

A large, circular, metallic chamber, likely made of stainless steel, is shown from an internal perspective. The chamber has a thick, flanged rim with numerous small, evenly spaced holes. Inside, several vertical metal rods or tubes are visible, extending from the top. The interior surfaces are highly reflective, showing bright highlights and shadows that suggest a polished, industrial environment. The overall color palette is dominated by the metallic gold and silver tones of the chamber, set against a dark blue background.

**Ultraviolet Water
Treatment Technologies**
The Clear Choice

When you need clean water, UV Technology from Calgon Carbon is the clear choice.



Long a world leader in granular activated carbon purification systems, Calgon Carbon has also been delivering proven ultraviolet (UV) water treatment solutions for more than 25 years. Our UV technologies offer a clearly superior choice for disinfecting drinking water and municipal wastewater, treating industrial wastewater and process water, and remediating contaminated water. With Calgon Carbon UV systems spanning five continents and treating more than four billion gallons (15 billion litres) of water every day, we have the technology and expertise to meet your most challenging water treatment needs.



Calgon Carbon UV Technologies at a Glance



Proven. Our 25+ years of UV innovation started with the introduction of an advanced oxidation process to destroy toxic compounds in groundwater and expanded to the breakthrough discovery for low-dose inactivation of *Cryptosporidium*, which provided the potable water industry a cost-effective method to protect public health. Through innovative research and development, Calgon Carbon UV continues to evolve to meet the ever-increasing water disinfection needs of the public and private sectors.

Comprehensive. We offer UV disinfection systems and Advanced Oxidation Technologies to disinfect and remediate:

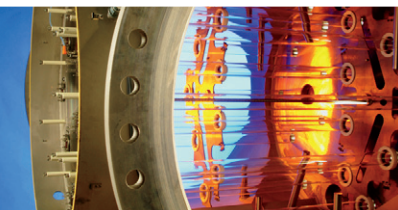
- Municipal drinking water and wastewater
- Industrial wastewater and process water
- Groundwater

Powerful. Our solutions are highly effective—even for the most challenging wastewater reuse and low-effluent-quality applications

Flexible. You'll find cost-effective solutions for applications ranging from a few hundred gallons per minute up to billions of gallons per day—*performance guaranteed.*

The UV Advantage

Treating water with UV irradiation is highly effective because it attacks harmful organisms at the genetic level. By passing contaminated water over ultraviolet lamps with germicidal properties, the UV energy disrupts the DNA in viruses, bacteria, and protozoa, making them unable to reproduce and rendering them harmless. UV is especially helpful to treat chlorine-resistant organisms like *Cryptosporidium* and *Giardia*. In addition, UV treatment has many other advantages, including:



- Low cost and environmentally friendly compared to chemical treatment
- No need to transport, store, and handle toxic chemicals
- No taste or odor introduced to the water
- No disinfection by-products—safe for the environment and aquatic life
- Flexible system design and ease of maintenance (including retrofits)
- Minimal service requirements
- EPA approved for disinfection under the Long Term 2 Enhanced Surface Water Treatment Rule (LT2)

The Added Power of Advanced Oxidation Technologies

UV technology can be made even more powerful and versatile to meet particularly challenging water treatment needs. When an oxidizing agent is added to the water, most often hydrogen peroxide, it absorbs the UV energy, producing highly reactive hydroxyl radicals that oxidize organic contaminants in the water. This reaction breaks down the contaminants into harmless by-products. Advanced Oxidation Technology is highly effective at treating a broad range of chemicals, including MIB and Geosmin (taste and odor in drinking water), NDMA, 1,4-dioxane, contaminants of emerging concern, and many more.

