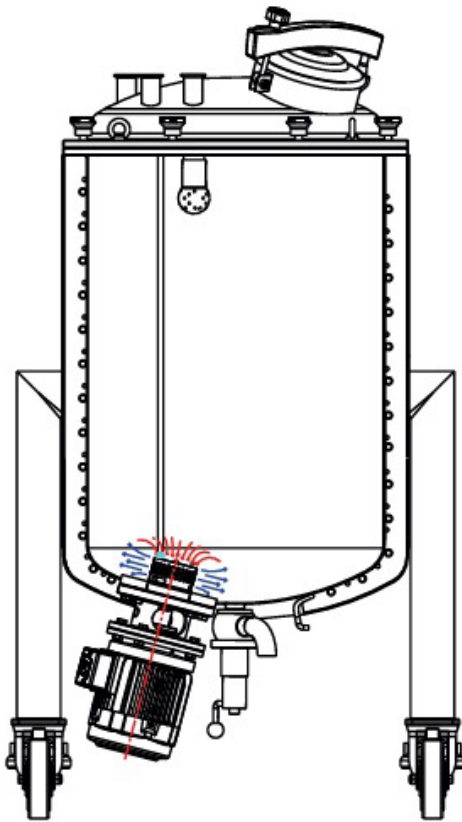


BOTTOM ENTRY HOMOGENIZER



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 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.

SPM has designed a wide range of bottom entry homogenizers which meet all requirements in product dispersing, mixing, homogenizing and crushing processes.

The mixers are installed in the bottom of the vessel and carry out highly efficient mixing of the heaviest particles of the product. When turning, the turbine generates the suction required to draw the fluid towards the centre of the rotor, where centrifugal force directs it toward the outside of the rotor. Once the space between the turbine and the stator is reached, the product is subjected to high pressure which leads to crushing. It then passes through the high turning speed headpiece orifices, generating a very high shearing strain which leads to dispersion, emulsification and homogenisation of the mix, as this process is repeated continuously.

This high level of shearing, combined with the different types of headpieces (perforated, slotted or sieved), generates the ideal particle size for stable emulsions and homogeneous mixes.

These units can be used in an agitator system fitted with an anchor impeller for high viscosity products, or can work alone if the product has low viscosity. All these features make these units essential in sectors as demanding as the food, pharmaceutical and cosmetics industries.

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.