MIGHTY★PURE®

GERMICIDAL ULTRAVIOLET WATER PURIFIERS

Model MP36C
12 GPM

SINCE 1963
ATLANTIC ULTRAVIOLET CORPORATION®

ABOUT US

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.

GERMICIDAL ULTRAVIOLET

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

MIGHTY★PURE® 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.

MIGHTY★PURE® Germicidal Ultraviolet Water Purifiers are the ideal solution for an ever growing range of water treatment applications.

(For larger capacities, please refer to our **SANITRON®** and **MEGATRON®** Ultraviolet Water Disinfection Catalogs)

Model MP49C
20 GPM

Model MP36C
12 GPM

Model MP22A
6 GPM

Model MP16A
3 GPM

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MADE IN THE USA
FROM U.S. & IMPORTED PARTS

PRINCIPLE OF OPERATION

ADVANTAGES

Effective
Virtually all microorganisms are susceptible to **MIGHTY★PURE®** ultraviolet disinfection.

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

Safe
No danger of overdosing, no addition of chemicals.

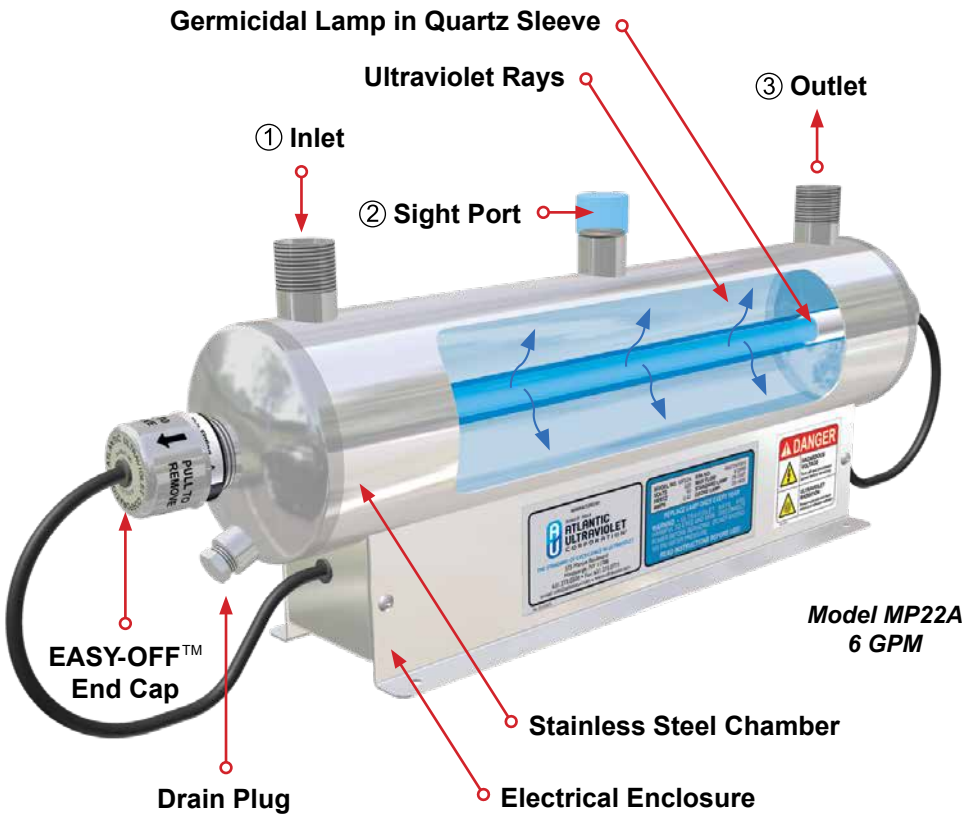
Fast
Water is ready for use as soon as it leaves the purifier—no further contact time required.

Easy
Simple installation and maintenance. Compact purifiers 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 20 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.

SPECIAL FEATURES

Sight Port Plug

Visible glow provides positive indication of germicidal lamp operation.

