KINTEK

Centrifuge Tubes & Digestion Tubes Catalog

Contact us for more catalogs of PTFE(Teflon) Products, Sample Preparation & Filtration, Reaction & Synthesis Equipment, High-Purity & Trace Analysis, Custom Machining Services, General Consumables & Seals, Electrochemistry & New Energy Testing, Basic Labware & Containers, Fluid Transfer, Tubing & Valves, etc.

KINTEK

COMPANY PROFILE

>>> About Us

From everyday basic labware (beakers, measuring cylinders, crucibles, dishes, reagent/wash bottles, centrifuge and digestion tubes), high-purity trace analysis instruments, and cleaning/storage tanks, to comprehensive fluid transfer components (tubing, fittings, valves), sample prep and filtration tools (separatory funnels, burettes, filters, pipettes, tweezers, spatulas), and general consumables (stirring bars, O-rings, gaskets, seal tapes, caps, septa), extending all the way to advanced derivative and reaction apparatus like standard or custom electrochemical cells, battery testing fixtures, electrode accessories, hydrothermal synthesis liners, microwave digestion vessels, microchannel reactors, and condensation/reflux devices, KINTEK manufactures virtually all imaginable laboratory supplies crafted from PTFE and PFA. Backed by end-to-end custom CNC fabrication, we are equipped to deliver absolutely everything from complex non-standard machined parts and bespoke laboratory setups to high-volume orders, maintaining an exclusive and absolute focus on high-performance fluoropolymer materials.

High Purity Corrosion Resistant Pfa Reaction Vessel With Ptfe Holder And Integrated Sampling Tube For Trace Analysis

Item Number: PL-CP122

Introduction

Engineering-grade PFA reaction tanks with PTFE holders ensure zero metal leaching for trace analysis. These customizable, corrosion-resistant systems offer exceptional chemical inertness for demanding laboratory applications involving strong acids, bases, and high-purity fluid sampling and transfer.

Learn More

Application	Description	Key Benefit
Graphene Oxide (GO) Synthesis	Handling concentrated oxidizing acids and potassium permanganate during the Hummers' method.	Total resistance to strong oxidants and high-temperature acid washing.
Trace Metal Analysis	Preparation and digestion of samples for semiconductor or environmental testing.	Eliminates background noise from heavy metal leaching (Pb, Cd, Hg, etc.).
Photocathode Etching	Operation within acidic or alkaline electrolytes for stability and kinetic testing.	Prevents ion release from vessel walls, ensuring objective catalytic data.
Petroleum Wastewater Research	Analysis of complex refinery effluents containing corrosive hydrocarbons and salts.	Maintains purity in the presence of aggressive organic and inorganic compounds.
ZIF-8 Composite Synthesis	High-purity environment for the creation of metal-organic frameworks and GO composites.	Protects chemical purity and extends the service life of reaction consumables.
Trace Analysis Fluid Transfer	High-purity sampling and delivery of reagents in analytical instrumentation.	5ml PFA tube ensures precision without introducing plasticizers or metals.
Acid Washing of Nanomaterials	Removing impurities from carbon nanotubes or other nanomaterials using strong mineral acids.	High thermal stability and chemical inertness during prolonged refluxing.

Feature	Specification for PL-CP122
Core Material (Tank)	High-purity, transparent PFA (Perfluoroalkoxy)
Support Material (Holder)	Virgin PTFE (Polytetrafluoroethylene)
Sampling Tube Material	Laboratory-grade PFA
Sampling Tube Volume	5ml (Standard) / Customizable to specific requirements
Vessel Capacity	Fully Customizable (e.g., 5ml, 10ml, 25ml, 50ml, etc.)
Holder Design	Custom CNC machined to fit specific lab racks or stirrers
Operating Temperature	-200°C to +260°C
Chemical Compatibility	Universal (pH 0-14), resistant to HF, H2SO4, NaOH
Heavy Metal Content	Below detection limits (Trace analysis grade)
Cleaning Protocol	Compatible with acid steam cleaning and autoclaving
Fabrication Method	Precision CNC Machining and Thermal Forming

Ptfe Centrifuge Tube 1.5Ml U Bottom Corrosion Resistant Screw Seal Custom High Purity Labware

Item Number: PL-CP288

Introduction

Engineered from high-purity PTFE, this 1.5ml U-bottom centrifuge tube offers exceptional chemical resistance and thermal stability for trace analysis and corrosive sample processing. Featuring a secure screw seal, it ensures absolute leak-proof performance in demanding modern laboratory environments.

