



# ABB RECORDING & CONTROL APPLICATION



## Pasteurisation in the Dairy and Food Processing Industries

### An Introduction to Pasteurisation

Pasteurisation is the process of heat processing dairy and food products to kill microbes in order to make them safe to consume.

The pasteurisation process helps reduce the transmission of diseases and keeps food safer for longer periods (provided they are stored at the right temperature) by killing harmful bacteria. There are different processes used to pasteurise food.



Flash Pasteurisation, Stem Pasteurisation, Irradiation Pasteurisation are a few of the most commonly used processes. Also, the processes used to pasteurise food depend on the food item and the final result required, such as retaining a food's nutrients, colour, texture, and flavour.

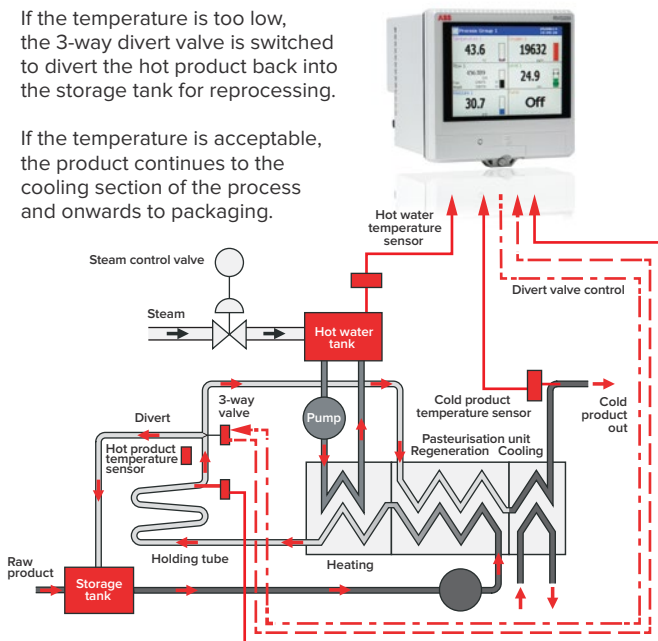
### The Pasteurisation Process

The illustration below shows the setup of a flash pasteurisation process. Flash pasteurisation involves the pumping of raw product from a storage tank through a heat exchanger, where it is heated to the specific temperature required to kill harmful bacteria.

The hot product is then pumped from the pasteuriser unit through a holding tube. At the end of the holding tube is a 3-way divert valve and temperature probe, fitted at the end of it.

If the temperature is too low, the 3-way divert valve is switched to divert the hot product back into the storage tank for reprocessing.

If the temperature is acceptable, the product continues to the cooling section of the process and onwards to packaging.



### What ABB products are suitable?

#### ScreenMaster RVG200

The RVG200 is ideal for recording the pasteurisation process parameters. Such as hot product temperature, the cold product temperature, divert valve status, hot water temperature etc. can be recorded. Also the RVG200 is capable of activating the 3-way divert valve if the temperature of the hot product is too low.



RVG200 features includes:

- High specification 21 CFR Part 11 compliant data security
- High visibility process displays
- Remote access and operation via Ethernet
- Hosedown protection to IP66 and NEMA 4X
- Automated process data management
- Flexible recording capability including alarms, totalisers, math and batch recording
- A batch recording option enables simple recording and reviewing of batch processes

#### Commander C1950 Recorder/Controller

The Commander C1950 is a circular chart recorder dedicated to pasteurisation applications and meets the PMO requirements. It offers a complete recording and control solution for the pasteurisation process.

The C1950 is available in three variants:

- **Commander C1951**  
Records the hot product temperature, divert valve status and either the divert set point, or cold product temperature. This variant doesn't have the control capability.
- **Commander C1952**  
Records the hot product temperature while controlling the temperature of the hot water in the heat cycle of the plant. It also records either the divert set point or the cold product temperature and the divert valve status.
- **Commander C1953**  
Combines all of the functionality of the C1952 plus it has the capability to control cold water temperature from the cold product temperature probe.

