

2L Laboratory Planetary Vacuum Mixer Cantilever Lifting Bucket

Item Number: JL02



Introduction

2L laboratory planetary vacuum mixer with cantilever lifting bucket for homogeneous battery slurry dispersion and high viscosity processing up to 1,200,000 cP, with adjustable heating cooling, precise dual agitation, and robust stainless steel construction for research scale production.

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Application	Description	Key Benefit
Battery Electrode Slurry Preparation	Mix active powders, conductive additives, binders, and liquid media for lithium-ion and other battery development workflows.	Promotes consistent powder wetting and uniform slurry distribution before coating or further electrode processing.
High-Viscosity Battery Formulations	Process thick, difficult-to-move formulations within the specified viscosity range of up to 1,200,000 cP.	Provides combined low-speed planetary mixing and high-speed dispersion for demanding rheology.
Conductive Material Dispersion	Disperse carbon materials and other fine additives into a binder or solvent system using the toothed dispersion disc.	Helps reduce agglomeration and improve additive distribution throughout the batch.
Advanced Materials Research	Develop ceramic, composite, functional powder, and specialty material formulations at laboratory scale.	Enables controlled experimentation with adjustable mixing and dispersion parameters.
Powder Metallurgy Binders and Pastes	Combine powders with liquid or binder phases for paste development and process trials.	Supports repeatable small-batch blending without requiring a larger production mixer.
Ceramic Slurry Development	Prepare viscous ceramic slurries for casting, coating, forming, or related laboratory evaluation.	Provides robust agitation for materials that require substantial mechanical energy.
Temperature-Sensitive Formulations	Use the vessel wall and bottom jackets with a customer-supplied circulation system for heating or cooling.	Helps maintain a more suitable process temperature during mixing and dispersion.
Academic and Pilot Laboratory Work	Conduct formulation screening, parameter studies, and scale-up preparation in research laboratories.	Combines useful batch capacity with flexible speed adjustment and accessible vessel handling.

Specification Group	Parameter	Value
Product Identification	Model	JL02
Vessel Assembly	Designed total volume	3.8L
Vessel Assembly	Effective volume	1.2L-2L
Vessel Assembly	Container internal diameter	180mm
Vessel Assembly	Container internal depth	150mm
Vessel Assembly	Material in contact with material	304ss
Vessel Assembly	Temperature-control jacket form	Single-layer jacket on vessel wall for cooling or heating; single-layer jacket on vessel bottom for cooling or heating
Vessel Assembly	Temperature-control jacket connection	G3/8", with quick-opening union coupling; jacket pressure resistance ≤ 0.4 MPa

SpecificationGroup	Parameter	Value
Vessel Assembly	Temperature-control jacket circulation system	Customer supplied
Vessel Assembly	Recommended jacket inlet water temperature	≤8℃
Vessel Assembly	Recommended cooling-water flow rate	□ 3.5L/min
Vessel Assembly	Discharge form	No discharge buckle
Vessel Assembly	Designed ambient temperature	-10~+120℃
Vessel Assembly	Movement method	No casters, manual handling
Mixing Assembly	Working frequency	5-50hz
Mixing Assembly	Mixing power	0.75kw
Mixing Assembly	Mixing rotation speed	8-76rpm
Mixing Assembly	Planetary box rotation speed	5-52rpm
Mixing Assembly	Mixing blade diameter	94mm
Mixing Assembly	Mixing blade style	Variable-section spiral twisted type, 90° spiral line
Mixing Assembly	Mixing blade material	304 ss
Mixing Assembly	Mixing blade line speed	/
Mixing Assembly	Mixing blade quantity	2pcs
Mixing Assembly	Blade pitch	6±1mm
Mixing Assembly	Distance between blade and vessel wall	3+1mm
Mixing Assembly	Distance between blade and vessel bottom	2-3mm
Dispersion Assembly	Working frequency	5-50hz
Dispersion Assembly	Dispersion power	1.1kw
Dispersion Assembly	Dispersion rotation speed	450-4450rpm
Dispersion Assembly	Dispersion disc diameter	60mm
Dispersion Assembly	Dispersion disc style	Toothed
Dispersion Assembly	Dispersion disc material	304 stainless steel
Dispersion Assembly	Dispersion line speed	1.3-13m/s
Dispersion Assembly	Dispersion disc quantity	1
Dispersion Assembly	Dispersion shaft quantity	1