsafe or of unknown quality without adequate disinfection either before or after the system.**

NOTE	**Check with your public works department for applicable local plumbing and sanitation codes. Follow local codes if they differ from the standards used in this manual. To ensure proper and efficient operation of the Culligan Premium Cooler to your full satisfaction, carefully follow the instructions in this manual.**

Premium Cooler Overview

Cold Tank

The cold tank is manufactured from 304 Stainless Steel which is non-corrosive, inert and reflects ultraviolet (UV) light. The cold water temperature is adjustable 35-54°F (2-12°C). The capacity of the cold tank is 1 gallon (4 liters). The water stored in the cold tank is chilled and exposed to UV at the same time. This inhibits bacterial growth in the water and on the internal surfaces of the tank.

Hot Tank

The hot water tank has a 0.4 gallon (1.5 liters) capacity. It is manufactured from 304 Stainless Steel which is non-corrosive and inert. Heating is provided by an 800 watt heating element. The temperature of the hot tank is set at the factory to 180°F (82°C). A BI-metal overload thermostat is fitted to stop the tank overheating. It is reset manually.

Room Temperature Water

This only provides filtration of your water. No further cooling, heating or treatment is done to the water in this option. The temperature of the water will be the same as the room temperature. The room temperature water should be flushed after long periods of non use, including weekends.

Internal Storage Reservoir

An internal storage reservoir eliminates the need for an external storage tank. The entire water treatment system is contained inside the cabinet. A double float mechanism guards against overflows.

Built-in Leak Detection and Shutoff

A plastic containment tray in the base of the unit contains a leak detector. If a leak should occur, the detector will immediately shutoff the inlet solenoid valve.

UV Lamp

The UV light is a TUV lamp with a wavelength of 253.7 nm, which is very efficient at controlling bacteria found in water. UV light inactivates bacteria by impacting DNA. An 8 watt UV lamp is used in the Premium Cooler. It is protected by a quartz sleeve which allows UV light to pass through to the water. The UV lamp should be changed every 12 months. The quartz sleeve should be removed and cleaned when the lamp is changed.

Compressor

The compressor uses R134a non-ozone depleting refrigerant gas. The compressor is controlled by an electromechanical thermostat monitoring the temperature of the water in the cold tank unit.

Water Pipe and Fittings

All water connection fittings are approved to NSF standard 61. The unit is connected to the water supply by a 1/4” female bulkhead fitting. The entire internal water circuit and all components which come in contact with water are food grade certified.

Water Dispensing

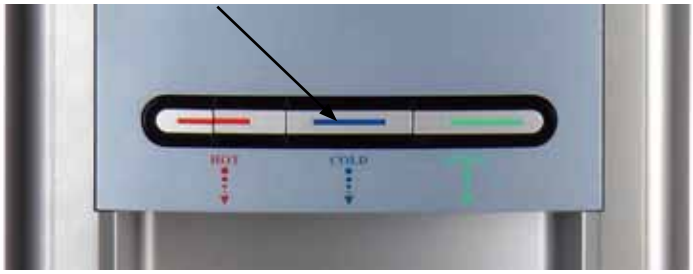
Water dispensing to the customer is achieved by means of mechanical switches. No electricity is used in the buttons pushed by the customer.

Plastic Panels

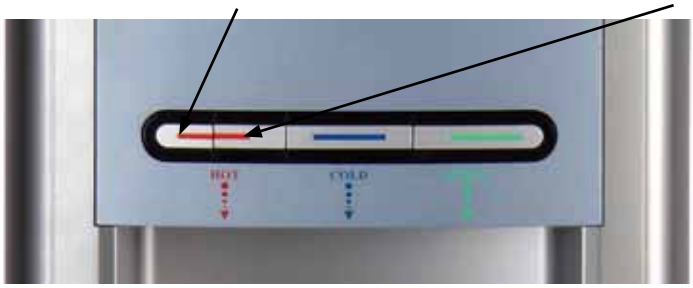
The molded panels are made from recyclable ABS plastic. All the ABS plastic panels are UV resistant and meet the standards of CE and UL.

Cold, Hot, and Room Temperature Dispensing Button Operation

1. To dispense Cold Water, press the BLUE dispense button in the middle of the console.



2. To dispense Hot Water, first press the left RED unlock button and then press the right RED dispense button.



3. To dispense Room Temperature Water: Push the GREEN Dispense Button on the right side of the console.

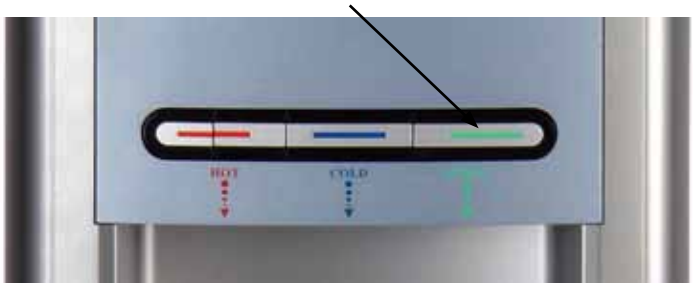


Figure 1. Premium Cooler water dispensing panel

Electrical Safety

- Only connect the power cord to a 120V properly grounded outlet.
- Never pull the power plug from the outlet with a wet hand or allow the plug to get wet.
- Keep the power cord out of heavy traffic areas.
- To avoid a fire hazard, never put the power cord under rugs, near radiators, stoves or heaters.
- Do not use a damaged power cord or plug. If the power cord is damaged, a qualified service technician must replace it.
- Do not use an extension cord with the Premium Cooler.

Installation and Usage Safety

- Keep the Premium Cooler away from direct sunlight and excessive humidity.
- Keep at least four (4) inches from the wall.
- Don’t lay the Premium Cooler down on its side. If for some reason the unit was placed on its side, it must stand upright for a minimum of two (2) hours before operation to allow the compressor to stabilize.
- Connect the water supply to a cold water line only. Feedwater over 105 F (40C) can damage the treatment components.
- Never install the system where it could freeze.
- If the feedwater pressure is over the recommended operating pressure of 60 psi (4 bar), install a pressure-reducing valve in the water line. Be aware of pressure surges or water hammer.
- Filters should be replaced on schedule. Overused filters will deteriorate the performance of the system.
- Drain the water out of the Premium Cooler after long periods of non-use, such as over the long weekend; this will allow a fresh batch of water to fill the system.

