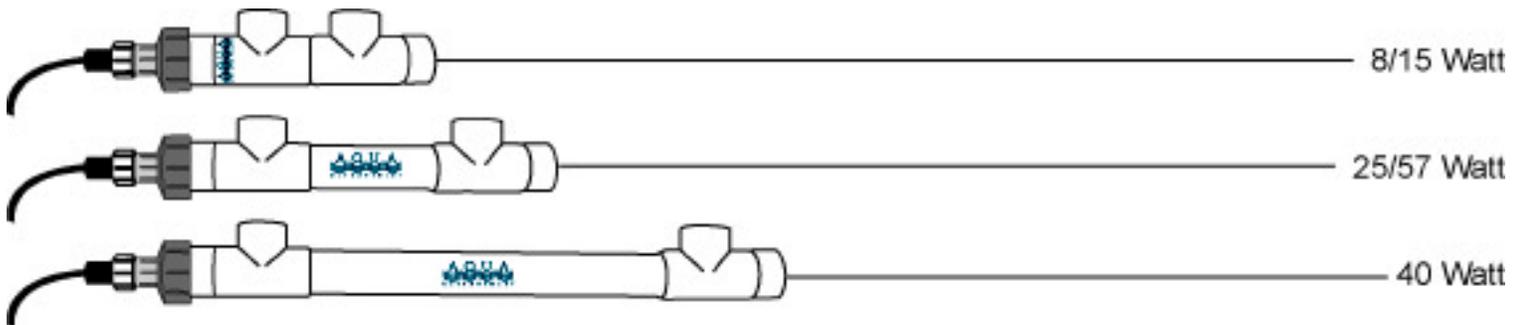




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Aqua Ultraviolet

UV Sterilizer Instruction Manual



SEE INSIDE COVER FOR LARGER UNITS

65 WATT - 240 WATT UNITS & TRANSFORMERS

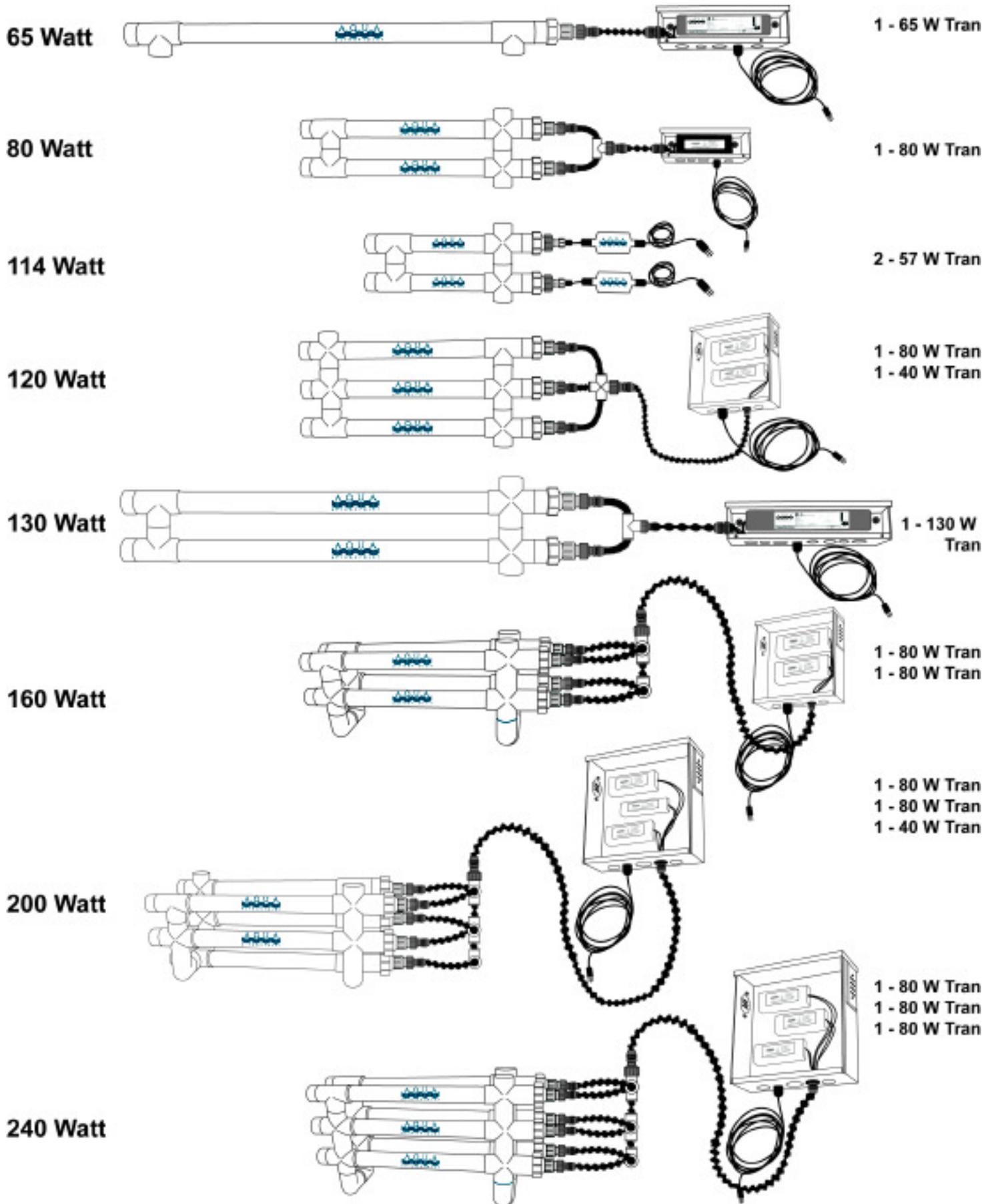


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THIS SECTION CAN BE USED FOR NOTES:

IMPORTANT INFORMATION



THANK YOU FOR PURCHASING THE BEST ULTRAVIOLET SYSTEM

WE CAN HELP YOU

Returning the product is expensive and time consuming for you, your retailer and for us, the manufacturer. Should you encounter any problems with your product, please call our toll free "HELP" line for assistance. **PLEASE DO NOT** return your product to the store! Your dealer or distributor cannot offer any warranty work or exchanges on your product.



**In the US please call
TOLL FREE 1 - 800 - 454 - 2725
(909) 296-3480 Outside the U.S.
THANK YOU!**

WARRANTY

Aqua Ultraviolet systems are warranted against failure due to defects in materials and/or workmanship during the warranty period. This warranty covers defects occurring under normal use and applies to the original purchaser at retail and may not be transferred. The warranty and remedies set forth herein are conditional upon proper storage, installation, use, maintenance and conformance with the applicable use. It will be based upon Aqua Ultraviolet's discretion as to whether the defects are of manufacturing origin. Any damages due to shipping and handling, packing, or installation are not covered by this warranty.

This warranty does not apply to appearance or accessory items. This warranty does not include damage due to handling, transportation, unpacking, set up, installation, repair or replacement of parts supplied by any other than Aqua Ultraviolet, improper maintenance, incorrect line voltage, modification, or repairs by the purchaser, abuse, misuse, neglect, accident, fire, flood, or other acts of God.

Any oral statements about product made by the seller, the manufacturer, their representatives or any other parties do not constitute warranties and shall not be relied upon by the user and are not part of this contract.

Neither the seller nor the manufacturer shall be liable for any injury, loss or damages, direct, incidental or consequential including but not limited to incidental or consequential damage for lost profits, lost sales, injury, inability to use the product and the user agrees that no other remedy is available.

Before using, the user shall determine the suitability of the product for their intended use and the user shall assume all risk liability whatsoever in connection therewith.

To validate this warranty, mail the enclosed warranty card within 10 days of purchase along with proof of purchase (copy of sales receipt).

Warranty Period:

Housing: Limited lifetime warranty on housing against Ultraviolet degradation.

Complete Unit: One year from the date of purchase or 18 months from manufacturing date.

Limitations:

Warranty does not cover any malfunction from improper installation (we recommend that an authorized dealer or licensed electrician install your system to the specifications outlined in this owners guide).

Warranty only applies to the original end user and is not transferable.

Warranty does not cover repairs done by anyone other than Aqua Ultraviolet.

Warranty is void if system is not plugged into a GFCI (ground fault current interrupter).

