MIGHTY★PURE®

ULTRAVIOLET WATER PURIFIERS

Model MP36C
12 GPM

NSF®

System Tested and Certified by
NSF International against
NSF/ANSI Standard 55 for
Disinfection Performance, Class B

SINCE 1963

ATLANTIC ULTRAVIOLET CORPORATION®

ABOUT US

Since 1963, Atlantic Ultraviolet Corporation® has pioneered the discovery and development of beneficial uses of ultraviolet energy. Over the years these efforts have led to the development of valuable, cost effective and environmentally sound techniques and products now known and respected throughout the world.

The UV Application Specialists at Atlantic Ultraviolet Corporation® assist customers in the selection of germicidal lamps and equipment. Their specialized knowledge is a valuable resource in formulating effective and cost-conscious ultraviolet solutions. Extensive inventories and a dedicated staff enable Atlantic Ultraviolet Corporation® to fulfill its commitment to provide fast deliveries and responsive customer service.

Model MP49C
20 GPM

Model MP36C
12 GPM

Model MP22A
6 GPM

Model MP16A
3 GPM

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

GERMICIDAL ULTRAVIOLET

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

MIGHTY★PURE® Ultraviolet Purifiers utilize germicidal ultraviolet lamps that produce short wave radiation lethal to bacteria, viruses 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® Ultraviolet Water Purifiers are the ideal solution for an ever growing range of water treatment applications.

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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

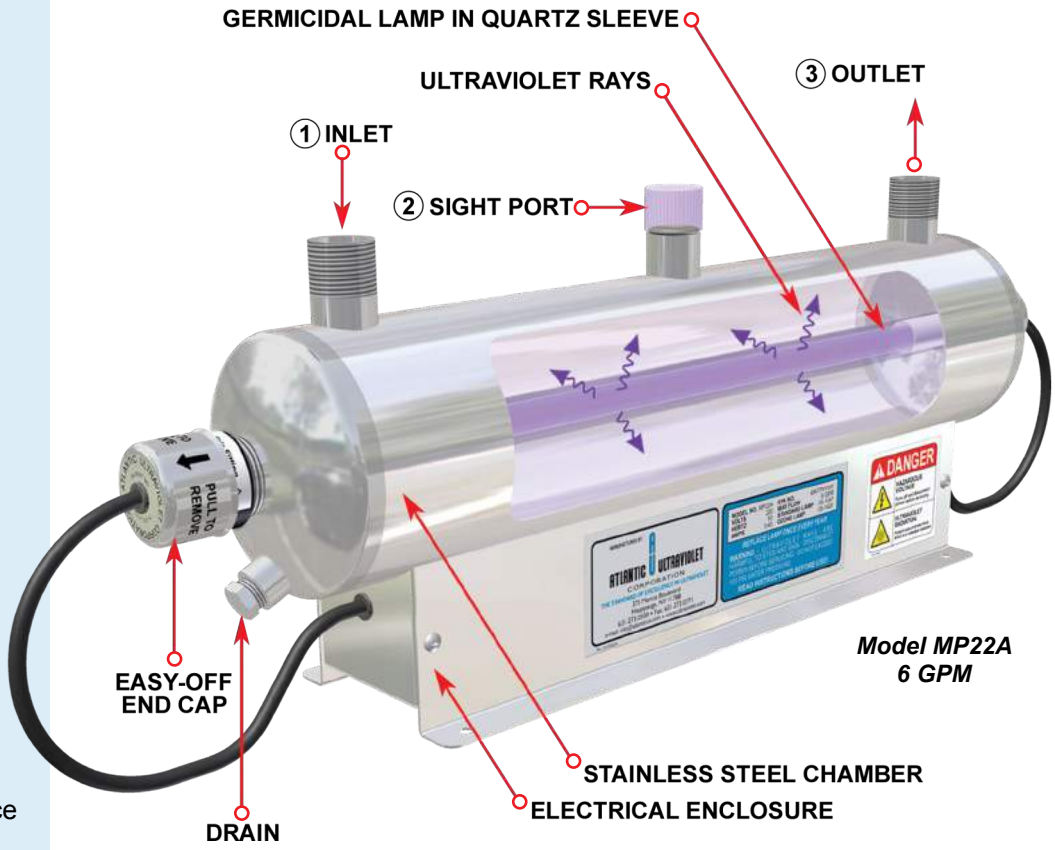
Easy
Simple installation and maintenance. Compact units require minimum space

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)

PRINCIPLE OF OPERATION



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.

