

Powder Mixer

WET/DRY FLUID STREAM MIXER

Better Mixing in Less Time

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Better Blending In Less Time

What is the Powder Mixer?

The Fristam Powder Mixer is a high-performance, compact system designed to quickly and efficiently blend wet and dry ingredients into a fluid stream. It delivers consistent, reliable mixing even as product viscosity increases, making it ideal for a wide range of applications. The Powder Mixer combines the powder induction capabilities of Fristam's FZX liquid ring pump or FDS twin screw pump with the thorough blending action of the FS Shear Blender, providing a powerful, all-in-one solution for complex mixing tasks.

Where is the Powder Mixer Used?

Fristam's Powder Mixer is used across various industries where precise blending of dry powders and viscous liquids is required, including food, dairy, beverage, pharmaceuticals, chemicals, and cosmetics. It's ideal for products like sauces, creams, beverages, gels, hand sanitizers, nutritional powders, and more. The Powder Mixer is versatile enough to handle both small and large batch sizes, making it suitable for different production scales, from pilot runs to full-scale manufacturing.

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How Does the Powder Mixer Work?

The Powder Mixer operates in-line, providing continuous blending without the need for time-consuming batch processes. The system first uses the Fristam FZX or FDS pump to draw in dry powders, then mixes them thoroughly with liquids in the FS Shear Blender. This combined action results in highly efficient, consistent dispersion. The powder is wetted and fully dispersed on the first pass through the system, significantly reducing the time and energy typically required for traditional batch mixing methods. The ability to handle high viscosities up to 1 million centipoise ensures that even the most challenging mixtures are processed effectively.

Key Advantages of the Powder Mixer:

- Dramatically reduces process times: The in-line mixing process reduces blending times by up to 90% compared to traditional methods.
- Produces consistent batches: With precise control over the mixing process, the Powder Mixer ensures uniformity across all batches.
- Devours lumps, clumps, and fisheyes: The powerful blending action eliminates agglomerations and ensures smooth, homogenous results.
- Cleans in place: The Powder Mixer is designed for easy cleaning, allowing for quick and efficient sanitation between batches.
- Is fully customizable: The system is available in various sizes, configurations, and options to meet specific production needs.

Key Benefits of the Powder Mixer:

- Floor-Level Operation: With its compact design, the Powder Mixer operates at floor level, eliminating the need for dangerous ladder climbing or heavy lifting of equipment. All models are portable with locking wheels, allowing easy relocation to different processes throughout the production facility.
- First-Pass Mixing: The Fristam Powder Mixer is capable of achieving complete powder dispersion on the first pass, reducing process times by up to 90% compared to traditional batch methods, while minimizing ingredient waste. Its efficient, one-pass mixing eliminates the need to add extra ingredients to achieve a desired consistency, eliminating waste and leftover residue in the tank—especially vital for high-cost ingredients like gums, carbomers, and viscosity modifiers.
- Viscosities to 1 Million Centipoise: The PM-FDS model is specifically designed for high-viscosity applications, offering unparalleled mixing power for products with viscosities up to 1,000,000 cps. This makes it ideal for thick, sticky, or concentrated materials that might otherwise be challenging to blend with standard equipment.

Powder Mixer Features and Options:

- FDS double screw pump: For superior powder induction and pumping of highly viscous liquids.
- Arc valve: Ensures precise control over powder flow and dispersion.
- Control panel with Variable Frequency Drives (VFDs): Allows for optimized control of both pumps by adjusting speeds to meet specific process requirements.
- Funnel vibrator, funnel screen, and funnel lid: These options ensure smooth powder flow, prevent contamination from foreign materials, and protect ingredients from external contamination.
- Double seals: Provide enhanced durability for sticky or abrasive products.

Why Choose the Powder Mixer?

The Fristam Powder Mixer stands out for its unique combination of speed, efficiency, and versatility. By offering precise, first-pass mixing and the ability to handle both high and low-viscosity products, it reduces your process times and increases overall productivity. Its compact, floor-level design enhances safety and ease of use, while its customizability ensures it can be tailored to fit your specific production requirements. Whether you're producing small batches or large volumes, the Fristam Powder Mixer delivers consistent, high-quality results that keep your operation

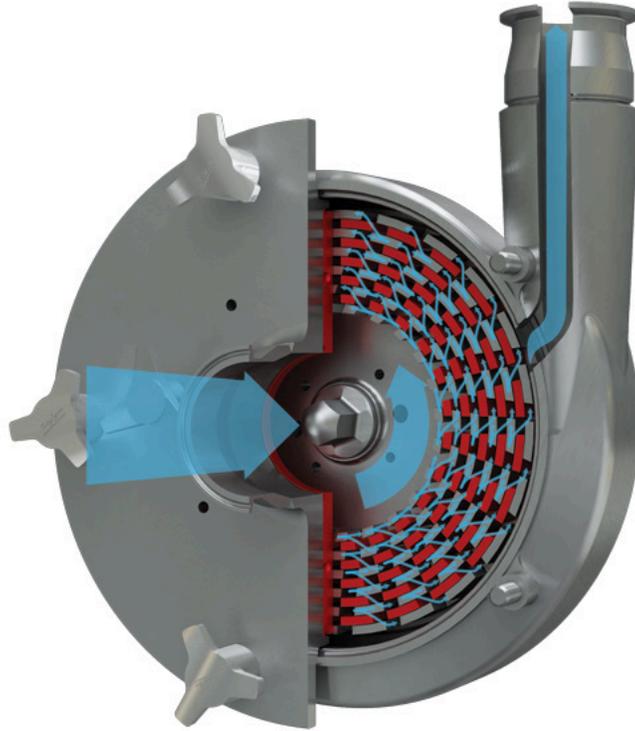
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BETTER TECHNOLOGY

ERGONOMIC AND SAFE

MIXES IN MINUTES

HIGH VISCOSITY OPTION



Induction and Blending

First, the Powder Mixer utilizes pumps that are capable of generating a strong vacuum that can be maintained throughout the entire product run, ensuring your powder rate will remain consistent and fluid will not back up into the funnel. Then, the FS Shear Blender uses an intermeshed rotor/stator system to disperse particles into liquid. The rotating teeth pass within 0.5 mm of the stationary teeth at high speeds, ensuring that all product must be thoroughly blended to exit the Powder Mixer.

Powder Mixer Model Specifications

Model	Max Induction Rate	Max Flow Rate	Max Viscosity
Series	600 lb/min	300 gpm	100,000 cps

Model	Max Induction Rate	Max Flow Rate	Max Viscosity
01-10	30 lb/min	15 gpm	5,000 cps

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25-53	300 lb/min	150 gpm	5,000 cps
35-53	500 lb/min	250 gpm	5,000 cps
40-53	600 lb/min	300 gpm	5,000 cps
2-52	150 lb/min	75 gpm	100,000 cps

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Overview ▼
SIZING CHART

Media



Fristam Powder Mixer: Powder Induction & Blending

Fristam Powder Mixer: How It Works



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