# Isotopic Water Analyzer for $\delta^{18}O$ and $\delta D$

# ΡΙСΔ R R O



The **Picarro L2130-i isotopic water analyzer** provides high quality measurements of water stable isotopes that are critical for demanding applications such as paleoclimatology, hydrology, and oceanography.  $\delta^{18}$ O and  $\delta$ D are measured with the highest precision and reproducibility as illustrated in Figures 1 and 2.

Along with the analyzer, Picarro offers a variety of peripherals that allow for analyzing water in various forms or sources.

#### Patented CRDS Technology

Our sophisticated time-based measurement uses a laser to quantify spectral features of gas phase molecules in an optical cavity. Picarro's unique design enables an effective measurement path length of up to 20 kilometers in a compact cavity, which results in exceptional precision and sensitivity in a small footprint.





ChemCorrect<sup>™</sup> post-processing software interface

## L2130-i Technical Specifications

L2130-i Liquid Specifications (with A0211 and A0325)		
Precision (1o)	Guaranteed: 0.025/0.1‰ for δ18Ο/δD	
Drift (24 hour)	Guaranteed: 0.2/0.8‰ for δ18Ο/δD	
Throughput	12 to 54 minutes per sample depending upon vaporizer model and mode	
Memory	Guaranteed at better than 99/98% for δ18Ο/δD after 4th injection	
Total Dissolved Solids	<200 g/kg	

L2130-i Vapor Specifications	
Measurement Range	1,000 to 50,000 ppm
Guaranteed Precision (1o) 2,500 ppm	0.250/0.080‰ for δ18O for 10/100 sec 1.600/0.500‰ for δD for 10/100 sec
Guaranteed Precision (1ơ) 12,500 ppm	0.120/0.040‰ for δ18O for 10/100 sec 0.300/0.100‰ for δD for 10/100 sec
Measurement Rate	~ 1Hz

L2130-i Analyzer Specifications	
Measurement Technique	Cavity Ring-Down Spectroscopy
Temperature	-10 to 45 °C (vapor sample); 10 to 35 °C (liquid sample & system operation); -10 to 50 °C (storage)
Sample Pressure	300 to 1000 Torr (40 to 133 kPa)
Sample Flow Rate	~40 sccm at 760 Torr, no filtration required
Installation	Benchtop or 19" rack mount
Analyzer Dimensions	17" w × 7.5" h × 17" d (43.2 cm × 19.1 cm × 43.2 cm)
Analyzer Weight	45 lbs (20.4 kg)
Power	90–240 VAC, 50/60 Hz, <150 W steady state (analyzer), 80 W (external pump)
Operating System	Windows 7 Professional with onboard Picarro Software

# Standard

ChemCorrect<sup>™</sup> post-processing software for flagging contamination and normalizing measurements.

# **Optional Peripherals**

#### For Discrete Liquid Water

A0211 – High Precision Vaporizer A0325 – Autosampler A0214 – Micro-Combustion Module (MCM)

For Continuous Liquid Water

A0217 – Continuous Water Sampler (CWS)

#### For Water Vapor

A0101 – Standards Delivery Module A0912 – Dual Mode Kit (requires A0211 and A0325)

#### For Solids

A0213 - Induction Module (IM)

### Accessories

C0354 - Salt Liner