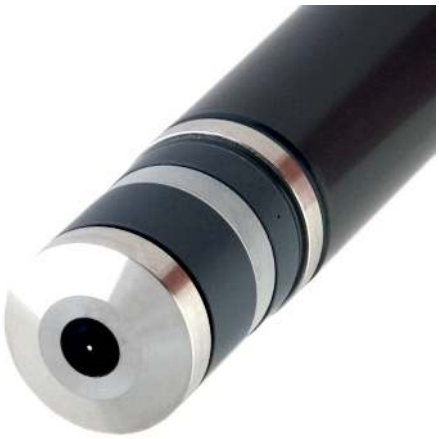
DATA SHEET

ORAKEL SYSTEM

# CHLORINE SENSOR

**The ORAKEL range of Residual Chlorine Analysers, Residual Chlorine Controllers and Residual Chlorine Monitors are membrane devices which are insensitive to changing pH, use no reagents, are extremely stable and have reduced maintenance, minimising whole life costs.**



## HOW IT WORKS

The membraned amperometric chlorine sensors, are enhanced with a third, reference electrode which eliminates zero drift. Its unique design means that pH correction is not usually required, completely eliminating reagents. In addition to the state-of-the-art potentiostatic chronoamperometric-free chlorine and total chlorine sensors, the **ORAKEL** range of residual chlorine analysers has all the functionality that you need and more!

## APPLICATIONS

The **ORAKEL Chlorine Sensor** range is particularly suited to working in sites where reliability and ease of use are most important.

### Chlorine Sensor Options

- Free Chlorine
- Total Chlorine
- Free Chlorine 'zero'

### Water Treatment Applications

- Chlorine Dosing
- Cooling Towers
- Food Preparation
- Paper Mills
- Remote Sites
- Secondary Chlorination

## pH COMPENSATION

For some applications with high and variable pH, pH compensation can improve the accuracy of the chlorine readings. For pH compensation to be valid, it must be done with the highest quality pH sensors and with chlorine sensors that have a reduced susceptibility to varying pH, such as those used in the **ORAKEL** range of chlorine analysers.

## $CO_2$ BUFFERING

An alternative to pH compensation is the use of $CO_2$ to suppress the pH such that changes in the pH of the sample do not affect the chlorine reading.

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www.detectronic.org/orakel

## AUTOFLUSH

The **ORAKEL Chlorine Sensor** can come equipped to automatically clean itself at user defined intervals with all the benefits of no operator intervention using the optional Autoflush.

The Autoflush is particularly useful in food preparation, pulp and paper, wastewater plus many applications where there is likely to be a build-up of solids in the sample.
*See Autoflush data sheet for more information.*

Autoflush System

## INSTALLATION

The **ORAKEL Chlorine Sensor** can be installed in a variety of auxiliary flow cells and self-cleaning devices. *Please ask for details.*

Single Closed Flow Cell with Chlorine

Single Open Flow with Chlorine

## TECHNICAL SPECIFICATION

### Type
Membrane covered potentiostatic chronoamperometric three-electrode system.

### Measurement
Total chlorine or free chlorine.

### Range
0.01-2mg/l, 0.01-5mg/l, 0.01-10mg/l, 0.01-20mg/l and 0.5-200mg/l (free only).

### Resolution
0.01mg/l (ppm) (0.1 on 0-200mg/l ranges).

### Reproducibility
Better than ±0.05mg/l.

### Stability
-1% per month (without calibration).
Working electrode: gold.
Counter electrode: stainless steel.
Reference electrode: silver/silver halide

### Membrane Material
Micro-porous hydrophilic membrane.

### Flow Rate
Approximately 0.5l/minute (minimum 0.25l/minute).

### Temperature Range
0 to <45°C.

### Temperature Compensation
Automatically by an integrated thermistor.

### pH Range
pH 4 up to pH 9.

### First Polarisation Time
2 hours.

### Re-Polarisation Time
30 minutes.

### Response Time
T90: approximately 120 seconds.

### Zero-Point Adjustment
Not necessary.

### Calibration
Manual using electrochemical test kit or DPD test kit.

### Housing Material
PVC, silicone and polycarbonate stainless steel.

### Dimensions
Diameter: approximately 25mm.
Length: 175mm.

### Maintenance Intervals
Membrane: once a year (depending on water quality).
Electrolyte: once a year (depending on water quality).

To learn more about the **Detectronic ORAKEL System** and how it can help your business, get in touch:

Call: **+44 (0)1282 449 124**
Email: **sales@detectronic.org**
Visit: **www.detectronic.org**

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