CRYSTAL CLEAR™ Quartz Sleeve
Ensures optimum lamp output at normal potable water temperatures. (See interior detail page 3.)

Quick Lamp Change

Exclusive **EASY-OFF™** End Cap enables effortless lamp replacement without shut down of water pressure or drainage of tank. No tools required.

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12 GPM

Type 316 Stainless Steel Construction

Stainless steel chamber is electropolished and passivated for an attractive finish and dependable service.

Drain Plug

Convenient, in-place drainage of purifier chamber.

STER-L-RAY® Germicidal Ultraviolet Lamp

Utilized in each **MIGHTY★PURE®** Water Purifier, providing the utmost in quaility, sustained output and longetivity (See interior detail on page 3).

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 grounded GFCI outlet is all that is required.

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

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MONITORING OPTIONS

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.

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 **MIGHTY★PURE®** model is made, or added at a later date. For further details, visit **AtlanticUltraviolet.com**.

GERMICIDAL ULTRAVIOLET DOSAGE

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

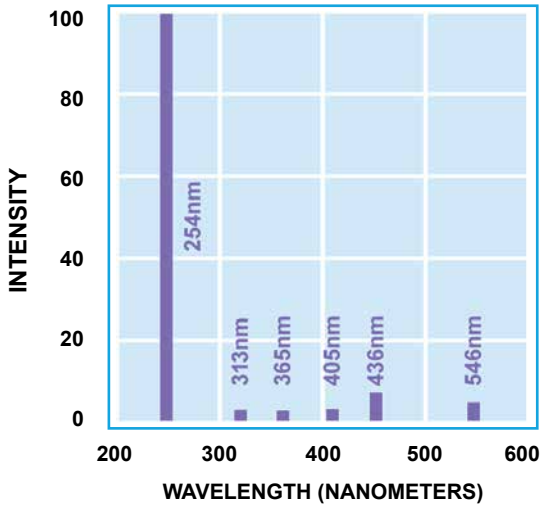
ORGANISM	ALTERNATE NAME	TYPE	DISEASE	DOSE*
Bacillus subtilis spores	*B. subtilis*	Bacterium		22.0
Bacteriophage	Phage	Virus		6.60
Coxsackie A2		Virus	Intestinal Infection	6.30
Shigella dysenteriae		Bacterium	Bacterial Dysentery	4.20
Escherichia coli	*E. coli*	Bacterium	Food Poisoning	6.60
Fecal coliform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

When used as directed to disinfect clear water, **MIGHTY★PURE®** Water Purifiers provide an ultraviolet dosage in excess of 30.0 millijoules per square centimeter (mJ/cm^2).

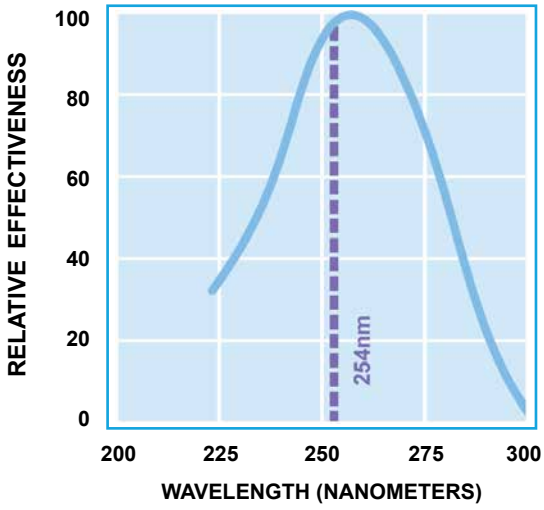
* Nominal Ultraviolet dosage (mJ/cm^2) necessary to inactivate better than 99% of specific microorganism. Visit Ultraviolet.com/microorganisms-inactivated for complete listing.

OPERATING CHARACTERISTICS

Relative Spectral Energy Distribution (Typical)



Germicidal Effectiveness As Related to Wavelength



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

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

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

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

STER-L-RAY® Instant Start Germicidal Lamps 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 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.

