



# Clean Water Made Easy

## WonderLight UV Sterilizer Installation Guide

Thank you for purchasing a Clean Water System! With proper installation and a little routine maintenance your UV sterilizer will last for many years.



### Questions?

Call us toll-free: 1-888-600-5426 or 1-831-462-8500

Email us: [support@cleanwaterstore.com](mailto:support@cleanwaterstore.com)

See more information on our website: [www.cleanwaterstore.com/resources](http://www.cleanwaterstore.com/resources)

## Pre-Installation

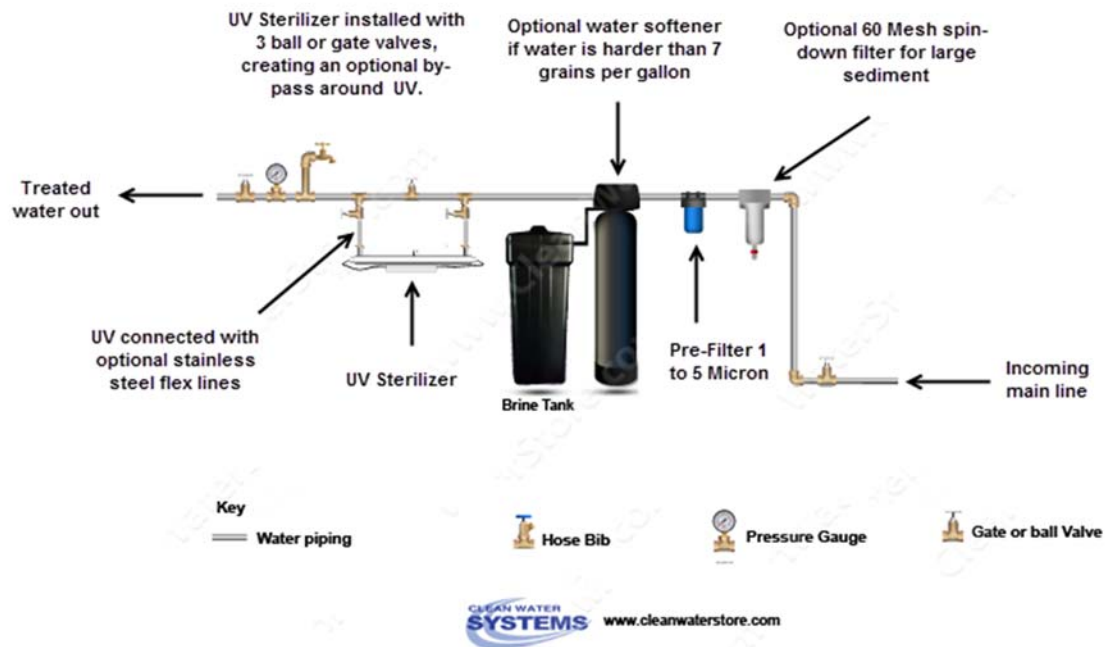
1. Note that for UV to be effective the water should be low:
  - a. Less than 7 grains per gallon of hardness, or less than 120 PPM)
  - b. Free of color and crystal clear.
  - c. Iron should be less than 0.3 mg/L.
  - d. Manganese should be less than 0.05 mg/L
  - e. pH range should be 6.5 to 9.5
2. If you are going to be turning off the water to the house and you have an electric water heater, shut off the power to the water heater before beginning installation in case water heater is accidentally drained.
3. Pick a suitable location for your UV Sterilizer. It is best to mount on a wall, where you can be sure to remove one end of the UV with enough space to completely remove and install the UV lamp (bulb). Choose a location where it won't be exposed to freezing temperatures. A minimum of 10 PSI is required. Maximum pressure is 100 PSI.
4. Get all of your plumbing parts together before beginning installation. Installation typically takes 1 to 4 hours. Review your packing list and make sure you have received all the parts before beginning installation.

## Best Practices for Piping & Drain Installation

1. See typical installation on page 2, Figure 1
2. Install UV with stainless steel flexible lines, or use a pipe union so UV can be easily removed later if needed.
3. If you will be using copper piping, do not sweat the copper pipe directly on the UV.
4. If you are going to be using PVC pipe, do not connect PVC fittings direct to UV sterilizer, as the UV rays can degrade the PVC pipe. Use a stainless steel line to isolate the PVC from the UV sterilizer is the best practice.
5. Install a series of 3 ball valves to create a by-pass around the UV as shown in Figure 1 if desired.
6. Install a 5 micron pre-filter prior to UV sterilizer (optional) to remove very fine particles that might block the transmission of UV rays into the water.

