Dear Customer,

Thank you for choosing a Hanna product. This manual will provide you with the necessary information for a correct operation. Please read it carefully before using the meter. If you need additional technical information, do not hesitate to e-mail us at tech@hannainst.com.

This instrument is in compliance with the CE directives.

**Preliminary Examination**

Remove the instrument from the packing material and examine it carefully. If any damage has occurred during shipment, immediately notify your Dealer or the nearest Hanna Customer Service Center.

The meter is supplied with:
- HI 1286 pH electrode;
- HI 1283 grounding probe;
- Calibration screwdriver;
- pH 4.01 and 7.01 buffer solutions (20 mL each);
- 12 VDC power adapter.

Note: Conserve all packing material until the instrument has been observed to function correctly. Any defective item must be returned in its original packing.

**General Description**

**pH Gro·Chek** is a pH meter specially designed to meet the needs of growers in greenhouses and hydroponic applications. It is equipped with a large LC display which makes easy to read measurements from distance at any time. The housing has been completely sealed against vapors and humidity. The HI 1286 gel-filled pH electrode is inter-changeable and the BNC connector is protected behind a waterproof sheath.

The meter is also supplied with HI 1283 stainless steel probe to prevent potential grounding problems and thus ensuring longer life for your electrode, which has been designed for use in fertilizer solutions with high concentration of phosphate and nitrate. You can simply hang the meter right above the sample to make sure the connector is completely covered.

**Functional Description**

1. Molded eye
2. pH 4.0 calibration trimmer
3. BNC connector
4. HI 1283 stainless steel grounding probe
5. HI 1286 pH electrode
6. 12 VDC power adapter
7. Power supply connector
8. Protective sheath
9. pH 7.0 calibration trimmer
10. Liquid Crystal Display (LCD)

**Specifications**

<table>
<thead>
<tr>
<th>Range</th>
<th>0.0 to 14.0 pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>0.1 pH</td>
</tr>
<tr>
<td>Accuracy</td>
<td>±0.2 pH</td>
</tr>
<tr>
<td>Typical EMC</td>
<td>±0.1 pH</td>
</tr>
<tr>
<td>Calibration</td>
<td>Manual with two trimmers for offset and slope</td>
</tr>
<tr>
<td>Probes</td>
<td>HI 1286 interchangeable pH electrode and HI 1283 grounding probe (included)</td>
</tr>
<tr>
<td>Casing</td>
<td>IP54</td>
</tr>
<tr>
<td>Power supply</td>
<td>External 12 VDC (included)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>86 x 94 x 33 mm (3.4 x 3.7 x 1.3&quot;)</td>
</tr>
<tr>
<td>Weight</td>
<td>150 g (5.3 oz)</td>
</tr>
</tbody>
</table>

**Operational Guide**

**pH Electrode Connection & Maintenance**

In order to protect pH Gro·Chek against vapors and humidity, the BNC connector is shielded behind a waterproof sheath.

- Slide the protective sheath down. Connect the HI 1286 pH electrode to the BNC connector and then slide the protective sheath back up all the way to the pH Gro·Chek casing. Since the protective sheath is rubberized and to ensure maximum waterproof protection, make sure the connector is completely covered.

- Do not be alarmed if white crystals appear around the electrode protective cap. This is normal with pH electrodes and they dissolve when rinsed with water.
When not in use, rinse the electrode with water to minimize contamination and store it with a few drops of storage (HI 70300) or pH7 (HI 7007) solution in the protective cap. Always replace the protective cap after use. DO NOT USE DISTILLED OR DEIONIZED WATER FOR STORAGE PURPOSES.

If the electrode has been left dry, soak the tip in a storage (HI 70300) or pH7 (HI 7007) solution for at least one hour to reactivate it.

To minimize clogging and provide longer life for the pH electrode, it is recommended to clean it monthly. Immerse the tip of the electrode in HI 7061 for one hour and then rinse it with tap water.

