GEA BATCH FORMULA® MIN High Shear Mixer

Semi-automatic, compact system for powder dissolving and preparing emulsion when mixing low to medium viscosity products for dairy, beverage, plant-based beverage and liquid food applications.

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Fully equipped for many applications
The GEA BATCH FORMULA® MIN High Shear Mixer makes light work of dissolving powders or creating emulsions for many different applications, whether the end product is a traditional rich, thick mayonnaise, or a barista oat milk for that perfect morning coffee.

Small in footprint but high on features, versatility and quality.

Tackling challenges
The GEA BATCH FORMULA® MIN High Shear Mixer has been developed to address what customers say are key challenges when mixing emulsions and dissolving powders. The high shear mixing technology minimizes the risk of retaining undissolved powder agglomerates or creating unstable emulsions that could then result in phase separation in downstream equipment. And reducing that risk can then help to improve final product quality and yield.

Attention to detail
The GEA high shear mixing device (HSMD) has been developed using the latest computational fluid dynamics tools to help optimize flow patterns and – by off-centering the high shear mixing device in the tank - avoid creating vortices. This ability to optimize flow characteristics means the system applies shear forces efficiently to fluidize powder and hydrocolloids into liquids. And by off-centering the HSMD its been possible to position the outlet at the lowest point, allowing for complete drainage of product, and following CIP.

Built for great results
The skid-mounted GEA BATCH FORMULA® MIN High Shear Mixer has been built for flexibility. The 300L tank has a top opening lid so powders or other ingredients can be manually added. Two inlets with manual valves for pumping in liquid ingredients are located near the direct driven HSMD, which is connected at the base of the unit.

Users can select different types of stator, dependent on the application, and easy access makes switching the stator relatively simple. The HSMD is controlled via a variable frequency drive (VFD) that allows fine control of turbulence inside the tank. Temperature in the tank can also be viewed on the VFD. It's been shown that compared with conventional mixer tanks designed with top-mounted high shear agitator, the GEA BATCH FORMULA® MIN High Shear Mixer can significantly reduce process time.

Keeping users in control
The compact unit represents a great option for customers who are looking for a manual, or semi-automated system. The GEA BATCH FORMULA® PRO High Shear Mixer portfolio, which features vacuum technology and higher levels of automation, offers options for users looking for more advanced features, or for processing at increased capacities and throughput.

Technical specifications

Materials
All parts in contact with the product are made from stainless steel EN 1.4404 (AISI 316L). Other parts are made from stainless steel EN 1.4307 (AISI 304L).

Options
- Direct steam injection
- Dimple and insulation jacket

GEA BATCH FORMULA® MIN High Shear Mixer 300L

Processing parameters	
Internal recirculation flow (on water) @3000 rpm, m3/hr	70
Max viscosity, cP	3000
Consumption data	
Installed power, kW	18,5
Power supply, 50Hz, V	380-480
Fuse size	63A
Service water capacity, up to approx. L/h	5 @ ≤ 20°C
Service water pressure	≤ 2 barg
Connections*	
Inlet	1x DN50 1x DN40
Outlet	DN65
Service water	8mm push-connector
CIP**	DN40
Dimensions	
Working Volume, L	300
Length, mm	1100
Width, mm	1300
Height, mm	1750
Weight, kg	360

*All connections are union DIN 11851, unless stated otherwise. **Clamp DIN 32676-A
Above process parameters are guidelines and can vary depending on powder ingredients.

Key benefits
- Low CAPEX and OPEX
- Ergonomic design with easy operator access for maintenance and adjustment
- Integrated tank cleaning means fewer manual tasks, and less use of water and chemicals
- Small unit footprint makes installation possible where space is limited
- Simple system that can be used for a wide range of high shear mixing applications

Features
- Fully drainable, with the outlet sited at lowest point
- Easy access to stator for changeover
- Semi-automated, VFD-driven skid
- Spray balls for clean-in-place (CIP)
- Pre-assembled skid offering fast installation and setup
- Tank temperature indication
- Hygienic design that complies with EHEDG guidelines

Typical Applications
- Recombined milk
- Plant-based beverages such as oat, almond and soya milk.
- Flavored yogurt
- Premixes for ice cream and deserts
- Sugar and brine solutions
- Soup
- Mayonnaise
- Sauces and dips
- Dissolving starch and stabilizers
- Dissolving cocoa

and many more...

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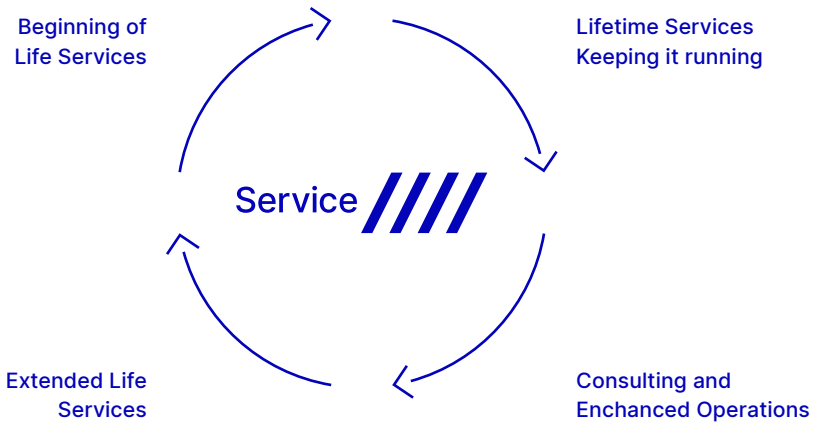

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