

Los Gatos Research  
Ultraportable Analysers

# Ultraportable Gas Analysers

designed for environmental and industrial applications

# LGR Ultraportable Gas Analysers

## What are they?

A range of rugged, high performance, high precision gas analysers built into a strong, durable Pelican® case for use in the field or in the lab.

All LGR Ultraportable Analysers are based around the “Off-axis ICOS” (integrated cavity output spectroscopy) measurement technique which guarantees fast response and accurate and precise measurement of both stable greenhouse gases and highly reactive and aggressive gases that traditional measurement techniques struggle with.

## So which gases can be measured?

A wide range of gases can be measured continuously and in real time with a single analyser. In addition, water vapour (H<sub>2</sub>O) is always measured as well, which allows determination of dry (and wet) mole fraction without drying. If you don't see the desired gases in our list of standard models, please enquire.

For the first time, LGR's Water Vapour Isotope Analyser is available in the Ultraportable Package allowing fast measurements of δ<sup>2</sup>H, δ<sup>17</sup>O, δ<sup>18</sup>O in the field.



## Applications include:

- Atmospheric chemistry and earth science experiments
- Soil-flux studies
- Air quality monitoring studies
- Leak detection (i.e. natural gas, coal seam gas, coal bed methane)
- Landfill tracer studies (i.e. methane/acetylene)
- Process monitoring
- Compliance monitoring

\* Extended range option for CH<sub>4</sub> – up to 10%

## Standard models include:

Model No.	Species
915-0001	CH <sub>4</sub> / H <sub>2</sub> O*
912-0002	CO <sub>2</sub> / H <sub>2</sub> O*
915-0011	CO <sub>2</sub> / CH <sub>4</sub> / H <sub>2</sub> O (The classic GHG analyser)*
915-0016	NH <sub>3</sub> / H <sub>2</sub> O
915-0043	CH <sub>4</sub> / C <sub>2</sub> H <sub>2</sub> / H <sub>2</sub> O (Methane / Acetylene)*
915-0017	HF / H <sub>2</sub> O
915-0030	H <sub>2</sub> S / H <sub>2</sub> O
915-0037	HCl / H <sub>2</sub> O
915-0039	HCl / HF
915-0039	H <sub>2</sub> S / NH <sub>3</sub>
915-0036	O <sub>2</sub> / CO / CO <sub>2</sub> / H <sub>2</sub> O (Industrial analyser)
909-0025	N <sub>2</sub> O / CO
909-004	N <sub>2</sub> O / CH <sub>4</sub>
909-0030	CH <sub>4</sub> / CO <sub>2</sub> / NH <sub>3</sub> (Soil Gas)
909-0027	CH <sub>4</sub> / C <sub>2</sub> H <sub>6</sub> (Methane / Ethane)



## Dissolved Gas Extraction Unit

LGR's Dissolved Gas Extraction Unit (DGEU) allows continuous concentration measurements of dissolved gases in water and other liquids in real time.



**NEW!**  
Micro  
Portable

The NEW Greenhouse Gas Microportable is now available for those requiring an ultra lightweight (6kg) option. It measures methane and carbon dioxide simultaneously in a handbag-size package that is compact and crushproof.

# Los Gatos Research Off-axis ICOS Analysers

## Common benefits regardless of which model

**Size and weight.** LGR Ultraportable units are both small and light ensuring that they can be easily transported and used in the field. Most models weigh just 15kg and are the size of a small suitcase (dimensions: 47cm x 36cm x 18cm).

The Ultraportable Analysers are also small enough to be carried on-board aircraft (TSA approved size).

**110/230VAC and 12VDC operation.** For use in the field, the LGR Ultraportable units can be connected to any 12VDC source, i.e. car battery, leisure battery or fuel cell. For use in the lab, the instrument can be connected to mains electricity (110 or 230VAC, 50 or 60 Hz). The instruments are therefore truly universal with regard to availability of power.

**Low power consumption.**  
60-70 watts.

**Wi-Fi and connectivity.** All Ultraportable Analysers now include a wireless user interface (WUI) as standard. This means that they can be quickly and simply paired up with either a laptop PC, iPad, tablet computer or smart phone which can display real-time data and take full control of the instrument. Perfect for use in the field.



For use in the laboratory, the Ultraportable units have enhanced connectivity for connection to the Internet via Ethernet / LAN and are fitted with RS232 ports, VGA monitor ports and 4 x USB ports for connection to monitors, keyboards and pointing devices, etc.

The proprietary LGR operational software also enables a quick and simple data transfer to USB data stick function.

**Ruggedness and data security.** All LGR Ultraportable analysers are built into weatherproof, durable, impact resistant Pelican® cases. Data is automatically stored on a non-volatile solid state flash hard drive as standard. Build quality is to a very high standard with all crucial electrical and computer connections sealed into place, thereby minimising any loose connections during transit.

Weatherproof covers are also supplied to protect the communications / interface ports.

**Accessories and options.** Whether you need to sample from multiple sample streams or require a faster measurement, LGR has these covered. Choose between either an external 8 or 16 channel multiple inlet unit (MIU) to switch sample streams automatically (with each channel fully programmable) and should you require a flow through time (1/e) of 1second, this can be achieved with the N920 external pump.

## Other options include:

- Battery hook-up kit for connection to an external 12VDC power source (insulated power lead, crocodile battery clips and car 12V cigarette lighter plug)
- Fuse and filter kit (spare fuses and particulate filter)
- Maintenance kit (including pump re-build kit, mirror cleaning kit and spare solid-state hard drive)
- Rugged, weatherproof battery case and integrated charger (excludes battery)
- Data logging software - allows RS-232 data from multiple analysers & other sensors (e.g.. wind, GPS) to be viewed remotely in real-time.



## Other benefits:

Based on LGR's patented Off-axis ICOS optical technology the range of Ultraportable Analysers offer absolute measurements which are "species specific" and with no cross interferences. Measurements are fast (up to 1Hz / up to 10Hz with the Microportable), precise and accurate.

Unlike other more traditional cavity ringdown measurement techniques, the mirrors and optics of the measurement cell can be easily cleaned by the user without the need to send the instrument back to the manufacturer. A special mirror cleaning kit with full instructions is available as an option.

Maintenance is almost non-existent with the LGR Ultraportable Gas Analysers. Other than perhaps the eventual requirement for pump maintenance (replacement diaphragm), filter replacement and mirror cleaning, if and when required, there is no other maintenance required.



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