STERI FLO® UV STERILIZER AND UVC MONITOR
Installation and Maintenance

Filtrine SINCE 1901

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.

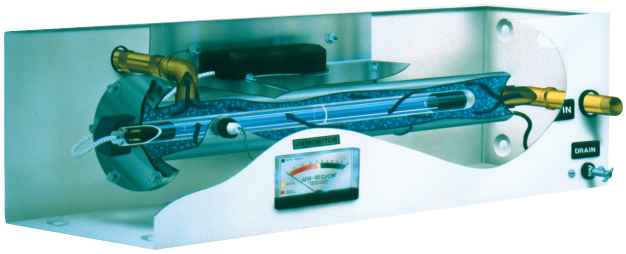
FILTRATION
Water entering the sterilizer used for drinking water or process water treatment should be crystal clear without turbidity or suspended matter. Any particles or bubbles in the water will block the ultraviolet radiation and reduce the effect of the sterilizer.

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

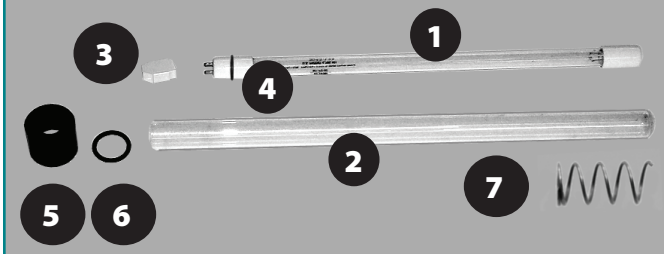
INITIAL START-UP
Carefully open the shipping box and remove the compression nut, (2) O-rings, quartz sleeve and UV bulb for each sterilizer chamber. It is recommended the user wear rubber gloves when handling UV parts.

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.

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MADE IN USA

FILTRINE IS ISO 9001:2015 CERTIFIED
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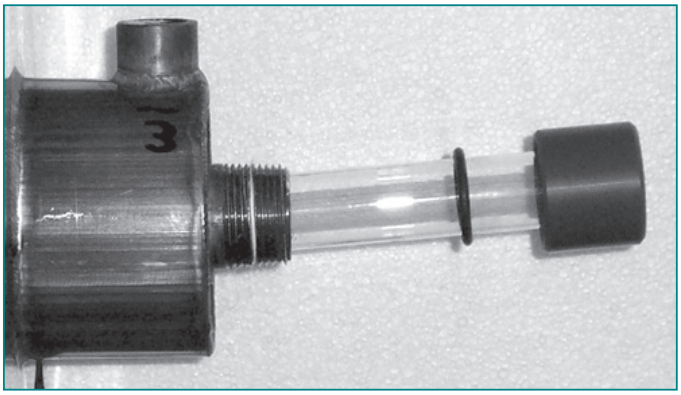
COMPLIES WITH LEAD NSF/ANSI 372

STERI FLO® UV STERILIZER INSTALLATION INSTRUCTIONS

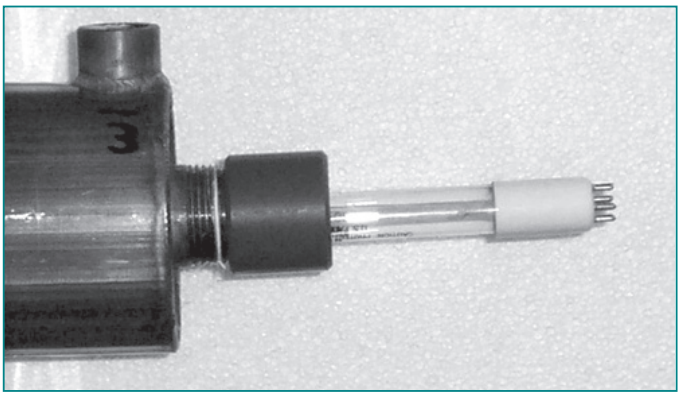
STEP 1



- **If sterilizer has a cover,** unscrew the bolts and remove the cover.
- Inspect sleeve to be sure the glass is clean and clear. If not, carefully wipe clean with a soft rag.
- Slide the smaller O-ring onto the quartz sleeve to sit about 2" from the open end of the sleeve.
- Carefully insert the quartz sleeve into the cylinder until it reaches the O-ring.
- 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.****
- 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



- 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.
- Slowly insert the bulb into the sleeve until the lamp hits the O-ring leaving only the plug end exposed.

