

**MIGHTY★PURE®**  
ULTRAVIOLET WATER PURIFIERS

ATLANTIC **AU** ULTRAVIOLET  
CORPORATION®



*ultraviolet.com*

## ADVANTAGES

## GERMICIDAL ULTRAVIOLET

### **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 or intermittent disinfection without special attention or measurement.

### **Chemical Free**

No chlorine taste or corrosion problems.

### **Versatile**

Capacities available from two to twenty gallons per minute (g.p.m.).

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

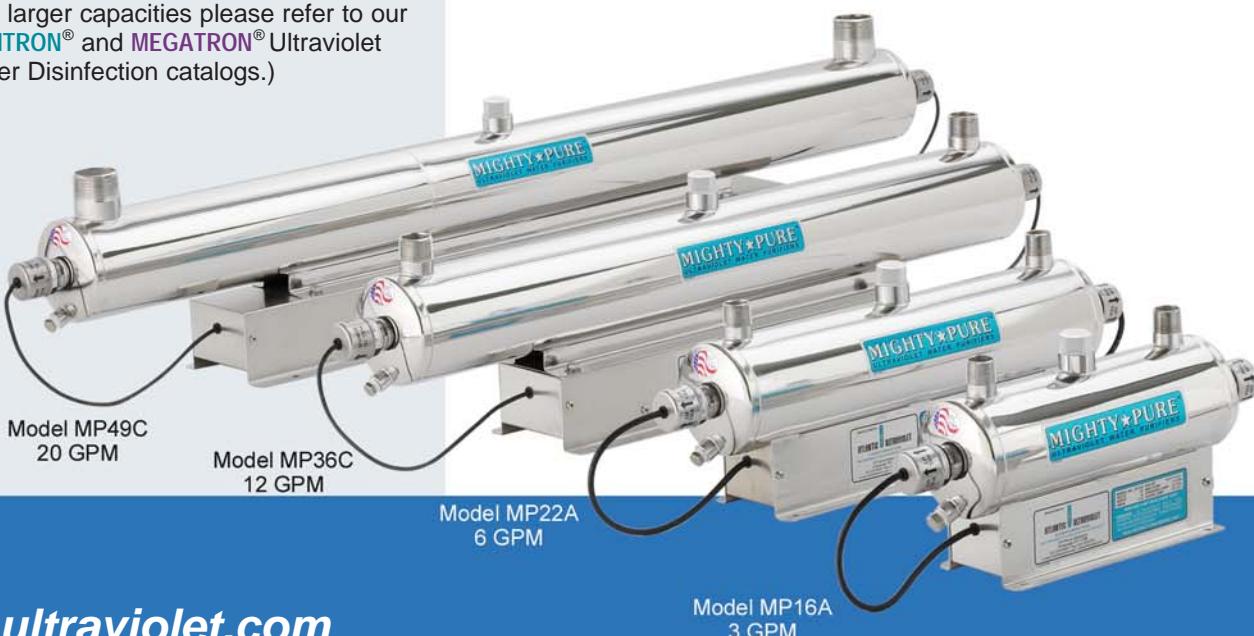


Ultraviolet water purification is a unique and rapid method of water disinfection without the use of heat or chemicals.

