

GERMICIDAL ULTRAVIOLET WATER PURIFIERS



Model S2400C  
40 GPM



SINCE 1963  
**ATLANTIC**  
**ULTRAVIOLET**  
CORPORATION®

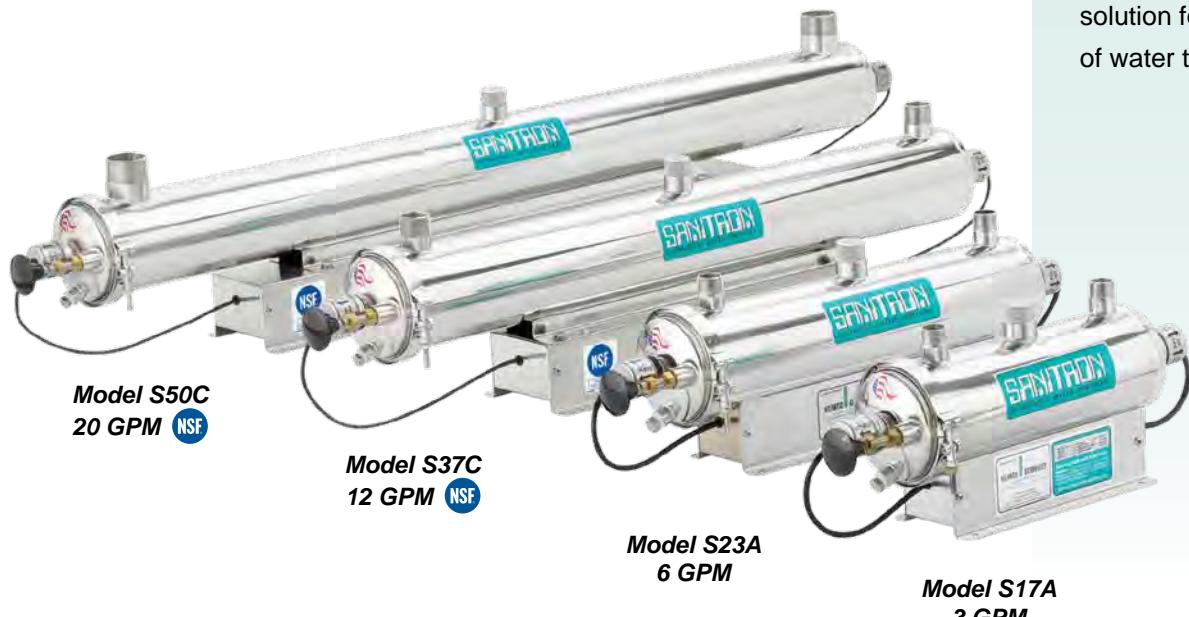


Certified to  
NSF/ANSI/CAN 61  
& NSF/ANSI 372

Models S37C, S50C, and  
S2400C. Model S2400C  
is used in modular form  
to build larger models.



**Since 1963**, we've been engineering and manufacturing germicidal ultraviolet equipment to prevent disease caused by contaminants in water, in air, and on surfaces. Our engineers bring each concept to a finished model, implementing stringent quality control procedures. Each product is manufactured with stainless steel and the highest quality materials to ensure the safety of personnel and room occupants. We stock an extensive inventory in our 37,500 square foot facility and ship throughout the world. Our knowledgeable team of UV-C specialists will provide effective and cost-conscious solutions for your home, business, industry, or institution.



(For larger flow rates, see page 9.)

## GERMICIDAL ULTRAVIOLET

Germicidal Ultraviolet water purification is a unique and rapid method of water disinfection without the use of heat or chemicals.

**SANITRON®** Germicidal Ultraviolet Water Purifiers utilize germicidal ultraviolet lamps producing ultraviolet wavelengths at 254 nanometers (nm)—a level that is lethal to bacteria, virus, and other microorganisms present in water.

Through the years, ultraviolet technology has become well established as a method of choice for effective and economical water disinfection.

**SANITRON®** Germicidal Ultraviolet Water Purifiers are the ideal solution for an ever growing range of water treatment applications.

 Certified to  
NSF/ANSI/CAN 61 and  
NSF/ANSI 372

# PRINCIPLE OF OPERATION

## ADVANTAGES

### Effective

Virtually all microorganisms are susceptible to **SANITRON®** ultraviolet disinfection.

### Economical

Hundreds of gallons are purified for each penny of operating cost.

