

For cultured pond, Fishery study, environmental test of red tide, bloom and wealth nourishment of the sea, river and lakes, cell study of chlorophyll

# Chlorophyll Meter

## CHL-502

■ Measuring range : 0 ~ 200  $\mu\text{g}/\ell$   
(uranine conversion value)



### Fluorescent measuring method

Realtime measurement of fluorescent strength by chlorophyll

### Immersive measurement

Possible to immerse the detector into water and measure

### Possible to calculate correlation coefficient

Possible to calculate chlorophyll density by inputting correlation

# Chlorophyll Meter CHL-502

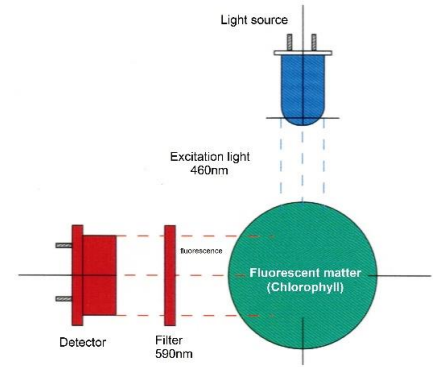
## Measuring Theory

Chlorophyll is contained in algae (phytoplankton) existing rivers, sea, lakes, etc. and acting important role to photosynthetic reaction.

Chlorophyll absorbs blue light and produces red light (fluorescent).

This CHL-502 is using this feature and by making blue excitation light source at projector and red fluorescent receiver at detector. It measures real fluorescent strength according to chlorophyll density in the living cells of phytoplankton. It is suitable for cultivation test and simple chlorophyll measurement at the field.

This fluorescent strength differs from the kind of plankton. Therefore, in order to obtain absolute value of chlorophyll, it is necessary to obtain correlation between acetone extraction method.



## Calibration and measurement

### ◇ Zero calibration

Remove top cover, put pure water or tap water into exclusive container and calibrate in the complete darkness.



Measurement

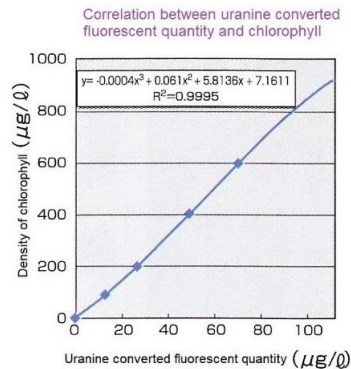
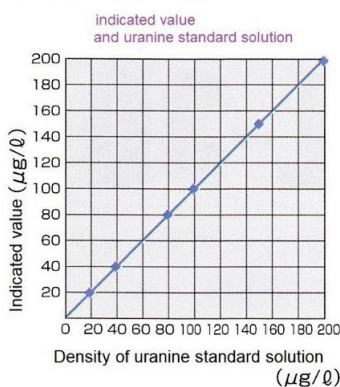
Calibration

### ◇ Span calibration

Remove top cover like zero calibration and put detector into exclusive container. Use "uranine" standard solution. Span calibration range is 100~200  $\mu\text{g}/\text{l}$  (Uranine).

## Calibration and measurement

As it is difficult to obtain absolute value standard of chlorophyll sensor, we obtain chlorophyll from uranine converted fluorescent strength by calibrating the second standard "uranine" standard solution ( $\mu\text{g}/\text{l}$ = PPB) and measuring fluorescent strength produced according to the chlorophyll density.



## Specification

Product name	Chlorophyll meter
Model	Meter : CHL - 502 Detector : CHL - 120D (6m cable standard)
Object	Chlorophyll
Measuring range	0.0~200 $\mu\text{g}/\text{l}$
Minimum resolution	0.1 $\mu\text{g}/\text{l}$
Display	LED Red 3.1/2桁
measuring theory	Fluorescent method
Wave length	Excitation wave length : 460nm Fluorescent wave length : 590nm
Transmission output	DC4~20mA (isolation type)
Conversion	Possible to set conversion coefficient ( $y=a+bx$ ) ( $x$ = uranine, $y$ =chlorophyll)
Measuring method	Immerge sensor part
Alarm contact point	High, low each a, b contact point (non voltage) Contact point capacity AC100V, within 1A
Hold output	Hold transmission output and contact output by non voltage contact signal
Sample water	5~35°C non freezing, avoid direct sun shine
Ambient condition	Temp. : 0~40°C humidity: less than 0~90% RH
Structure	Dust proof, water proof (equivalent of IP 63)
Power	AC85~240V 50/60 Hz
Dimensions	Meter : 96 (W) × 96 (H) × 163 (D)mm Detector : $\phi$ 40 × 250mm
Weight	Meter : 1. 3kg Detector : 500g
Standard component	Meter, detector, panel fitting device Instruction manual, container for calibration
Optional item	Uranine standard solution (200 $\mu\text{g}/\text{l}$ ) 250ml



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