Micro Motion® Increases Profits via Increased Process Availability

BENEFITS

- Improved testing due to better measurement
- 60% reduction in staff time requirement
- Increased throughput due to increased availability
- Reduced maintenance due to predictive diagnostics
- Reduced safety, health, and environmental issues

Decreased costs and increased income yield $138,000+ per year

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PROCESS

A major engineering test laboratory specializes in testing and measuring compressor efficiency. This requires testing gas and liquid applications over a wide range of temperature and pressure conditions. Some of the extreme conditions can lead to two-phase flow and process upsets. To maintain test accuracy, flowmeters must be checked at regular intervals, and also whenever there is any question of device accuracy.

CHALLENGE

If a process upset occurs, actual process data cannot be used and estimated test data must be substituted, resulting in test results of uncertain value and significant waste of facility and personnel time. Furthermore, the laboratory's recovery procedures require that the device(s) in question be calibrated on a test stand. This involves sending the equipment out of house, causing two weeks of downtime, schedule slippage, and lost income. However, the full-scale recalibration of equipment does not add value if the equipment was not out of spec. Additionally, removing meters from the line creates the risk of releasing test gases to the environment, with accompanying health and safety issues.

The laboratory set itself the following goals:

- Minimize downtime and reduce the need to run full-on calibration checks for equipment each time there is a process upset or question about device accuracy.
- Maintain or improve measurement accuracy in the redesigned instrumentation.

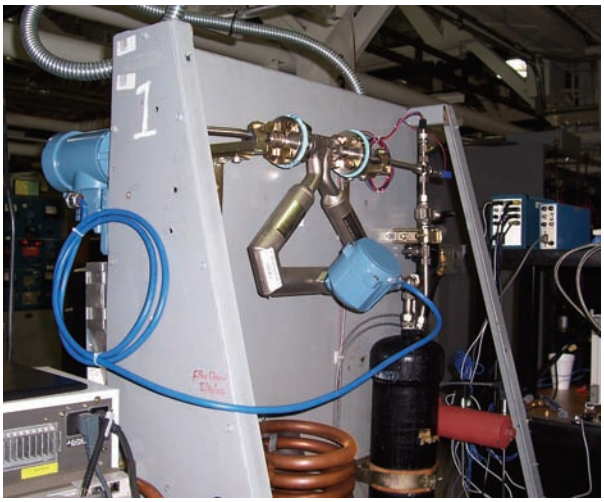

Figure 1 ELITE® meter installed in compressor test system

Micro Motion®

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www.EmersonProcess.com/solutions/
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EMERSON™
Process Management

SOLUTION

After consulting with Micro Motion®, the test laboratory selected ELITE® meters with the meter verification option for all new or replacement flowmeters. These meters provide high accuracy over a wide range of flow conditions, and improved handling of two-phase flow. As a result, testing can continue during many process upsets, for improved productivity and profits.

Additionally, the meter verification option allows testing of the meter without removing it from the process line or shutting down the process. As a result:

- Regular tests can be run frequently without affecting productivity. If the meter passes the test, the laboratory can avoid spending time and money on unnecessary calibration. The test also enables early detection of meter drift, so that any required calibrations can be planned for minimal impact.
- Unplanned tests can be run when needed, with no requirement for process interruption just for the test (although other circumstances may necessitate a shutdown).
- Release of process fluids to the environment due to equipment removal is minimized.

Overall, staff time spent in both planned and unplanned meter verification has been reduced by 60%. Management estimates that operations and maintenance costs have been reduced by $14,000 per year, while income has increased by more than $124,000 per year due to better availability. The net effect on the bottom line is more than $138,000 in increased profitability.

Figure 2 In-situ meter verification both expedites and minimizes maintenance