

High Purity Ptfе Wafer Cassette Etching Carrier For Semiconductor Silicon Wafer Cleaning And Acid Resistance

Item Number: PL-CP09



Introduction

Premium PTFE wafer cassettes engineered for semiconductor etching and cleaning. Superior HF resistance and high-purity construction ensure safe silicon wafer handling in critical wet processes. Ideal for 2-inch to 12-inch substrates in cleanroom environments.

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Application	Description	Key Benefit
HF Etching	Immersion of silicon wafers in hydrofluoric acid to remove native oxides or sacrificial layers.	Total resistance to HF ensures zero material degradation or contamination.
RCA Cleaning	Standardized multi-step cleaning (SC-1 and SC-2) involving hydrogen peroxide and ammonium hydroxide.	High-purity PTFE prevents metallic ion re-deposition on wafer surfaces.
Solar Cell Fabrication	Handling of silicon wafers during texturizing and phosphorus diffusion cleaning steps.	Robust design supports high-volume throughput in industrial solar manufacturing.
Compound Semiconductors	Processing of GaAs, GaN, and SiC wafers for power electronics and RF applications.	Gentle slot design prevents damage to brittle high-value substrates.
Photolithography	Supporting wafers during photoresist developing and stripping processes using organic solvents.	Solvent-proof construction prevents swelling or softening of the carrier.
Post-CMP Rinsing	High-purity rinsing of wafers after Chemical Mechanical Polishing to remove slurry particles.	Smooth surfaces facilitate complete removal of abrasive particles during rinsing.
MEMS Manufacturing	Critical handling of micro-electromechanical systems during deep reactive ion etching (DRIE) prep.	Precise slotting maintains alignment for complex micro-structured wafers.
Ultrasonic Cleaning	Use in ultrasonic or megasonic tanks to remove fine particulate matter from substrates.	Material dampens vibrations effectively while resisting cavitation damage.

Parameter	Specification Details for PL-CP09
Model Series	PL-CP09 (Standard & Custom Cassettes)
Material	High-Purity Virgin PTFE (Polytetrafluoroethylene)
Wafer Size Compatibility	1", 2", 3", 3.5", 4", 4.5", 5", 6", 8", 12"
Configuration Styles	Single-Wafer Carrier, Multi-Wafer Cassette, Custom Layouts
Slot Capacity (Single)	1-5 wafers (available for sizes up to 12")
Slot Capacity (Multi)	Standard 25-slot or customized high-density configurations
Operating Temperature	-200°C to +260°C (-328°F to +500°F)
Chemical Resistance	All common acids, bases, and solvents (excluding molten alkali metals)

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Wafer Size	Carrier Type	Standard Slot Count	Customization Availability
Manufacturing Process	Full CNC Machining (Zero injection molding contaminants)		
Handle Options	Single vertical handle, dual side handles, or custom robotic interfaces		
Surface Finish	Ra < 0.8 μm (High-polish finish available on request)		

Wafer Size	Carrier Type	Standard Slot Count	Customization Availability
1 inch / 2 inch	Single/Multi	1, 5, 10, 25	Fully Customizable
3 inch / 3.5 inch	Single/Multi	1, 5, 25	Fully Customizable
4 inch / 4.5 inch	Multi-Wafer	25	Handle & Pitch Variations
5 inch / 6 inch	Multi-Wafer	25	Handle & Pitch Variations
8 inch / 12 inch	Multi-Wafer	13, 25	High-Precision Customization