Custom Graphite Heating Plate With Ptfe Edging And Bench Protection For Corrosive Acid Digestion

Item Number: PL-CP110

Introduction

Precision-engineered custom graphite heating plate featuring protective PTFE edging for superior corrosion resistance and thermal insulation. Optimized for acid digestion and trace analysis, this system ensures reliable performance in harsh laboratory environments while protecting delicate work surfaces.

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Application	Description	Key Benefit
Environmental Soil Analysis	Large-scale digestion of soil and sediment samples using concentrated nitric and perchloric acids.	Resistant to corrosive fumes and provides uniform heating for hundreds of samples simultaneously.
Trace Metal Detection	Heating PFA and PTFE vessels for ICP-MS sample preparation where contamination must be zero.	High-purity materials prevent cross-contamination and ensure analytical accuracy.
Geochemical Prospection	Processing of ore and rock samples in harsh field laboratory conditions involving hydrofluoric acid.	PTFE edging prevents acid damage to the graphite core, extending equipment life in remote sites.
Food Safety Testing	Wet digestion of organic matrices for the detection of heavy metals like Lead, Cadmium, and Mercury.	Consistent thermal distribution ensures complete digestion of complex organic matter.
Semiconductor Cleaning	Heating high-purity chemical baths for wafer cleaning and etching processes.	Exceptional chemical inertness ensures the process remains free of metallic ions.
Pharmaceutical Quality Control	Evaporation and concentration of volatile solvents during active ingredient testing.	Precise temperature control prevents the degradation of heat-sensitive pharmaceutical compounds.
Metallurgical Research	Acid leaching and dissolution of alloy samples for elemental composition verification.	Robust surface handles heavy vessels and maintains stability under high-temperature loads.

Feature	Specification Details (Model: PL-CP110)
Base Material	High-Purity Isostatic Graphite
Protective Edge Material	Laboratory-Grade PTFE (Polytetrafluoroethylene)
Temperature Range	Custom Configurable (Typical up to 250°C with PTFE protection)
Heating Surface Dimensions	Fully Customizable via CNC (Up to 600mm x 400mm or larger)
Edge Height/Thickness	Custom specified to match vessel requirements
Temperature Uniformity	±1% to ±3% across the entire surface (depending on dimensions)
Control System	External Digital PID Controller with Thermocouple Feedback
Insulation Layer	High-temperature ceramic fiber or PTFE-coated composite
Voltage Options	110V / 220V / 380V (Single or Three Phase)
Power Rating	Scalable based on surface area and ramp rate requirements
Compatible Labware	PTFE Beakers, PFA Tubes, Glassware, TFM Digestion Tanks

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Bench Protection	Integrated Heat-Insulating Base Support	