### Safe

No danger of overdosing, no addition of chemicals.

### Fast

Water is ready for use as soon as it leaves the purifier—no further contact time required.

### Easy

Simple installation and maintenance. Compact models require minimum space.

### Automatic

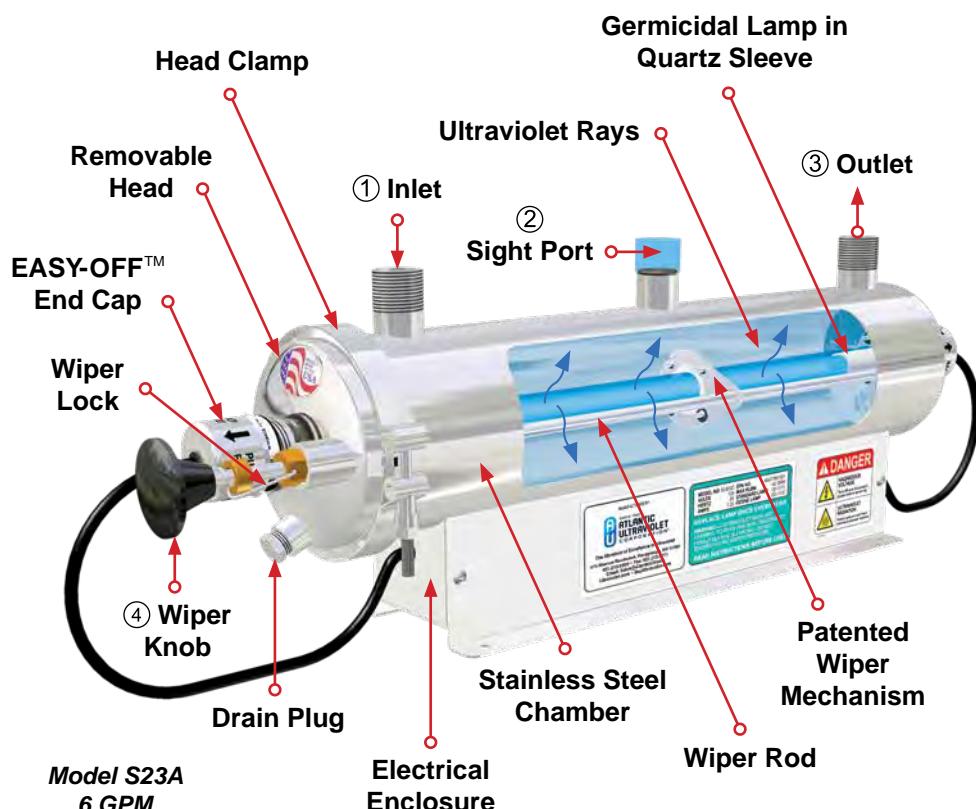
Provides continuous disinfection without special attention or measurement.

### Chemical Free

No chlorine taste or corrosion problems.