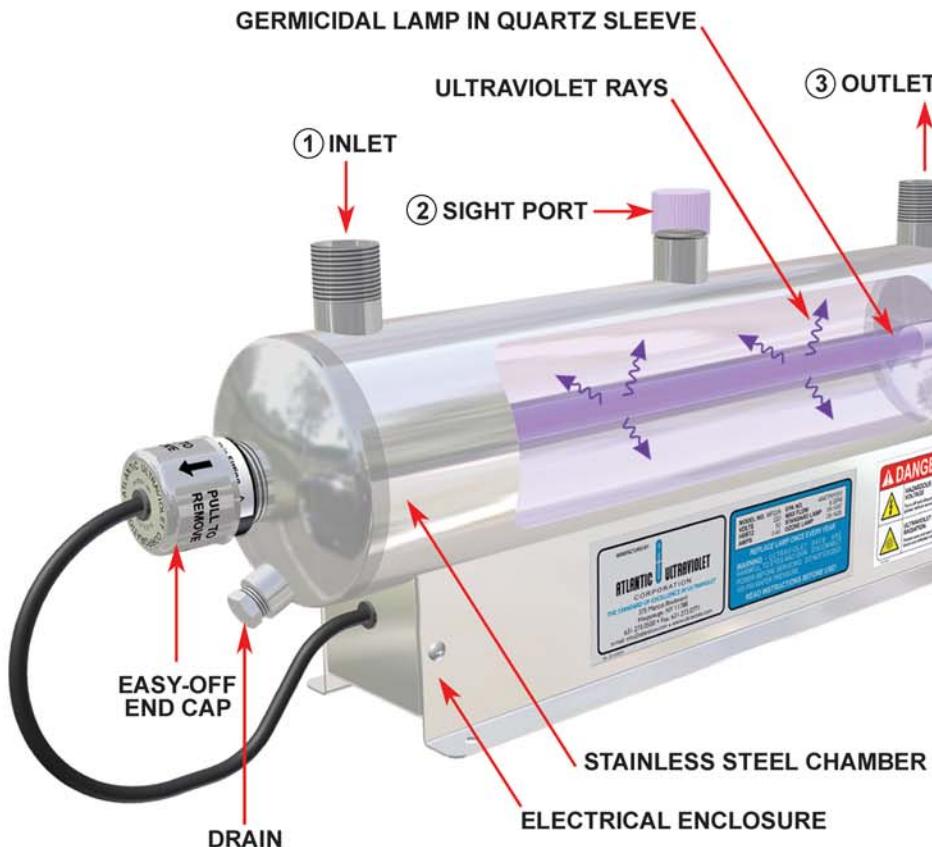
**MIGHTY★PURE®** Ultraviolet Water Purifiers utilize germicidal ultraviolet lamps that produce short-wave radiation that is lethal to bacteria, viruses and other microorganisms present in water.

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.



[ultraviolet.com](http://ultraviolet.com)



- 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.

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.

Atlantic Ultraviolet's application specialists 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 to fulfill its commitment to provide fast deliveries and responsive customer service.



## ULTRAVIOLET DOSAGE

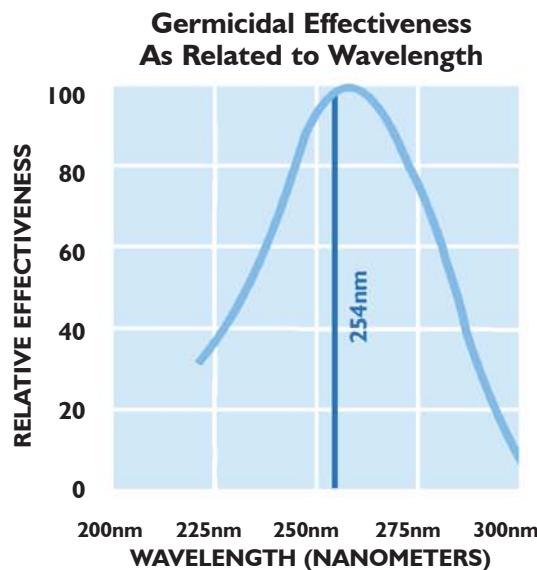
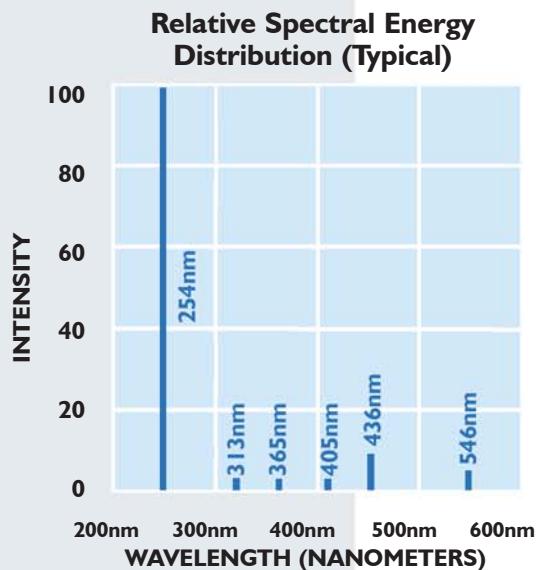
Germicidal lamps provide effective protection against microorganisms. A small cross-section is shown below.