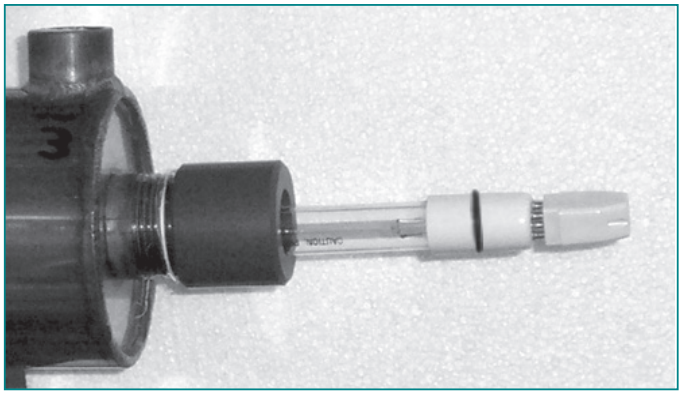
SAFETY PRECAUTIONS

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



- Plug in the sterilizer to the white plug provided.
- Plug the unit in. By looking in through the top of the sterilizer chamber, the blue glow of the UV lamps should be visible.
- 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.
- 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.
- If all is in order, close cover (if provided) securely, and check that lamps are still glowing.
- Unit is now ready to operate.

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

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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** Adjust UVC Monitor scale to 100 and set point between 55 and 70 until alarm clears (see re-calibration instructions below)
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 **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

START UP AND RE-CALIBRATION

The UVC monitor was factory calibrated with a low intensity set point of 70% and a high of 100%. An alarm will sound when the intensity goes below the minimum set point.

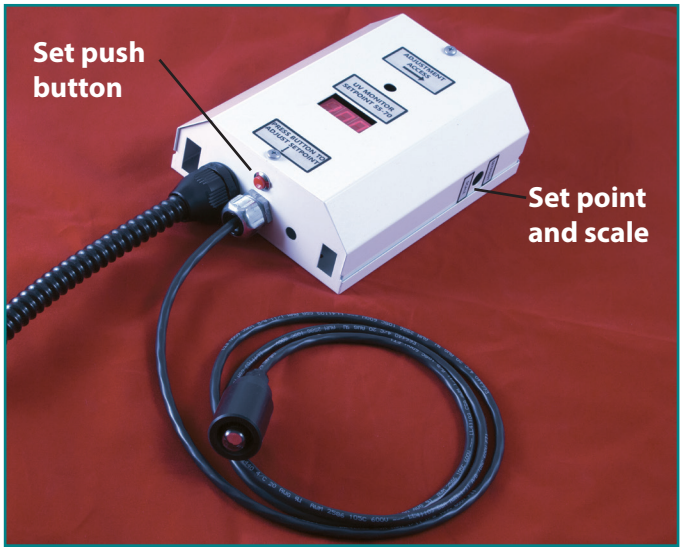
When new bulbs are installed at start-up or on a yearly basis, the digital display will take approximately 10 minutes to calibrate itself before the correct running intensity is displayed.

If the UVC monitor needs re-calibration, the unit should run with new bulbs in place for a minimum of 100 hours (4 days) before the monitor can be recalibrated.