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.

GERMICIDAL LAMP DATA

Lamp Number	Purifier Model No.	Nominal Lamp Length	Power Consumption ①	Ultraviolet Output ②	Rated Effective Life
05-1098-R	MP16A	11-7/8" (302 mm)	14 Watts	4.0 Watts	10,000 Hrs.
05-1097-R	MP22A	17-3/4" (451 mm)	21 Watts	7.3 Watts	10,000 Hrs.
05-1343-R	MP36C	33-7/8" (860 mm)	41 Watts	15.0 Watts	10,000 Hrs.
05-1334-R	MP49C	45-13/64" (1148 mm)	55 Watts	21.0 Watts	10,000 Hrs.

① Wattage is lamp watts only and does not include ballast loss (approximate).
② Maximum rated output at 254 nanometers.

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

All ***STER-L-RAY***® lamps used in **MIGHTY★PURE**® purifiers 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

Model MP36C
12 GPM

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.
MP16A	3	180	3/4" NPT	05-1098-R	18 Watts	16-1/2	4-5/16	8-3/8	10	9
MP22A	6	360	3/4" NPT	05-1097-R	25 Watts	22-1/2	4-5/16	8-3/8	13	11
MP36C	12	720	1" NPT	05-1343-R	48 Watts	36-1/2	5-11/16	9-1/2	30	25
MP49C	20	1,200	1-1/2" NPT	05-1334-R	65 Watts	49-1/2	5-11/16	9-1/2	34	29

① All inlets and outlets are male pipe threads.

② Total power consumption including ballast loss (approximate).

- Maximum recommended operating pressure for all purifiers is 100 psi
- Pressure drop at maximum recommended flow rate is 5 psi or less
- Flow rates are based on Maximum Concentration Levels
- All data shown reflects 120 Volt 50/60 Hz operation
- MIGHTY★PURE® purifiers are also available in 220 Volt 50/60 Hz and 12 and 24 Volt DC
- MIGHTY★PURE® is available for operation on public power supplied throughout the world
- Consult factory with specific power requirements

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APPLICATIONS FOR ULTRAVIOLET WATER PURIFICATION

Residential & Recreational

- Point Of Use Installation
- Under the Sink
- Water Vending Machines
- Whole House Purification
- Well Water Disinfection
- Water Cistern Sterilizers
- Rural Water Systems
- Recreational Vehicles
- Motor Homes & Trailers
- Boats
- Hot Tubs & Spas
- Swimming Pools
- Fish Ponds
- Koi Ponds
- Water Gardens
- Lakes
- Ornamental Ponds
- Fountain Water Features
- Aquariums
- Hatcheries
- Rainwater Collection
- Water Dispensing Appliances

Transient Systems

- Resorts, Hotels, & Motels
- Ships, Yachts, Boats
- Campgrounds
- Restaurants
- Water Parks
- Amusement Parks
- Golf Course Water Holes

Community Systems

- Apartment Complexes
- Condominium Complexes
- Trailer Parks
- Rural Water
- Villages, Towns, Cities
- Farms & Ranches
- Animal Husbandry

Institution Systems

- Laboratories
- Hospital
- Clinics
- Maternity Areas
- Labor & Delivery Areas
- Pathology Labs
- Kidney Dialysis Labs
- Nursing Homes
- Universities
- Schools
- Veterinary Clinics

Industry Systems

- Pharmaceutical Mfg.
- Electronic Production
- Cosmetic Production
- Cooling Tower
- Power Generation
- Nurseries
- Food Industry
- Ice Makers
- Pulp & Paper Production
- Water Vending Machines
- Laundry Water
- Pure Wash Water
- Bottled Water
- Beer, Wine
- Soft Drinks
- Fruit Juices
- Bottling Facilities
- Edible Oils
- Liquid Sugar
- Sweeteners
- Water Based Lubricants
- Dairy Processing
- Cistern Applications
- Mollusk Hatcheries
- Water Preserves

Specialized

- TOC Reduction
- Ozone Reduction

APPLICATIONS FOR GERMICIDAL UV WATER PURIFICATION

The unique advantage of UV purification is that nothing is added to the water. When chemical methods of treatment are used, there may be handling problems, taste and odor problems, and undesirable chemical reactions with substances present in the water.