Premium Cooler Parts Breakdown

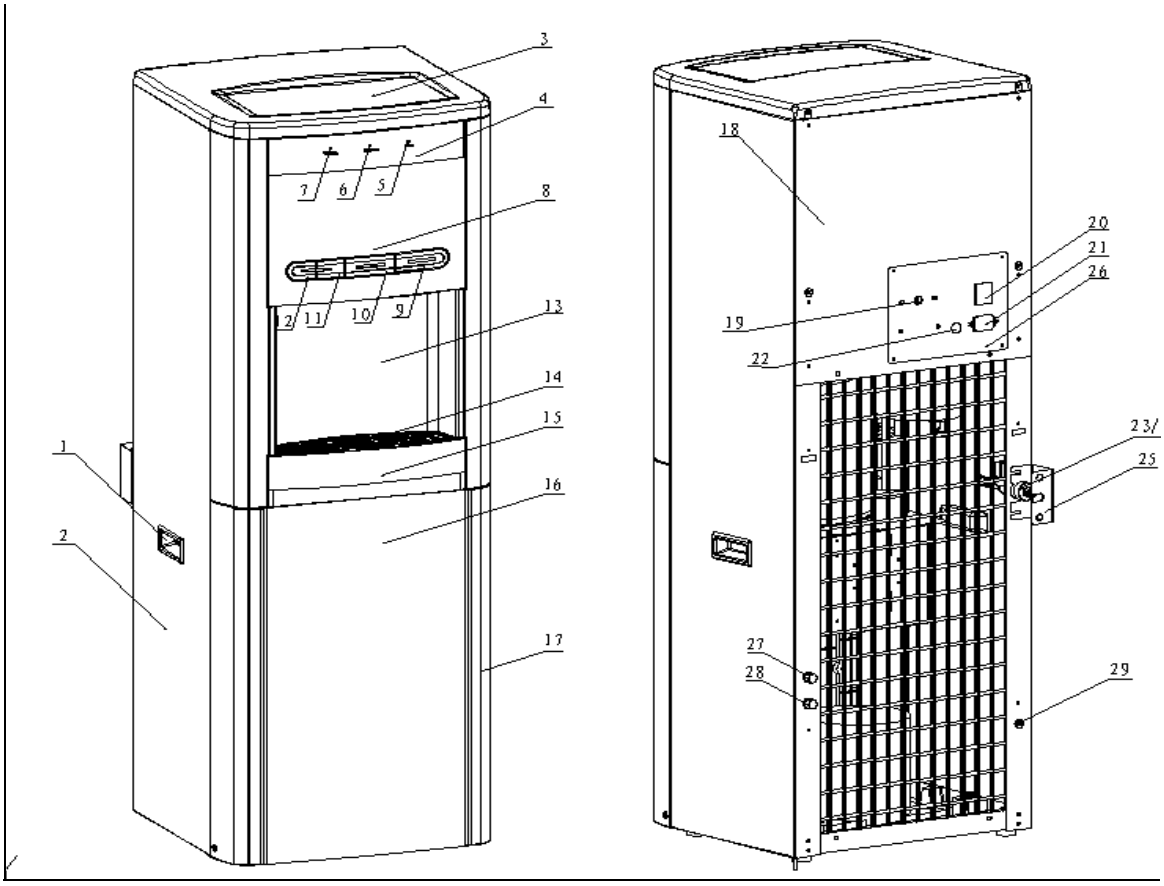


Figure 2. Premium Cooler

Premium Cooler Layout

1. Handle
2. Side Panel
3. Top Cover
4. LED label
5. Power Lamp
6. Chilling Lamp
7. Heating Lamp
8. Front Hatch Panel
9. Room Water Pushbutton
10. Cold Water Pushbutton
11. Hot Water Pushbutton
12. Hot Safety Pushbutton
13. Drip Tray Insert Panel
14. Drip Tray Grill
15. Drip Tray Body
16. Front Down Insert Panel
17. Front Down Panel
18. Back Panel
19. Cold Water Thermostat
20. Power Switch
21. Power Cord Socket
22. Fuse Holder
23. Solenoid Valve
24. JG Hose Adaptor
25. Inlet Solenoid Valve Cover Bracket
26. Back Access Panel to Electronics
27. Hot Water Drain
28. Cold Water Drain
29. Drain Port for RO System

Hot, Cold, and Room Temperature

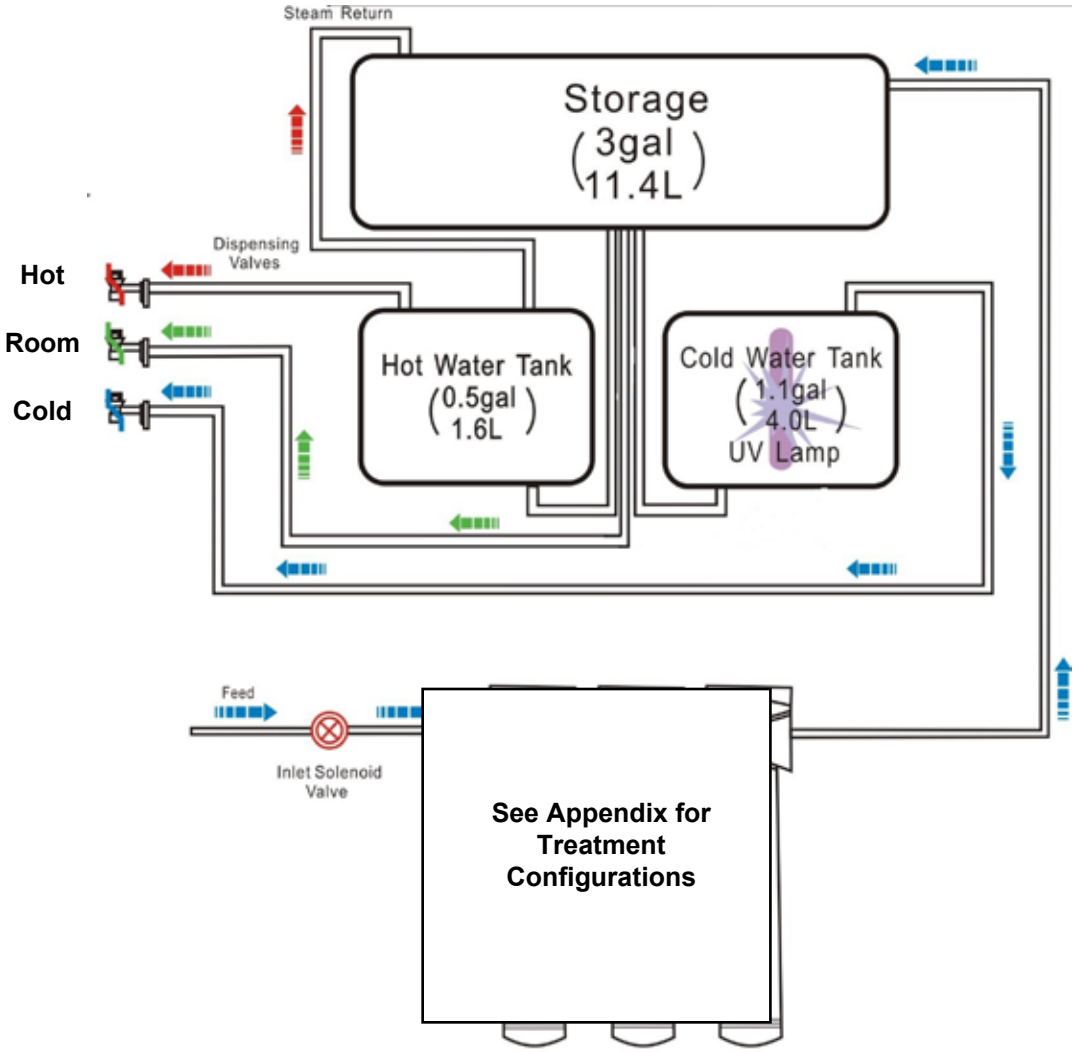


Figure 3.Premium Cooler flow diagram.

Inspection and First-Time Setup Procedures

Proper cleaning and sanitization of the complete Premium Cooler is critical to delivering great tasting water.

The Premium Cooler unit was assembled, tested and drained at the factory before shipping. The design includes a unique internal water tank with a large surface area that stores the high quality product water the customer will drink. Therefore this tank must be thoroughly cleaned of anything that could compromise the taste and quality of the water.

The inspection and first time start-up procedures for the Premium Cooler consist of five steps.

1. Unpack and inspect the unit for any shipping damage.
2. Wash the internal plastic reservoir, lid, and floats with dish soap. Rinse thoroughly.
3. Connect a feed water line (RO or DI water recommended) to the unit.
4. Sanitize the entire unit with chlorine.

NOTE Sanitizing is mandatory prior to installing the Premium Cooler.

5. Install and flush the water treatment components. (See appendix for details on water treatment configurations).

STEP ONE: Unpack and inspect

1. Unpack the Premium Cooler and check exterior for damage.
2. A Culligan IQR form is shipped with each unit. Fill out the IQR form and return to Culligan Quality Department.
3. Remove the top cover. Screws are located in the rear corners.
4. Remove the lower front panel. Two screws securing the lower front panel are located on the front, lower sides near the floor. Depress the recessed tabs of the lower front panel (under the front-end of the unit) and pull outward simultaneously to remove.
5. Visually inspect the internals of the unit for breakage and any wires that may have come loose during shipment.

