

25 Ton Automatic Laboratory Hot Press Machine 300X300Mm Dual Heated Platens Rapid Cooling Ce Certified

Item Number: XP80



Introduction

The 25-ton automatic laboratory hot press offers 300x300mm dual heated platens, rapid cooling, and CE certification. Achieve uniform heating up to 300°C with closed-loop pressure control. Ideal for advanced materials research. Contact us for a competitive quote and custom solutions.

[Learn More](#)

Application	Description	Key Benefit
Polymer Composite Fabrication	Hot pressing of carbon fiber, glass fiber, or aramid fiber-reinforced thermoplastic and thermoset prepreps. The programmable pressure and temperature cycles ensure proper resin flow and consolidation without defects.	Produces high-integrity laminates with minimal void content, maximizing mechanical strength and stiffness.
Advanced Ceramic Sintering	Uniaxial densification of technical ceramic powders such as alumina, zirconia, silicon carbide, and boron carbide. Specific profiles prevent grain growth while achieving near-theoretical density.	Yields fully dense, fine-grained ceramics with superior wear resistance, hardness, and dielectric properties.
Battery Electrode Densification	Calendering of cathode and anode coatings (e.g., NMC, LFP, graphite) on aluminum or copper foils for lithium-ion and solid-state batteries. Adjustable roll gap and pressure ensure optimal electrode porosity.	Enhances electronic conductivity and active material utilization, boosting cell performance and cycle life.
Semiconductor Packaging	Hot press bonding of thermal interface materials, lamination of build-up layers in IC substrates, and encapsulation of MEMS devices. Cleanroom-compatible operation with precise force control avoids die damage.	Achieves micrometer-level thickness uniformity and low-stress bonding for high-reliability microelectronics.
Polymer Film Production	Compression molding of optical films, biodegradable polymers, and advanced elastomers into sheets of controlled thickness and surface finish. The uniform heating prevents warpage.	Delivers optically clear, stress-free films with tight gauge tolerances for R&D and pilot production.
Material Sample Preparation	Standardized pelletizing of powder samples for XRF, FTIR, and other spectroscopic analyses. Includes making KBr pellets under controlled pressure for consistent transparency.	Guarantees reproducible sample geometry, density, and surface flatness, ensuring accurate and comparable analytical results.
Pharmaceutical Tablet Compression	Direct compression of pharmaceutical powders into solid dosage forms with precise weight and thickness control. The 25-ton capacity accommodates large batch tooling for R&D.	Ensures tablet hardness, dissolution, and drug content uniformity for clinical trial and small-batch production.

Specification	Value
Model	XP80
Maximum Working Pressure	25 Tons (250 kN) - 0.5 to 25T closed-loop automatic control
Platen Size	300x300 mm (approx. 11.8x11.8 inch) - High-quality hot-work tool steel
Uniform Heating Area	250x250 mm - Ensures consistent temperature across sample
Operating Temperature Range	Room temperature to 300°C - Dual independent platen heating with programmable ramp control
Total Heating Power	5,400 W (5.4 kW) - High power for rapid heat-up
Maximum Platen Daylight	50 mm - Clearance when platens fully open
Piston Stroke	60 mm - Allows 100% platen closure

Specification	Value
Pressure Control	Automatic pressure compensation / multi-step dwell programmable - Adjustable ramping slopes
Main Controller	7-inch full-color LCD touchscreen PLC - Process recipes storable and recallable
Power Supply	AC 220V, 50/60Hz, single phase - Operating current approx. 25A, requires 32A circuit breaker
Dimensions	500×500×650 mm - Compact benchtop/floor-standing heavy-duty design
Net Weight	310 kg - Robust structure, vibration-free operation
Safety & Certifications	Standard safety shield, over-temperature and over-pressure shutdown protection - CE certified

Configuration	Description	Key Specifications
Standard Chiller	Cost-effective water circulation for basic cooling needs.	220V single-phase, compact; suitable for labs with moderate cooling requirements. Price: \$850 (EXW)
Industrial Rapid Cooling System	High-capacity system for rapid platen temperature reduction from 300°C to room temperature. Includes dedicated rapid-cooling platens.	Cooling capacity: 12,404 kcal/h (14.4 kW); water flow: 3 m ³ /h; dimensions: 1045×610×1460 mm; power: 3-phase AC 380V/50Hz. Price: \$1,850 (EXW)