

HI97713 • HI97717

# Phosphate, Low and High Range Portable Photometers



- Advanced LED optical system
  - Innovative optical design that utilizes a reference detector and focusing lens to eliminate errors from changes in the light source and from imperfections in the glass cuvette.
  - LEDs have a much higher luminous efficiency, providing more light while using less power. They also produce little heat, which could otherwise affect electronic stability.
- CAL Check™
  - Validate instrument performance at any time using CAL Check cuvettes made with NIST traceable standards. The CAL Check screen guides the user step-by-step through the validation process and user calibration.
- On-screen tutorial mode with animations
  - Guides users step-by-step through the measurement process
- Waterproof and floating IP67 case
- Unit of measure is displayed along with reading
- Built-in timer
  - Built-in reaction timer that ensures consistency between tests.
- Error messages on display
  - Alerts to problems including no cap, high zero, and standard too low
- GLP data
  - Displays the last calibration date.
- Auto logging
- Battery status indicator
- Auto-shut off

Specifications	HI97713 Phosphate, LR	HI97717 Phosphate, HR	
Measurement	Range	0.00 to 2.50 mg/L (as PO <sub>4</sub> <sup>3-</sup> )	0.0 to 30.0 mg/L (ppm) (as PO <sub>4</sub> <sup>3-</sup> )
	Resolution	0.01 mg/L	0.1 mg/L
	Accuracy @25°C (77°F)	±0.04 mg/L ±4% of reading at 25°C	±1.0 mg/L ±4% of reading
	Method	Adaptation of the Ascorbic Acid method	Amino Acid Method, adapted from Standard Method for the Examination of Water and Wastewater
Measurement System	Light Source	light emitting diode	
	Bandpass filter	610 nm	525 nm
	Bandpass filter bandwidth	8 nm	
	Bandpass filter wavelength accuracy	±1.0 nm	
	Light Detector	silicon photocell	
Additional Specifications	Cuvette type	round 24.6 mm diameter (22 mm inside)	
	Auto logging	50 readings	
	Display	128 x 64 pixel B/W LCD with backlight	
	Auto-off	after 15 minutes of inactivity (30 minutes before a READ measurement)	
	Battery type / Life	alkaline 1.5 V AA (3) / > 800 measurements (without backlight)	
	Environment	0 to 50°C (32 to 122°F); 0 to 100% RH, non-serviceable	
	Dimensions	142.5 x 102.5 x 50.5 mm (5.6 x 4.0 x 2.0")	
	Weight	380 g (13.4 oz.)	

**HI97713** and **HI97717** are supplied with sample cuvettes (2), sample caps (2), plastic stoppers (2), 1.5V AA batteries (3), instrument quality certificate, and instruction manual. CAL Check standards and testing reagents sold separately

## Ordering Information

**HI97713C** and **HI97717C** includes photometer, CAL Check standards, sample cuvettes (2), sample caps (2), plastic stoppers (2), 1.5V AA batteries (3), cuvette wiping cloth, scissors, CAL Check standard certificate, instrument quality certificate, instruction manual, and HI7101412 rigid carrying case.

Reagents sold separately

Reagents and Standards	HI97713	HI97717
	HI97713	<b>HI97713-11</b> CAL Check standard cuvettes for phosphate LR
		<b>HI93713-01</b> phosphate LR reagent for 100 tests
		<b>HI93713-03</b> phosphate LR reagent for 300 tests
	HI97717	<b>HI97717-11</b> CAL Check standard cuvettes for phosphate HR
		<b>HI93717-01</b> phosphate HR reagent for 100 tests
		<b>HI93717-03</b> phosphate HR reagent for 300 tests

## Significance of Use

Phosphates are used in a number of everyday products. Such as cola drinks to enhance flavor and tartness, antifreeze as a pH buffer, and french fries to delay darkening of the cut potatoes. They are also extensively used in detergents and cleaning fluids because of their ability to soften water and remove soil deposits.

Phosphate is essential for the growth and development of plant roots, stems, flowers and seeds, hence why it is one of the most commonly added to fertilizers. However, high concentrations of phosphates in agricultural runoff can cause environmental pollution, as they are a primary cause of eutrophication. Local laws govern the use of phosphates and the discharge levels into streams and waterways.