



GPVC SERIES - Polyvinyl Chloride

Ultraviolet “UV” disinfection is an accepted method for reducing microorganisms in water, wastewater and other liquids.

The **IL-GPVC Series** utilizes UV lamps in PVC vessels to disinfect small to large flows. PVC is often preferred for non potable applications like wastewater, aquatics or for liquids with high salinity or caustic make-up.

Water enters the chamber and is exposed to UV light. UV lamps used for disinfection produce the majority of the light in the 254-nm wavelength range. At this wavelength, UV light destroys bacteria, protozoa, viruses, molds, algae and other microbes. This includes E-coli, hepatitis, cholera and many others.

Systems integrate energy efficient low pressure UV lamps (standard, high output and amalgam). These lamps last over a year and produce over 90% of their light in the 254 nm range.

FEATURES

- PVC pressure vessel
- Remote thermoplastic Ballast Control Center (BCC)
- Low pressure UV lamps
Standard, High Output and Amalgam
- Flexible flange and pipe connection sizes
- Lamp status LED and running time meter
- Horizontal or Vertical installation

OPTIONS

- Enclosure types
 - Painted steel
 - Stainless steel (window kit)
- Manual quartz cleaning mechanism
- UV monitoring (basic or 4-20 mA)
- Remote On/Off
- Outdoor installation
- High heat shut off



ABOUT PVC IN UV APPLICATIONS

Polyvinyl Chloride (PVC) is a thermoplastic polymer with high chemical resistance. It is most often used in UV applications when vulnerability to corrosion limits the use of stainless steel.

PVC units are selected for use in non potable applications such as salt water, aquaculture, fish farming, ponds, wastewater, corrosive liquids and corrosive environments.

Lamp operational status in the form of LEDs and system run time are displayed on the Ballast Control Center.

While PVC is a resilient material, its heat stability is very poor. When the temperature reaches 280 °F PVC starts to decompose. Its melting temperature is 320 °F. If the system contains more than 2 lamps and will be subject to no flow situations, a high heat shut off switch should be considered.

SYSTEM DESIGN

The following is a list of information required to size

- Water type (clean, salt, wastewater)
- Peak instant flow rate
- No flow situations - high heat can damage unit
- Desired dosage (mJ)
- Discharge permit in ??/100 ml (wastewater)
- UV transmission % (UVT%)
- Total Suspended Solids (TSS)
- Iron and Manganese levels
- Installation location (indoor or outdoor)
- Understanding of plant pre treatment process
- Staffing level for system maintenance

UV DISINFECTION - PVC



The above system incorporates an IL-GPVC-300-4 UV disinfection system.

AVAILABLE SYSTEMS

The **IL-GPVC Series** is designed for flows up to 100 gpm. Units are constructed of high grade PVC and have a 80 psi pressure rating.

The **IL-WPVC Series** is designed for flows up to 20 gpm. They are constructed of PVC and have a 40 psi pressure rating.

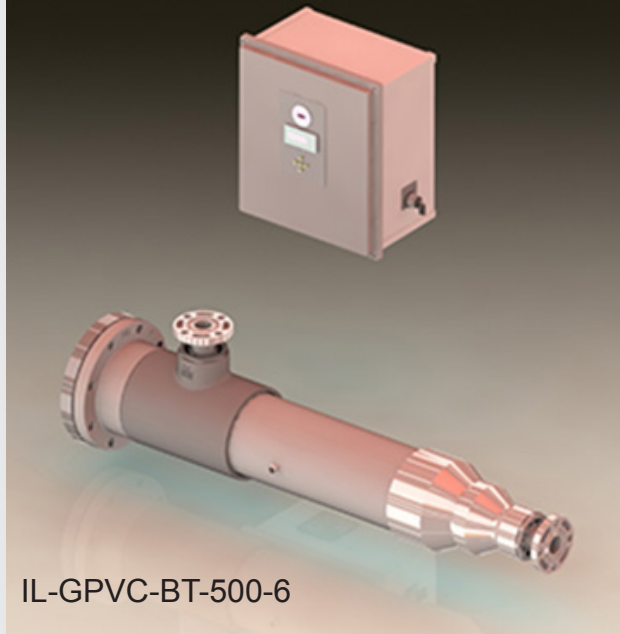


IL-WPVC



IL-GPVC

UV DISINFECTION - PVC



IL-GPVC-BT-500-6



The IL-GPVC Series provides disinfection utilizing schedule 80 PVC vessels. Systems range in flows up to 150 GPM. The largest system uses 4 lamps. All systems have the manual quartz cleaning option.

