

Aqualight[®]TOC

ULTRAVIOLET TOC REDUCTION

The TOC reduction systems are designed specifically for the reduction of total organic carbon (TOC) levels. These systems are designed with shorter wavelength UV lamps emitting their spectral output at 185nm. These "shorter" wavelength lamps emit more energy than standard 254nm lamps producing hydroxyl free radicals (OH) which in turn oxidizes most organics into carbon dioxide (CO₂) and water (H₂O).



The TOC systems are designed specifically for the treatment of ultrapure waters such as those found in the production of semiconductors and other processes requiring water with extremely low levels TOC. All TOC reduction systems produce UV dosages in excess 120mJ/cm² at the end of lamp life.

Ultraviolet light treatment is a widely recognized and proven method of disinfection of water, does not add anything to the water, nor does it generate harmful byproducts. It adds only energy in the form of ultraviolet radiation. It is fast, efficient, effective, economical and environmentally-friendly.



Flow rates 20gpm (4.5m³/hr.) up to 150gpm (34m³/hr.) for light industrial applications, lamp remaining life reminder.

Specifications

Model	LTOC20	LTOC25	LTOC35	PTOC50	PTOC60	PTOC75	PTOC85	PTOC100	PTOC125	PTOC150
Flow Rates @ 120mJ/cm ²	20gpm (4.5m ³ /hr)	25gpm (5.7m ³ /hr)	35gpm (8m ³ /hr)	50gpm (11m ³ /hr)	60gpm (14m ³ /hr)	75gpm (17m ³ /hr)	85gpm (19m ³ /hr)	100gpm (23m ³ /hr)	125gpm (28m ³ /hr)	150gpm (34m ³ /hr)
Inlet / Outlet	1"	1"	1½"	2"	2"	2"	2"	3"	3"	3"
Reaction Chamber Dimensions	92.5*25*35cm (36.4*9.8*13.8 in.)	92.5*25*35cm (36.4*9.8*13.8 in.)	92.5*32*35cm (36.4*12.6*13.8 in.)	158.4*39*52cm (62.4*15.4*20.3 in.)	158.4*39*52cm (62.4*15.4*20.3 in.)	158.4*39*52cm (62.4*15.4*20.3 in.)	158.4*39*52cm (62.4*15.4*20.3 in.)	158.4*39*52cm (62.4*15.4*20.3 in.)	158.4*39*52cm (62.4*15.4*20.3 in.)	158.4*39*60cm (62.4*15.4*23.6 in.)
Control Panel Dimensions	x	x	x	42*20*52cm (16.5*7.9*20.5 in.)	42*20*52cm (16.5*7.9*20.5 in.)	42*20*52cm (16.5*7.9*20.5 in.)	42*20.5*73cm (16.5*8*28.7 in.)	42*20.5*73cm (16.5*8*28.7 in.)	42*20.5*73cm (16.5*8*28.7 in.)	42*20.5*73cm (16.5*8*28.7 in.)
Ultraviolet Lamp	Part# GHO36T5VH-LT, 80 Watts, 800mA, 185nm			Part# GHO64T5VH-LT, 155 Watts, 800mA, 185nm						
Quartz Sleeve	Part# QS900-BO, 900mm, Both Sides Open			Part# QS1575-BO, 1575mm, Both Sides Open						
Ballasts	Par# GDB80095L2, 110V.-240V./50-60Hz.			Part# GDB800155L2, 110V.-240V./50-60Hz.						
Number of Lamp/ Sleeve/Ballasts	3	4	6	4	5	6	7	8	10	12
Timer Monitor	Lamp Operating Hours Monitor, Part No. GDT-9000									
Features	Lamp Operating Indicator, Audible Lamp Failure, Lamp Operating Hours up to 9000hr, Total Running Days, Dry Contact									

► Flow Rates Stated at 95% UV Transmittance of End of Lamp Life, 20°C

General

- SS304 Construction Material (SS316 as Request)
- Optional Sanitary Connections, Temperature Monitor

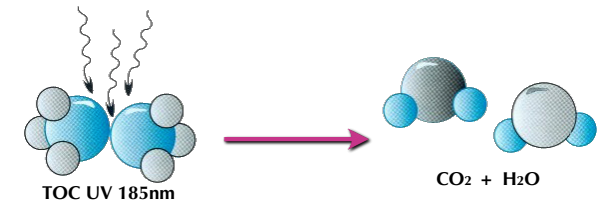
Parameters

- Max. Operating Pressure 125psi (8.62 bars)
- Ambient Water Temperature 2-40°C (36-104°F)
- Iron < 0.3 ppm (0.3mg/L)
- Hardness < 7 gpg (120 mg/L)
- Manganese < 0.05 ppm (0.05 mg/L)
- Turbidity < 1NTU
- Tannins < 0.1 ppm (0.3 mg/L)
- UV Transmittance >75%

Warranty

- Ultraviolet Water Disinfection Systems Carry a Three Year Warranty on the Stainless Steel Reaction Chamber
- A TWO Year on Power Supply Controller
- A ONE Year Warranty on Ultraviolet Lamp, Quartz Sleeve and Other Components

Principle



- Causes photochemical reactions
- Promoted hydroxyl (OH-) free radicals
- Oxidizes most organics into CO₂ and H₂O

Note: reduction in the order of < few ppb can be reached. TOC reduction and microbial destruction occurs with the use of 185nm wavelength lamps.