

Automatic Heated Servo Press For Laboratory Battery And Advanced Materials Research

Item Number: KT-SF



Introduction

Discover the high precision heated servo press engineered for advanced battery and materials research featuring dual independent programmable heated platens reaching 300C precise servo motor pressing up to 1T with exceptional 1kg accuracy and integrated circulating water cooling control

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Application	Description	Key Benefit
Solid-State Battery Fabrication	Compacting solid electrolyte separator layers, active cathode composites, and lithium metal anodes under controlled thermal and force thresholds.	Prevents internal micro-shorting and micro-cracking through ultra-precise ± 1 kg pressure control and uniform heat distribution.
Polymer Composite Curing	Thermo-compression molding of high-performance thermoplastic and thermoset resin test coupons within a 0–300°C window.	Programmable thermal ramps and stable pressure dwell stages ensure complete resin cross-linking with zero void formation.
Advanced Ceramic Green Body Pressing	Uniaxial compaction of ceramic powders, dielectric oxides, and functional ceramics prior to high-temperature sintering.	Delivers uniform green density across delicate pellets without density gradients or edge flaking caused by pressure spikes.
Electronic Substrate & Die Bonding	Thermal compression bonding of anisotropic conductive films, flexible printed circuits, and microelectronic dies.	Clean hydraulic-free servo actuation prevents particulate and vapor contamination in sensitive electronic assemblies.
Membrane Electrode Assembly (MEA)	Hot pressing proton-exchange membranes, gas diffusion layers, and catalyst-coated substrates for fuel cell and electrolyzer research.	Independent dual-platen temperature regulation ensures optimal ionomer bonding without damaging delicate polymer matrices.
Hot Embossing & Micro-Patterning	Imprinting microfluidic channels, optical textures, and micro-structures into polymeric substrates under precise force-thermal control.	Continuous closed-loop position and pressure holding ensure sub-micron feature fidelity and consistent pattern depth.

Parameter	Specification Details
Equipment Identifier	KT-SF
Working Pressure Force Range	0 – 1 Metric Ton (0 – 10 kN)
Pressuring Mechanism	Closed-loop precision servo motor drive
Pressure Control Accuracy	± 1 kg
Pressure Control Mode	Programmable multi-segment pressure and holding control
Platen Working Temperature Range	Ambient to 300°C
Heating Control Architecture	Double plates independent programmable control with ramp functionality
Heating Power Capacity	1500 W
Platen Surface Dimensions	150 mm × 150 mm
Maximum Platen Distance (Daylight)	50 mm
System Controller	7-inch color digital touchscreen HMI
Platen Cooling Mechanism	Circulating water cooling with integrated internal fluid channels
Electrical Power Supply Requirements	AC 220 V / 60 Hz

Parameter	Specification Details
Safety & Regulatory Compliance	CE Certified
Standard Warranty	12 months comprehensive warranty (excluding wearing parts)
Technical Support Services	Complimentary engineering consultation and long-term spare parts availability