



# **SUBMARINER** **UV STERILIZER / CLARIFIER**

The Ultimate Solution in Disease Prevention



## **OWNER'S MANUAL**

5 Watt / 9 Watt / 13 Watt

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:

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## **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.

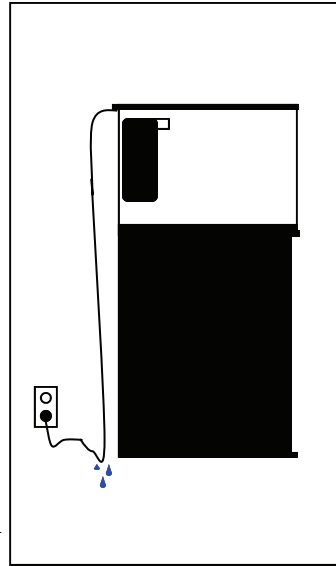
To avoid possible electric shock, special care should be taken since water is employed in the use of aquarium equipment. For each of the following situations, do not attempt to repair yourself: return the appliance to an authorized service facility for service or discard the appliance.

- 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.
- 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**

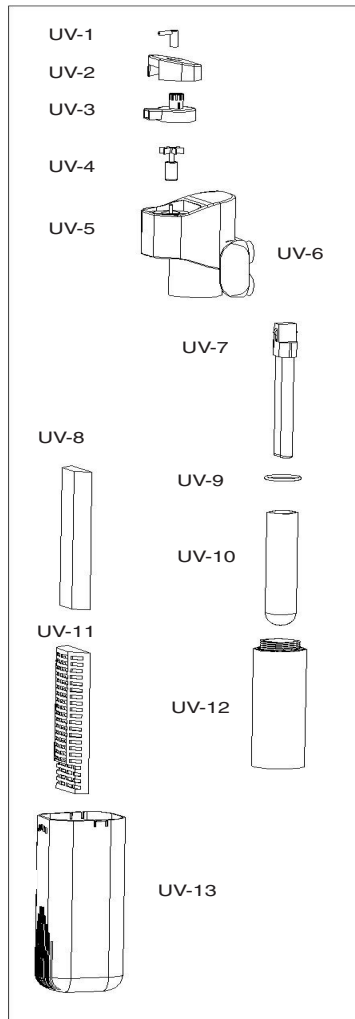
Please carefully read the entire "Owner's Manual" for proper operation procedures before proceeding with turning on this appliance and adding livestock such as fish, corals, and invertebrates.

## **SAVE THESE INSTRUCTIONS**

# Submariner Parts

## PARTS EXPLODED VIEW & IDENTIFICATION

Description	Part #
Venturi Valve	UV-01
Impeller Housing Cap	UV-02
Swivel Spout	UV-03
Impeller	UV-04
Pump Motor	UV-05
Suction Cup Mounting Bracket	UV-06
UV-C Lamp 5watt	UV-07/ UV-5L
UV-C Lamp 9watt	UV-07/ UV-9L
Pre-filter Sponge	UV-08
O-Ring	UV-09
Quartz Sleeve	UV-10
Pre-filter Sponge Tray	UV-11
Quartz Sleeve Cover	UV-12
Main Body	UV-13a

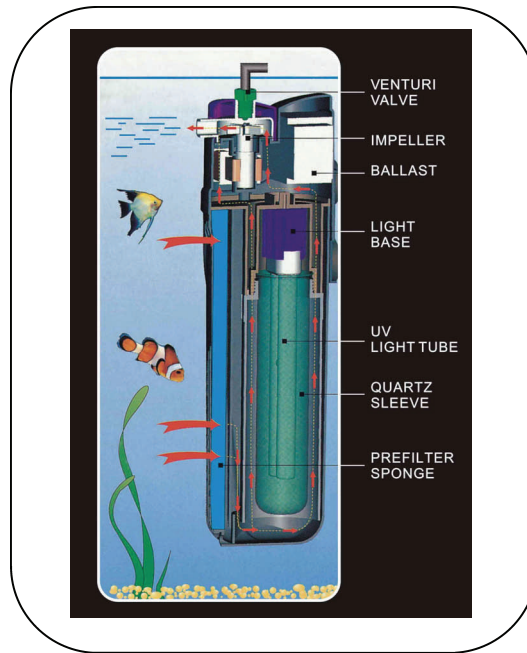


## Innovative Algae & Disease Control

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 unscrew black quartz sleeve cover 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.

### Disconnecting the pump from the main body

1. Press in on both sides of the Submariner's main body and pull it from the pump.



2. Unscrew the black quartz's sleeve cover counter clockwise and inspect the quartz sleeve and UV-C lamp for any visible damage.





# Submariner Installation

## Adjusting Swivel Spout Nozzle & Control Valve

Adjust according to your desired flow rate & direction.

(211 GPH) Max



We've also incorporated an adjustable swivel spout nozzle to add extra flow in your aquarium as a secondary benefit.

