



Multi-sample soil respiration system



- + Dual CO₂/H₂O analysis
- + Up to 24 soil samples with one unit
- + Accurate and proven technology
- + Compact and fully integrated
- + Flow maintained to all selected channels
- + Flexible channel selection
- + SD card data storage and USB output

ADC BioScientific Ltd.

World leaders in developing and manufacturing multi-sample analysis systems (such as the renowned ADC225), where a number of soil samples may be multiplexed to and measured by a single CO₂ analyser.

Compact and fully integrated

ADC now introduces the EGA60, a fully integrated, soil respiration system, featuring an accurate and reliable CO₂ analyser, combined with a versatile gas multiplexer in one compact unit. The EGA60 is designed for long-term, continuous experiments.

Analysis of up to 24 soil samples

A single EGA60 system can sequentially analyse up to 24 soil samples. The EGA60 is available with 5, 10, 15, 20 or 25 channels. One channel being reserved for an autocalibration 'zero' column.

Fully programmable

Complete functionality is achieved with just 5 keys driving a series of menus. Sampling times of individual channels can be set, together with total experimental times. Settings can be copied over to several channels, saving time.

Constant flow maintains sample integrity

A constant flow is maintained around the system to all sample channels, at all times. This prevents the build up of high CO₂ concentrations within any sample chamber. Flow in each channel may be automatically programmed.

Versatile

EGA60 systems are available with 500ml cylindrical, glass or acrylic, soil columns. Packages are available with 5, 10, 15, 20 or 25 columns attached to adaptable mounting plates.

Applications:

Soil respiration determination (CO₂ released per unit mass of soil over time). Toxicology studies, agricultural registration (ISO 14240-1).

Plant physiology, environmental chambers, insect respiration and fruit storage

Integral data storage

The EGA60 provides integral data storage on interchangeable SD cards, each capable of storing many hundreds of thousands of data points. Data may be downloaded to a PC directly from the SD card or via a USB port. Data opens in a comma delimited format as an Excel spreadsheet.

Determination of soil biomass

The EGA60 can also be configured with your own columns or chambers, whether your application is soil ecology or soil treatment.

Data provided by the EGA60 can subsequently be used to calculate the volume of CO₂ released per unit mass of soil over time.

Soil toxicology

One of the main applications for the EGA60 is in agrochemical registration:-

Prior to agrochemical registration for commercial usage vigorous toxicology tests must be carried out. This includes active, aerobic, heterotrophic microbial biomass degradation in aerated agricultural and mineral soils. To perform these tests an international standard has been published.

The ISO 14240-1 Soil quality - Determination of soil microbial biomass, Part 1: Substrate-induced respiration method (SIR) was based on measurements made using an earlier ADC soil respiration system (Heinemeyer *et al.*, 1989).

ADC Never Compromise on Quality

“Quality of product and quality of service.”

From design to delivery, ensuring optimal performance and reliability is of paramount importance to our team of experienced engineers. Once in the field, you are supported by our worldwide network of customer support centres.



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Technical Specifications

Measurement range and technique:

CO₂: 0-2000ppm, 1ppm resolution Infrared gas analysis

H₂O: 0-75mbar, 0.1mbar resolution.

Two laser - trimmed, fast response water vapour sensors

Flow control: 0 to 500ml min⁻¹ on each channel

Test duration: Set by time or number of measurement cycles

Dwell time: 2 seconds to 999 minutes on each channel

Warm uptime: 5 minutes @ 20oC

Display: 240 x 64 graphic LED backlit LCD

Recorded data: Removable SD card (1Gb card typically stores 16 million sets of data)

Powersupply: 230/110V 50/60Hz

Electrical outputs:

USB connection: Mini-B

RS232: 9 Pin “D” type

Analogue output: 0-5V or 4-20mA

Analogue inputs: Seven 0-5V

Operating temperaturerange: 5oC to 45oC

Dimensions: 27 x 25 x 15cm

Weight: 7.5kg



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Selected References

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