pH ELECTRODES

PHE-1478
$75

MADE IN USA

pH Electrodes

OMEGA's glass-bodied, refillable (RF), combination pH electrodes are for general purpose laboratory measurements. The inert nature of the glass body allows these electrodes to be used in aqueous and non-aqueous solutions at temperatures up to 110°C (230°F).

PHE-1479, $80, shown smaller than actual size.

The PHE-1479 has a ceramic liquid junction and a saturated potassium chloride electrolyte. This electrolyte is a laboratory standard and is suitable for most measurements. The ceramic junction has a low flat rate that minimizes sample contamination from the potassium chloride solution.

The PHE-1478 has a porous PTFE liquid junction and a saturated potassium chloride electrolyte. The porous PTFE liquid junction provides a stable, non-fouling reference contact ideal for the most demanding applications. This research-grade electrode should be used when the sample has a very low or very high ionic strength, where greases or oils are present, or in biological solutions containing TRIS or large amounts of protein.

SPECIFICATIONS

pH Range: 0 to 14 pH
Temperature Range: -5 to 100°C (23 to 212°F)
Accuracy: ±0.02 pH
Response Time: 95% of reading within 5 seconds
Impedance: 60 MΩ at 25°C (77°F)
Zero Potential: 7.0 ±0.2 pH
Dimensions (L x D): 140 x 12 mm (5.5 x 0.47")

MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Description
PHE-1478	$75	PTFE liquid junction
PHE-1479	80	Ceramic liquid junction
ES-2207	99	Reference Book: Handbook of Water and Wastewater Treatment Technologies

Comes with complete operator's manual.
Note: *1 m (3') of cable length is standard; for additional length consult Engineering.*
Ordering Example: PHE-1478*, PTFE liquid-junction electrode,* ***$75.***

Specialty pH Electrodes

These specialty electrodes are designed for surface and subsurface measurements of semi-soft materials. Typical applications include meats, cheese, dairy products, photographic emulsions, and electrophoresis gels.

The PHE-1525 flat style is a refillable combination pH electrode with a polymer body, porous PTFE liquid, and a flat pH glass membrane. It can be used to measure the pH of any moist surface or inverted and used as a "one-drop" electrode. Samples as small as 100 µL are easily measured with this inverted technique.

PHE-1526, $110, shown smaller than actual size.

SPECIFICATIONS

pH Range: 0 to 14 pH
Temperature Range: -5 to 100°C (23 to 212°F)
Accuracy: ±0.02 pH
Response Time: 95% of reading within 5 seconds
Impedance: 60 MΩ at 25°C (77°F)
Zero Potential: 7.0 ±0.2 pH
Dimensions (L x D):
Flat: 140 x 12 mm (5.5 x 0.47")
Spear-Point: 150 x 9.5 mm (5.9 x 0.37")

To Order *(Specify Model Number)*

Model No.	Price	Description
PHE-1525	$85	Flat-surface pH electrode
PHE-1526	110	Spear-point pH electrode

Comes with complete operator's manual.
Note: *1 m (3') of cable length is standard; for additional length consult Engineering.*
Ordering Example: PHE-1525, *flat surface pH electrode,* ***$85.***

Options for Combination Electrodes

Suffix	Description	Price
-D	Double junction	$50
-HF	HF fluoride resistant body	50
-HT	High-temperature reference	35
-HPH	High-pH glass	30
-ORP	Redox (ORP) measurement	40

Options available on PHE-1478, PHE-1479, PHE-1525, PHE-1526, PHE-1523 and PHE-1524 electrodes.
Note: *1 m (3') of cable length is supplied standard; for additional length, consult Engineering.*

Laboratory Electrodes

Laboratory Reference Electrodes

PHE-3216
$75

PHE-3216D, $105, shown smaller than actual size.

