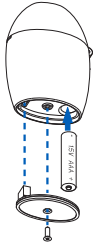
Tips for an Accurate Measurement



- Ensure the sample does not contain any debris.
- Whenever the cuvette is placed into the checker, it must be dry outside and free of fingerprints, oil and dirt.
- Wipe the cuvette thoroughly with HI731318 microfiber cleaning cloth or a lint-free cloth prior to insertion.
- Shaking the cuvette can generate bubbles, causing higher readings. To obtain accurate measurements, remove such bubbles by swirling or by gently tapping the cuvette.
- Do not let the reacted sample stand too long after reagent has been added, as accuracy will be affected.
- Discard the sample immediately after the reading has been taken or the glass might become permanently stained.

Battery Replacement



To save the battery, the checker shuts down after 7 minutes of non-use and 2 minutes after reading. A fresh battery lasts for a minimum of 5000 measurements.
When the battery is drained, the instrument displays "bAd" then "bAt", and turns off.

To replace the battery, follow the next steps:

1. Press and hold the ON/OFF button to turn the checker off.
2. Turn the instrument upside down and use a screwdriver to unfasten the screw and remove the battery cover.
3. Remove the old battery, replace it with a new 1.5V AAA battery, inserting the negative end first.
4. Replace the battery cover, fasten and tighten the screw.

Accessories

Reagent Sets	
HI774-25	Reagents for 25 Marine Phosphate Ultra Low Range tests
Other Accessories	
HI774-11	Marine Phosphate Ultra Low Range certified standard kit
HI731315	Glass cuvette and cap for Checker®HC colorimeters (2 pcs.)
HI731318	Cloth for wiping cuvettes (4 pcs.)
HI740028P	1.5V AAA battery set (12 pcs.)
HI93703-50	Cuvette cleaning solution, 250 mL

Certification

All Hanna® instruments conform to the **CE European Directives.**

CE RoHS compliant

Disposal of Electrical & Electronic Equipment. The product should not be treated as household waste. Instead, hand it over to the appropriate collection point for the recycling of electrical and electronic equipment, which will conserve natural resources.

Disposal of waste batteries. This product contains batteries, do not dispose of them with other household waste. Hand them over to the appropriate collection point for recycling.
Ensuring proper product and battery disposal prevents potential negative consequences for the environment and human health. For more information, contact your city, your local household waste disposal service, or the place of purchase.

Recommendations for Users

Before using this product, make sure it is entirely suitable for your specific application and for the environment in which it is used. Any variation introduced by the user to the supplied equipment may degrade the checker's performance. For your and the checker's safety do not use or store it in hazardous environments.

Warranty

HI774 Checker HC is warranted for a period of one year against defects in workmanship and materials when used for its intended purpose and maintained according to instructions. This warranty is limited to repair or replacement free of charge. Damage due to accidents, misuse, tampering or lack of prescribed maintenance is not covered. If service is required, contact your local Hanna Instruments® office. If under warranty, report the model number, date of purchase, serial number and the nature of the problem. If the repair is not covered by the warranty, you will be notified of the charges incurred. If the checker is to be returned to Hanna Instruments, first obtain a Returned Goods Authorization (RGA) number from the Technical Service department and then send it with shipping costs prepaid. When shipping any product, make sure it is properly packaged for complete protection.

Hanna Instruments reserves the right to modify the design, construction, or appearance of its products without advance notice.

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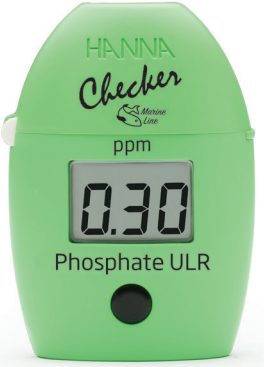
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INSTRUCTION MANUAL

HI774

Handheld Colorimeter

Marine Phosphate Ultra Low Range



Marine Line

HANNA® instruments

Dear Customer,

Thank you for choosing a Hanna Instruments® product. Please read this instruction manual carefully before using the Checker®HC handheld colorimeter. For more information about Hanna Instruments and our products, visit www.hannainst.com or e-mail us at sales@hannainst.com.

For technical support, contact your local Hanna Instruments office or e-mail us at tech@hannainst.com.

Preliminary Examination

Remove the Checker HC handheld colorimeter and accessories from the packing material and examine it carefully. If you require any further information, please contact Hanna Instruments technical support team.

