

High Purity Pfa Condenser Serpentine Straight Hf Resistant Reaction Apparatus Custom Circulation Column

Item Number: PL-CP380



Introduction

Engineered for semiconductor and trace analysis, these custom PFA condensers and reaction columns offer unrivaled HF resistance and high-temperature stability. Our CNC-fabricated laboratory solutions ensure maximum purity and chemical compatibility for demanding industrial chemical processing and research applications.

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Application	Description	Key Benefit
Semiconductor Etching	Condensing ultra-pure acid vapors during the wafer cleaning and etching process.	Prevents contamination and withstands aggressive HF vapors.
Trace Metal Analysis	Used as a reflux condenser in closed-vessel digestion for environmental and geological samples.	Zero leaching of metallic impurities ensures analytical accuracy.
Pharmaceutical Synthesis	Facilitating reactions involving halogenated solvents or strong catalysts that degrade glass.	Universal chemical compatibility protects the integrity of the API.
Battery Material Research	Handling corrosive electrolytes and precursors in high-temperature synthesis environments.	Durable performance in reactive chemical environments up to 260°C.
Hydrofluoric Acid Distillation	Pure distillation and recovery of HF for industrial and laboratory reuse.	Absolute resistance to HF, which would dissolve standard glass apparatus.
Specialty Chemical Production	Custom circulation columns for small-batch production of high-purity specialty monomers.	Non-stick surfaces simplify maintenance and maximize yield.
Petrochemical Testing	Analyzing corrosive hydrocarbon streams at elevated temperatures and pressures.	Maintains structural integrity under harsh thermal and chemical stress.

Parameter	Specification Details for PL-CP380
Model Identifier	PL-CP380 Series (Custom Configured)
Primary Material	Ultra-High Purity Perfluoroalkoxy (PFA)
Design Variants	Serpentine (Coil), Straight-tube, Jacket-style, or Bespoke Geometry
Operating Temperature Range	-200°C to +260°C (-328°F to +500°F)
Chemical Compatibility	Universal (Except molten alkali metals and fluorine at high pressure)
Internal Surface Finish	Mirror-smooth, non-porous fluoropolymer surface
Connection Interface	Customizable (e.g., Flange, NPT, GL45, Compression Fittings)
Fabrication Method	5-Axis CNC Machining and Precision Welding/Molding
HF Resistance	Rated for continuous exposure to high-concentration Hydrofluoric Acid
Dimensions	Fully customizable based on client-specified drawing or footprint

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Cooling Medium	Compatible with water, glycol, or refrigerant circulation	