OzoSense

Residual Ozone Analyser

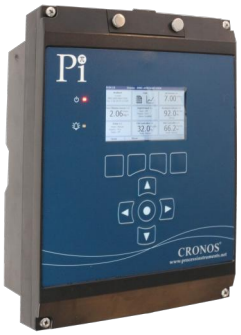
The OzoSense range of Ozone Analysers, Ozone Controllers and Ozone Monitors utilise the very latest and best ozone sensors available in the world today. A choice of sensors including a membraned device which is insensitive to changing pH, uses no reagents, and is extremely stable, and has reduced maintenance and reduced whole life costs, and a non membraned three electrode potentiostatic sensor for use in high pressure or high temperature environments.

- **Stable and reliable - excellent process control**
- **Suitable for all potable and process waters**
- **Up to 6 months between maintenance**
- **Up to 3 months between calibration**
- **Does not respond to residual chlorine (OzoSense M)**
- **Resistant to detergents in the water (OzoSense NM)**

"We have had excellent success with Pi's Ozone Analysers" **Kahraman Kalyoncu, Turkey**

The OzoSense sensors and flow cells are available with different controllers giving you the same great performance with different communication, display, and control options. With the OzoSense range of residual ozone analysers, you get everything that you need - and nothing that you don't, saving money without compromising the quality of measurement.

CRONOS® OzoSense



- High Quality - Lowest Cost
- Multilingual
- High resolution grayscale display
- 9 buttons for easy navigation
- Graphing and datalogging
- Enclosure; wall, panel, pipe or pole mounting. IP65/Nema 4x.
- Options:
  - **Modbus RS485/LAN**
  - **Profibus**
  - **Up to 2 sensors**
  - **PID/flow proportional controls**
  - **Remote sensors**
  - **Colour display**
  - **Downloadable data logs**

CRIUS® OzoSense

- Highest Quality - Low Cost
- Multilingual
- High resolution colour display
- Intuitive user interface
- Customisable home pages
- All CRONOS® options plus:
  - **Up to 4 sensors**
  - **Remote access via LAN**
  - **Remote access via GPRS**
  - **Expandable to 16 sensors**

For more information please see the individual brochure - CRONOS® and CRIUS®

Sensor Selection

Membraned Sensor

- **T_{90} in 50 seconds**
- **Gold working electrode**
- **Requires open flow cell**

Non Membraned Sensor

- **T_{90} in <2 seconds**
- **Gold working electrode**
- **Requires closed flow cell**
- **Requires flow/ pressure regulator**

Principle of Operation

The membraned amperometric ozone sensor is a two electrode sensor which operates at an elevated applied potential which in turn eliminates zero drift. Its unique design means that no reagents or buffers are required at all.

In addition to the state of the art amperometric ozone sensors the OzoSense range of ozone analysers has all the functionality that you need, and more. Simply choose the CRONOS® or CRIUS® controller to give you the highest quality ozone monitor, with all the functionality you need, at the lowest price possible. This means that you pay for everything that you need and nothing you don't, without sacrificing the quality of measurement.

Autoflush

As described in a separate brochure, the OzoSense can come equipped to automatically clean itself at user defined intervals with all the benefits of no operator intervention. The Autoflush for OzoSense M is particularly useful in food preparation, pulp and paper, and many applications where there is likely to be a build up of solids in the sample.

Water Treatment

- **Ozone Dosing Control**
- **Cooling Towers**
- **Hospitals**
- **Remote Sites**
- **Food Preparation**
- **Secondary Ozonation**

Anywhere you have a requirement to measure residual ozone is a suitable application for the OzoSense. The OzoSense ozone monitor range is particularly suited to working in sites where reliability and ease of use are most important. The OzoSense M is resistant to the presence of tensides making it suitable for use in many washing applications.

Multi-Sensor Systems

The whole range of OzoSense Ozone Monitors and Controllers can be fitted with additional sensors such as more ozone sensors, conductivity, pH and many others. Please ask your local distributor for more details.

OzoSense NM in flow cell

OzoSense M in single open flow cell

Specification*

	Membraned Sensor (OzoSense M)	Non Membraned Sensor (OzoSense NM)
Type:	Membrane covered, amperometric 2 electrode system	Open 3 electrode potentiostatic system
Measurand:	Residual Ozone O_3	Residual Ozone O_3
Sensor ranges:	0.05-0.2, 0.05-0.5, 0.05-2, 0.05-5, 0.05-10, 0-20 mg/l (ppm)	0-20 mg/l
Resolution:	0.01 mg/l (10 ppb)	0.01 mg/l (10 ppb)
Reproducibility:	±5%	±5%
Stability:	-1% per month (without calibration)	-1% per month (without calibration)
Working Electrode:	Cathode made of gold	Gold
Counter Electrode:	Silver/silver halide	Stainless steel
Membrane Material:	Micro-porous hydrophillic membrane	N/A
Flow Rate:	Approx. 0.5 l/min (min 0.2 l/min)	Approx. 0.5 l/min (min 0.2 l/min)
Temperature Range:	>3 up to 45°C	>3 up to 70°C
Temperature Compensation:	Automatically, by an integral temperature sensor (temp changes <5°C/h)	
pH Range:	pH 2 up to pH 11	pH 4 up to pH 10
Permissible Overpressure:	1 bar	6 bar
First-polarisation Time:	120mins	N/A
Re-polarisation Time:	30mins	N/A
Response Time:	T_{90}: approx. 50 seconds	T_{90}: approx. <2 seconds
Zero Point Adjustment:	Not necessary	At the analyser
Calibration:	Manual using a suitable ozone test kit Every 1 week to 3 months, application dependent	Manual using a suitable ozone test kit Every 1 week to 3 months, application dependent
Housing Material:	PVC, silicone, polycarbonate, stainless steel	PVC, epoxy, polycarbonate, stainless steel
Dimensions:	Diameter approx. 25mm, length 175mm	Diameter approx. 30mm, length 35mm
Maintenance:	Change of membrane cap: Yearly Electrolyte: Every 3-6 mths	Change reference: 12-18 mths (depending on the water quality)
Interferences:	Cl_2, ClO_2 1% sulfuric acid or 1% nitric acid in the water have no influence to the measuring behaviour	Cl_2, ClO_2
Storage:	Frost-protected, dry and without electrolyte no limit Used membrane caps can not be stored	Dry, cap the reference electrode
Housing:	Open flow cell	Closed flow cell with pressure/flow regulator

All subject to change without notice