



# LEAVE MARK



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# Our Mission



At Canopus Water Technologies we are committed to make your water safe without using chemicals



# Our Markets



**INDUSTRIAL**



**POOL AND SPA**



**WASTEWATER**



**BALLAST WATER**



**AGRICULTURAL  
& FARMING**



**MUNICIPAL**

# Our Product Lines



UVC-LED

## UVC-LED based system

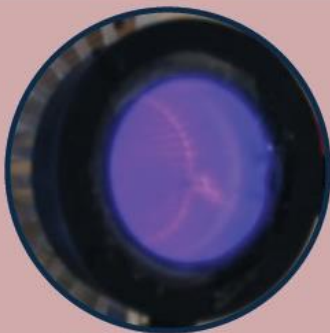
- Second to market with highest flow rate capability to address broader market.
- Scalable (to address Point-of-use and Point-of-entry)



PLASMA

## Plasma based system

- True differentiator (first commercial product).
- Expected to provide the best performance across a broad range of pathogens.



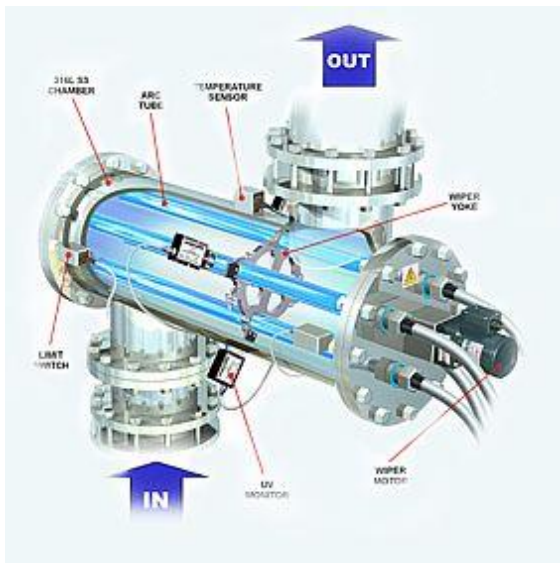
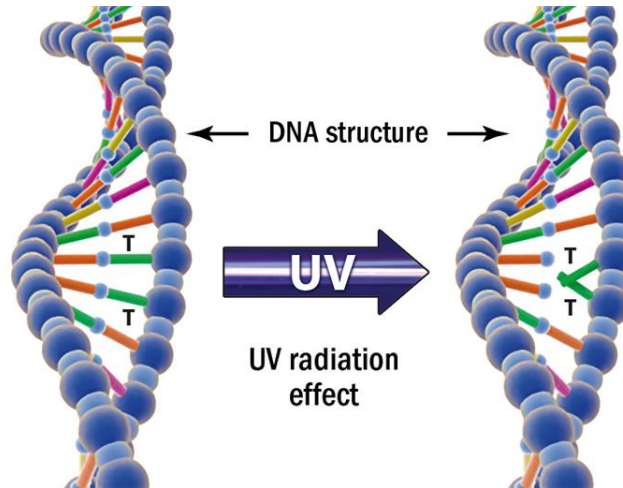
OZONE

## Ozone Platform

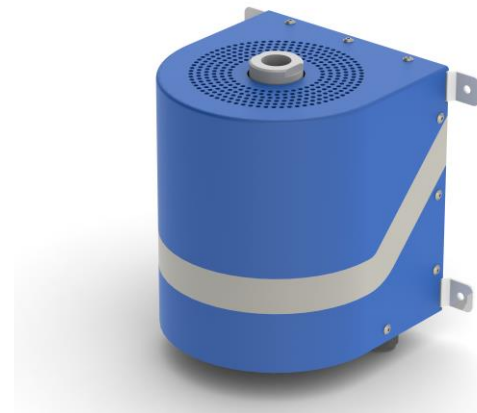
- Specific to address the aquaculture market, pharma, and specialty paper industry

# C-UV100 The World's Best

- UV in the germicidal range deactivates bacteria by disrupting its structure



Legacy products use low pressure mercury lamps to generate UV



The C-UV100 uses safe, rugged, and high efficacy LEDs with no mercury

# How Does it Compare?

	Standard Mercury Lamp	C-UV100
Instant ON/OFF	<i>X</i>	<i>✓</i>
Compact	<i>X</i>	<i>✓</i>
Long life	<i>X</i>	<i>✓</i>
Energy Efficient	<i>X</i>	<i>✓</i>
Fragile	<i>✓</i>	<i>X</i>
fouling	<i>✓</i>	<i>X</i>
Mercury	<i>✓</i>	<i>X</i>
High Voltage Ballast	<i>✓</i>	<i>X</i>
Temperature Dependent	<i>✓</i>	<i>X</i>