The IL-GPVC-BT is designed in a "L" configuration. This configuration optimizes disinfection and allows for easy installation. The system can be installed horizontally or vertically, which is helpful in retro fitting the UV unit into existing piping arrangements.

The "L" or "Bullet" design is important in lowering headloss. The many options for the remote electronics allow the plant to select the type and distance from the vessel.



BALLAST CONTROL CENTERS

Each PVC system comes with a remote Ballast Control Center (BCC), which houses the ballasts and controls needed to operate the UV lamps.

The ballasts power the UV lamps and then regulate the amount of electricity flowing through the lamp so the right amount of UVC light is emitted.

In addition to providing power to the lamps, the BCC also displays lamp status and optional run time and optional UV output.

The BCC can be configured with a variety of options. Thermoplastic, painted steel or stainless steel are available. Depending on the requirements, enclosures can be provided with protective window kits. Window kits will protect the lamp status LEDs, run time meter and UV monitor.

The BCC can be provided with optional On/Off or remote Hand/Off/Auto (HOA) switch.



IL-PVC Series

UNIT NAME	FLOW* RATE GPM	QTY LAMPS	WATTS	CHAMBER DIMENSIONS** L x D x W	ELECTRICAL TYPES***	POWER
IL-WPVC-100	7 gpm	1	15	20" x 2" x 4"	PP, CT(W)	120 or 277 V 50/60 Hz
IL-WPVC-150	10 gpm	1	27	20" x 2" x 4"	PP, CT(W)	120 or 277 V 50/60 Hz
IL-GPVC-200	15 gpm	1	40	36" x 3" x 6"	PP, CT(W)	120 or 277 V 50/60 Hz
IL-GPVC-300	20 gpm	1	80	36" x 3" x 6"	PP, CT(W)	120 or 277 V 50/60 Hz
IL-GPVC-200-2	30 gpm	2	90	40" x 3" x 20"	PP, CT(W)	120 or 277 V 50/60 Hz
IL-GPVC-300-2	50 gpm	2	160	40" x 3" x 20"	PP, CT(W)	120 or 277 V 50/60 Hz
IL-GPVC-300-3	75 gpm	3	240	40" x 5" x 8"	FG(W), PS, SS(W)	120 or 277 V 50/60 Hz
IL-GPVC-300-4	100 gpm	4	320	40" x 5" x 8"	FG(W), PS, SS(W)	120 or 277 V 50/60 Hz
IL-GPVC-500-3	150 gpm	3	450	40" x 5" x 8"	FG(W), PS, SS(W)	230 V 50/60 Hz
IL-GPVC-BT-300-4	100 gpm	4	320	50" x 6" x 14"	FG(W), PS, SS(W)	120 or 277 V 50/60 Hz
IL-GPVC-BT-300-6	150 gpm	6	480	50" x 6" x 14"	FG(W), PS, SS(W)	120 or 277 V 50/60 Hz
IL-GPVC-BT-500-4	200 gpm	4	600	50" x 6" x 14"	FG(W), PS, SS(W)	230 V 50/60 Hz
IL-GPVC-BT-500-6	300 gpm	6	900	50" x 6" x 14"	FG(W), PS, SS(W)	230 V 50/60 Hz
IL-GPVC-BT-5000-4	275 gpm	4	700	70" x 6" x 14"	FG(W), PS, SS(W)	120 or 277 V 50/60 Hz
IL-GPVC-BT-5000-6	400 gpm	6	1050	70" x 6" x 14"	FG(W), PS, SS(W)	120 or 277 V 50/60 Hz
IL-GVPC-BT-6000-4	450 gpm	4	1280	70" x 6" x 14"	FG(W), PS, SS(W)	230 V 50/60 Hz
IL-GVPC-BT-6000-6	550 gpm	6	1920	70" x 6" x 14"	FG(W), PS, SS(W)	230 V 50/60 Hz

*Flow rates are based on treating a single pass of clear water (90% UVT) with a dosage of >30mJ. If the project will recirculate water, the flow rates of the system will change. Please contact factory.

** Dimensions are approximate and may be changed without notice. L= Length, D = Vessel Diameter, W = Width

*** PP (Power pack indoor), CT (power pack with countdown timer) W (window kit), FG (Fiberglass indoor), PS (Painted Steel), SS (Stainless Steel).



GLASCO UV