**Fig 1**

## Typical Ultraviolet Sterilizer Flow Diagram



## Installation:

1. Install UV sterilizer in piping.
2. Add ½ to 1 cup of bleach to pre-filter to UV, or shock well or add directly to piping if possible.
3. Flush piping in home after UV with chlorinated water to sanitize pipes in the home.
4. For badly contaminated piping or piping with sediment or scale, this procedure may need to be repeated to kill all bacteria after UV upon start-up.
5. Turn on UV lamp and note GREEN light on ballast. This means the UV lamp ('lamp' is what the UV light bulb is often referred to) is operating normal, and water flowing through UV is sterilized.

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6. If ballast RED light is lit, this means the lamp is not operating.
7. NOTE: IF LAMP IS BURNED OUT, ALARM WILL SOUND AND RED LIGHT WILL BE LIT ON THE BALLAST.

### **Maintenance:**

Change UV lamp and clean quartz sleeve with a damp cloth once every 12 months.

When changing UV lamp, we recommend the household piping is sanitized with chlorine or hydrogen peroxide.

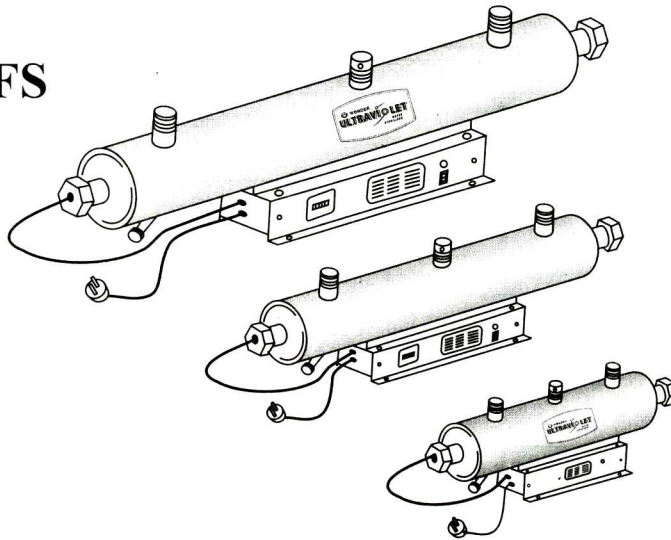
# ULTRAVIOLET

WATER  
STERILIZER

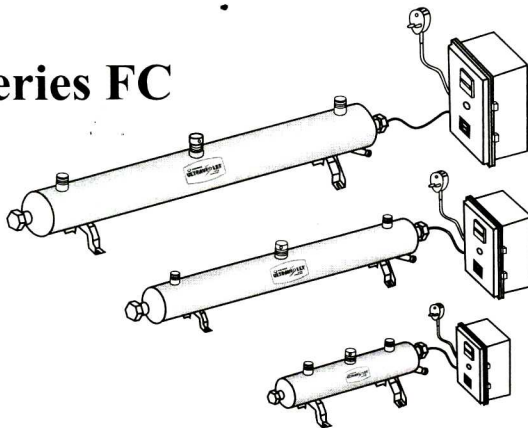


## ULTRAVIOLET WATER STERILIZER OPERATING INSTRUCTIONS

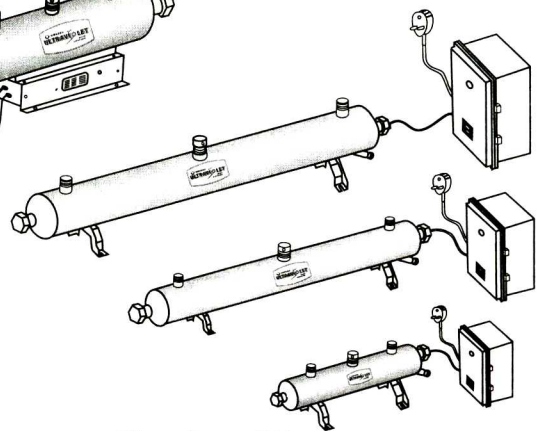
Series FS



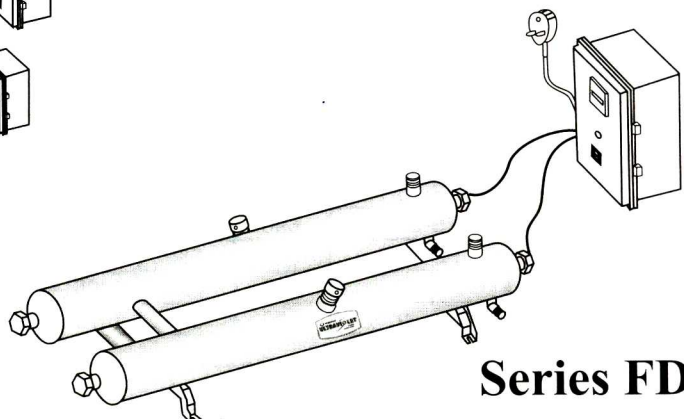
Series FC



Series F



Bulletin NO.1.0  
(J0105)

