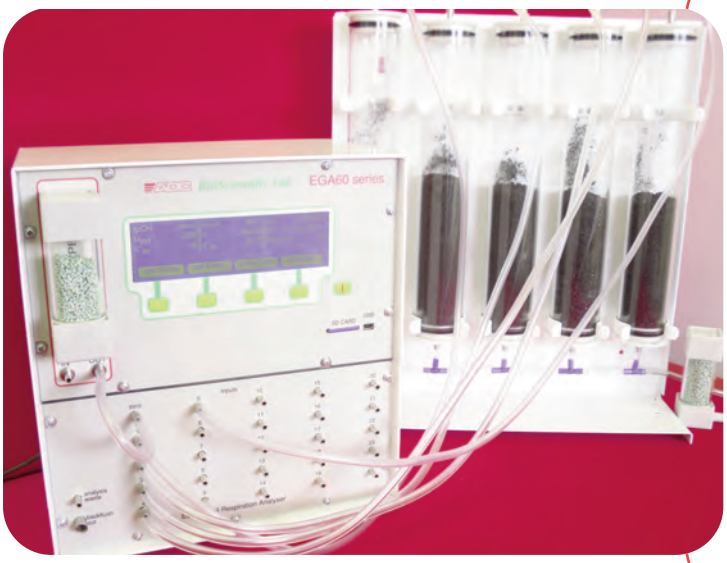
EGA60

Multi-sample soil respiration system



+ Dual CO_2/H_2O 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: Leaders in soil flux instrumentation

For over 25 years ADC has been synonymous with high quality soil flux instrumentation, in the laboratory and in the field.

Throughout this period ADC has been the world leader in developing and manufacturing multi-sample analysis systems, where a number of soil samples may be multiplexed to, and measured by, a single CO_2 analyser. These systems have traditionally featured a highly accurate CO_2 Infra Red Gas Analyser (IRGA), such as the “legendary” ADC225 together with a separate gas multiplexing unit.

Compact and fully integrated

ADC BioScientific Ltd. now introduces the EGA60, the next generation of multi-sample, soil gas exchange analysis systems. The EGA60 is a fully integrated system, featuring an accurate and reliable CO_2 analyser, combined with a versatile gas multiplexer in one compact unit. The EGA60 is designed for measurements during 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 a CO_2 auto calibration ‘zero’ column.

Fully programmable

ADC has a reputation for developing the world’s easiest to use gas exchange systems. The EGA60 has been designed to be the most user-friendly soil respiration system to date. Complete functionality is achieved with just 5 keys driving a series of menus. No separate “bolt on” PC or laptop is required.

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

Flow in each channel may be automatically programmed.

A constant flow is maintained around the system to all sample channels, at all times. This ensures that the integrity of each sample is preserved by preventing the build up of high CO_2 concentrations within any sample chamber.

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

EGA60 soil respiration systems are available with optional 500ml cylindrical, glass or acrylic soil columns.

Packages are available with 5, 10, 15, 20 or 25 columns attached to rigid, adaptable mounting plates.

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 CO_2 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 various, 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.

ISO 14240-1 Soil quality - Determination of soil microbial biomass, Part 1: Substrate-induced respiration method describes tests on soil micro flora, incorporate investigations on microbial biochemical activity, by measuring the evolution of CO_2 from soil samples at regular time intervals.
ISO 14240-1 was first based on measurements made using an earlier ADC soil respiration system (ADC225 analyser and WA161 multiplexer).

Other gas exchange applications

The EGA60 can also be user-configured for a variety of multi-sample applications including:

- Plant physiology
- Environmental chambers
- Insect respiration
- Fruit storage

Technical Specification

Measurement range and technique:

CO_2: 0-2000ppm, 1ppm resolution Infrared gas analysis

H_2O: 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 up time: 5 minutes @ 20°C

Display: 240 x 64 graphic LED backlit LCD

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

Power supply: 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 temperature range: 5°C to 45°C

Dimensions: 27 x 25 x 15cm

Weight: 7.5kg

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 network of over 40 customer support centres worldwide.

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