

CHEESE – FINISING

Solutions Sales Training Reference



Receiving

Pasteurization

Standardization

Cheese Vat

Starter Room

Finishing

CIP

I am working on this graphic.

Key Objectives:

- Develop proper taste, size and texture of curd
- Package cheese of uniform size without air or whey

Cheddar and Block Forming Process Description

When the cooking process is complete, the cheese vat contains a mixture of 90% whey and 10% curd and is at a pH of 6.0 to 6.1. Up to this point, the process has been nearly the same for all types of hard and semi-hard cheeses. Downstream from the Cheese Vat, the process becomes more specific for the type of cheese being produced. For example, Mozzarella requires the curds to be drained, molded, pressed, brined and ripened. For Cheddar cheese, a process called Cheddaring is used. Cheddar Master Towers, DMC conveyors (Draining, Matting Conveyor) and other

types of conveyor systems are used to form the curds into a mat and allow them to sit and produce lactic acid, which controls curd moisture and leads to proper curd texture, or granularity. The mat is inverted through a conveyor system and allowed more time to sit. As lactic acid is being produced, whey is being removed by a strainer. The target pH is 5.2 to 5.3 for proper Cheddaring. When the pH reaches 5.4, the curd is milled to chips of uniform size, mellowed, and salted. Salting stops lactic acid production (which stops acidification), preserves the cheese and provides flavor.

When milling and salting is complete, the cheese is sent to block-forming towers for final processing. Producing uniform blocks of cheese is a critical step in finishing. One method is block forming tower. The milled and salted chips are drawn to the top of the tower by vacuum. As the tower fills the curd begins to fuse into a cylindrical mass. A vacuum is continuously applied to the column to ensure a uniform product that is free of whey and air exits the bottom, where a knife continuously slices blocks of uniform size. From here they are conveyed to packaging.

Select Measurement and Control Points in Cheddaring

Curd pH

Curd pH is monitored to indicate completion of cheddaring. It is done by sampling and is not done online.

Block Forming Vacuum

Maintaining a constant vacuum is critical to proper formation of the cheese block, free from whey and air.

Product Solutions

Block Forming Vacuum

Control Point Challenge:

To supply a constant vacuum to the Block Forming Tower.

Solution:

Need to confirm with customer.