

EXCEPTIONAL PERFORMANCE IN EMULSIFIED SAUCE PRODUCTION



CONSUMER TRENDS SHAPE NEW DEMANDS

Mayonnaise is one of the world's most popular and versatile condiment sauces. It takes different forms in various markets, influencing the quality and function of mayonnaise: from a spread on sandwiches or a dressing for burgers to the creamy base in coleslaw or the dip for French fries. Consumers have as many different preferences for taste, texture and appearance as there are ways to eat mayonnaise. Creative consumers expect more personal touches to everyday cuisine.

People are also looking for healthier food products with a clean label and there is a trend towards flexitarian eating. Many of today's consumers look for more natural products with fewer and purer ingredients, and without preservatives. Ingredients and quality play a key role and allow premium positioning of certain products. Eating out has become more usual and casual as we get used to street food available anywhere and anytime. Together with the call for convenience, all these trends continue to drive innovation.

THE FUTURE-FRIENDLY PROCESS FOR SAUCE CREATIONS

The challenge for producers is to keep up with these trends and to respond quickly. You need to be innovative to stay competitive. Managing numerous types of ingredients and combinations accurately for consistent quality is key. It requires process solutions for ever-changing recipes while providing safe and shelf-stable products. And on top of this, you need to be able to accurately predict and control the quality of the product.

The processing solution that gives the right balance between ingredients, shear and mixing time is key for every producer. Based on hundreds of trials on mayonnaise and dressings, at different scales, a unique tool has been developed within Tetra Pak. The tool fine-tunes mixing configurations and process parameters depending on the recipes and specific customer requirements.

The mixing process is controlled in such a way as to guarantee a consistent product quality e.g. desired texture and droplet size regardless of scale of production. With Tetra Pak's cutting-edge two-step emulsification process, you get shorter batch times thanks to higher flow and oil addition rate.

AUTOMATIC DOSING OF PREMIXES CONTRIBUTES TO CONSISTENT SAUCE PRODUCTION

Dosing the right ingredients in the right percentage is crucial when producing an emulsion. Two key points need to be taken into consideration during the preparation stage: accuracy and speed.

One of the benefits of automatic dosing is that it saves time so the operator can focus on all the other tasks at hand. The settings are changed automatically around the clock. The consistent control gives consistent dosings, making an extra safety margin unnecessary. Getting the doses right is one thing. Proving you are doing this is something else. Documentation is therefore another very important aspect of dosing. We need to prove that we have dosed correctly and record the total amount dosed. This calls for a track and trace system that provides the right information. Altogether, dosing is the part of sauce production that largely determines the overall quality of your product. How accurate and fast is your dosing and does your dosing live up to modern-day demands?

Thanks to our technological expertise on mayonnaise and dressings, we can manage ingredient handling and guide you how to standardize premixes in your mayonnaise plant. We assist in increasing your capacity and show you how to get the most out of your ingredients. Expertise on how to standardize premixes gives you:

- Consistent product quality
- Saves ingredients with accurate dosing
- Saves time for the operator
- Ensures nonstop production with automatic dosing
- Full traceability and advanced data logging and production reports



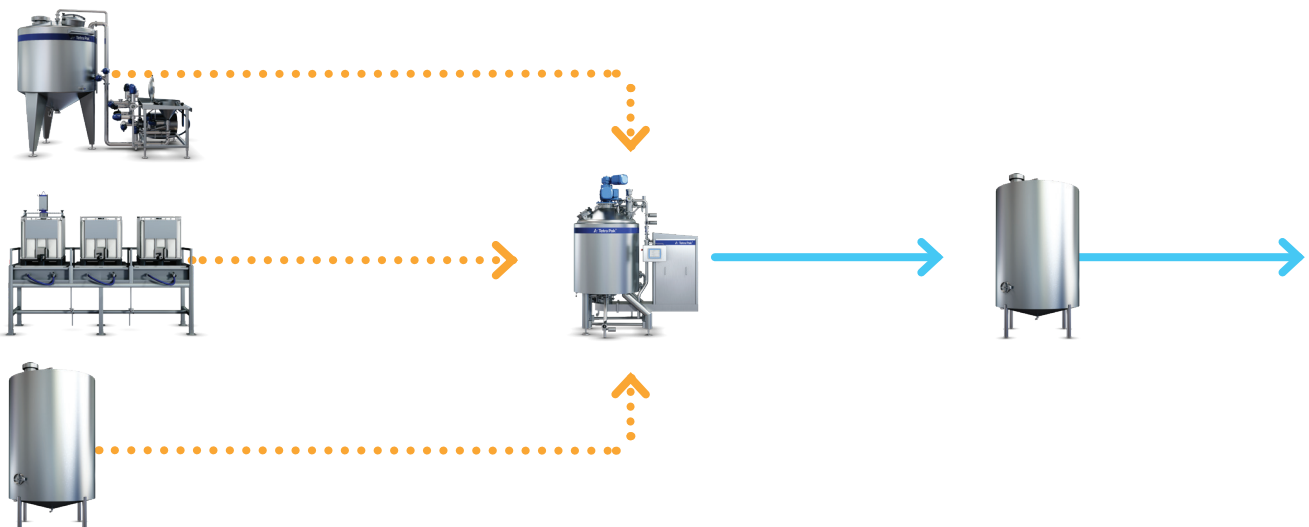
FLEXIBLE PLANT SETUP SO YOU CAN PRODUCE A BROADER RANGE OF HIGH-QUALITY EMULSIFIED SAUCES