Laboratory procedures require a separate reference electrode. Several standard methods and techniques for pH measurement and most ion selective electrodes require the use of a "double junction" reference electrode. The PHE-3216 is ideal for such applications. These gel-filled electrodes feature a replaceable porous PTFE liquid junction in a polymer body. They are supplied ready to use with a saturated potassium chloride-silver reference cell. The double junction version uses potassium nitrate as the screening electrolyte, although it can be easily replaced with the electrolyte of your choice. The liquid junction has a large surface area and provides a stable, low-impedance contact to the solution, ensuring fast, accurate measurements. The chemically inert nature of PTFE makes the sensor easy to clean.

SPECIFICATIONS

pH Range: 0 to 14 pH
Temperature Range: -5 to 100°C (23 to 212°F)
Response Time: Stable in 30 seconds
Resistance: Less than 1000 Ω
Liquid Junction: Porous PTFE
Electrolytes:
Saturated potassium chloride-silver
Screening Electrolyte: 8 molar potassium nitrate
Dimensions (L x D): 140 x 12 mm (5.5 x 0.47")

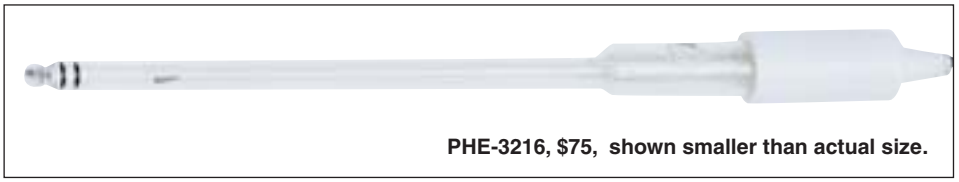
MOST POPULAR MODELS HIGHLIGHTED!

To Order *(Specify Model Number)*

Model No.	Price	Description
PHE-3216	**$75**	Single-junction pH electrode
PHE-3216D	**105**	Double-junction pH electrode

Comes with complete operator's manual.
Ordering Example: PHE-3216**, single-junction pH electrode, **$75.

Laboratory-Insertable Electrodes

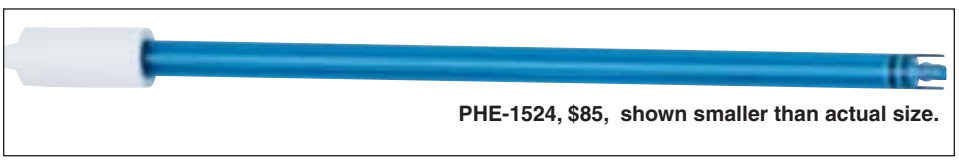


PHE-3216, $75, shown smaller than actual size.

Lab insertables are designed for pH measurement inside narrow vessels. Small volumes in test tubes or solutions in large Erlenmeyer casks can be conveniently measured by one of these responsive electrodes. The PHE-1523 is a glass-bodied, refillable, combination pH electrode. The 5.0" insertion length allows measurement in test tubes or other narrow vessels. This electrode features full-span, fast-response pH glass and high-flow porous PTFE reference junction, making it a must for any laboratory.

SPECIFICATIONS

pH Range: 0 to 14 pH
Temperature Range:
-5 to 100°C (23 to 212°F)
Accuracy: ±0.02 pH with proper calibration
Sodium Error: 0.05 pH in 0.1 molar Na^+ ion at 12.8 pH
Response Time: 95% in 10 seconds, stable in 30 seconds
Impedance: 60 MΩ at 25°C (77°F)
Zero Potential: 7.0 ±0.2 pH
Dimensions (L x D Micro):
190 x 12 mm (7.5 x 0.47")



PHE-1524, $85, shown smaller than actual size.

The PHE-1524 is a sealed, polymer-bodied, 254 mm (10") long combination pH electrode. The length allows measurements to be made in large, deep flasks or bottles. This sensor has our full-span pH glass and a gel-filled silver chloride reference using the trouble-free porous PTFE liquid junction.

Accessory

Model No.	Price	Description
ES-2186	**$125**	Reference Book: Environmental Monitoring Handbook

To Order *(Specify Model Number)*

Model No.	Price	Description
PHE-1523	**$95**	Glass-body pH electrode
PHE-1524	**85**	Polymer-body pH electrode

Comes with complete operator's manual.
Ordering Example: PHE-1523**, glass-body pH electrode, **$95.

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