STEP TWO: Wash the internal plastic reservoir

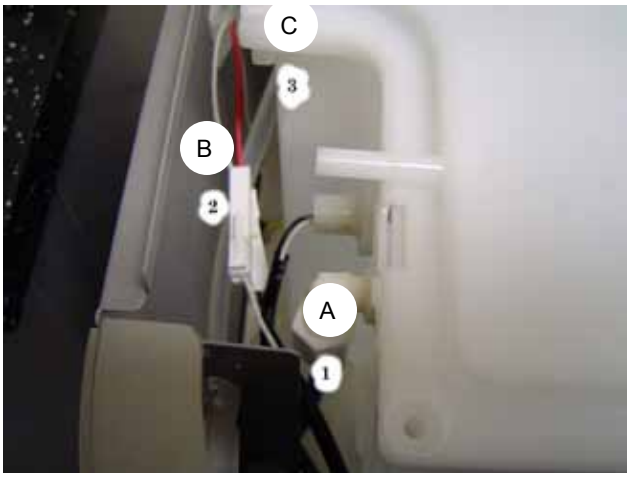


Figure 4. Internal plastic reservoir

1. Completely remove the internal plastic reservoir from the unit.

a. Disconnect the water supply line fitting from the mechanical float.

b. Disconnect the white plastic electrical connectors attached externally to the electronic float.

c. Disconnect the silicon ¼" vent line from the hot tank where it attaches to the plastic reservoir.

2. Once the reservoir is removed from the unit, Use a sponge to scrub the internal surfaces of the tank with a dish soap solution, including the floats.

3. Pre-rinse with filtered soft water. A final rinse with RO or DI water is recommended.

4. Re-install the reservoir into the unit, reversing the removal steps you performed in steps a–c above.

NOTE Use brand-new sponges or paper towels when scrubbing the reservoir.

NOTE Wear new latex gloves to avoid touching the wetted surfaces of the reservoir with your hands.

STEP THREE: Connect a feed water line to the unit

1. Locate and install the hose adaptor fitting that is packed in the accessories bag (found in the drip tray), onto the water inlet fitting on the back of the unit.

NOTE Do Not Over-Tighten! Tighten ¼ turn after gasket makes contact. Tighten more if it leaks under pressure.

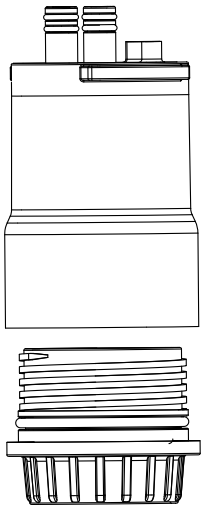
2. Locate and install the metal stand-off plate in the accessories bag over the water inlet. This helps protects the inlet fitting from damage.

3. Connect ¼" plastic tubing from the back of the unit to a filtered, soft water supply. RO or DI water is recommended.

NOTE Install a plastic shutoff valve in the ¼" tubing just ahead of the unit to make servicing easier.

STEP FOUR: Sanitize the Premium Cooler unit

NOTICE Latex gloves must be used when handling the filters, UV bulb, quartz sleeve or any components that have contact with the drinking water.



1. Check that the red switch on the rear of the unit is in the OFF position.

2. Unplug one of the UV wire connectors in the top of the unit. The connectors are white, plastic connectors located on the lamp wiring harness. The lamp needs to be disconnected while sanitizing the unit to prevent foul taste being created by the interaction of the UV with the chlorine sanitizer.

3. Plug the right hand side and center filter EZ heads with by pass plugs (P1020279).

4. Remove the bottom screw plug of the sanitizer cartridge (P1020277) and pour in 15 mL of unscented, liquid chlorine bleach (6% Sodium Hypochlorite).

5. Carefully screw the bottom plug into the cartridge and insert sanitizing cartridge into the left hand single head.

6. Connect the power cord to a power supply. 15A with GFI is recommended. The power LED will be illuminated on the front of the unit.

NOTE Do Not turn on Red Power Switch yet.

7. Slowly turn ON the water supply so the unit starts to fill. Use a filtered, soft water supply. RO or DI water is recommended.

8. Check proper operation of floats and leak controller.

NOTE It may take several minutes before the cold tank is full and water flows from the faucet.

9. Once the reservoir has filled halfway with water, put one additional tablespoon of bleach into the reservoir.

10. Snap and screw (using (7) ¾"stainless screws) the lid back onto reservoir.

11. Once the reservoir has filled completely, depress and hold the cold dispense button. This action fills the cold tank.

12. Once the cold tank is filled (when the water starts to flow from the faucet), release the cold dispense button.

CAUTION! When the cold tank becomes filled and water flows from the faucet, this water will be highly chlorinated. Take care to prevent splashing or contact with skin/eyes.

13. Depress and hold the two hot dispense buttons until chlorinated water dispenses from the hot faucet.

14. Depress and hold the room temperature dispense button until chlorinated water flows from the faucet.

15. Allow the sanitizing solution to remain in the unit until the red heater LED turns off (about 10–15 minutes)..

16. Turn ON the red power switch. The compressor and hot tank heater systems will begin to operate. The red heater LED (not the word "heater" but the LED above the word "heater"), and the blue chilling LED on the front indication panel of the machine will be illuminated.

17. Turn OFF the red switch, and unplug the unit.

18. Place a pitcher under the Cold faucet of the unit and dispense 1 gallon (4 liters) of water. Do the same with the Room and Hot faucets, dispensing 1 gallon (4 liters) of water.

19. Twist-off the cold and hot drain caps on the back of the unit. Drain the Premium Cooler completely, and replace the drain caps.

20. Plug the Premium Cooler back into the power source. The power LED will be illuminated on the front of the unit. The unit will start to fill.

21. Once the reservoir has filled with water, continue to dispense water through all three faucets and letting the reservoir refill until all the water being dispensed is free of chlorine.

22. Verify that all chlorine has been rinsed from the hot, cold, and room faucets with a chlorine test kit.

23. Turn OFF the water supply and unplug the unit.

24. Remove sanitation cartridge and by-pass plugs

STEP FIVE: Install and flush the water treatment components

NOTE If prep station has a plumbed in RO, then use the RO water for final rinse, bypassing the installed cartridges

1. If the unit is going to be configured with an LC-100 or AC 50 RO system, remove the EZ heads and install the other components.

2. Install the properly prepared water treatment equipment inside the Cooler.

NOTE The preparation of all filters and RO cartridges must be done strictly in accordance with the instructions included in the Appendix section of this manual.

3. Reconnect the UV wiring connectors in the top of the unit.

NOTE The connectors only attach one way.

4. Turn ON the water supply and plug in the unit.
5. The unit will fill the reservoir with product water from the RO system for a first-time rinse.

NOTE The RO system will take three to five (3-5) hours to fill the reservoir. To speed this first rinse refill time, use an alternate source of high quality RO water delivered directly to the reservoir, bypassing the installed RO system.

6. Once filled, dispense half of the reservoir with the Cold dispense button and half the reservoir with the Hot dispense buttons (push both to dispense).
7. Allow the unit to refill the reservoir a second time using the installed RO system for a final rinse.
8. Once the reservoir is full, turn ON the red switch at the rear of the unit. This will start the heating and chilling process.
9. Visually verify that the UV Lamp is working—look for a faint blue glow underneath the silicon fitting on the top of the UV Lamp.

CAUTION! NEVER look directly at a working UV Lamp as eye damage will occur.

10. Verify that the compressor starts by feeling the head of the compressor for vibration. The temperature in the cold tank should reach its target temperature within 45 minutes. The target temperature range is between 41-46°F (5-8°C) (+/- 5%). When the unit has reached target cold temperature, the compressor will cycle off. The hot tank will take considerably less time to reach its target temperature of 181° F (+/- 5%).
11. After 45 minutes, verify proper heating and chilling.
12. Turn the Red Power Switch OFF.
13. Hold a pitcher under the Hot dispensing faucet. Depress the Hot unlock button, followed by the Hot dispense button, and allow water to continuously run through the hot tank until the water runs cool from the faucet. This is done to avoid scalding during draining.
14. Disconnect the power cord from the 120 Volt electrical outlet.
15. Turn off the water supply to the unit.
16. Disconnect the water supply from the unit.
17. Open the hot and cold tank drain caps on the back of the unit and drain completely. Wipe down any excess water inside and around the unit and replace the lower front panel. Return cooler to original box.
18. The Premium Cooler should be installed within 24 hours.

