



CASE STUDY

INDUSTRY: FOOD & BEVERAGE



CUSTOMER: United Biscuits - McVitie's Brand

LOCATION: Tollcross, Glasgow, United Kingdom



BACKGROUND: McVitie's United Biscuits plant experienced major issues with sustaining the integrity of their recipe as well as controlling production flow. To avoid production problems, ingredients must be delivered at a constant temperature within $\pm 2^{\circ}\text{F}$ ($\pm 1^{\circ}\text{C}$) of the set point. Too hot and the mixture is runny, too cold and it will not flow smoothly. Both situations can lead to hold ups in production and inconsistencies in the color, taste and texture of the finished product.

McVitie's existing system transferred heated oil to the heated jackets surrounding the malt and syrup pipeline. This method caused numerous problems such as difficulties maintaining a constant temperature of the heated oil and also used unnecessary energy to heat the oil. In addition, McVitie's faced additional risks of contamination due to inadequate oil storage, which was a particular concern for health and safety requirements.

SCOPE OF WORK: Armstrong International's Digital-Flo® industrial water heater package solved McVitie's production issues to meet the food production standards at the United Biscuits, McVitie's plant at Tollcross, Glasgow. Consisting of plate and frame heat exchanger with steam PRV station, expansion vessel, pressurization set, pumps, and The Brain® digital water temperature control valve, the system is essential to deliver malt and syrup perfectly for the mixing stage in the manufacturing process.

The Digital-Flo® solution also met the production capacity requirements for the Tollcross plant, which produces the Go Ahead product range - Rich Tea and Hob Nobs - at a total 45,000 tons per year.

BENEFITS: The Digital-Flo® solution delivers consistency, which is vital to maintain the speed and quality of McVitie's highly automated biscuit production process. McVitie's has enjoyed the Digital-Flo's ease of maintenance, no storage requirements, and absolutely no risk of contamination.

Because pre-heating is not required of any material, the Digital-Flo® has made a considerable contribution to McVitie's energy saving policy. Furthermore, this solution has passed the most stringent testing from both McVitie's internal audits and external audits of their customers. McVitie's is now considering a similar solution for their chocolate line.

