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Hanna Instruments HI-701

Hanna Instruments HI701 Checker HC Handheld Colorimeter User Manual

Model: HI-701 | Brand: Hanna Instruments

PRODUCT OVERVIEW

The Hanna Instruments HI701 Checker HC is a compact and accurate handheld colorimeter designed for the precise measurement of free chlorine levels. This device offers a simpler and more cost-effective alternative to traditional chemical test kits, providing digital readings for enhanced reliability. Its single-button operation and clear LCD screen make it user-friendly for various applications, including water quality testing, environmental monitoring, and pool and spa maintenance.



Figure 1: The Hanna Instruments HI701 Checker HC Handheld Colorimeter, a compact device for free chlorine measurement.

SETUP

Before using your HI701 Checker HC, follow these steps to ensure proper setup:

1. **Unpack the Device:** Carefully remove the colorimeter and all accessories from its packaging. Inspect for any visible damage.
2. **Install Batteries:** Open the battery compartment and insert one 1.5V AAA battery, ensuring correct polarity. The device requires 2 A batteries according to specifications, but the operational instructions refer to a single AAA battery. Please refer to the device's battery compartment markings for definitive guidance.
3. **Prepare Cuvettes:** Ensure the glass cuvettes are clean and free from scratches or fingerprints. Use a lint-free cloth to wipe them clean before each use.



Figure 2: The HI701 Checker HC, cuvettes, and reagents neatly stored in the included carrying case.

OPERATING INSTRUCTIONS

The HI701 Checker HC operates with a simple, single-button interface. Follow these steps for accurate free chlorine measurements:

1. **Power On:** Press the button once to turn on the colorimeter. The display will show "Add C1" (Cuvette 1).
2. **Zero the Device:** Fill a clean cuvette with 10 mL of your unreacted water sample. Cap the cuvette and insert it into the checker. Press the button. The display will show "Add C2" (Cuvette 2) after the zeroing process is complete. This step establishes a baseline for your measurement.
3. **Prepare Reacted Sample:** Remove the cuvette. Add one packet of HI701-25 Free Chlorine Reagent to the sample in the cuvette. Cap the cuvette and shake gently for approximately 20 seconds to dissolve the reagent.
4. **Insert Reacted Sample:** Reinsert the cuvette containing the reacted sample into the checker.
5. **Initiate Measurement:** Press the button. The display will show a countdown timer (e.g., "2:30" for 2 minutes and 30 seconds). This allows for the chemical reaction to complete.
6. **Read Results:** Once the countdown finishes, the display will show the free chlorine concentration in ppm (parts per million).

The HI701 uses the EPA approved diethyl-p-phenylenediamine (DPD) method for free chlorine determination. The large LCD screen ensures clear readability of results. The device features an auto shut-off function to conserve battery life after a period of inactivity.



Figure 3: The HI701 Checker HC displaying a free chlorine measurement on its large LCD screen.



Figure 4: A cuvette containing the sample is inserted into the HI701 Checker HC for analysis.



Figure 5: The HI701 Checker HC alongside the necessary reagents and sample vials for testing.

MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your HI701 Checker HC:

- **Cleaning the Cuvettes:** Always clean cuvettes thoroughly with deionized water after each use. Dry them with a lint-free cloth to prevent water spots or residue from affecting future readings.
- **Cleaning the Meter:** Wipe the exterior of the colorimeter with a soft, damp cloth. Do not use abrasive cleaners or solvents. Keep the optical path (where the cuvette is inserted) clean and free of dust or debris.
- **Battery Replacement:** Replace the battery when the low battery indicator appears on the display. Ensure the battery compartment is sealed properly after replacement.

- **Storage:** Store the colorimeter in a cool, dry place, away from direct sunlight and extreme temperatures. Keep it in its original case when not in use to protect it from damage.



Figure 6: The HI701 Checker HC with its protective lid open, revealing the cuvette insertion slot, which should be kept clean.

TROUBLESHOOTING

If you encounter issues with your HI701 Checker HC, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device does not turn on.	Dead or incorrectly inserted battery.	Replace the battery, ensuring correct polarity.
Inaccurate or inconsistent readings.	<ul style="list-style-type: none"> • Dirty or scratched cuvette. • Expired or incorrect reagent. • Improper sample preparation (e.g., incorrect pH, insufficient mixing). • Optical path obstruction. 	<ul style="list-style-type: none"> • Clean or replace cuvette. • Use fresh, correct reagent. • Review sample preparation steps, ensure proper pH (less than 8.2 for DPD method). • Clean the cuvette slot.
"Err" message on display.	Measurement outside the device's range (0.00 to 2.50 ppm Free Chlorine).	Dilute the sample if concentration is too high, or re-test if too low. Ensure proper zeroing.

SPECIFICATIONS

Detailed specifications for the Hanna Instruments HI701 Checker HC:

Feature	Detail
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Feature	Detail
Model Number	HI-701
Parameter	Free Chlorine
Range	0.00 to 2.50 ppm (mg/L)
Resolution	0.01 ppm (mg/L)
Accuracy	±0.03 ppm ±3% of reading
Light Source	LED @ 525 nm
Light Detector	Silicon photocell
Method	Adaptation of the EPA DPD method 330.5
Power Supply	1 x 1.5V AAA battery (Note: Product specifications mention "2 A batteries required", please verify with device markings.)
Auto Shut-Off	After 10 minutes of non-use
Dimensions	50 x 50 x 50 inches (approx. 127 x 127 x 127 cm); 10.58 ounces (approx. 300 grams)
Manufacturer	Hanna Instruments
Recommended Uses	Water Quality, Environmental Testing, Pools & Spas
UPC	611517433696

WARRANTY AND SUPPORT

For warranty information or technical support regarding your Hanna Instruments HI701 Checker HC, please contact Hanna Instruments directly or refer to the official documentation provided with your purchase. A digital user manual is also available for download from the product's Amazon page or the Hanna Instruments website.

Official User Manual (PDF): [Download PDF](#)

