Customizable Ptfe Reaction Vessel With Electric Stirring Paddle And Buchner Funnel Vacuum Filtration System

Item Number: PL-CP389

Introduction

High-performance customizable PTFE reaction vessel system featuring integrated electric stirring paddles and Buchner funnel vacuum filtration components designed for demanding laboratory environments requiring absolute chemical inertness, high-purity trace analysis, and bespoke engineering solutions for complex industrial applications.

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Application	Description	Key Benefit
Pharmaceutical Synthesis	Production of high-purity active pharmaceutical ingredients (APIs) involving corrosive catalysts or intermediate reagents.	Prevents metallic contamination and ensures batch-to-batch purity.
Semiconductor Etching	Handling and mixing of ultra-pure hydrofluoric acid and other etchants used in silicon wafer processing.	Absolute resistance to aggressive acids that degrade glass and stainless steel.
Trace Metal Analysis	Preparation and digestion of samples for ICP-MS or atomic absorption spectroscopy in environmental laboratories.	Extremely low background levels of trace elements for superior analytical accuracy.
Battery Material Research	Synthesis of lithium-ion battery electrolytes and cathode materials requiring inert mixing environments.	High thermal stability and non-reactive surfaces prevent degradation of sensitive chemicals.
Specialty Chemical Mixing	Small-batch production of high-value specialty chemicals requiring precision stirring and rapid vacuum filtration.	Streamlined workflow from reaction to separation within a single, unified system.
Nuclear Waste Processing	Handling of radioactive or highly corrosive waste simulants for research into containment and separation.	Superior durability and radiation resistance compared to standard laboratory plastics.
Fine Food Grade Chemistry	Processing of food additives or flavors where material migration from the equipment must be strictly zero.	FDA-compliant material properties ensure complete safety and regulatory compliance.

Feature	Specification Details (Product Item Number: PL-CP389)
Material Construction	High-Purity Polytetrafluoroethylene (PTFE)
Stirring Mechanism	Electric Drive with Customizable Paddle Geometry
Vessel Volume	5L Base Model (Fully customizable to specific dimensions)
Filtration Component	PTFE Buchner Funnel with Vacuum Filtration Flask
Stirring Paddle Properties	Scratch-resistant, low-friction, chemical-resistant finish
Operating Temperature	Customizable based on specific material grade and application
Pressure/Vacuum Rating	Engineered to user-defined specifications for vacuum filtration
Fabrication Method	End-to-end custom CNC machining for all components
Lid Design	Customizable ports for sensors, feed lines, and ventilation

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Surface Finish	Fine-machined non-stick surface for high-purity requirements	