

Automatic Heated Hydraulic Press 75T 500X500Mm Platens Programmable Temperature And Pressure Ramp Water Cooling

Item Number: XP60



Introduction

Ideal for laboratory and pilot-scale applications, this 75-ton automatic heated press features large 500x500mm platens, dual independent PID temperature control with programmable ramps, closed-loop pressure profiling, and built-in water cooling channels for rapid cooling. Request a quote today.

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Application	Description	Key Benefit
Carbon Fiber Composite Molding	High-temperature and high-pressure consolidation of carbon fiber or glass fiber reinforced thermoplastic or thermoset prepregs into lightweight structural panels, plates, or components for aerospace, automotive, and sporting goods.	Uniform pressure and temperature across the entire 500x500 mm area eliminates voids and ensures consistent fiber wet-out and mechanical properties.
Multilayer PCB & CCL Lamination	Precision hot pressing of multilayer printed circuit boards, copper-clad laminates, and flexible circuits using multi-step temperature and pressure profiles to achieve reliable interlayer bonding.	Programmable ramp control minimizes thermal shock and prevents delamination, warpage, and resin squeeze-out, resulting in high-reliability boards.
Solid-State Battery Electrolyte & Electrode Pressing	Hot pressing of ceramic or polymer solid electrolyte layers and composite electrodes to achieve high density and intimate interfacial contact for all-solid-state batteries.	Closed-loop pressure profiling and uniform heating ensure dense, defect-free electrolyte tapes with enhanced ionic conductivity and mechanical integrity.
Fuel Cell MEA Fabrication	Manufacturing of membrane electrode assemblies (MEAs) by bonding catalyst-coated membranes with gas diffusion layers under controlled heat and pressure for PEM fuel cells.	Delicate force control and precise temperature uniformity prevent membrane damage while achieving optimal catalyst layer adhesion and performance.
Semiconductor Wafer Bonding	Thermocompression bonding of semiconductor wafers or device substrates for MEMS, sensors, 3D integration, and advanced packaging, often requiring precise alignment of thermal expansion.	Programmable ramps and $\pm 1^\circ\text{C}$ temperature stability across the platen minimize thermal mismatch stress and ensure uniform bond quality.
Polymer Film & Sheet Production	Compression molding and flattening of thermoplastic films, sheets, or laminates for sample preparation or small-scale production of optical films, packaging materials, or research specimens.	High-pressure capability and rapid water cooling allow fast cycle times and produce flat, stress-relieved films with controlled thickness.
Composite Material Testing Sample Prep	Preparation of standardized test coupons from composite laminates or bonded joints according to ASTM/ISO methods, ensuring repeatable specimen quality for mechanical testing.	Automated, programmable cycles deliver consistent sample preparation, reducing variability and improving the reliability of test data.
Pharmaceutical Tablet Compression R&D	Small-batch hot compression of pharmaceutical powders into tablets using heated dies to evaluate formulations that require thermal activation or to produce rapidly disintegrating tablets.	Programmable pressure and temperature profiles with fast cooling allow precise control over tablet hardness, porosity, and dissolution properties.

Parameter	Specification
Model	XP60
Maximum Pressure	75 Tons (750 kN) – Automatic hydraulic system
Pressure Control	Programmable with ramp (closed-loop automatic)
Platen Working Temperature	0 – 300 °C
Heating Control	Dual-platen independent heating, PID programmable control with ramp; supports multi-stage temperature profiles
Platen Size	500 × 500 mm

Parameter	Specification
Platen Opening	100 mm
Heating Power	Approx. 10 kW (high-power dual-zone heating)
Cooling Method	Circulating water cooling (requires external chiller)
Power Supply	AC 380V/50Hz or AC 208V/240V/480V 3-Phase 60Hz (customized for U.S. market if required)
Equipment Dimensions	Approx. 680 × 680 × 1280 mm (industrial vertical high-rigidity frame)
Net Weight	Approx. 1130 kg (heavy-duty equipment, professional forklift unloading required)