

Excellence in chlorine detection

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Veolia Water Technologies Ireland, a long-established provider of water treatment solutions and services for municipal, industrial, scientific and healthcare markets, recently opened its Life Science Centre of Excellence near Dublin in Ireland. Designed to provide training for internal engineers as well as customers, the new facility is fully equipped with the latest cutting-edge technology for water purification and distillation, including a water analysis system from Bürkert.

The new facility is supporting water treatment processes for the pharmaceutical, food and beverage sectors with filtration and purification process equipment. The site takes everyday water from the mains system and creates purified water, WFI and pure steam which is suitable for pharmaceutical applications.

Chlorine detection

One of the key processes is granular activated carbon (GAC) filtration which is tackling several of the prominent water treatment challenges. It also removes chlorine, a disinfectant used in mains supplies, which can damage the membranes used in reverse osmosis (RO) filters.

Opened in June 2024, Bürkert visited the new facility and found several of its products already being used to control the purification processes. Discussions between the two companies found that the plant uses RO equipment to remove any remaining contaminants - the only thing missing was a chlorine detection system. Veolia Water Technologies Ireland was aware of this omission but explained that

customers had experienced problems with systems that use reagents, finding them unreliable and maintenance intensive.

Kieran Lyons, Project Director at Veolia Water Technologies Ireland, explains: “Bürkert offered to supply a Type 8906 Online Water Analysis System, equipped with sensor cubes for chlorine, ORP, pH, and temperature, to be assessed as an alternative. The system offers rapid detection of any chlorine breakthrough and real-time alerts to any issues that are detected.”

Effective simplicity

The system was created to offer not only functional analysis but also help visitors to the plant to understand how it works and the benefits it provides. The compact dimensions of the Type 8906 meant that it was easy to install, and the 7-inch touchscreen display provides current data points at a glance.

At the same time, data can be reviewed online, and recorded using the datalogger, which proved the GAC filtration process was successfully removing all of the chlorine. If any anomalies do occur, an email is sent directly to the operator. Currently, the Online Water Analysis System is used purely as a monitor, but in the future, it will activate a visual alarm on site if chlorine is detected after the GAC filters. This could be taken to the next level by adding a diverter valve which would prevent any contaminated water from entering the RO system until the issue was resolved.

Improving detection rates

The Online Water Analysis System offers many benefits to operators that require effective and reliable water monitoring, most notably the ability to measure chlorine levels without using reagents. In addition, the frequency of sampling is much higher than conventional systems, enabling even short-lived anomalies to be detected and

reported. In fact, the sampling frequency for chlorine detection using reagents may be lowered by some operators to reduce costs, but this can lead to significant events being missed.

The online capabilities of the Type 8906 also enable the operator to diagnose problems remotely. Looking at all the sensor data, including flow sensors, it is possible to determine the veracity of the issue and, if necessary, dispatch an engineer to the site to take remedial action. In fact, if the analysis parameters need to be amended, or the software needs updating, this can all be completed remotely.

As a result of this collaboration, Veolia Water Technologies Ireland now has a reliable chlorine detection system that can protect the RO membranes and ensure only purified water is utilised for the steam generation process. In addition, Bürkert customers can also visit the Veolia Life Science Centre of Excellence to see the range of equipment involved in water purification.

For more information, visit www.burkert.co.uk/en/landingpage/simplifying-chlorine-measurement-for-industrial-carbon-filters or email sales.uk@burkert.com to discuss further.

Image captions:



Image 1: Installation of the compact Online Water Analysis System was a simple process



Image 2: The joint project team has successfully installed the chlorine detection system to protect the reverse osmosis membranes



Image 3: Bürkert's Online Water Analysis offers precision monitoring of several parameters including chlorine, ORP, pH and temperature



Image 4: Bürkert delivered on-site training to the team at Veolia Water Technologies Ireland

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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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