



HI96748 · HI96709

Manganese Portable Photometers

- **CAL Check**
 - Allows for performance verification and calibration of the meter using NIST traceable standards
- **GLP**
 - Review of the last calibration date
- **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 left on.
- **Battery status indicator**
 - Indicates the amount of battery life left.
- **Built-in timer**
 - Display of time remaining before a measurement is taken. Ensures that all readings are taken at the appropriate reaction intervals for the test being performed.
- **Error messages**
 - Messages on display alerting to problems including no cap, high zero, and standard too low
- **Cooling lamp indicator**
 - To maintain the desirable wavelength to be used for absorbance, it is necessary to ensure components are not overheated from the heat generated by the tungsten lamp. Each photometer is designed to allow a minimal amount of time for components to cool. The cooling lamp indicator is displayed prior to a reading being taken
- **Units of measure**
 - Appropriate unit of measure is displayed along with reading

Significance of Use

Manganese is one of the most common metals present in nature and is used in many industrial applications, for example, the production of fertilizers and in the pharmaceutical industry. Manganese salts are also used in iron alloys (steel manufacturing) and non-iron alloys as it improves their corrosion resistance and hardness.

Specifications	HI96748 Manganese, LR	HI96709 Manganese, HR														
Range	0 to 300 µg/L (ppb)	0.0 to 20.0 mg/L (ppm)														
Resolution	1 µg/L	0.1 mg/L														
Accuracy @ 25°C (77°F)	±10 µg/L ±3% of reading	±0.2 mg/L ±3% of reading														
Light Source	tungsten lamp															
Light Detector	silicon photocell with narrow band interference filter @ 525 nm															
Power Supply	9V battery															
Auto-off	after ten minutes of non-use in measurement mode; after one hour of non-use in calibration mode; with last reading reminder															
Environment	0 to 50°C (32 to 122°F); RH max 95% non-condensing															
Dimensions	193 x 104 x 69 mm (7.6 x 4.1 x 2.7")															
Weight	360 g (12.7 oz.)															
Method	adaptation of the 1-(2-pyridylazo)-2-naphthol PAN method	adaptation of Standard Methods for the Examination of Water and Wastewater, 18th edition, Periodate method														
Ordering Information	<p>HI96748 and HI96709 is supplied with sample cuvettes (2) with caps, 9V battery, instrument quality certificate and instruction manual. CAL Check™ standards and testing reagents sold separately</p> <p>HI96748C and HI96709C includes photometer, CAL Check™ standards, sample cuvettes (2) with caps, 9V battery, scissors, cuvette wiping cloth, instrument quality certificate, instruction manual and rigid carrying case. Reagents sold separately</p>															
Reagents and Standards	<table border="1"> <tbody> <tr> <td rowspan="3">HI96748</td> <td>HI96748-11</td> <td>CAL Check™ standard cuvettes</td> </tr> <tr> <td>HI93748-01</td> <td>reagents for 50 tests</td> </tr> <tr> <td>HI93748-03</td> <td>reagents for 150 tests</td> </tr> <tr> <td rowspan="3">HI96709</td> <td>HI96709-11</td> <td>CAL Check™ standard cuvettes</td> </tr> <tr> <td>HI93709-01</td> <td>reagents for 100 tests</td> </tr> <tr> <td>HI93709-03</td> <td>reagents for 300 tests</td> </tr> </tbody> </table>	HI96748	HI96748-11	CAL Check™ standard cuvettes	HI93748-01	reagents for 50 tests	HI93748-03	reagents for 150 tests	HI96709	HI96709-11	CAL Check™ standard cuvettes	HI93709-01	reagents for 100 tests	HI93709-03	reagents for 300 tests	
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The HI96748 portable photometer is for the low range measurement of manganese while HI96709 measures manganese in the high range. Hanna's portable photometers feature 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.