

# Orbisphere C1100 Ozone Sensor

## Applications

- Drinking Water
- Food and Beverage
- Pure Water Applications
- Environmental Monitoring



*The Hach Orbisphere C1100 Ozone Sensor together with 410 Controller is the only inline sensor for ozone monitoring.*

## Time and Cost Saving Ozone Sensor

### Eliminate Product Loss

Withstanding pressure up to 40 bar, the Hach Orbisphere C1100 is the only ozone sensor in the industry that can be placed directly in the process pipe. This eliminates the need to send product to drain and amounts to a typical savings of 380 gallons per day.

### Maintenance in Less Than Five Minutes

Traditional cleaning processes can take more than thirty minutes to complete, but with the C1100 patented cartridge system, both the set-up and the initial sensor replacement procedure can be performed in less than five minutes without the need for a trained technician.

### True Zero Reading: Drift-free and Accurate Measurements

The unique platinum guard ring technology prevents false signals arising from the electrolyte. Operators can be confident of measurements and alarm settings knowing the sensor does not require a separate "zero" calibration.

### Fast, Easy, and Reliable Calibration

The C1100 ozone sensor has a unique air calibration feature that offers operators a quick and easy method to calibrate without requiring an external standard. Air calibration provides an accuracy of  $\pm 5\%$  (achieving better than  $\pm 1\%$  against an ozone standard of known concentration). The Orbisphere C1100 is the only sensor that provides such certified high accuracy!

### Extended Life Expectancy

The robust stainless steel design makes the C1100 sensor ideal for the most demanding applications, extending the life expectancy of the sensor from 5 to 10 years.

## Principle of Operation

The electrochemical sensor consists of one cathode and one anode immersed in an electrolyte solution which is separated from the gaseous or liquid sample by a gas permeable membrane. Through an applied voltage, current will flow between the anode and the cathode.

A guard ring electrode surrounds the center electrode in order to reduce the influence of other gases. Gas penetrating through the membrane into the cell dissolves in the electrolyte and undergoes a reaction at the cathode, causing a measurable electric current to flow.

This current is proportional to the amount of gas entering the cell, which in turn is proportional to the partial pressure of gas in the sample outside the cell. The result is shown as gas concentration, which can then be displayed with a choice of several measuring units, according to instrument setup.

## Technical Data\*

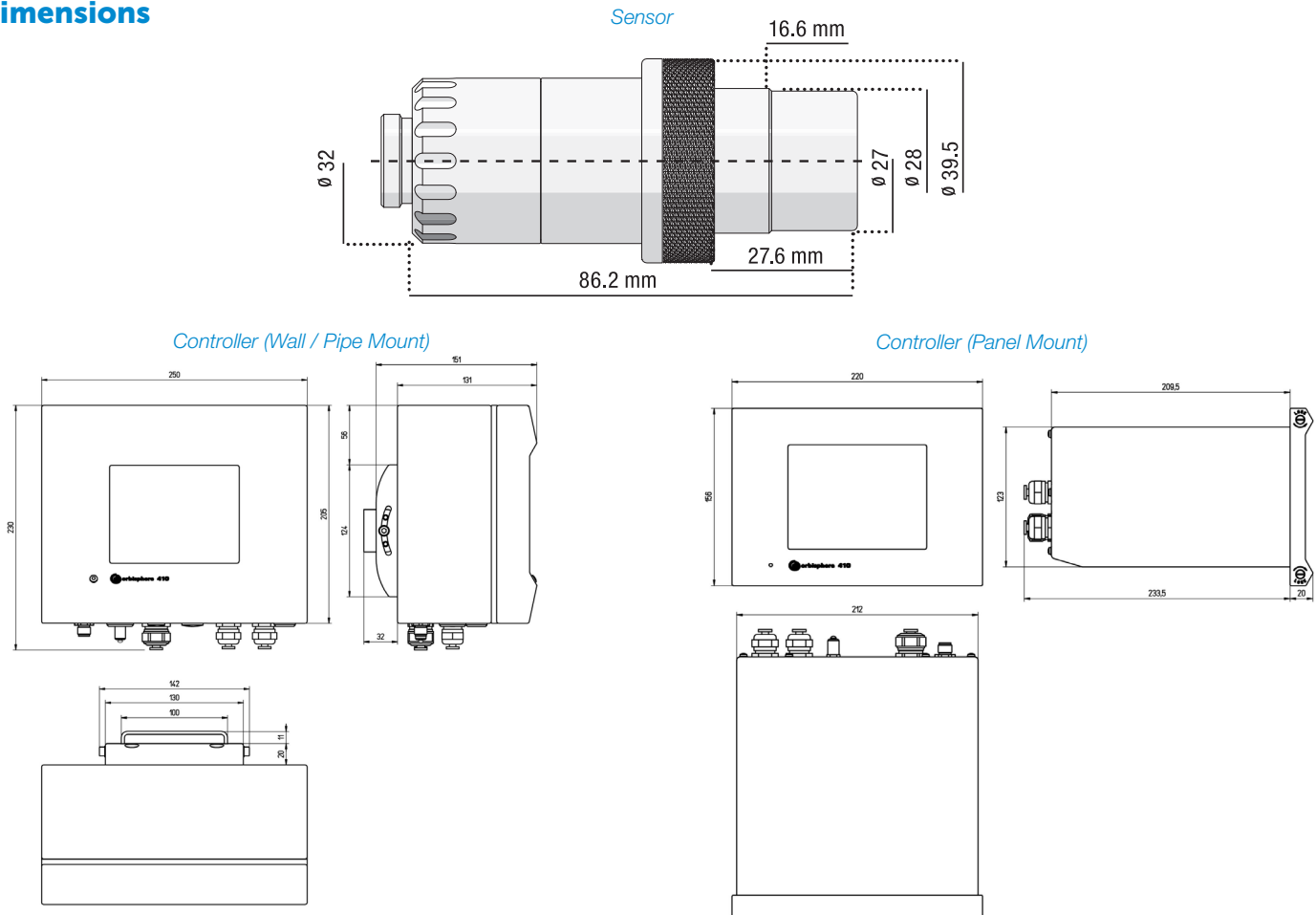
### M1100 (Low Level Sensor)

<b>Range</b>	0 ppb - 50 ppm O <sub>3</sub>
<b>Accuracy</b>	± 0.4 ppb or ±5%, whichever is the greater
<b>Repeatability</b>	± 0.4 ppb or ± 5%, whichever is greater
<b>Pressure Range</b>	Stainless steel: up to 40 bar Titanium: up to 100 bar
<b>Lower Limit of Detection (LOD)</b>	0.6 ppb

<b>Response Time</b>	30 s
<b>Temperature Range</b>	Working operating range: -5 - 45 °C (23 - 113 °F) Maximum operating range: -5 - 100 °C (23 - 212 °F)
<b>Membrane</b>	2956A-C
<b>Flow Rate</b>	350 mL/min (typical)

\*Subject to change without notice.

## Dimensions



## Order Information

- C1100-T00** Electrochemical ozone sensor, Titanium version, Maximum pressure 100 bar, with Smart capability
- C1100-S00** Electrochemical ozone sensor, stainless steel version, maximum pressure 40 bar, with Smart capability
- 2956A-CT** Recharge kit of 4 pre-filled cartridges with pre-mounted 2956A membranes for C1100 ozone sensors with 33051-xT cap only.

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