Warranty may not be modified by verbal statements by Aqua Ultraviolet, distributors, retailers, their agents or any other party.

Warranty covers the repair or prorated replacement of the Aqua Ultraviolet products. Aqua Ultraviolet denies all liability for any other loss including but not limited to loss of equipment, income, livestock or personal injury.

There is no warranty on the Quartz Sleeve.

There is no warranty on broken lamps. Lamps are prorated by usage.

Warranty is voided by the following:

Product labels defaced or removed.

Housing has been painted.

Product is improperly installed or maintained by user or agent.

Product abused, misused or damaged by user or their agent.

Product damage caused by electrical surges, electrical spikes, electrical brown outs or improper voltage.

WARRANTY CONTINUED:

Any implied warranty granted under state law including warranties of merchantability or fitness for a particular purpose are limited to one year from the date of purchase or 18 months from the date of manufacture or as otherwise stated in the above warranty. Aqua Ultraviolet is not responsible for direct, indirect, incidental or consequential damages. Some states do not allow limitations on how long an implied warranty lasts and/or does not allow the exclusions or limitations of incidental damages so the above limitation and exclusion may not apply to you. This warranty gives you special legal rights and you may also have other rights that vary from state to state.

Warranty Returns or Repair Returns:

Please call Aqua Ultraviolet at (800) 454-2725 for a "Return Merchandise Authorization" number (RMA). You must have a valid RMA from an Aqua Ultraviolet customer service representative before sending any product in for warranty or repair. Please have your serial number, date of purchase and product type available when calling for an RMA number.

All warranty returns or repair returns must come freight prepaid with an RMA number outside clearly marked on the box. All other returns will be refused. Aqua Ultraviolet will not be liable for any shipping cost to return warranty or repair items. Include a note in the box with your RMA number, name, address, daytime phone number and brief description of the reason for return or repair.

Be sure to return product in the same packing or similar packing and insure the package (we recommend sending it UPS). If you do not have or can't locate proper packaging, please call our customer service department and we will be more than happy to send you packaging for a minimal charge.

Aqua Ultraviolet shall not be responsible for damage or loss done by the shipper. Nor shall Aqua Ultraviolet be responsible for merchandise that arrives damaged due to improper packaging. All claims for loss and damage must be filed by the customer with the shipper.

If unit is found to be out of warranty we will contact you with the cost of repair. Your authorization is required prior to making any repairs.

THIS SECTION CAN BE USED FOR NOTES:

INTRODUCTION

We at Aqua Ultraviolet would like to take the time to thank you for purchasing the finest ultraviolet system on the market.

For over twenty years, Aqua Ultraviolet has manufactured ultraviolet systems which are in use in many different fields and industries such as aquariums, aquaculture, public and commercial aquariums, educational institutions, government agencies, commercial and research organizations throughout the world.

Aqua Ultraviolet sterilizers are used to destroy single celled organisms such as water borne bacteria, viruses and/or to control algae and/or to kill fungi and protozoa. Aqua Ultraviolet sterilizers are recommended for both fresh and salt water systems as well as ponds. There are no residual effects when using an Aqua Ultraviolet sterilizer. Ultraviolet will not affect Bio-filters or lower fish immune systems!

HOW ULTRAVIOLET WORKS

The ultraviolet lamp emits a germicidal ray which alters or disrupts the DNA or RNA of targeted organisms such as algae, bacteria and protozoa. By properly implementing an Aqua Ultraviolet system in-line, the targeted organisms can be eradicated effectively without any harmful residuals.

The Aqua Ultraviolet sterilizer works better on filtered water. Any debris in the water can inhibit UV transmission.

CAUTION: READ ALL INSTRUCTIONS CAREFULLY BEFORE BEGINNING INSTALLATION OR OPERATION.

The following instructions should answer most of the questions that you may have about the installation, operation and use of your new Aqua Ultraviolet Sterilizer. If for some reason you should need technical support, we offer this service for free by telephone (800) 454-2725, or by fax (909) 296-3490 M-F 8:00 am - 4:30 pm Pacific Standard time except

SIZING CHART:

UV Unit	Lamp Input Watts	# Lamps	120V Amp Draw	Aqua Ultraviolet's Recommended UV Size for Fresh Water Ponds: Sterilizer* Gallons	UV Dosage ($\mu\text{w}/\text{cm}^2$) / Max Flow (GPH)					Fresh Water Pond Clarifier***		**Salt Water Tank Gallons
					30,000 $\mu\text{w}/\text{cm}^2$ (EOL) GPH:	45,000 $\mu\text{w}/\text{cm}^2$ (EOL) GPH:	60,000* $\mu\text{w}/\text{cm}^2$ (EOL) GPH:	75*,000 $\mu\text{w}/\text{cm}^2$ (EOL) GPH:	120, 90,000* $\mu\text{w}/\text{cm}^2$ (EOL) GPH:	Gallons	Max Flow GPH:	
8 Watt	8	1	0.48	5-200	642	428	321	256	214	1,500	1,000	50
15 Watt	15	1	0.48	200-500	700	466	350	280	233	2,000	1,800	75
25 Watt	25	1	0.48	500-1,200	1,200	800	600	480	400	4,000	2,000	100
40 Watt	40	1	0.48	1,200-2,000	2,900	1,930	1,450	1,160	967	6,000	3,000	200
57 Watt	57	1	0.48	1,500-3,000	3,200	2,133	1,600	1,280	1,066	6,500	3,500	225
65 Watt	65	1	0.85	1,800-3,800	3,400	2,266	1,700	1,360	1,134	7,000	4,000	280
80 Watt	40	2	0.85	2,200-4,400	3,678	2,452	1,839	1,471	1,226	9,000	4,500	300
114 Watt	57	2	0.85	2,200-4,400	3,900	2,600	1,950	1,560	1,300	9,500	4,500	325
120 Watt	40	3	1.33	4,400-6,000	4,080	2,720	2,040	1,632	1,360	12,000	6,500	350
130 Watt	65	2	1.33	4,000-6,100	4,100	2,700	2,050	1,632	1,306	12,000	6,500	350
160 Watt	40	4	1.70	6,000-8,500	5,400	3,600	2,700	2,160	1,800	16,000	9,000	450
200 Watt	40	5	2.18	8,500-13,000	6,600	4,400	3,300	2,640	2,200	20,000	10,000	550
240 Watt	40	6	2.55	13,000-17,000	7,200	4,800	3,600	2,880	2,400	25,000	12,000	650

*As sterilizer (for crystal clear water), UV dosage is 30,000 $\mu\text{w}/\text{cm}^2$ (EOL) at max flow rate.

**Salt water gallons based on higher UV kill rate (targeting free floating parasites) and tank turnover of 3-5 times per hour.

***As clarifier, water clarity dependent on amount of sun, local temperatures, plant coverage, shallowness of pond, etc.

FREQUENTLY ASKED QUESTIONS

Where do I install my UV?

The best place to install your Aqua Ultraviolet Sterilizer is after the filter. If an after the filter installation is not feasible, your sterilizer can be installed before the filter, but it will take a little longer to work. If installed before the filter, be aware that a small rock passing from the pump can break the quartz sleeve. It is recommended that if you install your unit before your filter, you check the UV periodically for any water leakage due to a broken quartz sleeve. Be sure to have adequate pre-filtration to prevent breakage. (A broken quartz sleeve and any damage caused by a broken quartz sleeve is not covered under warranty.)

Do I have to turn my UV off when I clean my filter?

Yes, but only if the chamber is drained or if the water will remain at a stand still for more than 30 minutes. Note: These units are water-cooled and should not be run without any water in the system or, if full of water, for not longer than the recommended time. This can cause extensive damage to the unit.

What should I expect after my UV is installed?

If your Aqua Ultraviolet system is installed after the filter and is properly sized the water should be clear in 3-5 days. If your Aqua Ultraviolet system is installed before the filter the water should be clear in 7-10 days. The green algae on the sides and bottom of the pond will not disappear, this is normal in a pond. The UV doesn't control this type of algae.

What's the difference between a sterilizer and a clarifier?

As a sterilizer, your Aqua UV system will keep your pond or aquarium water crystal clear in addition, you will have the added benefit of bacterial control which will help keep your fish healthy and happy with less risk of disease.

As a clarifier your pond will still have a green tint to it, unless you have 50-75% plant coverage or your pond is in full shade.

Do I install my UV vertically or horizontally?