CALIBRATION STEPS (WITH NEW BULBS)

1. Remove cover from UVC monitor.
2. **Push and hold** the red "set" button on underside of monitor.
3. Adjust the low "set" point potentiometer on right side of monitor to 70% with small screwdriver. (**See Fig. 1.**)
4. Adjust the high "scale" potentiometer on right side of monitor to 100% with small screwdriver. (**See Fig. 1.**)

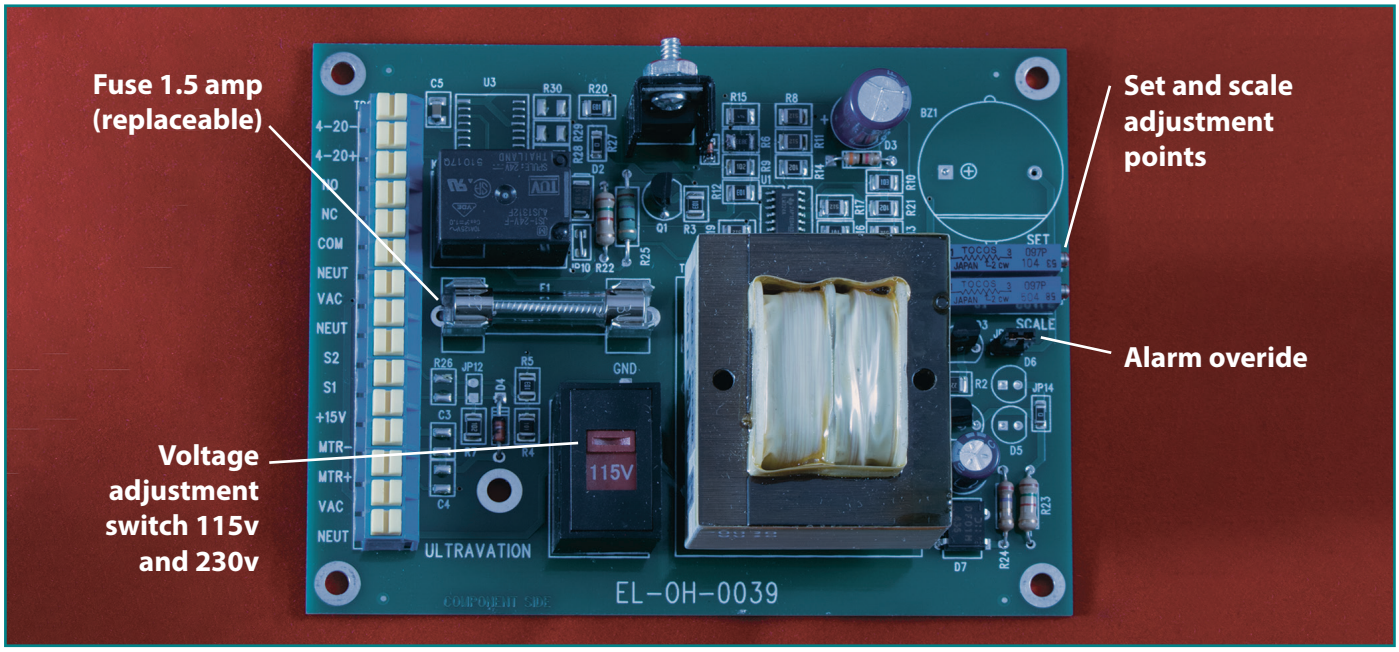
FIG .1 – UVC MONITOR AND COMPONENTS (ORDER PART NO. 31.0030)



5. To test the low set point release the "red" set button and turn the "scale" potentiometer below 70% until alarm horn goes on. Raise the set point over to 70% until alarm goes off.

UVC MONITOR (ULTRAVIOLET MEASUREMENT) SAFETY AND STATUS INDICATORS

FIG. 2 – UV INTENSITY MONITOR BOARD (ORDER PART NO. 31.0020)



UVC MONITOR STATUS			
DIGITAL DISPLAY	**AUDIBLE ALARM**	**UNIT STATUS**	**REMEDY**
70%-100%	None	OK	N/A
0%-70%	Constant buzzer	UV output below set point, lamp out, quartz sleeve dirty.	Clean sleeve with denatured alcohol or Lime-A-Way®. Pressure test quartz sleeve with water before changing lamp.
No Display	None	No power	Replace 1.5 amp blown fuse. Lamp unplugged or not secured in socket.

NOTE: A constant buzzer does not necessarily mean the lamps are defective or no longer emitting UV, it is sensing the lamp(s) in the unit are not on, or the UV intensity output has fallen below the SET point. The lamp out could be caused by other factors.