

# Increased safety, reduced costs with Micro Motion Coriolis meters

## RESULTS

- 14% product giveaway eliminated while customer specification met, two-month payback
- Increased system cleanliness improving revenue by \$250,000 per batch
- Increased worker safety due to the elimination of manual sampling
- One fewer worker required to operate process



## APPLICATION

A world-leading chemical film/coating manufacturer operates a batch process by manually adding ingredients via a bucket. This process requires workers to do manual labor, which can be challenging and unsafe. This process is also extremely slow and can lead to inaccurate measurements.

## CHALLENGE

In this bucket-filling process, all filling was done on the ground causing workers to constantly bend over to fill and lift the buckets for processing (weighing, labeling and palletizing), which had already led to two workers having to miss work due to injuries. The company needed a way to eliminate ergonomic issues, while increasing productivity. This project also had to incorporate the issue of the design system as well as cleanability.

Weigh scales were considered, but the known drawbacks made it a less desirable choice over mass flowmeters. Scales have been known to drift and are maintenance intensive. Spills can also lead to a challenge if they fall on the scale. This customer would also need additional design considerations to be ergonomically viable in the work flow design.

## SOLUTION

The company chose to install two Micro Motion® ELITE Coriolis flowmeters and two Model 3500 transmitters with batching capabilities for a dual-filling station. The meters provided a check on density, which ensured the product quality was not varying and it confirmed the meters had been properly cleaned and flushed out. Since the cleaning material and the actual product don't mix they are now able to catch if the system is not properly cleaned out. This will allow the company the ability to save on each batch of product, a run is worth \$250K.

[www.micromotion.com](http://www.micromotion.com)



Micro Motion ELITE Coriolis flowmeter (model CMF100) and Model 3500 Frequency-Input Discrete Controller Transmitter



For more information:  
[www.MicroMotion.com/chemical](http://www.MicroMotion.com/chemical)  
[www.MicroMotion.com](http://www.MicroMotion.com)



Also there was no PLC required to implement the filling integration. This would have cost several more thousands of dollars and many more hours for programming.

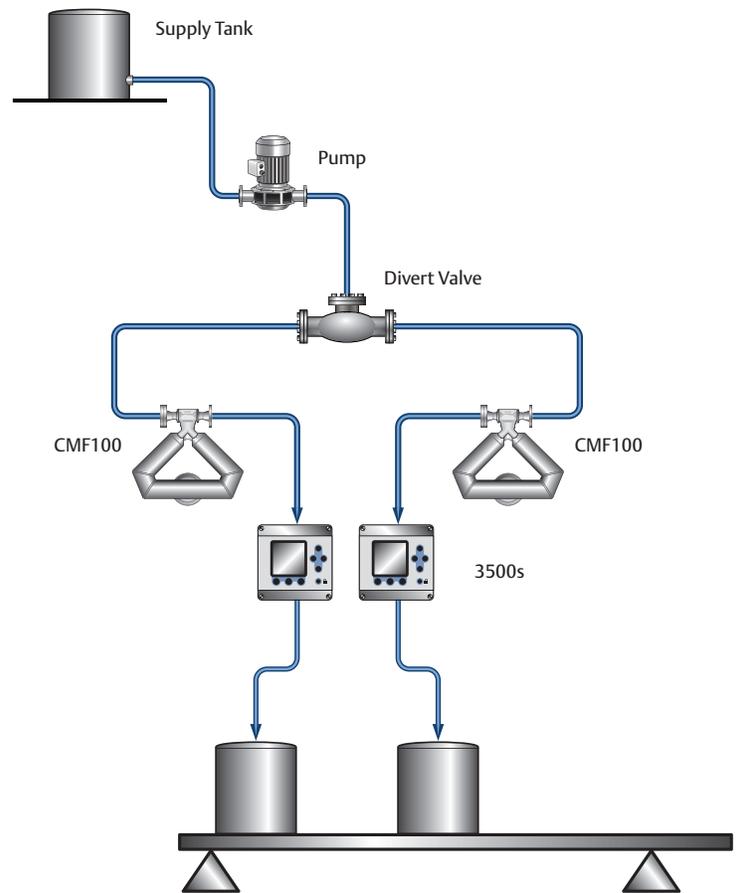
The meters also minimized the use of scales and eliminated any safety hazards, while improving cleanliness of delivered product. Only two operators are now needed to rotate work schedule in stead of three workers and the system now has safety shut off features, unlike previous manual operation.

During the manual bucket-filling process the company was overfilling, just to be sure not to short the customer. Sampling showed that while using the previous method, the company was manually over-filling by 14%. With these overfills the company was giving away one free bucket every eight fills. This was greatly minimized by letting the mass flowmeters deliver via the Model 3000 batching transmitter to within 0.03Kgs of the target. The installation of the Micro Motion meters reduced this over-fill amount to 0.25%, which resulted in a significant annual savings.

After the project was installed, the company found out the operators were able to fill smaller containers, even though the system was specified for 1-inch meters due to the original flow rates for bucket filling. The customer was impressed with the great turn down capabilities of the meters and that they could accurately measure their product for a smaller target.

There is a potential that the end user may want to buy on volume instead of mass. This will not be a problem to do using the Micro Motion Coriolis meters and Model 3000 batching transmitters. A scale set up would not have that ability and gross errors would occur from using a fixed density to convert to volume fills.

The total project cost recouped itself back in less than two months.



Filling system general layout