

ABB MEASUREMENT & ANALYTICS | DATA SHEET

OA-ICOS™ GLA431-TLWIA

Triple liquid water isotope analyzer



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

Measurement made easy

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OA-ICOS™ GLA431 liquid
water isotopic analyzer

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 $\delta^2\text{H}$, $\delta^{18}\text{O}$, $\delta^{17}\text{O}$ 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

δ²H: 0.4 ‰ (400 per meg)

δ¹⁷O: 0.1 ‰ (200 per meg)

δ¹⁸O: 0.1 ‰ (100 per meg)

High Performance Mode

δ²H: 0.2 ‰ (200 per meg)

δ¹⁷O: 0.03 ‰ (30 per meg)

O¹⁷-Excess: (20 per meg)

δ¹⁸O: 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