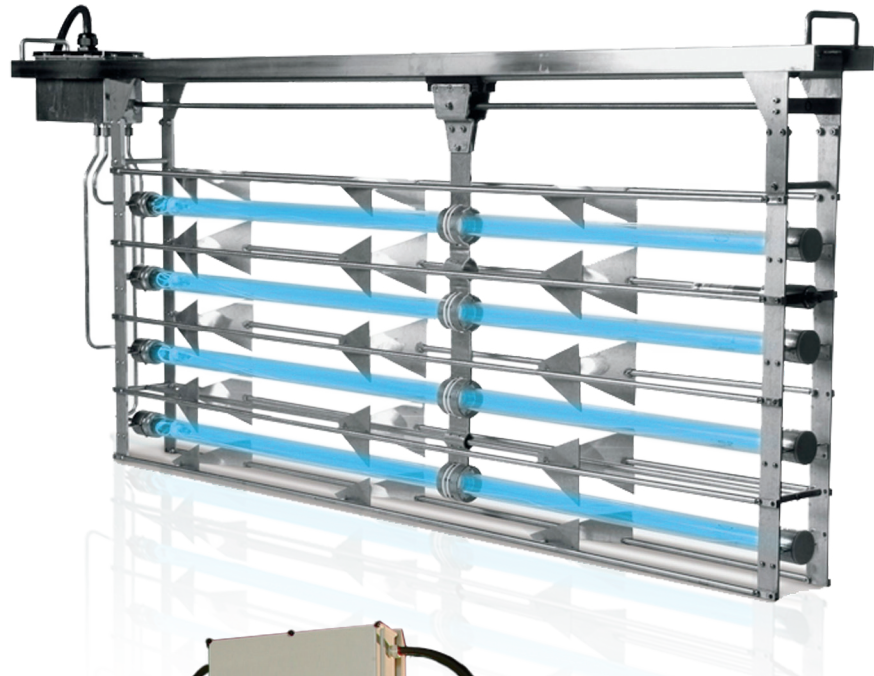
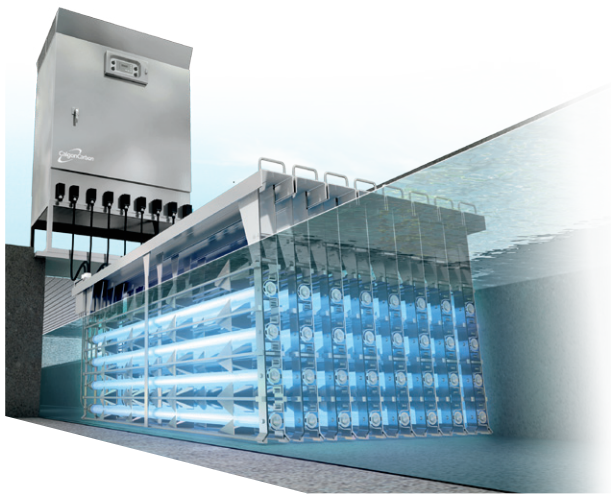
Drinking Water

Disinfection and Taste and Odor Control



Municipal Wastewater

Disinfection and Reuse



Industrial Wastewater Process Water Groundwater

Disinfection, Remediation, and Reuse



SENTINEL®, SENTINEL Chevron AOP

With one of the industry's largest installed bases, our SENTINEL systems treat billions of gallons/litres of drinking water each day.

- SENTINEL models accommodate pipe sizes from 12 to 48 inches (300 to 1200 mm)
- The SENTINEL AOP and SENTINEL Chevron AOP range of products combines UV disinfection and advanced oxidation in one unit
- Each SENTINEL reactor can treat flow rates up to 52 million gallons per day (200 million liters per day).

SENTINEL Features & Benefits

- Provides municipal drinking water disinfection including Cryptosporidium and Giardia inactivation using high-intensity, medium-pressure lamp technology
- Protects at a fraction of the cost of other advanced treatment technologies, such as ozonation and membrane filtration
- No disinfection by-products
- EPA-approved for disinfection under the LT2 rule
- Outstanding taste and odor removal with the Advanced Oxidation Technologies of SENTINEL AOP and SENTINEL Chevron AOP

C³ Series™

Our reliable, compact C³ Series is a cost-effective solution for wastewater and reuse disinfection. The C³ Series product range includes our newest innovation—the C³500™D—a patent-pending design for the most challenging wastewater reuse and low-effluent quality applications.