NOTE If the cooler, filtration, and tank are not used within 24 hours, they must be re-prepped.

Installing the Premium Cooler

NOTE **If the filters have remained in the unit for more than 24 hours since they were flushed and transported to a customer location, it is highly recommended that they get flushed to the drain before installing.**

Install a pressure regulator, if needed, on the incoming water supply line, set to 40-60 psi.

The unit should not be exposed to direct sunlight, heat sources, or an ambient air temperature above 90°F (32°C) or below 37°F (3°C).

Make sure there is adequate clearance around the unit to allow for heat dissipation of the condenser. The warmer the environment is surrounding the unit, the more clearance that is required. A typical office install should require 2-inches of clearance all around the machine. Installs in factories, warehouses, and garages, where the ambient temperature is above 80°F, will require a minimum of 4-inches clearance.

Position the Unit

1. Locate the unit as close to the water supply and the electrical connections as possible.
2. Level the machine using the adjustable feet.
3. Remove the top cover, reservoir lid, and the lower front panel to access the filters.
4. Check that the filters and RO cartridge are all securely installed after transporting to the installation site.
5. Direct the RO waste tubing to a drain using a proper air gap device.

Establish the Water Connection

1. Establish the water connection.
2. Install the pressure regulator on the water supply before the inlet connection to the unit. Minimum operating pressure for the unit to work suitably is 40 psi (2.8 bar). The ideal operating pressure is of 60 psi (4.1 bar).
3. Set the pressure regulator at 60 psi (4.1 bar).
4. Flush the water supply pipe until it runs clear before making the water connection to rear of the unit.
5. Connect the unit to the water and plug in to a power supply.

CAUTION! The unit is now live. Take suitable safety precautions.

NOTE **Do not turn on Red Power Switch yet.**

6. Slowly turn on the water supply.
7. Check that the water treatment system begins to fill the reservoir. Check all connections for leaks.
8. Once the reservoir fills, depress and hold the Hot unlock button (left-side button) followed by the Hot dispense button (right-side button) and verify that water dispenses from the faucet.

NOTE **Because it will take three to five (3-5) hours for the RO system to fill the reservoir, take along a few jugs of freshly prepared RO water from your shop to fill the reservoir for the first time.**

9. Depress and hold the Cold dispense button until water dispenses from the faucet.
10. Depress and hold the Room dispense button until water begins to flow.

11. Turn ON the Red Power Switch to start the chilling and heating processes.

12. Verify that the compressor and heater are both working. This is best accomplished by placing a hand on top of the compressor to feel for vibration, and by dispensing water from the hot tank (after five minutes), noting a temperature increase in the water.

13. Verify that the UV Lamp is working properly by looking for a faint blue glow underneath the silicon fitting on the top of the UV Lamp.

14. Replace the top cover, reservoir lid, and the front panel and all hardware, including screws, which will prevent unsafe access by untrained persons.

15. Taste the water. Check the unit is clean and functions to the customer's satisfaction. If you are not satisfied with the quality of the water, check the filters and flush additional water through the unit.

16. Prior to leaving the unit, educate the customer on the necessary steps for dispensing Hot, Cold, and Room water from the Premium Cooler.

17. Apply service maintenance label to side of cooler.

18. Apply marketing cross-sell to top of cooler.

NOTE **If an audible "click" is heard within 5 minutes of turning on the Red Power Switch, the hot tank is likely empty, and has overheated. The overload device on the side of the hot tank will have to be reset.**

Figure 5.Hot Tank Reset

⚠	**CAUTION! Resetting the hot tank requires the power cord to be removed!**

Once the power cord is removed, the reset button on the overload can be depressed by reaching your arm and hand up from the bottom and up the side of the tank. This requires access through the lower front panel of the Unit.

1. Remove the power cord.
2. Remove (4) screws on back face plate.
3. Pinch and pull white box off of hot tank reset.
4. Press the reset button on the overload by reaching your arm and hand up from the bottom and up the side of the tank. This requires access through the lower front panel of the unit.
5. Replace white box.
6. Screw back on back face plate

NOTE **All personnel should be aware of company requirements for their own cleanliness and hygiene when installing, servicing or sanitizing a unit**

Maintaining and Sanitizing the Premium Cooler

NOTE **All personnel should be aware of company requirements for their own cleanliness and hygiene when servicing and sanitizing a unit.**

The Premium Cooler model must be sanitized every 12 months, when taste concerns arise, or after boil-water alerts are lifted.

Every 12 months, the filters and UV lamp should be changed.
Units in dusty or high use locations may need more frequent servicing.

The unit should not be exposed to direct sunlight, heat sources or where temperatures are above 90°F or below 37°F. Do not clean with a water jet.

A unit with the hot water option may require removing any Calcium build-up inside the hot tank, depending on local water conditions and the type of water treatment.

Latex gloves must be used when handling the filters, UV bulb, quartz sleeve or any components that have contact with the drinking water.

Prepare the Unit for Sanitization

1. Turn OFF the red switch on the back of the unit and unplug the power cord.
2. Turn OFF the water supply.
3. Twist-off the drain caps on the back of the Premium Cooler. Drain the unit completely and replace the caps.
4. Remove and dispose of the old filters.
5. Open the top cover and remove the UV lamp.
6. Unscrew the UV retaining nut and remove the Quartz Sleeve by pulling straight up. Clean the Quartz Sleeve with isopropyl rubbing alcohol and remove any surface lime scale that may have adhered to the sleeve surface. Check and replace the black O ring if necessary.
7. Replace quartz sleeve if etched, cracked or unable to be cleaned.
8. Reinstall the Quartz Sleeve and retighten the UV retaining nut. Tighten about ¼ turn after the gasket makes contact.
9. Replace the UV lamp and wiring harness/starter. Leave one of the wires disconnected until after the sanitization procedure is complete.

NOTE **When replacing the wiring harness/starter, be sure the wires are straight and snug, and not crossed, before inserting the UV lamp into quartz sleeve.**

NOTE **Do not touch the UV lamp or the Quartz sleeve with bare hands.**

NOTE **The UV lamp will turn on only when the compressor is on and running. When the compressor shuts off, the UV lamp will shut off as well.**

Wash and Sanitize the Reservoir

1. Remove the cover of the reservoir tank by using a flat-head screwdriver to pry open the snaps found around the edge of the lid.

    a. Washing on-site: Using warm water with some mild soap or dishwashing detergent, scrub the insides of the reservoir tank with a sponge or cloth, including the underside of the tank lid. Rinse tank thoroughly with a pitcher of clean water, or by disconnecting the water supply tubing into the unit and using that tubing to rinse the reservoir.

    b. Washing off-site: Completely remove the reservoir tank from the unit by disconnecting all connections (See Step 2 of Inspection and Start-Up Procedures). Lift out reservoir tank and scrub/clean/soak in large sink or tub, using mild soap or dishwashing detergent and warm water. Be sure to include the tank lid as well, and rinse thoroughly.

NOTE **Wear new latex gloves to avoid touching the wetted surfaces of the reservoir with your hands.**

2. Re-install the reservoir into the unit.

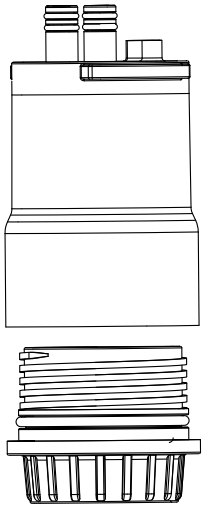
3. Replace the carbon air filter on top of the reservoir tank (innowave part no. 19-1052).

NOTE **This unit sanitizing procedure requires the use of the Culligan Aqua-Cleer EZ Change Head (P1020392) and sanitizing cartridge P1020277 (Figure 7).**

4. Plug the filter heads based on the configuration of the unit.

5. In RO installations, remove the carbon post filter. Replace with a ¼" tube x ¼" tube connector (00403729) to join the product tubing where the filter was located.