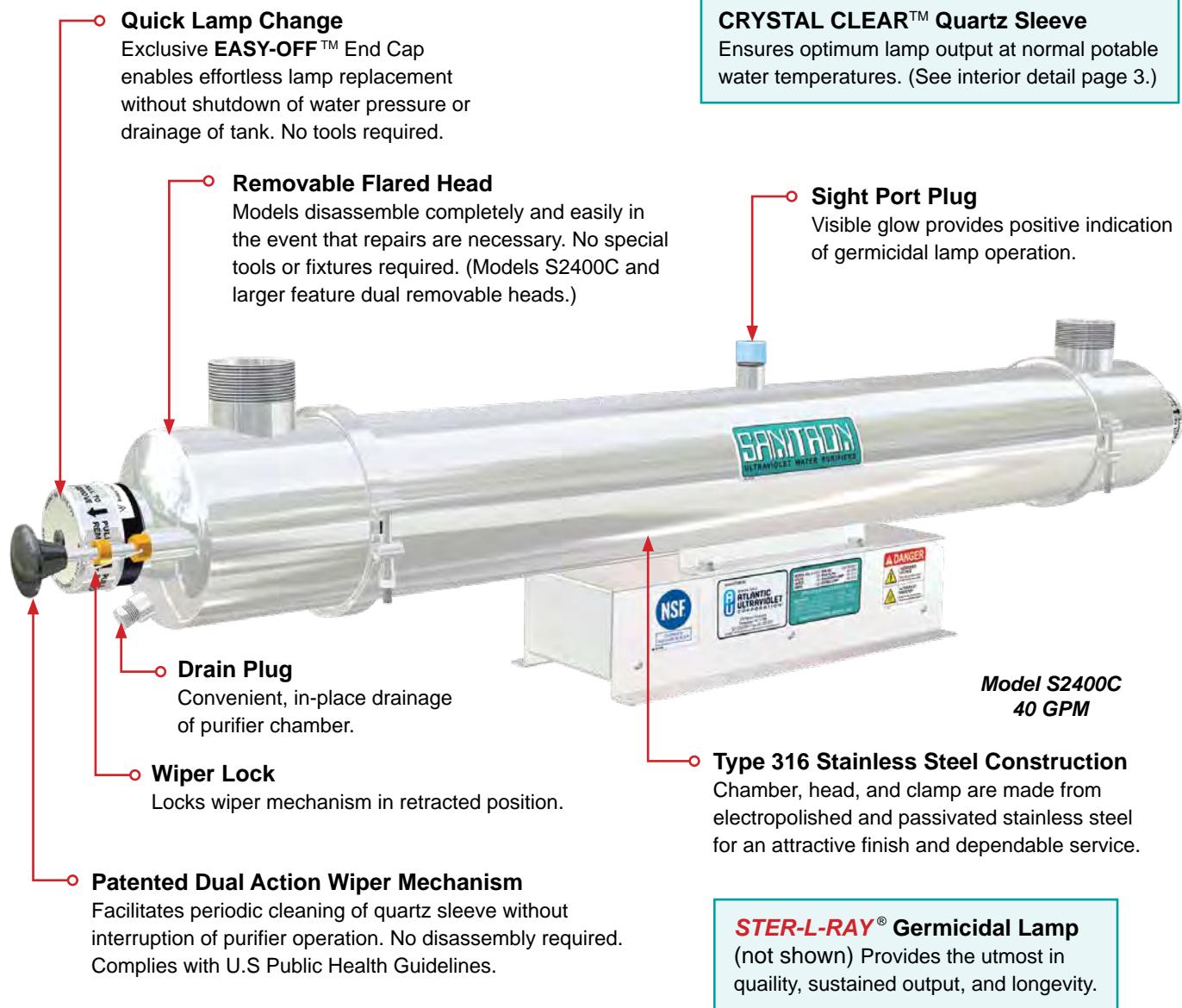
### Versatile

Capacities available from 3 to 416 gallons per minute (GPM).



- ① The water enters the purifier and flows into the annular space between the quartz sleeve and the chamber wall.
- ② Translucent sight port provides positive indication of germicidal lamp operation.
- ③ Water leaving the purifier is instantly ready for use.
- ④ The wiper assembly facilitates periodic cleaning of the quartz sleeve without any disassembly or interruption of purifier operation.

## SPECIAL FEATURES



## INSTALLATION & MAINTENANCE

The purifier is installed horizontally as close as possible to the point of use. Connection of the inlet and outlet to water supply and insertion of power plug into 3-wire GFCI grounded outlet is all that is required.

Ordinary maintenance consists of cleaning the quartz sleeve with the manual wiper once monthly or more frequently where conditions dictate. Lamp replacement is recommended every 10,000 hours of operation (approximately 12 months of continuous service).

## OPTIONAL ACCESSORIES

### Promate™ Audio Alarm

Activated by the **SENTRY™** or **GUARDIAN™** and alerts user to any malfunction detected



### Promate™

### Elapsed Time Indicator

Real-time, non-resettable display of accumulated operating hours



### Promate™ Solenoid Valve

Operates with the **GUARDIAN™** or **SENTRY™** and prevents flow during detected malfunctions



### SureFLO™ Flow Control Valve

- Limits water flow to rated capacities
- Available in PVC and stainless steel



### Promate™ Wall Mounting Kit

- Stainless steel material provides professional finish
- Pre-drilled and ready for quick and easy mounting of water purifier
- Optimizes free air circulation to cool ballast housing



### QUANTUM™ Thermal Optimizer

Used to help regulate the water temperature inside the purifier's chamber



### Promate™ Safety Glasses

Safety eyewear should be used as general-purpose safety protection and for additional shielding from germicidal ultraviolet rays.



