Aquation®
Water Quality • Plant Health • Environment Assessment

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Handheld Fluorometer

Aquation's **Handheld Fluorometer** and Portable Datalogger is designed for measuring plant stress in the field (i.e. the effective quantum yield of photochemistry; ϕ_{II}). The Handheld design enables rapid one-handed measurement of multiple samples; results can be viewed immediately and later downloaded to PC for analysis.

Benefits

- Single-handed operation
- Portable Datalogger will operate for 12 hours and record all measurements
- Lightweight and portable: the system can be easily carried and used in the field
- Easy-to-use software with an uncluttered interface
- Includes PAR and leaf temperature measurements

Aquation's Handheld Fluorometer and Portable Datalogger enables rapid repeated stress measurement of multiple replicate leaves *in situ.*

ϕ_{II} is widely used as an measure of plant stress. Rapid sequential measurement of multiple leaves is important for accurate representation of plant stress. The one-handed design makes measurement of many plants easily achieved by a single operator. Additional features include the measurement of ambient irradiance (as PAR), and leaf temperature during each ϕ_{II} reading.

Not only is the Portable Fluorometer useful for field studies. With the easy-to-use operating software AquationDirect, the fluorescence sensor can be operated direct from a computer. This opens the door to a multitude of plant stress tests that can be conducted on the bench under controlled environmental conditions.

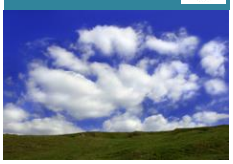
See over for further detail.

Field Studies

Pollution Studies

Plant Stress Analysis

Environmental Analysis



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Handheld Fluorometer

Features and Specifications:

- Water resistant
- Trigger activated measurement
- Thumb activated leaf-clip
- Provides ϕ_{II} using multiple-turnover saturating pulse method
- Blue measurement light
- White actinic and saturating lights
- Far-red light for PSI excitation
- Irradiance: PAR measured cosine-corrected sensor
- Leaf temperature: measured using infra-red sensor
- Operating temperature: 0 °C to 45 °C
- Storage temperature: -5 °C to 60 °C
- Automated function when in pass-thru mode: measurements can be made according to program
- Power: rechargeable Lithium battery pack
- Software: easy to use graphical user interface; fully flexible functions enable a wide range of settings and custom programs

Configuration

The Handheld Fluorometer is connected to the Portable Datalogger, which is slung over the shoulder.

The Portable Datalogger enables user interaction while in the field, and displays the results of each measurement. Different settings can be stored and used for different plant species if needed.

Portable Datalogger with High Contrast backlit screen for use in bright sunlight.

The Handheld unit has a thumb operated clip used to open the leaf clip for easy one-handed leaf insertion; the cosine-corrected PAR sensor can be seen on the blue stalk. Leaf temperature (not shown) is measured close to the area of measurement. All measurements are made virtually simultaneously.

PAR measurement using Cosine corrected sensor.

The Fluorescence sensor can be easily removed from the sample holder clip and used on the bench for a wide range of plant stress tests. The pass-thru mode enables operation direct via PC and AquationDirect.

Leaf temperature measurement using IR technology.

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