

Low cost instrumentation solution proves its worth

Chivas Brothers reduces cost of measuring flow and density for %ABV



Craig Ogston.



Chivas Brothers is the Scotch whisky and premium gin business of Pernod Ricard. The company produces and exports some of the world's best known and highest quality malt and blended whiskies, with an 85% market share of Scotch whisky aged 21 years old and over. They have 12 operating malt distilleries, a grain distillery and over 300 bonded warehouses, containing an extensive aged inventory of more than six million casks. The company employs 1,600 staff across 32 sites in the UK, with headquarters in Hammersmith, London and Paisley, Scotland.

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Craig Ogston
Electrical and Control Engineer
Chivas Brothers

The challenge Situated on the banks of the River Isla in Speyside, the Chivas Brothers' Glen Keith distillery re-opened in June 2013, having been silent since 1999. Increased demand for Scotch whisky, from both mature and emerging markets, meant the company was looking for a more efficient way of measuring flow and density - key parameters in calculating the alcohol concentration level of the final product. Before the Glen Keith distillery was mothballed, an Endress+Hauser electromagnetic flowmeter was used in combination with a density measurement system from a third party. Yet experience at other distilleries had taught Chivas Brothers that there was another way. "We believed that we could have a better solution at a lower cost by having one unit combined that measures both flow and density," explains Craig Ogston, Chivas Brothers' Electrical and Control Engineer.

The solution Endress+Hauser's Promass 83F Coriolis meter is an innovative alcohol concentration measurement solution in just one

instrument. Utilising market-leading technology, mass and volume flow measurement is supplemented with density and temperature variables. The alcohol by volume (ABV) percentage can then be calculated in the customer's PLC. "We initially used the Promass 83 for density and alcohol concentration measurement at our Tormore distillery, so we knew what the meter was capable of," explains Craig Ogston. "We then did some trials so we could prove it was going to work on our application at Glen Keith." Using the Promass 83 in conjunction with PROFIBUS PA digital communications technology also ensures a highly accurate transmission of the process value.

The benefits An accurate and reliable alcohol by volume measurement not only helps whisky producers to maintain product quality but also helps to optimise production and reduce overheads. "The ABV measurement is pretty key for both the spirit quality and for energy efficiency," confirms Craig Ogston. "You don't want your still to be running too long and just producing

water, so it's extremely important that you've got an accurate measurement from an energy saving point of view." Yet the main benefit of using the Promass 83 over two separate devices is a financial one. "It is a cost saving, primarily," says Craig Ogston. "It's giving us the same performance that we've had with previous systems at a reduced cost."

The customer service from Endress+Hauser was another reason to choose the company to supply the instruments over a competitor. As Craig Ogston says, "Our account manager has a real understanding of the whisky industry. Any time I've got a question or I need some information I can call him and nine times out of ten he knows the answer immediately – or he knows who to speak to and comes back to me quickly. He's first class."



Stills at Glen Keith distillery.



Promass 83F Coriolis meters.

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