

## Phycocyanin & Chlorophyll-a Dual-Channel Fluorometer Kit

### Description:

Aquatic cyanobacteria are known for their extensive and highly visible blooms that can form in both freshwater and marine environments. These freshwater blooms can have the appearance of blue-green paint or scum. They can be toxic, and frequently lead to the closure of recreational waters and emergency in drinking water plants when spotted. For these reasons alone it should be clear that there is an interest in measuring concentrations of cyanobacteria in the water bodies.

hVI's dual-channel phycocyanin & chlorophyll fluorometers have been used by lake associations, drinking water utilities, local, and state and federal entities to monitor real time water quality conditions. By monitoring the growth behavior of phycocyanin and chlorophyll concentrations, and the ratio of both, one can predict the algal bloom in advance and take proactive measures to mitigate the health and economical risks of imminent algal blooms.

### Fluorometer Specifications:

- Uses standard 1-cm plastic cuvette for easy sample collection.
- Powered by 4xAA batteries or included power supply.
- Rapid (5 seconds reading) and highly sensitive (PC: 1.0-ppb, CHL: 0.2-ppb)
- Wide measurement range (PC: 0-20,000-ppb, CHL: 0-1,000-ppb, extracted).
- Measures PC, CHL, and the Ratio simultaneously, saving time for sample testing.
- Simple touch screen operation. No repeated calibrations needed.
- Portable for field operation, and stores up to 80 data/channel for computer analysis.
- With extra initial cost, the unit can be calibrated in factory with extracted phycocyanin and chlorophyll-a standards, so the unit is ready to use out-of-box.



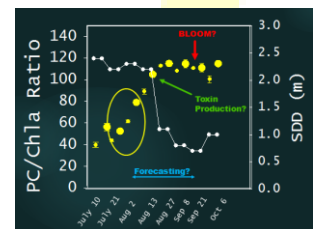
### Field kit includes:

- Handheld Fluorometer, with USB Cable, Power Supply, and Software/Manual CD
- 1-cm Plastic Cuvette with Cap, 64pcs/box

### Simple Operating Procedure:

#### Measurement

1. Add 2-mL of water sample into a cuvette as "Sample".
2. Add the same amount of distilled water into another cuvette as "Blank". (Make sure the cuvettes are of the same type.)
3. Switch on the fluorometer. For each batch of measurement, blank the fluorometer with the "Blank" cuvette to ensure best sensitivity. Place the "Blank" cuvette into the sample compartment and close the cover. From the Main screen, press [Measure] → [Blank] → [Measure]. After completion, press [Return].
4. Place the "Sample" cuvette in the sample compartment, close the cover and press [Sample] → [Measure]. The concentration of PC, CHL, and the Ratio will be displayed in the window. To record the data, press [Save] to save in the on-board memory. Press [Return] and then [Measure] for the next sample.



#### Calibration

1. If the fluorometer needs to be calibrated again, prepare one standard solution according to your measurement range. Pipette 2-mL of diluted solution into another cuvette as "Standard".
2. Switch on the fluorometer, place the "Blank" cuvette into the sample compartment, and close the cover. From the Main screen, press [Calibrate] → [Confirm] → [Phycocyanin/Chlorophyll] → [Blank].
3. After the "Blank" cuvette is measured, use the "<" and ">" arrow keys on the second row to move the underline and select the digit you want to change, and use the "+" or "-" keys to increase or decrease the value of the underlined digit to define the "Standard" value. Place the "Standard" cuvette into the sample compartment and close the cover. Press [Measure]. When the screen shows "Calibration Finished", the fluorometer is now calibrated. Press [Return] to go back to the Main screen to start your sample measurement.