pH Calibration Check™ Indications

Optimal condition

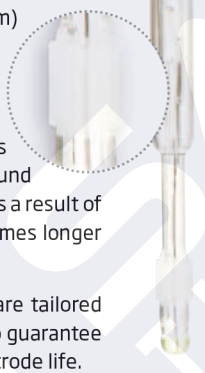
Clogged junction

Clogged junction, dirty electrode

Aged/dirty electrode

Electrode failure

HI 1048P with CPS™ (Clogging Prevention System)



The HI 1048P pH wine electrode with CPS™ (Clogging Prevention System) is HANNA's latest innovation in pH electrode technology.

Conventional pH electrodes use ceramic junctions that clog quickly when used with wine. When the junction is clogged, the electrode does not function. CPS™ technology utilizes the porousness of ground glass coupled with a PTFE sleeve to prevent clogging of the junction. The ground glass allows proper flow of the liquid, while the PTFE sleeve repels dirt. As a result of HANNA's new CPS™ technology, pH electrodes stay fresh for up to 20 times longer than conventional electrodes.

HI 70635 (wine deposits removal) and HI 70636 (wine stain removal) are tailored made cleaning solutions that remove deposits from your pH electrode to guarantee accurate calibrations for stable, repeatable measurements and long electrode life.

SPECIFICATIONS		HI 2222
Range	pH	-2.00 to 16.00
	mV	±699.9 mV; ±2000 mV
	Temperature	-20.0 to 120.0 °C
Resolution	pH	0.01
	mV	0.1 mV (± 699.9 mV); 1 mV (± 2000 mV)
	Temperature	0.1°C
Accuracy	pH	±0.01
	mV	±0.2 (±699.9 mV); ±1 (±2000 mV)
	Temperature	± 0.2 °C excluding probe error
pH Calibration Check		yes
pH Calibration		automatic, one or two point calibration with seven memorized buffers available (1.68, 3.00, 6.86, 7.01, 9.18, 10.01, 12.45)
Temperature Compensation		manual or automatic, -20.0 to 120.0°C (-4 to 248°F)
Specialized pH Electrode for Wine		HI 1048P glass body pH electrode with CPS™, BNC connector + pin with 1 m (3.3') cable (included)
Temperature Probe		HI 7662 stainless steel temperature probe with 1 m (3.3') cable (included)
PC Connection		opto-isolated USB
Data Logging		100 points
Input Impedance		10^{12} Ohm
Power Supply		12 VDC adapter (included)
Environment		0 to 50°C (32 to 122°F); RH max 95% non-condensing
Dimensions		235 x 222 x 109 mm (9.2 x 8.7 x 4.3")
Weight		1.3 Kg (2.9 lb)

pH 3.00 Buffer: Calibration for Wine Analysis

Since most wine measurements are taken at a pH of less than 4, these meters have been pre-programmed at a calibration point of 3.00 pH.

Using the pH 3.00 buffer will minimize any measurement error due to calibration.

ORDERING INFORMATION

HI 2222-01 (115V) and **HI 2222-02** (230V) are supplied with HI 1048P pH electrode, HI 7662 temperature probe, HI 76404N electrode holder, HI 5003 pH 3.00 pH buffer solution, HI 70007 pH 7.01 buffer solution sachet, HI 700636 wine stain cleaning solution sachet, HI 700635 wine deposit cleaning solution sachet, HI 7082S electrolyte solution (30 mL), 5 mL graduated syringe, 12 VDC adapter and instructions.

ELECTRODES

HI 1048P	Glass body, food grade pH electrode with open, CPS™ junction, BNC + pin connector and 1 m (3.3') cable, recommended for wine and must applications.
HI 7662	Stainless steel temperature probe and 1 m (3.3') cable

SOLUTIONS

HI 5003	pH 3.00 buffer solution, 500 mL
HI 5007L	pH 7.01 buffer solution, 500 mL
HI 5010L	pH 10.01 buffer solution, 500 mL
HI 7001L	pH 1.68 buffer Solution in FDA approved bottle, 500 mL
HI 70635L	Cleaning solution for wine deposits, 500 mL
HI 700635P	Cleaning Solution for wine deposits, 20mL sachets (25)
HI 70636L	Cleaning solution for wine stains, 500 mL
HI 700636P	Cleaning Solution for wine stains, 20 mL sachets (25)
HI 70300L	Electrode storage solution, 500 mL
HI 7082	3.5M KCl Electrolyte, 30 mL (4), for double junction electrodes
HI 731312	Red wine decolorization kit (25 pcs)

ACCESSORIES

HI 92000	Windows® compatible software
HI 920013	USB cable for PC connection
HI 76404N	Electrode holder

HI 2222

Wine Analysis pH Benchtop Meter

- Designed specifically for wine analysis
- Dedicated 3.00 pH buffer for calibration in the wine pH range
- Clog-resistant electrode
- pH Calibration Check™ electrode diagnostics
- Electrode condition on display
- Calibration alarm timeout
- GLP features
- PC interface via USB

HI 2222 is the only pH meter on the market today that allows for automatic pH calibration at pH 3 and pH 7. With the dedicated 3.00 pH buffer for wine calibration in the wine pH range, any error due to calibration will be minimized. The HI 2222's Calibration Check™ diagnostics along with the included HI 1048P clogging resistant pH electode further enhances measurement accuracy.

This wine analysis instrument also features logging of up to 100 samples, GLP (Good Laboratory Practice) capability, and a USB interface for the transfer of data to a PC.

In the process of wine making, most pH measurements are made in the must. A pH electrode gets dirty quickly when measuring the pH of must because sediments build up on both the pH measuring bulb and pH electrode junction. This becomes a big problem during the actual pH measurement if the electrode has not been properly cleaned. A dirty pH electrode can give results that are up to 0.5 pH inaccurate – even after a pH calibration has just been performed.

Conventional pH meters do not warn the user when the pH electrode is dirty. A common example of this occurs just after calibrating the instrument – the pH electrode is immersed into the pH 7 buffer and the reading is lower than expected (pH 6.8 or 6.9 instead of 7.0). HI 2222 uses HANNA 's unique technology to detect when the electrode is dirty and gives a warning during calibration.

It is important to properly clean the pH electrode prior to use. A proper cleaning of the electrode must be done with appropriate cleaning solutions in order to remove all the deposits on the sensitive bulb and junction. HI 70635 (wine deposits removal) and HI 70636 (wine stain removal) are tailored made cleaning solutions that remove deposits from your pH electrode to guarantee accurate calibrations for stable, repeatable measurements and long electrode life. HANNA is the only manufacturer to offer tailor made cleaning solutions for winemaking.