Technical Specifications for the Silver Ion-Selective Electrode
ELIT 8211

Introduction

The Silver Ion-Selective Electrode has a solid-state Crystal membrane. The electrode is designed for the detection of silver ions **(Ag^+)** in aqueous solutions and is suitable for use in both field and laboratory applications. The Silver Ion is a monovalent cation .
One mole of (Ag^+) has a mass of 107.868 grams; 1000 ppm is 0.009M
Dissolve 1.575g anhydrous silver nitrate (AgNO3) in 1 litre water.

Physical Specifications

Length of body excl gold contact	130 mm
Length of body incl. gold contact	140 mm
Diameter of body	8 mm
DC resistance at 25° C	< 2.5 MOhm
Minimum feasible sample volume	5 ml

Chemical / Operational Specifications

Preconditioning / Standard solution	Normally 1000 ppm Ag^+ as $AgNO_3$
(But see General Operating Instructions)	
Preconditioning time	5 minutes
Optimal pH range	pH 1 to pH 9
Temperature range	0 to 80° C
Recommended ISAB	5M $NaNO_3$ (add 2% v/v)
Recommended reference electrode	Double junction **(ELIT 003)**
Reference electrode outer filling	0.1M CH3COOLi
Electrode slope at 25° C	54±5 mV/ decade
Concentration range	0.01 to 10,790 ppm (9x10-8 to 0.1 Molar)
Response time	< 10 seconds

(Defined as time to complete 90% of the change in potential after immersion in the new solution.)

Potential drift (*in 1000 ppm*)	< 3 mV/ day (8 hours)

(Measured at constant temperature and with ISE and Reference Electrode continually immersed)

Interferences:

S-2 and Hg+2 have very strong interference and can only be tolerated at very low concentrations relative to the Ag.

Procedural Notes:

1) For the most stable and reproducible results it is recommended that all solutions are mixed with ISAB and measured whilst stirring with a magnetic stirrer at approx 100rpm.
2) Silver Nitrate standards should be stored in the dark when not in use.

For more information, see: www.nico2000.net.