Each HI774 is delivered in a case with custom insert and is supplied with:

- Sample cuvette and cap (2 pcs.)
- Marine Phosphate Ultra Low Range reagent starter kit (reagents for 10 tests)
- 1.5V AAA Alkaline battery (1 pc.)
- Instruction manual

Note: *Save all packing material until you are sure that the Checker HC handheld colorimeter works correctly. Any damaged or defective item must be returned in its original packing material with the supplied accessories.*

General Description & Intended Use

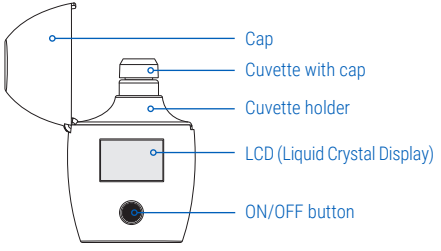
HI774 Marine Phosphate Ultra Low Range handheld checker is designed to accurately determine phosphate levels in saltwater aquariums and marine biology applications.

HI774 features a single-button operation system and is easy to use. The large LCD is easy to read and the auto shut-off feature assures the battery will not be drained.

Specifications

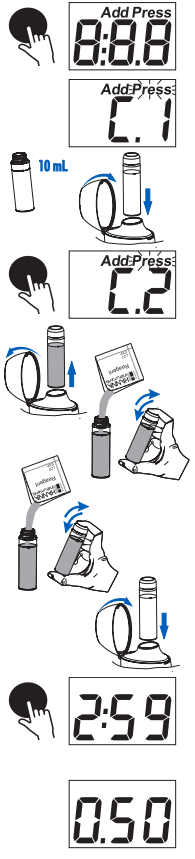
Range	0.00 to 0.90 ppm (as PO_4^{3-})
Resolution	0.01 ppm
Accuracy	±0.02 ppm ±5% of reading @ 25 °C (77 °F)
Light source	Light Emitting Diode @ 525 nm
Light detector	Silicon photocell
Method	Adaptation of Standard Methods for the Examination of Water & Wastewater, 20th Edition, Ascorbic Acid Method. The reaction between phosphate and the reagent causes a blue tint in the sample.
Environment	0 to 50 °C (32 to 122 °F); max. RH 95% non-condensing
Battery type	1.5V AAA Alkaline
Auto shut-off	After 7 minutes of non-use and 2 minutes after reading
Dimensions	86.0×61.0×37.5 mm (3.4×2.4×1.5")
Weight	64 g (2.3 oz)

Functional Description & LCD Display



Measurement Procedure

- Press the ON/OFF button to turn the checker on. All segments will be displayed for a few seconds, followed by "Add", "C.1" with "Press" blinking.
- Fill the cuvette with 10 mL of unreacted sample and replace the cap. Insert the cuvette into the checker and close the cap.
- Press the ON/OFF button. When the display shows "Add", "C.2" with "Press" blinking, the checker is zeroed.
- Remove the cuvette and unscrew the cap. Add one packet of Sulfamic Powder, replace the cap, and shake gently until dissolved. Unscrew the cap again and add one packet of HI774IND-0 Phosphate Indicator Reagent.
  Alternative: Use instead HI774-0 Marine Phosphate Ultra Low Range reagent.
- Replace the cap and shake gently for about 2 minutes until the powder is completely dissolved.
- Insert the cuvette into the checker and close the cap. Press and hold the ON/OFF button. The display will show the countdown prior to the measurement. Alternatively, wait 3 minutes and press the button.
- When the timer ends the checker will perform the reading. The instrument displays the **phosphate** concentration in **ppm**. The checker automatically turns off 2 minutes after reading.



Errors & Warnings

The checker shows clear warning messages when erroneous conditions appear and when measured values are outside the expected range. The information below provides an explanation of the errors and warnings, and the recommended action to be taken.

Light High: There is an excess amount of ambient light reaching the detector. Please check the preparation of the zero cuvette.



Light Low: There is not enough light to perform a measurement. Please check the preparation of the zero cuvette.



Inverted Cuvettes: The sample and the zero cuvettes are inverted. Swap the cuvettes and repeat the measurement.



Under Range: A blinking "0.00" indicates that the sample absorbs less light than the zero reference. Check the measurement procedure and make sure to use the same cuvette for reference (zero) and measurement.



Over Range: Maximum concentration value displayed blinking indicates the measured value is outside the limits of the method. Verify that the sample does not contain any debris. Dilute the sample and repeat the measurement.



Battery Low: Battery level is too low for the checker to function properly. Replace the battery with a new one.



Drained Battery: The battery is drained and must be replaced. Replace the battery with a new one and restart the checker.



