



H2 Analytics
2505 Anthem Village Dr Suite E385
Henderson, NV 89052
support@h2-analytics.com

Laboratory Report

Introduction

This report summarizes the analysis of the Echo H2 Pitcher™ hydrogen water pitcher manufactured by Echo Technologies LLC, Pleasant Grove, UT, USA. The product was tested for dissolved hydrogen concentration on both the short (10 min) & long (20 min) cycles.

Product Description

Echo H2 Pitcher™ Hydrogen Water Pitcher, Model # - Echo H2 Pitcher™ (EH2P)

Product was received for testing 4/28/2021

Methods

Dissolved hydrogen concentration (H₂)

Test water: ASTM Type I ultrapure ChemWorld, Salt Lake City, UT, USA; temperature: 25°C ± 1.5°; ec: 0 us/cm; pH: 6.4
Laboratory elevation: 864 meters (0.91 atm); all measurements adjusted to SATP

Test Equipment: SRI 8610C gas chromatograph, Torrance, CA USA
Column: Hayesep-D 6M packed column temp: 80°C
Detector: Tungsten-Rhenium TCD (5000 mvsec max)
Carrier gas: Nitrogen (99.999%) @20 PSI, 20 mL/min
Calibration: Performed on day of testing using third-party calibration gas

Test Method: Static headspace analysis

Prior to testing, the unit's internal battery was charged overnight using the supplied wall charger. On the day of testing, the GC was permitted to warm up for two hours and then calibrated. For each test, the pitcher was connected to its power supply, filled with 1800 mL of water, and the lid replaced. After completion of the desired cycle time (10 min or 20 min), the lid was removed and a sample was taken from a depth of 20 mm using a gas-tight syringe. The sample was injected into the headspace vial and agitated on an equilibrator device for five minutes to permit the dissolved H₂ to equilibrate with the headspace. After equilibration, the headspace was then sampled using a gas-tight syringe and injected into the gas chromatograph for analysis. Three tests were conducted, results recorded, and the mean and standard deviation calculated.

Results

Short cycle (10 min): Dissolved H₂: Mean - 1.48 mg/L (ppm) SD - 0.12

Long cycle (20 min): Dissolved H₂: Mean - 1.75 mg/L (ppm) SD - 0.26

Approved By:

Randy Sharpe, Director of Testing

Report Date: 6/10/2021

