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Ultra High Range Chlorine Portable Photometer – HI96771-meter only

## Description

The HI96771 portable pHotometer is for the measurement chlorine over a very wide range. Most chlorine pHotometers are limited to very low concentrations of chlorine. To measure a concentration outside the measurement range involved performing a dilution. The HI96771 has a unique chemistry that allows for the measurement of samples with chlorine concentrations up to 500 mg/L (ppm) without having to perform a dilution. This portable pHotometer features an advanced optical system; the combination of a special tungsten lamp, a narrow band interference filter, and silicon pHotodetector ensure accurate pHotometric readings every time. The Hanna exclusive CAL Check™ feature utilizes ready-made, NIST traceable standards to verify both meter validation and calibration. The exclusive cuvette locking system ensures that the cuvette is inserted into the measurement cell in the same position every time to maintain a consistent path length.

## Features at-a-glance

**CAL Check™** – Allows for performance verification and calibration of the meter using a CAL Check NIST traceable secondary standard. **GLP** – Records the date of the last user calibration performed. **Built in timer** – Allows the use of a timer to ensure the appropriate 3 minutes and 30 seconds reaction time is used for the chemical reaction. At the end of the timer countdown the meter will automatically take the reading. This feature ensures consistency across multiple users.

**Indexing indent on meter** – The meter has an indent that allows for a lock and key fit with the cuvette cap. This ensures that the cuvette is indexed consistently (same position) in order to maintain the same path length for accurate results.

**Cooling Lamp Indicator** – It is necessary to maintain a consistent temperature of the optical components in order to maintain a narrow wavelength band of light. This pHotometer has a cooling lamp indicator that is displayed for a short period of time before each measurement in order to allow the components to cool and obtain the highest accuracy possible.

**Error messages** – Messages on display alerting to problems including no cap, over range and under range readings, and light source error. **Auto-shut off** – Automatic shut off after 10 minutes of non-use when the meter is in measurement mode. Prevents wastage of batteries in the event the meter is accidentally not turned off.

### Battery status indicator

The instrument has a battery level indicator to display reaming life as follows:• 3 lines for 100 % capacity• 2 lines for 66 % capacity• 1 line for 33 % capacity• Battery icon blinks when the capacity is less than 10 %. **Units of measure** – Appropriate unit of measure is displayed along with reading.

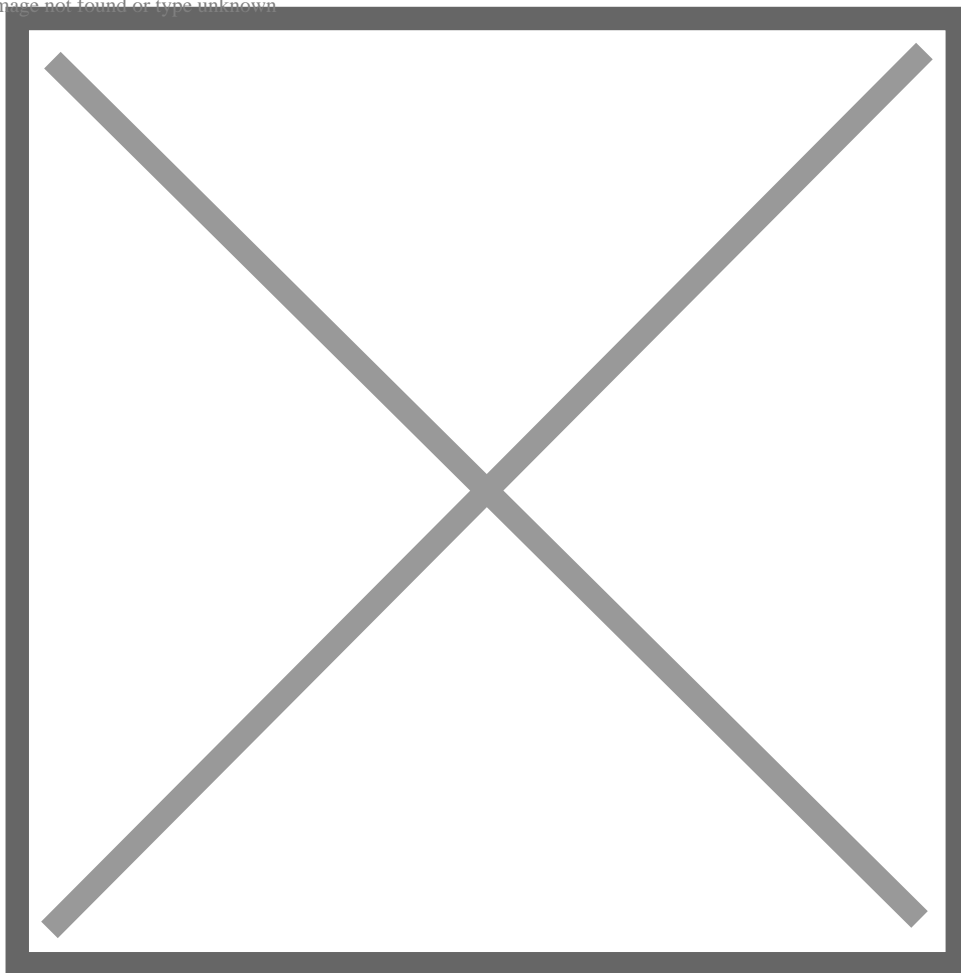
## pHotometer optical system

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As one of the oldest and most common forms of disinfection, chlorine improves water quality by destroying disease-producing microorganisms and by reacting with other organic and inorganic substances. Chlorine levels must be actively monitored to ensure sufficient chlorine is present for disinfection, as well as to control adverse effects such as taste, odor, and potential reactions with organic matter to form harmful disinfection byproducts.

The HI96771 uses an adaptation of the Standard Methods for the Examination of Water and Wastewater, 4500-Cl method to measure free chlorine concentrations of less than 5.00 mg/L (ppm). When the DPD reagent is added to samples containing chlorine, the sample will turn a pink hue; the greater the concentration, the deeper the color. The associated color change is then colorimetrically analyzed according to the Beer-Lambert Law. This principle states that light is absorbed by a complementary color, and the emitted radiation is dependent upon concentration. For free and total chlorine determination, a narrow band interference filter at 525 nm (green) allows only green light to be detected by the silicon pHotodetector and omits all other visible light emitted from the tungsten lamp. As the change in color of the reacted sample increases, absorbance of the specific wavelength of light also increases, while transmittance decreases.

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**The HI96771 is available as a kit (HI96771C) which includes:**

- Portable Photometer
- Sample cuvettes (2)
- Caps
- CAL Check™ standards with certificate
- Cuvette cleaning cloth
- Scissors
- Rugged carrying case
  - Carrying case has thermoformed insert for meter and accessories

**\*Reagents ordered separately**

cal check standards

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**CAL Check™ standards with certificate**

The HI96771-11 CAL Check™ standards are used for calibration and performance verification of pHotometers with the CAL Check function. Supplied with Certificate of Analysis

- Lot number
- Expiration date
- Standard value @ 25 °C
- Reference meter NIST traceable

Provided storage containers

- Light tight
- Protects from accidental breakage

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