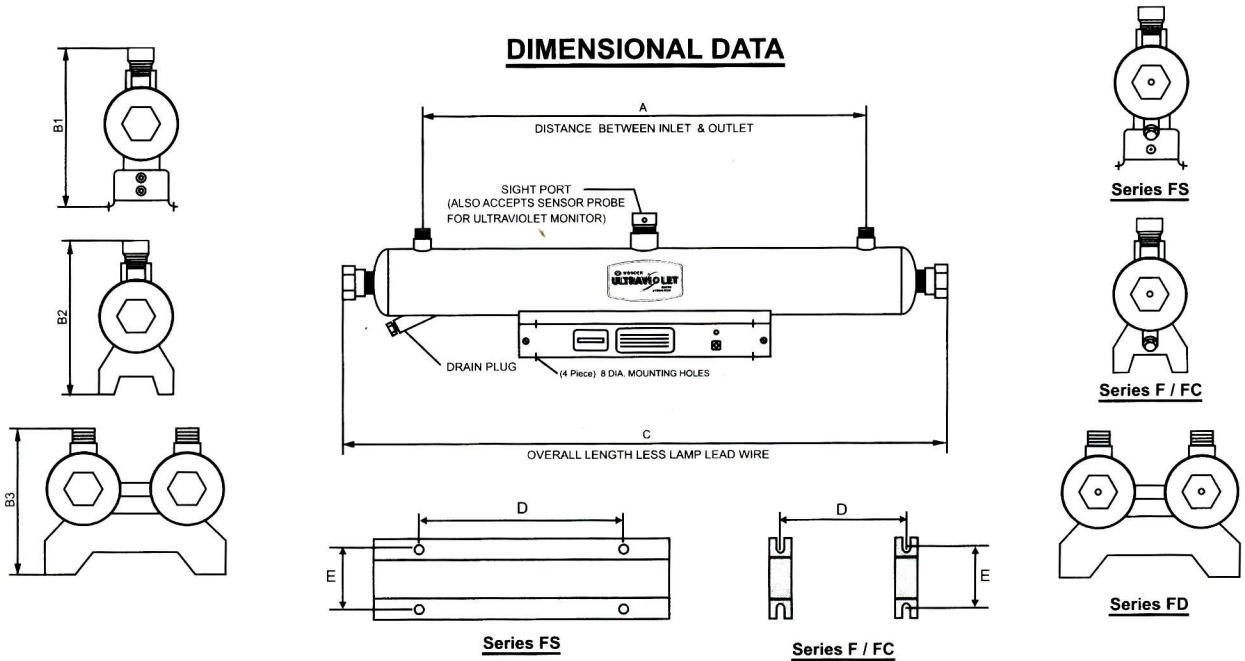


Series FD



# Ultraviolet Water Sterilizer

## DIMENSIONAL DATA



SIZE:mm

MODEL	MODEL	A	B	C	D	E	INLET & OUTLET SIZE	LAMP NO.
F-2	FC-2	220	198	400	145	115	1/2" MALE PIPE THREAD	T514
F-3	FC-3	220	198	400	145	115	1/2" MALE PIPE THREAD	T515
F-6	FC-6	358	198	530	250	115	3/4" MALE PIPE THREAD	T521
F-8	FC-8	500	198	680	350	115	3/4" MALE PIPE THREAD	T529
F-12	FC-12	690	230	910	455	125	1" MALE PIPE THREAD	T540
F-15	FC-15	690	230	910	455	125	1" MALE PIPE THREAD	T565
F-20	FC-20	690	267	910	500	165	1 1/2" MALE PIPE THREAD	T565
F-24	FC-24	690	267	910	500	165	1 1/2" MALE PIPE THREAD	T680
F-35	FC-35	983	267	1205	600	165	1 1/2" MALE PIPE THREAD	T6100
F-45	FC-45	983	267	1205	600	165	1 1/2" MALE PIPE THREAD	T6120
F-70	FC-70	1380	290	1630	1000	200	3" MALE PIPE THREAD	T5150 / T5200

FS-2	220	209	400	140	105	1/2" MALE PIPE THREAD	T514
FS-3	220	209	400	140	105	1/2" MALE PIPE THREAD	T515
FS-6	358	220	530	265	110	3/4" MALE PIPE THREAD	T521
FS-8	500	226	680	340	110	3/4" MALE PIPE THREAD	T529
FS-12	690	256	910	450	110	1" MALE PIPE THREAD	T540
FS-15	690	256	910	450	110	1" MALE PIPE THREAD	T565
FS-20	690	285	910	455	110	1 1/2" MALE PIPE THREAD	T565
FS-24	690	285	910	455	110	1 1/2" MALE PIPE THREAD	T680
FS-35	960	285	1205	470	115	2" MALE PIPE THREAD	T6100
FS-45	960	285	1205	470	115	2" MALE PIPE THREAD	T6120
FS-70	1280	375	1630	700	165	3" MALE PIPE THREAD	T5150 / T5200

