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BLENTECH CHEEZTHERM

Processed Cheese Cooking System

The Blentech Cheese Cooker heats the cheese with direct steam through poppet valves in the bottom of the cooker. Our cheese cooker also has solid screw agitators like a screw conveyor. Blentech cheese cookers are used in large cheese plants all over the world.

There are two types of cheese cooked in a machine of this type: 1) processed cheese and, 2) analog cheese. Both of these types of cheese use casein as a major ingredient in their recipe. The process cheese uses ground, natural cheese as a major part of its formulation while analog uses only casein, water and certain flavoring salts.

We are aware of three different types of cheese cookers used around the world:

a) The Stephan Cheese Cooker is made in Europe and is similar to a cooking kettle with a vertical shaft agitator to mix the cheese. This agitator runs very fast and has the disadvantage of beating air into the cheese. With certain types of cheese which are difficult to mix, the cheese must be mixed for a long time to get a proper blending of the protein. In some cases, it is impossible to get a proper blending with this type of blender. Because it is European made, it is probably the most widely used cooker system in Europe.

b) The Damrow or Palmer Cookers are single, solid screw cookers that look much like a short screw conveyor. They have direct steam valves in the bottom of the trough that heat the cheese. The major disadvantage of this cooker is that as the screw agitators turn, they push the cheese down to one end of the cooker, forcing it to flow back over itself during the cooking process. This action works a significant amount of air into the cheese causing bubbles to be permanently fixed in the cooled cheese.

c) The Twin Agitator Cheese Cooker is a more recent development. Blentech is one of the few companies in the world that build this type of cheese cooker. It looks very much like a meat blender in the body design, however, instead of ribbon agitators, it has two solid screw agitators like a screw conveyor. During cooking these solid screws turn in opposite directions causing the product to be folded into the center and moved around the cooker in a counterclockwise direction.

Since the cheese on each side of the cooker is moving in opposite directions, there is a shearing or pulling of the product in the center. This action creates a very unique texture to the finished cheese. It is a texture commonly referred to as *chicken breast* texture because the cheese tears much the way chicken breast meat pulls apart. Whereas cheese made with the Stefen or Damrow machines will come apart in chunks, the Twin Screw cooked cheese will tear like chicken meat. This unique texture is very desirable and once a processor has tested the twin screw cooker, he no longer is satisfied with the other designs.

A full cheese cooking system includes a pre-blender to blend the casein and other ingredients together, then a twin screw cheese cooker which discharges into a scraped surface surge hopper. The surge hopper is then emptied with a positive displacement pump, pumping the product to the packaging equipment.

The cheese cooker can also be used to blend the ingredients together before cooking, therefore, it is common for a small processor to buy a cheese cooker first and use it for blending as well. As his production increases, he will add a pre-blender. Since the cooking process only takes about 25% of the time that the pre-blending takes, he can vastly increase his production by blending the product in a separate blender.