XHF-DY Laboratory High-Shear Mixer

XHF-DY

Product Description

XHF-DY Laboratory High-Shear Mixer

Rotor–stator disperser for homogenization, dispersion and emulsification



The XHF-DY Laboratory High-Shear Mixer is suitable for a wide range of laboratory applications in medicine, bioengineering, cell research, the food industry, and cosmetics manufacturing. It effectively homogenizes and mixes animal and plant tissues. Its variable speed settings allow the disruption of different types of cells. The device also enables efficient dispersion, emulsification, and extraction between immiscible liquid phases. High-speed dispersion significantly reduces sample processing time, improving laboratory efficiency. At its lowest speed, the device can be used as a mixer.

Operating Principle

The XHF-DY high-speed disperser uses an electronically controlled high-speed motor and a rotor–stator system with plum-blossom-shaped cutting elements. The high-speed rotation of the internal cutting tool enables homogenization, emulsification, and disruption of materials.

A rotor–stator mixer is a high-shear mixing device in which a rapidly rotating rotor operates inside a stationary stator. Material passes through the narrow gap and stator openings, where intense shear promotes homogenization, emulsification, and the breakdown of agglomerates.

Unlike a conventional mixer, which mainly blends and circulates material, or a dissolver, which uses an open, high-speed toothed disc, a rotor–stator mixer concentrates shear within its mixing head. It generally provides higher local shear but less bulk circulation than a dissolver, making it particularly suitable for fine emulsification and homogenization.

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Technical Specification

- Stepless Speed Adjustment: The speed is continuously adjustable from 2,800 to 28,000 rpm
- Simple, Adjustable Design: The distance between the dispersing tool and the work surface can be freely adjusted to ensure effective contact with the sample
- Parameter Memory Function: Parameter settings are automatically saved and can be quickly recalled for review and adjustment

Application Areas

- Pharmaceuticals
- Biotechnology
- Chemicals
- Materials

Practicle Application Examples:

- Tissue Homogenization: Disruption, homogenization, and mixing of plant and animal tissues.
- Cell Disruption: Disruption of cells from different organisms.
- Dispersion, Emulsification, and Extraction: Efficient dispersion, emulsification, and extraction between immiscible liquid phases.

Applications also include the extraction of trace organic compounds, lipid-soluble substances, organic solvents, and soluble substances from water.

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Main Technical Parameters

Parameter	Specification
Voltage	220 V
Power	360 W
Speed range	2,800–28,000 rpm
Sample volume	3–2,000 mL
Timer range	1–9.9 min
Ambient operating temperature	−10 to +40 °C
Dispersing tool diameter / sample volume	Ø10 mm: 3–200 mL; Ø14 mm: 50–500 mL; Ø18 mm: 50–1,000 mL; Ø25 mm: 100–2,000 mL
Display	LCD
Dimensions (depth × width × height)	330 × 235 × 522 mm
Net weight	8 kg

Disclaimer

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