FD-90D	309	395	1205	2"	FLANGE	T6120
FD-135D	309	415	1630	3 1/2"	FLANGE	T5150 / T5200

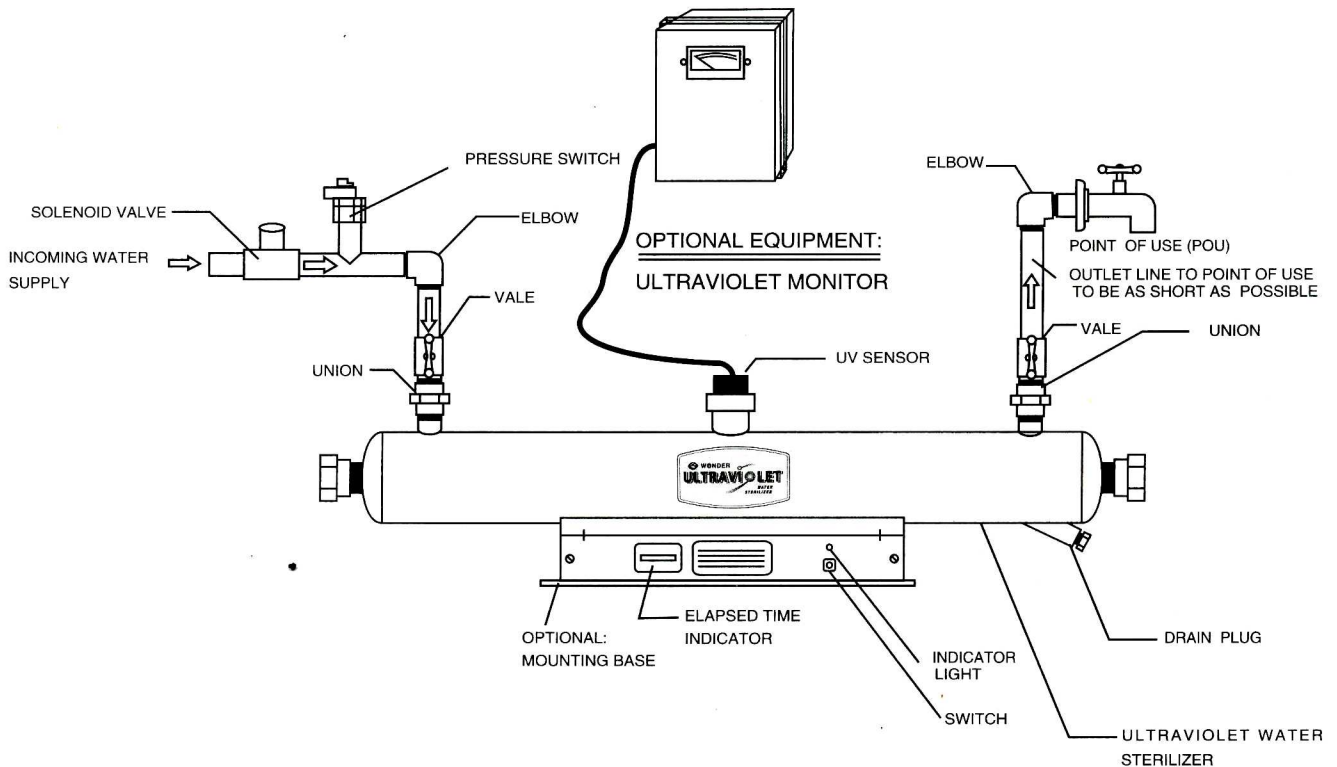




# Ultraviolet Water Sterilizer

## RECOMMENDED INSTALLATION

Please read all the notes. Each ultraviolet water sterilizer has been tested prior to packaging as to meet prescribed specifications and safety standards.



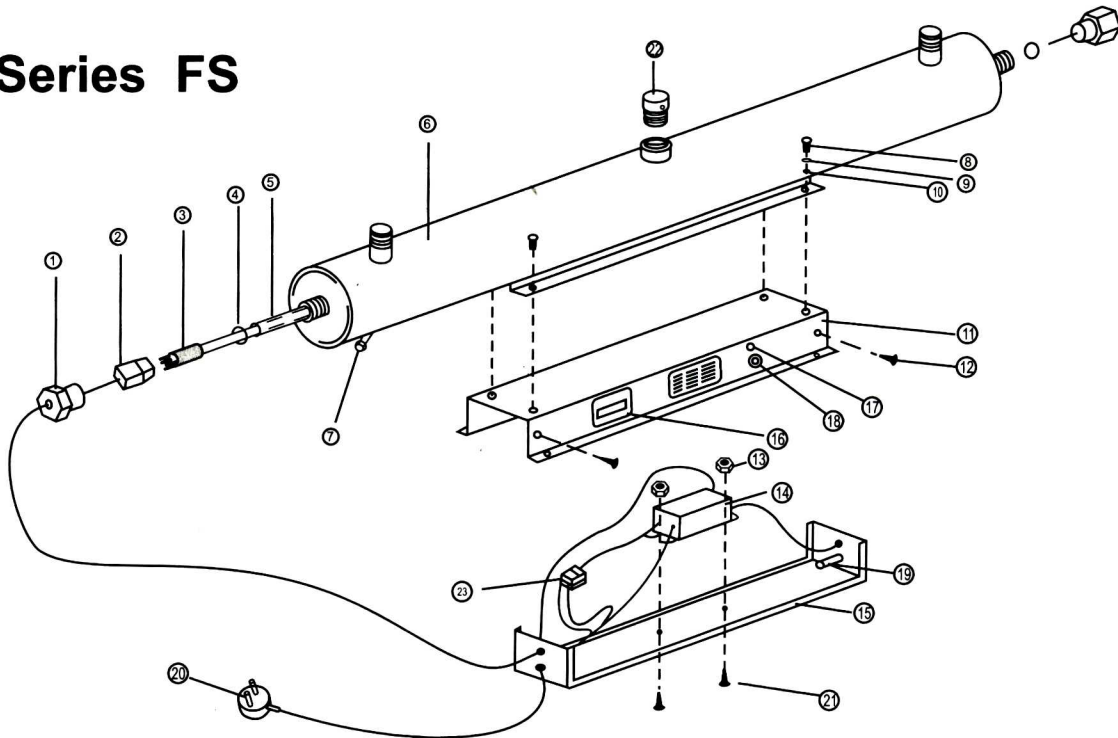
### **NOTES:**

1. INSTALL STERILIZER IN A READILY ACCESSIBLE AND WELL LIT LOCATION TO FACILITATE INSPECTION AND MAINTENANCE.
2. DO NOT ALLOW WATER STERILIZER TO FREEZE.
3. MAXIMUM RECOMMENDED AMBIENT TEMPERATURE: 90°F
4. LINE CORD AND LAMP LEAD WIRE OMITTED FOR CLARITY.
5. SUGGESTED SOLENOID VALVE REQUIRES A MINIMUM OF 5 P.S.I. IN ORDER TO FUNCTION CORRECTLY.
6. MAXIMUM RECOMMENDED OPERATING PRESSURE IS 100PSI.
7. 230V/50Hz UNITS ARE STANDARD



