

# Custom Ptfе Absorption Bottle With Condensation Jacket

## Corrosion Resistant Low Background High Purity

Item Number: PL-CP80



### Introduction

High-purity custom PTFE absorption bottles with integrated condensation jackets provide universal chemical resistance and ultra-low trace element background, ideal for demanding industrial gas scrubbing, hazardous chemical sampling, and high-performance laboratory trace analysis applications worldwide.

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Application	Description	Key Benefit
Trace Metal Analysis	Collection and digestion of gas-phase samples for ICP-MS or AAS analysis where background noise must be minimized.	Ensures high sensitivity by eliminating ion leaching from the vessel walls.
Semiconductor Etching Gas Scrubbing	Absorption of concentrated hydrofluoric acid (HF) and other corrosive bypass gases in cleanroom environments.	Exceptional resistance to HF which would rapidly etch and destroy glass alternatives.
Pharmaceutical Synthesis	Temperature-controlled condensation of volatile organic compounds (VOCs) during active pharmaceutical ingredient (API) production.	Prevents product contamination and ensures high-purity chemical yields.
Environmental Monitoring	Large-volume air sampling and gas scrubbing to capture sulfur oxides, nitrogen oxides, and other atmospheric pollutants.	Long-term durability in outdoor or harsh field-sampling conditions without degradation.
Acid Purification	Distillation and absorption processes used to create ultra-pure reagents for laboratory use.	Maintains the highest reagent grade by providing an inert, low-extractable pathway.
Battery Research	Handling of aggressive electrolytes and volatile intermediates during the testing of next-generation energy storage materials.	Withstands the electrochemical and chemical reactivity of advanced battery chemistries.

Feature	Specification Details (Model PL-CP80)
Primary Material	High-Purity Virgin PTFE (Polytetrafluoroethylene)
Jacket Material	PTFE (Standard) or PFA (Optional for transparency/monitoring)
Working Volume	Fully customizable (e.g., 50ml to 5000ml+)
Temperature Range	-200°C to +260°C (Continuous operation)
Pressure Rating	Designed for ambient to low-pressure/vacuum (Custom reinforced walls available)
Connection Types	NPT/BSP Threaded, Flanged, or Compression fittings
Port Configuration	Customizable inlet/outlet quantities and diameters
Dimensions	Custom CNC machined to fit specific laboratory racks or industrial manifolds
Condenser Geometry	Spiral, baffle, or direct-flow jacket configurations available
Chemical Compatibility	Universal (Except molten alkali metals and high-temperature fluorine gas)