

Optimized Cheese Pasteurization Process with Anderson-Negele sensors

Prabhat Dairy is an integrated milk and dairy products company in India, catering to institutional as well as retail customers. For the past 15 years, they have established themselves as one of the most trusted dairy brands in its category with state-of-the-art plant and cutting-edge technology. Anderson-Negele is proud to be associated with Prabhat Dairy which is a well known brand in India.

The Requirement

Cheese pasteurization is a well-defined process and the team at Prabhat make sure that they do not face any issues in terms of quality and taste.

As we know pasteurization is a heat treatment of milk to destroy pathogenic bacteria. Cooling milk prevents bacterial growth, but heating is required to destroy the bacteria introduced in milk production. The temperature used for pasteurization affects the shelf life of the product as well as the taste and appearance. Two types of pasteurization are common:

- High Temperature Short Time (HTST) common in the United States.
- Ultra High Temperature (UHT) common in Europe.

In this section we will deal with HTST pasteurization.

Raw milk from the storage silos is filtered to remove impurities (often called clarification) and sent to an intermediate tank known as a balance tank. Once the raw milk leaves the balance tank it is ready for pasteurization.

It is heated in a series of plate of heat exchanger which has three sections Regeneration, Heating and Cooling. In these three sections raw milk is heated and then cooled down to maintain the Cheese milk temperature. Any deviation in the heating process of milk which may be due to time delay or temperature difference and is not according to the process requirement may return back to balance tank which is further reprocessed in the next cycle. That is why level measurement in the balance tank becomes a crucial component. In Control Point Challenge the pasteurizer must always be full to prevent milk from burning on the plates.

The Anderson-Negele solution

The balance tank level is measured to prevent costly overflow (and loss of product) as well as ensure a stable supply of milk to the pasteurizer to prevent burning. A low-level switch will divert the milk out of the pasteurizer into the balance tank when the level is too low. Balance tank used in Prabhat Dairy is around 800 mm.

Level transmitter used in Prabhat Dairy: NSL-M-00

Level switch: NCS-M-11 will intimate the PLC system that in case of Balance tank is empty or going to be over flow. This will control the wastage of product and will ensure continuous milk flow in the pipe.

The advantages

- Easy to install
- Compact in size
- Product saving
- Hassle free process
- Faster return on investment
- Faster ROI (return on investment)

Customer:

Prabhat Dairy Shrirampur Plant



NSL-M-00

NCS-M-11

Prabhat Cheese Pasteurization Section