You can install your Aqua Ultraviolet system either way. (Please see **INSTALLATION INSTRUCTIONS** on page 9).

What should my flow rate be on my pond or fresh water aquarium?

The optimum flow rate on your pond or fresh water aquarium is to turn over the volume of water once every hour or a minimum of once every other hour.

What should my flow rate be on my salt water aquarium?

Your minimum flow rate should be 3 times the volume of water per hour.

Should I bypass part of my water through the UV and the rest back to the water supply?

No. Our UV was specifically designed to handle high flow rates for easier installation and the best water quality.

Is this unit submersible?

Not this specific series.

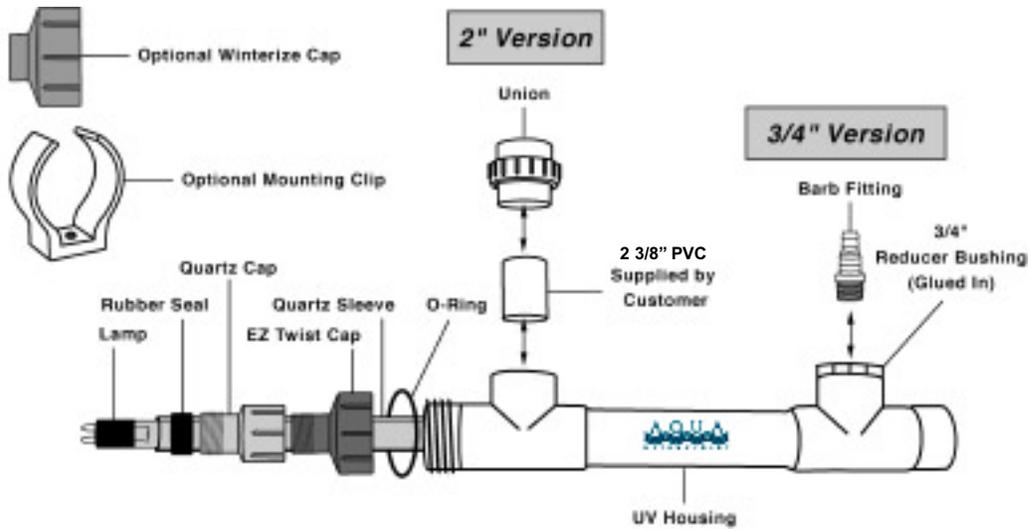
Does the UV light have any residual effect to the fish?

UV only affects what passes through the chamber. There is no residual effect from UV light.

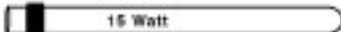
Does the UV kill good bacteria?

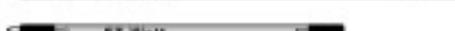
Ultraviolet light does not discriminate about what it destroys. If good bacteria passes by the light it will be destroyed. Good bacteria are colonized in your filter, along the sides and bottom of your pond. The only time it will be affected is if it becomes free floating. All the bacteria in the filter are safe because UV has no residual.

PARTS LIST UNITS

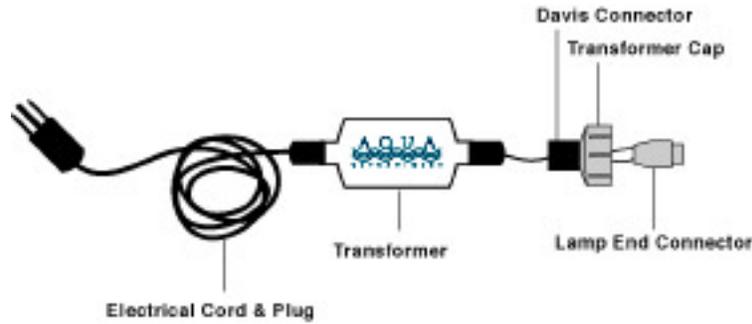


Part #	Description	Part #	Description	Part #	Description	Part #	Description
A40054	Barb Fitting	A40020	Mounting Clip	A40011	Quartz Cap	A40032	2" Union
A40012	EZ Twist Cap	A40014	O-Ring	A40004	Rubber Seal	A40007	Winterized Cap

Quartz Sleeve		Part Number
 0 Watt		A10008
 15 Watt		A10015
 25 Watt		A10025
 40 Watt		A10040
 57 Watt		A10057
 65 Watt		A10065

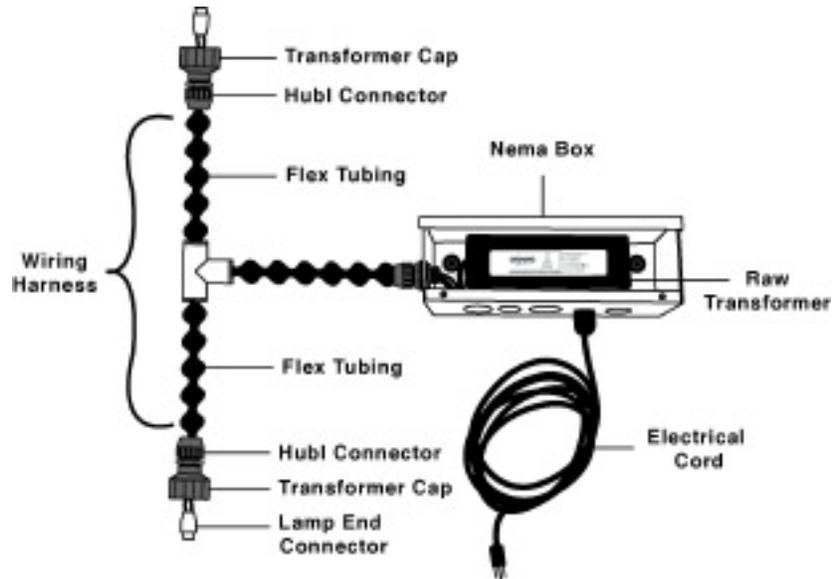
UV Lamps		Part Number
 0 Watt		A20008
 15 Watt		A20015
 25 Watt		A20025
 40 Watt		A20040
 57 Watt		A20057
 65 Watt		A20065

PARTS LIST CONTINUED: TRANSFORMER



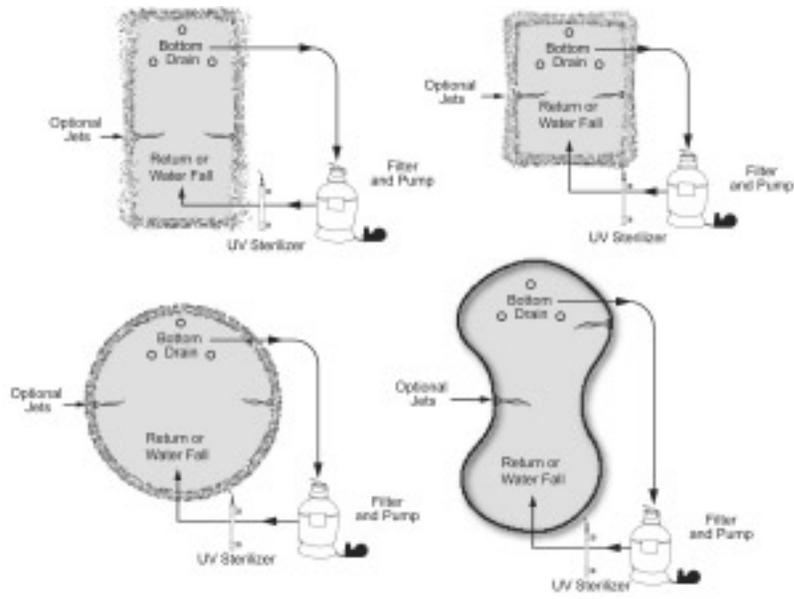
Part #	Description	Part #	Description	Part #	Description	Part #	Description
A40002	Lamp End Connector	A40023	Transformer Cap	A30015	15 W Transformer	A30040	40 W Transformer
A40109	Davis Connector	A30008	8 W Transformer	A30025	25 W Transformer	A30057	57 W Transformer

