



# Water Quality Analysers



## DioSense - Chlorine Dioxide Analyzer

The DioSense range of Chlorine Dioxide Analyzers, and Chlorine Dioxide Monitors utilise the very latest and best chlorine dioxide sensor available in the world today. It is a membraned device which is insensitive to chlorine, uses no reagents, is extremely stable, and has reduced maintenance and reduced whole life costs.

- Amperometric sensors - continuous online ClO<sub>2</sub> analyzer**
- No chemical reagents - lower cost of ownership**
- Stable and reliable - excellent process control**
- Suitable for all potable and process waters**
- Up to 6 months between maintenance**
- No interference from residual chlorine**
- Tolerant of water containing detergents**



*"These are the best chlorine dioxide sensors we've ever used and we've tested most"*  
**Alistair Cameron, UK**

The DioSense sensors and flow cells are available with different controllers giving you the same great performance with different communication, display, and control options. With the DioSense range of residual chlorine dioxide analyzers, you get everything that you need - and nothing that you don't.

### CRONOS<sup>®</sup> DioSense



- High Quality and Multilingual
- Lowest Purchase Cost
- Up to 3 sensors
- Options include:
  - up to 3 4-20mA outputs
  - up to 4 relays (solid state or mechanical)
  - modbus TCP
  - modbus ASCII/RTU
  - profibus
  - HART
  - flow switch input
  - PID control

### CRIUS<sup>®</sup> DioSense



- High Quality and Multilingual
- Low Cost
- Colour Display and Keypad
- Sophisticated Comms and Control
- Datalogging
- Up to 6 sensors
- All CRONOS<sup>®</sup> options plus:
  - texting alarms
  - remote internet access
  - automatic cleaning
  - integrated flow control

### CRATOS DioSense



- High Quality and Multilingual
- Medium Cost
- Colour Touchscreen
- Up to 12 sensors
- Datalogging
- All CRONOS<sup>®</sup> and CRIUS<sup>®</sup> options plus:
  - lowest cost per point

*For more information please see the individual brochure - CRONOS<sup>®</sup>, CRIUS<sup>®</sup> and CRATOS*

find us at [www.processinstruments.net](http://www.processinstruments.net)

## Principle of Operation

The membraned amperometric chlorine dioxide 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 and calibration is a simple one point (no zero required) operation.

In addition to the state of the art amperometric chlorine dioxide sensor the DioSense range of controllers has all the functionality that you need. Choose from the CRONOS, CRIUS® or CRATOS controller to give you the highest quality chlorine dioxide 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 DioSense can come equipped to automatically clean itself at user defined intervals. The Autoflush 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. The DioSense range of chlorine dioxide monitors are particularly resistant to tensides and are therefore particularly useful in food washing applications.

## Water Treatment

- Chlorine Dioxide Dosing Control
- Remote Sites
- Cooling Towers
- Food Preparation
- Hospitals
- Secondary Chlorination

Anywhere you have a requirement to measure residual  $\text{ClO}_2$  is a suitable application for the DioSense. The DioSense chlorine dioxide monitor range is particularly suited to working in sites where reliability and ease of use are most important.

## Multi-Sensor Systems

The whole range of DioSense Residual Chlorine Dioxide Monitors and Controllers can be fitted with additional sensors such as chlorite or pH. Please ask your local distributor for more details.

## Cost of Ownership

With its reduced maintenance, reduced calibration and reduced spares requirements the DioSense  $\text{ClO}_2$  analyzers are undeniably the most cost effective  $\text{ClO}_2$  analyzers available.

## Specification

### Chlorine Dioxide Sensor Probe

<b>Application:</b>	All kinds of water treatment (e.g. bottle washing machine, CIP-plants)
<b>Type:</b>	Membrane covered, amperometric 2-electrode system
<b>Measurand:</b>	Chlorine Dioxide
<b>Sensor ranges:</b>	0 - 0.15 mg/l ; 0-2 mg/l; 0-5 mg/l; 0-10 mg/l; 0-20 mg/l
<b>Resolution:</b>	0 - 01 mg/l
<b>Repeatability:</b>	< 1%
<b>Working Temperature:</b>	>0 up to 50°C
<b>Temperature Compensation:</b>	Automatically, by an integral temperature sensor (temp changes <5°C)
<b>Max. allowed Working Pressure:</b>	1,0 bar, no pressure impulses and/or vibrations
<b>Flow Rate:</b>	Approx. 0.5 l/min (min 0.2 l/min)
<b>pH Range:</b>	pH1 to pH11
<b>Run-in Time:</b>	First start-up approx. 1h
<b>Response Time:</b>	$T_{90}$ : approx. 1.5mins.
<b>Zero Point Adjustment:</b>	Not necessary
<b>Calibration:</b>	Manual using a suitable $\text{ClO}_2$ test kit Every 1 week to 3 months, application dependent
<b>Interferences:</b>	$\text{Cl}_2$ : does not interfere $\text{O}_3$ : is measured with a sensitivity 25 times higher than $\text{ClO}_2$ 1% sulfuric acid or 1% nitric acid in the water have no influence to the measuring behaviour
<b>Dimensions:</b>	Diameter: approx. 25mm; Length: approx. 175mm (4-pole screw connector) approx. 220mm (4-20mA, 2-pole terminal)
<b>Storage:</b>	Frost-protected, dry and without electrolyte no limit Used membrane caps can not be stored!
<b>Maintenance:</b>	Monitor measuring signal regularly. Change of membrane cap: Yearly (depending on the water quality) Electrolyte: Every 3 - 6 months



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