



# Hach Orbisphere 3650/3655 Selective Oxygen Measurement

## Applications

- Drinking Water
- Pure Water Applications
- Food and Beverage



## Ideal for Harsh Environments

The Orbisphere 3650 offers a robust portable system solution for oxygen measurement. The compact stainless steel construction is designed for the harsh environment of breweries, but it is also perfectly adapted for laboratory or verification purposes in other beverage applications. In addition, the 3650 can be used across a wide range of applications in the power generation, electronics and life sciences industries.

Designed for use with the Orbisphere GA2400/GA2800 high quality oxygen sensor, these instruments provide fast, accurate and repeatable measurements in both the dissolved and gaseous phase, at line or in the laboratory. For low level applications, the specially configured Orbisphere 3655 measures to 0.1 ppb oxygen.

## Simple Operation and Data Management

The Orbisphere 3650 inlet tube is connected to a sample point or to a piercing device by a simple connector, making it quick and easy to install. The sample flows over the sensor membrane in the flow chamber, with an output valve controlling the sample's flow rate.

Each instrument comes with a Windows® software package that enables the user to analyze up to 500 stored measurements and to configure the instrument. Using the RS232 connection, stored measurements can be simply downloaded to a PC for analysis.

## Simple Maintenance

The use of the Orbisphere GA2400/GA2800 sensor with this portable instrument allows for very quick cleaning with nothing more than tap water and requires no technical skills. The sensor refurbishment (typically every 6 months) takes only 3 minutes with a pre-mounted membrane cartridge and electrolyte, eliminating any risk of incorrect membrane positioning.

The Orbisphere 3650 uses two C-type, NiMH or alkaline batteries. Changing the batteries is quick and easy; stored measurements are not lost if batteries go flat or are being changed.

## Easy Calibration

Calibration after each sensor refurbishment is recommended. A traceable and simple calibration can be done directly in air by measuring its oxygen content with the use of the built-in pressure sensor and the automatic software calculation. Alternatively, the calibration can be performed against a liquid or gaseous sample of known concentration by simply entering the gas concentration via the keyboard.

## Technical Data\*

Sample & Instrument	
Sample Temperature	-5 °C - 60 °C (23 °F - 140 °F)
Sample Pressure	Max. 10 bar (145 psi)
Power Supply	Two C-type cells, NiCd or alkaline, each 26 x 50 mm, 2.4 - 3 Volt total
Battery Life	40 hours continuous use
Data Storage	500 data
Compliance Certifications	CE: EN61010-1: LVD Directive ISO9001/EN29001
Enclosure Rating	IP65 / NEMA4
Operating Temperature Range	-5 °C - 100 °C (23 °F - 212 °F)
Temperature Compensation	-5 °C - 60 °C (23 °F - 140 °F)
Dimensions (H x W x D)	150 mm x 115 mm x 220 mm
Weight	2.4 kg

Configurations				
Model	3650/111	3650/112	3650/113	3655/111
Display Units	ppm/ppb or ppm only	% or ppm	% (gaseous) or ppm (liquid)	ppm/ppb or ppm only
Display Resolution	1 ppb or 0.001 ppm	1 ppm	0.001 ppm or 0.001%	0.1 ppb or 0.001 ppm

Measurement				
Membrane	2952A	2956A	2958A	29552A
Response Time	38 s	7.2 s	9.5 s	90 s
Range	O <sub>2</sub> (dissolved): 1 ppb - 80 ppm  O <sub>2</sub> (gaseous): 5 Pa - 200 kPa	O <sub>2</sub> (dissolved): 0.1 ppb - 20 ppm  O <sub>2</sub> (gaseous): 0.25 Pa - 50 kPa	O <sub>2</sub> (dissolved): 1 ppb - 40 ppm  O <sub>2</sub> (gaseous): 2 Pa - 100 kPa	O <sub>2</sub> (dissolved): 2 ppb - 80 ppm  O <sub>2</sub> (gaseous): 5 Pa - 200 kPa
Flow Rate	Min. liquid: 50 mL/min  Min. gaseous: 0.1 - 3 L/min	Min. liquid: 180 mL/min  Min. gaseous: 0.1 - 3 L/min	Min. liquid: 120 mL/min  Min. gaseous: 0.1 - 3 L/min	Min. liquid: 50 mL/min  Min. gaseous: 0.1 - 3 L/min
Accuracy	The greater of ±1% of reading or ±2 ppb or ±5 Pa	The greater of ±1% of reading or ±0.1 ppb (3655)/±1 ppb (3650) or ±0.25 Pa	The greater of ±1% of reading or ±1 ppb or ±2 Pa	The greater of ±1% of reading or ±2 ppb or ±5 Pa

Note: Instruments are user-configured for a particular membrane, depending on the application. This determines the display resolution and measurement limits.

\*Subject to change without notice.

## Order Information

### Instruments

<b>3650/111</b>	Orbisphere 3650/111 Portable Analyzer, Dissolved Oxygen (O <sub>2</sub> ), units: ppm/ppb or ppm only
<b>3650/112</b>	Orbisphere 3650/112 Portable Analyzer, Gas Phase Oxygen (O <sub>2</sub> ), units: % or ppm
<b>3650/113</b>	Orbisphere 3650/113 Portable Analyzer, Gaseous or Dissolved Oxygen (O <sub>2</sub> ), units: % (gaseous) or ppm (liquid)
<b>3655/111</b>	Orbisphere 3655/111 Portable Analyzer, Dissolved Oxygen (O <sub>2</sub> ), high resolution, units: ppm/ppb or ppm only
<b>GA2400-S00</b>	Orbisphere GA2400 Stainless Steel Oxygen Sensor (EC), 40 bar, EPDM O-rings

### Accessories/Options

<b>32007D</b>	Flow chamber in POM for power logger (3655), 1 m tubing
<b>32051A</b>	Adapter for 32007D, incl. one 6 mm and one 8 mm rubber sealing gasket
<b>2952A-A</b>	Recharge kit of 4 pre-filled cartridges with premounted 2952A membranes
<b>2956A-A</b>	Recharge kit of 4 pre-filled cartridges with premounted 2956A membranes
<b>2958A-A</b>	Recharge kit of 4 pre-filled cartridges with premounted 2958A membranes
<b>29552A-A</b>	Recharge kit of 4 pre-filled cartridges with premounted 29552A membranes
<b>32687</b>	Windows Software 32689 plus communications cable for 3650 & 3655 instruments
<b>32751</b>	Battery recharger with pack of two rechargeable NiCd batteries (Europe only)

### Hach Service Protects Your Investment

With Hach Service, you have a global partner who understands your needs and cares about delivering timely, high-quality service you can trust. Our Service Team brings unique expertise to help you maximize instrument uptime, ensure data integrity, maintain operational stability, and reduce compliance risk.



**World Headquarters: Loveland, Colorado USA | [hach.com](http://hach.com)**

**United States** 800-227-4224 fax: 970-669-2932 email: [orders@hach.com](mailto:orders@hach.com)  
**Outside United States** 970-669-3050 fax: 970-461-3939 email: [intl@hach.com](mailto:intl@hach.com)

©Hach Company, 2025. All rights reserved.

In the interest of improving and updating its equipment, Hach Company reserves the right to alter specifications to equipment at any time.

**DOC053.53.35330.Jan25**