25-Ton Automatic Laboratory Hot Press With Dual Programmable Heating Platens 250X250 Mm Ce Certified

Item Number: XP78

Introduction

Precision benchtop automatic hydraulic hot press with 25-ton force, independently heated dual platens up to 300°C, 250x250 mm pressing area, programmable touchscreen control, and CE certified safety for material research and sample preparation. Designed for polymers, composites, and battery research.

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Application	Description	Key Benefit
Polymer Film Pressing	Melting and compressing thermoplastic pellets or powders into uniform films of controlled thickness, typically ranging from 50 microns to 1 mm, for optical, barrier, or mechanical testing.	Achieves precise gauge control and low haze
Composite Laminate Consolidation	Stacking fiber-reinforced prepregs and curing them under heat and pressure to fabricate solid laminates for structural testing. Typical applications include carbon fiber or glass fiber composites for aerospace and automotive research.	Produces void-free, high-strength laminates
Ceramic Green Body Formation	Uniaxially pressing ceramic powders with organic binders into near-net-shape disks or bars for subsequent sintering. Used in advanced ceramics like alumina, zirconia, and piezoelectrics.	High and uniform green density for quality sintered parts
Battery Electrode Compaction	Calendering electrode coatings (e.g., NMC, graphite) on metallic foils to increase active material density and enhance electrical contact, critical for lithium-ion battery performance.	Improved rate capability and cycle life
Rubber Vulcanization	Curing rubber compounds in a mold under controlled temperature and pressure to produce test sheets or prototype components. This simulates production conditions for formula development and quality control.	Consistent cure state and mechanical properties
Pharmaceutical Tablet Development	Compressing powder blends into tablets at small scale to evaluate formulation characteristics like hardness, disintegration, and dissolution. Used in R&D and pilot scale.	Reproducible tablet properties for data integrity
Hot Embossing of Polymers	Replicating micro- or nanoscale patterns onto thermoplastic substrates using heated molds. Common in microfluidics, optics, and biochip fabrication.	High fidelity pattern transfer with minimal cycle time
Material Testing Specimen Preparation	Fabricating standardized test coupons (e.g., ASTM D638 tensile bars) from thermoplastic or thermoset materials, ensuring consistent thermal history and dimensions for mechanical characterization.	Standard specimens for reliable test data

Specification	Details	Notes
Model	XP78	
Maximum Pressure	25 Tons (250 kN)	Pressure adjustable
Platen Size	250 × 250 mm (approx. 9.8 × 9.8 inches)	High-quality mold steel/stainless steel platens
Maximum Temperature	Ambient to 300°C	Dual platens independently heated
Heating Power	≤5400 W (5.4 kW)	Heating rate adjustable
Pressure Source	Built-in hydraulic system	Automatic upward pressing
Pressure Control	Automatic closed-loop control	Ramp rate and hold programmable
Daylight	200 mm	Verify stroke compatibility with support
Lower Platen Stroke	50 mm	Verify stroke compatibility with support

Specification	Details	Notes
Controller	7-inch full-color touchscreen	Supports multi-stage programming
Power Supply	AC 240V, 60Hz, Single Phase	Recommend 30A or higher circuit breaker
Certification	CE	Safety compliant