ORGANISM	ALTERNATE NAME	TYPE	DISEASE	DOSE*
<i>Bacillus subtilis</i> spores	<i>B. subtilis</i>	Bacteria	—	22,000
Bacteriophage	Phage	Virus	—	6,600
Coxsackie virus	—	Virus	Intestinal infection	6,300
<i>Shigella</i> spores	—	Bacteria	Bacterial Dysentery	4,200
<i>Escherichia coli</i>	<i>E. coli</i>	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
<i>Legionella pneumophila</i>	—	Bacteria	Legionnaires' Disease	12,300
<i>Salmonella typhi</i>	—	Bacteria	Typhoid Fever	7,000
<i>Staphylococcus aureus</i>	Staph	Bacteria	Food poisoning, Toxic Shock Syndrome, etc.	6,600
<i>Streptococcus</i> 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 microwatt seconds per square centimeter ( $\mu\text{WSec}/\text{cm}^2$ ).

\* Nominal Ultraviolet dosage ( $\mu\text{WSec}/\text{cm}^2$ ) necessary to inactivate better than 99% of specific microorganism. Consult factory for more complete listing.

## OPERATING CHARACTERISTICS



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.

## 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™** Slimline Germicidal 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. Slimline germicidal lamps are well suited to applications requiring high ultraviolet intensity such as water sterilization.

**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.

**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. Personnel subject to such exposure must wear suitable faceshield, gloves and protective clothing.

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



*Slimline Germicidal Lamps*



*Preheat Germicidal Lamps*

## GERMICIDAL LAMP DATA

Lamp Number	Purifier Model No.	Nominal Lamp Length	Power Consumption ①	Ultraviolet Output ②	Rated Effective Life
05-1098-R	MP16A	1 17/8" (302mm)	14 Watts	3.7 Watts	10,000 Hrs.
05-1097-R	MP22A	1 73/4" (451mm)	20 Watts	6.4 Watts	10,000 Hrs.
05-1343-R	MP36C	3 37/8" (860mm)	39 Watts	13.8 Watts	10,000 Hrs.
05-1334-R	MP49C	4 57/8" (1165mm)	50 Watts	19.3 Watts	10,000 Hrs.

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

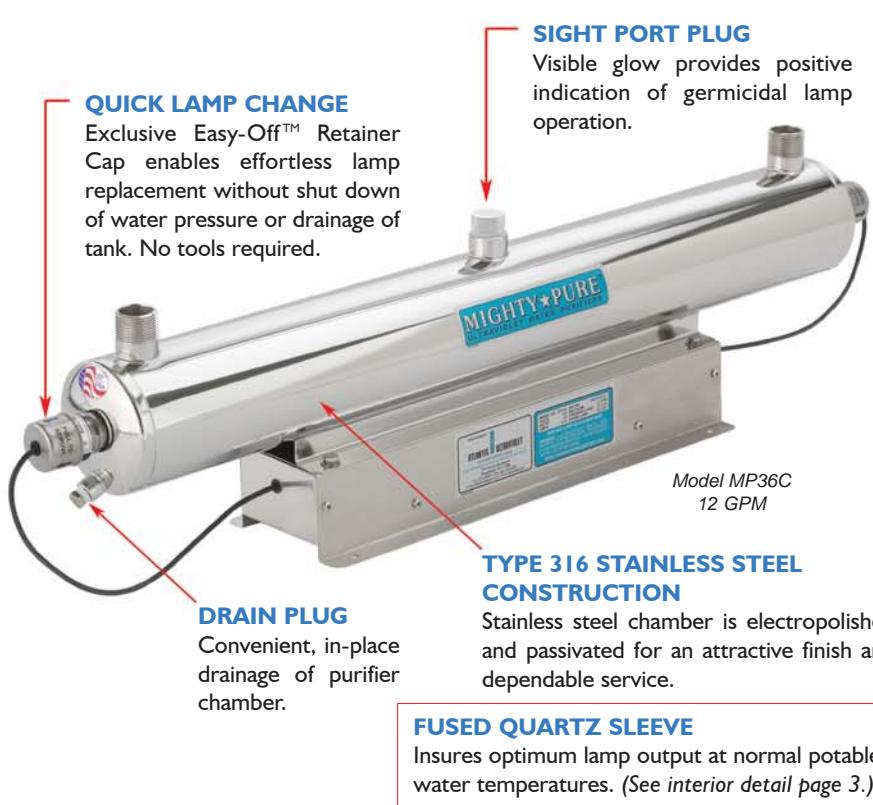
② Maximum rated output at 254 nanometers.

