



Tetra Pak® High Shear Mixer for cold emulsions

Batch processing unit with double-shaft agitator



Highlights

- Double-shaft agitator combined with Dynamic HS mixing head (patent pending)
- Patented Dynamic HS mixing head – enables 2-step emulsification process (high, medium, low and even no-shear possible in the same unit)
- Modular system can be configured for batch and continuous processing
- Unique prediction tool enables easy process scale-up and precise replication of product quality
- High level of flexibility to produce the widest range of products
- Fast ingredient intake, based on vacuum, for both oil and powders
- Rapid mixing, high capacity, and optimal use of ingredients lead to the lowest production costs in the industry

Application

The new range of Tetra Pak® High Shear Mixers for cold emulsions is a game-changer for mixing products in this category.

The heating/cooling options in combination with the Dynamic HS mixing head and double-shaft agitator makes it possible to produce an almost limitless variety of different cold emulsion products – such as full or low fat mayonnaise, dressings, béarnaise sauce, hollandaise sauce, aioli and cheese emulsion. It allows you to produce a homogenous mix of even highly viscous products, and to blend in particles such as herbs, fish, meat or vegetable pieces.

Tetra Pak® High Shear Mixer for cold emulsions

Batch processing unit with double-shaft agitator

Working principle

The Tetra Pak® High Shear Mixer for cold emulsions is designed for either a batch or a continuous production set-up. Our patented Dynamic HS mixing head enables a two-step emulsification process – leading to an unprecedented level of control over quality parameters such as droplet size, product texture, appearance, taste and mouthfeel.

A shorter mixing time. Intake of both liquid and powder ingredients into the mixing vessel (not directly into the HS mixing head) creates a coarse emulsion and eliminates the need for a pre-mixing process. An automatic top opening lid and a bin-lift dumping system allows you to blend in particles, and the double-shaft agitator secures product flows correctly around the tank, regardless of viscosity. A cooling/heating jacket enable you to warm up or cool down your product.

For high-speed production, you can combine the emulsification process and emptying step by adding (as an option) a twin screw pump to control the higher flow out of the mixing vessel and a Multi-stage HS mixing head to create a fine emulsion. A fully automatic CIP system ensures fast and low-cost cleaning via strategically placed sprayballs.

For continuous production, all ingredient intake lines can be equipped with flowmeters and control valves, allowing you to produce continuously.

Basic unit

- Dynamic HS mixing head with CIP cleaning behind primary seals
- Double shaft-agitator
- Vacuum system for ingredient introduction
- Heating and cooling jacket
- Direct steam injection
- Direct powder inlet
- Direct liquid inlet
- CIP cleaning system
- Control system with Allen Bradley PLC and HMI

Options

- Batch plus system (high-speed batch production)
- Multi-stage HS mixing head
- Twin screw pump
- Bin-lift system
- Vibrating powder hopper
- Starch inlet
- I200l mixer head (for continuous starch in-blending)

Materials

- All components that come into contact with the food product are made from stainless steel AISI 316L
- Other parts are made from AISI 304.
- All elastomers are FDA approved, and EPDM and VITON compliant



Technical data

Supply and consumption data

Production setup	B200-500VAA		B300-1500VAA		B400-2500VAA	
	Batch	Batch plus	Batch	Batch plus	Batch	Batch plus
Voltage, V (Hz)	380-480 (50/60)	380-480 (50/60)	380-480 (50/60)	380-480 (50/60)	380-480 (50/60)	380-480 (50/60)
Power, kW	52	52	80	80	120	120
Service water, l/h	100	125	200	225	250	275
Compressed air, NI/h	100	100	150	150	200	200
Cooling water, l/h	5 000	5 000	10 000	10 000	15 000	15 000
Steam, kg/h	500	500	750	750	1 000	1 000

Processing parameters*

Capacity, kg/h	3 000	4 200	6 400	9 000	10 000	13 500
Capacity, no of batches /h	6	8,6	4,3	6	3,8	5,5

C300-1500VAA

Production setup	Continuous
Voltage, V (Hz)	380-480 (50-60)
Power, kW	80
Service water, l/h	225
Compressed air, NI/h	150
Cooling water, l/h	10 000
Steam, kg/h	750

Processing parameters*

Capacity, kg/h	>8 000
----------------	--------

* Based on 80% mayonnaise. Capacity of continuous and continuous plus setups above 8 000 kg/h.



Tetra Pak® High Shear Mixer
for cold emulsions, Batch



Tetra Pak® High Shear Mixer
for cold emulsions, Batch plus

Tetra Pak® High Shear Mixer for cold emulsions

Batch processing unit with double-shaft agitator

Layout

