AW-LAKE
PROCESS FLOW MEASUREMENT

APPLICATION SPOTLIGHT

Coriolis Flow Meters for Fiberglass Resin Verification

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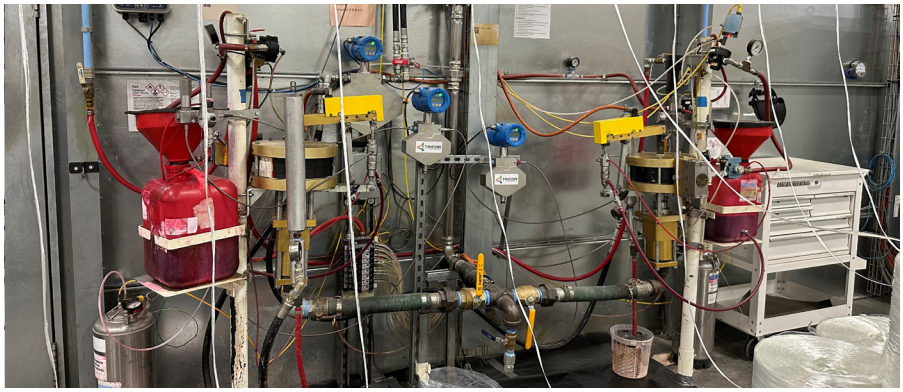

APPLICATION:

Companies don't set out to make scrap parts, but for original equipment manufacturers (OEMs) dealing with fiberglass, incorrect resin-to-catalyst ratios can be particularly problematic. This issue is amplified by the significant scale and expense of the panels they manufacture for the RV industry.

Specialized, fixed ratio pumps, typically supplied by MVP, are used to accurately dispense the resin supplier's specified ratio of resin to catalyst. This ensures an optimum cure and strength for the molded panels. In the RV Industry, these panels form the sides of a typical motor home or RV trailer before openings are cut for doors and windows.

PRODUCT SUPPLIED:

- TRICOR TCM-3100 Coriolis Meter for Resins
- TRICOR TCM-0325 Coriolis Meters for Catalyst

CHALLENGE:

Because off ratio parts can be brittle or won't cure, the OEM needed to add process verification to ensure that the output from the MVP ratio pumps were in fact on ratio. If for a multitude of reasons, they were off ratio, the line would be stopped so the problem could be immediately addressed.

SOLUTION:

AW-Lake worked closely with the OEM and their PLC integrator to find a suitable solution for the off-ratio issue utilizing two sizes of TRICOR Coriolis meters. A larger TCM-3100 meter for each of the four resin colors and one TCM-0325 meter to monitor catalyst. The PLC-based monitoring system utilized the pulse output from the Coriolis meters to calculate flow to monitor resin-to-catalyst ratios in real time. If an off-ratio event occurs, the line is stopped until the issue is resolved. Depending on the specific fault, manual intervention can often "save" a part that would otherwise be scrapped, if action is taken right away.

Each meter was networked into a multi-drop Modbus network which was also connected to the PLC. This allows less-critical data such as material temperature and specific gravity to be monitored for quality control purposes. More importantly, a sudden drop in specific gravity is an early indication of the day tanks running out of resin or catalyst in the rare case when there isn't enough material to complete a panel.

Because AW-Lake's TRICOR Coriolis meters have no internal mechanical components that interact with the materials, they will continue to operate maintenance-free for years to come. If you'd like to implement a similar solution, please reach out to one of AW-Lake's application specialists for assistance.