WHY PROCESS MONITORING AND ASEPTIC SAMPLING?

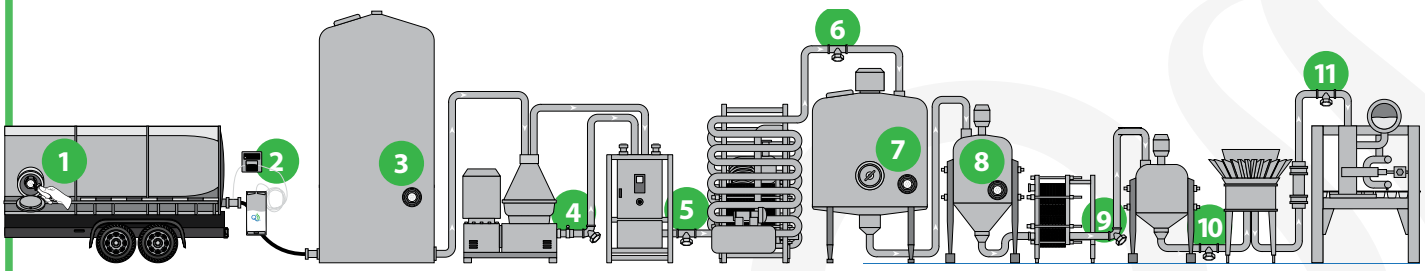
Because Your Test Result is Only as Accurate as Your Sample

QUALITRU SAMPLING SYSTEMS

WHY MONITOR INLINE?

1. **Shelf life:** Gram-positive or psychotrophic bacteria may be introduced in milk handling equipment — this can shorten or create unpredictable shelf life. The bacteria can be introduced through cracks or pinholes in pipes or biofilm growth. Good process controls can identify elevated gram-positive bacteria with a purposeful sampling and testing plan, starting with raw milk or product quality.
2. **Food safety:** Pathogenic contamination can be introduced anywhere in the process. However, it is especially dangerous if it is found after the kill step. Pasteurizers can have cracks, pinholes, or other defects that may risk introducing gram-negatives that survive despite temperature and pressure requirements.
3. **Payment Logistics or Optimization:** Payment results are based on a sampling plan. Representative data allows you to understand the quality or chemical composition over time. The representative data can also help to trend data over time to understand peak run times.

Where to Monitor Your Process?



1–3 **Raw product/milk quality:** Shelf life, payment & food safety
Tests: Coliform, Enterobacteriaceae (EB), Lab Pasteurized Count (LPC), gram-positives and Standard Plate Count (SPC)

1–11 **Process sanitation/hygiene:** Shelf life, optimization & food safety
Tests: Coliform, EB, LPC, gram-positives and SPC

9-11 **Post pasteurization contamination:** Food safety
Tests: Coliform, EB, gram-negative and SPC

WHY ASEPTIC?

Sterile equipment and aseptic sampling techniques are essential in the sampling process. This is important for accurate microbiological product testing (coliform, EB, LPC, gram-negative, etc.) and to help prevent the risk of introducing contamination into the process.

Challenges with Non-Aseptic Samples?

1. **Micro ports:** Micro ports are non-sterile grommets that may introduce contamination into the sample due to a lack of distinct channels. This may introduce gram-positive bacteria because the port is used more than once, and the product sits in the grommet over time.
2. **Valves:** Valves require steam to kill all spore-forming bacteria. They also require additional energy and labor that may add up to 20 minutes per valve for proper clean-out-of-place (COP) or steam sterilization. Cleaning a non-sterile port requires disposing of the product that is in the valve to ensure it does not contaminate the sample. One customer estimated $55,000 (50,000 Euros) in cumulative loss due to the wasting of product from 15 seconds of flushing the valves across ten silos over a year's time.

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