



HI97741

Total Hardness and Iron, Low Range Portable Photometer

- **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

In domestic water, iron can alter taste, making it unpleasant to drink. It can also stain laundry, damage kitchenware and favor the growth of certain bacteria. However, low levels of iron are critical in beverage production. The iron concentration in water needs to be monitored since it can become harmful above certain levels.

Hardness, on the other hand, is indicative of the presence of calcium and magnesium in water. By passing through various layers of soil and rocks, rain water dissolves some of the mineral substances.

Hardness can cause pipe rusting in water heating and cooling systems, reverse osmosis and demineralization plants. It can also increase the consumption of soaps and detergents in industrial washing machines or laundries.

Specifications

HI97741 Total Hardness and Iron, LR

Mg Hardness	Range	0.00 to 2.00 mg/L (as CaCO ₃)
	Resolution	0.01 mg/L
	Accuracy @25°C (77°F)	±0.11 mg/L ±5% of reading
	Method	adaptation of the Standard Methods for the Examination of Water and Wastewater, 18th ed. colorimetric method
Ca Hardness	Range	0.00 to 2.70 mg/L (as CaCO ₃)
	Resolution	0.01 mg/L
	Accuracy @25°C (77°F)	±0.11 mg/L ±5% of reading
	Method	adaptation of the Standard Methods for the Examination of Water and Wastewater, 18th ed. colorimetric method
Total Hardness	Range	0.00 to 4.70 mg/L (as CaCO ₃)
	Resolution	0.01 mg/L
	Accuracy @25°C (77°F)	±0.11 mg/L ±5% of reading
	Method	adaptation of the Standard Methods for the Examination of Water and Wastewater, 18th ed. colorimetric method
Iron, LR	Range	0 to 1.60 mg/L (as Fe)
	Resolution	0.01 mg/L
	Accuracy @25°C (77°F)	±0.01 mg/L ±8% of reading
	Method	Adaptation of the TPTZ method.
Measurement System	Light Source	light emitting diode
	Bandpass filter	525 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.)

HI97741 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

Ordering Information

HI97741C includes photometer, CAL Check standards, sample cuvettes (2), sample caps (2), plastic stoppers (2), 1.5V AA batteries (3), scissors, cuvette wiping cloth, CAL Check standard certificate, instrument quality certificate, instruction manual, and rigid carrying case.

Reagents sold separately

Reagents and Standards	HI97741	HI97719-11 CAL Check standard cuvettes for hardness
		HI93719-01 hardness reagents for 100 tests
		HI93719-03 hardness reagents for 300 tests
		HI97746-11 CAL Check standard cuvettes for iron
		HI93746-01 iron reagents for 50 tests
		HI93746-03 iron reagents for 150 tests