**PREPARATION**

Pour small quantities of pH 7.01 (HI 7007) and pH 4.01 (HI 7004) solution into two clean beakers.

**CALIBRATION**

For the greatest accuracy, frequent calibration of the instrument is recommended. In addition, the instrument must be recalibrated whenever:

a) The pH electrode is replaced.

b) After testing aggressive chemicals.

c) Extreme accuracy is required.

d) At least once a month.

For accurate calibration use two beakers for each buffer solution, the first one for rinsing the tip of the electrode and the second one for calibration.

Note: the electrode should be submerged approximately 4 cm (1½") in the solution.

- Adjust the right hand trimmer with the calibration screwdriver until the LCD shows 7.0.

- Rinse and immerse the pH electrode and the grounding probe in pH 4.01 (or pH 10.01) buffer and stir gently.

- Wait a couple of minutes and then adjust the left hand trimmer until the LCD shows the value of the second buffer.

The pH calibration is now complete.

**ACCESSORIES**

HI 1283 * Stainless steel grounding probe with 2 m (6.6’) cable

HI 1286 Double junction, plastic body pH electrode with 2 m (6.6’) cable and BNC connector

HI 70004P pH 4.01 solution, 20 mL sachet (25 pcs)

HI 70007P pH 7.01 solution, 20 mL sachet (25 pcs)

HI 7004L pH 4.01 solution, 460 mL bottle

HI 7007L pH 7.01 solution, 460 mL bottle

HI 7061L Electrode cleaning solution, 460 mL bottle

HI 710005 12 VDC power adapter, US plug

HI 710006 12 VDC power adapter, European plug

HI 710012 12 VDC power adapter, Australian plug

HI 710013 12 VDC power adapter, Southern Africa plug

HI 710014 12 VDC power adapter, UK plug

HI 77400P pH 4 & 7 solutions, 20 mL sachet (5 each)

* To be replaced only by authorized service technicians

**CE DECLARATION OF CONFORMITY**

No. HANNA Instruments Italia srl
c/o P. Paganu, 70
20122 Milano, Italy

This product is in compliance with the EC Council Directive 89/336/EEC and Low Voltage Directive 73/23/EEC according to the following harmonized standards:
EN 55011: Compatibility - General Immunity Standard
EN 61010-1: Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use
EN 61326-1: Forenoon
EN 50204: Compatibility - Electromagnetic Standard
EN 61326: Safety requirements for electrical equipment for measurement, control and laboratory use

Type of Device: 12 VDC power adapter

Date of Issue: 05/06/2003

A. Marcozzi, Technical Director

On behalf of HANNA Instruments srl

Recommendations for Users

Before using this product, make sure that it is entirely suitable for the environment in which it is used. Operation of this instrument in residential areas could cause unacceptable interference to radio and TV equipment.

The glass bulb at the end of the electrode is sensitive to electrostatic discharges. Avoid touching this glass bulb at all times. During operation, ESD wrist straps should be worn to avoid possible damage to the electrode by electrostatic discharges.

Any variations introduced by the user to the supplied equipment may degrade the instrument’s EMC performance.

To avoid electrical shock, do not use this instrument when voltages at the measurement surface exceed 24 VAC or 60 VDC. To avoid damages or burns, do not perform any measurement in microwave ovens.

**TAKING pH MEASUREMENTS**

- Turn the meter on by connecting the 12 VDC power adapter to the meter and to the mains.

- In addition to the pH electrode, the **pH CROCHEK** is supplied with a differential input and HI 1283 stainless steel probe to prevent potential grounding problems. Remove the protective cap from the pH electrode and immerse the tips (4 cm/1½") of both pH electrode and grounding probe in the sample.

- The LCD will show the pH value. Allow the reading to stabilize and **pH** will start continuous monitoring.

Note: to prolong the electrode life, after switching the meter off, remove the electrode from the solution or, alternatively, detach it from the meter.