DioSense

Chlorine Dioxide Analyzer

The DioSense range of Chlorine Dioxide Analyzers use the very latest and best chlorine dioxide sensors available in the world today. A choice of sensors including a membraned device which is insensitive to chlorine, uses no reagents, is extremely stable, and has reduced maintenance, and a non membraned sensor for use in high temperature or high pressure applications.

- **Amperometric sensors - continuous online ClO_2 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 (DioSense M)**
- **Tolerant of water containing detergents**
- **High temperature sensor option (DioSense NM)**
- **Chlorite sensors also available**

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

CRONOS® DioSense

- 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**
  - **Color display**
  - **Downloadable data logs**

CRIUS® DioSense

- Highest Quality - Low Cost
- Multilingual
- High resolution color display
- Intuitive user interface
- Customizable 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 brochures for CRONOS® and CRIUS®

Sensor Selection

Membraned Sensor

- **Operates up to 50°C**
- **Open flow cell**
- **T_{90} in 90 seconds**

Non Membraned Sensor

- **Operates up to 70°C***
- **Closed flow cell**
- **Reacts to both Cl_2 and O_3**
- **T_{90} in <2 seconds**

If used with the optional flow regulator max temp is 40°C with an option to 60°C.

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Principle of Operation

The membraned amperometric chlorine dioxide sensor (DioSense M) is a 2 electrode sensor which operates at an elevated applied potential which 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 sensors the DioSense range of controllers has all the functionality that you need. Choose from the CRONOS® or CRIUS® 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.

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 ClO_2 analyzers are undeniably the most cost effective ClO_2 analyzers available.

Water Treatment

- **ClO_2 Dosing Control**
- **Cooling Towers**
- **Hospitals**
- **Remote Sites**
- **Food Preparation**
- **Secondary Disinfection**

Anywhere you have a requirement to measure residual ClO_2 is a suitable application for the DioSense. The DioSense chlorine dioxide controller range is particularly suited to working in sites where reliability and ease of use are most important. Contact us for advice on which sensor to use.

Autoflush

As described in a separate brochure, the DioSense can come equipped to automatically clean itself at user defined intervals. The Autoflush for DioSense 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. The membraned sensors are particularly resistant to tensides and are therefore applicable in food washing applications.

Installation

The DioSense can be installed in a variety of auxiliary flow cells and self-cleaning devices. Please visit our website or refer to our ISB36 Autoflush brochure.

Specification*

All subject to change without notice** ****If used with the optional flow regulator max temp is 40°C with an option to 60°C

	Membraned Sensor (DioSense M)	Non Membraned Sensor (DioSense NM)
Application:	All kinds of water treatment (e.g. bottle washing machine, CIP-plants, hot water systems)	
Type:	Membrane covered, amperometric 2 electrode system	Open 3 electrode potentiostatic system
Measurand:	Chlorine Dioxide	Chlorine Dioxide
Sensor ranges:	0-0.5mg/l; 0-2mg/l; 0-5mg/l; 0-10mg/l; 0-20mg/l	0-20mg/l
Resolution:	0.01mg/l	0.01mg/l
Repeatability:	<1%	<1%
Working Temperature:	>3 up to 50°C	>3 up to 70°C**
Temperature Compensation:	Automatically, by an integral temperature sensor (temp changes <5°C/h)(temp changes <30°C/h)	
Max. allowed Working Pressure:	1 Bar, no pressure impulses and/or vibrations	6 Bar, no variations in flow
Flow Rate:	Approx. 0.5l/min (min 0.2l/min)	Approx. 0.5l/min (min 0.2l/min)
pH Range:	pH1 to pH11	pH4 to pH10
Run-in Time:	First start-up approx. 1h	First start-up approx. 1min
Response Time:	T_{90}: approx. 90 seconds	T_{90}: <2 seconds
Zero Point Adjustment:	Not necessary	At the analyzer
Calibration:	Manual using a suitable ClO_2 test kit Every 1 week to 3 mths, application dependent	Manual using a suitable ClO_2 test kit Every 1 week to 3 mths, application dependent
Interferences:	Cl_2: does not interfere O_3: is measured with a sensitivity 25 times higher than ClO_2 1% sulfuric acid or 1% nitric acid in the water have no influence to the measuring behavior	Cl_2, O_3, Peroxide: all interfere
Storage:	Frost-protected, dry and without electrolyte no limit Used membrane caps can not be stored	Dry, cap the reference electrode
Maintenance:	Change of membrane cap: Yearly Electrolyte: Every 3-6 mths	Change reference: 12-18 mths (depending on the water quality)
Housing:	Open flow cell	Closed flow cell with pressure/flow regulator

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