This difference is most significant when producing water for:

- Drinking or swimming
- Processing foods and bottled beverages
- Manufacturing cosmetics or pharmaceuticals
- Hospitals and research institutions
- Tertiary treatment of municipal or industrial wastewater

The Versatility of Germicidal UV Purification

UV purification provides germ-free potable water for home, institutional and municipal use, as in the following applications.

- Water wells: bacterial contamination of wells is unpredictable and may occur from seepage of surface water or sewage.
- The outlet side of water cisterns: most cisterns foster the proliferation of bacteria in untreated water.
- Swimming pools: to control bacteria, algae and slime formation. It avoids the undesirable effects of heavily chlorinated swimming pool water by allowing substantial reduction of the use of chlorine.

UV purification provides bacteria-free food process water without the use of germicides, oxidants, algaecides or chemical precipitants; particularly useful in the following applications where chlorine adversely affects flavor.

- Brewery, winery, soft drink, and water bottling industries: where biological purity of the water must be absolutely maintained in order to ensure product quality.
- Dairy products: for safeguarding against spoilage of cottage cheese and butter; certain psycrophilic bacteria are resistant to chlorine treatment.
- Sterile washwater: to guard against waterborne bacteria spoilage where vegetable, fruits, meats, fish and other products must be washed in water before packaging.

UV purification is particularly useful in the following applications where chlorine-free, de-ionized and/or carbon filtered water are extensively employed. Unattended carbon filters and ion-exchange tanks act as incubators for bacteria accumulation.

- Electronics: in conjunction with de-ionized and high purity water systems.
- Pharmaceuticals and cosmetics: strict water treatment standards are necessary for strict maintenance of product's quality control.
- Biological laboratories: sterile water is required for testing and research work.
- Hospitals: provides pure water on demand for maternity labor and delivery areas, pathology labs, etc.

In industrial pollution control, UV purification affords an excellent end-treatment.

- Wastewater control systems: for selective use as a tertiary treatment for bacteria destruction after removal of chemicals and other objectionable ingredients.

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**
STER-L-RAY® Germicidal Ultraviolet Lamp	**S**	**S**	**S**	**S**	**S**	**S**
EASY-OFF™ End Cap	**S**	**S**	–	**S**	**S**	**S**
CRYSTAL CLEAR™ 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**	–	–	–	–	–
Promate™ Mounting Kit / Bracket	**S**	**S**	**S**	**O**	**O** ①	–
GUARDIAN™ Germicidal UV Monitor	–	–	–	**O**	**O**	**S**
GUARDIAN™ ASSIST UV Monitor Extension	–	–	–	**O**	**O**	–
SENTRY™ Safety Sensor	**O**	**O**	–	**O**	**O**	–
Promate™ Audio Alarm	**S**	**S**	**S**	**O**	**O**	–
Promate™ Solenoid Valve	–	**O** ②	–	**O**	**O**	–
SureFLO™ Flow Control Valve	**O**	**O**	**S**	**O**	**O**	–
Promate™ Elapsed Time Indicator	**O**	**O**	–	**O**	**O**	**S**
Promate™ Time Delay Mechanism	–	**O**	–	–	–	–
Residential Use	✓	✓	✓	✓	✓	–
Commercial Use	–	–	–	✓	✓	✓
Industrial Use	–	–	–	–	✓	✓
NSF 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/cm²).**
- This list depicts options for 120v 50/60Hz operation. Consult factory for options with other power requirements.

SINCE 1963
ATLANTIC ULTRAVIOLET CORPORATION®

1963–2023 60 YEARS

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