



SUBMARINER **UV STERILIZER / CLARIFIER**

The Ultimate Solution in Disease Prevention



OWNER'S MANUAL

5 Watt & 7 Watt Models

TRANSWORLD AQUATIC ENTERPRISES INC.

SUBMARINER

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SUBMARINER

Important Safety Instructions

WARNING

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

READ ALL SAFETY INSTRUCTIONS BEFORE USE.

DANGER

UV EXPOSURE: Do not operate lamp outside housing, direct exposure to UV rays can cause temporary reddening and irritation of eyes and skin.

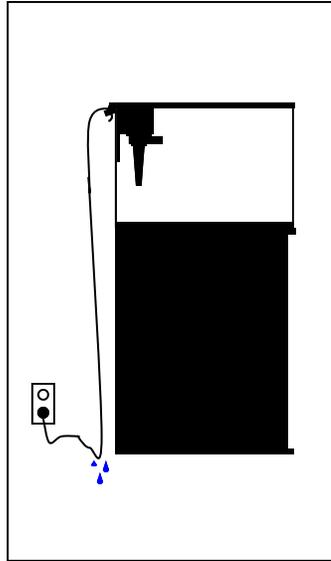
To avoid possible electric shock, special care should be taken since water is employed in the use of aquarium equipment. For each of the following situations, do not attempt to repair yourself: return the appliance to an authorized service facility for service or discard the appliance.

- A. Carefully examine the UV appliance prior to installation. Since the lamp and quartz sleeve are fragile, they may have been damaged during transport.
- B. Do not operate the UV appliance if it has any breakage or cracks within the lamp or quartz sleeve.
- C. Do not operate the UV appliance if the UV lamp is not completely inserted into the quartz sleeve and secured by the (2) quartz sleeve O-Rings.
- D. Close supervision is necessary when any appliance is used by or near children.
- E. Always unplug the unit from an outlet when not in use, before servicing, and cleaning or making adjustments to the pump.

Submariner

Important Safety Instructions

F. To avoid the possibility of the appliance plug or receptacle getting wet, position aquarium stand and tank to one side of a wall mounted receptacle to prevent water from dripping onto the receptacle or plug. A "drip loop", shown in the Figure at the right should be arranged by the user for each cord connecting an aquarium appliance to a receptacle. The "drip loop" is that part of the cord below the level of the receptacle or the connector if an extension cord is used, to prevent water travel along the cord and coming in contact with the receptacle. If the plug or the receptacle do get wet, DON'T unplug the cord. Disconnect the fuse to the circuit breaker that supplies power to the appliance. Then unplug and examine for the presence of water in the receptacle.



G... To avoid injury, do not contact moving parts or hot parts such as heaters, reflectors, lamp bulbs, and etc.

H. Always unplug an appliance from the outlet when not in use, before putting on or taking off parts, and before cleaning. Never yank the cord to pull plug from the outlet. Grasp the plug and pull to disconnect

I. Do not use an appliance for other than intended use. The use of attachments not recommended or sold by the appliance manufacturer may cause an unsafe condition.

J. Do not install or store the appliance where it will be exposed to the weather or to temperatures below freezing.

Submariner

Important Safety Instructions

J. Make sure an appliance mounted within the tank is securely installed before operating it.

K. Read and observe all the important notices on the appliance.

L. This Appliance has a polarized plug (one blade is wider than the other). As a safety feature, this plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician. Never use with an extension cord unless plug can be fully inserted. Do not attempt to defeat this safety feature.

M. If an extension cord is necessary, a cord with a proper rating should be used. A cord rated for less amperes or watts than the appliance rating may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.

CLEANING

It is important to keep this appliance clean. Always unplug the appliance before performing maintenance or cleaning of the pre-filter sponge, pump, and quartz sleeve. . Make sure hands are completely dry before re-plugging into an electrical outlet.

SERVICING

In order to assure proper electrical connections and polarity, replacement parts and servicing should be performed only by a qualified electrician.

