

Automatic Hot Press 2 Ton 150X150Mm Oil Free

Item Number: XP75



Introduction

Explore KINTEK's automatic servo-electric hot press: 2-ton force, ± 2 kg accuracy, 150x150mm platens, oil-free for cleanrooms, dual-zone programmable heating to 300°C, CE certified. Get a quote today. Ideal for battery research, polymer lamination, and semiconductor encapsulation.

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Application	Description	Key Benefit
Li-ion Battery Electrode Processing	Calendering of coated electrode foils to achieve target thickness and porosity for coin cells or pouch cells. Precise control over pressure and temperature optimizes the binder network without damaging active particles.	Adjustable multi-step profiles allow compaction at low pressure followed by heated pressing for binder melting, resulting in higher rate capability and cycle life.
Solid-State Electrolyte Pelletizing	Compressing solid electrolyte powders (LLZO, sulfides) into dense pellets for ionic conductivity testing.	High force capacity and uniform pressure distribution ensure pellets with minimal porosity and reproducible thickness, critical for accurate conductivity measurements.
Polymer Film Preparation for Optical or Barrier Testing	Melting thermoplastic resins and pressing them between release films to create uniform sheets with controlled thickness and surface finish.	Ramp-controlled heating prevents bubble formation and thermal degradation; water cooling enables fast solidification for amorphous polymer films.
Hot Embossing for Microfluidics	Transferring micrometric channel patterns from a master onto a polymer substrate (PMMA, COC) under controlled heat and pressure.	Dual-zone heating and precise force maintenance (>0.1 N resolution at low loads) ensures complete pattern replication without substrate distortion.
Semiconductor Wafer Lamination	Bonding temporary or permanent films onto wafers for back-end processing or advanced packaging.	All-electric, oil-free operation meets Class 100 cleanroom requirements, preventing defect-causing particle generation.
XRF Pelletizing for Geochemical Analysis	Densifying powdered rock, soil, or cement samples into stable pellets for automated XRF analysis.	High pressure accuracy (± 2 kg) minimizes pellet density variation, improving analytical precision and reducing need for duplicate pellets.
Composite Material Test Coupon Fabrication	Manufacturing standardized test coupons from prepreg or hand-layup composites under controlled temperature and pressure cycles.	Independent top/bottom temperature control allows realistic simulation of autoclave cure cycles, producing test data representative of production components.
Ceramic Powder Compaction	Uniaxially pressing advanced ceramic powders (alumina, zirconia) into green bodies prior to sintering.	Multi-step pressure profiles with deaeration steps minimize lamination cracks; consistent green density leads to predictable sintering shrinkage.

Parameter	Specification
Model	XP75
Pressure Range	0 - 2 T (2000 kg maximum)
Pressure Accuracy	± 2 kg
Drive Source	Servo motor actuator (100% oil-free)
Platen Size	150 mm $\times$ 150 mm
Maximum Platen Distance	50 mm (verify mold height before purchase)
Temperature Range	0 - 300 °C

Parameter	Specification
Heating Control	Dual platens, independent PID with ramp/soak programmable
Heating Power	1500 W (1.5 kW)
Human-Machine Interface	7" color touchscreen, visual parameter programming, real-time curve monitoring
Cooling Method	Water circulation (chiller not included)
Power Supply	Single-phase AC 230 V, 50 Hz
Compliance	CE Certified, includes English manual and certificate