# Ultraviolet Water Sterilizer

## Series FS



ITEM	DESCRIPTION	SERIES F QTY	SERIES FC QTY	SERIES FS QTY	SERIES FD QTY
1	STAINLESS STEEL NUT	2	2	2	4
2	LAMP SOCKET & LEAD WIRE	1	1	1	2
3	GERMICIDAL ULTRAVIOLET LAMP	1	1	1	2
4	O-RING	2	2	2	4
5	QUARTZ SLEEVE	1	1	1	2
6	CHAMBER	1	1	1	2
7	DRAIN PLUG	1	1	1	2
8	SCREW	-	-	4	-
9	LOCK WASHER	-	-	4	-
10	FLAT WASHER	-	-	4	-
11	BALLAST HOUSING COVER	-	-	1	-
12	BALLAST HOUSING SCREW	-	-	4	-
13	BALLAST NUT	-	-	2	-
14	BALLAST	1	1	1	2
15	BALLAST HOUSING	-	-	1	-
16	ELAPSED TIME INDICATOR	-	1	1	1
17	INDICATOR LIGHT	-	1	1	2
18	SWITCH	-	1	1	1
19	FUSE	-	-	1	1
20	POWER SUPPLY	-	1	1	1
21	BALLAST SCREW	-	-	2	-
22	SIGHT PORT PLUG	1	1	1	2
23	AUDIO ALARM	1	1	1	2

Series F  
Series FC  
Series FS  
Series FD  
ULTRAVIOLET  
WATER STERILIZER  
ASSEMBLY

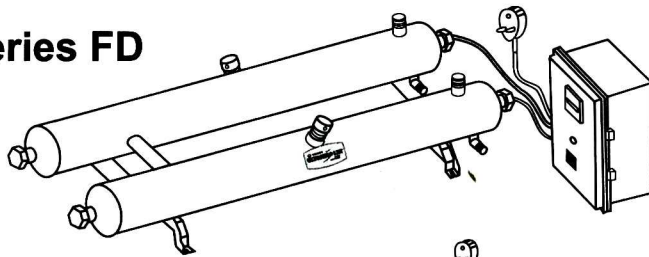
Date: Jan 01, 2005



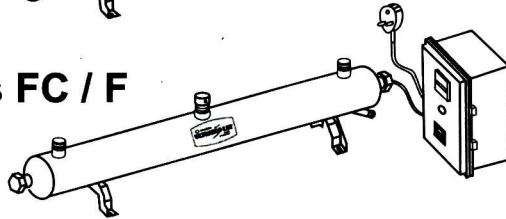


# Ultraviolet Water Sterilizer

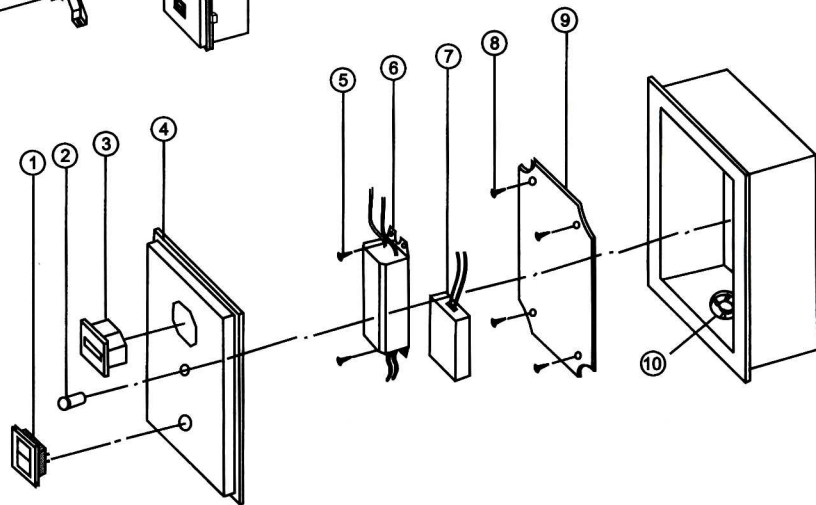
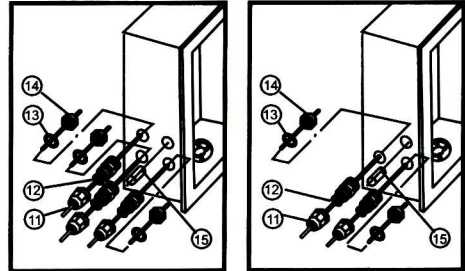
**Series FD**



