UV disinfection is a physical process that applies only UV light to the water to render pathogens harmless to humans. It can be used to replace or reduce the traditional use of chlorine as a disinfectant. Chlorine has been shown to have significant environmental impact via toxicity to aquatic life and formation of disinfection by-products (DBPs). Additionally, it presents safety risks to plant operators that handle and store the chemical.

The unique design of the Calgon Carbon C3500™D provides an open channel wastewater disinfection solution using fewer lamps and with reduced head loss. This is made possible by the unique design with rack-mounted delta-shaped wings that provide continual rotation and mixing of the effluent for uniform UV dose application from low-pressure, high-output (LPHO) amalgam lamps.

The C3500™D is completely modular and scalable and can be precisely sized to any application requirement. The control system provides automated closed-loop dose or flow pacing for secondary and tertiary wastewater applications. Additionally, the efficient mixing provided by the delta wing has been proven for demanding reuse and low-quality effluent applications.

The system includes self-cleaning lamp racks, power distribution center (PDC), system control center (SCC), level control and all interconnecting cables.

Features/Benefits

- **Superior Disinfection Efficiency**
  Fewer lamps than competing UV systems by use of 500 W LPHO lamps and controlled mixing.

- **Smaller Footprint Suitable for Outdoor Installation**
  Lower overall cost of installation.

- **Low Headloss**
  Efficient hydraulic channel flow and design flexibility.

- **Self-Cleaning**
  Patented, electrically driven, stainless steel scrapers clean automatically without hazardous chemicals.

- **Validated Performance**
  Rigorously bioassay-tested from 35 to 80% UVT using MS2 and T1 surrogates.

- **Reuse-Ready**
  Tested and recognized for treatment requirements of the California Water Recycling Criteria (Title 22), recognized worldwide as the most-stringent standard for water reuse.

- **Floodable Rack Modules**
  Racks are designed to withstand prolonged submersion, should flooding or upsets occur.

Applications

- Wastewater Treatment
- Reuse
- Industrial Wastewater
Rack Modules

- Self-supporting modular design, 8 lamps per rack, max., with hydraulically efficient 6-inch (15.2 cm) spacing between lamps
- Easy to install and service

- Ballasts external to rack – tolerant to flooding events
- 500 W (nominal) low-pressure high-output pellet amalgam lamp
- Coated lamp for longer life, up to 16,000 hours

Cleaning System

- Cleaning system is electrically driven, minimizing number of components
- Patented stainless steel scraper
- No chemicals required
### C3500™D UV System Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Range</td>
<td>Validated from 35-80% UVT, (MS2 &amp; T1 surrogate)</td>
</tr>
<tr>
<td>Rack Configuration</td>
<td>2 to 8 lamps per rack</td>
</tr>
<tr>
<td>Lamps</td>
<td>Low-pressure, high-output (LPHO) amalgam</td>
</tr>
<tr>
<td>Ballasts</td>
<td>Electronic, variable output (60-100%), pre-heat start to extend lamp life</td>
</tr>
<tr>
<td>Cleaning System</td>
<td>Automatic mechanical wiper driven by fractional HP motor</td>
</tr>
<tr>
<td>Power Demand</td>
<td>575 watts/lamp including ballast (nominal)</td>
</tr>
<tr>
<td>Power Quality</td>
<td>.98 minimum system power factor, complies with IEEE519-1992 for THD</td>
</tr>
<tr>
<td>Input Power Options</td>
<td>400/230 VAC, 3 Phase, 4 wire and GND, 50/60 Hz</td>
</tr>
<tr>
<td></td>
<td>480/277 VAC, 3 Phase, 4 wire and GND, 60 Hz</td>
</tr>
<tr>
<td>Location</td>
<td>Indoor or Outdoor</td>
</tr>
</tbody>
</table>

**Through air and water purification** services, solutions and technologies, Calgon Carbon Corporation (NYSE: CCC) is deeply immersed in helping communities locally, nationally, and around the world meet today’s most daunting air and water purification challenges.

Calgon Carbon Corporation is an acknowledged leader in the activated carbon industry, including reactivation with complementary expertise in ultraviolet disinfection and oxidation, ion exchange technology, ballast water treatment, and liquid- and vapor-phase systems.