NSF

Flow Control Valves Included with NSF Certified models MP36C and MP49C

SPECIAL FEATURES

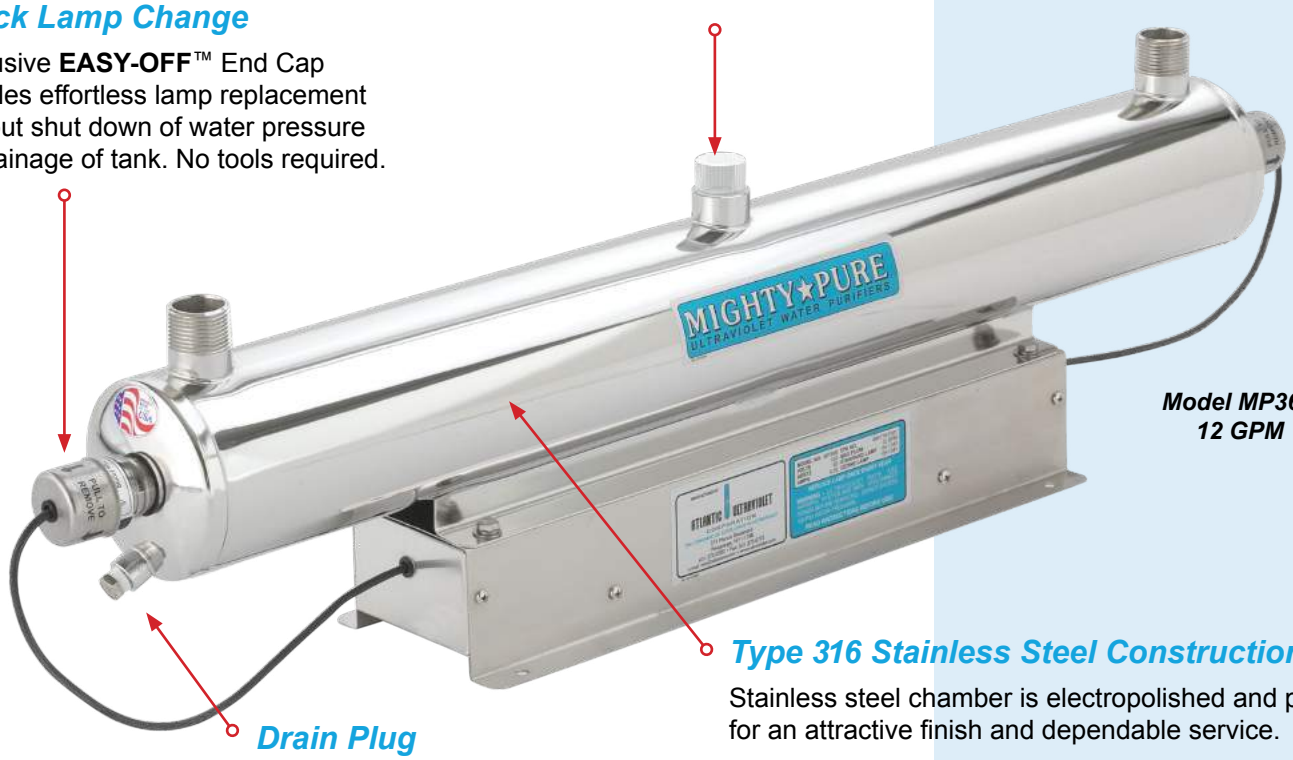
Sight Port Plug

Visible glow provides positive indication of germicidal lamp operation.

FUSED 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.



Model MP36C
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**).

NSF
Flow Control Valves Included with NSF Certified models MP36C and MP49C

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 14 months of continuous service).

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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

Promate™
Time Delay Mechanism
Operates with **GUARDIAN™** or **SENTRY™** and **Promate™** solenoid valve to provide a 2-minute warm-up period for lamp to achieve full germicidal output

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

SureFLO™
Flow Control Valve

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

NSF — SureFLO™
Flow Control Valves
Included with NSF Certified Units **MP36C** and **MP49C**

MONITORING OPTIONS

Good

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 falls below acceptable levels.

- 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)
- Produces a high frequency tone, pulsed at two to three cycles per second
- Warns of lamp or power failure
- Available with Remote Sounder
- Available with Dry Contact for Connection to PLC
- Optional 120v 60Hz Power Adapter available
- Available for use with all **MIGHTY★PURE®** and **SANITRON®** models

Better

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 audio alarm and/or solenoid valve.

