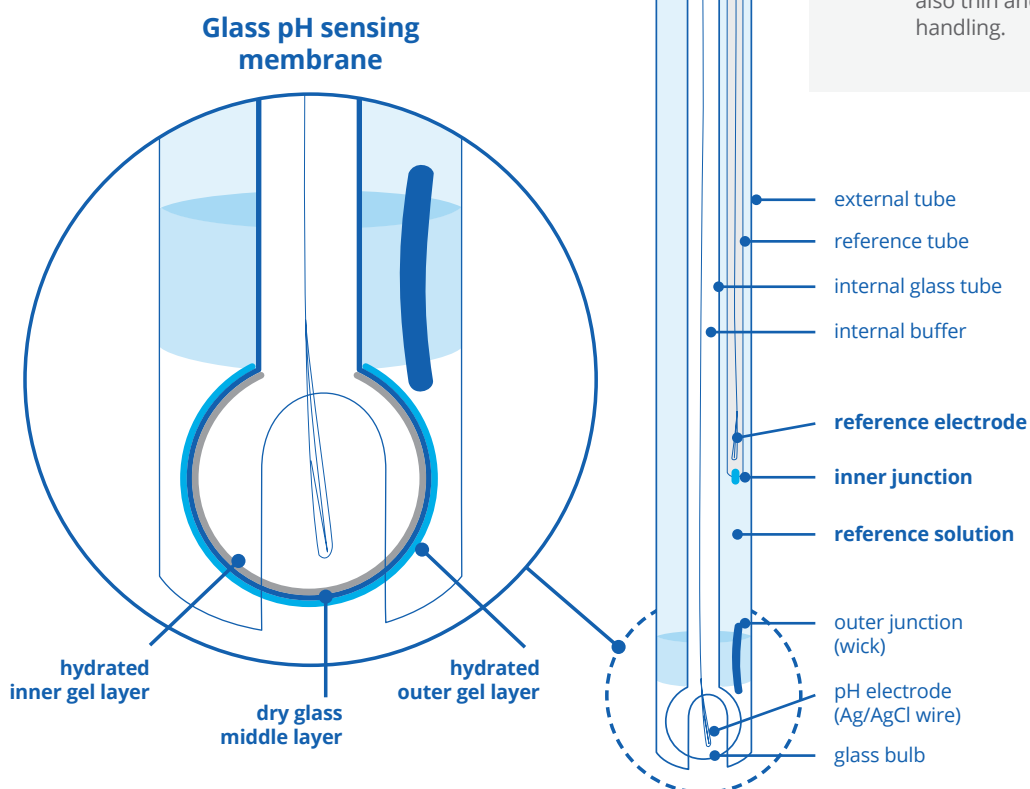


Delicate. Powerful. Essential. Here's why it needs your care.

If you've ever used a pH pen or probe, you may or may not be surprised to learn that its accuracy comes from a small but powerful component – a specialised glass bulb. Far more than just glass, this advanced sensor provides precise and reliable pH measurements every time.

Anatomy of a double-junction pH probe



Glass is the perfect material for pH measurement:

- ✓ **Sensitive to hydrogen ions** – The glass interacts with hydrogen ions (H^+) in the solution, creating a tiny voltage that the probe converts into a pH reading.
- ✓ **Allows ion exchange** – Unlike plastic or metal, glass enables ions to pass through, making it highly responsive to pH changes.
- ✓ **Durable but delicate** – While strong enough for precise measurements, it's also thin and fragile and needs careful handling.

How do I care for and extend the life of my probe?

Caring for your pH probe helps maintain accurate readings and can prolong its lifespan. Here's a simple guide on how to care for it:

1 Store correctly

- **Never store in RO, distilled, or deionised water** – these lack ions, causing the probe's internal reference solution to leach out, damaging the reference junction and leading to inaccurate readings. Always store your probe in a specialised pH storage solution to keep the glass bulb hydrated and protect the internal components.
- **Keep it moist** – If you're not using the probe for an extended period, replace the storage cap with enough pH storage solution to cover the bulb to prevent it from drying out.

2 Clean regularly

- **Rinse after each use** – Rinse the probe tip in fresh tap water after each use to remove any residues, salts, or nutrients.
- **Deep cleaning** – Use a pH probe cleaner and a soft toothbrush to gently remove mineral deposits, dirt, or organic matter from the bulb and junction.

Tip: After a deep clean, soak the probe in KCl storage solution or pH 4 before calibrating. This helps re-activate the sensitive gel layer on the glass, ensuring accurate calibration.

- **Avoid abrasive cleaners** – Never use rough cloths or brushes that could scratch or damage the glass bulb.

3 Handle with care

- **Avoid touching the glass bulb** – Oils from your fingers can affect the readings. Always handle the probe by the body to avoid contamination.
- **Handle with care** – The glass bulb is delicate. Avoid dropping, tapping, or shaking the probe, as sudden impacts can cause cracks or damage internal components.

4 Calibrate regularly

- **Check calibration** – Calibrate regularly, at least every 30 days, or if the readings are outside the expected range. Use fresh pH calibration solutions and always perform a two-point calibration.
- **Don't skip calibration** – It ensures your probe provides the most accurate results possible. If calibration is difficult or repeatedly fails, the probe might need replacing.

5 Don't force it

- **Do not use or store the probe** outside of its specified temperature and pH limits.

How can I tell if my probe is broken or worn?

Inspect for wear

Check for buildup – Regularly inspect the glass bulb and reference junction. If the probe responds slowly or gives inaccurate readings, it may need replacement. Because buildup isn't always visible, clean and calibrate the probe first as a precaution.

Look for damage – If you spot any cracks or chips in the glass bulb, it's time to replace the probe, as damage can affect accuracy.

Try to calibrate – If it's broken, it won't calibrate. Or test it in pH 4 – if the glass is broken, it'll read pH 7 instead of pH 4.

Recommended care for pH probes and pens



Bluelab Bluelab pH Probe KCl Storage Solution

Available in 100ml or 120ml (region-specific) and 250ml bottles.



Bluelab probe care kits

Available with tools to clean and test probe tips for pH & conductivity, pH or conductivity.



Calibration

Check out our knowledge base support.bluelab.com/ph-probe-care-maintenance or scan the QR code.