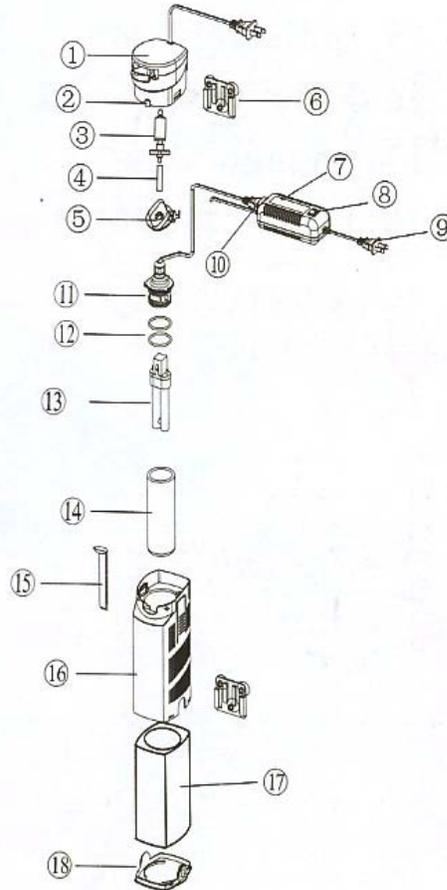
OPERATION

Please carefully read the entire "Owner's Manual" for proper operation procedures before proceeding with turning on this appliance and adding livestock such as fish, corals, and invertebrates.

SAVE THESE INSTRUCTIONS

PARTS EXPLODED VIEW & IDENTIFICATION

Description	Part #
Pump Motor + Swivel Spout	UVF-1
Adjustable Flow Valve	UVF-2
Magnetic Impeller	UVF-3
Ceramic Shaft	UVF-4
Impeller Housing Cap	UVF-5
Suction Cup Mounting Bracket	UVF-6
Remote Ballast	UVF-7
ON/OFF Switch	UVF-8
Power Cord	UVF-9
UV Lamp Connection (pre-wired)	UVF-10
Quartz Sleeve -Cap	UVF-11
Quartz Sleeve -O-Ring	UVF-12
UV-C Lamp	UVF-13
Quartz Sleeve	UVF-14
Lamp Indicator Port	UVF-15
Filter Case	UVF-16
Pre-Filter Sponge	UVF-17
Pre-Filter Sponge - Cap	UVF-18

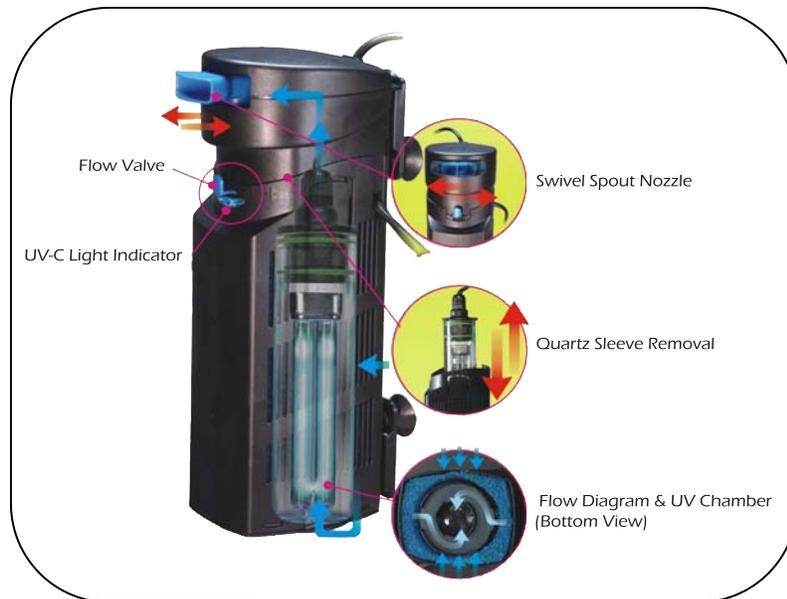


Innovative Algae & Disease Control

Thank you for purchasing the proactive solution to eradicating harmful micro-organisms and unattractive green free-floating algae in fresh & saltwater aquariums. This revolutionary UV sterilizer/clarifier is completely submersible, which can be placed either in the main body of the aquarium or positioned horizontally in a sump for a clutter free set-up.

The Submariner utilizes a UV-C compact fluorescent lamp that is encapsulated in our unique Quartz Sleeve that is air tight and allows for a 99% transmission rate to efficiently neutralize disease causing pathogens. All models include an integrated pump with an adjustable swivel spot and large mechanical pre-filter sponge for an instant set up right out of the box.

Intelligent Design



CAUTION:

Never look directly at the UV-C Lamp, ultraviolet radiation can be harmful. Always unplug before making adjustments.

Submariner Installation

CAUTION: Inspect UV Lamp & Quartz Sleeve Prior to Installation.

Do not allow children to operate this aquarium appliance. Do not operate if appliance has a damaged cord or plug.

