

Custom Ptfе Digestion Tubes And Corrosion Resistant Centrifuge Tube Racks For Low Background Trace Analysis

Item Number: PL-CP60



Introduction

High-purity custom PTFE digestion tubes and corrosion-resistant centrifuge racks optimized for trace analysis. These low-background laboratory solutions offer exceptional chemical stability and bespoke configurations tailored to demanding industrial sample preparation workflows and acidic environments.

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Application	Description	Key Benefit
Environmental Soil Digestion	Preparation of soil and sediment samples using concentrated nitric and hydrochloric acid for heavy metal analysis.	Prevents cross-contamination and resists aggressive aqua regia digestion.
Semiconductor High-Purity Analysis	Testing of electronic grade chemicals and silicon wafers for ultra-trace metallic impurities.	Lowest possible background levels for PPT and PPB detection limits.
Geochemical Rock Dissolution	Total dissolution of silicate rock samples using hydrofluoric acid for elemental mapping.	Complete resistance to HF which would otherwise dissolve glass or quartz labware.
Pharmaceutical Quality Control	Digesting active pharmaceutical ingredients (APIs) to check for catalyst residues and heavy metals.	Complies with rigorous purity standards and ensures no organic leaching.
Metallurgical Sample Prep	Dissolving alloy samples in strong oxidants to determine precise elemental composition.	Thermal stability during exothermic reactions and high-temperature acid heating.
Battery Material Testing	Analysis of cathode and anode precursors in lithium-ion battery research for purity verification.	Durable performance in the presence of reactive electrolytes and harsh solvents.
Forensic Toxicology	Acid digestion of biological tissues for the detection of poisonous heavy metals.	High sample recovery and easy decontamination between different cases.
Food Safety Screening	Microwave-assisted or block digestion of food products to monitor for lead, arsenic, and cadmium.	Consistent results across large batches with high-throughput rack configurations.

Feature	Specification Details for PL-CP60
Model Identification	PL-CP60 Series Custom PTFE Solutions
Primary Material	100% Virgin High-Density Polytetrafluoroethylene (PTFE)
Tube Type	Digestion Tubes / Centrifuge Tubes (Customizable Geometry)
Rack Type	Corrosion-Resistant Solid PTFE Support Block
Standard Hole Counts	10-hole, 30-hole, or fully customized to user requirements
Hole Diameter Range	Precision machined to fit specified tube diameters (Tolerance: $\pm 0.05\text{mm}$)
Operational Temperature	-200°C to +260°C continuous service
Chemical Resistance	Resistant to all mineral acids, bases, and organic solvents (pH 0-14)
Surface Finish	High-precision smooth CNC finish (Low surface roughness)
Background Level	Certified low background for trace metal analysis

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Customization Options	Dimensions, hole depth, hole spacing, handle integration, and base stabilizers	
Cleaning Protocol	Compatible with acid washing and steam sterilization	
Lid Configuration	Available with threaded PTFE caps or custom plug seals	