

acniti

LLC آکنیتی ۱-۲-۹ نیوایدانی مینو اوزاکا ۲-۵۶۲ ۰۰۱۱-۵۶۲ ژاپین

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-Y·· 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



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- 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 ±Υ.Δ./. of full scale
 - Fast: ٩٠% response within ۶٠ seconds •
 - Compact: Lightweight and easy to mount •
- Flexible: Available in measurement ranges of -1... mg/L and -1... mg/L
 - (Automatically compensated: For temperature variations (Δ-٣٠°C •



- **Versatile output**: Isolated $f-Y \cdot mA$ 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 CX1..., 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:

 $O_3 + YH^+ + Ye^- \rightarrow O_2 + H_2O$

In basic conditions:

 $^{-}O_{3} + H_{2}O + Ye^{-} \rightarrow O_{2} + YOH$



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

	important Specificat	IUIIS
Specification	Feature	

ELP_T·· Model

Electrochemical via a gas-permeable membraneMeasurement Principle

mg/L dissolved ozone \--- Measurement Range

of full scale ±۲.۵% Accuracy

response within 8. seconds 9.7. Response Time

Water: Δ-٣٠°C; Ambient: Δ-۴٠°C Temperature Range

 $(V AC, \Delta \cdot / ? \cdot Hz) (\sim \Delta VA) + V \cdot - V \cdot \cdot \cdot$ Power Supply

Stainless steel fittings for water inlet and outlet Connections

X λι X Δ۶· mm ιτΔ Dimensions

CX1... is required Calibration

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elp-۲··

	شرح	متریک	امپرىال
١	اسم مدل	ELP-۲۰۰	ELP-T++
۲	شماره مدل	ELP-۲۰۰	ELP_۲۰۰
	مایع	مت _ر ی ک	امپرىال
٣	حداقل جرىان / دقىقە	۵. ۰ لىتر	۰.۱ گالن
۴	حداکثر جریان / دقیقه	۱.۰ لىتر	۰.۳ گالن
۵	حداقل جریان / ساعت	۳۰ لىتر	۷.۹ گالن
۶	حداکثر جریان / ساعت	۶۰ لىتر	۱۶ گالن
٧	حداقل دمای آب	°C a	°F +1
٨	حداکثر دمای آب	°C ٣٠	°F 18
٩	موجودیت و اندازه صافی		
	محیط	متری ک	امپریال
١.	حداقل دمای محیط	°C a	°F
۱۱	حداکثر دمای محیط	°C +•	°F 1.4
۱۲	حداقل رطوبت نسبی	7. •	7. •
۱۳	حداکثر رطوبت نسبی	7. 9•	%. 9 •
	گاز	متری ک	امپریال
14	کیفیت گاز		
۱۵	تذکر گاز		
	برقى	مت _ر ی ک	امپرىال
18	ولتاژ فاز Ø واحد		AC 1~ 74.V 0./8.Hz
۱۷	مصرف برق واحد		VA ۵
۱۸	قطعات خىس شدە		
۱۹	مدل پمپ		
۲.	ولتاژ فاز $oldsymbol{arrho}$ پمپ		



امپریال	برقی متری <i>ک</i>	
	فاز پمپ Ø ولتاژ ۶۰ مرتز	۲۱
	تنظیم فشار پمپ	77
	كنترل	۲۳
امپریال	اتصالاات مترى ك	
Fitting straight tightening joint stainless steel	ورودی آب	74
	مجرای خروج آب	۲۵
	ورودی گاز	78
امپریال	ابعاد و وزن متر <i>ی ک</i>	
۲.۹ ۲۲.۰ X اینچ	ابعاد. (عرض) X (طول) X میلی متر (ارتفاع) X ۸۱ X ۵۶۰ ۱۲۵	۲۷
	ملاحظات	
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		