



JUNIOR-PAM: Teaching Chlorophyll Fluorometer

DESCRIPTION

- Pulse-amplitude modulated (PAM) chlorophyll fluorometry in combination with saturating pulse analysis of fluorescence quenching is now a standard technique to assess plant photosynthesis.
- In the 1990s, the Walz Teaching-PAM fluorometer (PAM-200) carried PAM fluorometry into university classrooms. Since then, there has been considerable progress in LED and PC technology, enabling the development of a powerful and versatile, and at the same time compact teaching fluorometer: the JUNIOR-PAM.



JUNIOR-PAM

Peculiar Properties

The JUNIOR-PAM features the smallest size and best price-performance ratio of all PAM fluorometers. It excels by its simplicity and ease of operation.

The JUNIOR-PAM is controlled by PC via USB interface: the fluorometer does not require a separate power supply as it is powered by the PC via the USB line.

The same WinControl-3 software is provided as for research PAM

fluorometers like the MONITORING-PAM. In addition, WinControl-3 can be operated in a simplified mode to assist teaching in elementary courses.

The JUNIOR-PAM is particularly well suited for teaching classes and workshops, where availability of a larger number of instruments is essential for gaining hands-on experience.

ACCESSORIES

Monitoring Leaf-Clip JUNIOR-BD

The JUNIOR-BD leaf clip adds measurements of ambient light intensity and leaf temperature as complementary information to fluorescence data. The clip holds the leaf at constant distance to the fiber tip and at an angle of 60° between fiber axis and leaf plane.

Extra-long Light-Guide

The light guide of 100 cm length is suited for investigations of samples which are difficult to access and for submerged samples.

General Features

- The JUNIOR-PAM fluorometer is a miniaturized instrument capable to carry out the full range of saturation pulse analysis of photosystem II. A small box of 11.5 x 6.5 x 3.0 cm contains all optical and electronic components. The fluorometer is connected to the sample via a 50 cm long single plastic fiber with 1.5 mm diameter.
- The JUNIOR-PAM employs the same blue (460 nm) power LED for pulse modulated fluorescence excitation, actinic illumination and saturating pulses. Also, the fluorometer features a far-red LED for selective excitation of PS I and determination of the Fo' level fluorescence.
- Two different types of leaf-clips are provided, a 60° clip for measurements in ambient light and a magnetic leaf clip for Fo-Fm and Fv/Fm measurements.
- An optional monitoring leaf-clip is available to measure ambient light intensity (PAR, $\mu\text{mol m}^{-2} \text{s}^{-1}$) at leaf level and leaf temperature.

BLUE & White Version: JUNIOR-PAM and JUNIOR-PAM/W

- The two versions of the JUNIOR-PAM fluorometer provide visible light of different spectral composition: the BLUE version emits between 400 and 500 nm with a maximum around 445 nm. The WHITE version shows a narrow-band blue emission peaking around 445 nm plus a broad band emission ranging from 475 to 650 nm.
- Both versions are equipped with a far red LED with maximal emission around 745 and an emission range from 675 to 800 nm.
- Also the spectral window for fluorescence detection distinguishes the two versions. The BLUE version detects fluorescence at wavelengths > 630 nm and the WHITE version at wavelengths > 650 nm.

Contact info



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Application

- Saturation Pulse Analysis During Kautsky Fluorescence Induction.
- Demonstration of Acclimation of Photosynthesis to Light Conditions.
- Antagonistic Effects of Blue and Far-red Light on Fluorescence Yield.

This Instrument is manufactured by our principle company

WALZ - Germany