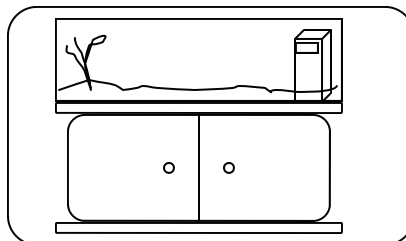
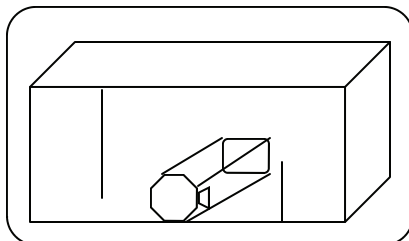
**Adjusting the Swivel Spout:** Can be adjusted from side to side for convenient directional flow output positions.

**Venturi Valve:** An airline can be attached to the blue venturi valve for added oxygenation to improve water quality.

**Flow Valve:** Can be adjusted to reduced flow rate for more contact time for parasites and protozoa

## 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 Sub-

# Submariner Operation

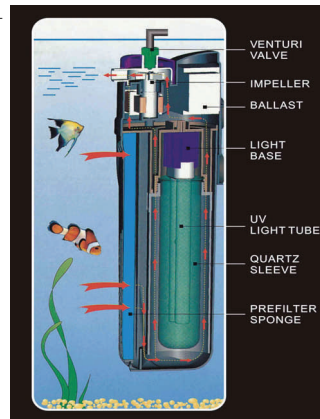
## Operation Mode

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 intake grills 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 micro-organisms and is propelled out the swivel spout nozzle.



Our slide out sponge tray 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.

## Maintenance Made Simple

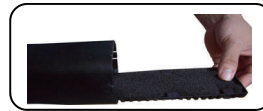
Regular maintenance is the key to consistent disease control. Please perform routine maintenance on your UV for peak performance:

- 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

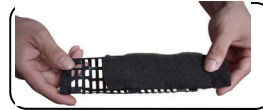
**Warning:** Always unplug the UV from the wall outlet and drain water from UV before performing any maintenance or cleaning.

## 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.



- Step 1. Unsnap the pump from the main body
- Step 2. Slide out sponge tray and remove 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.

- Step 1: Remove pump from the main body
- Step 2: Unscrew the black quartz sleeve cover (counter clockwise)
- Step 3: Clean any unwanted algae and debris from the outside of the quartz sleeve.



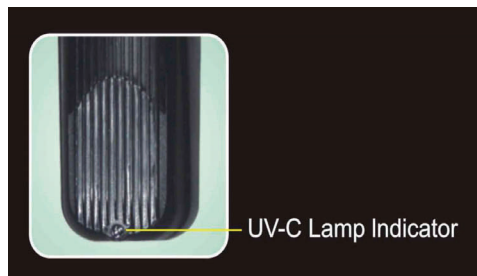
**Note:** Vinegar may be used to remove calcium deposits on the exterior of the quartz sleeve. Clean residual off before re-installing

# Submariner Maintenance

## 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.

You can check the status of the lamp by an illuminated blue color at the bottom of the Submariner.



## Replacing the UV-C Lamp



**Step 1:** Unsnap the pump from the main body of the UV.



**Step 2:** Unscrew the black quartz sleeve cover counter clockwise and pull out quartz sleeve.



**Step 3:** Unplug the UV-C lamp and plug in new lamp.

## Replacing the pump impeller

### STEP 1

Squeeze both sides of the impeller housing/nozzle cap and pop off.



### STEP 2

Pull impeller and wash under running water to clean.



### CAUTION:

Always unplug the Submariner from the electrical wall outlet before performing any maintenance procedures.

# Submariner

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## Recommended Maintenance

Model	UV-5	UV-9	UV-13
UV Lamp	PL-5 Watt	PL-9 Watt	PL-13 Watt
Volts/Hz	AC 110V/60Hz	AC 110V/60Hz	AC 110V/60Hz
Pump Flow: Max	211 GPH	211 GPH	211 GPH
Aquarium Capacity	40 Gallons	Up to 100 Gallons	Up to 150 Gallons
Life Of UV Lamp	Approx. 8000 hrs	Approx. 8000 hrs	Approx. 8000 hrs
Avg. Pump Cleaning Schedule	Every other month	Every other month	Every other month
Avg. Quartz Sleeve Cleaning Schedule	Every Month	Every Month	Every Month
Avg. Sponge Replacement	Every Month	Every Month	Every Month
Wavelength	253.7 nm	253.7 nm	254.7 nm
Dimensions	12" x 3.9" x 3.5"	12" x 3.9" x 3.5"	12"x3.9"x3.5"

### Customer Service Information

For additional information or technical support, please call us at (877) 374-9981, M-F from 9AM-5PM (Pacific Standard Time).

# **Submariner** **Notes**

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Visit us at [www.jbjlighting.com](http://www.jbjlighting.com)