HI97104 · HI971044

pH, Alkalinity, Free and Total Chlorine and Cyanuric Acid Portable Photometer

The HI97104 and HI971044 portable photometers measure five important parameters in the treatment and disinfection of drinking water, wastewater and swimming pools.

- 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

Significance of Use

Chlorine is a widely used disinfectant, and in order for it to be effective, the pH of the water should be less than 8.0.

Alkalinity is buffering capacity of the water, when alkalinity values are low the pH will be hard to maintain.

In swimming pools, spas, and similar applications, cyanuric acid helps to increase the life of chlorine by stabilizing it and preventing its breakdown, especially in sunlight. Frequent testing of both cyanuric acid and pH helps to minimize chlorine consumption.

Specifications		HI97104 pH, Alkalinity, Free and Total Chlorine , Cyanuric Acid	HI971044 pH, Alkalinity, Free and Total Chlorine , Cyanuric Acid
pH	Range	6.5 to 8.5 pH	
	Resolution	0.1 pH	
	Accuracy @25°C (77°F)	±0.1 pH of reading at 25°C	
	Method	adaptation of the Phenol Red method	
Alkalinity	Range	0 to 500 mg/L (as $CaCO_3$)	
	Resolution	1 mg/L	
	Accuracy @25°C (77°F)	±5 mg/L ±5% of reading at 25°C	
	Method	Colorimetric method	
Chlorine, Free and Total	Range (all methods)	0.00 to 5.00 mg/L (as Cl_2)	
	Resolution (all methods)	0.01 mg/L	
	Accuracy @25°C (77°F) (all methods)	±0.03 mg/L ±3% of reading at 25°C	
	Method	adaptation of the EPA DPD method 330.5	
Cyanuric Acid	Range	0 to 80 mg/L (as CYA)	
	Resolution	1 mg/L	
	Accuracy @25°C (77°F)	±1 mg/L ±15% of reading at 25 °C	
	Method	adaptation of the turbidimetric method	
Measurement System	Light Source	light emitting diode	
	Bandpass filters	525 nm and 610 nm	
	Bandpass filter bandwidth	8 nm	
	Bandpass filter wavelength accuracy	±1.0 nm	
	Light Detector	silicon photocell	
	Cuvette type	round 24.6 mm diameter (22 mm inside)	
Additional Specifications	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.)	
Ordering Information	**HI97104** and **HI971044** is 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 **HI97104C** and **HI971044C** 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 HI7101414 rigid carrying case. Reagents sold separately		
Reagents and Standards	HI97104 / HI971044	**HI97775-11** CAL Check standard cuvettes for alkalinity	
		HI775-26 alkalinity reagent	
		HI97722-11 CAL Check standard cuvettes for cyanuric acid	
		HI93722-01 cyanuric acid reagent for 100 tests	
		HI93722-03 cyanuric acid reagent for 300 tests	
		HI97701-11 CAL Check standard cuvettes for free and total chlorine	
		HI93701-01 free chlorine powder reagent 100 tests	
		HI93701-03 free chlorine powder reagent for 300 tests	
		HI93701-F free chlorine liquid reagent for 300 tests	
		HI93711-01 total chlorine powder reagent 100 tests	
		HI93711-03 total chlorine powder reagent for 300 tests	
		HI93701-T total chlorine liquid reagent for 300 tests	
		HI93755-53 chlorine removal reagent	
		HI977794-11 CAL Check standard cuvettes for swimming pool pH	
		HI93710-01 pH reagent for 100 tests	
		HI93710-03 pH reagent for 300 tests	

See page 10.114 for standard reagents; see page 10.115 for CAL Check kits; see page 10.52 for general accessories