**Series FC / F**



**For Series FD For Series FC / F**



ITEM	DESCRIPTION	SERIES F QTY	SERIES FC QTY	SERIES FD QTY
1	SWITCH	1	1	1
2	INDICATOR LIGHT	1	1	2
3	ELAPSED TIME INDICATOR	-	1	1
4	STERILIZER CONTROLLER BOX	1	1	1
5	SCREW	4	4	8
6	BALLAST	1	1	2
7	AUDIO ALARM (OPTION)	1	1	2
8	SCREW	4	4	4
9	MOUNTING PLATE	1	1	1
10	VENTILATING FAN (OPTION)	-	1	1
11	WATER PROOF STRAINER	2	2	4
12	WATER PROOF STRAINER	2	2	4
13	PAD	2	2	4
14	PLASTIC NUT	2	2	4
15	FUSE	1	1	1

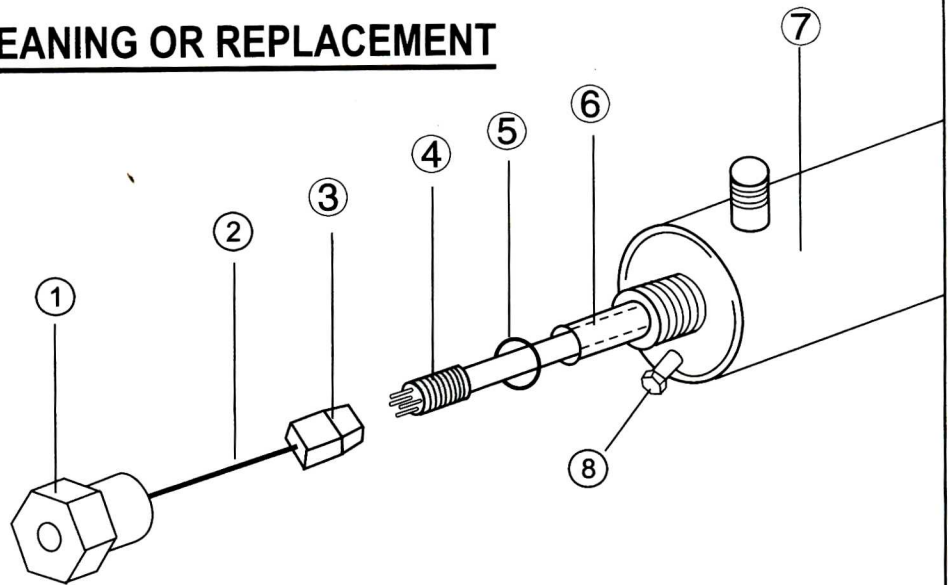
Series F  
Series FC  
Series FD  
CONTROLLER BOX  
ASSEMBLY

