

Hach Orbisphere 6110 Total Package Analyzer

Applications

- Beverage

Easily and automatically provides oxygen and carbon dioxide concentrations for both the headspace and liquid in bottles or cans.

Gas-phase Analysis with Minimal Maintenance

The Hach Orbisphere 6110 analyzes beverages without removing any product from its container. The measurement takes place in the gas phase, so there is no direct liquid contact with the 6110's sensing technology or sampling path. This reduces maintenance by eliminating hassles such as bleaching tubing and replacing valves to prevent fouling.

Accurate TPO & CO₂ Analysis

The 6110 Total Package Analyzer operates on all types of cans and bottles due to its unique gas extraction and piercing system, resulting in reliable analysis with no container leakages. The CO₂ analysis measurement provides accurate results at any temperature, without having to warm the sample. The 6110 can also compensate CO₂ results for any package Nitrogen content—a perfect choice for analysis directly at the filler.

Ergonomic Operation

The 6110 delivers repeatable analysis with minimal operator intervention. The package positioning aid with laser crosshairs confirms optimal placement and the intuitive touch-screen interface ensures product sampling is completed quickly, easily, and consistently for both line operators and lab personnel.



Engineering Specifications

1. Package analysis shall be achieved in a fully automated 5-step process: package piercing, headspace O₂ measurement, liquid O₂ and CO₂ measurement, headspace volume determination, and reset for next analysis.
2. The analyzer shall use gas phase sampling versus liquid sampling.
3. Measurement range shall be 1 ppb to 12 ppm for O₂ and 0.75 to 5 v/v or 1.5 to 10 g/kg for CO₂.
4. Analysis time shall typically be about 4 minutes.
5. The purge gas shall be CO₂ with purity greater than 99.9% at 6 to 7 bar.
6. The analyzer is model Orbisphere 6110 Total Package Analyzer for Oxygen and Carbon Dioxide manufactured by Hach Company.

7. The analyzer shall measure CO₂ via both Pressure/Temperature and selective "true CO₂" method.

8. The analyzer shall incorporate a touch-screen color display.

Installation

The Hach Orbisphere 6110 Total Package Analyzer for Oxygen and Carbon Dioxide should be installed on a sturdy laboratory table that can support at least 55 kg (121 Lbs.). The installation surface should be clean and flat with convenient access to the power source. The display screen should be at the operator's eye height for easy viewing and operation.

Specifications*

Range	O ₂ : 1 ppb to 12 ppm CO ₂ : 0.75 to 5 v/v or 1.5 to 10 g/kg
Repeatability (r95)	TPO [†] : ±5 µg/L ±10 % whichever the greater CO ₂ : ±0.05 v/v or 0.10 g/kg ±2 %, whichever is greater measured on equilibrated packages at 10 to 25°C [†] TPO = Total Package Oxygen, i.e. total quantity of oxygen present in the package.
Analysis Time	Approximately 4 minutes
Display Units	O ₂ Concentration: ppb, ppm CO ₂ Concentration: v/v, g/kg, g/L %W Total Package Quantities: mg, mL, mg/L, mL/L, µg/L Pressure: bar, mbar, psia Temperature: °F, °C, K
Purge Gas	CO ₂ with purity >99.9% at 6 to 7 bar abs (87 to 102 psia)
Operating Limits	Package Temperature: -2 to 30°C (28 to 86°F) Package Pressure: 1.4 to 6.8 bar (20 to 73 psia) Ambient Temperature: 0 to 40°C (32 to 104°F)
Package Settings	Closure Types: metallic, PET Package Height: minimum 90 mm (3.54 in.), maximum 340 mm (13.39 in.) Package Volume: minimum 150 mL

Power Requirements	100/240 Vac ±10 %, 50/60 Hz
Power Consumption	250 VA maximum
Enclosure Rating	IP 20
Compliance: European Directives	Low voltage 2006/95/EC; EMC 2004/108/EC
Compliance: Electromagnetic Compatibility Standards	EN 61326: 2006
Compliance: Safety Standard	IEC/UL/CSA 61010-1
Compliance: Safety of Laser Products	IEC/UL/CSA 60825-1
Digital Display	TFT VGA (640 x 480) color touch screen
Digital Connections	1 x USB client, 1 x USB host, 1 x Ethernet
Operating System	Windows® CE 4.2 <i>Windows® is a registered trademark of Microsoft Corporation.</i>
Dimensions	537 x 540 x 942 mm (21.1 x 21.3 x 37.1 in.)
Weight	55 kg (121 lb.)

*Subject to change without notice.

Ordering Information

DG6110-SYS	Hach Orbisphere 6110 Total Package Analyzer Includes gas supply tubing kit, anti-foam pump priming tool, anti-foam cartridge (empty), syringe, anti-foam refilling kit, O ₂ sensor maintenance kit, seal to package kit, GORE-TEX® filters, piercing tips, thermistor assembly, and solenoid valve.
33002	Power Cord with US plug

Spare Parts

33157	Antifoam Cartridge, empty
33156	Antifoam Recharge Bottle, 1 L
33162	Syringe for Antifoam Cartridge
2956A-A	Recharge Kit; includes 4 pre-filled cartridges with pre-mounted membranes
33124	Filters with GORE-TEX® Membrane, Qty. 52
33127	Piercing Tip
33117	Rubber Seal, for piercing head
DG6110-MAN/E	User Manual

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