Oat Milk Temperature Calibration



Oat milk is becoming an increasingly popular alternative to dairy milk. As a result, more and more manufacturers are entering the market to produce oat milk. However, oat milk manufacturing is a complex process that involves several steps, including soaking, blending, filtering, and pasteurization. One critical factor that impacts the quality and safety of oat milk is the process temperature.

Pasteurization is a critical step in oat milk production that involves heating the milk to a specific temperature for a set amount of time to kill harmful bacteria and extend shelf life. The typical temperature range for oat milk pasteurization is between 72°C (162°F) and 85°C (185°F), depending on the process and equipment used. It's essential to monitor the temperature throughout the pasteurization process to ensure that the milk is heated to the proper temperature and held for the appropriate amount of time.

To ensure the safety and quality of oat milk, manufacturers must accurately measure and record process temperatures. They install instruments in various equipment parts, including the pasteurizer, holding tank, and packaging line. By monitoring and recording temperatures in real-time, manufacturers can ensure that the pasteurization process is effective and the milk is safe for consumption.

One issue manufacturers face when using temperature sensors in oat milk production is the risk of contamination. If the sensors are not adequately protected, they can become a breeding ground for harmful bacteria, leading to food safety issues. To prevent this, manufacturers should use sanitary sensors designed to withstand high temperatures and made from easy-to-clean and sterilized materials. Sanitary sensors are crucial for maintaining the quality and safety of oat milk, as they help prevent contamination and ensure accurate temperature readings. In addition, the sanitary sensors also protect the instrument under test from high process temperatures.

Our Solution

The Crystal Engineering nVision Reference Recorder is a portable, high-precision instrument ideal for measuring and recording temperature data in real time. The nVision Reference Recorder with an RTD100 temperature module and a temperature probe can measure temperatures in the pasteurizer, holding tank, and packaging line. If a record of the test is required, the nVision has a recording feature that stores up to 1 million data points, collecting as fast as 10 readings per second. Downloading the stored data to a spreadsheet is simple and easy.

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The AMETEK sanitary tri-clamp and STA-Kool cooling tower are added to the set-up to protect both the nVision from the process media temperature and to protect the oat milk from contaminations.

In conclusion, data logging process temperatures is critical to oat milk manufacturing. By monitoring and recording temperatures throughout the process, manufacturers can ensure that the milk is pasteurized effectively and is safe for consumption.