# Standard Features

## Smart Controls



- Wi-Fi enabled
- IoT ready
- Easy to use app.
- Intuitive controls and diagnostics

## Long Lasting and Energy Efficient



- No fans
- 50k hour LED lifespan
- Less than 15W of energy usage (a comparable Mercury system utilizes more than 200W)
- No warm up time
- Pulsing capability to increase life and efficiency

## Customizable



- Scalable
- Flexible controls
- Programmable
- Ability to integrate:
  - Filters
  - Safety solenoids
  - Back-up batteries
  - Flow monitors
  - Solar power



# Fouling in Wastewater

- Mechanisms that induce fouling:
  - Heat induced precipitation of metals:
    - Mercury lamps operate at high temperature ( $150^{\circ}\text{C}$  for LP and  $600^{\circ}\text{C}$  for MP) resulting in a significant temperature gradient.
  - Gravitational Settling:
    - Many UV devices are designed for horizontal mounting. In this case gravitational settling causes metal deposits to form on the top surface of the lamp
  - Flocculation:
    - Significant fouling is found in areas of low velocity and where eddies are observed

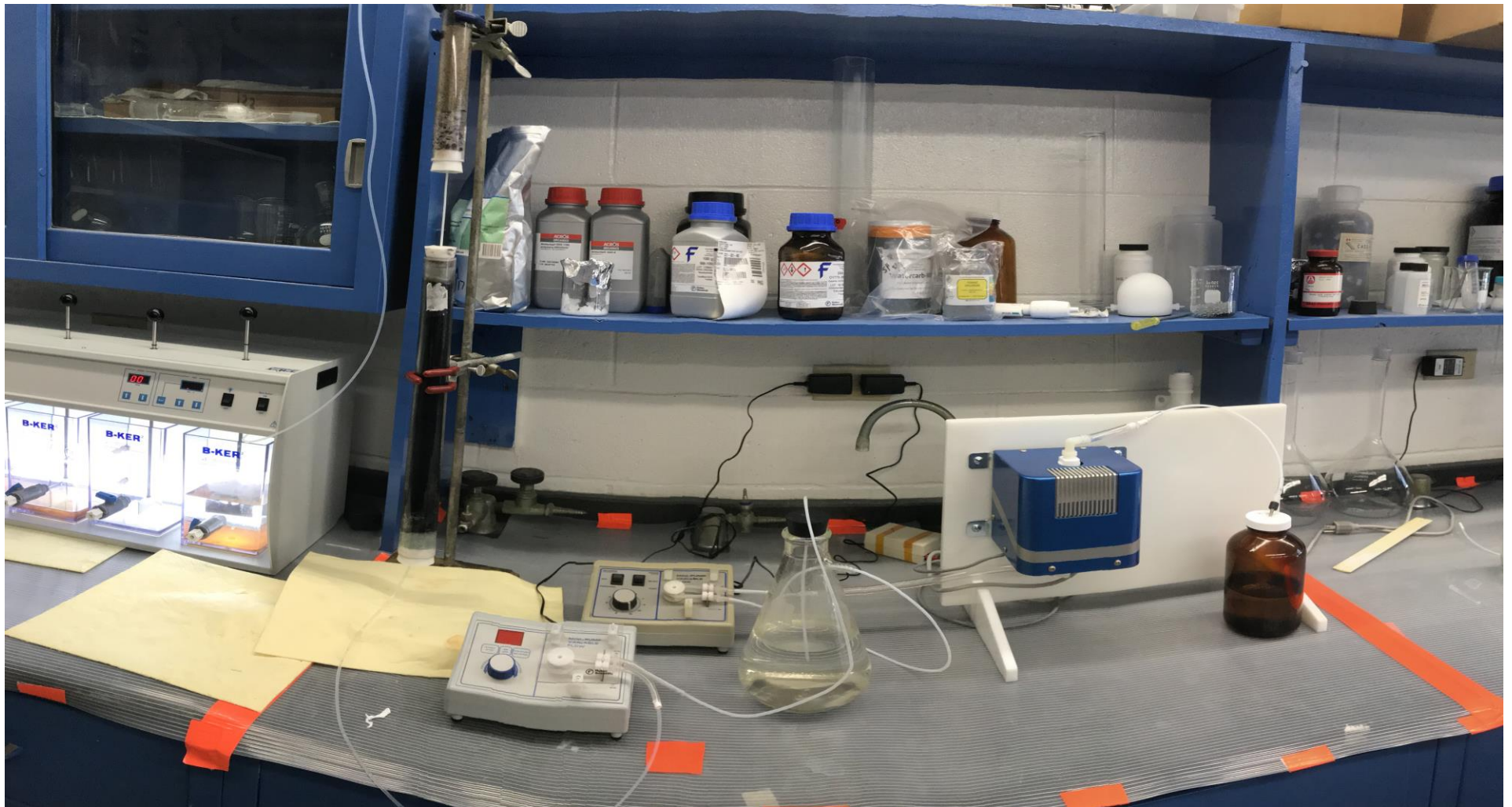


With NO temperature gradient in the reactor, NO surfaces for settling, and NO obstacles to cause eddies, fouling is reduced to a minimum

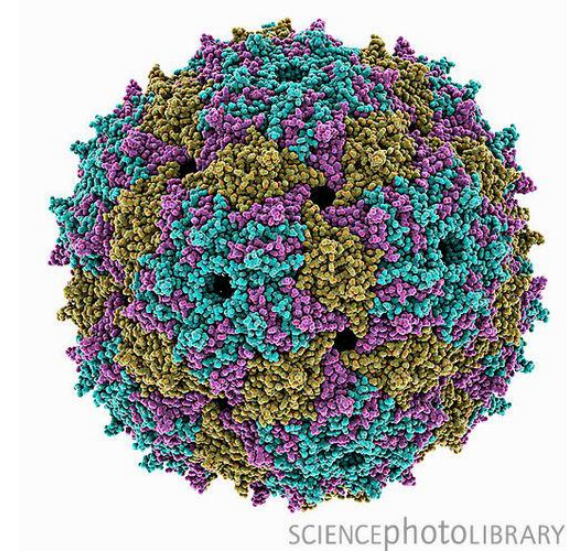
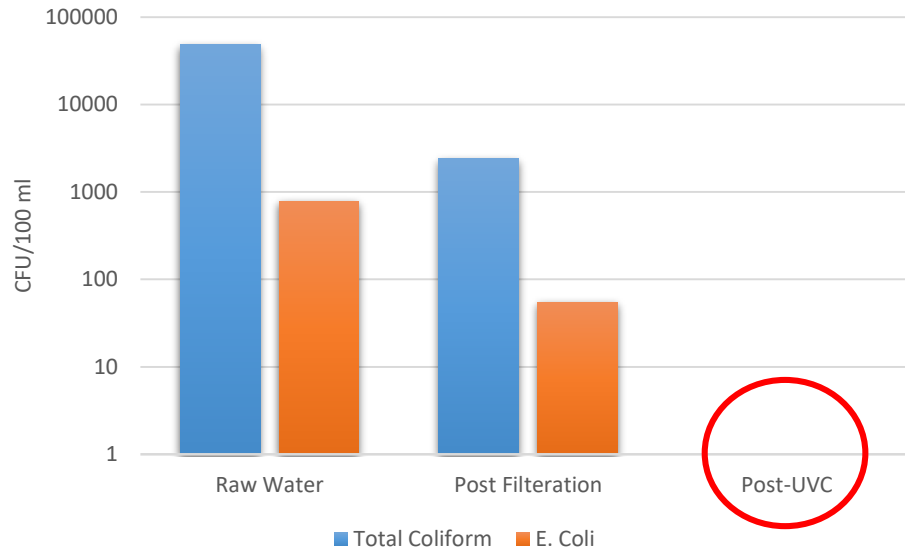


# Case Study: Bench-scale Treatment for DBP Control

Collaborative effort with University of Rhode Island to mitigate effects of extreme weather events for community water systems with C-UV100 as the primary disinfectant.



# Case Study: Bench-scale Treatment for DBP Control



	Total Coliform (CFU/100ml)	E. Coli (CFU/100ml)
Raw Water	48390	782
Post Filtration	2419.5	54.8
Post-UVC (C-UV100)	0	0



UVC-LED

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PLASMA

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OZONE



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