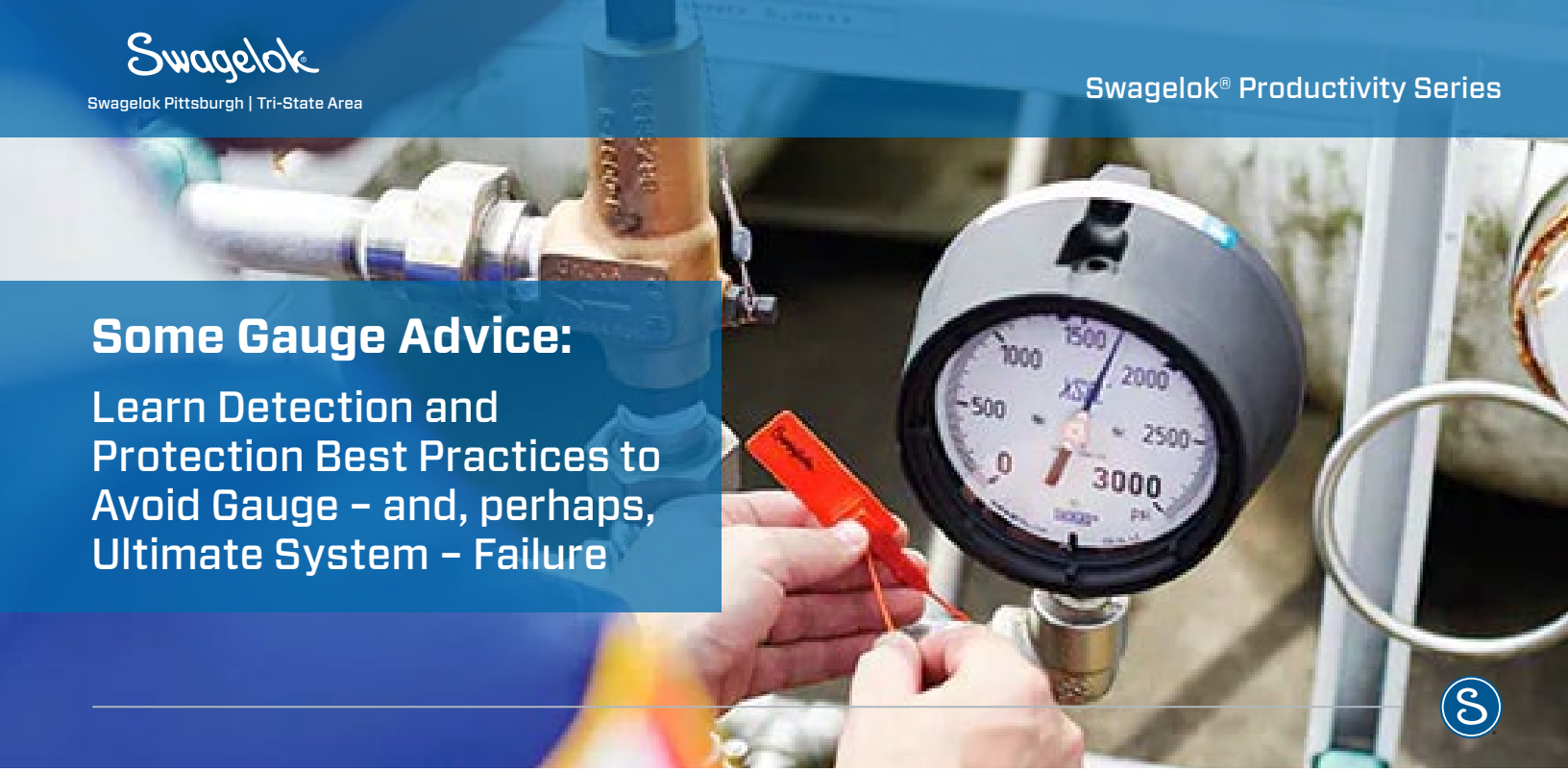

Some Gauge Advice:

Learn Detection and Protection Best Practices to Avoid Gauge – and, perhaps, Ultimate System – Failure

Pressure Gauges might seem a less significant part of an overall fluid system, but they serve a critical role in providing an immediate visual indication that all componentry is operating within a necessary/ desired range – or if a major problem is imminent.

Don't let an inaccurate or faulty Gauge lead to undesirable outcomes such as employee injury, system or asset damage that requires substantial time and money to repair, or lost output and profits.

Solution: Know the causes. Know the signs. Know how to solve the problem.

Overpressure

Indicator: Pointer is pegged against the stop pin, indicating the installed gauge has an incorrect pressure range for the application. Thus the gauge is incapable of reflecting the actual system pressure. Complete gauge failure is likely if the Bourdon tube, that moves the connected pointer to display a pressure reading on the gauge dial, ruptures.

Solution: Choose a gauge rated up to twice the expected system operating pressure to yield a larger window of measurable pressure. You could also employ a relief valve to provide overpressure protection in the system preceding the gauge.

Pressure Spikes

Indicator: Pointer is bent, broken, or nicked, indicating a sudden pressure jump likely due to a pump cycling on/off or a valve being closed/open upstream. Again, gauge failure is likely if the Bourdon tube ruptures.

Solution: Check your overall system design to eliminate unpredictable pressure spikes that strain all components, including gauges. Also consider selecting a gauge with a larger pressure range.

Mechanical Vibration

Indicator: Pointer, window, back plate, or window ring are missing. Black dust and/or scrapes are also evident on dial, indicating a loose pointer.

Solution: Liquid fill the case to dampen movement and greatly lessen or eliminate avoidable system vibration. A snubber or a gauge with a diaphragm seal is your best bet in extreme conditions.

Pulsation

Indicator: Pointer is fluttering because frequent, rapid cycling of fluid through your system has caused major wear on the gauge's movement components. A Bourdon tube rupture is likely, resulting in total gauge failure.

Solution: Reposition the gauge within your application so that the cycling speed it sees is reduced, yet measurement integrity is maintained. If you're unable to redesign your system in this manner, try a liquid-filled case, an orifice restrictor, or a snubber.

Excessive Temperature/Overheating

Indicator: Dial or liquid fill is discolored because the gauge is too warm from being incorrectly mounted or located too close to extremely hot system liquids or gas. Measurement accuracy is likely impacted due to strain on the gauge components.

Solution: Make certain you select a gauge to accommodate your complete system temperature range. For your extreme applications, a gauge with a diaphragm seal (perhaps with a cooling element) might be necessary.

Support: ***Visit www.swagelok.com/en/blog/gauge-failure-modes***

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