

# SALCOR UV DISINFECTION

*“35 Years of Excellence”*

## 3G Unit: *Pioneers Wastewater Solutions*

**Welcome:** Environmental Health Specialists,  
Engineers/Designers, Academics, Installers, O & M Providers,  
Treatment Plant Manufacturers, Home & Business Owners

### Protects Health and Environment

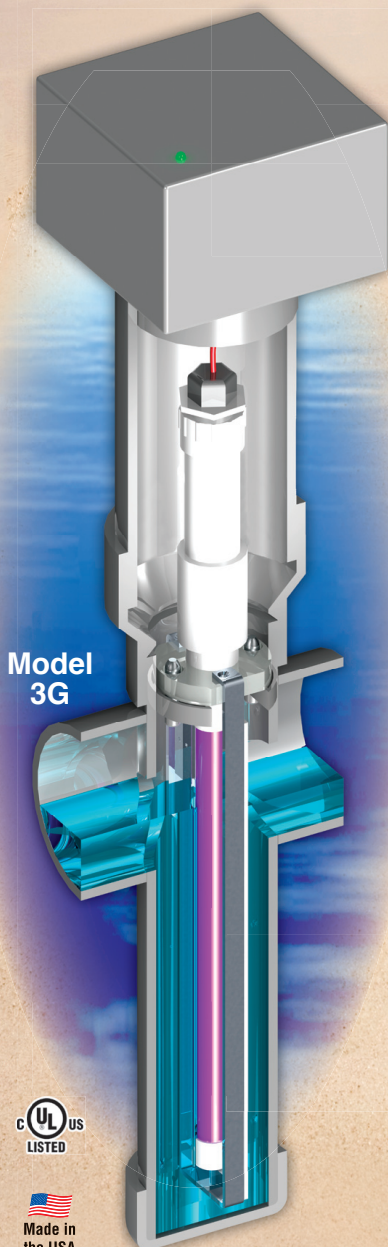
- Outstanding Bacteria/Virus “Kill”
- Energy Efficient - Less Than 30-Watts!
- No Harmful By-products - Enables Water Reuse

### Residential, Commercial, Municipal Uses

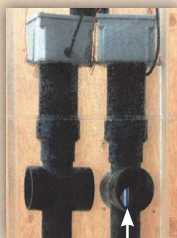
- Gravity Flow to 100,000 GPD with Multiple Units
- Quick Install In Ground/Pump Tank
- Reliable Continuous Performance Monitoring
- 2-yr “Long Life” Lamp Easily Replaced
- Teflon® Barrier Resists Fouling (Minimal Maintenance)

### Most Third Party Tested & Approved

- Only Floodproof UL Certified Unit (NEMA 6P)
- University of Rhode Island 5-yr Demo Test
- Outstanding NSF 6-month Tests (with 19 Different Treatment Systems)



Model  
3G



**UL & cUL (Canada)  
Certified**

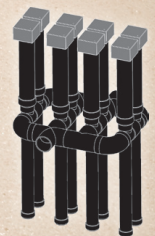
30 days submerged in a water tank  
test; demonstrated ability for  
complete underground operation



**Cascade School**  
Four Salcor 3G UV Units  
connected in a parallel/  
series array



**Mud River Project**  
Over 50 Salcor 3G UV  
Units installed with  
ANUA peat filters.



**Residential, Commercial  
& Municipal Parallel/  
Series Arrays**

Disinfects up to 100,000 GPD  
(12 unit array at 9,000 GPD  
per unit)



Salcor — UV Innovator Since 1978,  
Providing 2-Year Warranted Products Worldwide

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*Learn Why our Salcor 3G Leads Wastewater UV Disinfection Sales!*



## DESCRIPTION

The **Salcor 3G unit disinfection chamber** couples directly to the aerobic plant discharge pipe and is permanently installed below grade. **One ultraviolet lamp** is mounted in a sub-assembly which can be **easily** inserted or removed through the top of the riser pipe for periodic servicing.