### Promate™ Face Shield

Lightweight visor with adjustable headgear provides eye and face protection from germicidal ultraviolet rays.



## MONITORING OPTIONS

The **GUARDIAN™** Germicidal Ultraviolet Monitors are available in two models: Digital and Digital Remote, and can either be purchased and installed with a UV water purifier, or at a later date for an existing installation.

The **GUARDIAN™** Germicidal Ultraviolet Monitor visually indicates the level of germicidal ultraviolet energy that penetrates the quartz sleeve and water within the water purifier. The use of an ultraviolet monitor is recommended by the United States Public Health Service in "Criteria for the Acceptability of an Ultraviolet Disinfection Unit."

**GUARDIAN™** Germicidal Ultraviolet Monitors will detect reduction of ultraviolet levels due to:

- Fouling or deposits on the quartz sleeve.
- Poor ultraviolet transmission through the water. Color, turbidity, and organic or other impurities in the water can reduce or interfere with the transmission of ultraviolet rays.
- Lamp outage or ballast failure.
- Depreciation of the lamp output due to usage or other cause. Lamp output gradually depreciates with use. Lamp replacement is recommended once a year or every 10,000 hours.

All **GUARDIAN™** Germicidal Ultraviolet Monitors provide outputs to control the operation of an optional **Promate™** Solenoid Valve and/or optional **Promate™** Remote Audio Alarm.

**GUARDIAN™** Digital Germicidal Ultraviolet Monitors include switch settings that control an internal audio alarm and the Solenoid Output. There are 4 settings; two of the settings have 2-Minute time delays of power to the Solenoid Output.



**Digital:** Direct Mount **GUARDIAN™** Germicidal UV Monitor is available in two Low-Voltage Models: a 12v Model, and a 110/220v Model which uses a multi-plug configuration 12v adapter to operate. This model also provides several outputs from an RJ45 modular jack for remote monitoring of the water purifier's operation:

- 4–20mA Output: Provides current for remote display of ultraviolet intensity.
- Dry Contacts: Provide contacts for remote indication of ultraviolet trip levels.
- 12v DC Output: Provides power for a low-voltage external audio alarm.



**Digital Remote:** Remote Mount **GUARDIAN™** Germicidal UV Monitor is intended for use in locations away from the water purifier it is monitoring. In all other respects, the remote monitor operates in the same manner as the standard Digital **GUARDIAN™** Ultraviolet Monitor.



**GUARDIAN™ ASSIST Germicidal Ultraviolet Monitor Extension:** Designed to remotely indicate the intensity level displayed on the **GUARDIAN™** Germicidal Ultraviolet Monitor.

The **STERALERT™** Lamp Status Alarm monitors visible light emitted through the sight port plug of the water purifier and activates an audible alarm when visible light fails.

- Easy installation, no tools required
- Mounts on the sight port plug
- Operates on a 9v battery
- Monitors the visible light emitted by the ultraviolet lamp (does not monitor the ultraviolet intensity)
- Warns of lamp or power failure
- Produces a high frequency tone, pulsed at two to three cycles per second
- Available with Dry Contact for connection to PLC
- Optional Remote Sounder available
- Optional 120v 60Hz Power Adapter available



The **SENTRY™** Safety Sensor provides constant monitoring of the water purifier's ballast and germicidal lamp operation to give an indication of ballast and germicidal lamp status. The **SENTRY™** Safety Sensor is capable of operating an optional **Promate™** Audio Alarm and/or **Promate™** Solenoid Valve.

- Easy installation – Plug **SENTRY™** into an electrical outlet, and then plug water purifier into **SENTRY™**
- Operates optional **Promate™** Solenoid Valve and/or **Promate™** Audio Alarm
- Warns of lamp failure and is easily adaptable for use with other water purifier brands
- Available for 120v 50/60Hz and 220v 50/60Hz water purifiers operating with electronic ballasts



Options may either be obtained when purchase of **SANITRON®** model is made, or added at a later date. For further details, visit [AtlanticUltraviolet.com](http://AtlanticUltraviolet.com).