Date: Jan 01, 2005



# Ultraviolet Water Sterilizer

## QUARTZ SLEEVE CLEANING OR REPLACEMENT



**WARNING:** GERMICIDAL ULTRAVIOLET RAYS  
ARE HARMFUL TO EYES & SKIN.

1. UNSCREW THE NUT (1) AND DISCONNECT THE SOCKET(3) FROM THE PIN HEAD OF LAMP.
2. CAREFULLY WITHDRAW LAMP(4) APPROXIMATELY 2 INCHES FROM CHAMBER(9). WHILE FEEDING LAMP SOCKET & LEAD WIRE (3) ON OPPOSITE END OF CHAMBER.
3. WHILE HOLDING LAMP END (4).CAREFULLY REMOVE LAMP SOCKET (3) ON END NOW EXPOSED.
4. NEXT,CAREFULLY WITHDRAW LAMP(4) APPROXIMATELY 2 INCHES ON OPPOSITE END, HOLD LAMP END & REMOVE LAMP SOCKET(3).
5. LAMP SHOULD NOW BE FREE ON BOTH ENDS,CAREFULLY WITHDRAW LAMP(4) FROM CHAMER (7), BE SURE TO WITHDRAW LAMP STRAIGHT OUT WITHOUT ANGLING UNTIL COMPLETELY CLEAR OFF QUARTZ SLEEVE(6).
6. CAREFULLY REMOVE O-RING(5) FROM BOTH END OF QUARTZ SLEEVE(6).
7. CAREFULLY REMOVE QUARTZ SLEEVE (6) FROM CHAMBER (7).NOTE:IT IS ADVISABLE TO SUPPORT THE QUARTZ SLEEVE ON THE BACK SIDE WITH YOUR FINGER SO THAT IT DOES NOT DROP TO THE BOTTOM OF THE CHAMBER WHEN IT SLIDES PAST THE CHAMBER END, ONCE THE QUARTZ SLEEVE IS REMOVED,CLEAN WITH ALCOHOL OR A DETERGENT.
8. REASSEMBLE IN REVERSE ORDER BE SURE O-RINGS(5) ARE PLACES ON QUARTZ SLEEVE(6).
9. DO NOT OVERTIGHTEN STAINLESS STEEL NUT ON CHAMBER,TIGHTEN BY HAND ONLY !!! OVERTIGHTENING WILL CAUSE QUARTZ SLEEVE TO BREAK.



# Ultraviolet Water Sterilizer

## MAINTENANCE SUGGESTION

To operate the sterilizer properly and attain its maximum efficiency that the user needs to do some maintenance jobs as below:

**I. Quartz sleeve cleaning or replacement:**

- quartz sleeve is to be cleaned every 3-6 months, clean with alcohol or a detergent.
- Quartz sleeve is to be replaced every 24 months.

**II. O-RING** is to be replaced every 9-12 months.

**III.** The germicidal ultraviolet lamp replacement is recommended every 8,000-9,000 hours of operation ( Approximately 12 months of continuous service ).

**Note:** All the users need to change the lamp periodically because the efficiency of its germicidal radiation dosage will elapses after the operation of 8,000 hours or over although the lamp still can fluoresce in this time.

### IMPORTANT NOTE

**Make sure that all items have been removed from the shipping carton before it is discarded.**





## 2 YEARS OF GUARANTEE

We guarantee that this equipment will be free from defects in material and workmanship for a period of two years from the date of shipment. Within the guarantee period we shall repair or replace such products which are returned to us and which are determined by us to be defective. This guarantee will not apply to any product which has been misused negligently, or deconstructed accidentally, or modified, and repaired by unauthorized persons.

Buyer shall examine the product promptly after receipt and shall notify us at our agent in writing of claims, such as claims of breach of warranty, within one week after the buyer discovers. The default which the claim is based, Failure of the buyer is submission any written notice of a claim within one week that it shall to be a waiver of the claim.

**ONE YEAR GUARANTEE FOR UV LAMP, ONE YEAR GUARANTEE ONLY FOR ITS EFFICIENT RADIATION DOSAGE OF UV LAMP.**

PLEASE TYPE OR PRINT IN INK

(1) CUSTOMER : \_\_\_\_\_

CONTACT PERSON : \_\_\_\_\_

DATE OF PURCHASE : \_\_\_\_\_

MODEL : \_\_\_\_\_ SERIAL NO. : \_\_\_\_\_

ADD : \_\_\_\_\_

COUNTRY : \_\_\_\_\_ POST CODE : \_\_\_\_\_

TEL : \_\_\_\_\_ FAX : \_\_\_\_\_

(2) PROCUREMENT FROM : \_\_\_\_\_

ADD : \_\_\_\_\_

COUNTRY : \_\_\_\_\_ POST CODE : \_\_\_\_\_

TEL : \_\_\_\_\_ FAX : \_\_\_\_\_

**IMPORTANT:** PLEASE FILL OUT AND RETURN IN ORDER TO ACTIVATE GUARANTEE WITHIN TWO WEEKS AFTER RECEIPT OF THE GOODS.