

# Custom Ptfе Gas Washing Bottle Corrosion Resistant Chemical Absorption Vessel With Quarter Inch Tubing Connections

Item Number: PL-CP41



## Introduction

Engineered for extreme chemical environments, this custom PTFE gas washing bottle provides unmatched corrosion resistance for aggressive gas scrubbing and absorption, featuring secure quarter-inch tubing connections and bespoke configurations for high-purity laboratory research and demanding industrial chemical applications.

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Application	Description	Key Benefit
Semiconductor Gas Scrubbing	Removal of toxic or reactive process gases like HF or Silane from exhaust streams during wafer fabrication.	Prevents equipment corrosion and ensures environmental compliance in high-purity settings.
Trace Metal Analysis	Preparing samples for ICP-MS by bubbling gases through high-purity acids to trap volatile metallic impurities.	Eliminates background noise and contamination from the vessel material itself.
Pharmaceutical Synthesis	Controlling gas-liquid reactions in the production of Active Pharmaceutical Ingredients (APIs) involving corrosive catalysts.	Maintains product purity and withstands aggressive organic solvent environments.
Environmental Monitoring	Capturing sulfur dioxides or nitrogen oxides from industrial flue gas samples for laboratory quantification.	Ensures accurate sample capture without the risk of the vessel reacting with the target analytes.
Petrochemical Pilot Plants	Testing new catalysts or additives by introducing gaseous reactants into pressurized liquid hydrocarbons.	Provides high-pressure safety and chemical resistance to complex hydrocarbon mixtures.
Electrochemical Cell Venting	Scrubbing corrosive gases generated during high-capacity battery testing or electrolysis experiments.	Protects sensitive laboratory electronics from acid mist and corrosive vapors.
Acid Neutralization	Neutralizing high-concentration acidic vapors produced during digestion processes in metallurgical labs.	Long service life compared to glass scrubbers that etch and fail over time.
Specialty Gas Purification	Removing moisture or trace oxygen from inert gas lines using specialized liquid drying agents or scavengers.	High-integrity seals prevent atmospheric ingress, maintaining gas dryness and purity.

Parameter Type	Specification Details for PL-CP41
Core Material	Virgin High-Purity PTFE (Polytetrafluoroethylene)
Design Type	Custom-fabricated Gas Washing / Absorption Bottle
Standard Port Configuration	Dual-port cap with 1/4 inch (6.35mm) tubing connections
Connection Mechanism	Integrated compression fittings or NPT threaded ports
Volume Capacity	Fully Customizable (Commonly range from 50mL to 5000mL)
Internal Sparger	Optional PTFE frit or perforated dip tube (Customizable porosity)
Operating Temperature	-200°C to +260°C (Consistent performance across range)

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Chemical Resistance	Resistant to all known chemicals except molten alkali metals and elemental fluorine	
Sealing Gasket	Integrated PTFE-to-PTFE seal or optional FEP-encapsulated O-rings	
Surface Finish	Smooth CNC-machined finish to minimize residue and facilitate cleaning	
Fabrication Method	100% Precision CNC Machining (No molding or adhesives used)	