

## **To beer or not to beer? Bürkert modulating control valves help UK brewery secure productivity**

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**Whether bitter, ale, lager or craft – the incredible choice of beers makes competition between brewers fierce. To gain share in a saturated market and meet consumer demand, breweries need production equipment such as control valves to operate with the utmost reliability. Consequently, when a UK brewery noticed its mechanical interface modulating control valves were becoming very maintenance intensive, it approached Bürkert for a better solution.**

Brewing is a complex process encompassing hop and grain selection, mashing, boiling, heating, cooling, fermentation and bottling – and valves play a crucial role in delivering the perfect bottle, can or pint.

### **Brewing control problems**

At a brewery in the UK, an array of modulating control valves was responsible for regulating various processes such as glycol supply to the chillers, steam control to the heat exchangers, as well as CO<sub>2</sub> and O<sub>2</sub> supply for fermentation and storage. As required in the food and beverage industry, equipment was subjected to regular chemical washdowns. Furthermore, the need to meet supply agreements placed high operational demands on the whole process, including the valves.

Traditional modulating control valves rely on a mechanical interface, with the valve's position controlled via a series of levers or pivots. This has limitations. First, mechanical wear on components can compromise valve accuracy over time,

affecting processes and overall product quality. Chemicals from repeated washdowns can also clog the mechanisms, reducing valve performance.

The brewery was suffering from all these issues, resulting in deteriorating valve accuracy and increasing failures. While repair work could be completed during scheduled maintenance, the valves were becoming a time sink, with every planned shutdown dedicated to fixing them. Diaphragm actuators in the valves were adding to the problem, as they were not suitable for use with ingredients used in the brewing process. The situation was having an adverse effect on other projects and greatly increasing operating expenditure (OPEX) – a position operators couldn't tolerate.

### **Pouring over a solution**

Looking for a long-term solution, the brewery approached Bürkert, a leading manufacturer of fluid control solutions for the brewing sector. After dialogue with the customer, Bürkert recommended its ELEMENT range of pneumatically actuated continuous control valves – which directly addressed the limitations of the previous equipment.

Kieran Bennett, Industry Manager, Food, Beverage, Chemical & Petrochemical at Bürkert, explains why: "These valves are fully sealed and feature air recycling technology, which prevents ingress of ambient air, chemicals and contaminants. The clean dry air used to pressurise the actuator is fed back into the spring chamber via a pilot valve, which helps to prevent internal contamination and corrosion. This ensures a long service life.

"A contactless position control system eliminates wear and clogging issues. The piston actuator is smaller and lighter, while offering better compatibility with brewing processes than competing diaphragm designs. Users can expect 0.1% accuracy over seven million cycles, more than three times longer than

conventional alternatives. An LED digital display on top of the valve also provides key process information to operators.”

Specifically designed for hygienic environments, the ELEMENT valves feature a stainless steel exterior for ease of cleaning and inherent chemical resistance. The smooth, robust design ensures no purchase for bacteria or contaminants. Combined with ingress protection ratings up to IP67, the design is ideal for production environments with regular washdowns. The system installed at the brewery included digital leakage alerts, as well as intuitive read-outs for flow, temperature, pH levels and operating pressure.

### **Drinking in the benefits**

Bürkert began the process of replacing all the valves at the brewery around five years ago, and during that time, the new replacements have required no maintenance. This has saved time, allowing brewery staff to engage in other projects, and reduced OPEX, improving overall profitability. One valve even had a large quantity of chemical spilt over it and was left for several days. The brewery was impressed to discover that it was completely unaffected.

Additionally, Bürkert has provided the customer’s engineering team with training regarding the maintenance process for the new valves. All involved were impressed with the easy, straightforward procedures. Furthermore, ELEMENT valves can be remotely monitored, so the condition of each unit can be discerned without time consuming inspections at each valve.

With the profusion of beers available to consumers, getting products on the shelves or to the pumps is imperative for breweries to achieve success. With its new, highly reliable and accurate Bürkert ELEMENT valves, this brewery can reach the productivity levels required to get ahead.

Learn more about the advantages of Bürkert ELEMENT valves here:

<https://www.burkert.co.uk/en/Landingpage/long-life-and-long-term-accuracy-for-continuous-control-valves>

**Image captions:**



**Image 1:** Bürkert's ELEMENT range is specifically designed for hygienic applications such as breweries.



**Image 2:** Built-in LED indicators provide process information at a glance.

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## About Bürkert

Bürkert Fluid Control Systems is one of the leading manufacturers of control and measuring systems for fluids and gases. The products have a wide variety of applications and are used by breweries and laboratories as well as in medical engineering and space technology. The company employs over 2,200 people and has a comprehensive network of branches in 35 countries world-wide.

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