NEMA TRANSFORMER

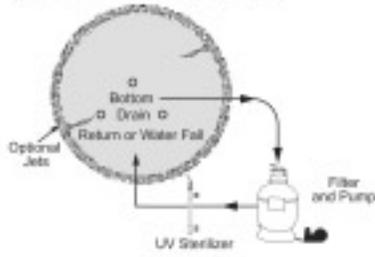


Part #	Description	Part #	Description	Part #	Description
A30045	40 W Nema Transformer	A40088	Hubl Connector	A40064	Wiring Harness 65 Watt
A30065	65 W Nema Transformer	A40003	Lamp End Connector	A40065	Wiring Harness 80 Watt
A30080	80 W Nema Transformer	A40023	Transformer Cap	A40066	Wiring Harness 120 Watt
A30120	120 W Nema Transformer	A30042	Raw 40 Watt	A40091	Wiring Harness 130 Watt
A30160	160 W Nema Transformer	A30066	Raw 65 Watt	A40092	Wiring Harness 160 Watt
A30200	200 W Nema Transformer	A30082	Raw 80 Watt	A40093	Wiring Harness 200 Watt
A30240	240 W Nema Transformer	A30131	Raw 130 Watt	A40094	Wiring Harness 240 Watt

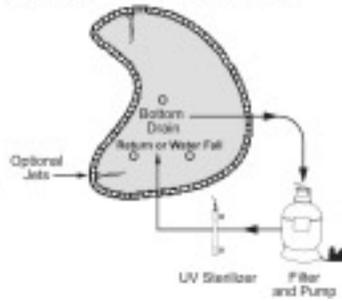
RECOMMENDED POND LAYOUTS



Incorrect Installation

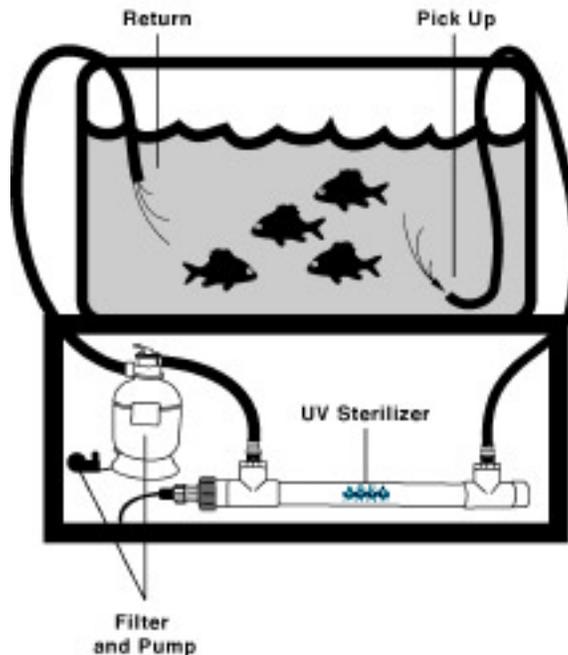


Incorrect Installation



RECOMMENDED AQUARIUM LAYOUT

Pickup on the bottom of one side of the tank and return to top of opposite side of tank.



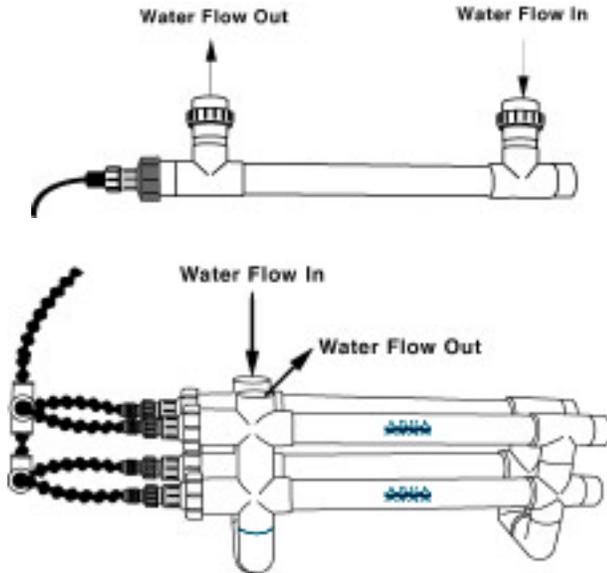
UNIT INSTALLATION INSTRUCTIONS

NOTE: All units are quality tested from the factory. All units are rated up to 50 PSI.

1. Mount your Aqua Ultraviolet system horizontally or vertically on a wall or above ground, on a level and firm surface. Do not lay the system on the ground. Your system should be easily accessible and as close to the filter as possible. Do not submerge.

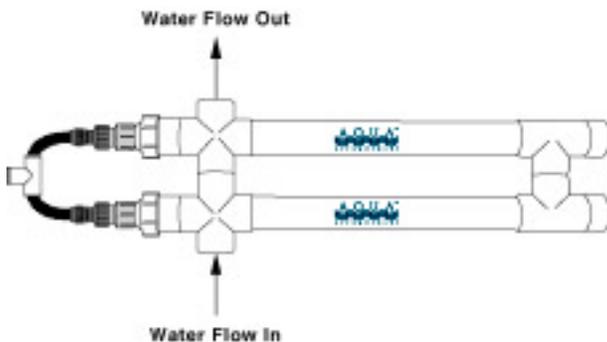
INSTALLATION SUGGESTIONS (HORIZONTAL)

For 8 Watt - 65 Watt and 160 Watt - 240 Watt Units:
Plumb the water going down into the sterilizer and up out of the sterilizer. This will insure the chamber stays full of water.



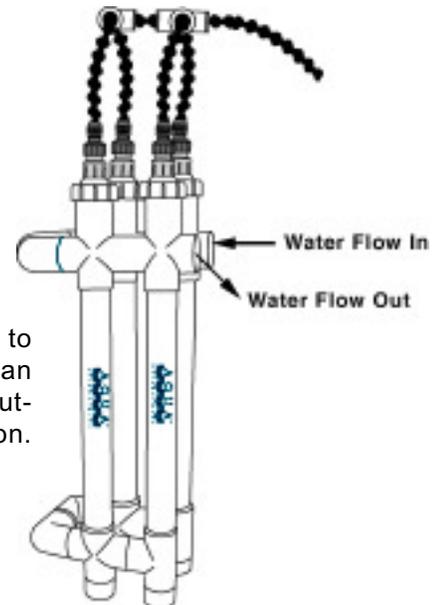
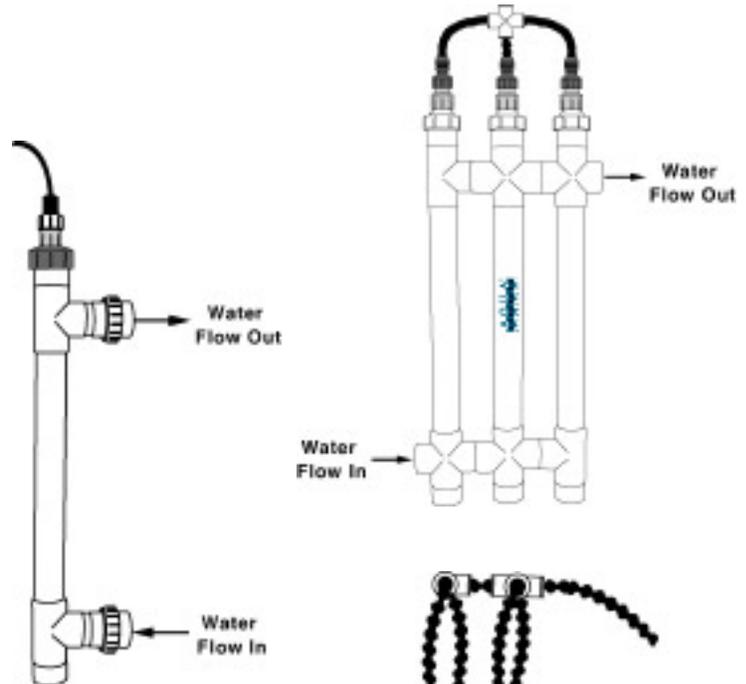
For 80 Watt - 130 Watt Units:

Plumb the water going in from the bottom and out through the top. This will insure the chamber stays full of water.



INSTALLATION SUGGESTIONS (VERTICAL)

Plumb the water going in the bottom of the sterilizer and coming out of the top. This will insure the chamber stays full of water.



For all other units up to 240 Watts, either port can be used as the inlet or outlet in a vertical installation.

The above are suggestions, if these are inconvenient, either port can be used as the inlet or the outlet.

