eCow GLP (Good Laboratory Practice)

To ensure that your bolus is functional for as long as possible, please follow GLP Compliance and follow our guidance for the maintenance and storage of the bolus.

GLP is broken down into 4 steps:

- Design Qualifications
- Installation Qualification
- Operation Qualification
- Performance Qualification

A common question when selecting your pH meters and/or pH sensors should be "Is it GLP compliant?" GLP (Good Laboratory Practice) standards are guidelines set by government agencies to ensure the quality and integrity of the data you gather from your pH meter. It is important that your data is reliable, consistent and accurate. There are qualifications to look for to guarantee your data will be just that when purchasing your next pH meter.

Manufacturers of data collecting instrumentation must adhere to certain qualifications throughout the manufacturing process to give the credibility to say "our pH meter is GLP compliant." The qualification process consists of up to four consecutive test stages. Ask your manufacturer about each one of these steps.

Each stage is documented accordingly:

Step 1 – Design Qualification

The user formulates the requirements for the components and operation conditions in the design qualification phase prior to purchasing. Common requirements are: purpose of use, environmental conditions, technical data and any "special" requirements based on the uniqueness of the application. Documentation in this qualification step serves as proof that the instrument is designed and manufactured in accordance with GLP requirements and the user is receiving exactly what he or she needs.

Step 2 - Installation Qualification

This part of the qualification process is either conducted at the site of installation or duplicated at the manufacturing facility. This phase provides evidence that your pH meter meets the GLP specifications in the environmental conditions it will be used in. If this step is performed on the actual installation site, the completeness of the system and the environmental and application conditions are examined after delivery.

Step 3 - Operational Qualification

This stage is performed to check the system complies with the general conditions of the technical and functional specifications determined in the design qualification phase. The device is tested at the point of use during operational qualification. A comparison with the technical data of the components or a test with a GLP standard may also be performed at this time. Specifically, pH measuring systems, in this stage of the quality check, are tested to determine the pH value of DIN buffer solutions after calibration of the device.

Step 4 - Performance Qualification

The final qualification of your instrument demonstrates that the measurement system consistently provides a performance according to GLP specifications under real operating conditions. We suggest that the user continue to routinely perform this same performance qualification throughout the lifetime of the use of the instrument.

In Conclusion...

Individual tests of a pH meter and a pH electrode only provide a statement about the current functioning of the electrode and the pH meter as individual components, not as a complete system. Each step in the qualification process ensures the continuous GLP validity of pH measurements of the entire system.
The qualification beginning from the design qualifications prior to purchase, over the one-time installation and operational qualification at the on-site or duplication work facility up to the performance qualification, together, give you a guarantee that your complete pH measuring system (pH meter, pH electrode, pH buffer solutions) yield a consistent performance according to GLP specifications or standards under the specific conditions.

In fewer words: Your instrument is GLP compliant! Your data will be reliable, consistent and accurate!

Storage and maintenance

You will receive your boluses in our custom protective packaging. There will be a small amount of water in the bottom of this box, this is to keep the sensor head hydrated.

Correct storage
When not in use boluses should be stored in their provided container and with the original foam inserts. The box should be filled halfway with regular tap water and stored between 15°c and 25°c. When storing in water, the bolus is NOT to be stored in de-ionised water at any time.

Do not let the sensor dry out.
The bolus should be stored in the provided storage container whenever it is not in use and the sensor should always be immersed in a liquid of near neutral pH; tap water is recommended. Boluses must be stored with the sensor head pointing downwards. Storing the bolus incorrectly invalidates the warranty.

Do not leave the product where it will be exposed to extremely high or low temperatures, such as in direct sunlight.
Failure to observe this precaution could cause damage to the product. Long periods of time spent over 45°C will damage the device's internal electronics. Temperatures above 30°C during will deplete the battery at an accelerated rate. The recommended storage temperature is between 5°C and 25°C.

Recalibration.
If the boluses are to be stored for a prolonged period of time, they may need to be recalibrated every so often to ensure they function as they should.

Storage time
We advise not storing boluses for longer than a year and recommend following the above procedures during this time to ensure your bolus is working as it should when you are ready to start using it.

Note: **Failure to store the boluses using the correct storage solution will risk your warranty becoming void.**