

Customizable High Purity Ptfе Syringe Integrated Molding Fluoropolymer Injector With Ptfе Needle For Precision Chemical Sampling

Item Number: PL-CP17



Introduction

Precision-engineered customizable PTFE syringes featuring integrated molding and chemical-grade needles. Ideal for trace analysis and corrosive fluid sampling, these high-purity injectors deliver exceptional durability, low-friction operation, and zero contamination across demanding laboratory and industrial applications.

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Application	Description	Key Benefit
Semiconductor Etching	Precise dispensing of hydrofluoric acid and other ultra-pure etching agents during wafer processing.	Zero metallic contamination and acid resistance.
Pharmaceutical Synthesis	Transfer of reactive intermediates and catalysts in sterile, chemically aggressive environments.	Maintains reagent purity and prevents cross-contamination.
Trace Metal Analysis	Sampling of environmental water or soil extracts for ICP-MS or AAS testing protocols.	No leaching of ions from the syringe body into the sample.
Petrochemical Testing	Handling of high-temperature hydrocarbons and corrosive additives in refinery quality control labs.	Thermal stability and solvent resistance.
Battery Research	Injection of electrolytes into experimental lithium-ion or solid-state battery cells during assembly.	Chemical inertness against aggressive electrolyte salts.
Fine Chemical Production	Small-scale dosing of high-value specialty chemicals in pilot plant reactors.	High volumetric precision and material compatibility.
Forensic Laboratory Work	Safe handling and transfer of volatile or biohazardous evidence materials in controlled settings.	Non-stick surface ensures maximum sample recovery.

Feature	Specification Details for PL-CP17
Material Composition	100% Virgin High-Purity PTFE / PFA
Manufacturing Process	Integrated One-Piece Molding & Precision CNC Machining
Volume Capacity	Fully Customizable (Common ranges: 1ml, 5ml, 10ml, 50ml, up to 500ml)
Needle Interface	Custom PTFE Threaded, Luer-Lock Compatible, or Fixed Needle
Temperature Range	-200°C to +260°C (-328°F to +500°F)
Chemical Compatibility	Universal (All acids, bases, solvents, excluding molten alkali metals)
Pressure Rating	Dependent on wall thickness and custom design parameters
Surface Finish	High-polish low-porosity internal bore (Ra < 0.4µm available)

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Graduation Options	Laser-etched or machined permanent markings (optional)	
Sealing Mechanism	Precision-fit PTFE plunger with optional O-ring backup for gas-tight needs	