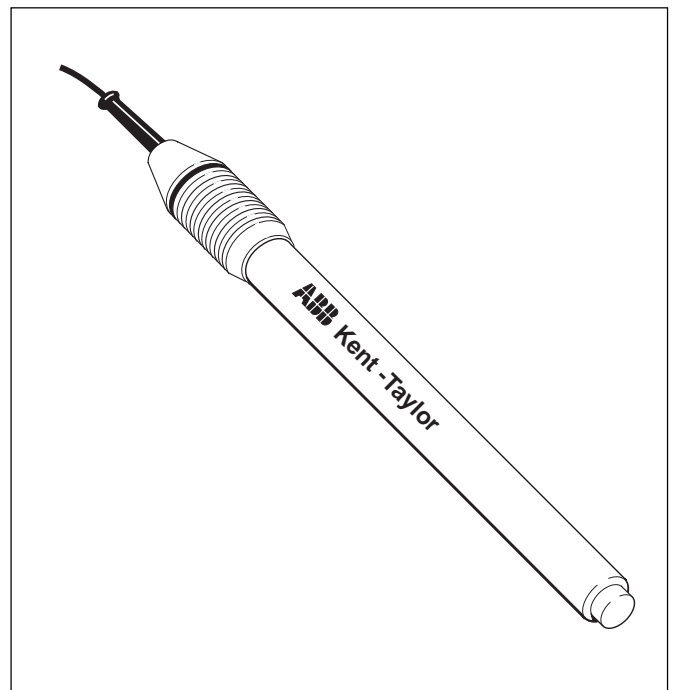

■ **Fast and accurate response**

■ **High sensitivity**

■ **Robust construction**

■ **Easy to use**



General Chloride Measurements

The chloride electrode Model 8004 enables precise determinations of chloride concentrations in solution to be made in minutes.

Applications

The chloride electrode has been used in a wide range of applications including:

Water – boiler water, river water and potable waters.

Cement – concrete and mixtures and cement grouts.

Food and beverages industries – meats, wines and beer, including bacon cheese, butter and animal feedstuffs.

Others – pharmaceuticals, pesticides, soap, electroplating solutions.

Theory

This electrode and the reference electrode when immersed in a sample constitute an electrochemical cell whose potential is dependent on the chloride ion activity in the sample. The potential of the cell has a value given by the Nernst Equation.

Range

Model 8004 has a linear (Nernstian) response in the range 1M Cl⁻ to 1x10⁻⁵M Cl⁻.

Response Time

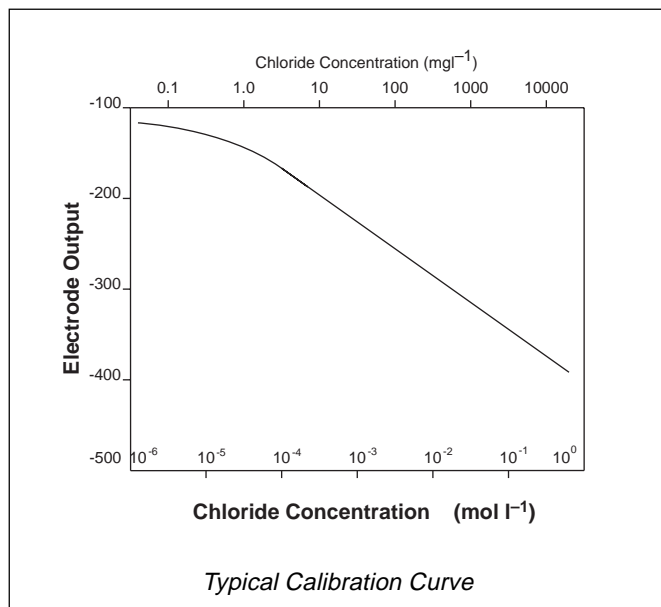
The response time of Model 8004 is temperature dependent. At 25°C the response time for a decade change in concentration is typically 40 seconds.

Temperature

This electrode can be used over the range 0 to 100°C but as its response time is temperature sensitive, samples and standards must be of similar temperature.

Selectivity

Significant interference occurs from Br⁻, I⁻, CN⁻ and S²⁻ ions.



Reproducibility

Better than 2% of concentration.

Drift

Less than 2mV in 12 hours.

Calibration

A 2-point calibration is recommended with concentration points a decade apart – for example 10ppm and 100ppm. These points can then be plotted on semi-log paper as a calibration curve.

Alternatively, if your pH/mV meter will display concentration directly, then follow meter manufacturer's advice.

Application Advice

The chloride electrode is generally very easy to use and its solid state construction means it is robust and resistant to damage or chemical attack. The measurement membrane is a layer of silver chloride deposited on massive silver. This layer can be affected by species in solution that form insoluble silver salts or very stable silver compounds. Generally this is only at high levels of interferent concentration.

The chloride electrode can easily replace the standard technique of determining chloride concentration by silver nitrate titration using potassium chromate or other indicators.

For accurate measurement the ionic strength and pH of the standards and samples can be adjusted by the addition of a buffer solution of 1M ammonium acetate + 1M acetic acid. One volume of this buffer is added to every 10 volumes of standard or sample.

Reference

A mercurous sulphate reference electrode type 1433-510 MUST be used. Other types will cause interference. This reference is normally supplied with the chloride electrode.

Electrode Range

8004-205 – BNC
8004-050 – detachable cable

For further information please contact your local distributor or our sales office at Stonehouse.



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