Learn More

Application	Description	Key Benefit
Trace Metal Analysis	Preparation and storage of samples for ICP-OES and ICP-MS analysis.	Zero metal leaching ensures analytical accuracy.
Corrosive Centrifugation	Separation of precipitates in highly acidic or alkaline mother liquors.	Total material immunity to chemical attack.
Pharmaceutical Synthesis	Mixing and reacting small volumes of aggressive organic reagents.	Inert environment prevents secondary reactions.
Cryogenic Bio-banking	Long-term storage of biological samples in liquid nitrogen phases.	Remains ductile and leak-proof at -200°C.
Semiconductor Etchant Testing	Handling of high-purity etching solutions used in wafer processing.	Maintains the highest purity standards required by the industry.
Radioactive Isotope Handling	Containment of corrosive radioactive samples in nuclear research.	High durability reduces the risk of accidental exposure.
Volatile Solvent Storage	Storing high-vapor-pressure solvents that degrade standard plastics.	Screw cap prevents evaporation and material softening.

Parameter	Specification Details for PL-CP288
Base Model Number	PL-CP288
Material Construction	100% Virgin High-Purity PTFE (Polytetrafluoroethylene)
Nominal Capacity	1.5ml (Custom volumes available)
Bottom Geometry	U-Bottom (Rounded)
Closure Type	Precision-Machined Screw Cap
Seal Mechanism	Integrated PTFE-to-PTFE Threaded Compression
Operating Temperature Range	-200°C to +250°C (-328°F to +482°F)
Chemical Compatibility	Universal (Except molten alkali metals and fluorine gas)
Moisture Absorption	<0.01%
Sterilization Compatibility	Autoclave, ETO, Gamma (Note: Gamma may affect PTFE color)
Customization Options	Dimensions, Wall Thickness, Thread Pitch, Flange Addition
Pressure Resistance	Rated for standard high-speed centrifuge rotors (Custom reinforced walls available)

High Purity Corrosion Resistant Pfa Microwave Digestion Vessels 55Ml Replacement Tubes For Trace Analysis

Item Number: PL-CP111

Introduction

Premium 55ml PFA microwave digestion vessels offer exceptional chemical resistance and thermal stability for trace analysis. Precision-engineered for compatibility with major digestion systems, these customizable high-purity tubes ensure reliable performance in demanding laboratory environments. Contact us for custom quotes now.

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Application	Description	Key Benefit
Environmental Analysis	Digestion of soil, sediment, and sludge samples for heavy metal quantification.	Complete recovery of volatile elements with zero cross-contamination.
Pharmaceutical Testing	Preparation of Active Pharmaceutical Ingredients (APIs) and excipients for impurity testing.	Compliance with stringent USP <232>/<233> purity standards.
Food & Beverage Safety	Dissolving food matrices to detect trace levels of arsenic, lead, and cadmium.	High-throughput processing with reliable pressure containment.
Geochemical Exploration	Acid digestion of ore, rock, and mineral samples for elemental mapping.	Resists high concentrations of Hydrofluoric acid (HF).
Petrochemical Analysis	Breakdown of polymers and crude oil derivatives for catalyst residue analysis.	Safe handling of high-pressure reactions at elevated temperatures.
Clinical Research	Digestion of biological tissues and fluids for toxicological screening.	Ultra-low blank values for high-sensitivity measurements.

Specification	Details for PL-CP111
Model Identification	PL-CP111 (Customizable Series)
Standard Volume	55ml (Custom volumes available upon request)
Primary Materials	High-Purity PFA, Modified PTFE (TFM), or standard PTFE
Process Method	Full CNC Machining (Customizable per user drawings)
Thermal Range	Continuous use up to 260°C (Material dependent)
Chemical Compatibility	Universal (HF, HNO3, HCl, H2SO4, Aqua Regia)
Compatibility	Precision-matched for major imported microwave digester brands
Inner Surface Finish	Mirror-smooth, hydrophobic for easy drainage
Customization Options	Vessel height, diameter, wall thickness, and cap threading
Pressure Rating	Designed to meet or exceed OEM vessel specifications

Corrosion Resistant Graphite Acid Evaporator With Split Design And Customizable 29Mm Aperture For Precision Sample Preparation

Item Number: PL-CP327

Introduction

Optimize your sample preparation with this high-performance corrosion-resistant graphite acid evaporator. Featuring a split design and customizable 29mm aperture, it ensures safe, efficient acid removal for trace analysis in demanding industrial and laboratory environments.

