



acniti

LLC آکنی تی
۹-۲-۱ نی وای دانی
مینی و اوزاکا
۰۰۱۱-۵۶۲۳
ژاپن

Dissolved ozone sensor for wastewater

The Ozone Waste Water Sensor is a compact and reliable solution for measuring dissolved ozone in water. This sensor is designed for situations where accuracy, speed, and stability are essential – from industrial processes to water treatment and laboratory applications. Where ozone is used for disinfection or process monitoring, reliable measurement is essential. The ELP-۲۰۰ helps to guarantee that the measurement is continuous. Thanks to innovative technology and a robust design, this system delivers stable results, even in challenging environments. The operation is simple, and the measurement results can be read immediately. This makes our Ozone Waste Water Sensor very practical to use. The system seamlessly integrates with existing processes, contributing to efficient and safe business operations. Whether you work in the pharmaceutical, food industry, water purification, or research, with the Ozone Waste Water Sensor from Acniti, you get a proven and user-friendly measurement solution that does what it is supposed to do: provide reliable insight into the quality of the water.

Dissolved ozone sensor for wastewater

Dissolved ozone sensor for wastewater

- Reliable, interference-free measurements ✓
- Instant insight into ozone levels ✓
- Fast and accurate response ✓
- Automatic temperature compensation ✓
- Smart alarm and control outputs ✓
- Compact, durable, and long-lasting ✓
- Amperometric Ozone Sensor specifically polarographic ✓

What makes the Acniti Ozone Waste Water Sensor ?unique

The Ozone Wastewater Sensor of Acniti utilizes a proven electrochemical measurement principle, in which dissolved ozone diffuses through a polymeric membrane and reacts within an electrolyte layer. This reaction generates an electric current that is directly proportional to the ozone concentration. Thanks to the use of three electrodes (working, counter, and reference), the measurement remains stable, and the sensor is less susceptible to aging or contamination.

Applications

- Water treatment facilities •
- Pharmaceutical production •
- Food and beverage industry •
- Research laboratories •
- Disinfection control in process water •

Key Benefits

- Accurate:** Measurements within $\pm 2.5\%$ of full scale •
- Fast:** 90% response within 60 seconds •
- Compact:** Lightweight and easy to mount •
- Flexible:** Available in measurement ranges of 0–100 mg/L and 0–1000 mg/L •
- (Automatically compensated:** For temperature variations 5–30 °C •

Versatile output: Isolated 4–20 mA output + contact alarms •

Cost-effective: No additional control equipment needed •

Easy Installation

The sensor comes with a mounting board and all necessary accessories. The flow cell is pre-installed, and smart connectors make the sensor quick and easy to set up. For calibration of the unit CX100, a calibration kit is required.

Measuring Principle

The ELP-200 dissolved ozone sensor is an electrochemical sensor that uses a "membrane ozone monitor" based on the polarographic measurement principle. As an electrochemical device, it operates by facilitating a chemical reaction (specifically, reduction or oxidation) of ozone at an electrode, which produces an electrical current proportional to the ozone concentration. The inclusion of a membrane allows only ozone to pass through and reach the electrode, enhancing selectivity and reducing interference. In this context, "polarographic" refers to a type of amperometric electrochemical measurement in which the sensor detects ozone by measuring the current generated during the redox reaction at the electrode surface, thereby translating chemical information into a quantifiable electrical signal.

Ozone penetrates a membrane

- Ozone (O₃) present in the water diffuses through a special polymer membrane to the inside of the sensor

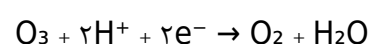
Ozone reaches the electrolyte layer

- Between the working and counter electrodes, there is a thin layer of electrolyte. The ozone dissolves here as it passes through the membrane

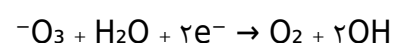
Electrochemical reaction

- At the surface of the working electrode, the ozone reacts

In acidic conditions:



In basic conditions:



Simultaneously, an oxidation reaction takes place at the counter electrode, releasing –
 .electrons