# GERMICIDAL ULTRAVIOLET DOSAGE

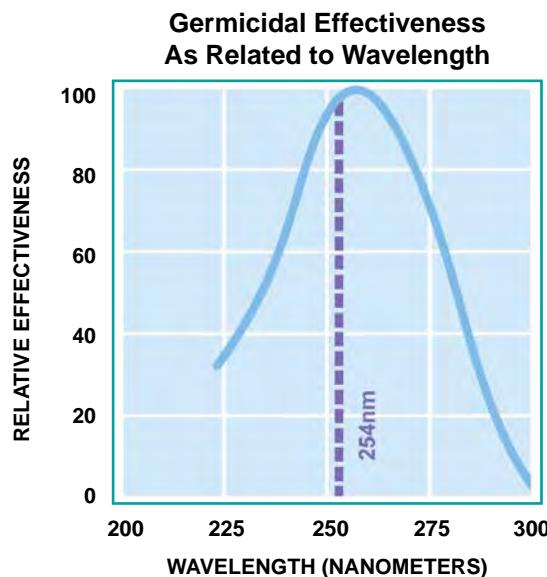
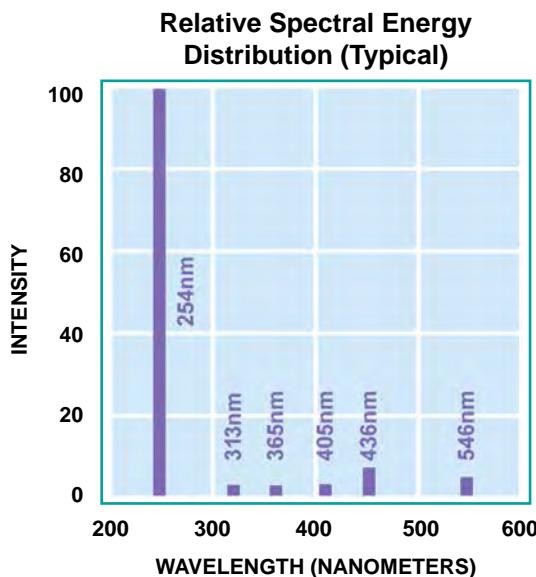
Germicidal lamps provide effective protection against microorganisms. A small cross-section is shown below.

ORGANISM	ALTERNATE NAME	TYPE	DISEASE	DOSE*
<i>Bacillus subtilis</i> spores	<i>B. subtilis</i>	Bacterium		22.0
Bacteriophage	Phage	Virus		6.60
Coxsackie A2		Virus	Intestinal Infection	6.30
<i>Shigella dysenteriae</i>		Bacterium	Bacterial Dysentery	4.20
<i>Escherichia coli</i>	<i>E. coli</i>	Bacterium	Food Poisoning	6.60
<i>Fecal coliform</i>		Bacterium	Intestinal Infection	6.60
Hepatitis A	Infectious Hepatitis virus	Virus	Hepatitis of the Liver	8.0
Influenza	Flu virus	Virus	Influenza	3.40
<i>Legionella pneumophila</i>		Bacterium	Legionnaires' Disease	12.30
<i>Salmonella typhi</i>		Bacterium	Typhoid Fever	7.0
<i>Staphylococcus aureus</i>	Staph	Bacterium	Food Poisoning, Toxic Shock Syndrome, etc.	6.60
<i>Streptococcus pyogenes</i>	Strep	Bacterium	Strep Throat	.80

When used as directed to disinfect clear water, **SANITRON**<sup>®</sup> Water Purifiers provide a UV dose in excess of 30.0 millijoules per square centimeter (mJ/cm<sup>2</sup>).

\* Nominal Ultraviolet dosage (mJ/cm<sup>2</sup>) necessary to inactivate better than 99% of specific microorganism. Visit [Ultraviolet.com/microorganisms-inactivated](http://Ultraviolet.com/microorganisms-inactivated) for complete listing.

## OPERATING CHARACTERISTICS



Approximately 95% of the ultraviolet energy emitted from **STER-L-RAY**<sup>®</sup> germicidal lamps is at 254 nanometers, the region of germicidal effectiveness most destructive to bacteria, mold and viruses.

# GENUINE **STER-L-RAY®** GERMICIDAL ULTRAVIOLET LAMPS

**STER-L-RAY®** Germicidal Ultraviolet Lamps are shortwave, low pressure tubes that produce ultraviolet wavelengths lethal to microorganisms.

**STER-L-RAY®** Germicidal Ultraviolet Lamps are well suited to applications requiring high ultraviolet intensity such as water purification.

**STER-L-RAY®** Instant Start Germicidal Ultraviolet Lamps are instant starting and utilize a coil filament on each end which operates hot. Lamp life is governed by the life of the electrodes and is affected by the frequency of starting.

