

# Custom Ptfе Volatile Matter Condensation Reflux Reaction Device Corrosion Resistant Pressure Resistant

Item Number: PL-CP69



## Introduction

High-performance custom PTFE condensation reflux reaction device offering exceptional corrosion resistance and 0.1MPa pressure stability. Ideal for volatile matter recovery in trace analysis and aggressive chemical synthesis where high-purity laboratory standards are non-negotiable and strictly required.

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| Application                   | Description   | Key Benefit   |
|-------------------------------|---|---|
| Trace Metal Digestion         | Dissolution of mineral and soil samples using HF and HNO3 for ICP-MS analysis.                      | Eliminates silica and boron leaching common in glass vessels.                                 |
| Pharmaceutical Synthesis      | Refluxing of volatile organic intermediates in the production of active pharmaceutical ingredients. | Ensures high-purity yield with zero contamination from sealing materials.                     |
| Battery Material Testing      | Testing of electrolyte stability and lithium-ion battery component reactions under thermal stress.  | Resists aggressive organic solvents and maintains 0.1MPa pressure stability.                  |
| Petrochemical Analysis        | Condensation and recovery of volatile hydrocarbons during heavy oil fraction testing.               | High-temperature resistance allows for consistent reflux of high-boiling point substances.    |
| Environmental Monitoring      | Large-scale digestion of wastewater and sediment samples for pollutant identification.              | Superior durability and corrosion resistance against diverse chemical contaminants.           |
| Geochemical Research          | Acid-leaching of rare earth elements from geological ore samples.                                   | Robust construction survives prolonged exposure to concentrated acids at reflux temperatures. |
| Specialty Chemical Production | Small-batch manufacturing of high-purity fluorinated reagents or specialty monomers.                | Bespoke configurations allow for seamless integration into existing pilot plant setups.       |

| Parameter Category    | Specification Details (Model PL-CP69)                              |
|-----------------------|--|
| Core Identification   | PL-CP69 Custom Series  |
| Primary Material      | High-Purity Virgin PTFE (Polytetrafluoroethylene)                  |
| Optional Materials    | PFA (Perfluoroalkoxy) for enhanced transparency and thermal reach  |
| Pressure Rating       | Maximum Working Pressure: 0.1 MPa                                  |
| Temperature Range     | -200°C to +260°C   |
| Volume Capacity       | Fully Customizable (Commonly 50mL, 100mL, 250mL, 500mL, up to 20L) |
| Condenser Type        | Customizable (Straight, Coil, or Reflux Column designs)            |
| Connection Interfaces | NPT Threads, Flange Mounts, or Custom Tapered Joints               |
| Wall Thickness        | Standard 5mm to 15mm depending on volume and pressure requirements |
| Surface Finish        | Precision CNC Machined (Ra < 0.8µm)                                |
| Sealing Method        | PTFE-to-PTFE Threaded Seal or Compression Fitting                  |

| Application                | Description   | Key Benefit |
|----------------------------|---|-------------|
| Parameter Category         | Specification Details (Model PL-CP69)                         |             |
| <b>Chemical Resistance</b> | Resistant to all acids, bases, and organic solvents (pH 0-14) |             |