Initial Inspection - For breakage

Upon receiving this product please unsnap pump and pull out quartz sleeve and thoroughly inspect for breakage from shipping.

Close attention should be observed to the UV lamp & Quartz Sleeve prior to use.

Please contact your authorized dealer if your product is found damaged.



Pump Powercord Connection

Connect the powercord leading from the pump into the remote ballast.

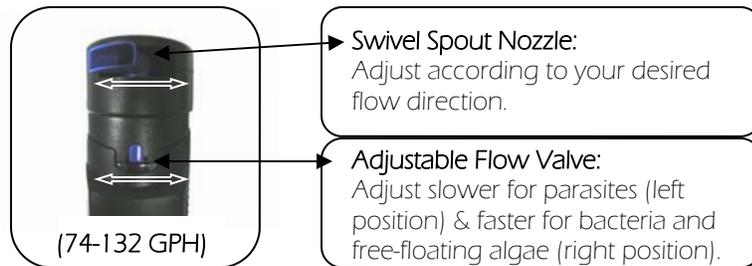


This connection will allow you to utilize the integrated power outlet for a clutter-free set up. The pump powercord may also be plugged independently into a 115V outlet.

Note: Do not plug the main powercord from the remote ballast into an electrical outlet until the UV Sterilizer has been positioned and submerged.

Submariner Installation

Adjusting Flow Rate + Swivel Spout Nozzle



The ability to adjust flow rates puts you in total control of what you intend to eradicate. Slower flow rates increase dwell (contact time) period with the UV for more resistant parasites while faster flow rates are needed to rid undesirable bacteria and free-floating algae. We've also incorporated an adjustable swivel spout nozzle to add extra flow in your aquarium as a secondary benefit.

Adjusting the Swivel Spout: Can be adjusted from side to side for convenient directional flow output positions.

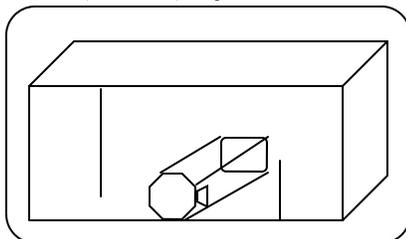
Adjusting the Adjustable Flow Valve: Can be adjusted from side to side to control a minimum flow rate of 74 - 132 gallons per hour.

Choosing a Location

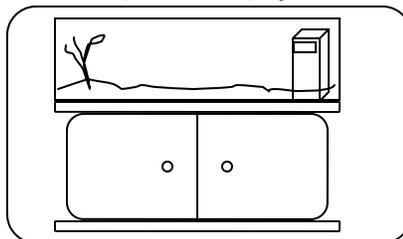
The Submariner is versatile and compact enough to be placed horizontally in the smallest sumps or wet/dry filters or placed vertically directly into the main display area of an aquarium.

The Submariner is supplied with (2) suction cup brackets to hold the UV in place during install.

Sump & Wet/Dry Filter Placement:



Aquarium Display

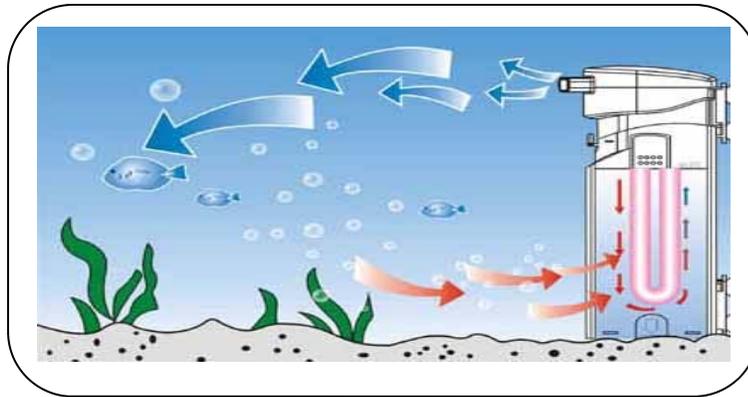


Submariner Operation

Operation Mode

The Submariner UV-C sterilizer/clarifier is preassembled for quick operation. Once installed and positioned securely, you will gain instant germicidal benefits against parasites and bacteria. No need for tubes, purchasing pumps separately, or messy attachments.

Operation –Principle



The first step to long-term consistent sterilization is an adequate mechanical pre-filter to trap particulate matter and debris. Providing crystal clear water to the UV is vital to the overall success on any unit.

