High-Range Fluoride Portable Photometer – HI97739-kit

Description

Fluoride is best known for preventing tooth decay. Water authorities often add fluoride to drinking water to maintain approximately a 1.0 mg/L (ppm) concentration. Fluoride can be found naturally in groundwater, particularly if a reservoir is in close proximity to seawater. While fluoride does help prevent tooth decay, too little can be ineffective while too much can cause staining of teeth.The HI97739 uses an adaptation of the SPADNS method to measure fluoride concentrations up to 20.0 mg/L (ppm). When the colored reagent is added to samples containing fluoride, the fluoride in the sample will form a colorless complex; the greater the concentration, the clearer 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 fluoride determination, a narrow band interference filter at 575 nm allows only green-yellow light to be emitted and passed through the sample cuvette. The sample will produce a blue color, which its? intensity is proportional to the concentration of fluoride. The absorbance of the yellow light increases as the intensity of blue increases resulting in less transmittance of light hitting the silicon pHotodector.The HI97739 has an innovative optical system that offers superior performance in accuracy, repeatability, and the short amount of time it takes to perform a measurement. This compact, 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 LCD allows the use of virtual keys which makes the operation of the meter very intuitive including selecting different units of measure, reviewing GLP data, recalling the last 50 measurements, and customizing the meter to user preferences.HI97739 is completely waterproof including the cuvette holder that is designed with ridges to protect the optical path from getting scratched by the cuvette and a gasketed battery compartment that holds three common AA batteries. The compact design fits comfortably in the hand for use in the field or on a table for benchtop use. The LCD is backlit for easy viewing under all conditions.

pHotometer optical system

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- LED that generates very little heat
- 8 nm narrowband interference filter that is accurate to +/- 1 nm.
- Reference detector that modulates the voltage to LED for consistent light output.?
- A concave focusing lens that reduces errors from imperfections in the cuvette.

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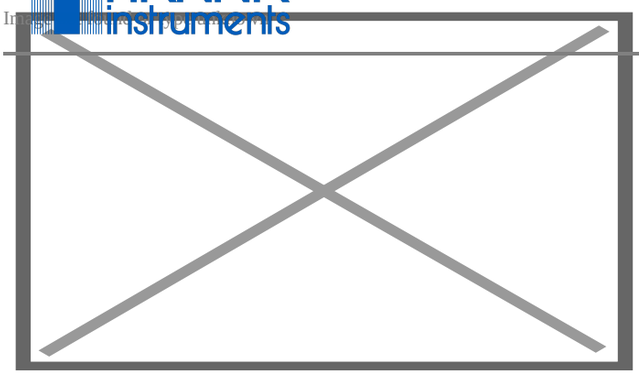
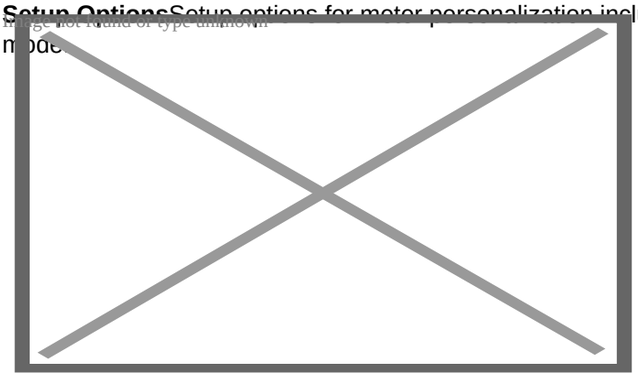
On-Screen Features

CalCheck Standard

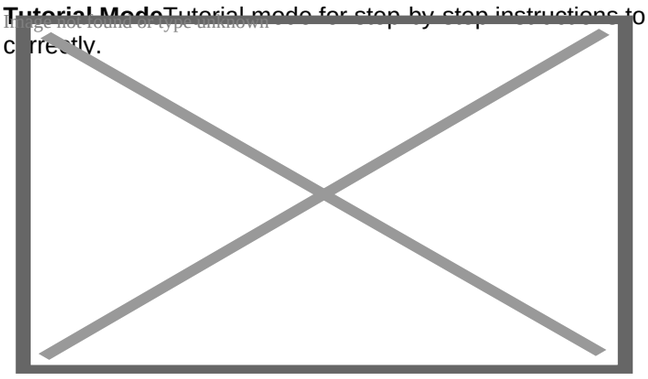
CAL Check Advanced features including CAL-Check to verify performance and if necessary, recalibrate.



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



Tutorial Mode Tutorial mode for step-by-step instructions to guide a first-time user in how to perform a measurement correctly.



Reaction Timer Built-in reaction timer that ensures consistency amongst multiple users.

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HI97739 FEATURES/BENEFITS:

Stable Light Source:

- The internal reference system of the HI97739 pHotometer 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.

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.?

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.

Greater Light Yield:

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

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.

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Large Cuvette Size:

- The sample cell of the HI97739 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.

Intuitive Dot Matrix Display:

- The HI97739 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. 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.

Auto-off Protection:

- The meter uses 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.

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Especificaciones

Temperatura máxima	480°C (900°F)
Tiempo de respuesta	1 segundo (90% del valor final)
Material del cuerpo	Cable expuesto
Diámetro	2 mm (0.08")
Aplicaciones	Zonas de difícil acceso