



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
- Paper Mills
- Cooling Towers
- Remote Sites
- Food Preparation
- 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.

CO₂ BUFFERING

An alternative to pH compensation is the use of CO₂ to suppress the pH such that changes in the pH of the sample do not affect the chlorine reading.

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 Cell 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 ± 0.05 mg/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 $< 45^{\circ}\text{C}$.

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).