ELECTROCHEMICAL OZONE SENSOR

OZONOTEC EC

Extremely precise · very robust · low maintenance

A Clark-cell electrochemical sensor for high-precision ozone measurement in both dissolved and gaseous phases. Machined in 316L stainless steel, it withstands harsh chemistry and high pressure across trace to saturation levels - from 1 ppb to 50 ppm.



316L STAINLESS

1 ppb	50 bar	30 s	IP68
DETECTION LIMIT	PRESSURE RATING	RESPONSE 90%	ENCLOSURE

Features & Benefits

Low detection limits

- 1 ppb - 50 ppm dissolved, or 1 Pa - 10 kPa gaseous.

Low maintenance costs

- Interchangeable anode / electrode.
- Small sample contact surface - minimal membrane upkeep.
- Large anode, slow consumption, less frequent service.

Easy calibration

- Single-point calibration thanks to absolute zero.
- EEPROM stores parameters - no recalibration when moved between instruments.

Fast temperature reading

- Sensor integrated in the cathode assembly for faster response.

Hygienic

- Protection cap with special surface treatment.

Robust

- 316L stainless - harsh chemistry and high pressure.

Applications

SEMICONDUCTOR · POWER & STEAM · PHARMA & CHEMICAL

In-line & at-line analysis | Dissolved & gaseous applications | Semiconductor industry | Power-steam industry | Pharmaceutical & chemical

Dimensions

SENSOR ADAPTER	WEIGHT	WETTED MATERIALS	ENCLOSURE	CABLE LENGTH
Ø 28 mm	0.6 kg	316L SS, PFA	IP68 / NEMA 6P	3 m - 100 m

Technical Specifications

Range DO_3	**1 ppb - 50 ppm**	Temp. compensation	**-5 to +60 °C**
Range PO_3	**1 Pa - 10 kPa**	Drift	**Absolute zero, low**
Liquid flow rate	**350 ml/min**	Pressure rating	**50 bar**
Linear flow	**30 cm/s**	Weight	**0.6 kg**
Gaseous flow rate	**0.01 - 3 l/min**	Enclosure	**IP68 / NEMA 6P**
Response (90% @25°C)	**30 s**	Wetted materials	**316L SS, PFA**
Accuracy	**±1% of reading***	Sensor adapter	**Ø 28 mm**
		Sensor cable	**3 m - 100 m**

* 1% of the measured value or lowest value, whichever is greater (DO_3 = dissolved O_3 · PO_3 = O_3 partial pressure).

In Practice

The sensor is based on a Clark cell: a semi-permeable membrane with gold and silver electrodes immersed in an electrolytic solution. The membrane holds the electrolyte and acts as a barrier, letting only small gas molecules reach the gold cathode. The current generated by the reduction is directly proportional to the partial pressure of the ozone present. This current is measured and displayed by the instrument.

A platinum guard ring eliminates the effect of any ozone already dissolved in the electrolyte, so only the ozone directly above the cathode is measured. Ozone permeates the membrane and is reduced at the gold cathode, which acts as a catalyst and stays untarnished.

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