

## Balancing industrial water hardness

### **Bürkert minimises water treatment costs for the world's largest newspaper printing plant**

**Achieving the right water hardness in industrial applications is crucial to maintaining equipment efficiency. In the case of the Newsprinters plant in Broxbourne, Herts., the lithographic printing presses require a specific hardness of water to produce high quality copies. As part of a cost optimisation project, the company turned to Bürkert for a water blending solution that would combine reverse osmosis (RO) water with the mains supply.**

Due to the natural water hardness in Hertfordshire, Newsprinters had installed an RO system to purify the local water supply before using it in the dampening process on the printing presses. This delivered a purified and very soft water resource. However, to meet the requirements of the printing press manufacturer, a chemical had to be added to bring the water hardness up to a specified level, 9 or 10 on the German water hardness scale.

Paul Wesley, Group Technical Manager, at Newsprinters, explains: "We had identified the process of re-hardening the water as having the potential for improvement, provided we could find a way to blend the two water sources accurately. Our facilities management (FM) team suggested Bürkert as a possible partner in this project; as a well-respected supplier of high-quality, reliable process control equipment, it was an easy decision."

There are essentially two ways in which to achieve a water blending solution – using flow meters and a flow control device to deliver a set mix ratio or by installing a conductivity sensor that is linked to a flow control valve on the raw water line. Bürkert's engineers suggested the latter option as the most cost-effective and accurate system.

The FM personnel installed the additional pipework, flow control valve and the conductivity sensor, with assistance from Bürkert in commissioning the new system. By eliminating the cost of around 1,000 litres of re-hardening chemical each week as well as the environmental benefits of not having to transport the chemical to the plant, Newsprinters has achieved significant savings through this project.

Emmet O'Sullivan, Account Manager for Bürkert, comments: "As soon as we looked at the application, it was clear the most effective solution would involve a conductivity sensor and a closed-loop feedback to the control valve. This would ensure continuous accuracy and take account of any changes in the quality of the raw water source. We commissioned the control valve and assisted with the installation to ensure the seamless introduction of this solution."

Once the water blending installation was complete, the hardness of the water was carefully monitored and found to be both accurate and reliable. The printing works is arranged in such a way that there are two separate water supply systems, so while the water blending solution was being trialled on one, the second line remained with the original re-hardening chemical.

Paul Wesley concludes: "After six months of successful trials, we requested a second blending unit from Bürkert, and both have now been in use for several months. It was soon apparent that the new system was able to accurately maintain the water hardness at exactly the point we needed. As a result, we have made a significant saving in terms of our chemical requirements and reduced our CO2 footprint at the same time."

### Image Captions:

**Image 1:** The Newsprinters plant in Broxbourne, Herts., lithographic printing presses require a specific hardness of water to produce high quality copies.

**Image 2 - 4:** Bürkert suggested installing a conductivity sensor that is linked to a flow control valve on the raw water line to achieve the water blending solution. Resulting in a cost-effective and accurate system.

## About BURKERT

Burkert 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 2,500 people and has a comprehensive network of branches in 36 countries world-wide.

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## Editor Contact

DMA Europa Ltd. : Brittany Kennan

Tel: +44 (0)1562 751436

Fax: +44 (0)1562 748315

Web: [www.dmaeuropa.com](http://www.dmaeuropa.com)

Email: [brittany@dmaeuropa.com](mailto:brittany@dmaeuropa.com)

## Company Contact

Bürkert Fluid Control Systems : Kirsty Anderson

Tel: +44 (0)1285 648761

Fax: +44 (0)1285 648721

Web: [www.burkert.co.uk](http://www.burkert.co.uk)

Email: [kirsty.anderson@burkert.com](mailto:kirsty.anderson@burkert.com)