Learn More

Application	Description	Key Benefit
Environmental Soil Testing	Concentration of soil extracts after microwave digestion for heavy metal analysis.	Ensures zero cross-contamination and uniform evaporation of large sample batches.
Metallurgical Trace Analysis	Removal of excess hydrofluoric and nitric acids from dissolved alloy samples.	Superior resistance to HF vapors and precise temperature control for volatile elements.
Food Safety & Nutrition	Preparation of organic samples for ICP-MS analysis by neutralizing digestion acids.	High-throughput capabilities allow for rapid screening of food contaminants.
Pharmaceutical Purity Testing	Evaporation of solvents and acids during the testing of active pharmaceutical ingredients (APIs).	Cleanroom-compatible materials prevent airborne particulates from entering the samples.
Petrochemical Analysis	Processing of crude oil or catalyst samples for elemental sulfur and metal content.	Durable construction withstands the rigorous demands of 24/7 industrial laboratory use.
Geological Surveying	Acid digestion and neutralization of mineral ores and rock samples for geochemistry.	Robust graphite block handles heavy vessels and prolonged heating cycles without warping.

Feature	Specification Details (Item Number: PL-CP327)
Model Identifier	PL-CP327 Series
Core Material	High-Purity Isostatic Graphite
Surface Treatment	Multi-layer PTFE/PFA Anti-Corrosion Coating
Aperture Diameter	29mm (Standard) / Fully Customizable upon request
Aperture Depth	Customizable to match specific digestion tube lengths
Design Configuration	Split-Type (Remote Controller + External Heating Block)
Controller Protection	Sealed corrosion-resistant housing with digital interface
Connection Cable	Acid-resistant shielded cable for remote operation
Matching Consumables	Compatible with PFA, PTFE, and glass digestion tubes
Temperature Stability	Precise PID control with high-accuracy thermal sensors
Fabrication Method	Precision CNC Machining

Corrosion Resistant Ptfe Digestion Tubes For Graphite Block Systems With Acid Reflux Caps Custom Dimensions

Item Number: PL-CP302

Introduction

Engineered for trace analysis, these high-purity PTFE digestion tubes feature customizable dimensions and reflux caps for graphite digestion systems. Ensure contamination-free acid evaporation and superior chemical resistance in demanding laboratory environments with our bespoke fluoropolymer solutions.

Learn More

Application	Description	Key Benefit
Trace Metal Analysis	Digestion of environmental samples such as soil and sediment using concentrated HNO3 and HF.	Zero background interference for ICP-MS and ICP-OES measurements.
Pharmaceutical Quality Control	Preparation of active pharmaceutical ingredients (APIs) for elemental impurity testing per USP standards.	High purity material prevents the introduction of exogenous contaminants.
Geochemical Prospecting	Dissolution of rock and mineral ores for mineralogical assessment and rare earth element quantification.	Exceptional resistance to hydrofluoric acid used for silicate matrix breakdown.
Petrochemical Testing	Digestion of heavy oil fractions and catalyst residues for sulfur and metal content analysis.	Robust performance under high-temperature organic solvent and acid exposure.
Wastewater Monitoring	Processing of industrial discharge samples to monitor compliance with environmental protection regulations.	Durable construction supports high-volume daily testing cycles without degradation.
Semiconductor Grade Processing	Cleaning and preparation of silicon wafers or high-purity electronic components.	Ultra-low leaching levels meet the rigorous requirements of the microelectronics industry.