Aqua-Cleer® RO	Use bypass plugs (P1020279).
LC 100 RO	Use bypass plugs (01010098). Plug the restrictor outlet in the RO head with a 3/8" stem plug (01005650).
AC 50 RO	Attach empty housings to manifold.



6. Remove the bottom screw plug of the sanitizer cartridge and pour in 15 mL of unscented, liquid chlorine bleach (6% Sodium Hypochlorite).

7. Carefully screw the bottom plug into the cartridge and insert the cartridge into the left hand single head.

8. Plug in the unit.

9. Slowly turn on the water supply. The incoming water will mix with the chlorine.

CAUTION! **The unit is now live. Take suitable safety precautions.**

NOTE **Do not turn on Red Power Switch yet.**

10. Allow the reservoir to fill completely, and then add 1 additional Tablespoon of household bleach directly into the reservoir tank. Let sit for 10 minutes.

11. Unplug power cord and drain the unit completely using both hot and cold drain caps on the back of the unit. (Figure 2, items 27 and 28) There should be a chlorine odor. If not, repeat Steps 17 to 21 until there is an odor of chlorine.

12. Plug in the power cord. The unit will refill with fresh water.

13. Unplug and drain the unit again. Continue filling and draining until there is no remaining chlorine odor.

14. When chlorine is no longer detected, fill with water and flush 3 gallons from the hot and cold faucets. Flush 1 gallon from the room temperature faucet.

Remove the Sanitizing Filter

1. Unplug the unit and turn off the water supply.

2. Remove the sanitizer cartridge from EZ head.

3. Remove all bypass plugs from the heads or the empty housings on an AC 30 RO configuration.

Replace the Filters

4. Install new filters.

NOTE	**The preparation of all filters and RO cartridges must be done strictly in accordance with the instructions included in the Appendix section of this manual.**

5. Reconnect the carbon post filter.

6. Connect the UV wire left disconnected.

7. Plug in the power cord.

	**CAUTION! The unit is now live. Take suitable safety precautions.**

NOTE	**Do not turn on Red Power Switch yet.**

Flush and Return Unit to Service

1. Slowly turn ON the water supply.
2. As the reservoir fills, depress and hold the Hot unlock button followed by the Hot dispense button and verify that water dispenses from the faucet.

NOTE	**Because it will take 3-5 hours for the RO system to fill the reservoir, take along a few jugs of freshly prepared RO water from your shop to fill the reservoir for faster rinsing.**

3. Depress and hold the Cold dispense button until water dispenses from the faucet.

4. Depress and hold the Room dispense button until water begins to flow.

Important! Ensure hot tank is not empty before turning on unit.

5. Turn ON the Red Power Switch to start the chilling and heating processes.

6. Verify that the compressor and heater are both working: place a hand on top of the compressor to feel for vibration, then dispense water from the hot tank (after five minutes), noting a temperature increase in the water.

7. Visually inspect for proper operation of all floats and leak controller.

CAUTION! Do not remove the lamp from holder while illuminated and NEVER look into a lit UV light.

8. Visually inspect water connections for any leaks.
9. Check that the UV lamp is functioning by observing a blue glow from the top of the UV cap.
10. Remove and clean the drip tray and grill. If the grill is damaged or heavily stained it should be replaced.
11. Wipe all surfaces around the drip tray and faucet nipple area with a bacterial cleaning wipe or spray.
12. Return the drip tray to the unit.
13. Clean the condenser grill.
14. Screw back on the front cover, reservoir lid and top cover of the unit
15. Taste the water. Check the unit is clean and functions to the customer's satisfaction. If you are not satisfied with the quality of the water, check the filters and flush additional water through the unit. Answer any customer questions regarding use of the unit.
16. Update service maintenance label.

Descaling the Premium Cooler

NOTE Premium Cooler units using an RO configuration should rarely need to be descaled.

NOTE Latex gloves must be used when handling the filters, UV bulb, quartz sleeve or any components that have contact with the drinking water.

Prepare the Unit for Descaling

1. Turn OFF the red power switch and unplug power cord.

2. Turn OFF the water supply.

3. Twist-off the hot drain cap on the back of the Premium Cooler and drain the reservoir and Hot tank through the hot drain only.

CAUTION! Drain water will be hot! Once drained, replace the hot drain cap.

4. Depress hot button and allow water to continuously run through hot tank until water runs cool from faucet.

NOTE Do not drain the cold tank; this will keep the descaling solution from entering the cold tank.

5. Once completely drained, replace the hot drain cap.

6. Open the top cover and reservoir lid. Disable the UV lamp by disconnecting one of the two UV connectors/ leads. This will prevent the UV lamp from working during this process, in case any solution leaks into the cold tank.

7. Mix 1 bag of ScaleKleen (7oz. bag of non-toxic citric-acid-based descaler, Innowave part no. 01-2076) with 1 gallon of hot water in a separate container or pitcher. Stir well, and add red or green food coloring to the solution in order to make it easier to tell when the solution is completely flushed from the unit. In lieu of food coloring, a pH test kit can be used.

Descale the Hot Tank

1. Pour ½ gallon of the mixed descaling solution directly into the empty reservoir, and allow the solution to fill the hot tank. **Important! Ensure the hot tank fills completely.**

NOTE It is not necessary to fill the reservoir tank with descaling solution.

2. Plug in power cord and turn ON red power switch on the back of the unit. Allow the Hot tank to heat for 5-10 minutes.

3. Turn off red power switch and allow the solution to sit in the Hot tank for an additional 10-20 minutes.

4. Depress hot button and allow water to continuously run through hot tank until water runs cool from faucet.

5. Remove the hot drain cap only, and drain the reservoir and hot tank completely. Replace the caps.

CAUTION! Drain water will be hot! Once drained, replace the hot drain cap.

6. Turn on the water supply.

7. To speed up the rinsing operation, use a separate line from the water supply to fill the reservoir directly rather

than waiting on the slow make-up from the RO system or bring a few jugs of freshly prepared RO water.

8. Once reservoir is filled, pull the hot drain cap and continue draining water through the hot tank, leaving the water supply on, allowing the unit to take in fresh water as the Hot tank drains. Let the unit drain and flush for 5 minutes.

9. After 5 minutes, shut off the water supply and twist off both drain caps. Allow both the hot and cold tanks to drain completely. Replace the drain caps.

10. Check that there is no more color from the food coloring visible in the rinse water.

Return to Service

1. Turn on water supply to the unit and the RO treatment system.

2. As the reservoir fills, dispense water from all three faucets.

NOTE	**Because of the slow make-up from the RO system, take along a few jugs of freshly prepared RO water from your shop to fill the reservoir for faster rinsing.**

3. Reconnect the UV Lamp connector, rescrew on the reservoir lid and close the top cover.

4. Turn on red power switch.

5. Taste the water. Check the unit is clean and functions to the customer's satisfaction. If you are not satisfied with the quality of the water, check the filters and flush additional water through the unit. Answer any customer questions regarding use of the unit.

Troubleshooting Guide

Symptom	Possible Cause	Solution
No cold or hot water will dispense from unit.	1. Closed water supply valve. 2. The unit is not properly plugged in to its electrical outlet. 3. The red power switch is in the OFF position. 4. Check the 15-amp fuse. (Figure 2, item 22). 5. Exhausted filter(s).	1. Open the water supply valve. 2. Check electrical outlet connection or blown circuit breaker. 3. Turn red power switch ON. 4. Replace the 15-amp fuse. 5. Replace filter(s).
No cold water available.	1. Closed water supply valve. 2. Solenoid valve malfunction. 3. The red power switch is OFF. 4. Exhausted filter(s).	1. Open the water supply valve. 2. Inspect the valve components for proper functionality. 3. Make sure the red power switch is ON. 4. Replace filter(s).
Water is not being heated or chilled.	1. The red power switch is in the OFF position.	1. Turn the red power switch ON.
Cold water dispenses from faucet and vent outlet simultaneously.	1. Improper tubing attachment from the tank to faucet nipple or vice versa. 2. Scale has formed inside cold tank outlet tube.	1. Ensure tubing is connected properly from tank outlets to correct faucet attachments. 2. Remove cold water outlet tube from tank to faucet, and pour some scale remover into cold tank.
Compressor runs but does not chill.	1. The condenser is dirty. 2. Reduction of airflow into unit. 3. Compressor is running very hot.	1. Clean the condensing coil of any obstructions or dust. 2. Make sure unit meets ventilation requirements (2 to 4 inches on all sides). 3. Low or lost refrigerant. Refrigerant recharge required.
Compressor is not running.	1. Red Power switch is OFF. 2. Check the compressor starting circuit.	1. Ensure the red power switch is turned ON. 2. Turn the red power switch OFF. Remove the compressor cap on side of the compressor. Disconnect the black and red terminal connectors. Inspect the starter and overload relay for any defects. Replace component(s), turn ON red power switch and retest compressor operation.

