



WATER

Industrial Water Purification

800-CAL-WATER

TOC Removal Systems Ultraviolet Photo-oxidizers 1 to 130 Gallons Per Minute

A **Cal Water TOC Destruction/Reduction System** is an engineered, multi-tech assembly of high reliability components that work together to provide a high purity water with a TOC content that can meet any specification down to 10 ppb TOC or less.

Our TOC "Killer" does more than simply kill microorganisms. The basic system consists of a photo-oxidation chamber using 185 nm UV radiation to take apart any organics, including natural and man-made organic compounds. The oxidation products are predominantly CO₂ and water.

In practice, high purity water enters a clarifying filter, and then after a pre-oxidation step of ozone or hydrogen peroxide, to a highly polished 316L stainless steel UV radiation chambers at a predetermined flow rate. Water borne organics are then subjected to over 120,000 $\mu\text{ws}/\text{cm}^2$ of 185 nm UV energy that effectively oxidizes them to carbon dioxide and water.

FEATURES



Cal Water TOC "Killer"
Model TOC-AF20-6-2

- Electro-polished 316L stainless steel oxidation chambers.
- Easy lamp replacement.
- 185 nm UV radiation of $>120,000$ microwatt-seconds/cm² after 8,000 hrs.
- Lamp status L.E.D. on all lamp circuits.
- Ozonation is done by corona discharge fed by oxygen concentrators using air as the oxygen source.
- Pre and Post filtration.
- Factory tested components.
- All stainless steel welding is done using tungsten inert gas (TIG).
- A wide variety of options are available to oxidize almost any organic in high purity water.
- Fast, responsive factory support on any problem or question.



UV Oxidizer Reaction Units

For More Information Please Call
1(800) CAL-WATER - (800) 225-9283

OPTIONS

- 254 nm UV Polisher Sterilizer
- Membrane generated Ozone pre-oxidizer
- Hydrogen Peroxide pre-oxidizer
- 316L Stainless Steel Contact Tank
- ORP monitor/controller
- TOC monitor/controller
- Sanitary Inlet & Outlet Fittings
- UV radiation monitors, 185 & 254
- Component Calibration Kits
- Powder Coated Skids for compound Systems
- PLC W/ Touch Screen Control
- CalCon II Computer Monitoring
- **Cal Water support**, including service contracts



UV lamps can be changed quickly after system is de-pressurized.

APPLICATIONS

- Down stream of a Reverse Osmosis system for the removal/destruction of volatile organic compounds.
- Organic and Bacteria-free water for: (Laboratories, Hospitals, kidney dialysis, breweries, dairies, bottling plants, cosmetics, pharmaceuticals, chemical, distilleries, etc.)
- Post-ion exchange for the elimination of amines sloughed off the resin.
- Pre-reverse osmosis or deionization to protect from chemical and biological organic fouling.
- High-purity water systems prior to final mixed bed polishing.

SIZING AND SELECTION – Basic Units

TOC Unit Model No.	Flow (GPM)	Dimensions			Inlet/Outlet Size	Amps 117 VAC	Watts	Lamps		Weight lb
		L	W	H				No.	Len.	
TOC -AF1-1-.5	1	10"	6"	19"	1/2" Flange	0.4	48	1	10"	24
TOC -AF3-1-1	3	10"	7"	38"	1" Flange	0.5	61	1	30"	42
TOC -AF5-2-1.5	5	38"	7"	21"	1 1/2" Flange	0.8	96	2	30"	60
TOC -AF20-6-2	20	38"	11"	21"	2" Flange	9.8	1152	6	30"	130
TOC -AF30-8-2	30	38"	11"	21"	2" Flange	14.8	1728	8	30"	140
TOC -AF40-12-2	40	40"	16"	34"	2" Flange	19.7	2304	12	30"	225
TOC -AF70-8L-3	65	68"	11"	21"	3" Flange	29.5	3456	8	60"	250
TOC -AF90-10L-3	83	68"	11"	21"	3" Flange	19.7	2304	10	60"	305
TOC -AF110-12L-3	108	68"	11"	27"	3" Flange	24.6	2880	12	60"	325
TOC -AF140-16L-3	130	68"	11"	34"	3" Flange	29.5	3456	16	60"	460

Flow rates noted above are based on TOC loads of 2,000 ppb or less. Greater loads can be processed, but may require lower flow rates and/or additional pre-oxidation steps. For precise sizing, an analysis of organic loading from a qualified laboratory is required.

Warranty: TOC unit are backed by a 1-year warranty for parts and factory labor only, barring misuse or abuse. Warranties are specifically limited to the repair or replacement of the equipment. Cal water cannot be held liable for other losses of any kind. (Please see Terms and Conditions of sale.)

Cal-Water has been selling, installing and servicing water purification equipment since **1946**.

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