

STERI FLO® UV STERILIZER AND UVC MONITOR

Installation and Maintenance

SHIPPING

Each sterilizer is individually inspected and tested before leaving the factory. If containers show rough handling, do not give carrier clear receipt.

On most models, the glass UV lamps are shipped in a separate, shock-proof container for added protection.

When unpacking and finding some damage, call carrier without further unpacking. They will create a report of concealed damage. You should submit your claim with the carrier at once.

PLUMBING HOOK-UP

All Steri Flo® sterilizer chambers not factory assembled in a chiller or in-line filtration unit can be installed in a horizontal or vertical position for convenient servicing.

There must be at least four feet of available space at the end of the unit for lamp inspection, cleaning or replacement. The sterilizer is provided with a flow regulating valve that restricts the flow to it's rated capacity.

The sterilizer can be installed in the main pipeline after any pressure or holding tank, water filter and ahead of appliances, such as softeners, heaters, washers, etc. provided there is no danger of freezing in the winter.

Install shut-off valves and unions on the inlet and outlet of the sterilizer. This permits closing the line and draining.

FILTRATION

Water entering the sterilizer used for drinking water or process water treatment should be crystal clear without turbidity or suspended matter. Any particles or bubbles in the water will block the ultraviolet radiation and reduce the effect of the sterilizer.

It is strongly recommended that a pre-filter rated to remove 5 micron particles and larger be installed.

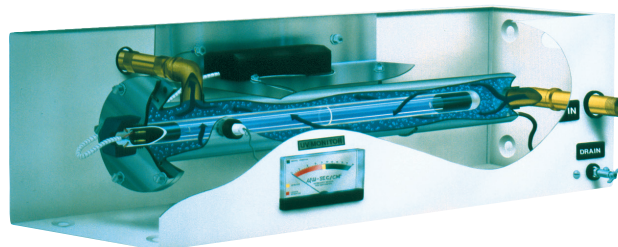
INITIAL START-UP

Carefully open the shipping box and remove the compression nut, (2) O-rings, quartz sleeve and UV bulb for each sterilizer chamber. It is recommended the user wear rubber gloves when handling UV parts.

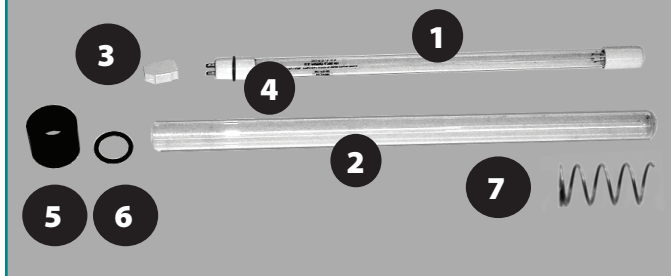
MAINTENANCE

Under normal operating conditions, the UV lamps will operate for 10 to 12 months of constant use. **Replace bulbs at least once a year.**

CUT-AWAY ILLUSTRATION OF TYPICAL UV UNIT



UV UNIT COMPONENTS



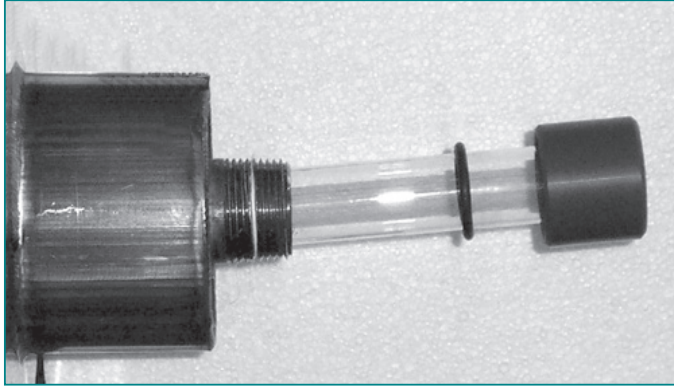
UV STERILIZER SPARE PARTS LIST

PHOTO PART NO.	PART DESCRIPTION	ORDER PART NO.
1	14" UV Lamp 35" UV Lamp	31.0048 31.0053
2	15" Quartz Sleeve 36" Quartz Sleeve	31.0013 31.0023
3	120V High Power Ballast 230V High Power Ballast (both with plug and either can be used for 14" and 35" lamps)	31.0096 31.0097
4*	O-Ring for UV Lamp (14" or 35")	31.0075
5	UV Gland Nut For Quartz Sleeve (15" or 36")	31.0073
6	O-Ring For Quartz Sleeve (15" or 36")	31.0071
7	Spring for Quartz Sleeve	31.0056

*Note: if the sterilizer tank is vertical, replace the O-ring for the UV lamp with a spring to protect the bottom of the sleeve from accidental breakage.