Symptom	Possible Cause	Solution
Hot water not flowing.	1. Hot Tank scaling. 2. Exhausted filter(s). 3. Tubing is creased or has a “kink” in it.	1. Inspect and descale, or replace Hot Tank. 2. Inspect filter(s) and replace if necessary. 3. Inspect and replace tubing if necessary.
Hot water flowing but not hot.	1. The red power switch is OFF. 2. Loose or improperly connected wire to the heating element on the hot tank. 3. Thermostat or Overload open on Hot Tank.	1. Turn the red power switch ON. 2. Inspect wire leads going to the hot tank; ensure proper connections to the heating elements. 3. Turn power OFF, check OHMs resistance across terminals on the Thermostat and Overload separately. Good components will indicate a closed circuit or zero OHMs on the meter.
Restricted flow of hot water.	1. Partially closed water supply valve to the unit. 2. Hot Tank outlet hole is scaled over. 3. Tubing is creased or has a “kink” in it. 4. Exhausted filter(s).	1. Open water supply valve. 2. Remove outlet tube from hot tank to faucet. Add descaler to hot tank. 3. Inspect and replace tubing if necessary. 4. Replace filter(s).
Hot water is coming out of the faucet vent hole.	1. Improper tubing attachment from the tank to faucet, or vice versa. 2. Hot tank scaling.	1. Ensure tubing is connected properly from tank outlets to correct faucet attachments. 2. Inspect and de-scale or replace hot tank.
Dispense Buttons stick.	1. Dirt or foreign material is filling the gap around the push-buttons.	1. Inspect the push-buttons and clean surrounding area. Inspect faucet assembly inside the unit and clean if necessary.
Small amount of water periodically dispenses from faucet automatically.	1. Faucet not sealing closed properly.	1. Take apart faucet assembly and inspect. Clean and reassemble.

Technical Specifications

Item	Premium Cooler
Width/Depth/Height	15.5” x 14.5” x 45.75” (39 cm x 37 cm x 116 cm)
Cold Water Tank	1.1 gallons (4-liter)
Water Connection	¼ in. tubing
Cold Water Temperature (Adjustable)	35° - 54° F (1.7° - 12.2° C)
Hot Water Tank	0.5 gallons (1.6 liter)
Hot Water Temperature	181° F (82.8° C)
Hot Water Manual-reset OVLD	203° F (95° C)
Internal RO Water Storage Tank	3 gallons (11 liters)
Recommended Service Pressure	40 - 60 psi (275 - 414 kPa)
Max Service Pressure	100 psi (689 kPa)
Rated Service Flow	0.5 gpm (1.89 Lpm)
Temperature	40° - 100° F (4.4° - 37.8° C)
Weight (dry)	58 lbs. (51 kg)
Electrical Supply	120V/60Hz
UV Lamp	8 W
Heater	500 W
Refrigerant Gas	R134a, 2.05 Oz, 58g
R134a Pressures	High (128 - 142 psi) Low (14 – 21 psi)

Electrical Usage Specifications

Component	AMP Draw
Heater	4.2 Amps
Compressor	1.6 Amps
UV Lamp System	0.2 Amps
Total	6.0 Amps (approx.)

End of Life

At the end of this product’s life, please ensure that it is disposed of in an environmentally friendly manner which is fully compliant with your Country requirements/guidelines.

Limited Warranty for the CULLIGAN® Premium Water Treatment System

This water treatment system is guaranteed to the original user only to be free of defects in materials and workmanship for a period of one (1) year from the date of purchase, or initial lease, but in no event longer than twenty-four (24) months from the date of manufacture. Innowave will not be liable for any cost of removal, installation, transportation, or any other charges which may arise in connection with a warranty claim. innowave will not be liable for damage or wear to products caused by abnormal operating conditions, accident, abuse, misuse, unauthorized alteration or repair, or if the products were not installed in accordance with innowave's printed installation and operating instructions, or for any damage caused by hot water, freezing, flood, fire, or acts of God.

In the event of a claim for warranty, the defective part must be returned to innowave, together with proof of purchase, installation date, failure date and supporting installation data. Any defective part returned to innowave incorporated must be sent freight prepaid. Documentation to support the warranty claim and/or a Return Authorization form must be included, if so instructed. Innowave, at its sole discretion, will determine whether to correct the defect or replace the unit, or will request that the unit be returned to innowave.

Provided a claim is based on a defect in materials or workmanship; and provided the claim is made within the warranty period; and provided the user has used and maintained the equipment in accordance with the manufacturer's instructions, innowave will replace the parts free of charge. If the unit is returned to innowave for repairs, the end user will pay the cost of freight in both directions.

This warranty does not apply to damage caused by, or resulting from, shipping, accident, alteration, misuse or abuse, unauthorized or improper installation, or to units used outside the country where the unit was rented or purchased. The effects from chlorine corrosion, scaling and normal wear are specifically excluded from this warranty.

Innowave hereby disclaims any and all implied warranties including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. The manufacturer or its agents shall not be liable for consequential damages, whether economic or otherwise, resulting from breach of this limited warranty. Failure to follow all instructions for operation and maintenance provided with this unit voids the warranty.

This warranty gives you specific legal rights and you may also have other rights which may vary from country to country.

Innowave USA LLC

11710 Stonegate Circle

Omaha NE 68164

Toll-Free 1-800-288-1891

BioCote®

BioCote® (Anti-Microbial Solution)

For your added protection this product has been treated with BioCote®.

Silver, in the form of silver ions, is the active ingredient utilized in BioCote®. This silver technology is manufactured into the parts, giving them built-in antimicrobial protection.

BioCote® silver technology has been tested by an independent laboratory to show its ability to inhibit the growth of bacteria, mold and fungi by up to 99.9% over a 24 hour period and for the duration of the unit life.

Frequently Asked Questions About BioCote®:

Why Use BioCote®?

BioCote® will help reduce the risk of cross-contamination. You may not want to think about it, but every surface in the working environment is a potential breeding ground for bacteria.

How is it Applied?

BioCote® is applied via an additive into the manufacturing process and will therefore be present throughout the molded or painted parts.

How Long Will BioCote® Last?

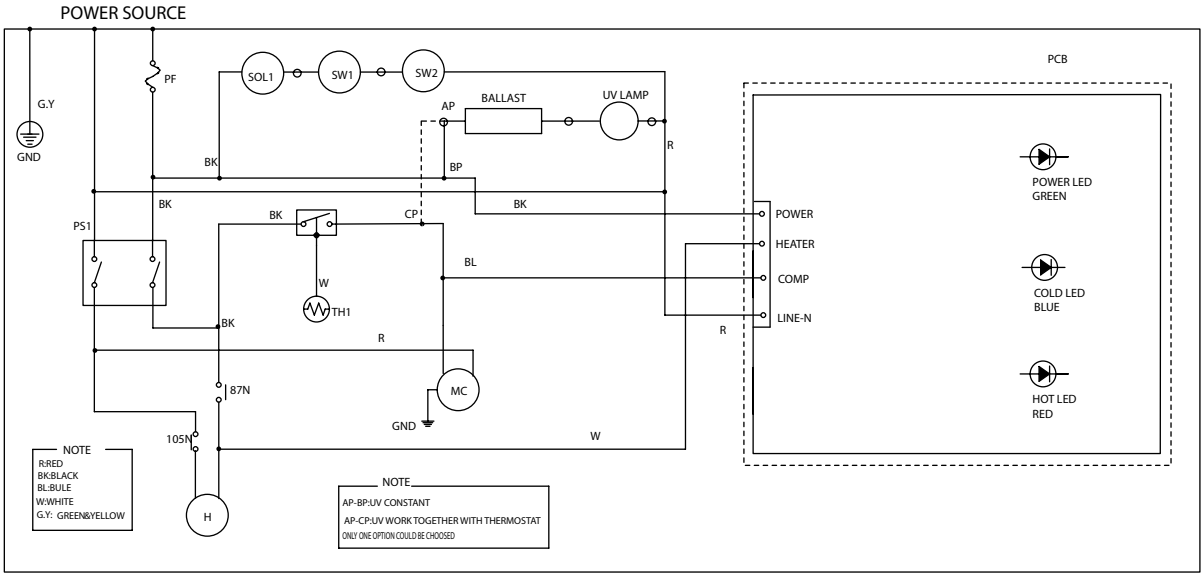
BioCote® will last for the usual life expectancy of you water dispenser. It will not wear or wash out with use or cleaning.

