SPM PROCESS SYSTEMS
For Better Fluid Mixing!

INLINE EMULSIFIER MIXER

An inline mixer is a high shear mixer for inline or continuous operation. In the Inline process , the mixer is installed outside the tank. This makes it easy to be built into an existing production line with normal inlet/outlet connections.

In the case to deal with liquid with a low viscosity, the inline mixer can pump the liquid without an additional pump. That is why it is also called High Shear Pump.

The mixer can be used to deal with the product in a single pass or with several circulations to make the product better.

Different from a Batch High Shear Mixer, the mixing occurs in the mixing chamber, thus energy is introduced onto materials in the most efficient way. This also cuts the process times by up to 90 % compared with conventional blending methods.

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 circulation or single - pass flow.

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.

Pharmaceutics & 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.