STERI FLO® UV STERILIZER INSTALLATION INSTRUCTIONS

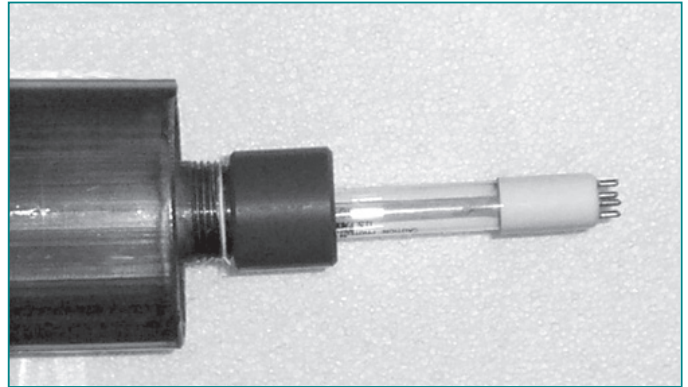
STEP 1



1. If sterilizer has a cover, unscrew the bolts and remove the cover.
2. Inspect sleeve to be sure the glass is clean and clear. If not, carefully wipe clean with a soft rag.
3. Slide the smaller O-ring onto the quartz sleeve to sit about 2" from the open end of the sleeve.
4. Carefully insert the quartz sleeve into the cylinder until it reaches the O-ring.
5. Place the PVC compression nut on the open end of the sleeve and carefully tighten the nut by hand onto the cylinder nipple threads until the nut is secure. **Do not over tighten or the glass sleeve will break.***
6. Turn on the water service valve to fill the UV chamber and pressure test the quartz sleeve compression nut and sensor threads for leaks.

****If the quartz sleeve breaks in the chamber, remove all broken glass in the tank with a wet vac before installing a new sleeve.***

STEP 2



1. Once the unit is successfully pressure tested, slide the larger O-ring half way onto the porcelain plug end of the UV lamp for a horizontal tank, or insert the spring provided inside the quartz sleeve for a vertical tank.
2. Slowly insert the bulb into the sleeve until the lamp hits the O-ring leaving only the plug end exposed.

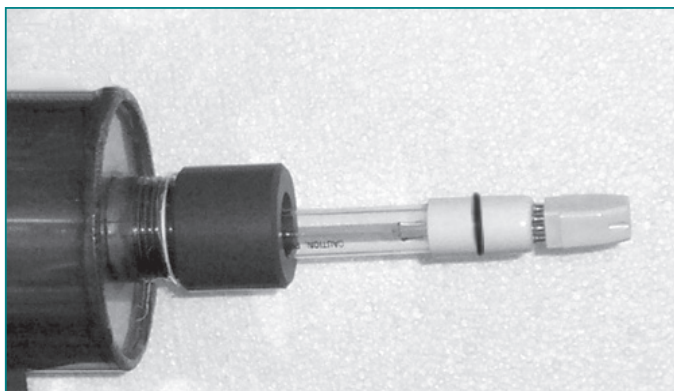
SAFETY PRECAUTIONS

This unit should be installed and maintained by a trained HVAC technician.

Never trouble shoot this equipment while power is ON. Any maintenance performed should be done so with all power disconnected.

WARNING: A UV hazard exists. Always protect eyes from ultraviolet light. NEVER look at UV lamps while in operation unless Proper UV eye and skin protection is worn. Unplug or disconnect power before servicing.

STEP 3



1. Plug in the sterilizer to the white plug provided.
2. Plug the unit in. By looking in through the top of the sterilizer chamber, the blue glow of the UV lamps should be visible.

3. Check each opening to be sure the lamps are energized. When provided, the cover must be firmly closed to depress the safety switch and thus energize the lamps.
4. If the lamps are not lit, REFER TO TROUBLESHOOTING section in this manual. If the lamps are glowing, open front panel again. Check for leaks and loose wires.
5. If all is in order, close cover (if provided) securely, and check that lamps are still glowing.
6. Unit is now ready to operate.

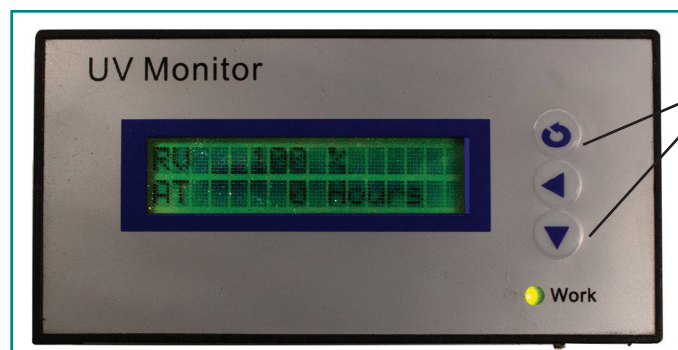
NOTE: The UV bulbs need to be changed after 10-12 months of constant use.

