

Custom Ptfе Wafer Carrier Flower Basket Chemical Resistant Semiconductor Cleaning Handle Design

Item Number: PL-CP166



Introduction

Maximize semiconductor yield with custom PTFE wafer carriers and flower baskets. Designed for superior resistance to hydrofluoric acid and harsh reagents, these high-purity handling systems feature ergonomic handles and precision CNC-machined slots for secure, contamination-free wet process cleaning.

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Application	Description	Key Benefit
RCA Cleaning Processes	Sequential cleaning using SC-1 and SC-2 solutions to remove organic residues and metallic contaminants.	Resists high pH and oxidative stress without leaching impurities into the bath.
Hydrofluoric Acid Etching	Removal of native oxide layers or sacrificial glass layers from silicon wafers using concentrated HF.	Complete resistance to HF, which would otherwise dissolve glass or degrade standard plastics.
Piranha Etch / Strip	Removal of heavy organic contamination or photoresist using a mixture of sulfuric acid and hydrogen peroxide.	Maintains structural integrity at the high exothermic temperatures generated by Piranha solutions.
Photolithography Development	Immersion of wafers in developer solutions to define circuit patterns after UV exposure.	Precision slotting ensures uniform exposure of the wafer surface to the developer fluid.
Post-CMP Rinsing	High-purity rinsing following Chemical Mechanical Polishing to remove slurry particles.	Non-stick surface prevents slurry accumulation and facilitates rapid, complete decontamination.
Compound Semiconductor Fab	Processing of GaAs, InP, or SiC wafers for high-frequency electronics and LED manufacturing.	Gentle handling characteristics prevent fracturing of more brittle compound materials.
Ultrasonic / Megasonic Cleaning	Supporting wafers during high-frequency acoustic cleaning to dislodge sub-micron particles.	Excellent vibration dampening and chemical stability under acoustic cavitation forces.

Specification Category	Parameter Details for PL-CP166	Customization Options
Primary Material	High-Purity Virgin PTFE (Polytetrafluoroethylene)	Optional PFA for enhanced transparency/purity
Wafer Size Compatibility	4-inch (100mm), 6-inch (150mm), 8-inch (200mm)	Custom diameters and non-standard shapes available
Slot Configuration	Precision-cut V-groove or U-groove profiles	Custom slot pitch, depth, and angle spacing
Capacity	Standard 25-wafer or 50-wafer configurations	Bespoke batch sizes from single-wafer to high-volume
Handle Design	Integrated top-mount or side-mount	Removable, extended, or automation-compatible handles
Chemical Resistance	Full spectrum (Acids, Bases, Solvents, Oxidizers)	Verified for HF, H2SO4, HNO3, HCl, NH4OH, etc.
Operating Temperature	-200°C to +260°C	Tailored for specific thermal cycling profiles
Fabrication Method	End-to-end Custom CNC Machining	Precision tolerance control for automated interface
Cleaning Protocol	Cleanroom laundered and vacuum sealed	Specialized pre-cleaning for trace analysis