

High Purity Pfa Constant Pressure Condensation Reaction System Acid Resistant High Temperature Customizable Teflon Labware

Item Number: PL-CP293



Introduction

Engineered for extreme purity, this PFA constant pressure condensation reaction system offers unparalleled acid resistance and thermal stability. Fully customizable for ultra-trace analysis and semiconductor applications, ensuring sample integrity in the most demanding industrial and laboratory environments.

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Application	Description	Key Benefit
ICP-MS Sample Prep	Digestion and preparation of samples for ultra-trace element analysis using concentrated nitric or hydrofluoric acids.	Zero metallic contamination ensures analytical accuracy at ppt levels.
Semiconductor Etching	Handling and refluxing of high-purity etching solutions used in wafer processing and cleaning.	Resists aggressive fluorinated chemicals that would dissolve glass or other plastics.
Pharmaceutical Synthesis	Synthesis of Active Pharmaceutical Ingredients (APIs) where organic solvent purity and batch consistency are critical.	Non-stick surfaces prevent product loss and simplify validation cleaning protocols.
Polymerization Research	Long-duration reaction of monomers in corrosive environments to create high-performance plastics or coatings.	Material stability prevents vessel erosion during extended reaction cycles.
Hydrofluoric Acid Handling	Specialized chemical processes involving HF, which is incompatible with traditional lab glassware.	PFA is naturally resistant to HF, providing a safe and durable reaction environment.
Electrode Functionalization	Preparation and coating of electrodes for advanced battery testing and bioelectronic devices.	High cleanliness ensures no foreign ions interfere with the electrical performance of the device.
Environmental Testing	Analysis of pollutants in water and soil samples involving complex extraction and reflux steps.	Prevents cross-contamination between batches, ensuring the reliability of environmental data.
Feature	Specification for PL-CP293	Notes
Core Material	High-Purity Perfluoroalkoxy (PFA)	Virgin medical/semiconductor grade available
Operating Temperature	-200°C to +260°C	Subject to specific seal and fitting choices
Pressure Regulation	Constant Pressure Equalization Arm	Maintains internal/external pressure balance
Vessel Capacity	50ml to 10,000ml (Customizable)	Standard and wide-mouth configurations
Condenser Type	Liebig, Allihn, or Coil (Customizable)	Optimized for specific boiling point reagents
Connection Ports	Threaded (GL, NPT) or Flanged	CNC machined for precision airtight sealing
Chemical Resistance	All common acids, bases, and solvents	Including HF, Aqua Regia, and Perchloric Acid
Wall Thickness	Customizable based on pressure needs	Heavy-wall options for vacuum applications
Surface Finish	Smooth, Non-porous (<0.1µm Ra)	Minimizes sample retention and biofilm growth

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Custom Options	Port quantity, sensor wells, dip tubes	Fully tailored to user-provided schematics