



# EGA60

Provisional announcement



## Multi-sample soil respiration system

ADC BioScientific Ltd., world leaders in laboratory soil respiration instrumentation for 25 years, introduces the next generation of multi-sample analysis systems



- + Dual CO<sub>2</sub>/H<sub>2</sub>O analysis
- + Up to 24 soil samples
- + Accurate and proven technology
- + Fully programmable
- + Compact and fully integrated
- + Flow to all channels at all times
- + 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<sub>2</sub> analyser.

These systems have traditionally featured a highly accurate CO<sub>2</sub> 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 analysis systems. The EGA60 is a fully integrated system, featuring an accurate and reliable CO<sub>2</sub> analyser, combined with a versatile gas multiplexer in one compact unit. The EGA60 is designed for measurements during long-term, continuous experiments.

The new, fully integrated EGA60 is easy to install and significantly reduces experimental set up times compared to earlier systems.

### Analysis of up to 24 soil samples

A single EGA60 system can sequentially analyse up to 24 soil samples. The EGA60 is available with 10, 15, 20 or 25 channels. One channel being reserved for a 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 ever. 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.

### Constant flow maintains sample integrity

Flow in each channel may be automatically programmed.

Importantly 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<sub>2</sub> 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 cards or via a USB port.

## Determination of soil biomass

The EGA60 can be configured to measure soil respiration from a variety of columns or chambers, whether your application is soil ecology or a soil treatment application. Data provided by the EGA60 can subsequently be used to calculate the volume of CO<sub>2</sub> 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<sub>2</sub> from soil samples at regular time intervals. ISO 14240-1 is 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 bioscience gas exchange applications including:

Plant physiology  
Environmental chambers  
Insect respiration  
Fruit storage

### 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.

### Provisional Specification\*

Measurement range and technique:

CO<sub>2</sub>: 0-2000ppm, 1ppm resolution Infrared gas analysis

H<sub>2</sub>O: 0-75mbar, 0.1mbar resolution. Two laser trimmed, fast response water vapour sensors

Flow control: 0 to 500ml min<sup>-1</sup> 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 cards typically store 16 million sets of data on a 1Gb card

Power supply: 230/110V 50/60Hz

Electrical outputs:

USB connection: Mini-B

RS232: 9 Pin “D” type

Analogue inputs: Seven 0-5V or 0-20mA inputs

Operating temperature range: 5°C to 45°C

Dimensions: 27 x 25 x 15cm

Weight: 7.5kg

\*Please note that every care is taken to ensure that this leaflet provides an accurate and true representation of the features and specifications of the EGA60. However this is only a provisional announcement and subject to change without notification. Please contact ADC BioScientific Ltd. for confirmed specifications.



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