Mayonnaise Production

Sauces to suite every taste

High Quality Food Manufacturing
The perfect food with the perfect Taste!

Not just food! Provide quality food to your customers which makes them thrive for more. A versatile processing system developed by Wahal Engineers for the production of a range of different sauces, such as mayonnaise or ketchup to facilitate food that suits every taste.

Different countries have various recipe requirements for the production of products such as mayonnaise. Mayonnaise is a popular condiment that consists of oil, water and egg yolk (or substitute). In Europe, mayonnaise must have a total fat content of at least 70 % and an egg yolk content of at least 5 %. Under German delicatessen industry guidelines, mayonnaise used as salad dressing must have an oil content of at least 50 %.

Mustard mayonnaise, tomato mayonnaise, as well as rémoulade sauces and various low fat salad creams and dressings are some of the variations available in the market.

These variations are all oil-in-water emulsions (O/W). To prevent the phases from separating an appropriate quantity of hydrophilic emulsifier must be added.

In the case of mayonnaise-type sauces, egg yolk, milk protein or vegetarian emulsifiers are generally used for this purpose. The emulsion is stabilized and the viscosity of the final product is adjusted using hydrocolloids and starches. A properly balanced recipe produces the optimum structure and desired “mouth feel”.

Incorporation and mixing ingredients is not enough to produce a high quality emulsion. The oil phase must be broken down to very fine droplets. This is just one of the requirements the “High Shear In-Line Mixer” is able to satisfy very rapidly. Because the Wahal’s High Shear system can be used to prepare products with a wide viscosity range, it is ideal for manufacturing most types of sauces such as Mayonnaise.

### Basic recipes

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Mayonnaise</th>
<th>Salad mayonnaise</th>
<th>Salad mayonnaise</th>
<th>Salad cream</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>80 %</td>
<td>67 %</td>
<td>50 %</td>
<td>35 %</td>
</tr>
<tr>
<td>Egg yolk (liquid)</td>
<td>6 %</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sugar</td>
<td>2.6 %</td>
<td>2.6 %</td>
<td>2.6 %</td>
<td>2.6 %</td>
</tr>
<tr>
<td>Salt</td>
<td>1.3 %</td>
<td>1.3 %</td>
<td>1.3 %</td>
<td>1.3 %</td>
</tr>
<tr>
<td>Vinegar, 10%</td>
<td>3.5 %</td>
<td>3.5 %</td>
<td>3.5 %</td>
<td>3.5 %</td>
</tr>
<tr>
<td>Water</td>
<td>6.6 %</td>
<td>24.6 %</td>
<td>40.2 %</td>
<td>53.7 %</td>
</tr>
<tr>
<td>All-in-one stabilizer compound’</td>
<td>-</td>
<td>1.0 %</td>
<td>2.4 %</td>
<td>3.9 %</td>
</tr>
</tbody>
</table>

Wahal manufacture and export a wide range of bitumen processing equipments like Bitumen Emulsion Plant, PMB Plant, and Cutback Plant ideal for optimum, cost-efficient manufacturing of a broad spectrum of products.

The High Shear Mixer includes all components necessary for the preparation of mayonnaise, ketchup and sauce.
Mayonnaise/Sauce Preparation unit

Wahal made High Shear Mixer are characterized by their flexible adaptability to different media, tasks and applications taking into account procedural, technical, economical as well as safety aspects.

Vacuum Homogenization Unit: a customized integrated solution for mixing, cutting, homogenizing and emulsification applications. The process takes place in a hermetically sealed environment thus, along with mixing, solids are introduced into the liquid stream under vacuum.

- Four stage homogenizer for perfect mixing, emulsification and achieving fine droplets of the emulsion.
- Contra-rotary agitator comprises of perforated blades and scrapers for perfect blending of the ingredients in the main vessel.
- Direct Steam Injection (DSI) for perfect and efficient heating of the product.
- Bucket lifts for the automatic feeding of solids, vegetables, and other ingredients directly into the main vessel.
- Vacuum Homogenization under a hermetically sealed environment ensuring a smooth texture and eliminating air pockets in the final product. Also helps to incorporate solid ingredients into the process easy and also lowers the boiling point of the product and thus saves a lot of energy and even the process time is shortened extensively.
- Automatic dosing unit for a controlled dosage of oil, solids, liquids and all other ingredients.
- PLC/SCADA based Control Panel with HMI for recipe storage along with actuated valves, load cells for weight indication, flow control for recipe formulation.

APPLICATIONS

1. Mayonnaise
2. Sauces & dips
3. Syrups, Spreads & Dressings
4. Flavored emulsions

Advantages

- Consistently high product quality
- Very short batch times
- Prevention of lump formation through rapid emulsification
- Easily adapted to variations in product type and recipe
- Minimized Aeration

- Designed to handle high viscosity products without additional equipment’s requirement
- User-friendly operation
- Fully automated operation
- Quick and easy to clean
- Maximized yield of raw materials
Fast, Professional Preparation

Mayonnaise and other emulsified sauces are generally prepared cold. Some countries, however, use the semi-hot process. Here, the water phase (water, salt, sugar, mustard powder) is heated to 92 °C and then cooled back down to 30 °C. The remainder of the steps are the same as the cold preparation process.

A whole lot of mayonnaise in just 10 minutes!
Success driven by Wahal

With a dedicated team of Service experts, Wahal aims at BUILDING, RETAINING and IMPROVING customer experience. Partner with the industry experts to cypher the performance throughout entire lifecycle of the plant and it’s equipments.

Get access to seamless support as a part of the package. Also, ensure safety and reliability in a cost-efficient manner with lifetime services to keep the plant up and running.

“Our company is primarily using the units for wet dispersion & grinding and experiencing significant improvements in batch cycle time, production efficiency and overall product quality. I highly recommend their products and their creative problem solving approach”

- Symbiotic Pharmalabs Pvt. Ltd.