

# Temperature Calibration in Dairy Production

## Precise Temperature Management from Farm to Table

When you savour the richness of dairy products, you might not realise the intricate journey these products undergo before reaching your table. From the moment milk is sourced on the farm to its transformation into dairy products, maintaining optimal temperature conditions is paramount to ensure the highest quality. Isotech's innovative temperature solutions have revolutionised the dairy industry, resulting in impeccable products that prioritise accuracy and excellence.

### The Dairy Industry's Challenge

Throughout the dairy production process, temperature plays a crucial role. For example: milk is stored in farm tanks, transported in specialised tankers, and then held in factory tanks—all at a controlled temperature of  $\pm 4^{\circ}\text{C}$ . This consistency ensures quality preservation from start to finish. Achieving such precision requires cutting-edge technology, and this is where Isotech excels.

### The Heart of Precision: Pasteurisation

Temperature control is required throughout the stages of dairy production, pasteurisation requires exact temperature control. Rigorous food safety standards dictate exacting temperature tolerances, leaving no room for error. Here, Isotech's temperature solutions come to the forefront. Regular calibration checks of temperature sensors and transmitters are essential to maintain compliance, and to eradicate harmful bacteria while preserving the product's essence and flavour. Immersion baths featuring Isotech's Hyperion, Drago, and Venus precision thermometers stand as the dairy industry's go-to tools. Equipped with stirred liquid bath inserts, these calibrators offer unparalleled accuracy and accommodate various probe sizes.

### The Versatility of Isotech's Solutions

Calibration practices encompass both field and laboratory settings. While process applications harness dry block calibrators, milk powder production exemplifies the need for precision during evaporation stages and within drying units. This level of accuracy is pivotal, as temperature sensors prevent overheating that could lead to powder ignition.

### From Temperature to Texture

Perfect measurements are the secret to achieving the desired texture, flavour, and overall consistency of dairy products such as yoghurt. In yoghurt production temperature sensors ensure quality and consistency of the product. These sensors are instrumental in overseeing fermentation, a process in which precise temperature control is paramount. The stakes are high: too high a reading, and yogurt turns runny; too low, and it becomes thick and irregular.



### Unveiling the Future of Food Production

Fast-Cal, an ingenious portable heat source tailored to the demands of food manufacturing. Capable of being set at any temperature from  $-35^{\circ}\text{C}$  to  $140^{\circ}\text{C}$ , this device seamlessly covers the temperature spectrum crucial for optimal food processing. Notably, the Fast-Cal boasts swift temperature stabilisation, ensuring precise control.

For the convenience of temperature verification and adjustment, the Fast-Cal features a reference temperature sensor. This sensor is placed into the FastCal heat source, together with the system sensor, and is preset to the tank temperature of  $5^{\circ}\text{C}$ . This comparison allows for the adjustment of the dedicated tank monitoring screen, offering real-time temperature readings.

From the farm to the consumer's table, our temperature solutions ensure that every step of the journey is marked by excellence safety, and satisfaction.



### Global Success Stories

Enhancing Dairy Production in Denmark through Precise Temperature Measurements

Isotech plays a vital role in Denmark's dairy industry by providing tailored temperature measurement solutions for diverse applications. From raw milk handling to UHT milk production, Isotech ensures optimal quality by addressing critical temperature ranges. Challenges like inaccessible measurement points are met with innovative approaches, while customer priorities find a match in Isotech's FastCal Low. This adaptable and cost-effective solution aligns with industry demands, showcasing Isotech's commitment to elevating dairy production through precision and reliability.

