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## AQUA LOGIC COMPACT UV (ALCUV) INSTALLATION & OPERATING INSTRUCTIONS



ALCUV-1, ALCUV-2, ALCUV-3, ALCUV-4 and ALCUV-6 (not shown)

**Please read all instructions before installing and using this unit**

Effective 2/1/04



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## IMPORTANT SAFETY INSTRUCTIONS

### WARNING:

To guard against injury, basic safety precautions should be observed including the following:

#### DO:

- Read and follow all safety instructions on unit and in these instructions.
- Save these instructions.
- Take special care to avoid possible electrical shock since water is employed in the use of this equipment.
- Use a ground fault interrupter (GFI) on all electrical equipment used near water.
- Carefully examine this unit after installation. It should not be energized if there is water on parts not intended to be wet.
- Immediately remove power from the sterilizer if it shows any signs of leakage.
- Make sure unit is mounted securely before operating it.
- Always remove power from unit when not in use, before taking off or installing any parts and before cleaning.

#### DO **NOT**:

- **DO NOT TOUCH** THE STERILIZER if it is exposed to open water.
- **DO NOT** attempt to use the equipment if it has been exposed to open water.
- Do not operate this unit if it has a damaged cord or plug, if it is malfunctioning or if it has been dropped or been damaged in any manner.
- Do not attempt repairs on the unit except those listed in these instructions.
- Do not operate UV sterilizer for more than a minute or two without water running through it.
- **NEVER** allow eyes or skin to be directly exposed to the ultraviolet bulb rays--**severe burns may result!!!** Always remove power from unit when there is a possibility of direct exposure.
- Do not allow UV sterilizer to be exposed to freezing temperature. Allowing the unit to be exposed to freezing temperatures may result in breakage to the bulb, the quartz sleeve or to the PVC chamber.
- Do not operate this unit if you suspect that the bulb or quartz sleeve may be broken inside. Be safe: remove and inspect bulb or sleeve if you are not sure.
- Do not attempt to change bulb or quartz sleeve without using appropriate safety gear.
- Do not exceed the maximum pressure rating of **50 psi**.

**DO NOT** exceed this maximum rating or serious damage may result.



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Thank you for selecting an Aqua Logic,® Inc. ultraviolet (UV) sterilizer. Each model has been designed and built to provide years of reliable service and has been fully tested under pressure before it leaves the factory. Aqua Logic has been manufacturing UV sterilizers for nearly 15 years. In fact, the UV sterilizer was the very first product the company manufactured and sold. Today, there are hundreds of thousands of Aqua Logic UV sterilizers in use by aquarists, aquaculture, public aquariums, educational institutions, government agencies, industry and research organizations across the US and around the world.

Aqua Logic offers free technical information by telephone [(858) 292-4773] or by FAX [(858) 279-0537] M-F 8:00 am to 5:00 pm except selected holidays. Information is also available on the internet at our website ([www.aqualogicinc.com](http://www.aqualogicinc.com)) and by email: [info@aqualogicinc.com](mailto:info@aqualogicinc.com).

- How many hours per day should I use a UV on my system?

We recommend that the UV sterilizer be placed in continuous operation for 24-hours-per-day 7-days-per-week after the biological filtration systems are established (typically about 4 weeks after starting or restarting a system).

- How often should I change the bulb?

The average life expectancy of bulbs in Aqua Logic UV sterilizers is 12 months of continuous operation for all ALCUV units. Even though the bulb may still be glowing with blue light after 12 months, the bulb may no longer produce the kill-rate you desire.

- What are the maximum pressures that I can use on Aqua Logic UV sterilizers?

ALCUV models may be used in applications up to a maximum of 50 psi.

**WARNING:** Never use Aqua Logic UV sterilizers on systems which are connected to municipal water systems since the available pressure may exceed the maximum ratings of the equipment and serious damage or injury may result.

- Can I use an Aqua Logic UV sterilizer outdoors?

ALCUV sterilizers may be used in outdoor applications as long as the unit does not stand in water or is subjected to freezing temperatures.

**WARNING:** Never allow any UV sterilizer be exposed to freezing temperature. Allowing the unit to be exposed to freezing temperatures may result in breakage to the bulb, the quartz sleeve or to the PVC chamber.

Damage to the unit caused by freezing is not covered under warranty.