Water enters from the slotted sidewalls and 100% of the water is directed through the sponge and then to the UV with no bypass. The water enters the UV chamber and is exposed to the PL-UV-C lamp to destroy microorganisms and is propelled out the swivel spout nozzle.

Our quick-release cap instantly grants access for fast sponge replacements and regular cleaning schedules.

Caution:

Pump should always be securely “snapped” into the main body of the UV for a secure fit.

Submariner Maintenance

Maintenance Made Simple

Regular maintenance is the key to consistent disease control. Please perform routine maintenance on your UV for peak performance:

- Replacement of Pre-Filter Sponge / Monthly
- Cleaning of the Quartz Sleeve / Monthly
- Cleaning of the pump Impeller/ Every other Month
- UV-C Lamp Replacement/Yearly

Warning: Always unplug the UV from the wall outlet and drain water from UV before performing any maintenance or cleaning.

Replacing the Pre-Filter Sponge –Monthly

Providing clean pre-filtered water is vital for the UV-C lamp to effectively perform. Sponges require a monthly replacement.

Unsnap the bottom cap cover and slide out sponge and replace with new sponge.



Cleaning the Quartz Sleeve –Monthly

The Quartz Sleeve acts as a barrier between the water and the UV-C lamp to maintain proper operating temperatures and allow for a 99% transmission rate.

Cleaning the Quartz Sleeve is crucial to the UV's success and should be performed monthly. Remove pump and clean Quartz sleeve with a cloth to remove unwanted algae and debris from the outside of the sleeve.

Note: Vinegar may be used to remove calcium deposits on the exterior of the quartz sleeve. Clean residual off before re-installing



Replacing the UV-C Lamp—Yearly

The UV-C lamp has an average life span of 8000 hours of operation. Although the lamp may illuminate, it will not perform effectively for disease control. Lamp should be replaced before it expires.

Unsnap the pump from the UV (page 11) and remove the quartz sleeve.

Your kit includes our **Lamp Removal Tool** for disassembling the UV-C lamp from the Quartz Sleeve.

STEP 1:
Locate Lamp Removal Tool

Lamp Removal Tool



Front View

STEP 2:
Observe notched grooves inside of Lamp Removal Tool



Top View

STEP 3:
Insert Quartz Sleeve through Lamp Removal Tool

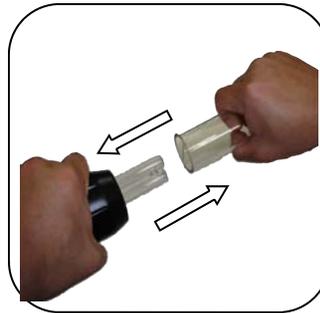


Replacing the UV-C Lamp

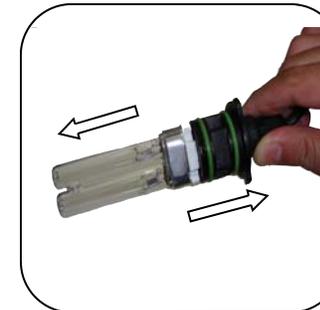
STEP 4:
Align Quartz Sleeve Cap within the notched grooves of the Lamp Removal Tool.



STEP 5:
Firmly grasp Lamp Removal Tool and Quartz Sleeve and pull apart.



STEP 6:
Firmly grasp the base of the UV-C lamp and pull apart from Quartz Cap.



CAUTION: It is IMPORTANT that the Quartz Cap is securely fitted inside the Quartz Sleeve once the replacement lamp has been reinstalled to prevent water leakage.

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Recommended Maintenance

Model	UVF-5W	UVF-7W
UV Lamp	PL- 5 Watt	PL-7 Watt
Volts/Hz	AC 110V/60Hz	AC 110V/60Hz
Pump Flow: Min/Max	74-132 GPH	74-132 GPH
Aquarium Capacity	40 Gallons	Up to 75 Gallons
Life Of UV Lamp	Approx. 8000 hrs	Approx. 8000 hrs
Avg. Pump Cleaning Schedule	Every other month	Every other month
Avg. Quartz Sleeve Cleaning Schedule	Every Month	Every Month
Avg. Sponge Replacement	Every Month	Every Month
Wavelength	253.7 nm	253.7 nm
Dimensions	9" x 3" x 2.5"	10" x 3" x 2.5"

Customer Service Information

For additional information or technical support, please call us at (310) 672-4099 , M-F from 9AM-5PM (Pacific Standard Time).

Submariner **Notes**

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Visit us at www.jbjlighting.com