

# ELITE<sup>®</sup> Coriolis flow meters and Smart Meter Verification reduces intra-plant transfer losses and instrumentation recalibration costs

## RESULTS

- Achieving a reduction in Macro Extract Loss by 25% will reap \$15 million per year
- Improved brewery throughput by eliminating historical downtime caused by periodic meter validations and checks
- Reductions of annual calibration costs amount to an estimated \$1,000/meter in labor savings



Micro Motion ELITE meters standardize intra-plant transfers

## APPLICATION

Plant-wide mass balance measurements to reduce intra-plant transfer losses. Focus on accuracy of critical volumetric and °Plato measurements.

## CUSTOMER

A major international beverage manufacturer focused on beer.

## CHALLENGE

Within each brewery, the mass balance between the incoming raw materials and final packaged product was not in agreement. To identify where the product losses were occurring, the brewery was broken into “batteries.” The batteries are defined as each of the major operating units in the beer making process (mashing, milling, lautering, brewing, fermenting, finishing and packaging). Varying temperatures and densities at different steps of the process make accurate (traditional) volumetric measurement difficult. °Plato (% of beer extract by weight- essentially % sucrose) was a crucial measurement.

## SOLUTION

After a thorough evaluation of the two top Coriolis manufactures, Micro Motion was selected. A total of 103 Micro Motion<sup>®</sup> ELITE<sup>®</sup> Coriolis flow meters were installed in three breweries across the United States.

By standardizing intra-plant transfers to directly measure mass and concentration using Coriolis flow meters, the “ins and outs” between processing units are more accurately monitored, allowing the facility to identify the areas in the brewery where real product losses are occurring. In addition, utilizing Smart Meter Verification allows the company to quickly assess each meter’s health and “help drive focus to the process, not the measurement”. Due to the inherent difficulty of removing large flow instruments for periodic verifications, Smart Meter Verification offered additional benefit. The ability to validate meters in-line and without disrupting process measurement and control using Smart Meter Verification reduces down-time, improves safety and reduces cost of periodic recalibrations. Both Ethernet IP and Foundation Fieldbus protocols were utilized to communicate with Delta-V DCS controllers.

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