

Which Oxygen Sensor Is Right for Your Application?

Compare Hach Orbisphere® oxygen sensor technologies to select the best solution for your process requirements.

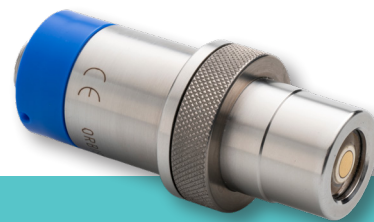
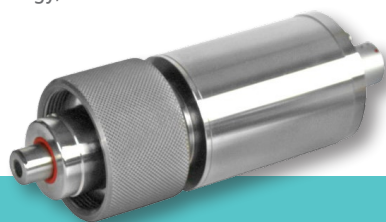
Both sensors deliver unrivaled accuracy, but the best choice depends on your specific industrial needs and operational priorities.

Choose the **Orbisphere K1100 LDO Oxygen Sensor** if you prioritize minimal maintenance and wish to eliminate membrane replacements entirely. Its optical (luminescent) measurement principle provides stable readings that are not affected by pressure shocks or by flow changes. The K1100 is therefore well suited for cycling power plants, where frequent start-ups and shutdowns can increase hydrogen levels and metallic oxide particulates due to corrosion. With optical technology, it reduces the risk

of false low value readings associated with membrane blockage or permeation effects.

Select the **Orbisphere GA2X00 Oxygen Sensor** when your application requires accurate and reliable dissolved oxygen measurement below a 5-ppb target level for example in nuclear power, semiconductor industry, or power plants operating under AVT (All Volatile Treatment).

Where installation in an ATEX-classified area is required and certification is mandatory, the GA sensor is recommended, as ATEX certification comes standard in all GA2800 units, making the sensor especially suitable for harsh chemical environments.



Feature Comparison

KEY FEATURE	Orbisphere K1100	Orbisphere GA2X00
Maintenance Requirements	Requires only two minutes of maintenance per year.	Requires typically 4 times per year. Completes membrane and electrolyte changes in less than five minutes.
Membrane and Electrolyte	Operates entirely without membranes or electrolyte solutions.	Utilizes an innovative pre-filled cartridge system for quick replacements.
Calibration Frequency	Needs only one zero-point calibration annually.	Simple Calibration requiring no zero point calibration thanks to the guard ring design, with only periodic air calibration as needed.
Measurement Technology	Uses Luminescent Dissolved Oxygen (LDO) technology for stable, drift-free optical readings.	Uses Electrochemical (EC) technology with special membrane combined with a platinum guard ring to minimize residual current, and deliver accurate trace level oxygen measurements without zero calibration.
Ideal Applications	Suitable for power plants, boiler water, steam cycles, and ultrapure water monitoring.	Application in power plant, semiconductor wafer rinsing, nuclear reactor coolants, and ultrapure water.
Metallic Oxide Interference	No impact on the quality of result from metallic oxides deposit.	Metallic oxides could block the membrane and cause false low value reading.
Hydrogen Interference	Not influenced by hydrogen because of optical technology.	Influenced by the presence of hydrogen as hydrogen can pass through the membrane.
ATEX Certification	Not available.	ATEX certification comes standard in all GA2800 units.
Limit of Detection	0.6 ppb, suitable for target values above 5 ppb.	0.01 ppb, suitable for reliable and accurate measurement below 5 ppb.

Technical Specifications

SPECIFICATION	Orbisphere K1100	Orbisphere GA2400
Measuring Range	0 - 2,000 ppb or 0 - 40 ppm	0.1 ppb - 400 ppm (membrane dependent)
Maximum Sample Pressure	20 bar	40 bar
Operating Temperature Range	-5 - 50 °C	-5 - 60 °C
Measurement Accuracy	± 0.8 ppb or 2%	± 1% of reading or ± 0.1 ppb (membrane dependent)
Typical Response Time	< 30 s	7.2 s to 2.5 min
Detection Limit	0.6 ppb	0.1 ppb (membrane dependent)

