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The AlgaeGuard

Continuous, cost-effective measurement of chlorophyll-a

The online instrument for ...

- determination of total chlorophyll-a
- quantification of algal classes: green, blue-green (cyanobacteria), brown (diatoms and dinoflagellates) and cryptophycea

The AlgaeGuard continuously measures the chlorophyll fluorescence of microalgae in real-time and shows the current result on the integrated display. In contrast to time-consuming sample preparations and counting, the fluorometric assay provides rapid determination of the chlorophyll content in its natural environment. The AlgaeGuard is adapted to HPLC-pigment analysis. The bbe software for algae class determination identifies the distribution of algae classes relating to the total 'chlorophyll-a' content, i.e. of green algae, blue-green algae (cyanobacteria), cryptophyceae and brown algae (diatoms, dinoflagellates).
The system can be adapted to new (customised) algae classes added to the measuring system. The measurement of yellow substances (CDOM) accounts for an additional source of fluorescence, thus an automated correction improves chlorophyll determination especially at low concentrations. Normspectra with individual fingerprints for each class provide for an optimised evaluation of the results.

Measurement

Pressing START on the touchscreen enacts the illumination program of the sample inside the chamber.



bbe AlgaeGuard: with sensor (left), 15" touchpad display

The fluorescence signals are collected by a sensitive photomultiplier and used to calculate the algae classes. Pulsed light from the spectrofluorometer excites the algae pigments.
An automatic cleaning device periodically cleans the sensor cell and removes particles or biofilms. This guarantees the prevention of interference that causes attenuation of fluorescence or changes in the optical properties of the measuring cell and thus extends the maintenance-free period.

Applications

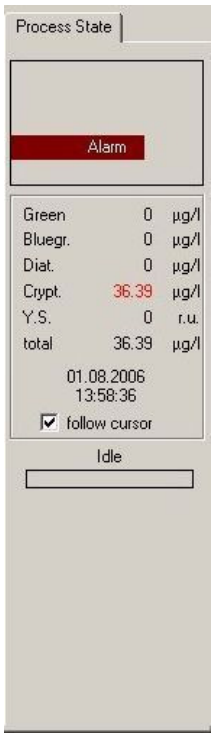
- 'plug and play'
- algae class determination
- yellow substances detection
- transmission measurement
- integrated cleaning device
- touchpad display
- PC operation with AOA software
- 4 integrated relays
- RS232 interface
- optional 4-20 mA outputs
- optional modem

Operation

Although the AlgaeGuard is a stand-alone instrument, it can also be operated via an external PC with the software supplied. This can also be used to change the parameters and settings. For data export, the instrument can be equipped with an RS232 interface or analogue outputs for connection to an external datalogger.

Applications

- power plants
- drinking water monitoring stations
- lake and river analysis
- limnological work
- research and education



Alarm indication in **AOA software** when operating via PC



The **AlgaeGuard**, the smaller brother of the well-established **AlgaeOnlineAnalyser**, is becoming a prominent instrument in measuring stations.



Touchscreen display

Your local representative...

Technical Data

Measurands	total chlorophyll [µg chl-a/l] concentration of green algae [µg chl-a/l] concentration of blue-green algae [µg chl-a/l] concentration of diatoms [µg chl-a/l] concentration of cryptophyceae [µg chl-a/l] yellow substances correction transmission (at 5 wavelengths)
Measuring range	0 - 200 µg chl-a/l
Resolution	0.05 µg chl-a/l
Transmission	0 - 100 %
Weight	16 Kg
Size	420 x 520 x 200 mm
Power supply	110/230 V @50/60 Hz
Power input	30 W
Sample volume	30 ml
Sample temperature	0 - 40 ° C
Protection class	IP54
Data interfaces	RS 232, MODBUS
Options	up to 16 x 4-20 mA (analog) and 16 digital outputs
Maintenance interval	> 7 days