

# CF-200

## CHLOROPHYLL A IN WATER MONITOR



**Benchmark**  
Measurement Solutions

Turner Designs Hydrocarbon Instruments, in partnership with Benchmark International, is proud to present the CF-200 Algae Monitor. Using the C-Fluor fluorescence probe, the online monitor is fully integrated and ready to detect Chlorophyll A in fresh or sea water.

Plankton biomass in sea water can be variable by season, weather and other uncontrollable conditions. Industrial plants with sea water intake can be affected by high plankton concentrations. Reverse osmosis desalination systems can have high differential pressure, and when treated with chlorine, can have high disinfection byproducts in the membrane permeate.

Chlorophyll A is the primary pigment in algae. Its measurement in sea water is an effective method of tracking total plankton concentration.

In pretreatment to a reverse osmosis membrane system, the algae concentration should be below 100 micrograms/liter (ppb), which corresponds with 2 micrograms/liter Chlorophyll A.



## ALGAE BLOOM DETECTION

The robust CF-200 monitoring system consists of a probe, bypass assembly, display and transmitter for continuous measurement of Chlorophyll-A. The CF-200 alerts plant operators of algae blooms to help prevent excess pressure drop or contamination of the permeate.

The fluorescence technology uses no chemicals, reagents or moving parts and is not susceptible to bubbles, silt or other debris in the water. The LED based probe has a long life (>5 years), without needing frequent factory calibrations or maintenance.

The CF-200 comes with a bypass and isolation assembly for easy removal or cleaning of the probe if needed. The included controller powers the LED display, 4-20mA signal, relays and the probe.

Mounted on a 316SS back plate, the CF-200 is ready for installation and operation when shipped.

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## SPECIFICATIONS

- 0-100 ug/l chlorophyll measurement range
  - 1" PVC union fitting process connection  
Threaded or socket connection
  - Titanium metallic & CPVC wetted parts
  - 3 bar (45 PSI) max pressure
- Algae monitor display and controller
- Digital panel meter with NEMA 4X, IP65 front
  - Dual-line 6-digit display, 0.6" (15 mm) & 0.46" (12 mm)
  - 2 Relays — 3A form C alarm relays (SPDT-3A at 250 VAC)
  - 4-20 mA output  
Loop or internally powered  
Up to 7000hm
  - 85-275 VAC power supply
  - 20W max power consumption
  - NEMA 4X, IP 65
  - Operating temperature range: -40 to 65 °C (-40 to 150 °F)
- Display & controller UL listing for electrical safety
- UL & C-UL listed: USA & Canada
  - UL 508 industrial control equipment
  - UL file number: E160849
  - Low voltage directive: EN 61010-1:2010 safety requirements for measurement, control, and laboratory use

