



HANNA

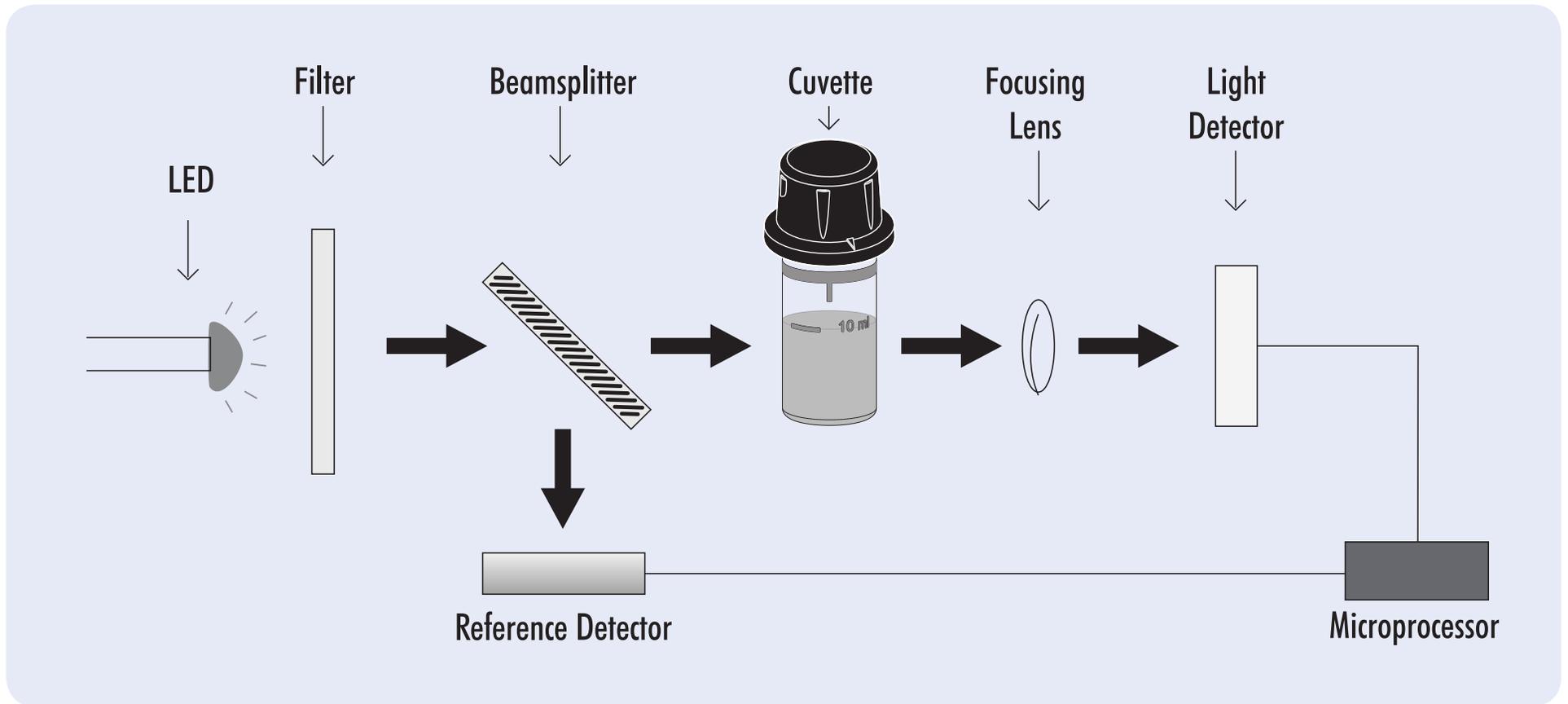
11:08:57  
100%  
0.92 mg/L  
Total Chlorine (Liquid) (Cl<sub>2</sub>) Resd  
Zero Methods

CAL Check

Free Chlorine  
Total Chlorine

Power button, Blue dot, Menu icon, Blue dot, Question mark

Advanced Waterproof Portable Photometers



## Advanced Optical System

- LED that generates no heat
- 8 nm narrow band interference filter that is accurate to  $\pm 1$  nm and offers 25% increase in light efficiency.
- Reference detector that modulates the voltage to LED for consistent light output.
- A concave focusing lens that reduces errors from imperfections in the cuvette

### High Efficiency Light Source

LED light sources offer superior performance compared to tungsten lamps. 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. LEDs are available in a wide array of wavelengths, whereas tungsten lamps have poor blue/violet light output.

### High Quality Filters

Improved optical filters ensure greater wavelength accuracy and allow a brighter, stronger signal to be received. The end result is higher measurement stability and less wavelength error.

### Stable Light Source

The internal reference system of these photometers compensates for any drifts due to power fluctuations or ambient temperature changes. With a stable source of light the readings are fast and stable between your blank (zero) measurement and sample measurement.

### Greater Light Yield

A focusing lens collects all of the light that exits the cuvette, reducing errors from imperfections and scratches that may be present in the glass. The use of the convex lens reduces the need for indexing cuvettes.

## HI97711 Advanced Waterproof Portable Photometer

The HI97711 portable photometer is designed with an innovative optical system that offers superior performance in accuracy, repeatability, and the amount of time that it takes to do a measurement.

