

IoLine High Performance pH Electrodes

Iodine glass pH electrodes with temperature sensor.



- Unique iodine/iodide reference system
- Tris buffer compatible
- Exchangeable bridge electrolyte
- Integrated refill port
- Excellent for a wide range of applications
- Integrated temperature sensor

Description

The IoLine high performance pH electrodes use a patented three chamber system with an iodine reservoir in the iodine/iodide reference electrode. The standard hydrogen electrode has proven too difficult in practical use to gain more than a mere theoretical importance. The Ag/AgCl reference system, which is the most common reference system, can cause measuring instabilities originating from potential variations with changing temperature or reactions between silver ions and the measuring solution in the area of the diaphragm. IoLine pH electrodes, in contrast, have the advantage of a much lower temperature sensitivity and a metal ion free reference system.

A further advantage of these electrodes is the fact that the component determining the potential, i.e. the Iodine, is continuously being resupplied from the patented three chamber reservoir system. The first chamber contains a supply which is used to refresh the reference electrolyte and the reference system of the second chamber with iodine in order to maintain the necessary I_3^-/I^- concentration to create a stable reference potential. The electrolyte link between the second and the third chamber, which contains the exchangeable bridge electrolyte, is provided by the internal diaphragm. The bridge electrolyte also provides the contact with the sample via the electrode's diaphragm.

The interior diaphragm is designed to allow only a minimal diffusion of I_3^-/I^- (Tri-iodide/Iodide) into the bridge electrolyte. Hence, the iodine consumption in the electrode's reference electrolyte is very low and needs only very little re-supplying from the first chamber. The supply is practically unlimited and guarantees a high stability of the potential and a long lifespan of the IoLine electrodes. However these pH electrodes are built with an integrated refill port in the electrode's head that enables easy refilling of the reference system.

The IoLine high performance pH electrodes have a reference system that is 100% free of metal ions. This means that they will not contaminate the measuring media with metal ions allowing them to be used with Tris buffers. These electrodes are particularly good in applications where rapid temperature changes may occur especially in research and quality control i.e. chemistry, pharmacy, biotechnology, or food industry.

Specifications

pH Range: 0 to 14

Temperature Range: 23 to +212°F (-5 to +100°C)

Shaft: Glass

Zero Point: pH = 7.00 ±0.25

Reference System: iodine/iodide

Options and Accessories

IoLine IL-pHT-A120MF-BNC-N pH electrode (PN# 285113850)
Electrode with ID function, temperature sensor Pt 1000, 3.28 ft (1 m) fixed cable with BNC and banana plug, Pt diaphragm, electrolyte KCl 3 mol/l, Iodine/Iodide-reference system, sphere membrane, 200 MΩ membrane resistance, A-glass, length 4.7 in (120 mm), 0.47 inch Ø (12 mm Ø).

IoLine IL-pHT-A170MF-BNC-N pH electrode (PN# 285114220)
Electrode with ID function, temperature sensor Pt 1000, 3.28 ft (1 m) fixed cable with BNC and banana plug, Pt diaphragm, electrolyte KCl 3 mol/l, Iodine/Iodide-reference system, sphere membrane, 200 MΩ membrane resistance, A-glass, length 6.7 in (170 mm), 0.47 inch Ø (12 mm Ø).

IoLine IL-MICRO-pHT-A-BNC-N pH electrode (PN# 285114310)
Micro electrode with ID function, temperature sensor Pt 1000, 3.28 ft (1 m) fixed cable with BNC and banana plug, Pt diaphragm, electrolyte KCl 3 mol/l, Iodine/Iodide-reference system, cylindrical membrane, 400 MΩ membrane resistance, A-glass, length 1.6/5.1 in (40/130 mm), 0.47/0.2 inch Ø (12/5 mm Ø).

IoLine IL-pHT-H120MF-BNC-N pH electrode (PN# 285114200)
Electrode with ID function, temperature sensor Pt 1000, 3.28 ft (1 m) fixed cable with BNC and banana plug, Pt diaphragm, electrolyte KCl 3 mol/l, Iodine/Iodide-reference system, sphere membrane, 300 MΩ membrane resistance, H-glass, length 4.7 in (120 mm), 0.47 inch Ø (12 mm Ø).

IoLine IL-pHT-H170MF-BNC-N pH electrode (PN# 285114260)
Electrode with ID function, temperature sensor Pt 1000, 3.28 ft (1 m) fixed cable with BNC and banana plug, Pt diaphragm, electrolyte KCl 3 mol/l, Iodine/Iodide-reference system, sphere membrane, 300 MΩ membrane resistance, H-glass, length 6.7 in (170 mm), 0.47 inch Ø (12 mm Ø).

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