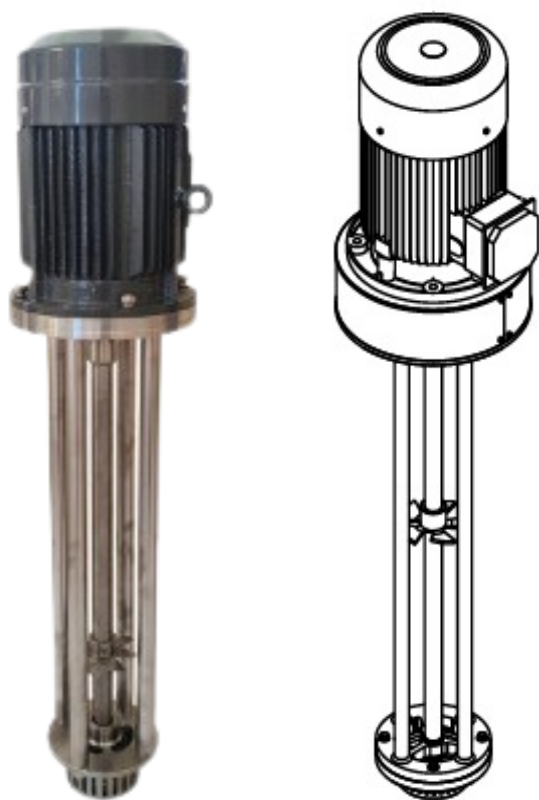


BATCH HIGH SHEAR MIXER



The Batch High Shear Mixer design consists of a single stage four-blade rotor that turns at high speed within a stationary stator. As the rotating blades pass each opening in the stator, they mechanically shear particles and droplets, and expel material at high velocity into the surrounding mix, creating intense hydraulic shear. As fast as material is expelled, more is drawn into the bottom of the rotor/stator generator, which promotes continuous flow and fast mixing.

The batch model can be either mounted to a vessel or suspended over a vessel on a portable lift. The mobile configuration offers the flexibility to use a single mixer in multiple vessels. It also allows the user to vary the position of the stator to process different materials and batch sizes.

The rotor/stator of the batch model is generally positioned 2 - 3 head diameters off the bottom of the vessel, and slightly off centre. To ensure adequate suspension of heavier solids, the rotor/stator generator may be positioned in the centre of the vessel. Interchangeable stators provide unlimited flexibility to adopt to a variety of product formulations. Batch models are supplied in many sizes from 3/4 through 100 horsepower.

HOW IT WORKS

Step 1. When the rotor is driven by the motor, it rotates at a very high speed of several thousands rpm. A powerful suction is generated at its centre and draws both solids and liquids from the inlet pipe into the working chamber.

Step 2. Centrifugal force leads the materials to the periphery. Materials are subjected to intensive squeezing and milling at the precision machined clearance between rotor and stator. High pressure is created there too due to the gathering of materials, which makes the impact between particles more remarkable.

Step 3. Followed is another intense hydraulic shear as the materials are forced out through the openings in the stator at very high velocity. When material particles arrive outside of the stator, they tend to explode into thousands of even smaller ones as the pressure drops down sharply.

Step 4. Fresh materials are continually drawn into the stator - rotor maintaining the mixing cycle. Due to the vortex in the tank, materials in every corner of the tank can pass through the stator - rotor system again and again, resulting in fine droplet size.

APPLICATIONS

Inline Emulsifier Mixers are widely used by a variety of industries in different stages of the processing. They are highly efficient to save a lot of energy and time compared with traditional mixing methods.

Food & Beverage

Reconstituted milk, Salad dressing, Mayonnaise, Ice cream, Cheese, Yogurt, Fruit juice.

Pharmaceuticals & Biology

Drug synthesis, Vaccine, Fat emulsion, Injectable suspension, Veterinary medicine, Cell extraction.

Cosmetics & Daily Care

Detergent, Body gel, Shampoo, Cream, Lotion, Tooth paste, Soap

Chemicals & Oil Industry

Synthetic rubber, Resin, Bitumen, Silicon oil, Dye, Pigment, Coating, Ink, Nano material.