AW-LAKE
PROCESS FLOW MEASUREMENT

APPLICATION SPOTLIGHT

Coriolis Flow Measurement for Aerospace Testing

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APPLICATION:

A U.S.-based aerospace company developing advanced fluid systems for space applications turned to AW-Lake for accurate and reliable flow measurement. Their systems were designed to test the performance of various heat transfer components used in spacecraft, where maintaining precise thermal control is essential for mission success. Because testing involved a wide range of fluid temperatures, densities, and viscosities, the company required instrumentation that could consistently deliver highly accurate flow readings regardless of changing conditions. After evaluating available technologies, Coriolis mass flow meters emerged as the most suitable choice due to their direct mass flow measurement capabilities and immunity to fluid property variations.

PRODUCT SUPPLIED:

- **TCM-1550 Coriolis Mass Flow Meters**

CHALLENGE:

The customer's design environment presented significant technical challenges. The test system had to accommodate highly viscous fluids, operate over a broad flow rate range, and do so while maintaining a narrow pressure balance across the test loop. Many flow measurement technologies struggled under these combined conditions, and even among Coriolis suppliers, the company found limited options that could reliably meet their performance requirements without driving costs beyond the project budget. Selecting the wrong instrumentation risked inaccurate test results, delayed system activation, and excessive costs.

SOLUTION:

AW-Lake recommended the TCM-1550 Coriolis Mass Flow Meter, a compact yet highly capable instrument engineered to provide accurate mass flow measurements over a wide operating range. Its ability to measure both flow rate and density with exceptional precision made it ideally suited for the demanding requirements of heat transfer system testing.

Working in close collaboration with the customer's engineering team, AW-Lake's technical support staff helped ensure that the TCM-1550 would perform reliably in their unique environment. Together, the team reviewed fluid properties, viscosity levels, flow ranges, and system pressure constraints. Through this consultative process, it was confirmed that the TCM-1550 not only met but exceeded the application's requirements, offering robust performance at a fraction of the cost of competing solutions.

Beyond the initial system, the customer quickly recognized the versatility of the TCM-1550. Its rugged design and broad flow range made it applicable for an additional test loop under development. AW-Lake once again partnered with

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the customer to confirm sizing, ensuring seamless integration into the second system. Understanding the customer's time-sensitive deadlines, AW-Lake expedited the shipment of two meters ahead of the full order, enabling the aerospace company to meet its aggressive system activation schedule.

RESULTS:

- **Cost Savings:** By selecting the AW-Lake TCM-1550, the customer saved over $40,000 compared to comparable Coriolis meters from other suppliers.
- **System Readiness:** Early delivery of two units ensured the company had meters on hand in time for a critical system activation milestone.
- **Proven Reliability:** Six TCM-1550 units are now in use across multiple fluid test systems, providing robust and consistent measurement.
- **Technical Partnership:** AW-Lake's responsive engineering support ensured the meters were properly sized and integrated, minimizing risk and maximizing long-term value.

CONCLUSION:

By delivering a rugged, accurate, and cost-effective solution, AW-Lake enabled a leading aerospace company to successfully develop and launch fluid test systems critical to space technology. The TCM-1550 Coriolis Mass Flow Meters not only met the technical demands of the application but also provided substantial cost savings and confidence in long-term reliability. This project reflects AW-Lake's ongoing commitment to partnering closely with customers, applying deep application expertise, and supplying instrumentation that drives innovation in even the most demanding industries.