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THE EFFECT OF THERMAL CYCLING AND PACKING STRESS ON STEM FRICTION AND SEALABILITY

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ABSTRACT

Control valves are widely used in modern plants in order to keep process variables within a required operating range and ensure both a quality product and efficient operation. Nonlinearities, such as deadband and high static friction (stiction), are the most common cause of oscillations in process variables. Since plants usually consist of various interacting control loops, even small oscillations propagate and disrupt the process parameters out of their operating range, risking accidents, increasing product rejection rates, and decreasing profitability.

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