

# SENTINEL® 12

## Ultraviolet Drinking Water Disinfection System



### Description

Designed to treat flows up to 4.8 million gallons per day (15 MLD), the Sentinel® 12 can effectively disinfect drinking water in small- to medium-sized treatment plants. The Sentinel® 12 uses medium-pressure lamp technology to achieve greater than 4 log inactivation of *Cryptosporidium* and similar pathogens in drinking water. Medium-pressure lamp technology allows the Sentinel® 12 to be compact with a small footprint. This can provide a significant advantage to water treatment plants looking for a system that can be easily retrofitted into existing treatment systems. The Sentinel® 12 outperforms other advanced treatment technologies such as membranes and ozone at a fraction of the cost. The Sentinel® 12 system features include independent, third-party-certified UV intensity sensors to assure accurate delivery of UV dose, an automatic quartz sleeve cleaning system, and a fully automated control system.

The Sentinel® 12 was designed using advanced computational fluid dynamics allowing for optimal lamp and baffle placement to ensure maximum reactor performance and operational efficiency. The Sentinel® 12 has undergone third-party validation under the U.S. EPA LT2 Enhanced Surface Water Treatment Rule guidelines.

Calgon Carbon's UV Technologies Division has hundreds of UV systems installed for treating a broad spectrum of contaminated groundwater, process water, wastewater, and drinking water. The Sentinel® product line has one of the industry's largest installed bases treating hundreds of millions of gallons of drinking water per day.

### Design Features

#### Lamps

- High intensity medium-pressure lamps

#### Lamp Intensity Sensors

- DVGW-certified germicidal sensors (one per lamp)

#### Cleaning System

- Automatic Quickwipe™ system

#### Automated Operation and Control System

- PLC-based operation and control

#### Electromagnetic Ballast

- Reliable time-proven design

### Advantages

**Low Cost:** compared to other advanced treatment technologies such as ozone and membranes

**Compact Design:** easy installation and retrofits for small- to medium-sized treatment plants

**Third Party Validated:** in compliance with U.S. EPA's LT2 Enhanced Surface Water Treatment Rule

**Clean:** no chemicals used for cleaning; produces no disinfection by-products

**Safe:** automatic emergency shut down

**Reliable:** robust long-life electromagnetic ballasts with superb voltage tolerance

**Easily Installed:** power cabinets may be located up to 500 feet (150 meters) from reactor



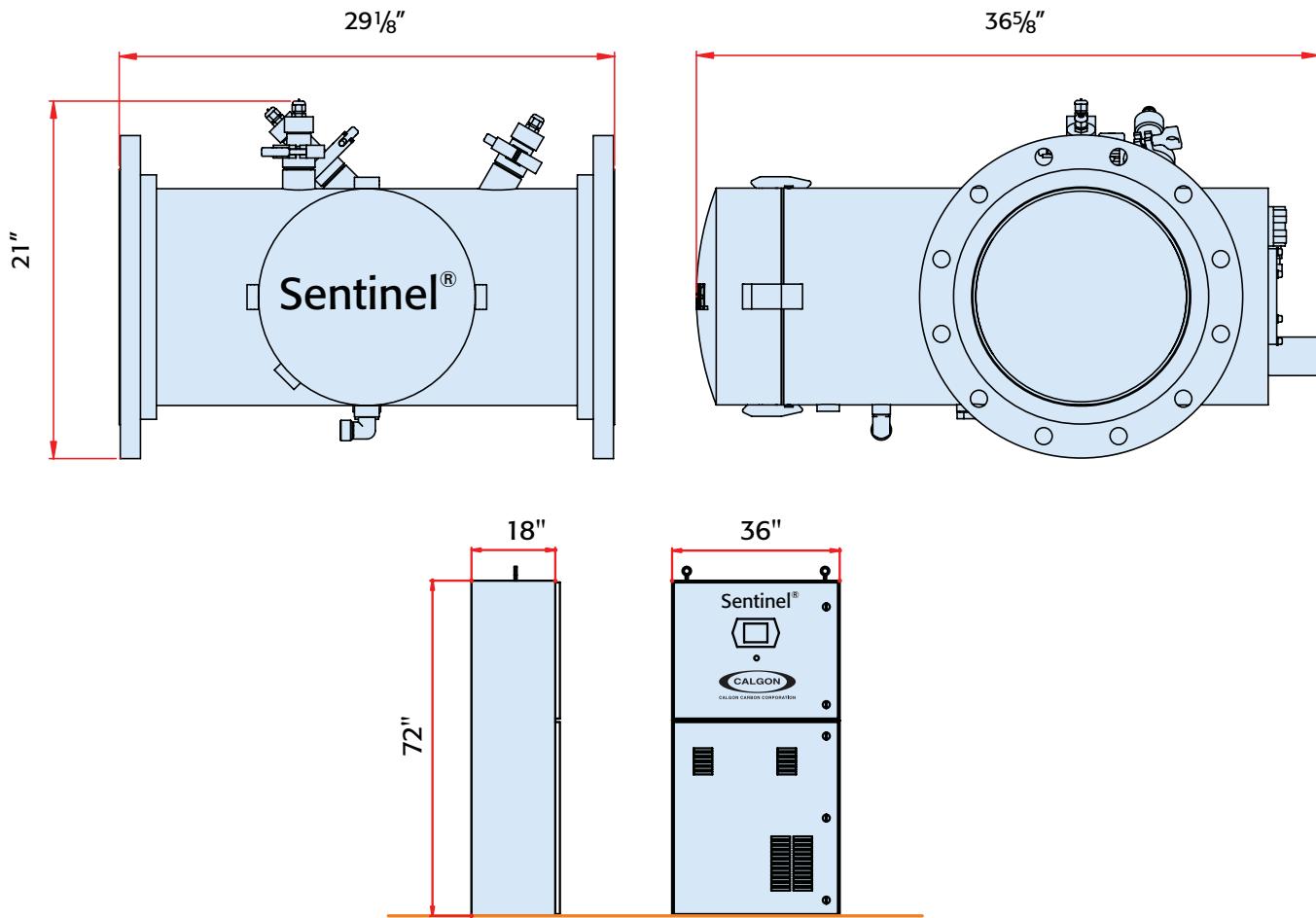
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### Specifications

Inlet/Outlet	12" (300 mm) - 150# flange
Flow	up to 4.8 MGD (15 MLD)
% UVT at 254 nm	as low as 70%
Number of Lamps	up to 3
Total Lamp Power	4 to 12 kW
Power Supply	480/600 VAC
Reactor Body	316L stainless steel
Maximum System Pressure	150 psi
Sensors	DVGW-certified germicidal (one per lamp)
Wipers	Quickwipe™ stainless steel wipers



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Making Water and Air Safer and Cleaner

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