

Comprehensive Liquid-Liquid Extraction Pilot Plant For Engineering Education

Item Number: LPK-CDJC



Introduction

Comprehensive liquid-liquid extraction pilot plant for engineering education, integrating rotary and vibratory columns for hands-on observation of phase behavior, flooding limits, and mass transfer efficiency, enabling precise HTU and mass transfer coefficient calculations.

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Parameter / Feature	Technical Details	Associated Academic Concept / Unit Operation
Rotary Extraction Column	High-transparency glass column with adjustable-speed rotary agitator drive	Liquid-Liquid Extraction, Dispersed Phase Holdup, Rotor Speed Effects
Vibratory Extraction Column	High-transparency glass column with variable-frequency reciprocating plates	Reciprocating Plate Columns, Mechanical Agitation, Droplet Breakup
Fluid Delivery System	Precision chemical-resistant pumps with digital flow rate monitoring	Flow Rate Ratio, Mass Balance, Phase Ratio Control
Process Control Interface	Integrated industrial touchscreen monitor, real-time data display	Process Dynamics, Industrial Instrumentation, Data Acquisition
Visual Diagnostic Capability	Clear view of phase boundary, droplet size distribution, and flooding points	Flooding Velocity, Phase Inversion, Column Capacity Limits
Structural Frame	Anodized aluminum alloy profile on heavy-duty casters (≤ 2200mm × 580mm × 1800mm)	Industrial Pilot Plant Layout, Laboratory Space Utilization