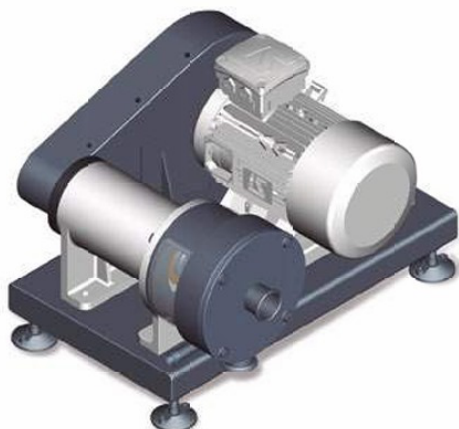


MULTI STAGE HOMOGENIZER



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.

The SPM multi-stage homogenizer is especially well-suited for the production of emulsions and dispersions. It is used in the foodstuffs, pharmaceutical, chemical and petrochemical, and cosmetics industries for the wetting, comminution, mixing, de-agglomeration and homogenizing of liquid/solid mixtures. The rotor-stator system has a four-stage configuration and is equipped with an 4 flat bladed rotor. It is ideally adapted to the homogenizing process. The homogenizer also allows defibration and can therefore be used in a wide variety of applications. The high degree of turbulence in the rotor-stator system reliably achieves extremely small droplet sizes and thorough distribution.

In many applications, the multistage mixer can replace high-pressure homogenizing as droplet sizes below 5 μm , which are adequate for many process applications, can be achieved. Frequently, the homogenizer is connected to batch hoppers, mixing and agitator vessels to reduce mixing times or accelerate dissolving processes. These homogenizer can process any material that can be pumped.

The units include four stage or greater rotors that turn at speeds to 15,000 feet per minute within a stationary stator. As the rotating blades pass the stator, they mechanically shear the contents. This series is a good choice for process lines that require frequent changeover from one product to another. A simple valve can divert finished product downstream or switch instantly from one vessel to another.

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.