- Easy installation
- Plug **SENTRY™** into an electrical outlet, then plug water purifier into **SENTRY™**
- Operates optional Solenoid Valve and/or Audio Alarm
- Easily adaptable for use with other water purifier brands
- Warns of lamp failure
- Available for 120v 50/60Hz or 220v 50/60Hz (water purifiers operating with electronic ballasts)
- Available for use with most **Bio-Logic®**, **MINIPURE®**, **MIGHTY★PURE®** and **SANITRON®** models

Best

The **GUARDIAN™** Ultraviolet Monitor visually indicates the level of germicidal ultraviolet energy that penetrates the quartz sleeve and the water within the disinfection chamber. The **GUARDIAN™** Ultraviolet Monitor is capable of operating an optional Audio Alarm and Solenoid Valve. In addition, the **GUARDIAN™** Ultraviolet Monitor will detect loss of ultraviolet due to lamp outage, component or power failure. Use of the Ultraviolet Monitor is recommended by the US Public Health Service "Criteria for the Acceptability of an Ultraviolet Disinfection Unit."

The **GUARDIAN™** Ultraviolet Monitor will detect reduction of ultraviolet levels due to:

- Fouling or deposits on quartz sleeve.
- Poor ultraviolet transmission through the water. (Color, turbidity, organic or other impurities in the water can reduce or interfere with the transmission of ultraviolet rays.)
- Depreciation of lamp output due to usage or other cause. Lamp output gradually depreciates with use.
- Lamp replacement is recommended once each year.
- Available for use with all **MIGHTYPURE®** and **SANITRON®** models.

Options may be obtained when purchase of **MIGHTY★PURE®** unit is made or added at a later date. For further details visit **Ultraviolet.com or BuyUltraviolet.com**.

ULTRAVIOLET DOSAGE

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

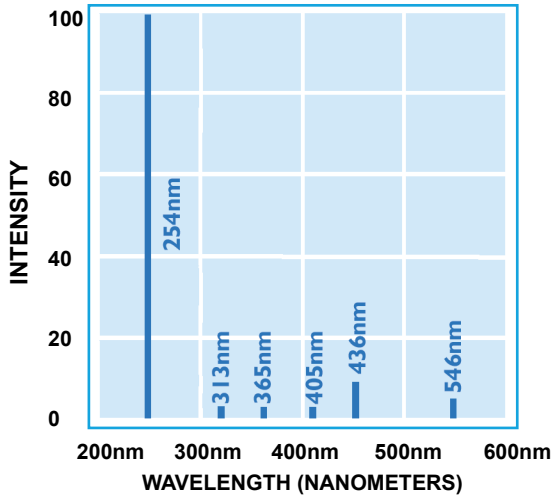
ORGANISM	ALTERNATE NAME	TYPE	DISEASE	DOSE*
Bacillus subtilis spores	*B. subtilis*	Bacteria	————	22,000
Bacteriophage	Phage	Virus	————	6,600
Coxsackie virus	————	Virus	Intestinal infection	6,300
Shigella spores	————	Bacteria	Bacterial Dysentery	4,200
Escherichia coli	*E. coli*	Bacteria	Food poisoning	6,600
Fecal coliform	————	Bacteria	Intestinal infection	6,600
Hepatitis A virus	Infectious Hepatitis virus	Virus	Hepatitis of the liver	8,000
Influenza virus	Flu virus	Virus	Influenza	6,600
Legionella pneumophila	————	Bacteria	Legionnaires' Disease	12,300
Salmonella typhi	————	Bacteria	Typhoid Fever	7,000
Staphylococcus aureus	Staph	Bacteria	Food poisoning, Toxic Shock Syndrome, etc.	6,600
Streptococcus spores	Strep	Bacteria	Strep throat	3,800

When used as directed to disinfect clear water, **MIGHTY★PURE®** Water Purifiers provide an ultraviolet dosage in excess of 30,000 micro-watt seconds per square centimeter (μWSec/cm2).

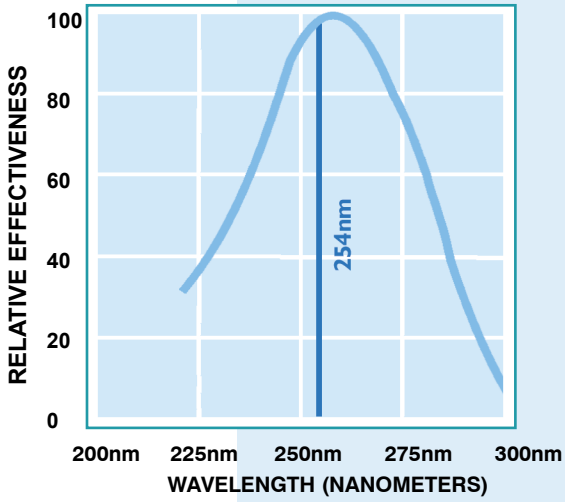
* Nominal Ultraviolet dosage (μWSec/cm2) necessary to inactivate better than 99% of specific microorganism. Consult factory for more complete listing.

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 the mercury resonance line of 254 nanometers, the region of germicidal effectiveness most destructive to bacteria, mold and virus.

