

How To Select Your SENTEK ELECTRODE

(Based on the type of questions asked by prospective users)

With such a wide range, how do I choose the correct one for my application?

What else do I need to consider when choosing an electrode?

What is the difference?

Firstly, where is the electrode to be used? Is it in the Laboratory, out in the field, or is it an industrial process environment? Once this is established, a decision needs to be taken on the physical dimensions of the probe. The length of an electrode can be variable, and the bulb size and type changes to suit different applications, for example flat head, spear, or the conventional round bulb.

Firstly, you should decide whether you need a combination electrode, or a separate glass and reference probe. In the majority of cases, a combination electrode is the most suitable, but there are certain instances, for example ion selective electrodes work, where separate measuring and reference cells, are preferred.

An electrode pair consists of two electrodes, a measuring electrode and a reference electrode. A combination electrode combines these two parameters into one electrode.

What is an electrode junction?

How do I decide which is best for me?

What is the difference between gel filled and refillable electrode?

This is present in both a single reference electrode, and a combination electrode. It is a permeable membrane through which the filling solution exits (called the liquid junction). It can appear in a number of formats, but its main function is to permit small quantities of the reference electrodes filling solution to leak into the sample.

As stated, polymer bodied electrodes are mainly used in field, due to their durability. Glass electrodes are preferred when measuring solutions which contain things like proteins, organics, solvents, and other nasty solutions which could attack a polymer body.

Gel filled electrodes require practically no maintenance, and their polymer bodies are very durable. Generally, they are used for measurements out in the field. Refillable electrodes required the filling solution replenished from time to time. These are mainly glass electrodes, used in laboratory applications, but it is possible to have a polymer bodied electrode in a refillable version. Glass refillable electrodes are generally considered to be more suitable for applications where high accuracy is required in the lab.

How do I know what is best for me?

Single junction electrodes with Ag/AgCl internal components are the best electrodes for most applications. However, if you are measuring solutions that can react with the silver in these types of probes, a double or even triple junction could be the answer. Examples - proteins, sulphides, tris buffer, heavy metal or strong reducing ions. When in doubt, use a double junction electrode. for any out of the ordinary application, we will always recommend the best type of junction to use.