

Reference Electrodes



Leak-Free Reference Electrodes

The leak-free reference electrodes were developed to eliminate the problems associated with the use of conventional porous junction-based reference electrodes such as clogging, sample contamination, electrolyte loss, changing of ionic strength of the sample, and the difficulties with organic based solvents. They utilize a unique junction that is highly conductive ($< 10 \text{ K}\Omega$) but not porous. There is no solution migrating through the junction in either direction. The reference is totally *leak free!*

The junction is resistant to most commonly used organic solvents. It offers excellent resistance to acetonitrile, DMSO, THF, MEK, acetone, dichloromethane, esters, alcohols, and ketones, hydrofluoric acid or common dilute acids and bases. Unlike conventional reference electrodes, there is no need to store them in concentrated chloride solution. If the electrode is left dry for a long period of time, it should be immersed in water for few hours to recover.

Leak-Free Reference Electrodes		
	AH 69-0053	AH 69-0023
Diameter	1 mm (0.04 in)	2 mm (0.08 in)
Length	100 mm (3.9 in)	65 mm (2.6 in)
Construction	PEEK*	PEEK*
Leakage Rate	0	0
Filling Electrolyte	3 M KCl	3 M KCl
Electrical Connection	1 mm gold plated pin	1 mm gold plated pin
Junction Resistance	$< 10 \text{ K}\Omega^{\dagger}$	$< 10 \text{ K}\Omega^{\dagger}$
Temperature Range	5° to 80°C	5° to 80°C
Storage	Distilled water	Distilled water
Catalog No.	CGS8168.75	CGS8169.75

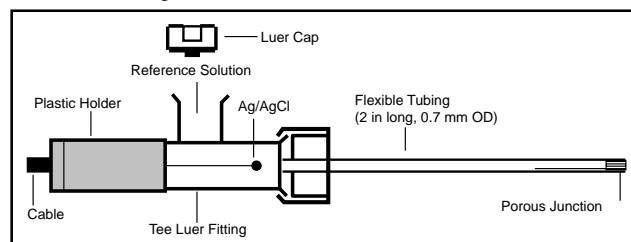
Low-Leakage Reference Electrodes

The low-leakage reference electrodes are for use in applications where contamination would interfere with the application. The electrode junctions are resistant to most commonly used organic solvents. They offer excellent resistance to acetonitrile, DMSO, THF, MEK, acetone, dichloromethane, esters, alcohols, and ketones. Hydrofluoric acid or common dilute acids and bases have no effect on the on these electrodes.

Two low-leakage reference electrodes are available. One is 2 mm (0.08 in) in diameter and the second is 5 mm (0.2 in) in diameter.

Low Leakage Reference Electrodes		
	AH 69-0024	AH 69-0025
Diameter	2 mm (0.08 in)	5 mm (0.2 in)
Length	130 mm (5.1 in)	130 mm (5.1 in)
Construction	PEEK	PEEK
Leakage Rate	$< 5 \times 10^{-12} \text{ l/min}$	$5 \times 10^{-12} \text{ l/min}$
Filling Electrolyte	3 M KCl	3 M KCl
Electrical Connection	2 mm pin on 30 in lead	2 mm pin
Junction Resistance	$< 2.5 \text{ K}\Omega^{\dagger}$	$< 1 \text{ K}\Omega^{\dagger}$
Temperature Range	5° to 80°C	5° to 80°C
Storage	3 M KCl	3 M KCl
Catalog No.	CGS8170.75	CGS8171.75

Flexible Reference Electrode



This miniature flexible reference electrode is 3 inches long and has an outside diameter of 2 mm. It comes complete with a 4 foot long cable and is terminated with an alligator clip connector. Each unit comes pre-filled with the reference solution 3.0 M NaCl in 25% Glycerol) and it is stored dry. If refilling is ever required, reference solution can be injection into the side of the tee fitting and flexible tube portion of the electrode.

Catalog No.	Product
CGS 8172.75	Flexible Reference Electrode