

HI84534

# Titratable Acidity Titrator and pH Meter

for Vinegar

- Piston driven pump with dynamic dosing
  - For highly accurate, repeatable results
- Two endpoints and two ranges
- CAL Check™
  - Alerts users to potential problems during calibration such as contaminated buffers or a dirty/broken pH electrode
- Log-on-demand
  - Log data up to 400 samples (200 for titration; 200 for pH/mV)
- Graphic mode/exportable data
  - Displays in-depth data on titration, which can then be stored and exported to either a USB drive or PC using the USB connection
- Automatic stirrer speed control
  - Maintains stirrer speed at approximately 600 rpm regardless of viscosity of solution
- GLP features
  - Date, time, offset, slope and buffers used
- Easy-to-use interface
  - User intuitive design with large keys and easy to navigate screens
- HELP features
  - Dedicated HELP key for content sensitive help
- pH/mV meter
  - Doubles as a benchtop pH meter



## An Easy-to-Use, Fast and Affordable All-in-one Solution

The HI84534 is a low-cost, easy to use automatic minititrator and pH meter designed for the rapid and accurate analysis of Total Titratable Acidity in Vinegar. The HI84534 minititrator is a valuable tool because of its ability to eliminate subjective factors including color indicators, errors in mathematical calculations or erratic titrant additions, it will quickly become a valuable acidity analysis tool of vinegar.

The HI84534 incorporates a precise piston dosing system, which allows for a highly accurate determination of the amount of titrant used. It is also capable of dynamic dosing, making testing both faster and more accurate. Pump calibrations are performed with the provided Hanna standard and help assure the accuracy of the measurement.

An intuitive interface makes the instrument simple to use and the dedicated HELP key

guides the user through set-up, calibration status, and troubleshooting.

This mini titrator includes a pre-programmed analysis method based on the Standard Methods of Water and Wastewater Determination. It uses a powerful algorithm which analyzes the shape of the electrode response in order to determine when the titration reaction has reached completion.

This mini titrator is also designed to be used as a benchtop pH/mV meter. The CAL Check function not only ensures an accurate pH reading when the HI84534 is used as a pH meter but also an accurate titration since the endpoint is determined by a set pH value.

## Vinegar

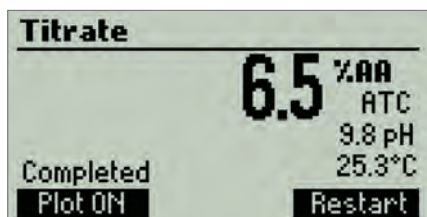
Vinegar is made when acetic acid bacteria is added to an alcohol beverage such as wine. The bacteria will eat the ethanol and produce a tart, pungent liquid known as acetic acid. The acetic acid concentration in vinegar typically ranges from 4 to 9% (w/v). The pH of vinegar

is typically between 2.5 to 3.0, depending on the acetic acid concentration.

Vinegar can be made out of anything that has alcohol (ethanol) in it, including wine, beer, and hard cider. The type of vinegar depends on what liquid the ethanol has been fermented in. White vinegar is made a vodka type liquor made from grain, while apple cider vinegar is made from apples and balsamic vinegar is made from grape must. Outside of the United States popular vinegars include rice, coconut and cane. Vinegars are commonly used in food preparation, medicine, agriculture and in cleaning solutions.

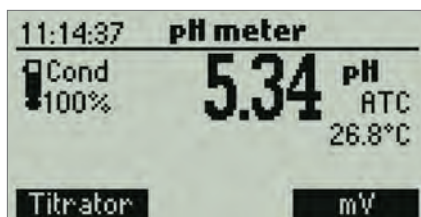
The titratable acidity of vinegar is determined by titrating the sample with a strong base to a fixed pH. The end point is determined by the potentiometric input and the results are typically expressed as % (g/100mL) or g/L acetic acid. The HI84534 minititrator method is based on the Official Methods of Analysis of AOAC International.

## On-screen Features



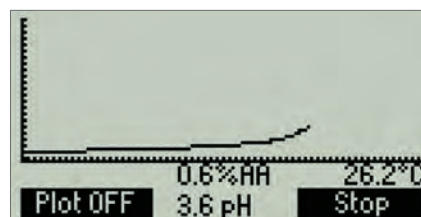
### Easy and clear measurement

The HI84534 is a single parameter titrator designed to measure acidity in a few easy steps. The HI84534 displays the results directly on the screen in user-selectable units.



### pH meter with electrode condition on display

The HI84534 also functions as a pH meter. The HI84534 also displays the electrode condition on the LCD using Hanna's exclusive electrode diagnostics.



### Titration curve displayed on screen

The HI84534 offers real time graphing of the titration curve on the LCD.

## Specifications

### HI84534

Titrator	Range	0.3 to 10.0 % w/v (g/100mL) as acetic acid 3 to 100 g/L as acetic acid
	Resolution	0.1%, 1g/L
	Accuracy (@25°C/77°F)	3% of reading or ± 0.1 % , whichever is greater 3% of reading or ± 1 g/L, whichever is greater
	Sample Volume	1 mL
	Titration Method	Acid-base titration
	Principle	Fixed end point titration to pH 8.2
	Pump Speed	10 mL/min
	Stirring Speed	600 rpm
Data storage	up to 200 titrations	
pH/mV Meter	pH Range	-2.0 to 16.0 pH / -2.00 to 16.00 pH
	pH Resolution	0.1 pH / 0.01 pH
	pH Accuracy (@25°C/77°F)	± 0.01 pH
	pH Calibration	one, two or three-point calibration; four available buffers (pH 4.01, 7.01, 8.20, 10.01)
	mV Range	-2000.0 to 2000.0 mV
	mV Resolution	0.1 mV
	mV Accuracy (@25°C/77°F)	± 1.0 mV
Data storage	up to 200 data points (pH or mV)	
Temperature	Range	-20.0 to 120.0°C; -4.0 to 248.0°F
	Resolution	0.1°C; 0.1°F
	Accuracy (@25°C/77°F)	±0.4°C; ±0.8°F without probe error
	Compensation	manual or automatic
Additional Specifications	pH Electrode	HI1131B glass body pH electrode with BNC connector and 1 m (3.3') cable (included)
	Temperature Probe	HI7662-T stainless steel temperature probe with 1 m (3.3') cable (included)
	Connectivity	(1) Type-B USB for PC interface, (1) Type-A USB for storage
	Environment	0 to 50°C (32 to 122 °F); max 95% RH non-condensing
	Power Supply	12 VDC power adapter
	Dimensions	235 x 200 x 150 mm (9.2 x 7.9 x 5.9")
	Weight	1.9 kg (67.0 oz.)
Ordering Information	<b>HI84534-01</b> (115V) and <b>HI84534-02</b> (230V) are supplied with HI1131B pH electrode, HI7662-T temperature probe, HI7082 electrode fill solution, HI84534-70 reagent kit for water analysis, 100 mL beakers (2), dosing pump valve, 5 mL syringe, 1 mL plastic pipette, tube set (aspiration tube with titrant bottle cap and dispensing tube with tip), stir bar, power adapter, instruction manual and quality certificate.	