High Purity Pfa Ptfe Raschig Rings For Chemical Distillation Tower Packing In Acidic And Alkaline Environments

Item Number: PL-CP426

Introduction

High-performance PFA and PTFE Raschig rings designed for laboratory distillation towers. These chemical-resistant packings provide superior surface area for vapor-liquid contact in aggressive acid and alkali environments, ensuring maximum separation efficiency and long-term durability in research applications.

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Application	Description	Key Benefit
Ultra-Pure Acid Distillation	Purification of trace-metal grade hydrofluoric, nitric, and hydrochloric acids for semiconductor manufacturing.	Eliminates leaching and maintains reagent purity at the parts-per-trillion level.
Corrosive Gas Scrubbing	Removal of acidic or alkaline vapors from laboratory exhaust streams using reactive liquid phases.	Withstands aggressive neutralizers that would degrade standard plastic or ceramic packings.
Pharmaceutical Solvent Recovery	Reclaiming high-value organic solvents from complex reaction mixtures in drug synthesis.	Resists a wide range of organic compounds while preventing cross-batch contamination.
Isotope Separation	High-precision distillation processes used in nuclear chemistry and advanced isotope research.	Provides stable, long-term performance under rigorous and continuous operating conditions.
Petrochemical Analysis	Fractional distillation of hydrocarbon samples containing high concentrations of sulfur or corrosive additives.	Prevents corrosion-related failure and maintains consistent HETP values over time.
Pilot Plant Scale-up	Utilizing specialized packing to model industrial mass transfer processes at a smaller laboratory scale.	Delivers scalable results with materials that match industrial-grade chemical resistance profiles.
Environmental Sample Prep	Concentration of pollutants from wastewater or soil extracts using reflux distillation techniques.	Ensures that no background contaminants are introduced from the packing material itself.
Hydrogen Peroxide Concentration	Safe and efficient distillation of high-concentration H2O2 for aerospace and chemical applications.	Non-reactive surface reduces the risk of catalytic decomposition during the heating process.

Parameter Group	Specification Detail (Model: PL-CP426)
Material Construction	High-Purity Virgin PTFE or PFA (Perfluoroalkoxy)
Chemical Compatibility	Universal (pH 0-14); resistant to all acids, bases, and solvents
Continuous Service Temperature	-200°C to +260°C (Material Dependent)
Melting Point	305°C - 327°C (Reference values for PFA/PTFE)
Outer Diameter (OD)	Customizable to specific project requirements (PL-CP426)
Inner Diameter (ID)	Customizable to specific project requirements (PL-CP426)
Ring Length	Customizable to specific project requirements (PL-CP426)
Wall Thickness	Tailored to balance structural integrity and surface area
Surface Finish	Smooth, non-porous machined finish to prevent fouling
Purity Standard	Trace-analysis grade; zero fillers or additives

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Parameter Group	**Specification Detail (Model: PL-CP426)**	
Fabrication Method	End-to-end custom CNC machining for non-standard geometries	
Density	2.14 - 2.19 g/cm³ (based on specific fluoropolymer grade)	
Coefficient of Friction	Extremely low (0.05 to 0.10) facilitating easy column loading	