2. In a vertical installation be careful not to drop the lamp down inside the unit, this can break the quartz sleeve. The quartz sleeve is not warranted against breakage nor is any damage caused as a result of a broken quartz sleeve. **(SEE ILLUSTRATION ON PAGE 18.)**

3. You can use mounting brackets (that can be purchased from us) or plumbers straps to attach your unit to a wall or firm surface.

Before mounting or installing your unit check the quartz sleeve(s). Do not try to install, mount or operate this unit if the quartz sleeve(s) appears to be broken or cracked. If broken or cracked contact your dealer.

INSTALL UNIT WITHOUT LAMP(S) AND BALLAST. PUMP WATER THROUGH. CHECK FOR LEAKS THEN INSTALL LAMP AND BALLAST! READ AND FOLLOW ALL INSTRUCTIONS AND/OR SAFETY INSTRUCTIONS FIRST!

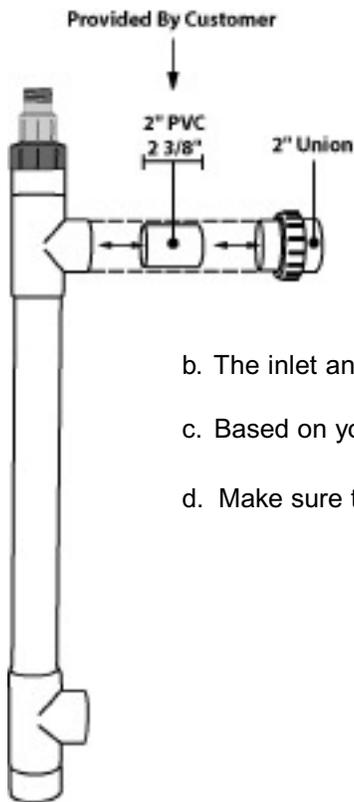
CAUTION: Your Aqua Ultraviolet unit is not submersible. If this unit falls into the water, turn main power off and then retrieve it. Do not attempt to use this sterilizer if it has been submerged. Do not operate this unit if it has a damaged cord or plug, if it is malfunctioning or if it has been dropped or been damaged in any manner.

HINT: The UV should be installed after the filter on the return line. This ensures the water is clear of debris and impurities that could inhibit the disinfection process. The UV can be installed before the filter, however, it will take longer to work.

4. Installation of the sterilizer.

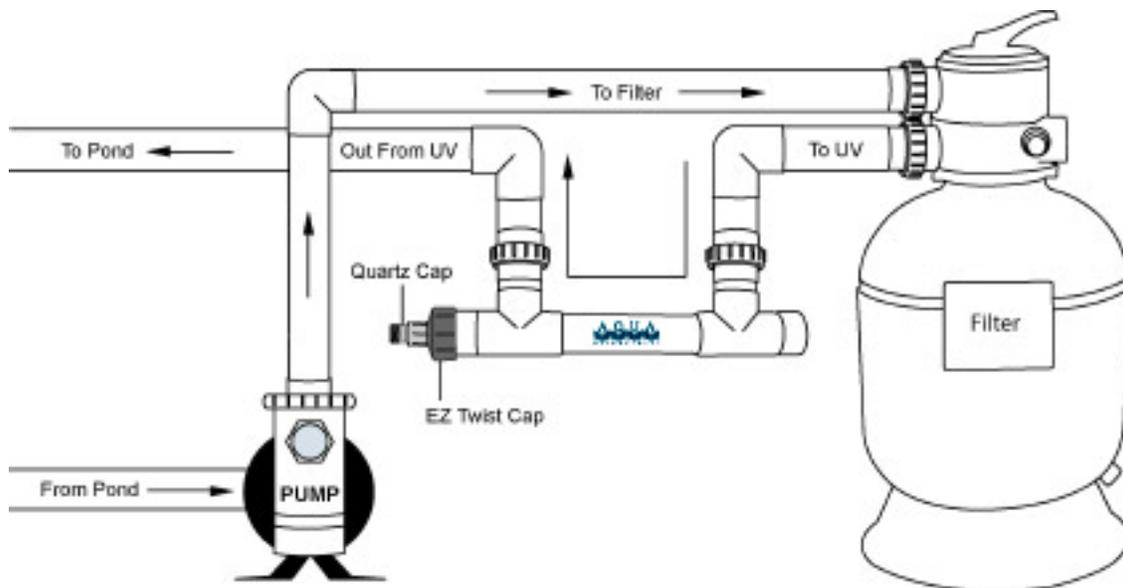
For 2" or 3" slip fitted units:

a. Attach unions with pvc glue to the unit by cutting 2-2 3/8" pieces of pipe.



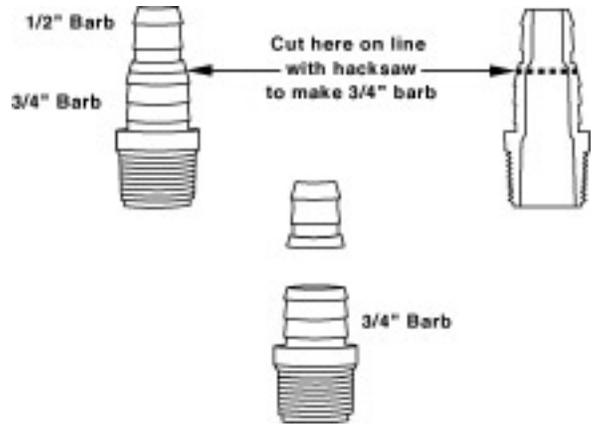
Please go to our web site at www.aquaultraviolet.com for the "Union Install Video".

- b. The inlet and outlet connection should be as close to the filter as possible on the return line.
- c. Based on your personal plumbing configuration, additional plumbing supplies may be needed.
- d. Make sure the unit is mounted securely before operating.

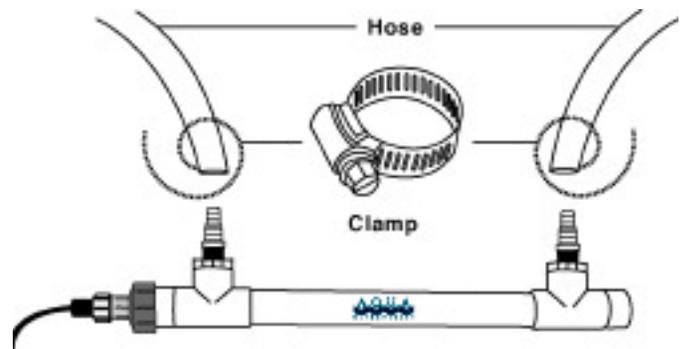


For 3/4" threaded units:

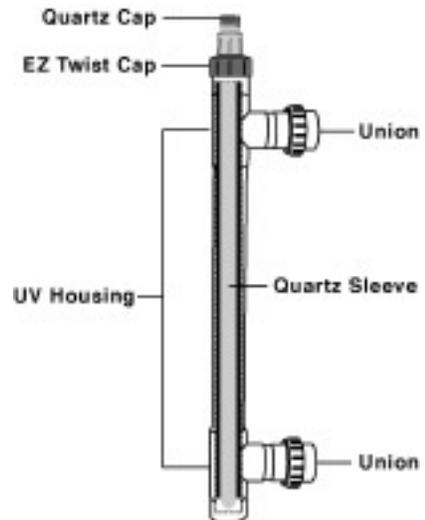
a. Locate the barbs included with your unit. Barbs are fitted for either 3/4" or 1/2" hose (see illustration). 1" and 1 1/2" barbs cannot be cut.



b. The barbs have been Teflon taped for you to prevent leakage. Install barbs, hose and hose clamps.



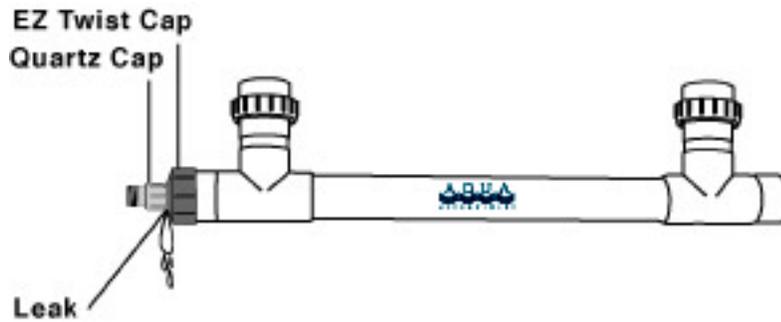
5. **Do not install lamp(s) or electrical components yet.** After all the connections have been made turn pump on and run it for five minutes to check for leaks.



a. If there are no leaks, turn pump off and continue to the **ELECTRICAL INSTALLATION** on page 13, for units up to 57 and 114 watt. For 65 watt - 80 watt and 120 - 240 watt continue on page 14.

b. If unit leaks turn pump off and continue.