**STER-L-RAY®** Preheat Germicidal Ultraviolet Lamps are operated by a preheat-start circuit that employs an economical ballast. The preheat circuit requires four electrical connections per lamp and a slight to moderate delay is needed to start the lamp.

**STER-L-RAY®** GX Germicidal Ultraviolet Lamps yield up to 2/3 more ultraviolet output than standard lamps of the same length.

**STER-L-RAY®** and the **STER-L-RAY®** logo are trademarks of Atlantic Ultraviolet Corporation®.

**CAUTION:** Exposure to direct or reflected germicidal ultraviolet rays will cause painful eye irritation and reddening of the skin. Persons subject to such exposure must wear suitable face shield, gloves and protective clothing.

Hg - LAMP CONTAINS MERCURY, manage in accord with disposal laws, see: [LampRecycle.org](http://LampRecycle.org).



## GERMICIDAL LAMP DATA

Lamp Number	Purifier Model No.	Nominal Lamp Length	Power Consumption ①	Ultraviolet Output ②	Rated Effective Life
05-1098-R	S17A	11-7/8" (302 mm)	14 Watts	4.0 Watts	10,000 Hrs
05-1097-R	S23A	17-3/4" (451 mm)	21 Watts	7.3 Watts	10,000 Hrs
05-1343-R	S37C	33-7/8" (860 mm)	41 Watts	15.0 Watts	10,000 Hrs
05-1334-R	S50C	45-13/64" (1148 mm)	55 Watts	21.0 Watts	10,000 Hrs
05-1311-R ③	S2400C & Larger	46-1/4" (1175 mm)	110 Watts	48.0 Watts	10,000 Hrs

① Wattage is lamp watts only and does not include ballast loss (approximate).

② Maximum rated output at 254 nanometers.

③ Patented by Atlantic Ultraviolet Corporation®.

The lamps listed above have been especially developed and are recommended for use with **SANITRON®** Water Purifiers.

All **STER-L-RAY®** lamps used in **SANITRON®** models are low pressure type which afford the maximum efficiency in producing the required germicidal rays. In addition, has advantage of high efficiency and low power requirements.

## STANDARD MODELS



## WATER QUALITY RECOMMENDATIONS

### Maximum Concentration Levels Before Ultraviolet

Turbidity	5 NTU
Suspended Solids	10 mg/L
Color	None
Iron	0.3 mg/L
Manganese	0.05 mg/L
pH	6.5–9.5
Hardness	6 gpg

Effectively treating water with higher concentration levels than listed above can be accomplished, but may require added measures to improve water quality to treatable levels.

Model	Gallons Per Minute	Gallons Per Hour	Inlet and Outlet ①	Replacement Lamps	Power Consumption ②	Dimensions (Inches)			Shipping Data (lbs.)	
						Length	Width	Height	Gross Wt.	Net Wt.
S17A	3	180	3/4" (19mm) NPT	05-1098-R	18 Watts	17-3/8 (441 mm)	4-5/16 (110 mm)	8-3/16 (208 mm)	11	8
S23A	6	360	3/4" (19mm) NPT	05-1097-R	25 Watts	23-3/8 (594 mm)	4-5/16 (110 mm)	8-3/16 (208 mm)	13	12
NSF S37C	12	720	1" (25mm) NPT	05-1343-R	48 Watts	37-3/8 (949 mm)	5-11/16 (144 mm)	9-1/2 (241 mm)	25	25
NSF S50C	20	1,200	1-1/2" (38mm) NPT	05-1334-R	65 Watts	50-3/8 (1280 mm)	5-11/16 (144 mm)	9-1/2 (241 mm)	34	29
NSF S2400C	40	2,400	2" (51mm) NPT	05-1311-R	140 Watts	52-1/8 (1324 mm)	6-5/8 (168 mm)	11-1/8 (283 mm)	40	36

Note: When used as directed to disinfect clear water, **SANITRON®** Water Purifiers provide an ultraviolet dosage in excess of 30,000 microwatt seconds per square centimeter ( $\mu$ WSec/cm<sup>2</sup>).

① All inlets and outlets are male pipe threads.

② Total power consumption including ballast loss.

