

# High Purity Ptfе Gas Washing Bottle Corrosion Resistant Custom Gas Absorption Unit 1/4 Inch Tube Connection

Item Number: PL-CP192



## Introduction

Engineered for extreme chemical environments, this custom PTFE gas washing bottle provides universal corrosion resistance and high-purity gas absorption. Optimized for 1/4 inch tubing, it ensures leak-proof performance and precise humidity regulation for sensitive industrial applications.

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Application	Description	Key Benefit
Trace Metal Analysis	Used to scrub impurities from carrier gases before they enter high-sensitivity analytical instruments like ICP-MS.	Prevents background noise and ensures sub-ppb detection limits by eliminating leachable contaminants.
Semiconductor Gas Processing	Scrubbing of corrosive process gases (e.g., HF, HCl) used in wafer etching and cleaning steps.	High-purity PTFE prevents metal ion contamination which can ruin semiconductor device yields.
Environmental Simulation	Creating specific humidity environments to test the degradation mechanisms of materials under controlled climatic conditions.	Delivers highly stable and uniform humidity gradients compared to mechanical atomizers.
Petrochemical Refining	Absorption of hydrogen sulfide (H <sub>2</sub> S) or other acidic components from gas streams in pilot plant reactors.	Near-universal corrosion resistance ensures long-term operation in extremely aggressive sulfurous environments.
Pharmaceutical Synthesis	Controlling the flow of reagent gases through liquid catalysts or absorption buffers in specialized reaction paths.	Ensures the purity of the final API by providing a completely inert reaction environment.
Battery Research	Used in electrolyte testing and gas evolution analysis during battery charge/discharge cycles.	Withstands corrosive electrolytes and provides precise control over gas capture for volumetric analysis.
Aerosol Research	Pre-conditioning of gas streams through controlled bubbling to achieve specific vapor pressures.	Precision machining allows for optimized bubble size and distribution, improving absorption efficiency.
Custom Lab Setups	Integration into bespoke vacuum lines or pressure-regulated manifolds for specialized chemical engineering tasks.	Customizable port sizes and bottle volumes allow for perfect fitment in non-standard laboratory footprints.

Feature	Specification Details for PL-CP192
<b>Product Identifier</b>	PL-CP192 Custom PTFE Gas Washing Bottle
<b>Material Construction</b>	High-purity Virgin Polytetrafluoroethylene (PTFE)
<b>Customization Scope</b>	Fully customizable dimensions, volumes, and port configurations
<b>Standard Interface</b>	1/4" Tube Connectors (Custom sizes available upon request)
<b>Chemical Resistance</b>	Inert to all common acids, bases, and organic solvents (pH 0-14)
<b>Operating Temperature</b>	-200°C to +260°C (Consistent performance across wide range)
<b>Manufacturing Process</b>	Precision CNC Machining from solid PTFE block
<b>Sealing Mechanism</b>	Threaded PTFE cap with integrated sealing ring

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Cleaning Compatibility	Autoclavable; compatible with strong cleaning agents and ultrasonic baths	
Surface Finish	Smooth, low-energy surface to minimize residue buildup	
Dip Tube Design	Customizable length and tip style (e.g., straight cut or fritted)	