Current intensity = ozone concentration

– The amount of electrical current generated is directly proportional to the amount of ozone in the water. This is known as the limiting current region – a voltage range where
 .the measured current remains constant despite increasing voltage

Stable and linear measurement

– Thanks to the stable design with three electrodes (working, counter, and reference electrodes), the measurement remains reliable over a long period, with minimal sensor
 .contamination

In short, the Ozone Waste Water Sensor converts ozone in water into an electrical signal that precisely indicates the amount of ozone present. Reliable, linear, and accurate,
 .exactly what you want in a critical measurement application

Important Specifications

Specification	Feature
ELP-200	Model
Electrochemical via a gas-permeable membrane	Measurement Principle
mg/L dissolved ozone 10-100	Measurement Range
of full scale $\pm 2.5\%$	Accuracy
response within 60 seconds 90%	Response Time
Water: 5-30 °C; Ambient: 5-40 °C	Temperature Range
(V AC, 50/60 Hz (~5 VA 220 - 100	Power Supply
Stainless steel fittings for water inlet and outlet	Connections
81 x 560 mm 125	Dimensions
CX100 is required	Calibration

elp-۲۰۰

شرح	متری ک	امپری ال
۱ اسم مدل	ELP-۲۰۰	ELP-۲۰۰
۲ شماره مدل	ELP-۲۰۰	ELP-۲۰۰
مایع	متری ک	امپری ال
۳ حداقل جریان / دقیقه	۰.۵ لیتر	۰.۱ گالن
۴ حداکثر جریان / دقیقه	۱.۰ لیتر	۰.۳ گالن
۵ حداقل جریان / ساعت	۳۰ لیتر	۷.۹ گالن
۶ حداکثر جریان / ساعت	۶۰ لیتر	۱۶ گالن
۷ حداقل دمای آب	۵ °C	۴۱ °F
۸ حداکثر دمای آب	۳۰ °C	۸۶ °F
۹ موجودیت و اندازه صافی		
محتی ط	متری ک	امپری ال
۱۰ حداقل دمای محتیط	۵ °C	۴۱ °F
۱۱ حداکثر دمای محتیط	۴۰ °C	۱۰۴ °F
۱۲ حداقل رطوبت نسبی	٪ ۰	٪ ۰
۱۳ حداکثر رطوبت نسبی	٪ ۹۰	٪ ۹۰
گاز	متری ک	امپری ال
۱۴ کیفی ت گاز		
۱۵ تذکر گاز		
برقی	متری ک	امپری ال
۱۶ ولتاژ فاز Ø واحد		AC ۱۰۰~۲۴۰V ۵۰/۶۰Hz
۱۷ مصرف برق واحد		VA ۵
۱۸ قطعات خیس شده		
۱۹ مدل پمپ		
۲۰ ولتاژ فاز Ø پمپ		

برقی	متری ک	امپریال
۲۱	فاز پمپ Ø ولتاژ ۶۰ هرتز	
۲۲	تنظیم فشار پمپ	
۲۳	کنترل	
اتصالات	متری ک	امپریال
۲۴	ورودی آب	Fitting straight tightening joint stainless steel
۲۵	مچرای خروج آب	
۲۶	ورودی گاز	
ابعاد و وزن	متری ک	امپریال
۲۷	ابعاد: (عرض) X (طول) X (ارتفاع)	۱۲۵ X ۵۶۰ X ۸۱ میلی متر ۴.۹ X ۲۲.۰ X ۳.۲ اینچ
ملاحظات		
✓ Dissolved ozone analyzer for sewage ✓ Measures dissolved ozone through a gas-permeable membrane, not easily affected to residual chlorine and dissolved organic substance ✓ This compact dissolved ozone monitor uses a diaphragm polarograph sensor with excellent selectivity and is not easily affected by various metal ions or conductivity in the sample water ✓ The three-electrode configuration greatly suppresses the formation of electrode reaction byproducts that deteriorate the sensor's aging characteristics		
۲۸	سایر اظهارات	