

100L Planetary Dispersion Vacuum Mixer With Cantilever Lifting Bucket For Battery Slurry

Item Number: JL10



Introduction

100L planetary dispersion vacuum mixer with cantilever lifting bucket, dual planetary agitation, four dispersing discs, 45-100L working volume, and high-viscosity battery slurry processing up to 1,200,000 cP with jacketed temperature control, stainless steel wetted parts, and mobile discharge design.

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Application	Description	Key Benefit
Lithium Ion Battery Slurry Preparation	Mixes battery powders and liquid components into electrode slurry for cathode or anode development and production processes.	Supports uniform formulation quality across high-viscosity batches.
Battery Materials Research	Processes experimental combinations of active materials, conductive agents, binders, and solvents during laboratory or pilot-scale development.	Provides adjustable agitation and dispersion conditions for formulation optimization.
High Solid Content Electrode Formulations	Handles thick mixtures where conventional low-shear mixers may struggle to wet powders or maintain consistent circulation.	Delivers intensive mechanical action for demanding rheology.
Conductive Paste and Functional Slurry Processing	Disperses fine powders into liquid carriers for conductive, electronic, or functional material formulations.	High-speed serrated discs help reduce agglomeration and improve dispersion uniformity.
Powder Metallurgy and Advanced Materials	Combines powders and liquids for research or process development involving ceramics, metal powders, and engineered composites.	Broad process flexibility supports varied material systems and viscosity levels.
Pilot-Scale Process Transfer	Bridges laboratory formulation work and larger-scale manufacturing by providing a 45 to 100 L effective working volume.	Enables more representative batch trials before production-scale implementation.

Category	Parameter	Specification
Product Identification	Model	JL10
Product Configuration	Equipment type	100L planetary dispersion vacuum mixer with cantilever lifting bucket
Applicable Materials	Process scope	Mixing and dispersion of powders and liquids for common battery slurries
Process Capability	Applicable viscosity	≤1,200,000 cP
Lower Vessel Assembly	Designed total volume	140 L
Lower Vessel Assembly	Effective volume	45–100 L
Lower Vessel Assembly	Vessel internal diameter	596 mm
Lower Vessel Assembly	Vessel internal depth	500 mm
Lower Vessel Assembly	Vessel material	304 stainless steel on material-contact parts
Lower Vessel Assembly	Temperature-control jacket	Single-layer jacket on vessel wall for cooling or heating; single-layer jacket on vessel bottom for cooling or heating

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Lower Vessel Assembly	Temperature-control jacket connection	G3/4 inch, supplied with quick-opening union fittings
Lower Vessel Assembly	Jacket pressure rating	≤0.4 MPa
Lower Vessel Assembly	Jacket circulation system	Customer supplied
Lower Vessel Assembly	Recommended jacket inlet water temperature	≤8°C
Lower Vessel Assembly	Recommended cooling-water flow rate	>40 L/min
Lower Vessel Assembly	Discharge arrangement	One bottom G1-1/2 inch three-piece discharge ball valve, supplied with a 2 inch standard ISO quick-connect clamp fitting
Lower Vessel Assembly	Designed ambient temperature	-10℃ +120℃
Lower Vessel Assembly	Mobility	Caster-mounted mobile design
Mixing Assembly	Working frequency	5-50 Hz
Mixing Assembly	Mixing power	11 kW
Mixing Assembly	Mixing blade speed	5-52 rpm
Mixing Assembly	Planetary box speed	3-30 rpm
Mixing Assembly	Mixing blade diameter	338 mm
Mixing Assembly	Mixing blade style	Variable-cross-section helical twisted type with 90° helix line
Mixing Assembly	Mixing blade material	304 stainless steel
Mixing Assembly	Mixing blade line speed	0.09-0.9 m/s
Mixing Assembly	Number of mixing blades	2
Mixing Assembly	Blade-to-blade distance	7 ± 1 mm
Mixing Assembly	Blade-to-vessel-wall distance	5 ± 1 mm
Mixing Assembly	Blade-to-vessel-bottom distance	4 ± 1 mm
Dispersion Assembly	Working frequency	5-65 Hz
Dispersion Assembly	Dispersion power	15 kW
Dispersion Assembly	Dispersion speed	275-3,575 rpm
Dispersion Assembly	Dispersing disc diameter	125 mm
Dispersion Assembly	Dispersing disc style	Serrated
Dispersion Assembly	Dispersing disc material	304 stainless steel
Dispersion Assembly	Dispersion line speed	1.8-23 m/s
Dispersion Assembly	Number of dispersing discs	4
Dispersion Assembly	Number of dispersing shafts	2