

# Corrosion Resistant PTFE Stirring Impeller And Customizable Polytetrafluoroethylene Dispersion Disk

Item Number: PL-CP18



## Introduction

Our high-purity PTFE stirring impellers and dispersion disks offer absolute corrosion resistance and bespoke dimensions to replace stainless steel in demanding industrial laboratory applications, reactive fluid environments, and high-purity pharmaceutical or chemical manufacturing processes.

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Application	Description	Key Benefit
Pharmaceutical Synthesis	Mixing of active pharmaceutical ingredients (APIs) in acidic or basic environments.	Prevents metallic contamination and ensures batch purity.
Battery Material Processing	Dispersion of lithium-ion battery slurries and highly reactive electrolyte components.	Resists chemical abrasion and maintains precise slurry homogeneity.
Semiconductor Etching	Stirring of high-purity etching solutions used for silicon wafer processing.	Eliminates trace metal leaching that could compromise wafer integrity.
Petrochemical Testing	Agitation of crude oil derivatives and organic solvents at elevated temperatures.	High thermal threshold and resistance to hydrocarbon swelling.
Specialized Food Processing	Homogenization of acidic food products or additives requiring hygienic surfaces.	Non-stick, easy-to-clean surface meets strict food safety requirements.
Trace Analysis Labware	Sample preparation for ICP-MS where minimal background interference is critical.	High-purity material ensures the lowest possible detection limits.
Polymerization Reactions	Stirring of monomers and catalysts during the synthesis of advanced polymers.	Prevents polymer adhesion to the impeller, simplifying recovery.

Feature	Parameter Detail	Specification Value
Model Series	Product Identifier	PL-CP18
Material	Primary Composition	Virgin PTFE (Polytetrafluoroethylene)
Fabrication Method	Manufacturing Process	Precision CNC Machining
Customization	Dimensional Scope	Fully Bespoke (Shaft, Blade, Disk)
Density	Specific Gravity	2.10 - 2.20 g/cc
Thermal Limit	Max Operating Temperature	260°C (500°F)
Melting Point	Thermal Transition	327°C (621°F)
Hardness	Shore D Scale	55D
Tensile Strength	Mechanical Resistance	2990 - 4970 psi
Friction	Coefficient of Friction	0.110 (Static/Dynamic)
Water Absorption	24-Hour Immersion	0.01%
Dielectric Constant	Electrical Insulation	2.1

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<b>Flexural Strength</b>	Structural Rigidity	2490 psi
<b>Heat Deflection</b>	Temperature at 66 psi	120°C (248°F)