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## **ASSEMBLING YOUR ALCUV EQUIPMENT:**

- Upon receipt of your UV sterilizer, inspect the packaging for obvious damage. Be sure to note any damage on the shipper's manifest in case you need to file a claim.
- Open the package and inspect for concealed damage (for example, broken lamps or sleeves, etc.). Claims for damage must be filed with the carrier promptly.
- Place the unit where you want to install it.
- If you wish to install the unit on a wall, you must put it on a sturdy shelf. Do NOT attempt to screw or bolt the unit directly to the wall.
- To protect the quartz sleeves and lamps from damage during shipment, the lamps have been individually wrapped. You will need to do the following:
  - Unwrap the lamp(s). We recommend using a dry lint-free cloth to handle the lamps to avoid getting oils from your skin on the lamps.
  - Follow the "Replace Bulb" procedures on page 5 to install the lamps.
- Place the unit where you want to install it. Make sure to install the unit in an upright position.
- Allow at least 20" of clearance above the unit so that lamps and/or quartz sleeves can be replaced without having to disconnect the unit from your system.
- We recommend using unions and valves (not included) on the inlet and outlet of the unit so that the unit may be removed from your system if necessary.
- Be sure to allow the power cord to loop below the UV and the power outlet so that water cannot drip down the power cord into either the UV or the power outlet.
- Connect unit to your system.
- Apply power to pump and check system carefully for leaks.
- Plug UV sterilizer into outlet and check for proper operation of all UV lamps.

## **SCHEDULED MAINTENANCE:**

### **1 Month Scheduled Maintenance (all models):**

- Look through the viewport in lid of unit to see if the bulb is glowing.
- Carefully inspect the UV and plumbing for leaks.

### **1 Year Scheduled Maintenance:**

- Replace bulb [see page 5].

### **Maintenance as Required:**

- Replace quartz sleeve assembly [see page 5].
- Replace ballast as needed [see page 6].
- Remove organics from quartz sleeve assembly [see page 7].

### Replace Bulb:

**WARNING: Be sure to wear protective gloves and goggles!!**

- Remove power from UV sterilizer
- Turn off pump.
- Remove screws from UV lid and remove the lid.
- Carefully lift UV bulb from top of chamber.
- Pull bulb pin connectors from bulb as shown in bottom-right picture and then lift pull bulb from quartz sleeve.
- Replace bulb. We recommend using a clean oil-free cloth to protect bulb from skin oils.
- Attach bulb pin connectors to the bulb as shown in top-right picture.
- Push connector down on bulb until it snaps on bulb as shown in the picture.
- Carefully slide bulb into chamber.
- Replace UV sterilizer lid and install screws.
- Turn on pump.
- Apply power to UV Sterilizer
- The view port should show a blue light after a few seconds.



### Replacing the quartz sleeve:

**WARNING: Be sure to wear protective gloves and goggles!!**

- Unplug or remove power from UV sterilizer.
- Remove screws from UV lid and remove the lid.
- Carefully lift UV bulb from top of chamber. Pull bulb pin connectors from bulb as shown in bottom-right picture and then lift bulb from quartz sleeve.
- Carefully use a pair of channel-lock pliers or wrench to turn 2" nuts counter-clockwise on top and bottom of chamber.
- Remove "O" rings.
- Slide quartz-sleeve assembly out of chamber.
- Slide new quartz-sleeve assembly into chamber. We recommend using a clean oil-free cloth to protect bulb from skin oils.
- Install "O" rings.
- Carefully tighten quartz compression nuts with channel-lock pliers or wrench.
- Replace bulb. We recommend using a clean oil-free cloth to protect bulb from skin oils.
- Attach bulb connectors at an angle to bulb as shown in top-left picture.
- Push bulb pin connectors down on bulb as shown in top-right picture.
- Carefully slide bulb into quartz-sleeve assembly.
- Inspect UV sterilizer for leaks around the top of the chamber.
- Replace UV sterilizer lid and install screws.
- Plug in or apply power to the UV sterilizer.
- The view port should show a blue light after a few seconds.

