



## ***Freshline<sup>®</sup>*** ***Continuous Sauce*** ***Chiller***

*Mayonnaise is one of a number of delicatessen products which are experiencing a rising demand in most countries across the globe. To ensure that manufacturers and processors are able to satisfy this demand, innovation of the manufacturing processes has become a necessity.*

*The Freshline<sup>®</sup> Continuous Sauce Chiller is a unique development which, by using the direct injection of liquid nitrogen into the mayonnaise, chills the dressing within seconds, and permits the manufacturing process to run continuously.*

Thick, smooth, creamy, lumpy, chalky, powdery – whatever the texture, mayonnaise, which is often regarded as the “mother sauce,” is the foundation for many dressings and is considered essential for the vast number of protein-, pasta- and vegetable-based salads.

With this in mind, Air Products has committed itself to finding new methods of production for mayonnaise manufacturers and processors to permit them to provide their customers with a more efficient service. Currently, the majority of typical manufacturing systems involve the cooling of mayonnaise from 40°C to 5°C in a large chill room over a period of two to four days, significantly extending the total manufacturing time. Air Products has recently developed the new Freshline® Continuous Sauce Chiller which allows this cooling time to be reduced to just six seconds.

### How does it work?

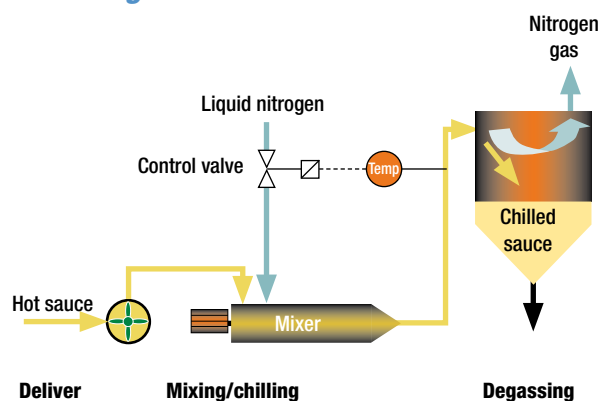
Unlike conventional heat exchangers, the Freshline® Continuous Sauce Chiller works by injecting liquid nitrogen directly into a specially designed mixer. This efficiently transfers the cold from the liquid nitrogen into the sauce without freezing it. The subsequent mixture of gas and sauce is then transferred to a de-gassing vessel, where they are safely separated.

The Freshline® Continuous Sauce Chiller has been designed specifically for high viscosity fluids and can even chill mayonnaise that is greater than the standard viscosity of 30,000cP.

### What are the benefits?

- Significant reduction in processing and chilling time
- Rapid chilling to retain quality
- Low capital cost of equipment
- Small footprint
- Efficient use of liquid nitrogen
- Inert product atmosphere
- Continuous automatic process
- Less manual handling of product
- Less waste of product
- Clean In Place capabilities

### Freshline® Continuous Sauce Chiller flow diagram



### For more information

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