

1L Laboratory Planetary Vacuum Mixer With Cantilever Lifting Bucket For Lithium Battery Slurry Mixing

Item Number: JL01



Introduction

1L laboratory planetary vacuum mixer with cantilever lifting bucket for lithium battery slurry mixing, high viscosity dispersion, heating, and cooling control for consistent pilot scale electrode material preparation and flexible laboratory process development across demanding research workflows.

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Application	Description	Key Benefit
Lithium Battery Slurry Mixing	Mixes battery powders and liquids to prepare homogeneous electrode slurry for laboratory-scale formulation and process development.	Supports repeatable small-batch slurry preparation with both planetary mixing and high-speed dispersion.
High-Viscosity Formulation Research	Processes materials with viscosities up to 1,200,000 cP where conventional low-torque laboratory mixers may be unsuitable.	Provides a defined operating platform for thick and difficult-to-move formulations.
Battery Material Dispersion	Disperses powder components into liquid media using a toothed disc with adjustable high-speed operation.	Helps researchers evaluate dispersion conditions and reduce agglomeration during formulation trials.
Electrode Material Development	Supports laboratory preparation of material blends for battery research before downstream coating or cell assembly activities.	Connects small-batch slurry development with broader battery R&D workflows.
Temperature-Sensitive Processing	Uses wall and bottom vessel jackets for customer-supplied heating or cooling circulation.	Gives process teams a practical method for managing formulation temperature during mixing.
Advanced Materials Research	Handles powder-liquid mixing and dispersion tasks in ceramics, powder metallurgy, and other materials research environments.	Provides flexible processing for non-battery formulations that require controlled laboratory mixing.

Category	Parameter	Specification
Product Identification	Product item number	JL01
Application	Suitable materials	Powders and liquids used in common battery mixing and dispersion processes
Application	Maximum applicable viscosity	≤1200000 cP
Lower Bucket Assembly	Designed total volume	2.1L
Lower Bucket Assembly	Effective volume	0.7-1L
Lower Bucket Assembly	Container inner diameter	164mm
Lower Bucket Assembly	Container inner depth	100mm
Lower Bucket Assembly	Material contacting the product	304 stainless steel
Lower Bucket Assembly	Temperature-control jacket form	Single-layer jacket on the vessel wall for cooling or heating; single-layer jacket on the vessel bottom for cooling or heating

Category	Parameter	Specification
Lower Bucket Assembly	Temperature-control jacket connection	G3/8", with quick-opening union; jacket pressure resistance $\leq 0.4\text{MPa}$
Lower Bucket Assembly	Jacket circulation system	Customer supplied; recommended jacket inlet water temperature $\leq 8^{\circ}\text{C}$ and cooling-water flow rate $> 3.5\text{L/min}$
Lower Bucket Assembly	Discharge form	No discharge outlet
Lower Bucket Assembly	Designed ambient temperature	$-10^{\circ} \sim +120^{\circ}\text{C}$
Lower Bucket Assembly	Mobility	No casters; manual handling
Mixing Assembly	Operating frequency	5-50hz
Mixing Assembly	Mixing power	0.55kw
Mixing Assembly	Mixing blade speed	14-130rpm
Mixing Assembly	Planetary box speed	5-40rpm
Mixing Assembly	Mixing blade diameter	83mm
Mixing Assembly	Mixing blade style	Variable-section spiral twisted type, 90° spiral line
Mixing Assembly	Mixing blade material	304 stainless steel
Mixing Assembly	Mixing blade line speed	/
Mixing Assembly	Number of mixing blades	1
Mixing Assembly	Blade-to-vessel-wall distance	$3.5 \pm 1\text{mm}$
Mixing Assembly	Blade-to-vessel-bottom distance	$2 \pm 1\text{mm}$
Dispersion Assembly	Operating frequency	5-50hz
Dispersion Assembly	Dispersion power	1.1kw
Dispersion Assembly	Dispersion speed	580-58000rpm
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	1.8-18m/s
Dispersion Assembly	Number of dispersion discs	1
Dispersion Assembly	Number of dispersion shafts	1