- Models accommodate all flow range applications, including lower quality effluents
- Low-pressure, high-output lamp design
- Rugged, open-channel, self-cleaning, modular design
- NWRI validated for reuse applications

C³ Series Features & Benefits

- Energy-efficient UV lamp technology effectively disinfects wastewater without harmful by-products or environmentally harmful chlorine residuals
- Highest lamp output for open-channel systems — less lamps per system
- C³500D product specifically designed for reuse applications
- Patent-pending mixing technology offers high hydraulic/germicidal efficiency
- Proven modular mechanical cleaning system. Electrically driven; no ancillary equipment required.
- Validated for the lowest effluent quality— 35% UV transmittance
- Ballast mounted above the channel
- Prevents the spread of waterborne pathogens to lakes, streams, rivers, and coastal waters

SENTINEL® Chevron AOP, RAYOX®

In addition to our SENTINEL AOP products, our Advanced Oxidation Technologies include our RAYOX System for the destruction of organic compounds in groundwater, process water, and industrial wastewater.

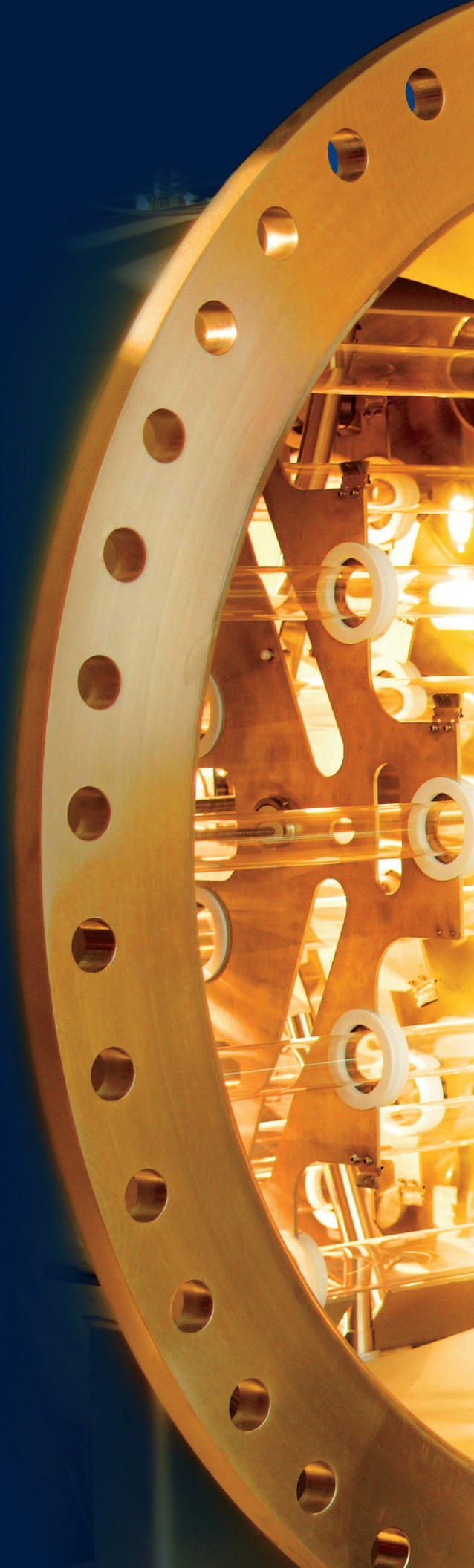
RAYOX

Standard models include a 1 kW Bench Scale Unit for batch testing, 30kW, 60kW, and 90kW, as well as custom configurations for larger applications.



Advanced Oxidation Technologies Features & Benefits

- Use the power of hydroxyl radicals to destroy organic compounds
- React millions of times faster than chemical oxidants such as ozone or hydrogen peroxide
- Combine UV disinfection and an added oxidizing agent (typically hydrogen peroxide) for ultra-fast, ultra-effective results
- Compact and cost-effective
- Support water reuse efforts—an environmentally friendly, sustainable choice



About Calgon Carbon Corporation

Innovation is the cornerstone of Calgon Carbon Corporation (NYSE:CCC). The company's leading technologies help ensure that tens of millions of people drink clean, safe water and why millions more can breathe clean, odor-free air.

Along with UV Treatment Technologies, Calgon Carbon also manufactures and supplies granular, powdered, and pelletized activated carbons, ballast water treatment equipment, ion-exchange technologies, liquid and vapor-phase adsorption systems, and comprehensive value-added services. The company's products help to purify water, foods and pharmaceuticals, separate gas, and remove mercury emissions from coal-powered electrical facilities.

Calgon Carbon — making water and air safer and cleaner.



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