What Bacteria is BioCote® Effective Against?

BioCote® is effective against most common bacteria, mold, and fungi.

NOTE	**BioCote® is a second line of defense, it is not a replacement for your normal cleaning and sanitization processes.**

Electrical Schematic—19-GU-CUL



MARK	DESCRIPTION	MARK	DESCRIPTION
H	HEATER FOR HOT WATER	PS1	COMP & HEATER POWER SWITCH
MC	MOTOR FOR COMPRESSOR	SOL1	INLET SOLENOID VALVE
SW1,SW2	WATER LEVEL SENSOR	LED	POWER DISPLAY
PF	POWER FUSE	LED	COLD DISPLAY
TH1	THERMOSTAT	LED	HOT DISPLAY
PCB	CENTRAL PROCESSING UNIT		

Figure 6.Premium Cooler electrical schematic.

Premium Cooler Main Parts List

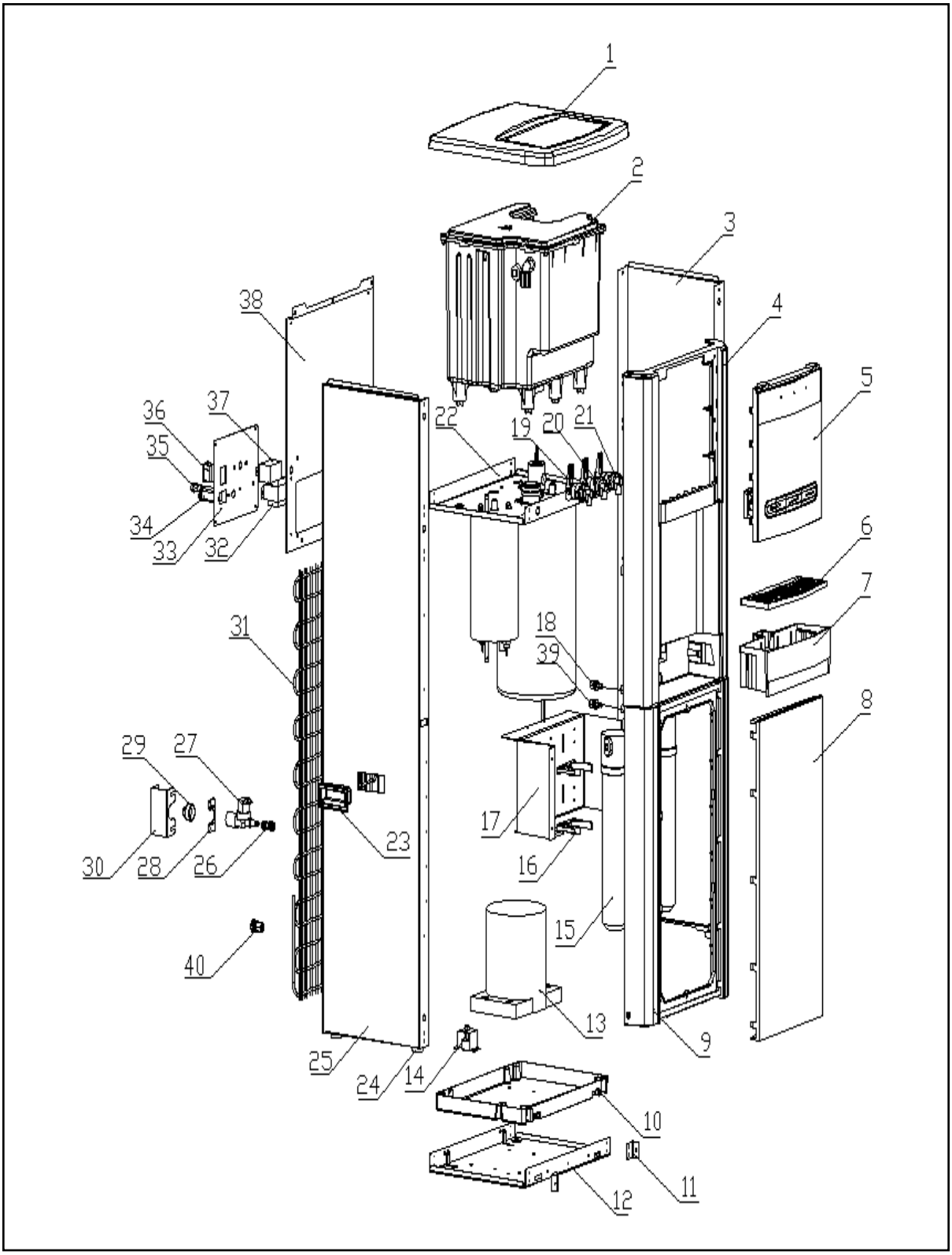


Figure 7.Premium Cooler parts.

No.	Part Number	Part Description MODEL 19-GU-CUL	Remarks
1	19-1033	Top Cover	
2*	19-1038	Reservoir Lid	
3	19-1019	Side Panel	
4*	19-1034	Drip Tray Insert Panel	
5*	19-1036	Panel, Front Hatch	
6*	19-1048	Drip Tray Grill	
7*	19-1032	Drip Tray Body	
8	19-1031	Front Down Panel Insert	
9	19-1035	Front Down Panel	
10	19-1049	Leak Tray	
11	19-1021	Front Down Panel Insert BKT	
12	12-1602	Stand, Down, Base	
13	10-2200	Compressor	
14	19-1005	Level Sensor for Leak (F112-BH1-125)	
	19-1025	Level Sensor BKT for Leak	
18	14-5013	Drain Valve & Cap Assembly (cap-only PN 14-5012)	Hot Tank Drain
19	19-1050	Faucet Assembly, Hot	
20*	19-1051	Faucet Assembly, Cold	Same as Room
21*	19-1051	Faucet Assembly, Room	Same as Cold
22	19-1018	Upper Base Panel	
23	12-8058	Handle	
24	10-3083	Rubber Feet	
25	19-1019	Side Panel	
26	19-1053	JG Equal Straight Connector 1/4”	
27	19-1001	Solenoid Valve, Inlet	
28	19-1020	Fixing BKT, Inlet Solenoid	
29	19-1008	JG Fitting-Hose Adaptor 1/4” for Inlet Solenoid Valve	
30	19-1026	Cover of Inlet SV (metal stand-off plate)	
31	19-1000	Wire Condenser	
32	10-3010	Ballast	
33	19-1022	Back Access Panel to Electronics	
34	10-4013	Power Cord Socket	
35	12-1201	Fuse Holder	
35a	12-1202	Fuse	
36	10-3008	Switch, Power, Red	
37	19-1069	Cold Water Thermostat	
38	19-1017	Back Panel	
39	14-5013	Drain Valve & Cap Assembly (cap only PN 14-5012)	Cold Tank Drain
40		JG Bulkhead Connector Union 1/4” * 1/4”	Drain Port for RO