Specification Category	Parameter Detail	PL-CP302 Capability
Model Identification	Primary Item Number	PL-CP302
Material Construction	Primary Vessel Material	High-Purity Virgin PTFE
	Secondary Component Material	PFA (available for transparent reflux caps)
Dimensional Customization	Outer Diameter (OD)	Fully Customizable based on Graphite Block Hole Size
	Inner Diameter (ID)	Customizable for Wall Thickness Requirements
	Total Height	Bespoke Height to fit Digestion Chambers
Capacity Options	Nominal Volume	Custom (Commonly 10ml, 25ml, 50ml, 100ml)
Design Features	Bottom Configuration	Flat, Round, or Conical Bottom Available
	Reflux Cap Design	Integrated Reflux, Plug, or Threaded Options
	Graduation Marks	Custom Laser-Etched or Machined Volume Markers
Performance Metrics	Continuous Operating Temperature	-200°C to +260°C
	Chemical Resistance	Universal (Except molten alkali metals and fluorine gas)

Application	Description	Key Benefit
Specification Category	**Parameter Detail**	**PL-CP302 Capability**
	Manufacturing Process	ISO-certified CNC Precision Machining

Ptfe Digestion Tubes Teflon Material Chemical Resistant Laboratory Vessels For Trace Metal Analysis

Item Number: PL-CP386

Introduction

High-performance PTFE digestion tubes designed for critical trace metal analysis. These chemical-resistant Teflon vessels offer exceptional thermal stability and ultra-low leaching backgrounds, ensuring sample integrity during aggressive acid digestion and high-pressure mineralizing processes for industrial laboratory applications.

Learn More

Application	Description	Key Benefit
Environmental Soil Analysis	Use of hydrofluoric acid to break down silicate structures in soil and sediment samples for heavy metal testing.	Resistance to HF prevents tube degradation and ensures sample purity.
Biological Matrix Mineralization	High-temperature digestion of tissues and plant materials using concentrated nitric acid and hydrogen peroxide.	Withstands high pressure and oxidative stress without leaching impurities.
Mining and Geochemistry	Digestion of ore samples and mineral concentrates for the quantification of precious and base metals.	Exceptional durability in harsh, high-throughput industrial laboratory environments.
Semiconductor Grade Testing	Ultra-trace analysis of high-purity chemicals and wafers where contamination must be kept at parts-per-trillion levels.	Ultra-low background signal ensures accurate detection of minute contaminants.
Food Safety Screening	Microwave digestion of food products to screen for toxic elements like lead, arsenic, and cadmium.	Prevents target element adsorption on walls, increasing recovery and reproducibility.
Petrochemical Analysis	Decomposition of complex hydrocarbons and oil samples for sulfur and metal content determination.	High thermal stability allows for the sustained heat required for heavy oil breakdown.

Feature	Specification Details (PL-CP386)
Material Construction	100% High-Purity Virgin PTFE (Polytetrafluoroethylene)
Chemical Resistance	Universal resistance (except molten alkali metals and certain fluorinated agents)
Operating Temperature	Fully customizable based on application requirements
Dimensional Tolerances	Precision CNC machined to customer-specified tolerances
Volume Capacity	Custom volumes available (from micro-scale to large-scale digestion)
Base Type	Flat, round, or conical bottoms available upon request
Closure System	Custom threaded caps, push-on plugs, or specialized microwave seals
Wall Thickness	Reinforced wall options available for high-pressure applications
Graduation Markings	Optional precision-machined or laser-etched volume markers

Custom Ptfe Digestion Tubes And High Purity Polytetrafluoroethylene Centrifuge Vessels 60Ml For Trace Analysis

Item Number: PL-CP222

Introduction

Precision-engineered custom PTFE digestion tubes for high-purity trace analysis. These 60ml centrifuge vessels offer unmatched chemical inertness and extreme acid resistance, ensuring zero contamination for demanding industrial laboratory processes, specialized sample preparation, and advanced reagent storage workflows in modern facilities.

Learn More

Application	Description	Key Benefit
Geochemical Soil Digestion	Dissolution of mineral and soil samples using hydrofluoric and perchloric acid mixtures for elemental mapping.	Resists the most aggressive acid combinations while ensuring zero background contamination from the vessel.
Semiconductor Grade Analysis	Testing of high-purity silicon and electronic chemicals for sub-ppb metallic impurities.	Maintains the highest purity standards required for semiconductor quality control and failure analysis.
Pharmaceutical Bio-analysis	Mineralization of biological tissues and active pharmaceutical ingredients (APIs) for heavy metal testing.	Prevents adsorption of organic molecules and ensures complete recovery of trace metals like Lead, Arsenic, and Mercury.
Environmental Water Testing	Preparation of industrial wastewater and seawater samples for heavy metal monitoring via ICP-MS.	Excellent sealing prevents the loss of volatile analytes such as Selenium or Mercury during the digestion process.
Petrochemical Catalyst Recovery	Digestion of spent catalysts and petroleum fractions to determine precious metal content.	Withstands high-temperature digestion and provides high mechanical strength for subsequent centrifugation steps.
Microwave Digestion Systems	Custom-fitted liners for high-energy microwave reactors used in rapid sample mineralization.	Transparent to microwave radiation while providing the thermal stability needed for high-pressure reactions.
Forensic Toxicology	Decomposition of hair, bone, and tissue samples in criminal investigations for poison detection.	Ensures that no external contaminants interfere with sensitive evidence and legal analytical standards.

