Laboratory pH Electrode Application Guide

Repeatable and trusted pH electrodes for the laboratory

pH is one of the most fundamental parameters that is measured in nearly every application. However, there are different electrode requirements for different applications. Due to these various requirements, YSI has a whole suite of laboratory combination pH electrodes to choose from to ensure you select an electrode that meets the demands of your application.

This electrode application guide provides recommended YSI pH electrodes for a variety of applications. Please consult the YSI Laboratory pH Electrode Comparison Guide for additional assistance in selecting a pH electrode and the YSI pHandbook for practical guidance regarding the measurement of pH.

	Electrode Series	IDS			IoLine	TruLine				Science	
		4110	4120	4130	3 in 1	pH 15 pH 17	pH 25 pH 26	pH 21	pH 27	pHT-Pt	pHT-G
	Application										
Chemistry	Acid, extreme			●	●	●				●	●
	Emulsions, water-based			●	●	●				●	●
	Non-aqueous liquids			●	●	●				●	●
	Oil/water-emulsions			●	●	●				●	●
	Organic liquids				●					●	●
	Sulfide containing liquids				●					●	●
Industrial	Boiler feedwater			●	●	●				●	●
	Cooling water			●	●	●				●	●
	Cutting oil emulsions			●	●	●				●	●
	Dyeing solutions			●	●	●				●	●
	Electroplating baths			●	●	●				●	●
	Electroplating wastewater	●		●	●	●	●			●	●
	Paper extract			●	●	●				●	●
	Viscose				●						●
Water	Aquarium water	●	●	●	●	●	●			●	●
	Condensate			●	●	●				●	●
	Deionized water (DI water)			●	●	●				●	●
	Drinking water	●	●	●	●	●	●			●	●
	Salt solutions			●		●					
	Suspensions				●					●	●
	Swimming pool	●	●	●	●	●	●				
	Wastewater, general	●	●	●	●	●	●			●	●

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		4110	4120	4130	3 in 1	pH 15 pH 17	pH 25 pH 26	pH 21	pH 27	pHT-Pt	pHT-G
Application											
Field Measurements	Groundwater	●	●	●	●	●	●			●	●
	Lake water	●	●	●	●	●	●			●	●
	Rain water	●	●	●	●	●	●			●	●
	Seawater	●	●	●	●	●	●			●	●
	Soil extract			●	●	●					
	Stream	●	●	●	●	●	●			●	●
Cosmetics	Creme			●	●	●		●	●	●	●
	Hair dye			●	●	●				●	●
	Hair gel				●			●	●		●
	Hair mousse			●	●	●				●	●
	Lotions			●	●	●				●	●
	Make-up			●	●	●			●	●	●
	Mouth wash			●	●	●				●	●
	Shampoo										
	Shaving cream			●	●	●				●	●
	Sun lotion			●	●	●				●	●
	Tooth paste			●		●		●	●		●
Paints/Art	Etching and degreasing baths			●	●	●				●	●
	Fixing baths (photography)			●	●	●				●	●
	Ink				●					●	●
	Paint/varnish, water-soluble			●	●	●				●	●
	Photographic developer			●	●	●					
	Varnish, water-based			●	●	●				●	●
Solids/ Surfaces	Leather (surface)								●		
	Paper								●		
	Skin (surface)								●		
	Solids (penetration)							●			
	Solids (surface)								●		
	Textiles								●		
Washing Agents	Cleaning agent (e.g. ammonia, etc.)			●	●	●				●	●
	Detergents			●	●	●				●	●
	Dishwashing liquid			●	●	●				●	●
	Disinfectant (e.g. bleach, etc.)			●	●	●				●	●
	Soap solution			●	●	●				●	●
	Surfactant solution			●	●	●				●	●

	Electrode Series	IDS			IoLine	TruLine				Science	
		4110	4120	4130	3 in 1	pH 15 pH 17	pH 25 pH 26	pH 21	pH 27	pHT-Pt	pHT-G
Application											
Drinks Production	Beer	●	●	●	●	●	●			●	●
	Fruit juice			●	●	●				●	●
	Lemonades/soda	●	●	●	●	●	●			●	●
	Mineral water	●	●	●	●	●	●			●	●
	Spirits			●	●	●				●	●
	Vegetable juice			●	●	●				●	●
	Wine			●	●	●				●	●
Food	Bread/dough/pastry							●			
	Coffee extract			●	●	●				●	●
	Extracts			●	●	●					
	Fish							●			
	Grease				●					●	●
	Honey							●			
	Jam/marmelade			●	●	●				●	●
	Margarine			●	●	●				●	●
	Mayonnaise				●					●	●
	Meat							●			
	Sausage							●	●		
	Vinegar				●					●	●
Dairy	Butter				●			●		●	●
	Cheese							●	●	●	●
	Cream			●	●	●				●	●
	Milk			●	●	●				●	●
	Yogurt			●	●	●				●	●
Agriculture	Fertilizer solution	●		●	●	●	●			●	●
	Fruit							●			
	Liquid manure			●	●	●				●	●
	Vegetables							●	●		

YSI IDS 4110

YSI IoLine Series

YSI TruLine Series

YSI Science Series

Electrode Series	IDS			IoLine		TruLine				Science		
	4110	4120	4130	3 in 1	Micro 3 in 1	pH 15 pH 17	pH 25 pH 26	pH 21	pH 27	pHT-Pt	pHT-G	pHT Micro
Application												
Pharmacy, Biology, Biotechnology, Medicine, Microbiology												
Agar-agar gel								●	●			
Bacteria cultures			●	●	●	●				●	●	●
Enzyme solution			●	●	●	●						
Gastric juice			●			●				●	●	
Infusion solutions			●	●	●	●				●	●	
Precision measurement				●	●					●	●	
Protein containing liquid				●	●					●	●	●
Saliva					●				●			●
Serum				●	●					●	●	●
Small vessels/sample					●							●
Tris Buffer				●	●							
Urine			●	●	●	●				●	●	
Vials					●							●

YSI TruLab

The IoLine, TruLine, and Science pH electrodes feature BNC connection and are compatible with any pH meter that has a BNC input, such as YSI TruLab meters. A BNC adapter (108132Y) also allows these electrodes to be connected to the MultiLab 4010-2 and 4010-3.

IDS (Intelligent Digital Sensor) pH electrodes feature a digital connector and are designed for use with the YSI MultiLab, a multiparameter digital instrument.

YSI MultiLab

	Instrument Model	Item Number	Description
MultiLab	4010-1	1FD350Y	One channel multiparameter digital instrument with memory and USB connectivity
	4010P-1	1FD350PY	One channel multiparameter digital instrument with memory, USB connectivity, and integrated printer
	4010-2	1FD460Y	Two channel multiparameter digital instrument with memory and USB connectivity
	4010-3	1FD470Y	Three channel multiparameter digital instrument with memory and USB connectivity
TruLab	1110	1AA120Y	One channel pH/mV instrument
	1310	1AA320Y	One channel pH/mV instrument with memory and USB connectivity
	1310P	1AA320PY	One channel pH/mV instrument with memory, USB connectivity, and integrated printer
	1320	1GA340Y	Two channel pH/mV/ISE instrument with memory and USB connectivity
	1320P	1GA340PY	Two channel pH/mV/ISE instrument with memory, USB connectivity, and integrated printer

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Printed in the USA. W76-01 0515

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