

Implementation of ABB's FMT450 Thermal Mass Flowmeter at a Biogas Process Company in the U.S.

A Case Study



A BioGas Processing Company in the USA significantly improved their biogas loading measurement accuracy and operational efficiency by implementing ABB's FMT450 Thermal Mass Flowmeter, starting with an initial \$14,000 purchase and planning further investments exceeding \$70,000.

Measurement made easy

Introduction

The BioGas processing company, based in the USA, specializes in the production and storage of biogas. Accurate measurement of biogas loading into storage tanks is critical for operational efficiency and regulatory compliance.

The company's existing meters from another manufacturer failed to deliver the required accuracy and performance, prompting the search for a more reliable solution.

Challenges Faced

The primary challenge was to find an accurate and efficient way to measure biogas loading into storage tanks. The existing meters were inconsistent and unreliable, leading to operational inefficiencies and potential compliance issues.

The varying flow rates of biogas further complicated the measurement process, as peak accuracy was difficult to achieve with the current equipment.

ABB's Solution

A comprehensive review of the application and subsequent sizing calculations were conducted. These revealed that the varying flow rates posed a significant measurement challenge.

After careful consideration of the available options, the ABB FMT450 Thermal Mass Flow Meter was identified as the optimal solution due to its superior accuracy and repeatability compared to the competitor's meters.

Key features of the ABB FMT450 that made it the preferred choice include:

- **High Accuracy:** The FMT450 offers precise measurement capabilities, even at varying flow rates.
- **Repeatability:** Consistent performance ensures reliable data for operational decisions.
- **Ease of Installation:** The meter's design facilitates straightforward integration into existing systems.

Implementation

An initial meeting was scheduled with the BioGas Processing Company to discuss all potential solutions. During this meeting, the advantages of the ABB FMT450 were presented, demonstrating its ability to meet the company's requirements. Impressed by the capabilities of the FMT450, the customer immediately committed to purchasing two units.

Results

The initial deployment of two ABB FMT450 meters yielded significant improvements in measurement accuracy and operational efficiency. Encouraged by these positive results, the BioGas Processing Company plans to purchase ten more meters for the first site. Additionally, the company is considering the replacement of meters across all their sites with the ABB FMT450, which could lead to further purchases totaling over \$70,000.

Measure of Success

- Initial Purchase: Two ABB FMT450 meters, totaling \$14,000.
- Planned Expansion: Ten additional meters for the first site.
- Future Potential: Replacement of meters across all sites, leading to potential additional purchases exceeding \$70,000.
- Customer Satisfaction: The BioGas Processing Company expressed high satisfaction with the improved accuracy and performance of the ABB FMT450, paving the way for a long-term partnership.

Conclusion

The successful implementation of the ABB FMT450 Thermal Mass Flow Meter at the BioGas Processing Company highlights the importance of accurate measurement in biogas processing. The initial investment of \$14,000 has the potential to grow significantly, with the company considering a broader rollout across multiple sites. This case study underscores the value of ABB's advanced measurement solutions in enhancing operational efficiency and reliability for biogas producers.

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