Specification Category	Parameter Details (PL-CP222)
Model Identifier	PL-CP222 (Standard Base Model)
Material Construction	100% Virgin High-Purity PTFE (Polytetrafluoroethylene)
Nominal Volume	60ml (Custom volumes available upon request)
Fabrication Method	End-to-end precision CNC machining
Surface Finish	High-polish interior (Ra < 0.4μm) to prevent sample adhesion
Temperature Range	-200°C to +260°C (Continuous); +300°C (Intermittent)
Chemical Resistance	All acids (including HF), alkalis, and organic solvents
Trace Metal Background	Optimized for ppt-level analysis; pre-cleaned options available

Application	Description	Key Benefit
SpecificationCategory	**Parameter Details (PL-CP222)**	
Closure Type	Precision-threaded screw cap with integrated sealing lip	
Dimensional Tolerance	Custom specified (Standard ±0.05mm)	
Pressure Rating	Variable based on wall thickness and closure design	
Compatibility	Designed for integration with heating blocks and centrifuge rotors	

Custom Ptfe 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.

Learn More

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: ±0.05mm)
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

Application	Description	Key Benefit
Feature	**Specification Details for PL-CP60**	
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	

Graphite Digestion Hot Plate With Customizable Hole Diameter Depth Fast Heating Pid Digital Temperature Control Corrosion Resistant Laboratory Sample Preparation System

Item Number: PL-CP112

Introduction

Maximize laboratory efficiency with our customizable graphite digestion hot plate featuring PID digital control and fast heating. Engineered for corrosion resistance in harsh acid environments, this premium system ensures uniform temperature distribution for high-precision trace analysis.

Learn More

Application	Description	Key Benefit
Environmental Soil Analysis	Digestion of soil and sediment samples using concentrated acids for heavy metal detection via ICP-OES or ICP-MS.	Uniform heating ensures consistent recovery of volatile elements across all samples.
Wastewater Monitoring	Processing of industrial discharge and municipal water samples to monitor pollutants and trace element concentrations.	High-throughput capacity with customizable hole counts for various sample volumes.
Food Safety Testing	Decomposition of organic food matrices to detect trace levels of lead, arsenic, and mercury in compliance with safety standards.	Precise PID control prevents the loss of volatile analytes during the heating process.
Geochemical Exploration	Dissolution of rock and mineral ores for precious metal assaying and geochemical mapping.	Robust construction withstands the harsh conditions of mining-site laboratories and aggressive fluxing.
Pharmaceutical Quality Control	Preparation of active pharmaceutical ingredients (APIs) for elemental impurity testing according to USP <232>/<233> guidelines.	Reliable thermal stability meets the strict validation requirements of regulated industries.
Clinical Bioanalysis	Digestion of biological tissues or fluids to analyze trace minerals and heavy metal exposure in clinical research.	Small-footprint design fits easily into specialized fume hoods for hazardous material handling.
Metallurgical Testing	Digestion of alloy samples and metal powders to determine chemical composition and purity levels.	Fast heating speeds up the analysis of incoming raw materials in production environments.