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 to the obvious advantages of high efficiency and low power requirements, there is no possibility of the unit overheating (as is the case with some other lamp types). Consequently, the need for additional equipment to combat overheating is eliminated.

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

Ordinary maintenance consists of periodic cleaning of the quartz sleeve. Lamp replacement is recommended every 10,000 hours of operation (approximately 14 months of continuous service).



## SPECIFICATIONS FOR STANDARD MODELS

Model	Gallons per Minute	Gallons per Hour	Inlet and Outlet	① Replacement Lamps	② Power Consumption	② UNIT DIMENSIONS (Inches)	SHIPPING DATA			
						Length	Width	Height	Gross Wt. (lbs.)	Net Wt. (lbs.)
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	24 Watts	22 1/2	4 5/16	8 3/8	13	11
MP36C *	12	720	1" NPT	05-1343-R	44 Watts	36 1/2	5 11/16	9 1/2	30	25
MP49C	20	1,200	1 1/2" NPT	05-1334-R	54 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 p.s.i.
- Pressure drop at maximum recommended flow rate is less than 5 p.s.i.
- All data shown reflects 120 volt 60 Hz operation. **MIGHTY★PURE**® units are also available in 220 volt 50 Hz, 12 and 24 volt DC.
- **MIGHTY★PURE**® is available for operation on public power supplied throughout the world. Consult factory with specific power requirements.
- CE Compliant version MP36C available

## 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.
- Mounts on the sight port plug.
- Warns of lamp or power failure.
- Produces a high frequency tone pulse at two to three cycles per second.
- Monitors visible light only; does not monitor ultraviolet intensity
- Operates on a 9v battery or optional 120v 60Hz Power Adapter, specify when ordering.

### Better



The **SENTRY™** safety sensor provides constant monitoring of the water purifier's ballast and germicidal lamp operation. Indicator lights provide visual indication of ballast and germicidal lamp status.

- Easy installation.
- Plug **SENTRY™** into an electrical outlet, then plug water purifier into **SENTRY™**.
- Operates optional Solenoid Valve and/or Audio Alarm.
- Warns of lamp failure.
- Easily adaptable for use with other water purifier brands.
- Available in 120v 50/60Hz and 220 - 240v 50/60Hz, specify when ordering.

### 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:

1. Fouling or deposits on quartz sleeve.
2. 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.)
3. Depreciation of lamp output due to usage or other cause. (Lamp output gradually depreciates with use. Lamp replacement is recommended once each year.)

The **GUARDIAN™ Ultraviolet Monitor** has three models; Analog, Digital and Digital Remote. Voltage Configurations include 120V / 50 or 60Hz, 220-240V / 50 or 60 Hz, or 12VDC. Contact factory for special requirements. **NOTE:** **GUARDIAN™ Ultraviolet Monitor** (analog, digital or digital remote) can be purchased and installed with the water purifier or at a later date for an existing installation.

The **GUARDIAN™ Ultraviolet Analog and Digital Monitors** are mounted directly on to the water purifier. The sensor probe (included) is threaded into the sight port fitting of the ultraviolet water purifier. The aluminum collar on the bottom of the **GUARDIAN™ Ultraviolet Analog or Digital Monitor** is secured over the sensor probe.

The **GUARDIAN™ Ultraviolet Digital Remote Monitor** is intended for use in a location away from the water purifier that is being monitored. In all other respects, the remote **GUARDIAN™** behaves the same as the standard **GUARDIAN™**. Mounted on the back of the remote monitor is a socket into which the lead from an ultraviolet sensor is connected. Instead of being mounted inside the monitor housing, this sensor is contained within the remote probe. A standard length for the connecting cable supplied with the probe is 50 ft, but the lead length may be extended if desired. Please contact the factory for additional lengths.

- These options may be obtained along with **MIGHTY★PURE®** unit or added at a later date. For further details visit our website at [www.ultraviolet.com](http://www.ultraviolet.com).

## OPTIONAL ACCESSORIES



### Audio Alarm

Activated by the **Sentry™** or **Guardian™** - alerts user to any malfunction detected.



### Elapsed Time Indicator

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



### Solenoid Valves

Operates with the **Guardian™** or **Sentry™** and prevents flow during detected malfunctions. Available in nylon or brass.



### Time Delay Mechanism

Provides a 2-minute warm-up period for lamp to achieve full germicidal output.



### Flow Control Valves

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



### 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.

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