This waterproof meter is extremely user friendly with a tutorial mode that walks the user graphically, step by step, in performing a measurement. The use of a backlit dot matrix LED allows the use of virtual keys making operation of the meter very intuitive.



## General Features

### Waterproof casing

The HI97711 casing offers IP67 waterproof protection and floats.

### Advanced LED optical system

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™ functionality

Hanna's exclusive CAL Check feature allows for performance verification and calibration of the meter using NIST traceable standards. Our CAL Check standard vials are developed to simulate a specific absorbance value at each wavelength to verify the accuracy of subsequent readings. The CAL Check screen guides the user step-by-step through the validation process and user calibration.

### Multiple measurement methods

Users can select the use of powder reagents supplied in packets or the use of low cost liquid reagents supplied in a dropper bottle.

### Built-in reaction timer

Waiting the proper reaction time is of key importance when performing colorimetric measurements. The countdown timer displays the time remaining until a measurement will be taken, ensuring consistent results between sample measurements and users.

### Large cuvette size

The sample cell of the HI97711 fits a round, glass cuvette with a 25 mm path length. The relatively long path length of the sample cuvette allows the light to pass through more of the sample solution, ensuring accurate measurements even in low absorbance samples. The cuvette holder features ridges to protect scratching of the optical path by the cuvette.

### Intuitive dot matrix display

This photometer is designed with a backlit, graphic LCD. With virtual keys, a battery status indicator, and error messages. Users will find the meter interface intuitive and easy to read.

### Auto logging

Log and recall the last 50 measurements.

### Dedicated help

A dedicated help key provides information relating to the current meter operation, and can be used at any stage in the setup or measurement process to show contextual help.

### On-screen tutorial mode with animations

The built in Tutorial mode guides users step-by-step through the measurement process.

### Error messages

Messages appear on the display alerting to problems such as out of range, light low, light high, ambient temperature out of limits, and battery low.

### GLP

Good Laboratory Practice (GLP) shows the date and time of the last user calibration.

### Auto-off protection

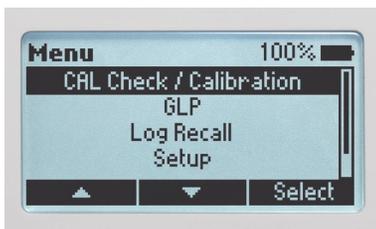
These meters use three common AA batteries that allow for about 800 measurements to be taken. The auto-off feature automatically shuts off the meter after 15 minutes of inactivity in order conserve battery life.

### Battery status indicator

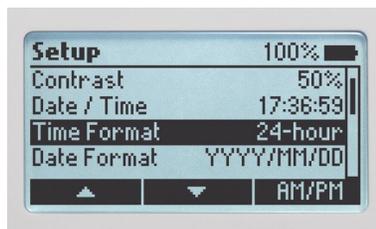
Indicates the amount of battery life left.



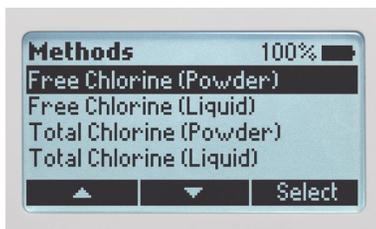
## On-Screen Features



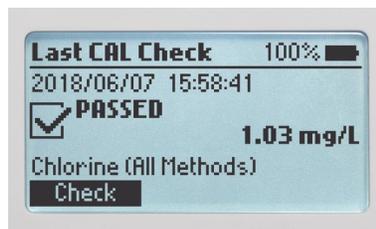
Advanced features such as CAL Check™ to verify performance, GLP for last calibration date, setup and ability to see all accessories used with the meter.



Setup options for meter personalization include date and time format, language, and enabling the tutorial mode



Choice of powder or economical easy to use liquid reagents



Backlit dot matrix LCD that offers an exceptionally intuitive user interface that is easy to read and understand



Tutorial mode for step-by-step instructions to guide a first time user to performing a measurement correctly.



Built-in reaction timer that ensures consistency amongst multiple users

### Method and Parameter

Chosen parameter and method used is displayed along with the reading.

### Backlit LCD

The 128 x 64 Pixel LCD allows for a simplified user interface with virtual keys and on-screen help to guide the user through use of the meter.

### Positive locking system

The Hanna positive-locking system ensures cuvettes are placed into the holder in the same position every time.





## Specifications

### HI97711 Free and Total Chlorine

Measurement	Range (all methods)	0.00 to 5.00 mg/L (as Cl <sub>2</sub> )
	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
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.)

**HI97711** 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

**HI97711C** includes photometer, CAL Check standards, sample cuvettes (2), sample caps (2), plastic stoppers (2), 1.5V AA batteries (3), cuvette wiping cloth, scissors, instrument quality certificate, instruction manual and rigid carrying case.

Reagents sold separately

## Reagents and Standards

**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 (300 tests)

**HI93701-F** free chlorine liquid reagent (300 tests)

**HI93711-01** total chlorine powder reagent (100 tests)

**HI93711-03** total chlorine powder reagent (300 tests)

**HI93701-T** total chlorine liquid reagent (300 tests)