Specification Category	Parameter Description	PL-CP112 Capability
Model Identification	Product Item Number	PL-CP112
Base Material	Heating Block Core	High-purity isostatic graphite
Surface Protection	Protective Coating	Multi-layer acid-resistant / PFA / PTFE options
Temperature Control	Control Logic	Microprocessor-based PID digital control
Hole Diameter	Customization Range	Fully customizable via CNC (specified at order)
Hole Depth	Customization Range	Fully customizable via CNC (specified at order)
Hole Pattern	Configuration	Standard grid or custom bespoke layout
Heating Speed	Performance Metric	Fast ramp-up (application specific)
Temperature Uniformity	Stability Metric	Minimal thermal gradient across the block

Application	Description	Key Benefit
SpecificationCategory	**Parameter Description**	**PL-CP112 Capability**
Display Type	User Interface	High-brightness digital LED/LCD display
Safety Features	Overheat Protection	Dual circuit thermal fuse and sensor alerts
Power Supply	Input Requirements	Configurable to regional industrial standards
Customization	Scope	Bespoke engineering for all physical dimensions

Custom Ptfe Digestion Vessel For Microwave And Graphite Digesters With Acid Removal For Trace Analysis

Item Number: PU-CP316

Introduction

Discover high-purity PTFE digestion vessels engineered for microwave systems and graphite digesters. These customizable laboratory solutions provide exceptional chemical inertness and acid resistance for trace analysis and pressure-driven sample preparation in demanding industrial and research environments globally.

Learn More

Application	Description	Key Benefit
Environmental Soil Analysis	Complete decomposition of soil matrices using concentrated HF and HNO3 to extract heavy metals for regulatory compliance.	Ensures full release of elements without vessel corrosion or contamination.
Mineral and Ore Digestion	High-pressure digestion of geological samples for ICP-OES analysis of trace minerals like molybdenum and selenium.	Superior pressure resistance prevents the loss of volatile trace elements.
Food Safety Testing	Preparation of biological samples, such as mushroom extracts, to detect trace levels of toxic heavy metals.	Low background metal levels ensure high accuracy in ppb/ppt range.
Pharmaceutical QC	Digestion of active pharmaceutical ingredients (APIs) and excipients to test for elemental impurities under USP <232>/<233>.	Contamination-free processing preserves the integrity of sensitivity testing.
Petrochemical Analysis	Breaking down complex hydrocarbon matrices and polymers for catalyst residue and additive analysis.	High thermal stability allows for the sustained temperatures needed for organic breakdown.
Acid Removal and Concentration	Post-digestion evaporation of excess acids on graphite heating blocks to prepare samples for final dilution.	Integrated workflow reduces sample handling and potential for error.
Battery Material Testing	Dissolution of cathode and anode materials for stoichiometric verification and purity assessment in energy research.	Resists the harsh chemical environments required for advanced fluorinated materials.
High-Throughput Testing	Utilizing 44-position custom arrays to process large batches of samples simultaneously in commercial testing labs.	Maximizes efficiency and consistency across high-volume sample sets.

Specification Category	Details for PU-CP316
Model Number	PU-CP316
Primary Material	High-Purity Virgin PTFE (Polytetrafluoroethylene)
Compatibility	Graphite Digesters, Microwave Digestion Systems, Acid Removal Units
Customization Options	Fully Customizable (Dimensions, Volume, Shape)
Capacity/Volume	Custom-engineered per client requirement
Vessel Geometry	Standard or bespoke CNC machined designs
Hole Configuration	Available in 44-position or user-defined layouts
Maximum Pressure	Dependent on custom wall thickness and housing design
Chemical Resistance	Universal resistance to strong acids (HF, HNO3, HCl, H2SO4)

Application	Description	Key Benefit
Specification Category	**Details for PU-CP316**	
Trace Metal Background	Optimized for trace analysis (ultra-low leaching)	
Sealing Mechanism	Customizable cap and seal configurations	

Custom High Purity Ptfe Digestion Tubes And Centrifuge Tubes For Trace Metal Analysis

Item Number: PL-CP218

Introduction

Premium high purity PTFE digestion and centrifuge tubes engineered for trace analysis and demanding chemical processing. Our custom fabricated fluoropolymer vessels ensure zero contamination and exceptional thermal stability for precise laboratory results across all industrial sectors. Request custom quotes.