We believe that your optimal solution is one that matches your specific production needs today and for the future – to make you more innovative, more effective and more competitive. This optimal solution is the result of applying our vast knowledge and complete range of innovative technology for food production in close partnership with you.

Thanks to our new cutting-edge technology, design and unique methods for making mayonnaise and dressings, we can support your production regardless of the changing tastes and demands of your market. The right plant design and processing design can offer you unlimited new business opportunities – through new products and improved quality at lower costs.

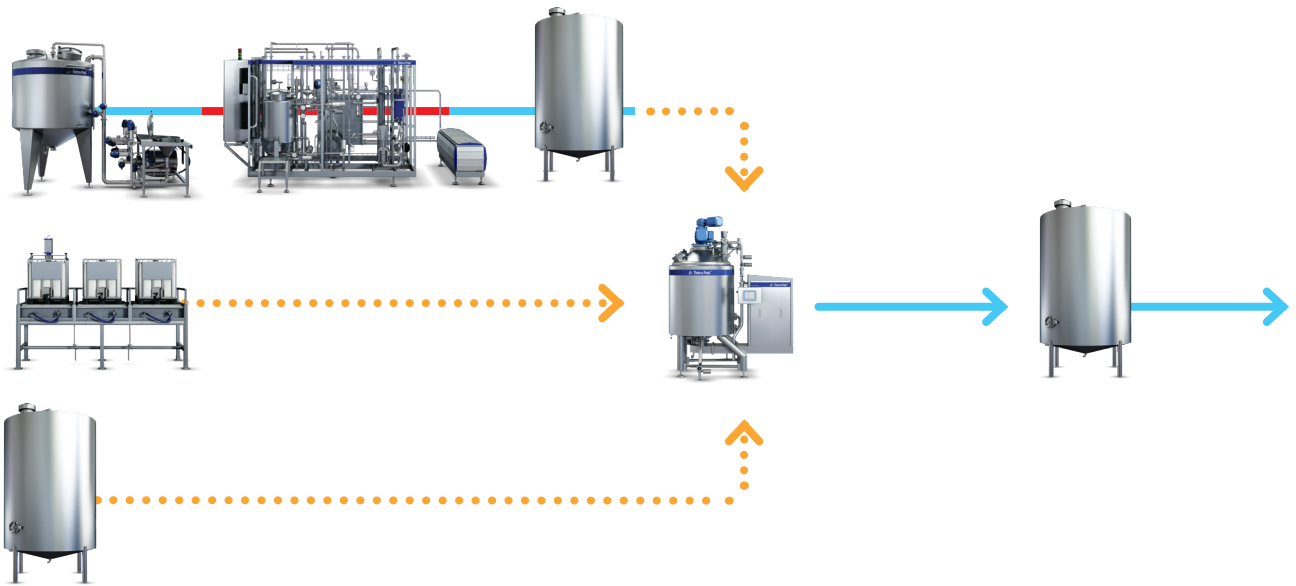
LINE FOR COLD EMULSIONS

This processing line represents the traditional mayonnaise production process, namely produced at ambient temperatures without heating. The complete product is formulated, mixed and emulsified in a batch mixer dedicated to making viscous cold emulsions. The same process is also applicable to a wide range of mid- and low-fat mayonnaise, dressings and dips with varied fat levels of 15-70% fat. The products are formulated with cold swelling starch and/or gums, and usually include preservatives due to the cold batch process, varied recipes and water content.



