

Packaged Wastewater Disinfection

*Pure Water. Clean Air. Better World.*



# C<sup>3</sup>500™D/PS

## Packaged UV Wastewater Disinfection

Calgon Carbon UV Technologies, LLC designs and manufactures advanced wastewater ultraviolet light (UV) disinfection systems to prevent the spread of waterborne pathogens to lakes, streams, rivers and coastal water. UV is a proven, safe and environmentally friendly method of inactivating harmful organisms, including viruses, protozoa and bacteria.

**The C<sup>3</sup>500D/PS** UV System provides a pre-engineered, pre-packaged solution for communities needing to disinfect wastewater effluent under 2.6 million gallons per day (MGD) peak. The package system eliminates costly civil work for installation — the system can be easily connected from existing contact basins and channels by pipe runs to flanged inlet and outlet connections.

Operational modes can be easily selected from manual to fully automatic flow or dose pacing, affording significant power savings by applying only the UV intensity needed based on real-time conditions. Most comparable systems only provide rudimentary flow pacing or operate continuously at full power, wasting electrical energy.

The **C<sup>3</sup>500D/PS** is offered in six configurations, ranging from two lamps in a single bank to 12 lamps arranged in two series banks. The complete prepackaged system includes lamp racks, stainless steel channel, wall-mounted power distribution cabinet (PDC), instrumentation and all necessary interconnecting cables.

### Applications



Wastewater  
Treatment



Reuse



Industrial  
Wastewater

### Features/Benefits

- **Superior Disinfection Efficiency**

Fewer lamps than competing UV systems by use of 500 W LPHO lamps and controlled mixing.

- **Validated Performance**

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

- **Floodable Rack Modules**

Racks are IP68/NEMA 6P-rated should temporary flooding or upsets occur.

- **Dose Pacing**

Fully automated dose pacing is available, varying lamp output real-time for optimum energy efficiency.

- **Compact Level Control**

Tubular weir has smaller footprint than traditional serpentine weir, resulting in more uniform channel velocity profile for better dose distribution.

- **Self-Cleaning (Optional)**

Patented, electrically driven, stainless steel scrapers clean automatically without chemicals.

- **Simplified Assembly**

Assemble channel, connect piping, provide power and plug in UV racks, and the system is ready to operate.

- **Simplified Operation**

Intuitive navigation and display of all system parameters make the **C<sup>3</sup>500D/PS** very user-friendly.

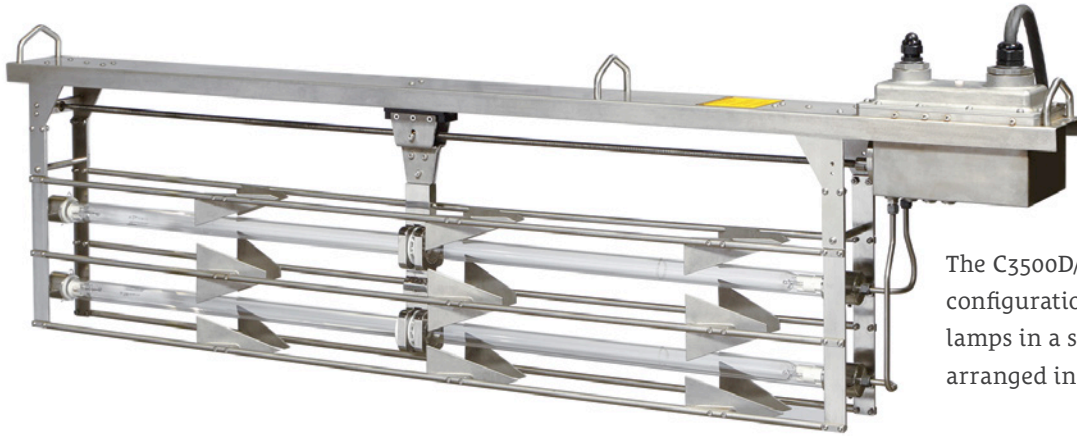
- **Designed for Easy Maintenance**

Racks can simply be unplugged and lifted from the channel for cleaning or maintenance, no hard-wired connections to disconnect.

- **Integrate to Existing Systems**

Built-in SCADA (Supervisory Control and Data Acquisition) using Modbus RTU industrial interface protocol.



