

Tighter pH Control in Chromatography & Purification Systems

RESULTS

- Operational Cost Reductions
- Improved Throughputs
- Ensures Thorough Cleaning Validation



BACKGROUND

Biopharmaceutical Chromatography Systems are designed for separating and purifying proteins and bio-engineered products. Flow systems are compact in design to maximize throughput. No dead legs in process pipe can exist since unswept areas are more challenging to completely clean, as well as delaying product throughput by decreasing flow rates. The systems must maintain a hygienic design. Wetted surface finish must be < 20 µinch Ra and material traceability is important to maintain system integrity.

CHALLENGE

pH measurement plays an important role in the purification process, providing feedback control of buffer and effluent feed through the column. The system's wetted components must withstand Cleaned in Place (CIP) and Steamed in Place (SIP) cycles, which can stress a sensor with high heat and caustic. The pH sensor must be able to make accurate and stable pH measurements after the cleaning cycles.

"The Model 3800 withstands the thermal shocks due to SIP process better than other sensors used, which increases the life expectancy for pH sensors."

SOLUTIONS

The **PUR-SENSE™** Model 3800 Steam Sterilizable pH Sensor from Rosemount Analytical accurately monitors buffers and effluent used in the protein purification process. Improved Accuglass® technology withstands frequent SIP cycles, which prolongs sensor life. The proprietary reference technology provides drift free pH performance, which leads to less frequent user interaction to keep the pH control loop within specifications.

The pH sensor comes with a PG13.5 threaded connection. The sensor easily mounts into 1.5" Flanged adapter suitable for triclover or NovAseptic process connections. The adapter is constructed of 316L stainless steel with a surface finish better than 16 µinch Ra and utilizes FDA / USP Class VI compliant elastomers.

INSTRUMENTATION

PUR-SENSE™ Model 3800 pH Sensor

- Highly stable pH sensor
- Improved reference technology minimizes drift
- Improved Accuglass technology withstands multiple SIP cycles
- Documented Lot traceability on wetted components available



9999SQ8940 1.5" Triclamp / NovAseptic Mounting Accessory

- Surface finish better than 16 µinch Ra
- FDA / USP Class VI Compliant materials
- Material Traceability Available
- Compatible with PG 13.5 threaded sensors



The Model XMT-P Intelligent Transmitter with FOUNDATION® Fieldbus works with the Model 3800. The XMT has live diagnostics to determine sensor health. It is also 21 CFR Part 11 Compliant when used with a Delta DCS.

PUR-SENSE is a trademark of Rosemount Analytical.
AccuGlass is a trademark of Rosemount Analytical.

Model XMT-P pH Transmitter

- Advanced Diagnostics with FOUNDATION® Fieldbus or HART®
- Easy to use menu structure
- Bidirectional communication between device and DCS
- Local Operator Interface
- 21 CFR Part 11 compliant (when used with compliant DCS)



Emerson Process Management

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