



Model 926 Chloride Analyser

The Sherwood Model 926 is used for the determination of chloride ions. It is an instrumental analogue of "Argentimetry", the traditional titrimetric methods using silver nitrate reagent. Like these classic methods it relies on the chemical formation of the very insoluble salt, silver chloride.

The importance of chloride determination has been realised for well over a century, with many variations and changes being made to the techniques in order to improve the detectability and selectivity. Research into the analysis of chloride was conducted by Gay-Lussac (1832), Levol (1853), Mohr (1856) and Volhard (1874) and their findings have proven to be the basis of the methods which are still in common use today.

Key Application Areas

The measurement of Salt (Sodium Chloride) concentration in the **Food and Dairy Industry** is universal. The ability to read direct in Salt concentration makes the SHERWOOD Model 926 the instrument of choice for manufacturers and food analysts around the world.

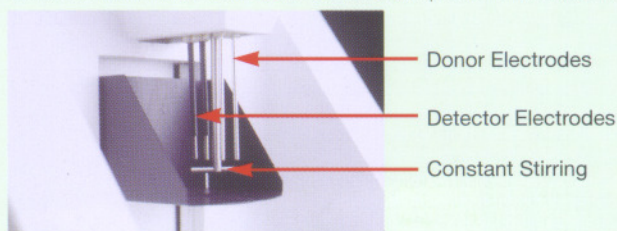
Salt and salinity also represents serious **contamination in Industrial processes** and the sensitivity of the coulometric method enables measurement in the ppm range in boiler feed water; polymer washes; bore hole slurries, as well as soils analysis and others. The 926 has proven itself to be the method of choice for many desalination studies and general quality control of sample lines.

Sherwood Scientific has method notes for these and other Applications: Pharmaceutical Production, Cement Manufacture, Photography, Veterinary.

Method of Operation

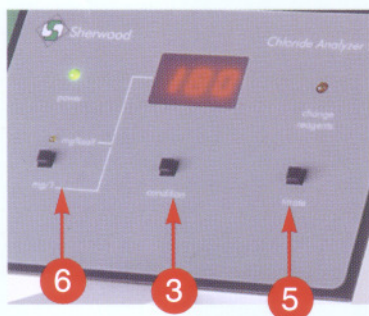
The main difficulties with the classic method were that silver nitrate reagent would change on storage due to a photochemical reaction and that the titration end point is visually weak. The reagent would have to be standardised requiring a highly skilled analytical technician.

The 926 method is based on a coulometric titration and is an absolute method where the reagent, the silver ions, is precisely and quantitatively generated at the time of the analysis by passing a constant current between donor electrodes. The end-point is detected by the use of sensing electrodes which measure the change in solution conductivity which occurs when excess silver ions are present in solution.



Reagent System

The Sherwood Buffer system is optimised to eliminate interfering ions and incorporates a special dispersant to ensure reproducible formation of the silver chloride precipitate and enhance analytical performance.



Typical Sample Preparation

Accurately weigh 1 gm of sample and extract/dilute to 100ml distilled water.

Instrument Operation

Operator Action	Instrument Response
1. Switch on	Full microprocessor Self Check
2. Add aliquot of acid buffer to Reaction Vessel	
3. Press Condition	Titrate any contaminant in buffer and sensitises to endpoint.
4. Add 0.5ml sample to Reaction Vessel	
5. Press Titrates	Titrate sample to endpoint and displays result in mg/l Cl ⁻
6. Press mg % Salt	Result displayed in mg% Salt

The Sherwood Advantage

- The coulometric method is very robust and versatile
- The Sherwood microprocessor based Instrument is ergonomically designed and easy to use and maintain
- The Sherwood Buffer System specifically designed for the model 926 gives outstanding sensitivity and selectivity

926 Chloride Meter Specification

Performance

Readout Range

10 - 999 mg/l Cl

2 - 165 mg % salt

Status Display

CCC Condition cycle taking place

E01 Display overrange

E02 Buffer must be replaced

E03 No sample present

Reproducibility

Results will be within ± 3 mg/l
(Determined from 5 consecutive titrations of a sample with a value of 200 mg/l)

Linearity

± 3 mg/l or $\pm 1\%$ (whichever is the greater)
in the range 10-999 mg/l

Sample Volume

0.5 ml.

Analysis Time

< 72 seconds at a level of 200 mg/l

Service Requirements

Electrical Supply

100, 115, 200, 230, 240V AC $\pm 10\%$.

Size and Weight

Size

315 mm high, 200 mm wide, 250 mm deep

Weight

3.8 kg.

ORDERING INFORMATION

MODEL 926 CHLORIDE ANALYSER

92601000

REAGANT SYSTEM ACID BUFFER 500ml
200mg/LITRE STANDARD 6 X 100 ml
ELECTRODE ACTIVATION PASTE
ANODES PACK 3
ELECTRODE DETECTORS AND CATHODE
REACTION BEAKER

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Based in Cambridge UK, Sherwood Scientific is a Development and Manufacturing company with a history of successful innovations. Sherwood has recently added to its portfolio the world famous CHROMA Colorimeters, Flame Photometers and Chloride Analyser. Originally introduced by EEL in the 1950s, these products were further developed under the Corning and Ciba Corning labels.

Sherwood Scientific has also added the development and manufacturing of a range of instruments once owned by the Johnson-Matthey company; these include the MICROWELDER hydrogen generator-based flame welding system used in jewellery, electronic and Acrylic sign manufacturing; a range of laboratory Fluid Bed Dryers; and the worlds most sensitive Magnetic Susceptibility Balance.

At Sherwood Scientific customers can rely on responsive customer service, scientific and technical expertise and the world wide coverage of over 200 Distributors.

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