

# Frequently Asked Questions

about the Los Gatos Research

## Economical Ammonia Analyzer

### 1. What does the Economical Ammonia Analyzer do?

LGR's Economical Ammonia Analyzer (EAA) measures trace concentrations of ammonia (NH<sub>3</sub>) continuously in flowing gas samples at data rates up to 1 Hz with ppbv-level precision.

### 2. What are the key benefits of the LGR EAA compared to other analyzers on the market?

There are many benefits, but the key ones include:

- **Data rate:** LGR's EAA measures ammonia with ppbv level precision at 1 Hz. This fast data rate and system response allows users to study transient, time varying events that other analyzers cannot.
- **Measurement Range:** LGR's EAA has an extremely large measurement range and is capable of measuring ammonia from 0 to 10000 ppbv. This makes the instrument suitable for practically all applications where measurements of ammonia are desired.
- **Power Consumption:** LGR's EAA including its internal pump requires only 120 watts of power. Low power usage is particularly important in field locations with limited power. External pumps required for the highest data rates would require additional power.
- **Technology:** The founder of Los Gatos Research (Dr. Anthony O'Keefe) invented the first cavity enhanced absorption based technique called Cavity Ringdown Spectroscopy (CRDS)<sup>1</sup>. Since then, LGR has made several improvements to this technology. The fourth-generation, patented, Off-axis ICOS technology used in all our commercial analyzers has several advantages over first-generation CRDS systems such as being alignment insensitive, having a much shorter measurement time, and not requiring expensive and power consuming auxiliary components. Visit our website at [www.LGRinc.com/resources/technology](http://www.LGRinc.com/resources/technology) for more details.
- **Reliability:** LGR's technology is simple to use, rugged and easy to manufacture. As a result, many LGR instruments have been in use for more than 4 years with no reported issues.

### 3. Is the EAA durable enough to be used for field (non-laboratory) applications?

Yes. In fact, LGR's EAA is the ideal choice for field applications:

- **Low Power:** In field applications, minimizing power consumption is often critical.
- **Rugged:** The patented Off-Axis ICOS technology is relatively alignment insensitive so it is largely immune to the effects of vibration and rough handling that can occur during field deployments.
- **Field Experience:** LGR instruments are in use on all 7 continents in some of the toughest environments.

### 4. Can I view the measured high resolution absorption spectra as it is recorded on an EAA?

Yes, of course. The ability to review the spectra can be an important diagnostic tool especially if interferences are suspected. On all LGR Analyzers, the measured spectra can be viewed in real time. If a manufacturer doesn't let you see their spectra, what are they hiding?

**5. Other manufacturers claim that temperature control, pressure control, wavelength monitoring, and shock testing are necessary for high quality measurements. Is this true?**

This is completely untrue. Just compare the spec sheets and speak to our customers. The reality is competitor's systems require those "features" because of the technology they use. LGR's more advanced technology outperforms (faster, higher accuracy and precision, wider dynamic range) competing technology in a system that is far simpler, easier to use, requires less power, and is less expensive.

**6. Other manufacturers claim that they are the only ones to test every analyzer 100% to specifications before shipping. Is this true?**

This is completely untrue. Los Gatos Research tests all of our analyzers to all of our published specifications before being approved for shipment. In fact, our manufacturing specifications go far beyond our published, guaranteed specifications.

**7. How do I get more information or purchase a system?**

Contact us anytime at:

+1-650-965-7772 or [sales@lgrinc.com](mailto:sales@lgrinc.com)

In some countries we use distributors to better support our customers. Check our website ([www.lgrinc.com/about/distributors](http://www.lgrinc.com/about/distributors)) for a list and contact information.

<sup>1</sup>"Cavity ring-down optical spectrometer for absorption measurements using pulsed laser sources," Anthony O'Keefe and David A.G. Deacon, *Review of Scientific Instruments*, (ISSN 0034-6748), vol. 59, Dec. 1988