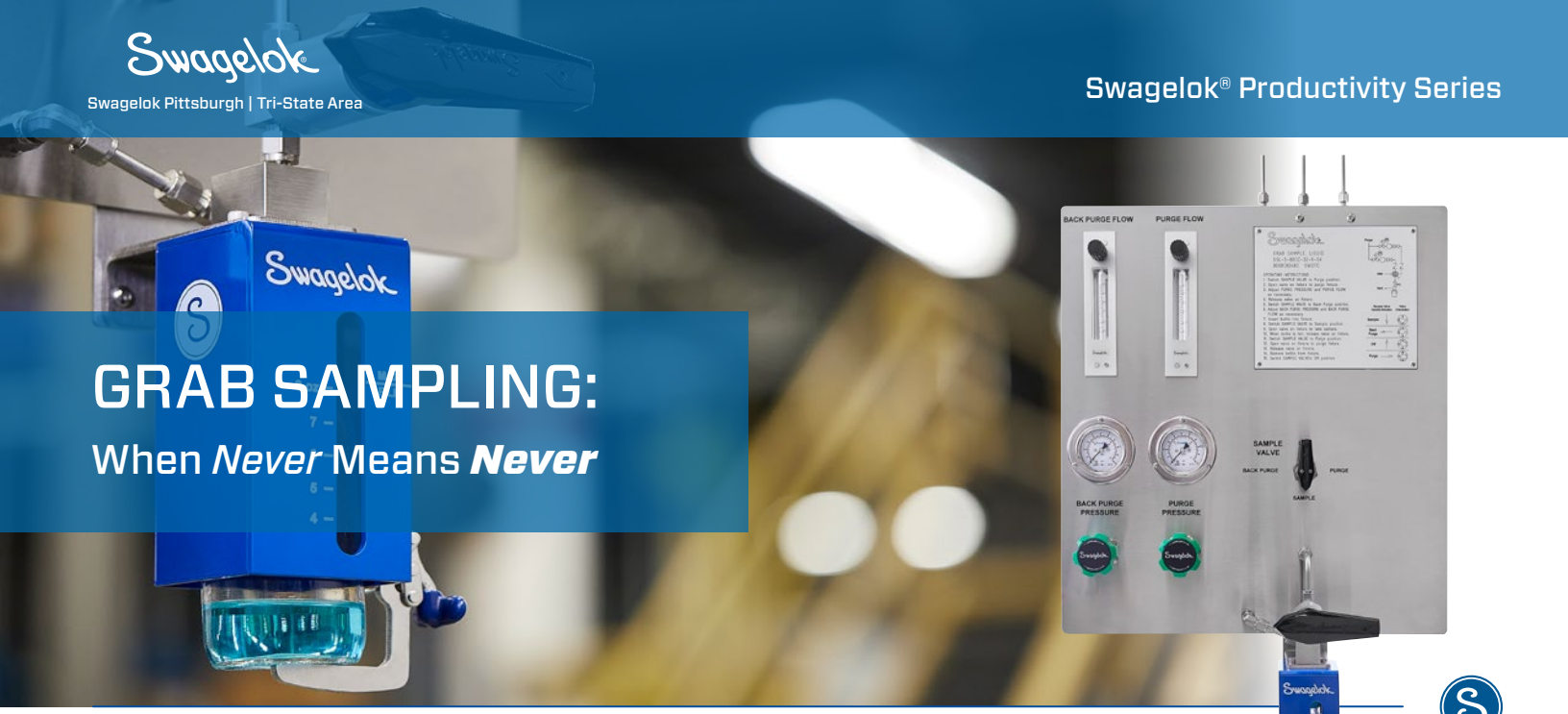

GRAB SAMPLING:

When *Never* Means ***Never***

Definition:

The cost-effective collection of a fluid or gas sample in a pipeline, tank, or other system with the intent of transporting such sample to a lab for analysis.

There are two container types to consider when designing your system – and to guarantee that your samples remain in the state in which they were collected during their transport to a lab for analysis:

- **Bottles** – for non-pressure-containing liquid samples. Low cost. Easily replaced, when necessary. Most have self-sealing septum caps to eliminate spillage and evaporation during transportation.
- **Cylinders** – for capturing media that's under pressure. Sample integrity is protected as evaporation and chemical fractionation are prevented. Made with seamless tubing for consistent wall thickness, size, and capacity.

Swagelok GSL Panel (Bottles)

*To optimize your Gas Sampling System design, **NEVER:***

- **Transport a Gas at its Dew Point Temperature** – as the gas is saturated and could condense at any moment.
- **Assume the Insulation Will Keep a Gas Line Warm** – use heat tracing to ensure uniform heating along the line.
- **Have an Unheated Line Upstream of a Pressure Drop if You Heat the Downstream Side** – there's too great a potential for condensation.
- **Fail to Heat a Regulator Dropping More than 20 Bar** – it could ice over due to drastic pressure and temperatures losses.
- **Run Unheated Tubes in an Air-Conditioned Shelter when the Outside Lines are Heat-Traced** – the rapid temperature drop will result in the high potential for condensation and a reduction in pressure.

Swagelok GSM Panel (Cylinders)

*To design the most effective Liquid Sampling System, **NEVER:***

- **Transport a Liquid at its Bubble Point Temperature** – try to keep the pressure as high as possible the entire route through the analyzer.
- **Drop Liquid Pressure at the Tap** – goal is to maintain enough pressure from the tap through any intermediate componentry to the analyzer.
- **Install a Needle Valve Before an Analyzer or Flowmeter** – goal is to keep the pressure high and the temperature low to avoid bubbling.
- **Install a Needle Valve Before a Vaporizer** – doing so only slows the analyzer response time.

Proven and Trusted Local Support

Swagelok Pittsburgh | Tri-State Area can expertly design and/or build safe, extremely reliable, leak-tight Grab Sampling Systems – with bottles or cylinders – that will deliver ultimate performance in even the most challenging applications and operating conditions. Our panels are masterfully constructed with genuine Swagelok componentry, are fully warrantied by Swagelok Company, and are delivered as one part number.

Read: www.swagelok.com/en/blog/avoiding-classic-liquid-gas-sampling-system-mistakes

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