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# pH of Wine/Beer

Orion 3-Star pH Benchtop Meter

## Food & Beverage

The measurement of pH is one of the most common analytical techniques used in chemistry laboratories today. The pH of a substance indicates its overall acid/alkaline level. If a wine or beer is too acidic or too basic it can affect the fermentation process and the flavor. For this reason, pH measurement is extremely important for wineries and breweries.



## Orion 3-Star pH benchtop meter

For brewers, pH is extremely important because it affects the enzymes that convert starches into sugars. Also, yeast activity will occur only under the proper pH conditions. For wine makers, pH is also a critical measurement. A moderately acidic solution is the proper environment for yeast reproduction and activity, but the optimum range is narrow. Additionally, a high pH wine will have problems with oxidation, bacteria growth and off-color. The proper pH range for most wine is between 3.1 and 3.5.

Many wineries and breweries use Thermo products everyday for purposes of Research & Development, Quality Control and Product Labeling. Orion pH meters, electrodes and

solutions help to ensure product quality and taste.

With the easy to use Orion 3-Star pH benchtop meter (Cat. No. 1112000) and Orion pH electrode (Cat. No. 8172BNWP) pH measurements are fast and accurate. This rugged meter offers a full complement of GLP-related features. Ten set-up parameters and calibrations can be stored, which is a valuable feature for busy multi-user labs.

Orion products offer top quality meter features with proven electrode technology to provide a complete package needed to meet the quality standards set by wineries and breweries.

# Orion 3-Star pH

The simple to operate Orion 3-Star pH benchtop meter (Cat. No. 1112000) and Orion pH electrode (Cat. No. 8172BNWP) offer the optimum solution to meet pH measurement needs.

## Orion 3-Star pH Specifications:

Specifications		Benefit
<b>pH</b>		
Readout Range / Resolution	-2.000 to 19.999 or 0 to 14 in aqueous solutions / 0.1,0.01,0.001	Calibration point flexibility
Relative Accuracy	± 0.002	For exceptional accuracy
SMART STABILITY™ and SMART AVERAGING™	Resolution dependent / automatic	Optimized accuracy, precision & response time
AUTO-CAL™ and/or Manual Calibration	1 to 5 points; US/NIST, DIN, and custom buffers recognized	Protocol compliance
<b>Temperature</b>		
Range / Resolution	-5 to 105 °C / 0.1 up to 99.9 °C, 1.0 over 99.9 °C	Allows for temperature variations
Relative Accuracy	± 0.1 °C	
Temperature Compensation	Auto/Manual	
<b>Display</b>	Custom backlit LCD, for easy viewing	Easy to read
<b>Special GLP Software Features</b>		
# Of Data Logging Points	200 points by time, stability or manual read with time/date stamp	Expanded data storage available
Calibration Log	Last 10 Calibrations	Establish audit trail
User Method Storage	10 Saved	For easy retrieval of routine tests
<b>Power</b>	Universal power adapter and battery power 4 x AA batteries	Data is secure
<b>Regulatory and Safety</b>	CE, CSA, UL, TÜV, FCC Class A limits	Meets all necessary regulations
<b>Environmental Operating Conditions</b>		
Ambient Operating Temperature	5 to 45 °C	
Relative Humidity	5 to 85% Non-Condensing	
IP Rating	IP54, splashproof and dustproof	
<b>Warranty</b>	36 months (from date of purchase)	Reduces service cost

Above data generated under optimal/controlled circumstances.

## Equipment needed for pH measurement using the Orion 3-Star pH meter:

Description	Orion Cat. No.
pH Application Package (includes all items listed below)	1010139
Star Series Method Note: pH in wine and beer	M-1408-E
3-Star benchtop pH meter	1112000
pH electrode	8172BNWP
PerpHect Stainless Steel ATC probe	927007MD
Benchtop Stirrer	096019
ROSS™ Reference Filling Solution	810007
pH 4 buffer, 475 mL	910104
pH 7 buffer, 475 mL	910107
pH 10 buffer, 475 mL	910110
ROSS pH electrode storage solution	810001
Electrode stand	1110001