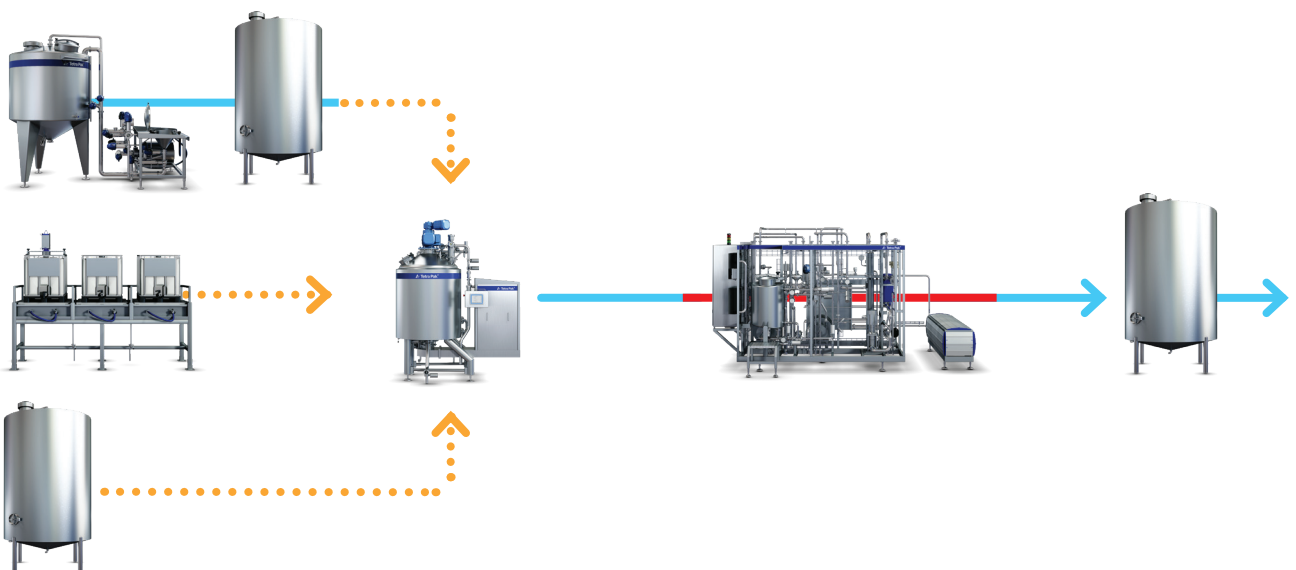
LINE FOR PARTLY PASTEURIZED EMULSIONS

This line is suitable for producing a wide range of mayonnaise, dressings and dips (25-70% fat) formulated with hot swelling starches, and also for pasteurizing critical ingredients and pre-mixes (water phase, spices, starch, sugar, salt, vinegar) to minimize the microbial load and to have the possibility to produce a product without preservatives.