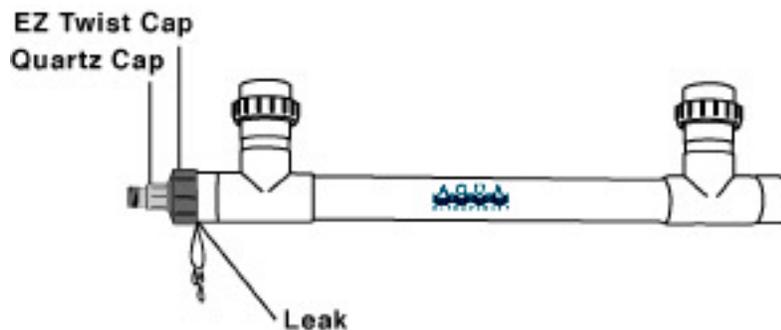
6. If you notice a leak from between the quartz cap and the EZ Twist Cap.



Undo quartz cap and push rubber seal into the housing evenly. The rubber seal should be 1/2 in and 1/2 out. Redo quartz cap and finger tighten. Do not use a pipe wrench, pliers or any other tool. Hand-tighten only.

Repeat step # 5.

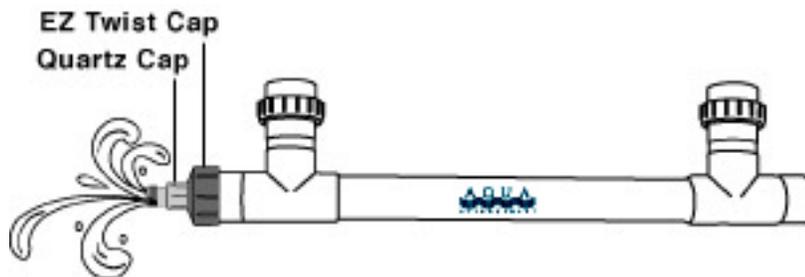
7. If you notice a leak from between the EZ Twist cap and housing.



Untwist and check that the O-ring is seated in the top of the EZ-Twist cap. Hand-tighten until leak stops. Do not use a pipe wrench, pliers or any other tool. Hand-tighten only.

Repeat step # 5.

8. If you notice a leak from the quartz sleeve.



The quartz sleeve is broken and needs to be replaced. A broken quartz sleeve is not, nor is any damage caused as a result of a broken quartz sleeve, covered under warranty. Contact your dealer for a replacement. (See INSTALLING A REPLACEMENT QUARTZ SLEEVE on page 17).

ELECTRICAL INSTALLATION

For units up to 57 Watt and 114 Watt

1. Prevent finger marks on the lamp. If you touch the lamp use denatured alcohol and a soft cloth to clean the lamp.

NOTE: Lamps and quartz sleeves should be handled with care. Lamps and quartz sleeves are not warranted against breakage and damage.

2. Plug the lamp into the transformer; make sure the lamp is plugged in all the way and flush with the lamp end connector.

Be very careful when installing the lamp. If the lamp is not plugged in all the way this may cause damage to the unit and is not covered under warranty, nor is any other damage caused by improper installation.

In a vertical installation, do not drop the lamp into the sterilizer or it will break the quartz sleeve.

In a horizontal (or vertical) installation, do not install the lamp at an angle (even a slight angle); this may cause a "U" shaped crack at the end of the quartz sleeve, or possible breakage of the lamp. If this should happen, do not proceed with the installation. Purchase a new quartz sleeve or lamp from your dealer and refer to the proper installation instructions.

Do not force the lamp into the quartz sleeve; any force would be an indication of an improper installation.
(PLEASE SEE PAGE 18 FOR ILLUSTRATIONS).

3. Twist on transformer. Do not over tighten. This is a connection only and is not in contact with water so it does not have to be tight. Do not use a pipe wrench, pliers or any other tool.

4. Do not plug the sterilizer into power yet, turn on pump and check for leaks again. For illustrations, **SEE PAGE 11.**

- a. If there are no leaks, continue with electrical installation.

- b. If you have a leak, return to INSTALLATION INSTRUCTIONS # 5 on page 11. Carefully examine this unit after installation. This unit should not be plugged in if there are any leaks on any part of this unit.

5. If the unit is not plugged into the GFCI (Ground Fault Circuit Interrupter) the warranty is void. A surge suppressor should be added for extra protection, it is not needed, but recommended.

NOTE: Your Aqua Ultraviolet sterilizer has been fitted with a clear quartz cap that will glow to indicate the lamp is on. This glow may not always be visible during daylight hours, please check at night. If the glow is not visible, please contact our customer service department.

CAUTION: Do not look at or handle UV lamps when lit outside of the housing. Considerable Ultraviolet energy is emitted which may produce severe sunburn and/or conjunctivitis with exposure to the direct UV light. As long as the UV light is in its housing it is 100% safe to humans and fish.

The average life expectancy of Aqua Ultraviolet lamps is 14 months, if unit is in continuous operation. After 14 months the lamp may still light, but the UV has diminished.

We recommend that the UV sterilizer be used in continuous operation for 24 hours per day, 7 days a week. Frequent starts and stops may shorten the life of your lamps.

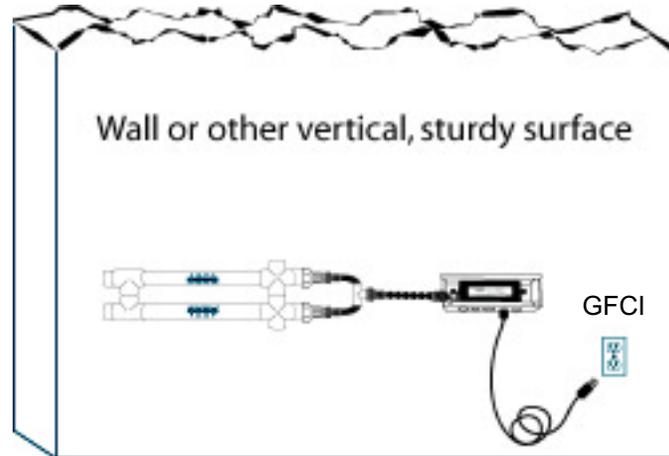
SUGGESTION: If you are using any medication, we recommend shutting down the sterilizer as the UV radiation may affect the treatment.

CAUTION: Do not use the Aqua Ultraviolet sterilizer for anything other than its intended use.

ELECTRICAL INSTALLATION

For 65 Watt - 80 Watt and 120 Watt -240 Watt Units

1. Remove the cover from the transformer box to allow access to screw holes located on the back panel of the box. The cover slides down.
2. Mount the transformer vertically on to a wall or other vertical firm surface. Make sure the transformer is close enough to attach to the UV unit.



3. Plug the lamp(s) into the lamp end connector(s) located at the end of the wiring harness. Make sure the lamp(s) is plugged in all the way and flush with the lamp end connector(s). Insert the lamp into the quartz sleeve.

NOTE: Prevent finger marks on the lamp. If you touch the lamp use denatured alcohol and a soft cloth to clean the lamp.

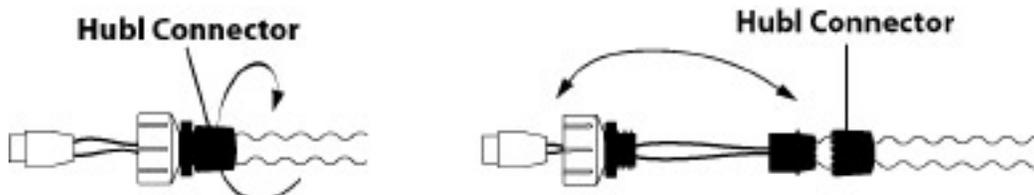
NOTE: Lamps and quartz sleeves should be handled with care. Lamps and quartz sleeves are not warranted against breakage and damage.