* BioCote® items

Hot and Cold Tank Assembly

No.	Part Number	Part Description
1	12-1210	UV Lamp Retaining Threaded Nut
2	10-1300AT	UV Lamp Assembly
3	10-2500	Quartz Sleeve O-Ring
4	10-1400	Quartz Sleeve
5*	19-1057	Silicon Seal for Water Inlet Port
6*	19-1039	Water Inlet Port
7	19-1018	Upper Base Panel
8	12-8006	Hot Tank Fixing Bracket
9	19-1071	Hot Tank
10	19-1070	Cold Tank

* BioCote® items

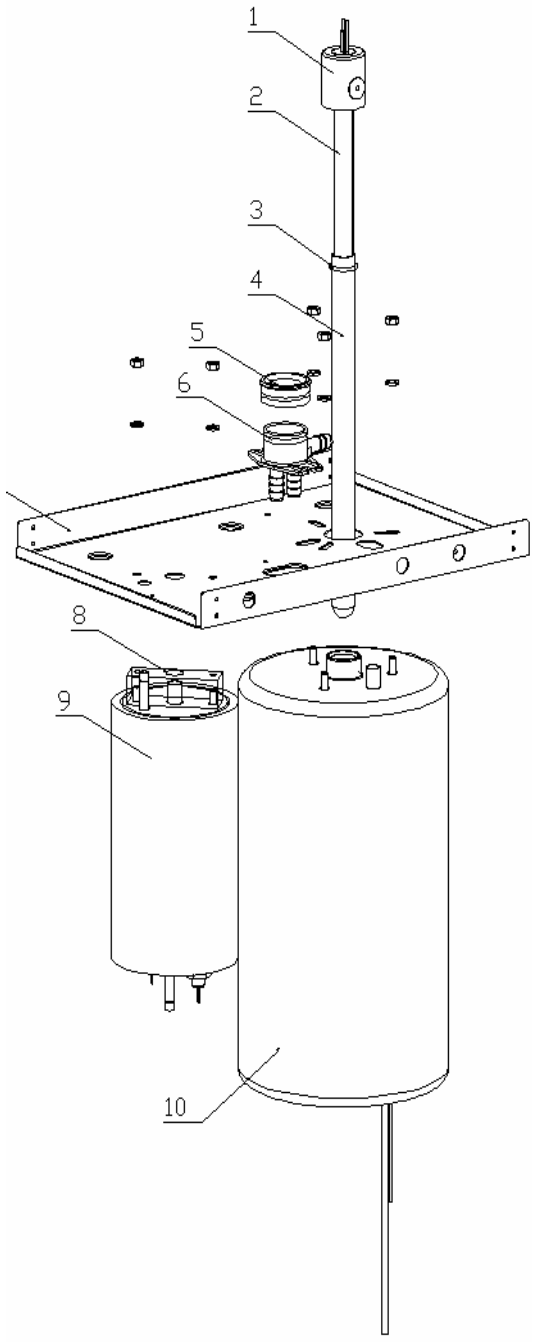


Figure 8.Hot and cold tank assembly.

Faucet and Front Hatch Assembly

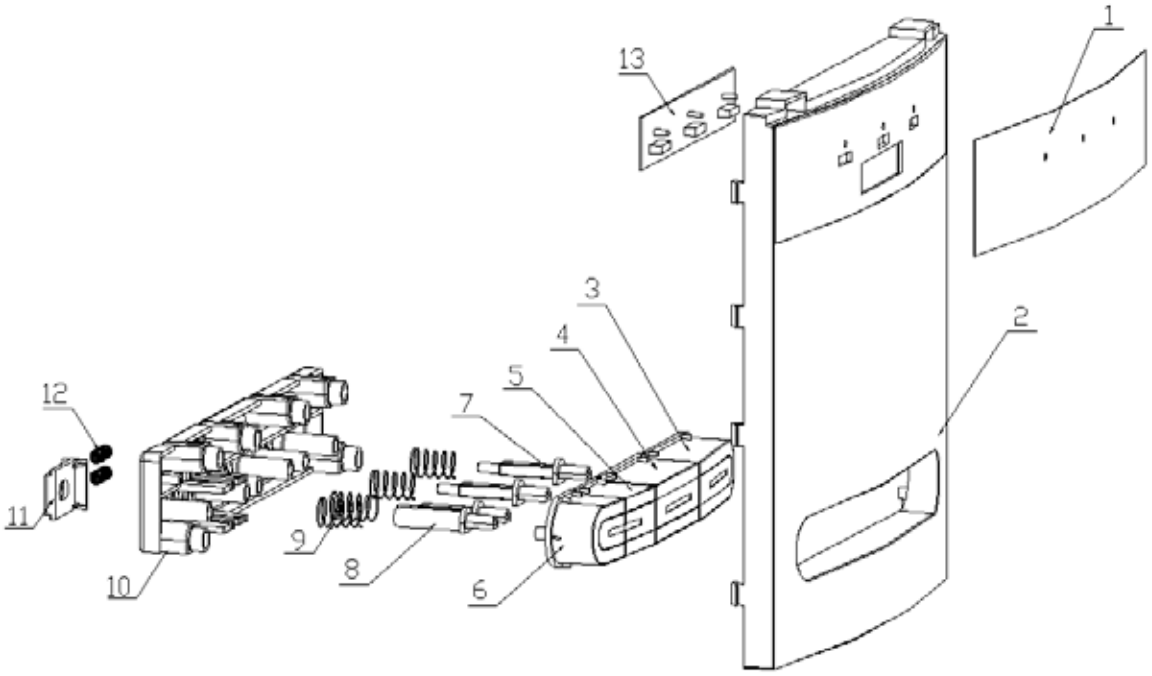


Figure 9. Faucet and front hatch assembly.

No.	Part Number	Part Description
1*	19-1014	Lense Cover, LED Display
2*	19-1036	Panel, Front Hatch
3*	19-1042	Faucet, Pushbutton, Room
4*	19-1041	Faucet, Pushbutton, Cold
5*	19-1040	Faucet, Pushbutton, Hot
6*	19-1043	Faucet, Pushbutton, Hot Unlock
7	19-1046	Faucet Push Pin
8	19-1044	Hot Safety Push Pin
9	19-1028	Faucet Push Spring
10	19-1047	Faucet Fixing BKT
11	19-1045	Hot Water Safety Lock
12	19-1029	Hot Water Safety Switch Spring
13	19-1002	Basic LED PCB

* BioCote® items

Premium Cooler Parts List

The following Aqua-Cleer® treatment components are available through Culligan:

Part Number	Description	Case QTY
P1020392	Single Head for Cartridges	6

Sediment Filters		
P1020258	Sediment Filter - 5 Micron	12
P1020260	Sediment Filter - 10 Micron	12
P1020262	Sediment Filter - 25 Micron	12

Carbon Filters		
P1020266	Carbon Block Filter - 5 Micron	12
P1020274	Large Carbon Block - 5 Micron	12
P1020264	GAC Filter	12

RO and Nano Membranes		
P1020268	RO Membrane - 36 GPD	12
P1020270	RO Membrane - 50 GPD	12
P1020271	Nano Membrane	12

Carbon Post Filters		
01000124	GAC Carbon Post Filter, 1/4” Tube	10
00402807	GAC Carbon Post Filter, 1/4” Tube	50

Specialty Cartridges (Typically used after RO Membrane)		
P1020272	Arsenic Cartridge	6
P1020273	Perchlorate Cartridge	6
P1020274	Total Defense (Same as Large Carbon Block)	12

Plug and Sanitization Parts		
P1020277	Sanitization Cartridge	6
P1020279	By Pass Plug	12

Other Part Numbers Referenced in this Manual

01010248 Adapter, 3/8" Stem x ¼" Tube

01010332 Restrictor Assembly, LC 100 RO Head

P1021587 ASO (Automatic Shut Off Valve for RO Configurations)

P1021588 Check Valve, ¼" Tube

01010098 Bypass Plug, Everpure Heads (For PS-250 and LC-100 Heads)

01021338 Plug, 3/8" Stem

01001142 Plug, ¼" Stem

00403729 Connector, ¼" Tube x ¼" Tube