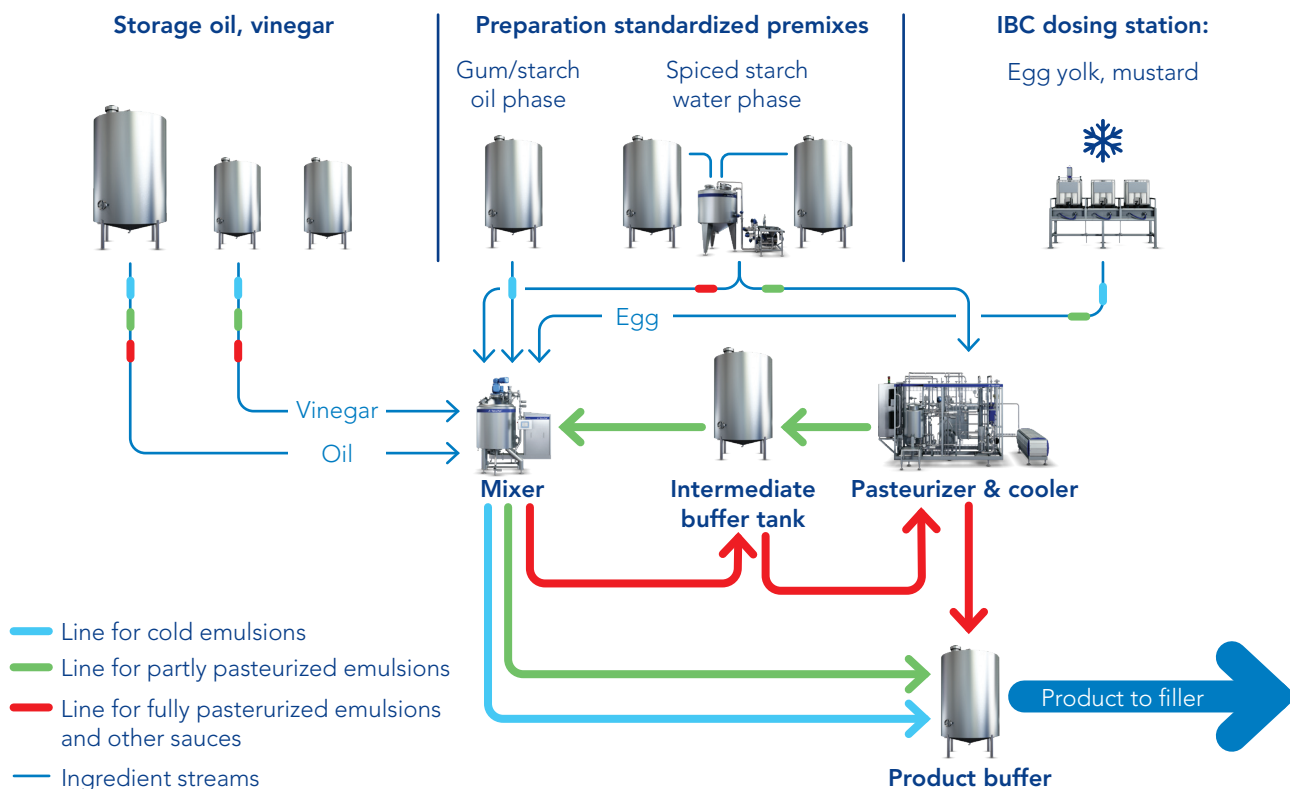
LINE FOR FULLY PASTEURIZED EMULSIONS AND OTHER SAUCES

This line enables you to produce higher complexity products such as more sensitive recipes or recipes containing lower amounts of fat, and without preservatives. This line also gives you the option of adding particles. To pasteurize the complete product meets the requirements for a broader range of both emulsified and non-emulsified dressings and sauces (< 25% fat, including hot-swelling starches) with increased demands on food safety, better taste, colour and shelf life stability. Normally these sauces are formulated with a lower fat content, lower acidity and with a high water content. The process starts with mixing all ingredients in a batch mixer according to a specific sequence and then the mixture is fed to a buffer tank prior to heat treatment. The complete product mix is pumped to a pasteurizer and heated to 85-95°C and held for the required time before continuous cooling.



UPGRADE FLEXIBILITY ENABLES FUTURE-FRIENDLY PRODUCTION SOLUTIONS

We offer full flexibility to upgrade the different lines whether it is a cold batch line, part pasteurization line or full pasteurization line.



EXPLORE YOUR IDEAS AT OUR PRODUCT DEVELOPMENT CENTRES

We partner with you to support your product development process, providing the vital bridge from new recipe idea to engineered production solution.

- Ten product development centres (PDCs) worldwide at your service and one mixing technology test centre (TTC)
- Highly flexible industrial pilot-plant facilities
- Cost-effective product trials and in-house tests
- Experienced food technologists and engineers
- Processing, packaging and powder handling equipment
- Global experience and food application expertise
- Close collaboration, full confidentiality

CUSTOMIZED SERVICE SOLUTIONS

We provide customized service solutions to maximize your operational excellence while minimizing your costs and environmental impact throughout the lifecycle of your operation. Our experts assist in optimizing your emulsified sauce production.

- Consistent product quality
- Shortest batch time
- Savings on ingredients

EXCEPTIONAL PERFORMANCE – WE GUARANTEE IT

Our competitive and validated performance guarantees on the parameters that matter to your success ensure exceptional performance throughout the line's lifecycle in terms of consistent product quality and uncompromised food safety. The parameters are predefined in a contractual agreement and guarantee that we're with you all the way – we stay until it works.

We guarantee the performance we promise.