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GENUINE *STER-L-RAY*® GERMICIDAL LAMPS

STER-L-RAY® Germicidal Lamps are shortwave, low pressure mercury vapor discharge 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 a compact and economical ballast. The preheat circuit requires four electrical connections per lamp and a slight to moderate delay is needed to start the lamp.

Instant Start Germicidal Lamps

Preheat Germicidal Lamps

CAUTION: Exposure to direct or reflected germicidal ultraviolet rays will cause painful eye irritation and reddening of the skin. Personnel subject to such exposure must wear suitable faceshield, 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	11⅞" (302mm)	14 Watts	4.0 Watts	10,000 Hrs.
05-1097-R	MP22A	17¾" (451mm)	21 Watts	7.3 Watts	10,000 Hrs.
05-1343-R	MP36C	33⅞" (860mm)	41 Watts	15.0 Watts	10,000 Hrs.
05-1334-R	MP49C	45⅞" (1165mm)	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**® units 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	Unit Dimensions (Inches)			Shipping Data (lbs.)	
						Length	Width	Height	Gross Wt.	Net Wt.
MP16A	3	180	3/4” NPT	05-1098-R	18 Watts	16 ½	4 5/16	8 ⅜	10	9
MP22A	6	360	3/4” NPT	05-1097-R	25 Watts	22 ½	4 5/16	8 ⅜	13	11
MP36C*	12	720	1” NPT	05-1343-R	48 Watts	36 ½	5 11/16	9 ½	30	25
MP49C	20	1,200	1-1/2” NPT	05-1334-R	65 Watts	49 ½	5 11/16	9 ½	34	29
NSF MP36C	12	720	1”NPT	05-1343-R	48 Watts	36 ½	5 11/16	9 ½	30	25
NSF MP49C	20	1,200	1-1/2” NPT	05-1334-R	65 Watts	49 ½	5 11/16	9 ½	34	29

① All inlets and outlets are male pipe threads.

② Total power consumption including ballast loss (approximate).

NSF® Certified Models

*CE **Compliant version available.**

- 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®** units 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
- Airplanes
- 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

- TOC Reduction
- Ozone Reduction

APPLICATIONS FOR ULTRAVIOLET 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 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 ultra-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 WATER PURIFIERS

FEATURES [**S**] - Standard [**O**] - Optional [**X**] - Yes	**Bio-Logic®** ***Pure Water Pack™*** 1.5 GPM	**MINIPURE®** 1 to 9 GPM	**MIGHTY★PURE®** 3 to 20 GPM	**SANITRON®** 3 to 20 GPM	**SANITRON®** 40 to 416 GPM	**MEGATRON®** 90 to 450 GPM
Stainless Steel Construction	S	S	S	S	S	S
STER-L-RAY® Germicidal Ultraviolet Lamp with10,000 Hours Rated Effective Life	S	S	S	S	S	S
Quick Lamp Change with the **EASY-OFF™** End Cap	S	S	S	S	S	S
CRYSTAL CLEAR™ Quartz Sleeve	S	S	S	S	S	S
Lamp Out Indicator Light(s)	S	S	-	-	-	S
Sight Port to View Lamp Operation	-	-	S	S	S	S
Drain Fitting	-	-	S	S	S	S
Patented Dual Action Wiper Mechanism - Manual	-	-	-	S	S	S
Patented Dual Action Wiper Mechanism - Automatic	-	-	-	-	-	O
Head(s) that can be removed or rotated	S	-	-	S	S	S
Sediment and Carbon Filter	S	-	-	-	-	-
Promate™ Mounting Kit / Bracket	S	O	O	O	O ①	-
GUARDIAN™ Ultraviolet Monitor	-	-	O	O	O	S
SENTRY™ Safety Sensor	O	O	O	O	O	-
Promate™ Audio Alarm	S	S	O	O	O	-
Promate™ Solenoid Valve	-	O	O	O	O	-
SureFLO™ Flow Control Valve	-	O	O	O	O	-
Promate™ Elapsed Time Indicator	O	O	O	O	O	S
Promate™ Time Delay Mechanism	-	O	O	O	O	-
Residential Use	X	X	X	X	X	-
Commercial Use	-	-	X	X	X	X
CE Certified Models ②	-	-	X	X	X	-
NSF Certified Models	-	-	X	-	-	-

① Model S10,000C & larger come equipped with mounting rack

② **MIGHTY★PURE®** MP36C and **SANITRON®** S37C, S2400C, S5,000C, S10,000C, S15,000C and S20,000C are available as **CE Certified.**

The Standard of Excellence In Ultraviolet

Manufacturers / Engineers / Sales / Service – Germicidal Ultraviolet - Equipment & Lamps

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