NSF Certified to NSF®/ANSI/CAN 61 & NSF®/ANSI 372

- Maximum recommended operating pressure for all purifiers is 100 psi.
- Pressure drop at maximum recommended flow rate is less than 5 psi.
- Flow rates are based on Maximum Concentration Levels.
- 120 Volt and 220 Volt models are standard.
- 12 and 24 Volt models are also available for S17A, S23A and S37C
- **SANITRON®** is available for operation on public power supplied throughout the world.
- Consult factory with specific power requirements.
- Model S2400C is available with alternate inlet/outlet fittings.

# COMMERCIAL & INDUSTRIAL

## Flexibility

System components are readily reconfigured to meet changing flow and process requirements.

## Independent Monitoring

Single lamp chamber design enables separate output monitoring of each ultraviolet lamp.

## Standby Capacity

Reserve chambers permit shutdown or replacement of individual components without interruption of service.

## Special Options

- Sanitary and custom fittings for system compatibility (use of sanitary fittings does not mean high-purity standards are met)
- Special configurations for TOC and ozone reduction

(For larger capacities please refer to our **MEGATRON®** Ultraviolet Water Disinfection catalog.)



**Model S5,000C**  
**83 GPM**

Shown with supplied Interconnect piping, optional **GUARDIAN™** Digital Ultraviolet Monitors, **Promate™** Solenoid Valve, **SureFLO™** Flow Control Valve and customer supplied piping, union and shut-off valve.

Model	Gallons Per Minute	Gallons Per Hour	Inlet and Outlet <sup>⑥</sup>	Replacement Lamps	Power Consumption <sup>⑦</sup>	Dimensions (Inches)			Shipping Data (lbs.)	
						Length	Width	Height	Gross Wt.	Net Wt.
S5,000C <sup>①</sup>	83	5,000	2" (51mm) NPT	05-1311-R (2)	280 Watts	52-1/8 (1324mm)	17 (432mm)	15 (381mm)	116	85
S10,000C <sup>②</sup>	166	10,000	2" (51mm) NPT	05-1311-R (4)	560 Watts	52-1/8 (1324mm)	21-1/8 (537mm)	34 $\frac{1}{4}$ (883mm)	267	188
S15,000C <sup>③</sup>	250	15,000	2" (51mm) NPT	05-1311-R (6)	840 Watts	52-1/8 (1324mm)	21-1/8 (537mm)	53 $\frac{1}{4}$ (1365mm)	400	263
S20,000C <sup>④</sup>	333	20,000	2" (51mm) NPT	05-1311-R (8)	1120 Watts	52-1/8 (1324mm)	21-1/8 (537mm)	71 $\frac{1}{4}$ (1822mm)	534	396
S25,000C <sup>⑤</sup>	416	25,000	2" (51mm) NPT	05-1311-R (10)	1400 Watts	52-1/8 (1324mm)	21-1/8 (537mm)	90 $\frac{1}{4}$ (2305mm)	670	520

Note: When used as directed to disinfect clear water, **SANITRON®** Water Purifiers provide an ultraviolet dosage in excess of 30,000 microwatt seconds per square centimeter ( $\mu$ WSec/cm<sup>2</sup>).

① Two S2400C's connected in series, 1 inlet and 1 outlet.

② Two S5,000C's connected in parallel, 2 inlets and 2 outlets.

③ Three S5,000C's connected in parallel, 3 inlets and 3 outlets.

④ Four S5,000C's connected in parallel, 4 inlets and 4 outlets.

⑤ Five S5,000C's connected in parallel, 5 inlets and 5 outlets.

⑥ All inlets and outlets are male pipe threads.

⑦ Total power consumption including ballast loss.

- Maximum recommended operating pressure for all purifiers is 100 psi.
- Pressure drop at maximum recommended flow rate is less than 5 psi.
- Flow rates are based on Maximum Concentration Levels, shown on page 8.
- 120 Volt and 220 Volt models are standard.
- **SANITRON®** is available for operation on public power supplied throughout the world.
- Consult factory with specific power requirements.
- Models S2400C through S25,000C are available with alternate inlet/outlet fittings.

 Our S2400C water purifiers are certified to NSF®/ANSI/CAN 61 & NSF®/ANSI 372. They are used in modular form to build each of the models shown above.

## COMMERCIAL & INDUSTRIAL

### **Model S10,000C — 166 GPM**

Shown with supplied interconnect piping, optional GUARDIAN™ Digital Ultraviolet Monitors, solenoid valves, flow control valves and customer supplied manifolds, piping, unions and shut-off valves.



