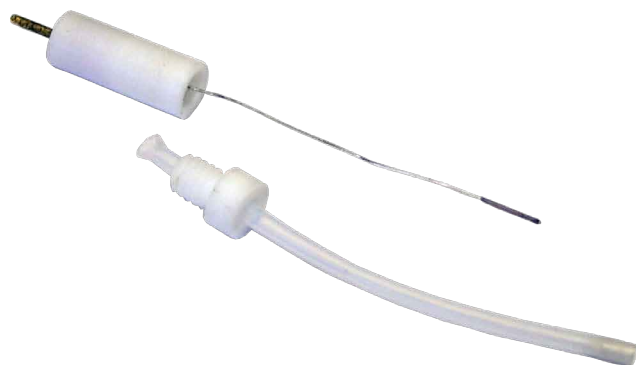




Refillable Miniature Ag/AgCl Reference Electrode (Model ET073)



- PTFE body construction
- Suitable for cyclic voltammetry
- Robust, for use in teaching or research labs
- Refillable

Description

A plastic body Ag/AgCl electrode suitable for electrochemistry research and teaching.

Compatibility

The electrode body is made of PTFE tubing which is highly resistant to most chemicals. The silver wire can be cleaned and the electrolyte can be replaced with a soluble silver salt solution to make a Ag/Ag ion electrode, if chloride free conditions are required. An organic solvent can be used as the filling solution when a non-aqueous solvent is being used.

Applications

With a moderately low impedance ($\sim 1 \text{ M}\Omega$) the ET073 reference electrode can be used with pH, or ion selective, half-cell electrodes, or with voltammetric working electrodes.

Specifications

Length:	65 mm
Diameter of shaft:	2 mm
Connector:	1 mm pin
Body material:	PTFE
Junction:	Porous Vycor [®] plug
Temperature:	< 80°C
Filling Electrolyte	3 mol/L KCl
Impedance:	$\sim 10 \text{ k}\Omega$
<i>eDAQ Pty Ltd reserves the right to alter these specifications at any time.</i>	

Maintenance

Depending on the choice of solvent and substrate molecules, the electrode should last many months, if not several years, if the electrode is not allowed to dry out and well maintained with regular replacement of the filling solution.

If the AgCl coating on the internal silver wire appears brown or black (formation of Ag_2O) then the electrode needs to be regenerated. Unscrew the opaque white barrel and remove the top half, exposing the internal silver wire. Immerse the wire in 0.1 mol/L HCl for about 30 seconds to convert any black silver oxide back to white silver chloride. Rinse with deionized water then 3 mol/L KCl. Refill the translucent tube of the electrode with electrolyte (3 mol/L KCl is recommended for most aqueous work) and reassemble the electrode.

In cases where the silver wire is more seriously contaminated remove any coating from the wire then subject it to an oxidizing potential (about +1 to +1.5 V) in a two electrode system (use a platinum wire for the counter electrode) in a 0.1 mol/L HCl solution for 30 – 60 seconds until a reasonable thickness of an AgCl coating can be seen. Rinse as above, then refill and reassemble the electrode.

If the porous electrode tip becomes dried out and blocked with KCl crystals, it can be reactivated by soaking in warm water for 30 minutes or so.

Storing the ET073 in 3 mol/L KCl solution, or deionized water, away from light, is recommended when not in use.