

Custom Ptfе Multilayer Reaction Apparatus High Temperature Corrosion Resistant Threaded Modular Sieve System

Item Number: PL-CP337



Introduction

Enhance chemical processing with this custom PTFE multilayer reaction apparatus featuring corrosion-resistant threaded connections and integrated sieve plates. Designed for high-temperature stability and precision filtration in demanding laboratory environments across pharmaceutical and semiconductor research and advanced industrial applications.

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Application	Description	Key Benefit
Pharmaceutical Synthesis	Multi-stage reaction and filtration of active pharmaceutical ingredients (APIs) using aggressive reagents.	Prevents contamination and resists highly corrosive catalysts.
Battery Material Testing	Evaluation of electrolyte stability and lithium-ion battery components in a controlled, inert environment.	High temperature and chemical stability with no leachable ions.
Trace Metal Analysis	Preparation and digestion of samples for ICP-MS or AAS where ultra-low detection limits are required.	Absolute purity with zero metallic background interference.
Catalyst Recovery	Separation of precious metal catalysts from liquid reaction mixtures using integrated multi-layer sieves.	Facilitates efficient reclamation of expensive materials.
Semiconductor Processing	Filtration and handling of ultra-pure wet chemicals used in wafer etching and cleaning.	Maintains ultra-high purity levels required for microelectronics.
Specialty Polymer Production	Small-batch synthesis of high-performance polymers requiring precise temperature and pressure control.	Modular design allows for varied reaction residence times.
Petrochemical Research	Testing of fuel additives and corrosive hydrocarbon mixtures under thermal stress.	Exceptional resistance to organic solvents and elevated temperatures.
Environmental Monitoring	Large-volume filtration of caustic wastewater samples for pollutant detection and analysis.	Durable construction survives harsh field and lab conditions.

Feature	Specification Detail (Model PL-CP337)
Material Construction	100% Virgin High-Purity PTFE / PFA (Perfluoroalkoxy) available upon request
Configuration Type	Modular Multilayer Stackable Design
Connection Mechanism	High-Precision CNC Machined Threaded Couplings
Number of Layers	Fully Customizable (2-layer to multi-layer arrays)
Sieve Perforation Size	Custom-engineered hole diameters and patterns based on client micron requirements
Temperature Range	Designed for continuous use from -200°C to +260°C
Pressure Rating	Dependent on wall thickness and threaded profile (Customizable for process needs)
Internal Volume	Scalable from micro-analysis volumes to pilot-plant capacities

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Seal Type	Integrated PTFE-to-PTFE compression seal (No O-rings required, though optional PFA-encapsulated O-rings available)	
Surface Finish	Ultra-smooth CNC finish to minimize sample holdup and facilitate cleaning	
Component Identification	Laser-etched or CNC-engraved batch/part numbering for traceability	