# Orbisphere M1100 Luminescent dissolved oxygen sensor, 0-2 ppm, with 28 mm Orbisphere fitting

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| **Product #:** | **M1100-S00** |
| ZAR Price: | Contact Hach |
| Ships within 3-5 weeks | |

## Monitors oxygen in the beverage production process (bypass)

Sensor for the determination of dissolved oxygen (DO) in beer (bypass) and de-aerated water.

The M1100 Oxygen sensor has an unbeatable precision of 0.8 ppb and a limit of detection of 0.6 ppb. Such accurate measurement readings are essential to control low oxygen levels in beer.

The absence of membrane and electrolyte means that the sensor accuracy is unaffected by process changes or pressure shocks. Maintenance and operating costs are also reduced. The sensor has been designed to ensure mechanical robustness and resistance to CIP processes to extend operational lifetime and optimise its total cost of ownership.

The quick response time comes from a two second measurement frequency. Capable of measuring accurately at this frequency over a 12 month period.

### Minimal Drift and Annual Calibration
The M1100 sensor provides immediate oxygen readings with a measurement frequency of two seconds. The instrument carries consistent readings with no drift for 12 months without calibration (when utilising standard weekly CIP processes), surpassing other optical sensors that display significant drift after only a few months in similar conditions.

### Minimal Maintenance Optical Technology
The M1100 pioneered the use of luminescent technology in brewing applications (bypass) and as a result, the sensor doesn't require the replacement of membranes or any electrolytes. Additionally, the sensor's accuracy is unaffected by process changes or pressure shocks, further reducing maintenance. Annual maintenance is limited to just a few minutes for a zero-point calibration. Chemicals are not required for this process, making the task easier and safer without reducing measurement precision.

### Low Level Oxygen Measurement with Accurate ppb
The M1100-L sensor has a lower detection level of 0.6 ppb. This highly accurate instrument's readings are essential to control low oxygen levels in beverage production. As an example, it is critical to control low level oxygen in the post fermentation applications of the brewery to ensure high quality of the final product.

### High Level Oxygen Measurement with Accurate ppm
The M1100-H sensor has a range of 0-40 ppm, and is ideal for use in wort applications, for example. Even in this harsh wort environment, the instrument maintains very good accuracy and minimal drift. Only a yearly maintenance and calibration will be required in most cases.

## Specifications

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| Accuracy: | ± 0.8 ppb or 2 % whichever is greater |
| Ambient Temperature: | -5 - 100 °C (23 - 212 °F) |
| Application: | Beverage (bypass) |
| Calibration: | Single point zero calibration with standard 99.999% nitrogen (quality 50) or equivalent oxygen free gas |
| Certifications: | 2004/108/EC - EN 61326-1 |

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| Display Resolution: | 0.1 ppb |
| Fitting: | 28 mm Orbisphere fitting |
| Flow Rate: | 50 - 300 mL/min |
| IP Rating: | Sensor resistant to all common CIP methods |
| Lowest Detection Limit : | 0.6 ppb |
| Material: | 316 L Stainless Steel (1.4435), Silicone |
| Operating conditions: | 0 - 95 % non-condensing relative humidity |
| Parameter: | Oxygen |
| Range: | 0 - 2000 ppb DO (dissolved oxygen) |
| Repeatability: | ± 0.4 ppb or 1 % whichever is greater |
| Reproducibility: | ± 0.8 ppb or 2 % whichever is greater |
| Response time: | (90%)< 10 s (gas phase) |
| | (90%)< 30 s (beer process) |
| Sample Pressure: | 1 - 20 bar absolute |
| Temperature Range: | Accurate from -5 - 50 °C (23 - 122 °F) |
| | Resistant - temperature from -5 - 100 °C (23 - 212 °F) |
| Warranty: | 12 months |
| Weight: | M1100 12 mm: 0.6 kg |
| | M1100 28 mm: 0.74 kg |
| Wetted Materials: | 316 L Stainless Steel (1.4435), Silicone |
| What's included?: | Sensor only and manual. |
| | Controller, sensor cable, flow-chamber or process connection must be ordered separately. |

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