ABB MEASUREMENT & ANALYTICS | DATA SHEET

OA-ICOS™ GLA431-TLWIA

Triple liquid water isotope analyzer



OA-ICOS™ GLA431 liquid water isotopic analyzer

Fast and accurate analyzer for measurement of δ^2H, $\delta^{18}O$, $\delta^{17}O$ and O^{17}-excess in liquid water anywhere

Measurement made easy

Features and benefits

- Unsurpassed precision and unmatched accuracy
- Simple to operate - no need for factory return for service
- High precision and unmatched accuracy
- Easy switch between high throughput and high performance mode – no extra hardware required
- Compatible with “LIMS for Lasers”
- High-resolution absorption spectra are viewable continuously for real-time diagnostics
- Post-Analysis Software simplifies analyses and enables highest performance
- Spectral Contamination Identification

Overview

The ABB OA-ICOS analyzers build on the heritage and extensive track record of Los Gatos Research analyzers, using patented Off-Axis Integrated Cavity Output Spectroscopy (OA-ICOS)technology, the latest evolution in tunable diode laser absorption spectroscopy (TDLAS).

ABB’s GLA431-TLWIA liquid water isotopic analyzer provides measurements of δ^2H, $\delta^{18}O$, $\delta^{17}O$ and O^{17}-excess of water in liquid with unsurpassed precision and speed. ABB’s GLA431 series incorporates proprietary thermal control for ultra-stable measurements with unsurpassed precision, accuracy and drift as validated at leading labs throughout the world.

The TLWIA is ideal for a wide variety of hydrological, analytical, and biological applications that involve measurements of fresh water, seawater, and other liquids. The Analyzer’s ease-of-use, field durability, and high throughput make it the industry standard. ABB’s Triple Liquid Water Isotope Analyzer is used by researchers, scientists, governmental agencies and intergovernmental organizations on all 7 continents.

… Overview

ABB's patented OA-ICOS technology, a fourth-generation cavity enhanced absorption technique, has many advantages over older conventional and delicate cavity ringdown spectroscopy and direct absorption techniques. OA-ICOS analyzers are simpler, easier to operate and more rugged. As a result, ABB analyzers provide higher performance and reliability with minimal operational cost.

Equipped with the optional ACC-AUTOINJECT, the GLA431's are capable of unattended operation with automated injection of liquid samples.

Accessories

ACC-AUTOINJECT	**Autoinjector w/ heated injection module** Automated injection of liquid water samples Holds 162 vials. Includes startup kit.
Included	**ACC-DP4H** 4-head external diaphragm pump
Included	**Heater and power supply**
Included	**Spectral Contamination Identifier** Identifies and flags contaminants
Included	**Post-Analysis software** Advanced software simplifies analytical procedure to enable high precision measurements quickly

Ordering information

- **OA-ICOS™ GLA431-TLWIA**

Specifications

Precision (1σ):
High Throughput Mode
δ^2H: 0.4 ‰ (400 per meg)
δ^{17}O: 0.1 ‰ (200 per meg)
δ^{18}O: 0.1 ‰ (100 per meg)

High Performance Mode
δ^2H: 0.2 ‰ (200 per meg)
δ^{17}O: 0.03 ‰ (30 per meg)
O^{17}-Excess: (20 per meg)
δ^{18}O: 0.03 ‰ (30 per meg)

Throughput:
800 injections per day (with autoinjector)

Sample Volume:
1 µL per injection

Salinity:
<4% (Total dissolved solids < 40 parts per thousand)

Temperature/Humidity:
Sample Temperature: 0 to 50 °C
Operating Temperature: 0 to 45 °C

Outputs:
Digital (RS-232), Ethernet, USB

Power Requirements:
115/230 VAC, 50/60 Hz
180 watts total (steady state)

Dimensions:
28cm (11") H × 97cm (38") W × 56cm (22") D
Analyzer only

Weight :
50 kg
Analyzer only