

HIGH SPEED DISPERSERS

The High Speed Disperser is a common mixing tool used throughout the process industries, is a standard workhorse used in the manufacture of chemicals, plastics, coatings, inks, paints, adhesives, composites and many other products. An economical and relatively simple piece of mixing equipment, its primary purpose is to incorporate powders into liquid and break down particle agglomerates to produce a fine dispersion.

Running at tip speeds up to around 18 to 22 m/s, the open disc blade of the High Speed Disperser creates vigorous turbulent flow within a low viscosity batch. It also generates a characteristic vortex into which dry ingredients can be added for quick wet-out. The disperser blade may be located on- or off-center depending on the depth of the vortex (an off-center blade produces a smaller vortex and reduces air entrapment). As the batch thickens or increases in volume, blade speed is adjusted to maintain the vortex and rate of material turnover.

The standard design is a floor-mounted unit with an air/oil hydraulic lift which allows the use of interchangeable vessels and the handling of low liquid volumes during the initial stages of mixing. Having the ability to raise and lower the disperser blade is also beneficial in terms of eliminating any “stratification” or possible layering within the batch.

Vacuum-capable High Speed Dispersers may include a hydraulic lift but blade position cannot be adjusted during mixing. Instead, a secondary blade can be used to ensure proper batch turnover. Safety limit switches prevent operation of the mixer while in the raised position or without a mix vessel in place.

APPLICATIONS

The most popular and common applications of the SPM High Speed Dispersers are as following:

General

Dispersing, suspending, emulsifying, dissolving homogenizing, mixing and breaking down agglomerates of high viscous materials (up to 300,000 CPs)

Paints, varnishes and printing inks

Preparing paint batches, carbon paper paint, artist's paints, priming and rust removing paints, fillers, dispersion and coating paints, varnish pastes, printing inks, resin solutions, textile printing inks, etc.

Plastics

Preparing all types of PVC, PU pastes, color concentrates and plastic putties.

Adhesives

Preparing rubber, neoprene, resin and other types of adhesives.

Chemicals

Preparing filler dispersions, coating materials, insulation materials, bitumen based sealing materials, greases and lubricants.



IMPELLER TECHNOLOGY

Cowl-Disc Impellers are designed to deliver high shear and energy input into liquid systems, making them ideal for applications such as liquid-liquid dispersion, powder dissolution, and de-agglomeration. They generate intense mixing forces that effectively break down particles, reduce agglomerates, and promote the uniform dispersion of solids within liquids. These impellers are particularly suited for processes requiring efficient particle size reduction and thorough, homogeneous mixing.



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