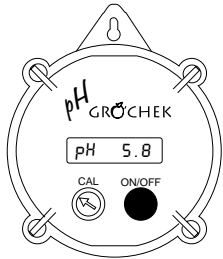


## Instruction Manual

**pH GRÖCHEK**  
(HI 981408)

**pH Stick Meter**  
with a user-replaceable  
electrode



**HANNA**  
instruments

<http://www.hannainst.com>

**CE**  
This Instrument is in  
Compliance with the CE Directives

## WARRANTY

pH GRÖCHEK is warranted for 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.

Damages due to accident, misuse, tampering or lack of prescribed maintenance are not covered.

If service is required, contact the dealer from whom you purchased the instrument. If under warranty, report the model number, date of purchase, serial number and the nature of the failure. If the repair is not covered by the warranty, you will be notified of the charges incurred. If the instrument is to be returned to Hanna Instruments, first obtain a Returned Goods Authorization Number from the Customer Service department and then send it with shipment costs prepaid. When shipping any instrument, make sure it is properly packaged for complete protection.

To validate your warranty, fill out and return the enclosed warranty card within 14 days from the date of purchase.

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

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](mailto:tech@hannainst.com).

This instrument is in compliance with the **CE** directives EN 50081-1 and EN 50082-1.

## 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 1219 pH electrode double junction L: 240 mm with DIN connector;
- 2 batteries AAx1.5 V type (inside the meter)
- pH 7.01 buffer solution 20 mL

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 GRÖCHEK is a pH meter specially designed to meet the needs of operators in hydroponics and greenhouses.

The housing has been completely sealed against vapors and humidity. It also floats so that it can be quickly retrieved if accidentally dropped in the tank.

The HI 1219 rugged pH electrode supplied with the meter is constructed using the latest double junction technology and a HANNA exclusive replenishable fiber junction. The electrode can be simply replaced and the rubber sleeve protects the connector against humidity and spills. It will run for more than 2000 hours continuously with two AA type batteries.

Measurements are highly accurate and the meter can be calibrated in one point.

- Ideal for hydroponics and greenhouses
- Waterproof housing floats for quick retrieval
- Simple one point calibration
- Renewable junction with pull out salt-bridge
- Long battery life.

## FUNCTIONAL DESCRIPTION

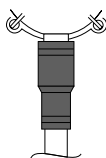
## SPECIFICATIONS

Range	0.0 to 14.0 pH
Resolution	0.1 pH
Accuracy (@ 25°C/77°F)	±0.2 pH
Typical EMC Deviation	±0.2 pH
Calibration	Manual through frontal dial for offset
Electrode	HI 1219 pH electrode L: 240mm with DIN connector
Batteries	2 x AA Alkaline type (2000 hours of continuous use)
Dimensions	86 x 94 x 33 mm (3.4 x 3.7 x 1.3") meter only
Weight	150 g (5.3 oz.) meter only

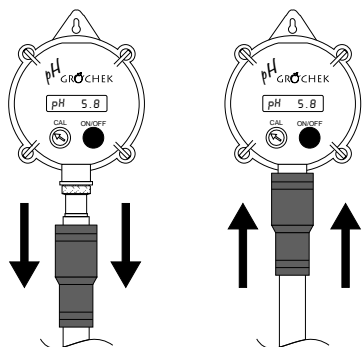
## OPERATIONAL GUIDE

### pH ELECTRODE CONNECTION & MAINTENANCE

In order to protect pH GROCHECK against vapors and humidity, the DIN connector is shielded behind a waterproof sheath.



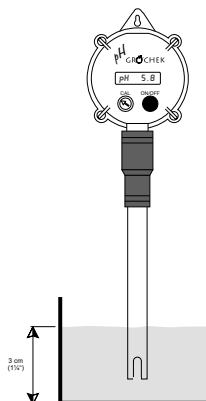
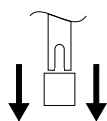
- Slide the protective sheath down. Connect the HI 1219 pH electrode to the DIN connector and then slide the protective sheath back up all the way up to the pH GROCHECK casing. To ensure maximum protection, make sure the connector is completely covered.



- 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 pH 7 (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 pH 7 (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 the electrode monthly. Immerse the tip of the electrode in HI 7061 cleaning solution for ½ hour, then rinse it with tap water and recalibrate the meter.

### TAKING pH MEASUREMENTS

- Turn the meter on by pushing the "ON/OFF" button.
- Remove the protective cap from the pH electrode and immerse its tip in the sample.
- Allow the reading to stabilize and note the pH value on the LCD.



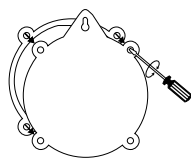
Note: the electrode should be submerged at least 3 cm (1¼") in the solution.

### BATTERY REPLACEMENT

When the batteries are weak, the numbers become faint, the meter does not switch on or can not be calibrated.

To replace the batteries, open the back panel with the help of a screwdriver and replace both AA type batteries, paying attention to their polarity.

Batteries should only be replaced in a non hazardous area using alkaline batteries.



Note: Once the batteries have been replaced, recalibrate the meter.

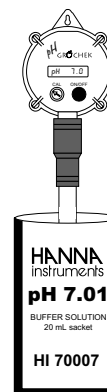
## CALIBRATION

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

- The pH electrode is replaced.
- After testing aggressive chemicals.
- Where high accuracy is required.
- At least once a month.

### CALIBRATION PROCEDURE

- Open a pH 7.01 sachet.
- Turn the meter on.
- Remove the protective cap from the electrode, rinse the tip and immerse it in the pH 7.0 buffer solution.
- Stir gently and then wait until the reading stabilizes.
- Adjust the "CAL" dial until the LCD shows pH 7.0.



The pH calibration is now complete.

Note: Instead of pH 7.0, other pH buffers such as pH 4.0 can also be used to calibrate the meter closer to the working range.

## CE DECLARATION OF CONFORMITY



DECLARATION OF CONFORMITY

We

Hanna Instruments Srl  
Via E.Fermi, 10  
35030 Sarmeola di Rubano (PD)  
ITALY

herewith certify that the pH meter

HI 981408

has been tested and found to be in compliance with the following regulations:

IEC 801-2 Electrostatic Discharge  
IEC 801-3 RF Radiated  
IEC 801-4 Fast Transient  
EN 55022 Radiated, Class B  
EN 61010-1 Electrical Safety

Date of Issue: 26-10-1999

D. Volpato - Engineering Manager  
On behalf of  
Hanna Instruments S.r.l.

### 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 variation 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 voltage at the measurement surface exceeds 24 VAC or 60 VDC. To avoid damage or burn, do not perform any measurement in microwave ovens.

## ACCESSORIES

HI 70004P	pH 4.01 solution, 20 mL sachet (25 pcs)
HI 70007P	pH 7.01 solution, 20 mL sachet (25 pcs)
HI 7004M	pH 4.01 solution, 230 mL bottle
HI 7007M	pH 7.01 solution, 230 mL bottle
HI 7061M	Electrode cleaning solution, 230 mL bottle
HI 77400P	pH 4 & 7 solutions, 20 mL sachet (5 each)