The **disinfection subassembly** causes the wastewater entering one side of the unit to flow vertically downward, make an 180 degree turn, and then flow vertically upward and out the other side of the unit. **This well-defined flow path** is designed to give the fluid proper exposure time under turbulent flow. **No short circuiting.**

The **ultraviolet lamp** is surrounded by a clear fused quartz tube to control the lamp surface temperature. A clear **Teflon® film** covers the quartz tube to minimize surface fouling. When the **disinfection chamber** is filled with water, the ultraviolet lamp can operate continuously, whether or not water is flowing.

The **3G unit may be installed** in a pump tank, or it may be installed in the ground. **See Installation Manual for details.**

Properly installed, the **3G unit** is rated **NEMA 6P**, and is capable of operating during short term submergence. **The unit passed a 30 day underwater test by Underwriters Laboratories and is UL and CSA certified, (listed) under UL Standard 979.**

The **electrical subassembly** is mounted in a **junction box** located on top of the 4-inch riser pipe. A **printed circuit board** contains fuses, alarm circuitry, UV lamp ballast, power cable connections, voltage surge protection, and electronic noise filters.

The board is mounted to the **underside of the junction box lid. This simplifies installation and mitigates effects of humidity in the junction box.**

The **3G alarm relay circuit triggers an external alarm** to warn the user when the UV lamp is not operating properly. Electronic components in the circuit sense changes in the UV lamp operation which correlate with the germicidal ultraviolet output

When the UV lamp is producing ultraviolet germicidal light at a safe level, a **green LED indicator light**, located on the top of the electrical junction box, glows, which indicates proper UV lamp operation. The light stops glowing when the light output from the UV lamp falls below a safe level or is not operating.

## DESIGN PARAMETERS

- **Maximum flow rate:** 3 GPM for 30:30 effluent  
6 GPM for 10:10 effluent.
- **Fecal coliform reduction** at lamp end-of-life (2 years) greater than 99.9 %.
- **Inlet and outlet pipe** is 4-inch schedule 40 ABS.
- **Pressure drop** is less than 0.5 inches of water at maximum flow rate.

- **Power use** is 30 Watts. **Energy use** is 0.72 kW-hr/day, assuming continuous operation.
- **UV lamp is low pressure mercury**, 90 % of output at 253.7 nanometers. **Minimum arc length** is 30 inches, and the UV intensity is greater than 190 microwatts/cm<sup>2</sup> at one meter. **The unit and “Long Life lamp” are warranted for 2 years**
- **UV dose** is greater than 55 mj/cm<sup>2</sup> (55,000 microwatt-seconds/cm<sup>2</sup>).
- **UV Lamp Ballast** is 90 % efficient, high frequency operation (50 kHz) with thermal link protection. **Input Voltage** is 120 VAC at 50 or 60 Hz. **Input current** is up to 0.5 amps.

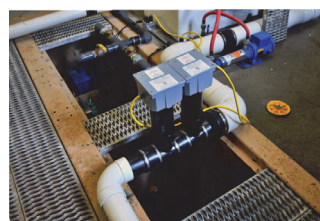
## NINETEEN 3G UV 6-MONTH TESTS

**Since 1997, Manufacturers of 19 Treatment Units Have Partnered with the Salcor 3G UV Unit. Each Used the NSF Standard 40 and the Washington State Fecal Coliform Reduction Protocol for 26 weeks. Salcor’s 3G UV Effluent Fecal Coliform Count Ranged From 2 to 35 per 100 ml. (Geometric Mean).**

Aero-Tech  
AK Industries, Hydro Action  
ANUA (Bord na Mona)  
Aqua Klear  
Bio Microbics, Microfast 0.5  
Clearstream  
Consolidated Treatment, Enviroguard .75  
Consolidated Treatment, Multiflo  
Consolidated Treatment, Nyadic  
Delta Whitewater, DF 60  
Delta Whitewater, Ecopod  
Ecological Tanks, Aqua Safe  
Enviro Flo  
Hoot Aerobics  
Jet Inc.  
Norweco – Singlair  
Orengo, AX 20N  
Quanics, ATS-CSAT-8-AC-C500  
Solar Air

## OTHER APPLICATIONS

Nursing Home, OH



**Two UV Units in Series  
with Activated  
Sludge Plant**

Restaurant, CA



**Four UV Units  
Connected in  
Parallel/Series**