








Oxyview System

System for teaching photosynthesis
& respiration measurements.



Hansatech

Instruments

-  Convenient, low-cost system for teaching of photosynthesis & respiration measurements using oxygen electrode.
-  DW1/AD electrode chamber with base mounted S1 oxygen electrode disc.
-  Oxyview control unit with integral magnetic stirrer.
-  Oxygen content of sample displayed as mV or percentage O₂.
-  User-friendly configuration via a responsive 4 button control panel and a series of comprehensive menu screens.
-  Analogue output for connection to a chart recorder or other external recording device.
-  Minimal footprint (90 x 135mm) allowing multiple units where bench space is limited.

“The Oxyview has been designed to perform as a cost effective teaching system which provides a high degree of accuracy typically found only in more expensive research systems.”

Electrode Units.



Oxyview is compatible with all Hansatech liquid and gas-phase electrode chambers for cellular respiration and photosynthetic applications. The Oxyview system is supplied as standard with the DW1/AD liquid-phase electrode chamber.

Liquid-phase electrode chambers mount directly onto the integral magnetic stirrer of the Oxyview control unit ensuring that the sample is continuously stirred during measurement by a magnetic follower in the reaction vessel. Typical sample volumes are between 200 μ l and 2.5mls in DW1, DW1/AD and DW2/2 and larger sample volumes of up to 20ml in DW3.

Gas-phase electrode chambers, in conjunction with the Oxyview, allow oxygen evolution / uptake assays to be performed on leaf discs, excised needles, algae mosses, lichens etc.

Further details of the electrode chamber range can be obtained by contacting Hansatech Instruments or by visiting our website at the address at the bottom of this page.

Electrode Disc.

All electrode units feature an integral Clark type polarographic oxygen sensor. When fitted, the dome of the electrode forms the floor of the reaction vessel providing a sensitive and rapid response to small changes in oxygen tension within the reaction mixture.

The electrode comprises a central platinum cathode and a silver anode. Preparation of the electrode includes the addition of electrolyte and the application of a thin oxygen permeable P.T.F.E. membrane to the electrode dome. Once prepared and positioned in the electrode unit, the electrode is connected to the Oxyview control circuitry which applies a small polarising voltage between the electrodes. In the presence of oxygen, a small current is generated proportional to oxygen activity in the reaction mixture.



Hardware.

The Oxyview electrode control unit has been designed to perform as a cost effective teaching system which provides a high degree of accuracy typically found only in more expensive research systems. It is ideally suited to situations such as undergraduate practical sessions for the teaching of underlying principles of oxygen electrode measurement techniques in the studies of photosynthesis and cellular respiration.

The Oxyview control unit supplies a user definable polarising voltage of between 0.4 and 0.9 volts (recommended default 0.7 volts) to the electrode disc. The resulting current from the electrode in the presence of oxygen is converted to a signal which is displayed in either mV or percentage O₂.

The Oxyview control unit is configured via a series of consecutive menu screens. Navigation of the menu screens and configuration of the respective settings is performed via a 4 button control panel whilst following on-screen setup guidelines.



Oxyview has 2 different methods of operation, Digital and Percentage Display modes. The Digital Display mode is intended for use in liquid and gas-phase systems and displays the signal from the oxygen electrode disc in mV within the range 0- 4095mV. The Percentage Display mode is typically intended for use in gas-phase systems as an indicator of the oxygen concentration of ambient air. In both measurement modes, built-in gain controls allow smaller signals to be amplified providing a system with a high degree of sensitivity allowing detection of very small changes in oxygen tension.

The Oxyview electrode control unit has an integral magnetic stirrer providing adequate mixing of the sample within the electrode chamber. The stirrer speed is fully adjustable in percentage steps between 250 and 900 rpm. An analogue output allows the S1 electrode signal to be plotted to an external data logging device such as a chart recorder.

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