

## Mayonnaise Production



### I Production

Mayonnaise is a water-oil emulsion with eggs. A typical recipe is as follows:

Oil	70-80 %
Egg	10-11 %
Water	8-10 %
Vinegar	4 %
Salt	1 %
Sugar	1 %
Lemon juice	0,5 %
Spices (essential oils)	0,5 %

### I Process

Mayonnaise production can be executed in batches or In-line with a necessary production rate.

#### INGREDIENTS

There are 5 tanks with the necessary portions of various ingredients.

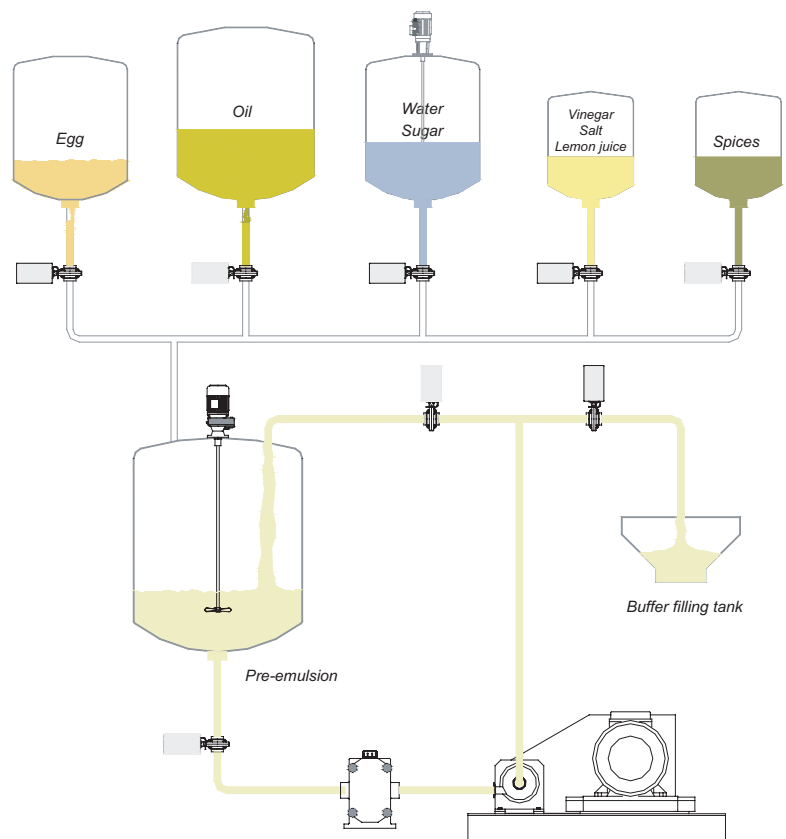
- 1- Oil. At a low temperature ( 7-8°C) if possible
- 2- Water. With previously dissolved sugar
- 3- Vinegar. With previously dissolved salt and lemon juice
- 4- Eggs. At about 4°C
- 5- Spices

The process can be performed with only 3 tanks provided that the spices are previously dissolved in oil and the aqueous phase is carried out in one tank (water + vinegar)

### I In Batch Process

The production in batch is adequate for low output production up to 1000 kg/h

- First, the egg is supplied into the mixing tank.
- Subsequently, water with sugar is supplied.
- Immediately, the agitator of the mixing tank is switched on and the oil is slowly added into the tank where the pre-emulsion is to be prepared.
- Then vinegar with previously dissolved salt and lemon juice is added.
- Once the pre-emulsion is completed, the pump and the mixer is switched on to recirculate the product till the mayonnaise is obtained.
- When the mayonnaise is prepared, it is transferred into the buffer tank and it is ready for packaging.

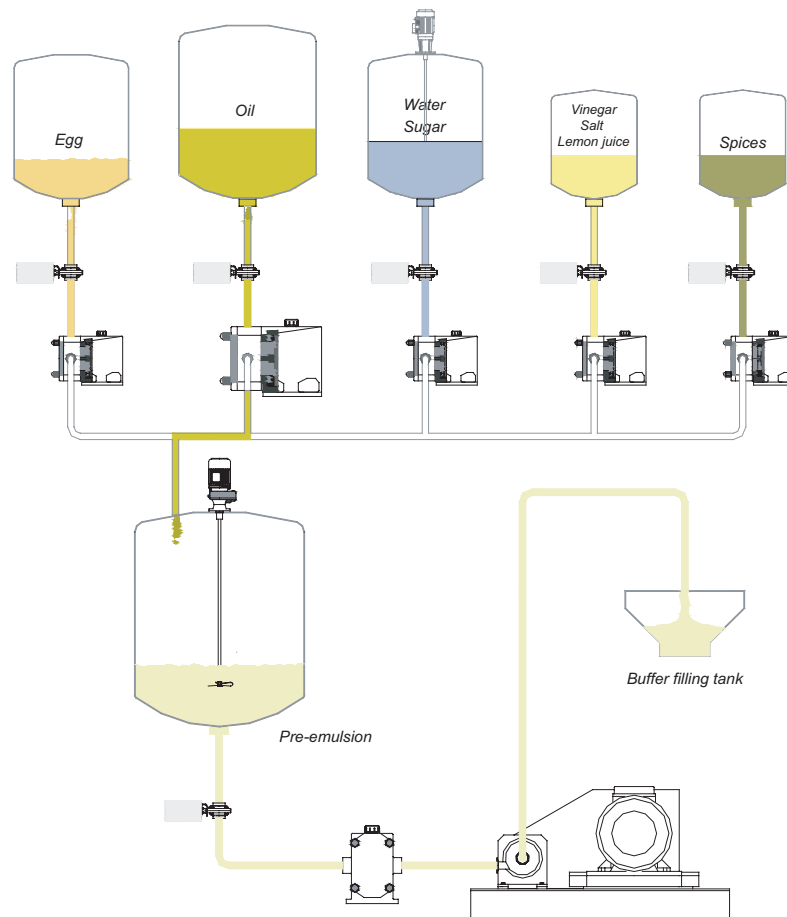




**I Continuous process**

*In-line production process is suitable for productions higher than 1000 kg/h*

- There are the same tanks of ingredients.
- Metering pumps simultaneously add various ingredients to a premix tank in the required proportions.
- The mixture is pumped through an in-line mixer and the mayonnaise is obtained with only one pass, then it is pumped into a buffer tank and is ready for packaging.



## I Types of mayonnaise

The ingredients mentioned before are for the production of an ordinary type of mayonnaise. In the market there is also mayonnaise light, its typical recipe is as follows:

Oil	20-30 %
Egg	3-4 %
Water	60-70 %
Starch	4 %
Vinegar	4 %
Salt	1 %
Sugar	1 %
Lemon juice	0,5 %
Spices (essential oils)	0,5 %

This type of mayonnaise can also be prepared in batches or In-line, but the mixture of water and starch is to be prepared in advance.

- An In-line blender disperses starch in a tank of water.
- A lobe rotor pump transfers the starch through a tubular heat exchanger where it is heated up to 90°C and at another stage it cools to about 10°C. In this process the starch hydrates and the mixture gets an important viscosity.
- The starch mixture is supplied to a tank and the preparation of mayonnaise starts at this stage.

On the market other types of sauces based on the mayonnaise can also be found:

- . Cocktail sauce. Tomato and any type of liquor like cognac is added.
- . Mayonnaise with olive oil, with approximately about 1% of olive oil added.
- . Mayonnaise with garlic or other seasonings. These powdered ingredients are added into the water or oil phase before its preparation.