STERI FLO® UV STERILIZER TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	REMEDY
"RED" Status Light is On	A Quartz sleeve is dirty B Lamp is burned out C UV intensity has fallen below factory set point	A Remove sleeve and clean with de-natured alcohol B Change lamp C Lower set point or change lamp
UV Lamp Does Not Light	A Lamp burned out B Loose connections C Safety switch open D Fuse or ballast has failed	A Replace lamp B Check for secure connections at lamp nubs and terminal block C Close cover if provided D Identify and replace
Quartz Sleeve Fills with Water	A Sleeve is cracked or broken	A Identify and replace. Vacuum out the broken glass from the tank.
Quartz Sleeve is Broken	A Damaged in shipment B Sleeve has come loose from bracket on standpipe C Excessive water hammer	A Replace B Repair and replace C Install shock absorber
Water Flow Slows or Stops	A Flow regulator clogged	A Remove and clean

UVC MONITOR (ULTRAVIOLET MEASUREMENT) STARTUP, CALIBRATION AND MAINTENANCE

**FIG .1 – UVC MONITOR AND COMPONENTS
(ORDER PART NO. 31.0030)**



The UV monitor was factory calibrated with a low intensity set point of 60% and a lifetime hour set point of 8,870 hours.

A red light will illuminate on the digital display when the UV intensity goes below the minimum set point of 60% or the hours of operation goes over 8,870 hrs.

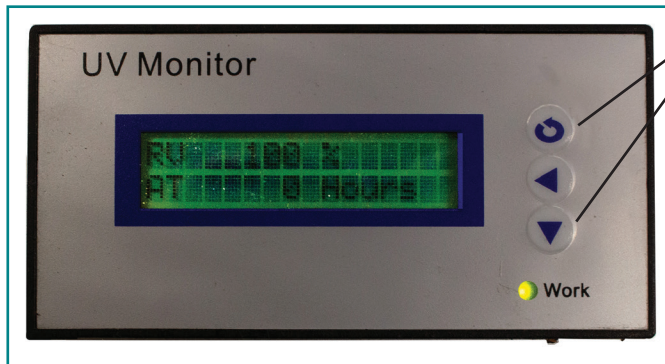
HOW TO STARTUP THE UV STERILIZER SYSTEM

Follow UV Sterilizer Installation Instructions to start-up the sterilizer when new bulb and clean quartz sleeve at initial start-up or on a yearly basis. **Follow these two steps to zero out the monitor.**

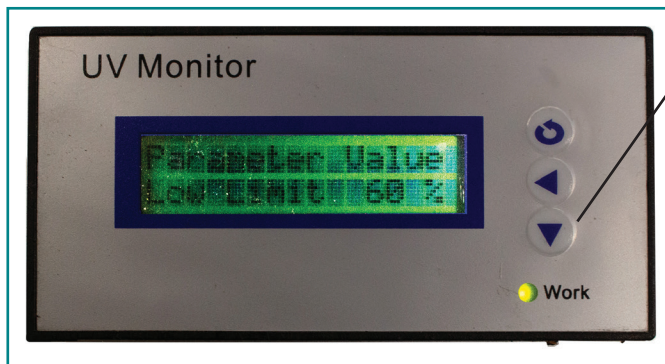
1. Turn the power **on** to energize the UV sterilizer. The green power light should come on at the monitor.
2. Press the **set** and **down** buttons simultaneously once or several times until the display reads 100% RV & 0% AT and **hold** for 3 secs.
3. The UV monitor has now been zeroed out and is ready to operate.

UVC MONITOR (ULTRAVIOLET MEASUREMENT) STARTUP, CALIBRATION AND MAINTENANCE (cont.)

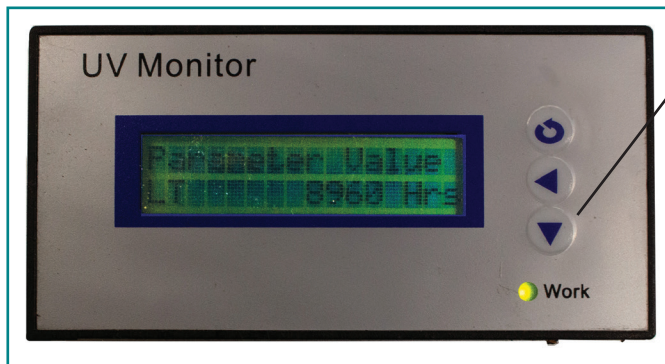
HOW TO CHECK FACTORY SET VALUES (IN SET MODE)



1. Press the **set** and **down** button once until display reads "Reset to 100%, RV 100%".



2. Press the **down** button again. Display should read "Parameter value low limit 60%".



3. Press the **down** button again. Display should read "LT parameter value 8960 hrs".

HOW TO CHANGE SET VALUES (IN SET MODE)

1. Press the **set** and **down** button once until display reads "Reset to 100%, RV 100%".
2. Press the **left arrow** button to enter the **set** mode and the left value should be blinking. Press the **down** button several times to change the left value to 1. Press the **left** button again to move to the next value and press the **down** button again to change the next value to 0. Press the **left** button again to change the next value to 0 or until the parameter value is 100%.
3. Press the **set** button for 3 secs to fix the value.
4. Perform the same procedure again to change the low intensity setting to 60% and the lifetime setting to 8960 hrs.
5. After all values have been changed to the right values, press the **down** key until the display shows AT 8960 hrs on top.
6. Press and hold the **set** button for 5 secs to reset the AT value to 0.