Learn More

Application	Description	Key Benefit
Environmental Soil Analysis	Digestion of soil and sediment samples using concentrated nitric acid to extract heavy metals for ICP-MS testing.	Minimal trace metal leaching ensures accurate detection of low-level pollutants.
Pharmaceutical Impurity Testing	Preparation of active pharmaceutical ingredients (APIs) for USP <232>/<233> elemental impurity analysis.	High purity material prevents the introduction of exogenous metal contaminants.
Geochemical Ore Digestion	Dissolution of complex mineral and ore samples using hydrofluoric acid combinations at elevated temperatures.	Complete resistance to HF ensures the equipment will not dissolve or contaminate the sample.
Biological Matrix Mineralization	Breakdown of tissue, blood, or plant material under high-pressure microwave conditions for nutritional analysis.	Microwave transparency allows for rapid, uniform heating and faster digestion times.
Petrochemical Catalyst Recovery	Digestion of spent catalysts and oil samples to determine precious metal content and wear metals.	Exceptional thermal stability allows for high-boiling point acid digestions without deformation.
Forensic Toxicology	Centrifugation and separation of biological fluids for the detection of trace toxins and narcotics.	High-speed durability and chemical resistance ensure safe handling of sensitive samples.
High-Purity Chemical Production	Storage and processing of ultra-pure reagents and solvents used in semiconductor manufacturing.	Non-stick surfaces and chemical inertness maintain the high-purity grade of the contents.

Parameter	Specifications for PL-CP218 Series
Base Material	100% High-Purity Virgin PTFE (Polytetrafluoroethylene)
Manufacturing Method	High-precision CNC Machining / Custom Fabrication
Model Identifier	PL-CP218 (Includes standard and bespoke variants)
Standard Capacity	100ml (Custom volumes available upon request)
Operating Temperature Range	-200°C to +260°C
Pressure Resistance	Application dependent; supports up to 200 bar in supported microwave liners
Internal Geometry	Fully Customizable (Conical, Flat, Round, or Custom Taper)
Closure Type	Screw Cap, Push-fit, or Flanged (Customizable per application)
Wall Thickness	Customizable to meet specific pressure or thermal requirements
Surface Finish	High-grade smooth finish to prevent sample adhesion
Trace Metal Background	Sub-ppb levels (Application and cleaning protocol dependent)

Application	Description	Key Benefit
Parameter	**Specifications for PL-CP218 Series**	
Microwave Compatibility	Fully transparent to microwave radiation	

High Purity Corrosion Resistant Ptfe Sample Injection Tube Rack 6 Hole Compatible With Laboratory Reaction Vessels

Item Number: PL-CP109

Introduction

Premium 6-hole PTFE sample injection tube rack engineered for ultra-pure laboratory environments. This corrosion-resistant rack ensures zero heavy metal contamination and full compatibility with reaction vessels. Ideal for trace analysis and high-performance fluid transfer in demanding chemical processes.

Learn More

Application	Description	Key Benefit
Trace Metal Analysis	Organization of sample tubes during acid digestion and preparation for ICP-MS testing.	Prevents background contamination from heavy metals or leachables.
Semiconductor Processing	Used in cleanrooms for holding high-purity chemical injectors during wafer etching processes.	Maintains ultra-high purity levels required for sub-micron manufacturing.
Pharmaceutical Synthesis	Supporting injection lines for reactive ingredients in pressurized or heated reaction vessels.	Resists aggressive organic solvents and maintains stability during synthesis.
Environmental Monitoring	Handling water and soil extracts that require testing for volatile organic compounds and minerals.	Ensures sample integrity by providing a non-reactive contact surface.
Battery Research	Managing electrolyte samples and injection tubes in glovebox or specialized testing environments.	Chemical resistance to lithium salts and aggressive battery electrolytes.
Petrochemical Testing	Holding tubes containing corrosive additives or catalysts used in fuel and lubricant refinement.	High-temperature resistance allows for use in accelerated aging tests.
Hydrofluoric Acid Handling	Specialized sample management for HF-based processes where glass racks would be destroyed.	Absolute resistance to HF, ensuring operator safety and equipment longevity.

Specification	Details for PL-CP109
Model Number	PL-CP109
Material	High-Purity Virgin Polytetrafluoroethylene (PTFE)
Configuration	6-Hole Standard (Customizable layout available)
Chemical Resistance	Full resistance to acids, bases, and organic solvents
Temperature Range	-200°C to +260°C
Fabrication Method	Precision CNC Machined
Compatibility	Designed for direct use with reaction tanks and vessels
Contamination Profile	Metal-free, low-extractable surface
Surface Finish	Smooth, low-friction, hydrophobic
Customization Options	Hole diameter, spacing, depth, and overall dimensions are fully customizable

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