



## Why Use Vinegar?

Quite simply, it provides the same results as an expensive pH 4.0 buffer at a fraction of the cost. It is also non-toxic and available everywhere. Although the FX-1000 P will work just fine with an expensive pH 4.0 buffer, why waste the money?

A true on line Amperometric chlorine residual analyzer requires a pH buffer to bring the sample pH down into a pH range where optimum free chlorine residuals can be accurately measured. Any Amperometric, chlorine residual analyzer that claims that buffers are not required either uses a pH buffered electrolyte in the analyzer probe or makes an electronically simulated pH compensation (which is not a true chlorine residual reading.) The Bufferless version of our analyzer, the FX-1000P-B is restricted to certain types of applications and is not always recommended unless sample conditions are optimum.

The Foxcroft Amperometric Chlorine Analyzer uses ordinary 5% food grade distilled white vinegar as a pH buffer, partly because it does not have a chlorine demand. During the distillation process the chlorine demand is eliminated. The vinegar reduces the pH in the sampling cell, which provided the current potential necessary for chlorine residuals to be read. Vinegar also provides a cleaning function that enhances the action of the cleaning balls in the cell. It works to dissolve iron, manganese, dirt and other solids.

The buffering action works over a wide range of water pH and total alkalinity levels. However, water sources with extremely high pH and total alkalinity conditions such as in ground water in areas with limestone may require more acidity for the analyzer to measure properly. This can be resolved by using pickling vinegar, which is 9% to 12% or by using acetic acid made to the concentration needed.

A more acidic buffer combined with a smaller diameter feed tube can also extend the life of a gallon of buffer solution from the standard 4 1/2 days to 13 days. This is perfect for remote sites that are not attended very often or for small systems operated by a small staff. Please consult the factory before changing the concentration of your vinegar or the size of the peristaltic pump buffer feed tubing.

Compared to other buffers and measurement methods, vinegar is the most cost effective pH buffer available today for an Amperometric Chlorine Residual Analyzer. A years worth of vinegar at \$2.00 per gallon costs about \$162.00 or .44 cents a day. Try and beat that using any other pH buffer or for that matter any other continuous chlorine residual test methods total annual reagent cost.