QCL WATER SCIENCE

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ColiMinder

Revolutionising Quality Assurance for Bottled Water Manufacturers

In today's health-conscious society, consumers place paramount importance on the quality and safety of the products they purchase, especially when it comes to something as essential as bottled water. Bottled water manufacturers bear the responsibility of delivering a reliable and contaminant-free product. Here we delve into the ground-breaking potential of the ColiMinder, a cutting-edge technology that promises to revolutionise the way bottled water manufacturers ensure water microbiological quality.

Ensuring Consumer Confidence

Consumer confidence is the bedrock of any successful business. Bottled water manufacturers understand the significance of instilling trust in their products. By employing the ColiMinder, they can strengthen their quality assurance processes, further enhancing consumer confidence. This innovative technology harnesses the power of real-time monitoring and automatic detection, enabling manufacturers to address potential contamination issues swiftly and before any harmful product recalls.

Rapid and Accurate Detection

Traditionally, the detection of harmful microorganisms in water has been a time-consuming and resource-intensive process. The ColiMinder changes the game by offering rapid and accurate detection. This intelligent device utilises advanced sensing mechanisms and cutting-edge algorithms to detect the presence of Enterococci, E. coli and Total Activity, in real-time. With its high sensitivity and specificity, the ColiMinder provides manufacturers with a reliable and efficient method to ensure their bottled water meets the most stringent quality standards.

Streamlined Quality Assurance

One of the key advantages of the ColiMinder is its ability to streamline the quality assurance process for bottled water manufacturers. Traditionally, water samples had to be collected and sent to laboratories for analysis, resulting in considerable delays. With the ColiMinder, manufacturers can perform on-site monitoring, eliminating the need for external laboratory testing. This not only saves valuable time but also reduces costs associated with sample transportation and analysis, ultimately benefiting both the manufacturer and the consumer.

Continuous Monitoring and Early Warning

Water quality can fluctuate due to various factors, including source contamination or issues during the bottling process. The ColiMinder offers continuous monitoring capabilities, enabling manufacturers to identify any irregularities or potential issues in real-time.

By detecting problems early on, manufacturers can take immediate corrective actions, preventing the release of contaminated batches into the market. This proactive approach ensures that consumers receive consistently safe and high-quality bottled water.

Enhanced Regulatory Compliance

Manufacturers are subject to rigorous regulatory standards and guidelines. Compliance with these regulations is crucial to maintaining the reputation and integrity of the industry. The ColiMinder plays a vital role in assisting manufacturers in meeting and surpassing these standards. By embracing this technology, it is possible to demonstrate their commitment to upholding the highest levels of water quality, strengthening their position within the industry and the eyes of the regulatory bodies.

The ColiMinder Technology

The measurement principle of this fast and fully automatic method is based on a so-called “enzyme assay,” a scientifically recognised method in which the enzymatic activity of the organisms present in the sample is measured. Living organisms – bacteria, but also all other micro-organisms such as algae and fungi – need enzymes for their metabolism – so ColiMinder uses the enzyme activity of the target organisms as a measure of microbiological load. There are enzymes that are specific to certain organisms or groups of organisms. This offers the possibility to specifically measure the metabolic activity of the respective target organisms.

Despite the short measurement time of 15 minutes, the detection limit of this enzyme-based method lies in the range of the usual culture- based methods, in many applications even significantly below. Due to the rapid succession of measurements, short-term fluctuations and peaks of the microbiological load are visible, which would never be detected with traditional methods. The technology therefore offers completely new insights into what is actually happening and enables a better understanding as well as evidence-based response.

ColiMinder has been in use since 2014 and has proven its accuracy and reliability in many installations worldwide with customer ranging between water suppliers, utilities, and industry, as well as numerous research institutes.

Case Study - Romaqua

Knowing the status of the microbiological water quality in real time was the aim for the laboratory and quality managers of the Romaqua site in Borsec. Until deploying ColiMinder they have waited for days for the results on the microbiological quality and there was no alternative to get this important information faster. In their search for a solution to quickly determine the microbiological quality of water, they encountered the ColiMinder, which can measure microbiological quality fully automated and within 15 minutes.

Romaqua initially rented a ColiMinder device to test the new technology first and especially to evaluate, whether the measurement results were consistent with the laboratory tests used so far. The reliability of the technology was evaluated through numerous comparative measurements with traditional laboratory methods. A wide variety of samples were examined in parallel to find out not only whether the results were correlating with traditional lab methods, but also evaluate the robustness of the technology and its possible field of application.

Wolfgang Vogl, GM and founder of VWMS GmbH, Aurel Atudorei, sales and service partner of VWMS in Romania, Nicolae Radeanu, laboratory manager at Romaqua (f.l.t.r.).

It quickly became evident that the ColiMinder delivered reliable measurement results – the correctness of the measurements was confirmed. After just one month of trial period, Romaqua decided to purchase its first ColiMinder, which is since then monitoring the microbiological quality of the two mineral water wells, one still and one with natural carbonic acid, fully automated and 24/7. In addition, the device, which is installed directly in the production facility, also offers the option of measuring any manually drawn samples quickly and easily.

Conclusion

The ColiMinder represents a significant opportunity and innovation for the bottled water industry, empowering manufacturers to deliver safe, high-quality products to consumers. With its rapid and accurate detection, streamlined quality assurance processes, continuous monitoring, and enhanced regulatory compliance capabilities, this cutting-edge technology revolutionises the way water quality is ensured. By embracing the ColiMinder, bottled water manufacturers can elevate their standards, build trust with consumers, and pave the way for a future where clean and contaminant-free water is accessible to all.

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