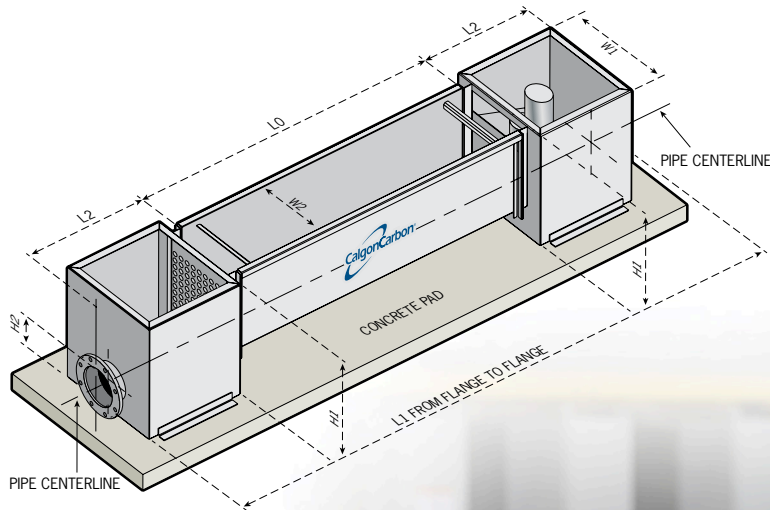


The C3500D/PS is offered in six configurations, ranging from two lamps in a single bank to 12 lamps arranged in two series banks.

### C<sup>3</sup>500™D Packaged Plant System Details

MODEL NUMBER	PEAK FLOW MGD (m <sup>3</sup> /hr)	NO. OF BANKS	RACKS PER BANK	TOTAL LAMPS	Dimensions – Inches (cm)								FLANGE SIZE	WEIGHT LBS. (kg) EXCL. LAMP RACK
					L0	L1	L2	W1	W2	H1	H2			
C3500DPS036	0.36 (57)	1	1	2	93 (236)	138 (351)	23 (58)	16 (41)	6 (15)	25 (64)	6 (15)	6" AWWA/ANSI	350 (159)	
C3500DPS072	0.72 (114)	1	2	4	93 (236)	154 (391)	31 (79)	24 (61)	12 (30)	29 (74)	7 (18)	8" AWWA/ANSI	525 (238)	
C3500DPS108	1.08 (170)	1	3	6	93 (236)	167 (424)	37 (94)	27 (69)	18 (46)	29 (74)	8 (20)	10" AWWA/ANSI	652 (296)	
C3500DPS085	0.85 (134)	2	1	4	185 (470)	247 (627)	37 (94)	24 (61)	6 (15)	29 (74)	7 (18)	8" AWWA/ANSI	655 (288)	
C3500DPS171	1.71 (270)	2	2	8	185 (470)	275 (699)	45 (114)	27 (69)	12 (30)	33 (84)	10 (25)	12" AWWA/ANSI	875 (397)	
C3500DPS257	2.57 (405)	2	3	12	185 (470)	283 (719)	49 (124)	40 (102)	18 (46)	33 (84)	12 (30)	16" AWWA/ANSI	1125 (510)	

Note: Configurations are based on a UV transmission of 65%, 15 mg/L of suspended solids and an MS2 dose of 30mj/cm<sup>2</sup>. Contact factory for other sizing requirements. Dimensions are for reference only and subject to change without notice.



Calgon Carbon's UV Technologies Division has been manufacturing and testing UV systems in Western Pennsylvania for over 20 years. You can have confidence in our highly qualified assembly and test personnel. We are fully certified to an ISO 9001 quality management system for all aspects from design to aftermarket support of UV treatment systems.



## C<sup>3</sup>500™D/PS UV System Specifications

Typical Applications	Up to 2.6M MGD (410 m3/hr)
Lamp Banks	1 or 2 (for redundancy or treatment in series)
Lamps	Low-pressure, high-output (LPHO) amalgam
Ballasts	Electronic, variable output (60-100%), pre-heat start to extend lamp life
Power Demand	565 watts/lamp including ballast (nominal)
Power Quality	.99 minimum system power factor, complies with IEEE 519-1992 for total harmonic distortion
Power Input	240 V, single phase
Environment	Indoor or Outdoor, 16 to 109° F (-9 to 43° C) ambient, <95% relative humidity (non-condensing)
Level Control	Fixed tubular weir to maintain correct water level from zero to full flow
System Controls	Microprocessor based closed loop control
Channel	Stainless construction with AWWA flanges and removable lids
Instrumentation	UV sensor, level monitor
Options	Automated cleaning Handheld UVT analyzer Jib crane Service trolley Portable cleaning tank (for systems without on-line cleaning) PDC stand Field start-up and training

Calgon Carbon Corporation (NYSE:CCC) is a global leader in innovative solutions, high-quality products and reliable services designed to protect human health and the environment from harmful contaminants in water and air. As a leading manufacturer of activated carbon, with broad capabilities in ultraviolet light disinfection, the Company provides purification solutions for drinking water, wastewater, pollution abatement, and a variety of industrial and commercial manufacturing processes.

For more information about Calgon Carbon's leading activated carbon, filtration media and ultraviolet technology solutions, visit [www.calgoncarbon.com](http://www.calgoncarbon.com).



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