

# Laboratory pH Electrodes

Use laboratory electrodes with pH meters to intermittently test the pH of a solution. Electrodes feature glass or epoxy bodies and come in either combination or half-cell styles. Laboratory electrodes are further categorized according to fermentation, general purpose laboratory, specialty, and ion-selective applications.

Fermentation electrodes resemble industrial electrodes because they can be used continuously for several days. Fermentation electrodes are rugged, can be hooked up to some pH controllers, and are either autoclavable or in-situ-sterilizable.

Ion-selective electrodes determine the concentration of specific ions. We offer solid state, gas sensing, and liquid membrane electrodes.

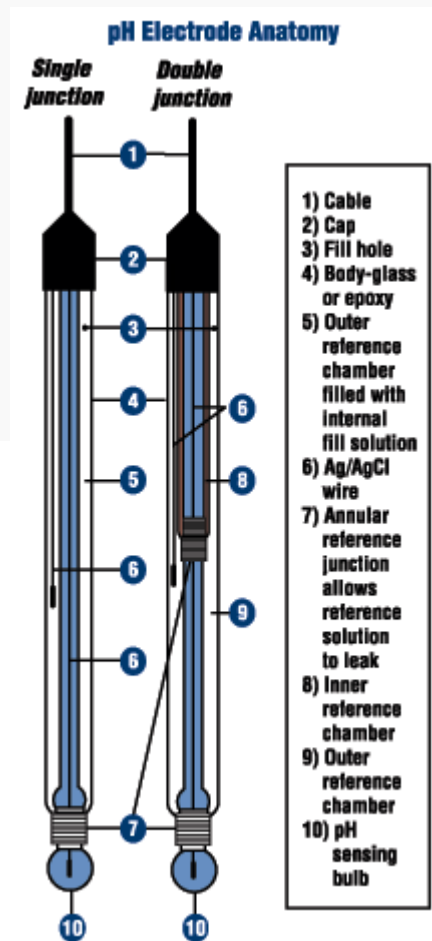
## Application Guide

We offer a variety of laboratory electrodes for your general-purpose and specialty laboratory applications. The "Application Guide" below provides information to help you find the electrode that best fits your application. Carefully choose the electrode best suited for your application to ensure accurate pH measurements. The guide only offers suggestions.

Use the guide below to help select the electrode that best fits your application or call our Application Specialists for more specific recommendations or clarification.

- **Biological samples, proteins, and tris buffer**  
Calomel (Hg/Hg<sub>2</sub>Cl<sub>2</sub>) or double junction
- **Pharmaceuticals**  
Calomel (Hg/Hg<sub>2</sub>Cl<sub>2</sub>) or double junction
- **Hydrofluoric acid**  
Antimony or HF electrode
- **Low ionic strength samples, acid rain, boiler feed water and distilled water**  
Sure-Flow™ or ISFET (Ion specific field effect transistor)
- **Drinking water**  
Standard Ag/AgCl with single junction
- **Wastewater**  
Double-junction
- **Solutions with heavy metals**  
Double-junction
- **Soil samples**  
Soil electrode or double junction
- **pH>9 and high Na**  
Amber glass bulb, Ag/AgCl

- **High or rapidly changing temperatures**  
Ross®
- **Fruits, cheese, and meat**  
Spear-tip, Ag/AgCl, or ISFET
- **Flat surfaces, paper, skin**  
Flat surface
- **Nonaqueous samples, solvents, and alcohols**  
Sure-Flow or double-junction
- **Viscous samples, slurries, emulsions and oils, paints and inks**  
Sure-Flow, double-junction, or ISFET



Information provided by Cole-Parmer