

Smart Notes

QA

When measuring the pH of beer mash or wort, how do I know that the reading is valid?

By choosing the right pH electrode and following proper calibration, verification, and maintenance procedures.

Whether you are a brewer or a lab technician, when you take a pH reading in your beer mash or wort, you want to be confident that the result is valid and meaningful. Mash pH influences many aspects of the brewing process, such as enzyme activity, tannin extraction, nutrient uptake by the yeast, beer spoilage, beer taste, foam retention, and more. Monitoring the pH helps you keep the mashing process in control.



Tips to help ensure valid pH readings

1. Choose the pH electrode that best fits your testing needs.

A rugged, easy-to-clean design and double-junction reference system are helpful when working with beer samples. A pH electrode with built-in automatic temperature compensation (ATC) will allow for temperature measurement and help maintain calibration of the electrode, even when the sample temperature differs from the calibration temperature.

2. Measure the pH of a verification buffer to confirm the electrode is working properly.

This should be done after calibration, or at any time during the day. If the reading is as expected, your pH measurement system is working correctly. A buffer at pH 5 is ideal for this purpose.

3. Finally, be a pH mechanic and keep your pH electrode tuned up.

Rinse and store your pH electrode properly every day. Perform maintenance (for a refillable electrode) and clean the electrode periodically to restore optimum performance. It is important to follow the user manual for proper storage technique and calibration instructions. For more information, see our Smart Note on proper maintenance for pH electrodes used in mash, wort, and beer samples.



Summary

Your pH testing needs to keep up with your brewing process. Thermo Scientific™ Orion™ pH electrodes are designed to measure your beer mash and wort quickly and precisely.

Recommended Thermo Scientific™ Orion™ pH testing and calibration products

Product	Recommended use	Cat. No.
Orion ROSS Sure-Flow pH Electrode	Measuring pH with a non-clogging, easy-flush junction; use with ATC for temperature compensation	8172BNWP
Orion ROSS Ultra Refillable pH/ATC Triode Combination Electrode	Measuring pH and temperature with one electrode, standard with Orion Triode meter kits	8157BNUMD
Orion pH 5 Buffer Bottle	Verifying your pH electrode is properly calibrated	910105
Orion ROSS pH Electrode Storage Solution	Storing your pH electrode	810001
Orion pH Electrode Cleaning and Storage Solutions	Cleaning your pH electrode periodically	900020

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