Custom Ptfe Ball Mill Grinding Jar 50Ml Corrosion Resistant Low Background Lab Milling Vessel

Item Number: PL-CP62

Introduction

Engineered for high-purity sample preparation, these custom PTFE grinding jars provide exceptional chemical resistance and ultra-low background levels. The 50ml vessels ensure contamination-free results, superior durability, and easy cleaning for demanding laboratory ball milling applications.

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Application	Description	Key Benefit
Trace Metal Analysis	Preparation of environmental or biological samples for ICP-OES/MS detection.	Eliminates metallic contamination from the vessel walls.
Pharmaceutical Milling	Micronization of active pharmaceutical ingredients (APIs) in a sterile, non-reactive environment.	Ensures high purity and prevents chemical cross-reactivity.
Battery Material Research	Grinding of lithium-ion battery precursors and solid-state electrolytes.	Prevents moisture absorption and ensures chemical purity of cathode/anode materials.
Semiconductor Processing	Homogenization of high-purity silicon or ceramic powders used in wafer fabrication.	Maintains ultra-low trace element background levels required for electronics.
Forensic Science	Processing of forensic evidence where minute traces of contamination could invalidate results.	Provides a clean, inert environment for sensitive evidence preparation.
Geological Sampling	Pulverizing rock or soil samples for geochemical mapping and isotopic analysis.	Resists abrasion while preventing the introduction of extraneous mineral phases.
Nanotechnology	Synthesis and mechanical alloying of nanoparticles in controlled chemical environments.	Facilitates consistent particle size distribution without chemical interference.

Parameter	Specification Detail (PL-CP62)
Product Identification	PL-CP62 Custom Milling Series
Primary Material	High-Purity Virgin PTFE (Polytetrafluoroethylene)
Nominal Volume	50ml (Customizable from 10ml to 5000ml)
Chemical Resistance	Universal (except for molten alkali metals and elemental fluorine)
Temperature Range	-200°C to +260°C
Fabrication Method	Full CNC Machining from solid billet
Surface Finish	Ra ≤ 0.4 µm (High-polish internal finish available)
Lid Design	Screw-top or Pressure-fit (Customizable)
Sealing Gasket	Integrated PTFE Seal or optional FKM/EPDM O-rings
Compatible Media	PTFE-coated balls, Agate, Zirconia, or Alumina (Available separately)
Dimensional Tolerance	±0.05mm or as per client requirement