#### **élan Water Filters**

These filters outperform conventional filters. Available for use with the SANITRON® S2400C and larger models.

*Call factory for more information.*

## APPLICATIONS

- Amusement / Water Parks
- Restaurants
- Resorts / Hotels / Motels
- Ships / Yachts / Boats
- City / Well Water
- Fountains / Lakes / Ponds
- Laundry
- Apartment Complex
- Swimming Pools
- Nursing Homes
- Schools
- Laboratories
- Hospitals / Veterinary Clinics
- RV Parks / Campgrounds
- Medical Facilities
- Laboratories
- Rainwater / Cisterns
- Burn Centers
- Water Vending
- Universities / Schools
- Cooling Tower
- Animal Husbandry / Farms / Ranches
- Fish Farms / Hatcheries
- Food / Dairy Processing
- Bottling Facilities
- Water / Beer / Wine / Juices / Soft Drinks
- Pharmaceutical Mfg.
- Electronic Production
- Cosmetic Production
- TOC Reduction
- Ozone Reduction
- Plus countless other facilities

# COMPARISON OF ATLANTIC ULTRAVIOLET UV-C WATER PURIFIERS

FEATURES [S] - Standard [O] - Optional [✓] - Yes	Bio-Logic® Pure Water Pack™ 1.5 GPM	MINIPURE® 1 to 9 GPM	Ultimate® 4 to 9 GPM	MIGHTY★PURE® 3 to 20 GPM	SANITRON® 3 to 416 GPM	MEGATRON® 90 to 450 GPM
Chamber Material (Stainless Steel Type)	316	304	304	316	316	316
<b>STER-L-RAY®</b> Germicidal Ultraviolet Lamp	S	S	S	S	S	S
<b>EASY-OFF™</b> End Cap	S	S	-	S	S	S
<b>CRYSTAL CLEAR™</b> Quartz Sleeve	S	S	S	S	S	S
Lamp Indicator Light(s)	S	S	-	-	-	S
Sight Port to View Lamp Operation	-	S	S	S	S	S
HMI Touchscreen	-	-	-	-	-	R Series Models
Drain Fitting	-	-	-	S	S	S
Dual Action Wiper Mechanism	-	-	-	-	Manual	Manual or Automatic
Suggested Mount Installation	Horizontal	Horizontal	Vertical	Horizontal	Horizontal	Horizontal
Removable or Rotatable Heads	S	-	-	-	S	S
Alternate Inlet/Outlet Fittings	-	-	-	-	O	O
Sediment and Carbon Filter	S	-	-	-	-	-
<b>Promate™</b> Mounting Kit / Bracket	S	S	S	O	O ①	-
<b>GUARDIAN™</b> Germicidal UV Monitor	-	-	-	O	O	S
<b>GUARDIAN™ ASSIST</b> UV Monitor Extension	-	-	-	O	O	-
<b>SENTRY™</b> Safety Sensor	O	O	-	O	O	-
<b>Promate™</b> Audio Alarm	S	S	S	O	O	-
<b>Promate™</b> Solenoid Valve	-	O ②	-	O	O	-
<b>SureFLO™</b> Flow Control Valve	O	O	S	O	O	-
<b>Promate™</b> Elapsed Time Indicator	O	O	-	O	O	S
<b>Promate™</b> Time Delay Mechanism	-	O	-	-	-	-
Residential Use	✓	✓	✓	✓	✓	-
Commercial Use	-	-	-	✓	✓	✓
Industrial Use	-	-	-	-	✓	✓
<b>NSF</b> Certified Models	-	-	-	-	✓ ③	-

① SANITRON® Model S10,000C through S25,000C come equipped with mounting rack.

② Available for MINIPURE® Models MIN-3, MIN-6, and MIN-9 only.

③ SANITRON® Models S37C, S50C, and S2400C are certified to NSF®/ANSI/CAN 61 & NSF®/ANSI 372. Model S2400C is used in modular form to build larger models.

• When used as directed to disinfect clear water, Atlantic Ultraviolet Corporation® water purifiers provide an ultraviolet dosage in excess of 30.0 millijoules per square centimeter (mJ/cm<sup>2</sup>).

• This list depicts options for 120v 50/60Hz operation. Consult factory for options with other power requirements.



SINCE 1963  
**ATLANTIC**  
ULTRAVIOLET  
CORPORATION®



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