DESIGN VERIFICATION TESTING METHODOLOGY FOR NEW ROSEMOUNT PH SENSOR

Jacalyn Saint Rudolph, Global Product Manager – Liquid Analysis, Emerson, USA
Jacalyn.SaintRudolph@Emerson.com
Benjamin Arriola, Global Business Development Leader – Life Sciences, Emerson, USA
Andrew Dierker, Principal Engineer, Emerson, USA
Brandon Haschke, Senior Product Engineer, Emerson, USA

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While pH instrumentation has advanced over the past few years, there continue to be challenges with this critical measurement. The Rosemount 550pH sensor addresses many of these challenges. The Rosemount sensor is a best-in-class sensor designed for bag applications such as those found in single-use bioreactor applications. A key feature of the sensor is its unique wet-storage technology. This innovative approach drives many user benefits including industry-leading stability and accuracy, a highly sensitive measurement, two-year shelf-life (Figure 1), and zero wet-in time. With this sensor, time-consuming, multi-point calibration is no longer required (Figure 2). The 550pH is very simple to start-up, requiring only a single-point standardization. It allows a user to check the sensor anywhere along the supply chain providing confidence that the sensor will work before starting a batch. This paper will describe the rigorous analysis and testing that validates these benefits.

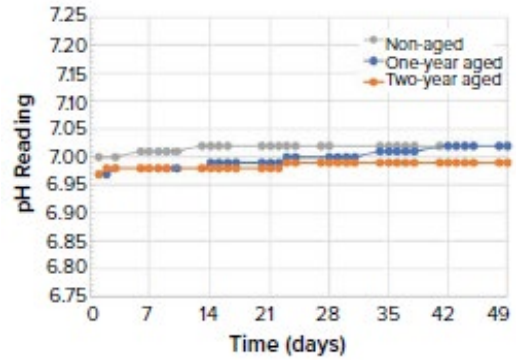

Figure 1 – Stability of single-use pH sensors that were not-aged (grey), one-year aged (blue), and two-year aged (orange); both one-year and two-year aged sensors were gamma irradiated with a target does of 30 kGy.

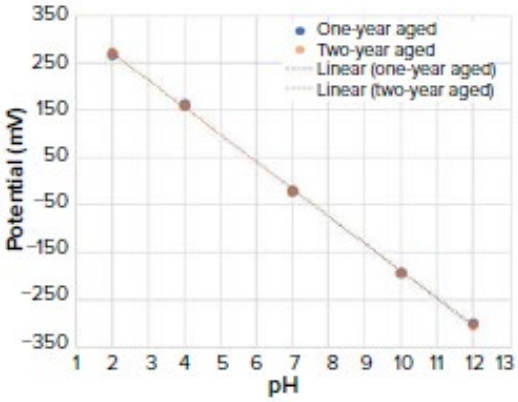

Figure 2 – Typical calibration curves for single-use pH sensors that were aged one year (blue) and two years (orange) under room temperature.

References: https://bioprocessintl.com/sponsored-content/design-and-performance-of-rosemount-550ph-single-use-ph-sensor-with-long-shelf-life-and-high-stability/