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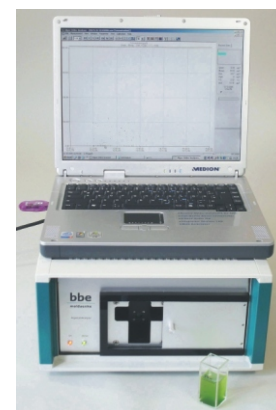
The *bbe* AlgaeLabAnalyser

An instrument for chlorophyll and photosynthetic activity measurement in the laboratory

The lab instrument for ...

- quantification of spectral algae classes: green algae, blue-green algae, brown algae (diatoms and dinoflagellates) and cryptophyceae
- determination of total chlorophyll content
- determination of the photosynthetically active chlorophyll

The chlorophyll analysis includes determination of the chlorophyll content, which replaces the wet-chemical analysis. The pigments are spectrally excited by coloured LEDs. This enables the determination of the distribution of chlorophyll across the different algae classes. The photosynthetic activity of the algae is determined by the fluorescence pattern of the pigment excitation (Genty).



The *bbe* AlgaeLabAnalyser: reliable measurements in the lab

Measurement:

■ *of direct chlorophyll fluorescence:* is performed without sample preparation and therefore much faster than common chlorophyll analysis; in spite of an average measuring time of only 3 minutes, the results are comparable to HPLC or wet-chemical analysis ($R^2 > 0.93$).

■ *of spectral algae class differentiation:* to determine the content of chlorophyll emerging from green algae, blue-green algae, brown algae (diatoms and dinoflagellates) and cryptophyceae; the pigments

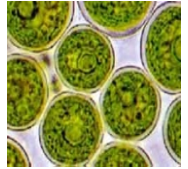
of different algae are determined by using coloured LEDs (included fluorescence spectrometer); adding additional algae with special pigment distribution is possible after determining a standard spectrum.

■ *of the Genty parameter and f_m , f , f_0 :* to the oxygen production rate; the values determine the percentage of photosynthetically active chlorophyll under illumination and allows the classifi-

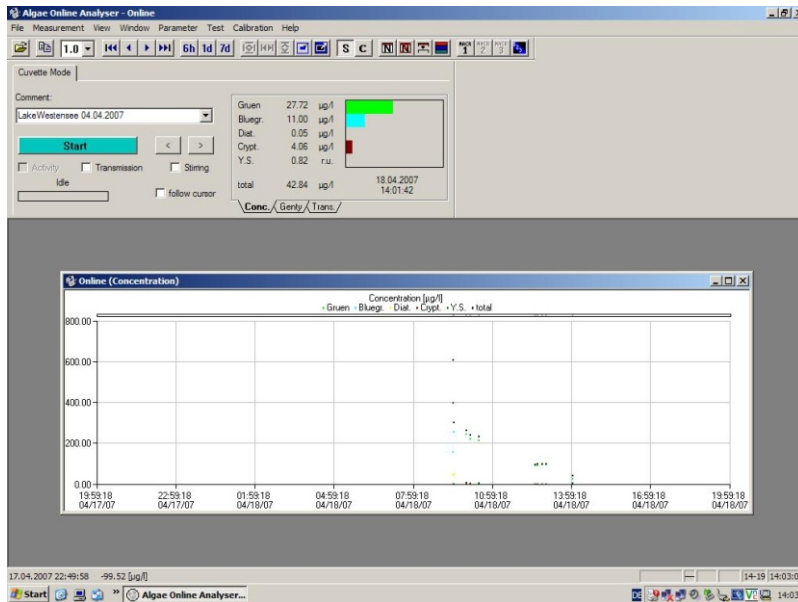
cation of active chlorophyll and other fluorescence-emitting compounds.

■ *determination of toxicity:* by comparison of a polluted sample plus algae with untreated algae.

■ *transmission:* takes place during each analysis and, if necessary, can be used to compensate the influence of substances that cause turbidity; a sample transmission can also be determined.



Analyse your water - using rapid fluorescence techniques



Screenshot of the AlgaeLabAnalyser PC Software

Software:

- saving of data and parameters at any time
- graphic display of all measurement values
- online display in LAN
- calibration of the instrument
- parameterisation of the measurement
- data export to EXCEL and to text files
- subsequent recalibration of algae classes
- comment input

Applications:

- waterway analysis and assessment
- general environmental management
- intake monitoring
- chemical analysis
- toxicity testing
- waste detection
- dam monitoring
- limnological work
- research and education

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Technical data:

Measurands

- * total chlorophyll [$\mu\text{gChlA}/\text{cm}^2$]
- * concentration of green algae [$\mu\text{gChlA}/\text{l}$]
- * concentration of blue algae [$\mu\text{gChlA}/\text{l}$]
- * concentration of diatoms [$\mu\text{gChlA}/\text{l}$]
- * concentration of cryptomonads [$\mu\text{gChlA}/\text{l}$]
- * Gelbstoffe (yellow substances)
- * photosynthetic activity (Genty) - Option
- * transmission (at 5 wavelengths)

Measuring range

0 - 200 $\mu\text{gchl-a}/\text{l}$

Measurement procedure

spectral fluorometry

Resolution

0.05 $\mu\text{gchl-a}/\text{l}$

Transmission

0 - 100 %

Weight

7.5 kg

Size (H x W x D)

220 x 370 x 400 mm

Power supply

110/240V 50/60Hz / 12VDC

Power input

10 W

Sample temperature

0 - 30° C

Sample volume

25 ml

Protection

IP54

Data interface

Rs232

Software

Windows software with database

Options

rechargeable battery pack