Be careful when installing the lamp. If the lamp is not plugged in all the way this may cause damage to the unit and is not covered under warranty, nor is any other damage caused by improper installation.

In a vertical installation, do not drop the lamp into the sterilizer or it will break the quartz sleeve.

In a horizontal (or vertical) installation, do not install the lamp at an angle (even a slight angle); this may cause a "U" shaped crack at the end of the quartz sleeve, or possible breakage of the lamp. If this should happen, do not proceed with the installation. Purchase a new quartz sleeve or lamp from your dealer and refer to the proper installation instructions.

Do not force the lamp into the quartz sleeve; any force would be an indication of an improper installation.
(PLEASE SEE PAGE 18 FOR ILLUSTRATIONS).



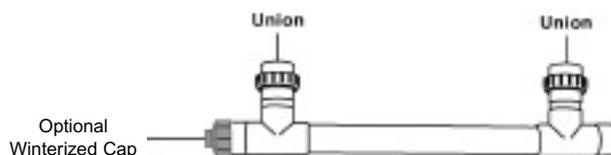
MAINTENANCE

CAUTION: Always unplug the unit from electricity before disconnecting or installing any parts, or before cleaning.

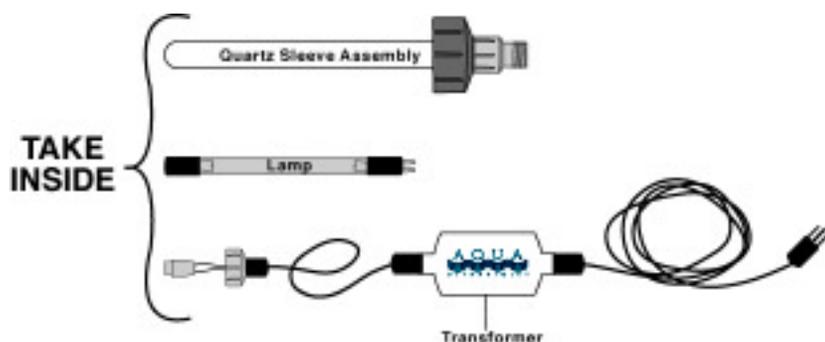
WINTER:

If you are going to continually run water through your pond during freezing temperatures be sure to take all the internal parts inside (Quartz Sleeve, Transformer and Lamp). An optional winterized cap can be purchased from your dealer. Nema transformers may be left outside.

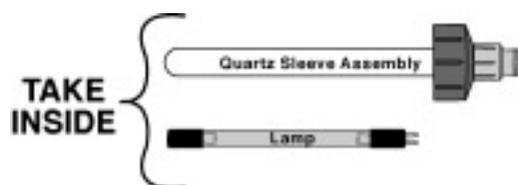
If you are not flowing water through your system and have a winterized cap, drain the unit completely and take the internal parts inside. If the unit is not completely drained, the water will freeze and crack the housing. This is not covered under warranty.



Units up to 57 Watt and 114 Watt



60 Watt - 80 Watt and 120 Watt - 240 Watt Units



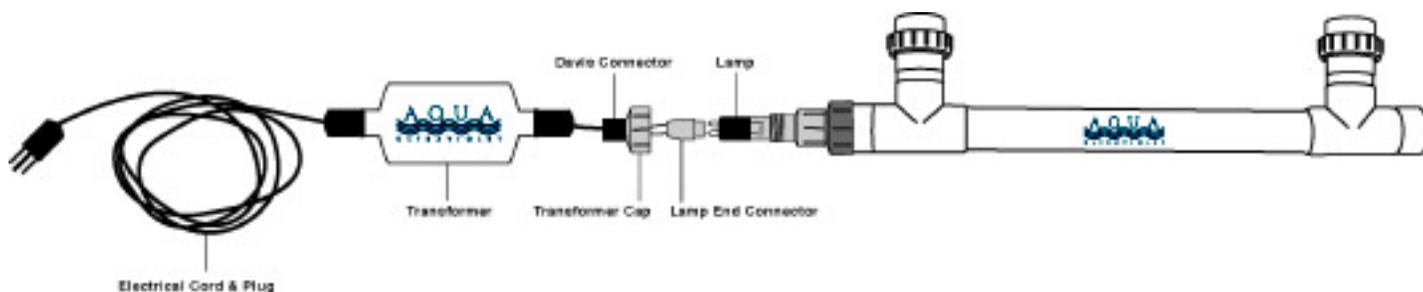
If you don't have a winterized cap or you are not going to continually run water through the system, disconnect unions and take the sterilizer inside.

Before re-installing the unit, the seals (Rubber Seal and EZ-Twist O-Ring) will need to be replaced and the quartz sleeve will need to be cleaned (see **CLEANING THE QUARTZ SLEEVE** on page 16).

WARNING: Do not allow unit to be exposed to freezing temperatures, severe damage and/or breakage to the unit, bulb and/or quartz sleeve may result and is not covered under warranty.

THIS SECTION CAN BE USED FOR NOTES:

CHANGING THE LAMPS

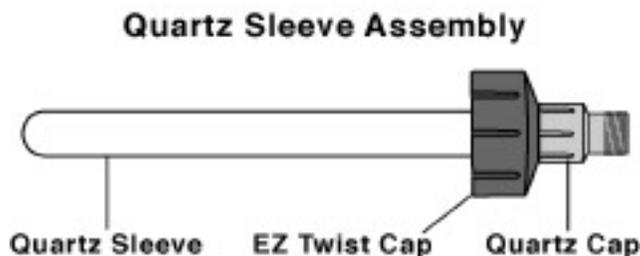


1. Unplug the unit.
2. Twist the transformer cap off. For 65 Watt -80 Watt and 120 Watt -240 Watt units, loosen the Hubl connector first. For more details, **SEE INSTRUCTIONS # 4 on page 14.**
3. Slide lamp out while still connected to the transformer be careful not to slide the lamp out at an angle (even a slight angle) this may cause a "U" shaped crack at the end of the quartz sleeve, or possible breakage of the lamp.
4. Do not force the lamp out of the quartz sleeve; any force would be an indication of an improper removal of the lamp.
5. When installing the new lamp refer to **ELECTRICAL INSTALLATION INSTRUCTIONS** on page 13 or see our video at www.aquaultraviolet.com.

CLEANING THE QUARTZ SLEEVE

This should be done every time you change the lamp, and when re-installing the sterilizer after winter, or if your pond starts turning green before the 14 month lamp life.

1. Unplug the unit, turn the pump off.
2. Twist the transformer cap off. For 65 Watt -80 Watt and 120 Watt -240 Watt units, loosen the Hubl connector first. For more details, **SEE INSTRUCTION #4 on page 14.**
3. Slide lamp out while still connected to the transformer be careful not to slide the lamp out at an angle (even a slight angle) this may cause a "U" shaped crack at the end of the quartz sleeve, or possible breakage of the lamp.
Do not force the lamp out of the quartz sleeve. Any force would be an indication of an improper removal of the lamp.
4. Drain the housing.
5. Twist the large nut off (EZ-Twist Cap) this will release the quartz sleeve and the assembly will still be intact.



CLEANING THE QUARTZ SLEEVE CONTINUED:

NOTE: Due to the caustic nature of this substance, the following instructions should only be completed outdoors in a well-ventilated area.

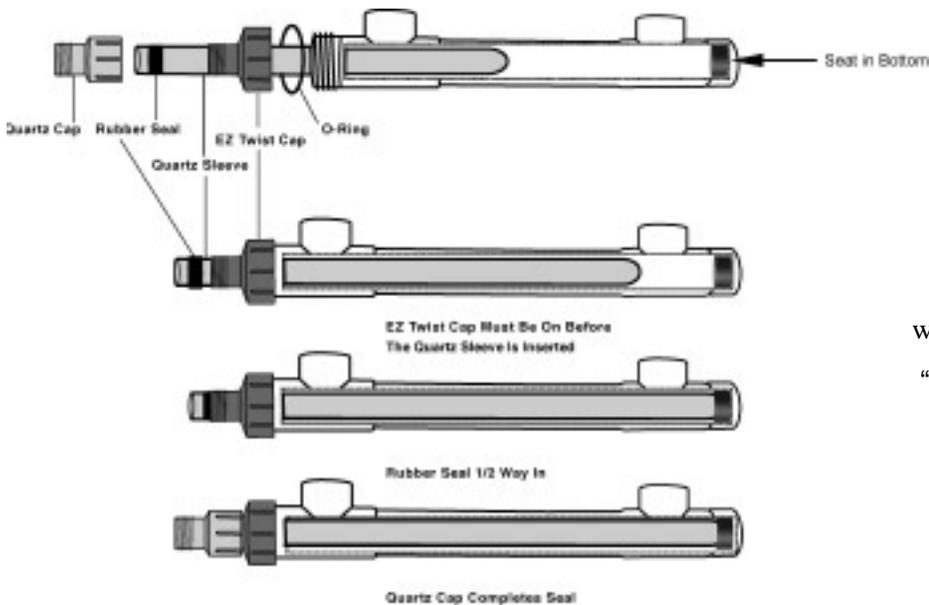
CAUTION: Be sure to follow all instructions from the muriatic acid manufacturer when using their product.

