High Temperature Corrosion Resistant Hydrothermal Synthesis Reactor With Tfm Inner Liner And Straight Cylinder Design

Item Number: PL-CP171

Introduction

Professional grade high-pressure hydrothermal synthesis reactors featuring corrosion-resistant TFM liners and straight-wall geometry. These units are ideal for demanding chemical synthesis, trace analysis, and advanced material research where absolute purity and customizable performance are required for industrial lab excellence.

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Application	Description	Key Benefit
Nanomaterial Synthesis	Precise control of temperature and pressure for the growth of metal-oxide nanoparticles.	Uniform particle size distribution.
Geochemical Digestion	Dissolving mineral samples in concentrated acids for ICP-MS or ICP-OES analysis.	Minimal trace element background noise.
Hydrothermal Carbonization	Converting biomass into carbonaceous materials under high-pressure aqueous conditions.	High conversion efficiency and purity.
Zeolite Crystallization	Synthesizing molecular sieves and catalysts using specific alkaline templates.	Stable environment for crystal growth.
Polymerization Research	Conducting high-temperature polymerization reactions in aqueous or solvent-based media.	Chemical inertness prevents polymer fouling.
Crystal Growth	Growing single crystals from aqueous solutions at supercritical or subcritical temperatures.	Exceptional clarity and structural integrity.
Waste Treatment Testing	Simulating high-pressure oxidative environments for treating industrial wastewater.	Durability against diverse chemical loads.

Specification Category	Parameter Details for PL-CP171
Model Identifier	PL-CP171 Series
Liner Material	High-Purity TFM (Modified PTFE)
Outer Shell Material	High-Strength Corrosion-Resistant Alloy / Stainless Steel
Internal Geometry	Straight-Wall Cylinder (Direct Recovery Design)
Standard Volume Options	50ml, 100ml (Reference Standard)
Customization Availability	Full Bespoke Fabrication Available for Non-Standard Volumes
Chemical Compatibility	Universal (Strong Acids, Bases, Organic Solvents)
Operating Temperature	High-Temperature Optimized (Reference TFM Limits)
Pressure Rating	Industrial Grade High-Pressure Containment
Closure Type	Precision Machined Threaded / Bolted Secure Closure
Fabrication Method	End-to-End Precision CNC Machining