

PICARRO

The World's Leading Instruments for Carbon, Water and Nitrogen Cycle Measurements



OVERVIEW

Picarro's ultra-precise analyzers are empowering scientists, governments, non-profits and for-profit enterprises to measure key components of the global carbon, water and nitrogen cycles - the molecules that form the building blocks of all living organisms and most physical matter on Earth. We are transforming how, when and where world-class scientific measurements are made, and enabling anyone to make them. Picarro instrumentation can give you better insights - in a high-precision, stable and easy-to-use system.

APPLICATIONS SERVED

Scientific Research



Atmospheric Science
Ecology (Plant & Soil Science)
Geochemistry
Hydrology
Oceanography
Paleoclimatology

Greenhouse Gas (GHG) and Other Emissions



GHG Monitoring Networks
Air Quality
Cities and Urban Emissions
Industrial Emissions

Industrial Research



Food Adulteration
Petrochemistry
Pharmaceutical
Fugitive Emissions
Carbon Sequestration



OUR TECHNOLOGY

Picarro's products are based on our patented cavity ring-down spectroscopy (CRDS) technology, which provides concentration and/or isotopic ratio measurements of gases at parts-per-billion precision. Cavity ring-down spectroscopy uses principles of optical spectroscopy to quantify the concentration (and sometimes isotopes) of molecules in the gas phase. Unlike traditional optical spectroscopy that determines concentration using the absolute absorbance of the sample, with CRDS the concentration is determined from the rate of decay of the optical signal.



PRODUCTS SOLD

GREENHOUSE GAS AND TRACE GAS ANALYZERS

Greenhouse Gas Analyzers (concentration only)

- G2301 CO₂, CH₄, H₂O
- G2401 CO₂, CO, CH₄, H₂O
- G2401-*m* CO₂, CO, CH₄, H₂O (flight)
- G2508 N₂O, CH₄, CO₂, NH₃, H₂O
- G2509 N₂O, CH₄, CO₂, NH₃, H₂O
- G5310 N₂O, CO, H₂O

Peripherals for GHG Analyzers

- A0311 16-port Manifold, multiple inlet system
- A0701/A0702 Recirculation Pump for closed system measurement
- A0314 Small Sample Introduction Module (SSIM2) for discrete samples & dilution

Trace Gas Analyzers (concentration only)

- G2307 Formaldehyde (CH₂O), CH₄ and H₂O
- G2910 Ethylene Oxide (C₂H₄O), CO₂, CH₄ and H₂O (stack)
- G2920 Ethylene Oxide (C₂H₄O), CO₂, CH₄ and H₂O (ambient)
- PI2114 Hydrogen Peroxide (H₂O₂)
- SI2103 Ammonia (NH₃)
- SI2104 Hydrogen Sulfide (H₂S)
- SI2108 Hydrogen Chloride (HCl)
- SI2205 Hydrogen Fluoride (HF) and H₂O

Peripherals for Trace Gas Analyzers

- A0311 16-port Manifold, multiple inlet system
- A0311-s 16-port Manifold SilcoNert Version, multiple inlet system

Peripherals for Ethylene Oxide Analyzers

- A0601 Zero Reference Module, part of Ambient Air Monitoring System

ISOTOPE ANALYZERS

Carbon Isotope Analyzers

- G2131-*i* δ¹³C in CO₂
- G2201-*i* δ¹³C in CO₂ and CH₄
- G2210-*i* δ¹³C in CH₄, CH₄ and C₂H₆ concentrations

Peripherals for Carbon Isotope Analyzers

- A0311 16-port Manifold, multiple inlet system
- A0701/A0702 Recirculation Pump for closed system measurement
- A0314 Small Sample Introduction Module (SSIM2) for discrete samples & dilution
- A0201 Combustion Module (CM) for bulk samples
- A0302 Automate-Fx, prep device for DIC/CO₂

Water Isotope Analyzers

- L2130-*i* δ¹⁸O, δD in H₂O
- L2140-*i* δ¹⁸O, δ¹⁷O, δD and ¹⁷O-excess in H₂O

Peripherals for Water Isotope Analyzers

- A0101 Standard Delivery Module (SDM) for calibration of vapor measurements
- A0211/A0325 High-Precision Vaporizer and Autosampler for high-precision isotope analysis of liquid water samples
- A0214 Mirco-Combustion Module (MCM) for removal of organics from liquids
- A0213 Induction Module (IM) for matrix-bound water extraction
- A0217 Continuous Water Sampler (CWS) for continuous water isotope analysis

Note: Contact Picarro for information on other, third-party, front-end compatibility!