

Multi-vial Cyclone Samplers for Field Operation

Facilitating Elisa and PCR Analysis



A new 'Multi-vial Cyclone Sampler' for field operation, based on Burkard's miniature cyclone sampler, collects air samples direct into 1.5ml Eppendorf vials. This new facility allows samples to be analysed by a number of techniques including serological (ELISA) and molecular (PCR).

Airborne particles can be collected as a dry sample or into a liquid as required. The Multi-vial Sampler contains eight Eppendorf vials mounted on a carousel, allowing up to eight sequential samples to be taken. The basic model can be attached to a weather station which will then control the sampling periods due to weather conditions.

A free-standing model is also available incorporating a controller, with multi-function timer, in a weather-proof metal case, mounted on a tripod (*see illustration above*). The high efficiency cyclone collects particles less than 1 micron in size with a sample rate of 16.5 litres per minute. The cyclone head is mounted on precision bearings and is connected to a wind-vane that keeps the sampling orifice pointing into the wind.

Where external power is not available the unit can be fitted with solar panels. The panels are connected to re-chargeable

batteries housed within the control case, to provide power over a full twenty-four hour period.

The Multi-vial Sampler can be used for crop disease management systems where airborne inoculum plays a crucial role in disease epidemic development. As the air sample is collected direct into 1.5ml vial compatible with serological or molecular detection methods.

This technique is available for a wide range of plant pathogens making inoculum detection a practical tool in disease risk assessment. A multi-vial sampling system having applications in medicine and biohazard detection, where rapid detection of airborne bio-particles is required.

Larger solar panels are available for long-term operation or low UV light intensity.

General Specification

Air throughput:..... 16.5 litres per minute
Power consumption:..... Approx. 100M/a
Timer settings:..... Up to 999 hours
Re-chargeable battery: 17 hours capacity
Overall height:..... 49 inches (125cm)
Base area:..... 34 x 30 inches (87 x 77cm)
Gross weight (inc. battery):..... 24kg



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