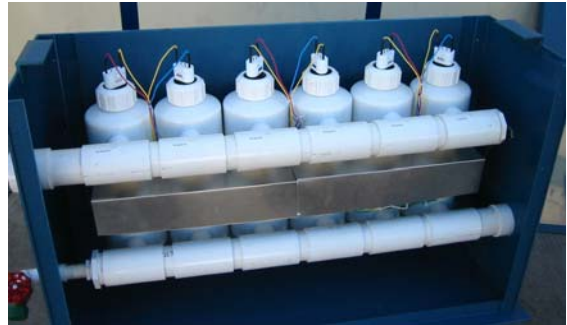


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## Other Maintenance:

### Replace the Ballast:

- Unplug UV sterilizer from outlet.
- Remove screws from UV lid and front cover, remove the both covers.
- Place new ballast near UV.
- Remove screws which hold ballast to unit.
- Remove old ballast.
- Mount new ballast with screws.
- Strip approximate  $\frac{3}{4}$ -inch insulation from ends of red and blue wires on ballast and on bulb connector assemblies.
- Replace UV sterilizer lid and front cover. Install screws.
- Apply power to UV sterilizer.
- The view port should show a blue light after a few seconds.





## REMOVING ORGANICS FROM THE UV:

**WARNING: Be sure to wear protective gear for your hands and eyes!!**

- Turn UV power switch off on control box.
- Disconnect UV from plumbing and drain it.
- Make a pure chlorine bleach solution (1 cup bleach to 1 quart water)
- Connect the flush kit hoses to the inlet and outlet of the UV sterilizer or to the drain and flush kit inlet (if available).
- Cycle the solution through the UV sterilizer for 5-10 minutes.
- Drain the bleach solution from the UV sterilizer.
- Rinse or flush the unit thoroughly to remove all chlorine. Continue to flush until you can no longer smell chlorine. You may wish to add a few drops of a dechlorinator to insure that all chlorine has been neutralized.
- Reconnect the UV to the plumbing.
- Replace UV sterilizer lid and install screws.
- Turn pump on.
- Apply power to UV sterilizer.
- The view port should show a blue light after a few seconds.



## REMOVING MINERAL DEPOSITS FROM THE UV:

**WARNING: Be sure to wear protective gloves and goggles!!**  
**DO NOT COMBINE chlorine bleach with muriatic acid or equivalent. The resultant gases may be poisonous.**

- Follow procedure as above except that you use muriatic acid or equivalent. Be sure to follow product instructions carefully.

### Parts Listing:

All replacement parts are available directly from Aqua Logic, Inc.

**Bulbs:**

ALA-36 Watt Bulb

**Ballast:**

ALB-36 Watt Self-Starting Ballast

**Quartz Sleeve:**

ALQ-36 Watt Quartz Sleeve Assembly

**Miscellaneous:**

Bulb Pin Connector Assembly



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## Limited Warranty Terms (PLEASE READ CAREFULLY):

All UV Sterilizers manufactured by **AQUA LOGIC, INC.** (hereafter called **AQUA LOGIC**) are warranted against defects and workmanship for a period of one (1) year from the date of purchase by the original purchaser/enduser or eighteen (18) months after date of manufacture (whichever is sooner). Any **AQUA LOGIC** product found to be defective within the warranty period will be repaired or replaced at the option of **AQUA LOGIC**.

### Warranty **EXCEPTIONS**:

- All UV Sterilizer chambers are warranted for life against leakage caused by UV degradation.
- Light bulbs (including ultraviolet sterilizer bulbs) are warranted for a period of ninety (90) days from date of purchase.
- The warranty applies only to the original enduser and is not transferable.
- The limited warranty may not be modified by verbal statements by the manufacturer, distributors, retailers, their agents nor any other party.
- The warranty covers only the repair or replacement of the **AQUA LOGIC** product. **AQUA LOGIC** denies all liability for any other loss including but not limited to loss of equipment, income, livestock or personal injury.
- **AQUA LOGIC** does not warrant the suitability of the product for the enduser's application.
- All warranties are voided by the following:
  - Product labels defaced or removed.
  - Product improperly installed or maintained by user or their agent.
  - Product abused, misused, or damaged by user.
  - Product misapplied to application.
  - Product damage caused by electrical surges, spikes, brownouts or improper voltage.
  - Product damage caused by freezing, extremely cold or extremely high temperatures.
- **AQUA LOGIC** shall not be liable for the cost of field repairs, inspection, installation, replacement, etc., without prior written authorization and/or valid authorization number.
- **AQUA LOGIC** shall not be liable for shipping damage or loss.
- **AQUA LOGIC** shall not be liable for unauthorized shipping costs to return warranty items to **AQUA LOGIC**.