

Stable Calibration – The Essential Vacuum Gauge Parameter For Reliable Process Control

Think about it—the throughput and yield of most vacuum processes depend on having the proper vacuum environment. For example, too high a pressure produces defects, and too low a pressure wastes valuable time achieving pressures lower than necessary due to excess pumping time.

In many vacuum processes nothing occurs until an ionization gauge (IG) indicates that the pressure is low enough, and thus the system sufficiently clean to produce defect free product. Because processing takes place only after pumping to a selected pressure indication (the setpoint), throughput cannot be maximized unless pumping time to the setpoint is minimized. An ionization gauge with shifting calibration practically guarantees that the system will be pumped to a lower pressure than necessary to achieve the selected pressure indication. These non-stable gauges never give the slightest indication that valuable processing time is being wasted. Surprising amounts of unnecessary pumping time are encountered—equivalent to deliberately shutting down a production system during operation.

Before you decide that stable calibration is not important to your process, consider the following:

- Stable calibration is essential if you want to start your process as soon as possible during pump-down. Otherwise, the process start will be delayed until the inaccurate, slow responding gauge indicates the desired start pressure.
- Stable calibration is essential to process replication. If you replace a gauge with another with a different calibration, the only way of avoiding product defects or equivalent downtime is to change the setpoint(s) to agree with the changed calibration. This is expensive and time consuming.

When *STABIL-ION*® Gauges are replaced with other *STABIL-ION* Gauges, processing results are much more likely to remain the same—a claim that can't be made about widely used, older technology gauges.

Any ionization gauge can be made accurate by calibration. But if the sensitivity changes with use, the calibration is no longer valid, pressure indica-

tions are inaccurate and you have not only wasted a few thousand dollars on a calibration, but you continue to waste expensive vacuum processing resources depending on inaccurate pressure indications to operate your process.

STABIL-ION Gauges are the only ionization gauges designed to maintain stable calibration during vacuum processing applications. □



The stable calibration, necessary for reliable process control, is assured by the unique design and careful manufacturing of STABIL-ION Gauges.

For more details about *STABIL-ION* Gauges and how they can help you improve control of your process, request our *STABIL-ION* Product Information brochure containing valuable information on ionization gauges and their use.

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