Wear rubber gloves and use a soft cloth to wipe down the quartz sleeve with swimming pool strength muriatic acid. This can be purchased at your local swimming pool supply and/or hardware store.

NOTE: Lime Away or similar products may be used, however, they are not as effective as muriatic acid and may need to be soaked over night or until film is lifted.

NOTE: Do not use any type of abrasive substance on the quartz sleeve as it may scratch the quartz.

INSTALLING A REPLACEMENT QUARTZ SLEEVE

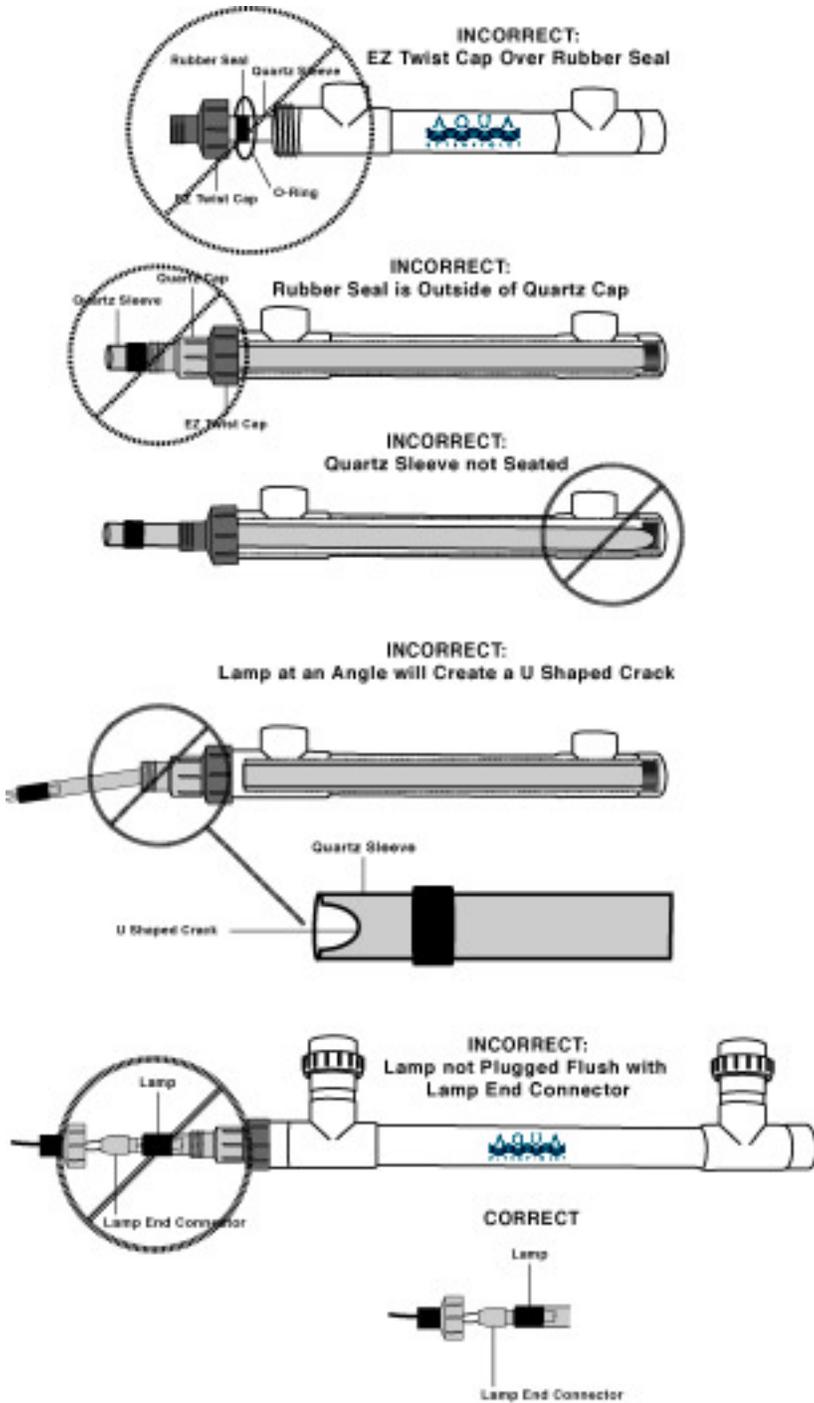


Please go to our web site at
www.aquaviolet.com for the
"Replacing a Quartz Sleeve Video".

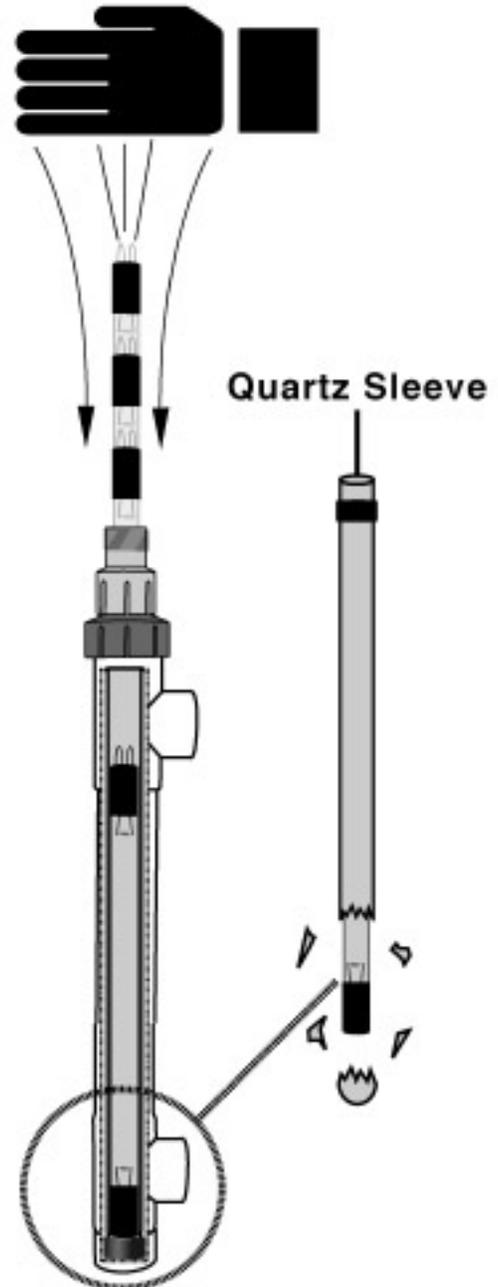
1. Unplug system, turn pump off, and drain housing.
2. Untwist E-Z twist top.
3. Untwist Quartz Cap. Push quartz sleeve up through E-Z Twist Top.
4. Discard broken quartz sleeve and rubber seal.
5. Re-install E-Z twist top without quartz sleeve. Slide quartz sleeve in housing with rubber seal already on quartz sleeve. Be sure to center the quartz sleeve into the seat at the bottom of the unit.
6. Gently push quartz sleeve and rubber seal in E-Z twist top until 1/2 the rubber seal is showing equally around the quartz.
7. Twist on the Quartz cap. DO NOT use a pipe wrench, pliers or any other tool on this unit. Tighten by hand only.
8. See # 5 under **INSTALLATION INSTRUCTIONS** on page 11 and continue.

INCORRECT INSTALLATIONS

The following will damage the unit's electrical components and quartz sleeve.



Lamp Dropped in Quartz Sleeve Can Cause Breakage



THIS SECTION CAN BE USED FOR NOTES:

AQUA™

ULTRAVIOLET