

Custom Ptfе Condensation Device Reflux Condenser Tube Fluoropolymer Heat Exchanger Chemical Resistant Laboratory Apparatus

Item Number: PL-CP253



Introduction

Professional PTFE condensation and reflux systems for extreme chemical resistance. Our custom fluoropolymer condenser tubes ensure contamination-free processing and superior durability in corrosive laboratory and industrial environments.

[Learn More](#)

Application	Description	Key Benefit
Pharmaceutical Synthesis	Refluxing highly acidic precursors in the production of active pharmaceutical ingredients (APIs).	Eliminates glass-derived impurities and ensures product purity.
Semiconductor Etching	Condensing and reclaiming concentrated hydrofluoric acid and solvent mixtures used in wafer cleaning.	Exceptional resistance to HF which rapidly dissolves glass components.
Trace Metal Analysis	Digestion and condensation of samples in high-purity acid environments for ICP-MS preparation.	Zero ion leaching ensures accurate detection of trace elements.
Fine Chemical Production	Continuous reflux processes for high-value specialty chemicals and polymers.	Long-term reliability reduces maintenance shutdowns and process interruptions.
Petrochemical Testing	Distillation and reflux of halogenated compounds and organic solvents at elevated temperatures.	Resistant to organic swelling and chemical attack from hydrocarbons.
Battery Material Research	Synthesis of electrolyte components and electrode materials involving corrosive lithium salts.	Provides a safe, non-reactive environment for advanced energy research.
Rare Earth Extraction	Managing condensation in the aggressive acid leaching processes required for metal separation.	Prevents the frequent equipment failure associated with metallic heat exchangers.
Hydrothermal Processing	Used as a cooling and pressure-management component in complex reaction vessels.	Maintains structural integrity under combined thermal and chemical stress.

Parameter	Specification Details for PL-CP253
Model Identifier	PL-CP253
Material Construction	100% Virgin PTFE / High-Purity PFA
Dimensional Configuration	Fully Customizable (per client CAD/technical drawing)
Design Type	Reflux Condenser / Cooling Tube / Shell-and-Tube
Connection Options	NPT Threaded, Flanged, or Custom Compression Fittings
Chemical Resistance	Universal (pH 0-14)
Surface Finish	Smooth, Non-Porous, Low-Friction Fluoropolymer
Thermal Range	Optimized for standard laboratory and industrial reflux temperatures

Application	Description	Key Benefit
Parameter	Specification Details for PL-CP253	
Manufacturing Process	Precision CNC Machining and Thermal Forming	
Custom Features	Multi-port inlets, custom lengths, and variable tube diameters available	