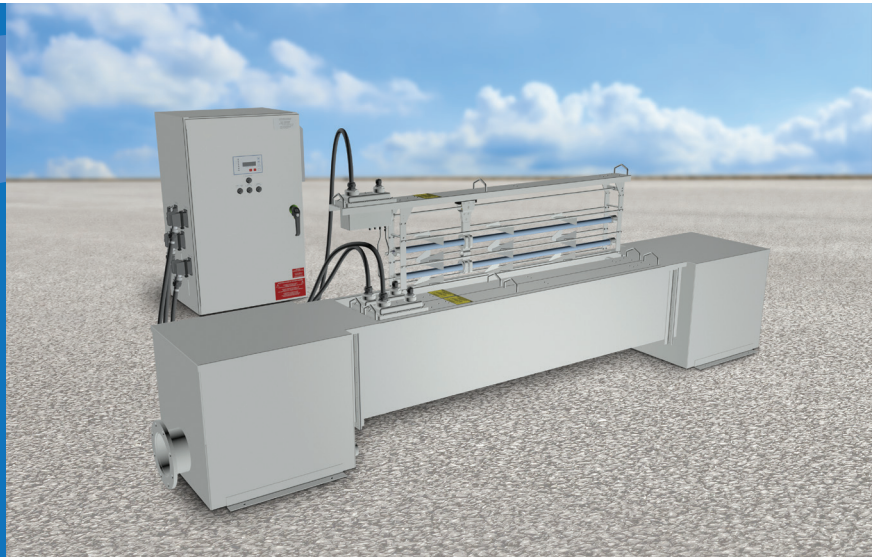


Capital Controls[®] UV Featuring C³ Series UV

Wastewater Disinfection

**Efficient, low headloss and validated UV systems
for wastewater and reuse applications.**

The advantage of Capital Controls® UV systems.



Effective, easy to operate, third party validated UV disinfection of wastewater.

De Nora designs and manufactures advanced wastewater ultraviolet light (UV) 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.

Available as packaged or engineered systems, the unique design of the Capital Controls® C³500 UV system provides an open channel wastewater solution using fewer lamps and with reduced head loss. The rack-mounted delta-shaped wings provide continual rotation and mixing of the effluent for uniform UV dose application from low-pressure, high-output (LPHO) amalgam lamps. The C³500 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.



Applications:

Various water borne pathogens can be found in wastewater that can infect humans and ultimately cause sickness.

MUNICIPAL WASTEWATER

- Total Coliform
- Fecal Coliform
- Escherichia coli

WATER REUSE

- Poliovirus

CAPITAL CONTROLS UV SYSTEMS WITH C³500 REACTOR



EFFICIENCY AND PERFORMANCE

Medium pressure lamps offer superior disinfection efficiency with fewer lamps.

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

Flood resistant modules are IP68/NEMA 6P-rated.

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



SIMPLE OPERATION, MAINTENANCE AND INSTALLATION

Intuitive navigation and display of all system parameters.

Minimal operator intervention required.

Patented, low maintenance self-cleaning stainless steel wipers automatically clean without chemicals.

Racks are easily unplugged and lifted from the channel for cleaning or maintenance, with no hard-wired connections to disconnect.

Built-in SCADA communication using Modbus RTU.

Available as a packaged design for small systems up to 2.6 MGD (410 m³/hr).



VALIDATED PERFORMANCE

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

Tested and certified for treatment requirements of the California Water Recycling Criteria (Title 22).



EXPERTISE IN UV DISINFECTION

UV disinfection of wastewater, reuse and drinking water with hundreds of installations.

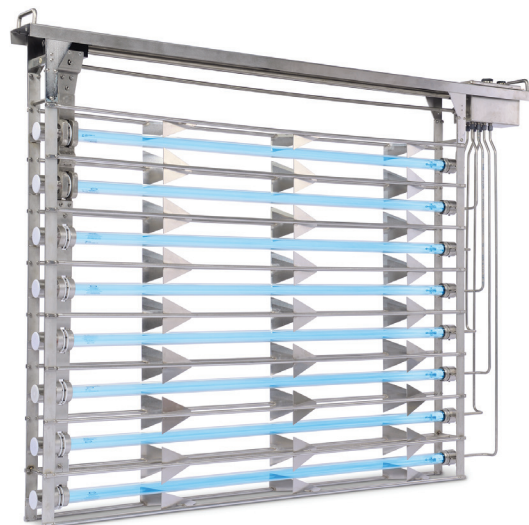
UV/peroxide and UV/Chlorine advanced oxidation for the destruction of chemical contaminants including contaminants of emerging concern.

Validation and CFD modeling of UV systems.

Regulatory approval of UV systems.

Why UV for wastewater disinfection?

- Effective at inactivating *Total Coliforms*, *Fecal Coliforms* and *Escherichia coli* at low doses
- Does not require the use of chemicals
- Does not create disinfection byproducts



C³500 UV SYSTEM FEATURES

The C³500 series is a high efficiency UV system in a small footprint, offering simple operations and maintenance and ease of installation.

Lamps	Low-pressure, high-output (LPHO) amalgam
Rack Configuration	2 to 8 lamps per rack
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 (PS Systems) 400/230VAC, 3 Phase, 4 wire and GND, 50/60 Hz 480/277VAC, 3 Phase, 4 wire and GND, 60 Hz
Environment	Indoor or Outdoor, 10 to 109° F (12 to 43° C) ambient, <95% relative humidity (non-condensing)
Cleaning System	Motor driven automatic mechanical wiper
Level Control	Fixed tubular weir or serpentine or motorized weir gate to maintain correct water level
System Controls	Microprocessor based closed loop control
Channel	Stainless construction with AWWA flanges and removable lids (PS Systems)
Instrumentation	UV sensor, level monitor
Options	Automated cleaning (PS Systems, standard on open channel) Handheld UVT analyzer Jib crane (PS Systems) Service trolley Portable cleaning tank (for systems without on-line cleaning) (PS Systems) PDC stand (PS Systems) Field start-up and training

About De Nora

Backed by 100 years of experience, you can be confident in the reliability and safety of Capital Controls® UV systems. De Nora is the partner-of-choice for communities and companies around the globe. In fact, more than 500 million people around the world use water treated by De Nora products every single day.

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