Manual Hydraulic Hot Press 40 Ton 400X400Mm Platen With Touchscreen Control

Item Number: XP45

Introduction

Heavy-duty 40-ton manual hydraulic hot press with 400x400mm platens, 7-inch touchscreen, independent dual-zone PID heating, water cooling, and CE certification. Ideal for polymer sheets, battery electrodes, and composite lamination in research and industrial applications. Request a quote today.

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Application	Description	Key Benefit
Thermoplastic Sheet Fabrication	Produces large, flat sheets of PP, PE, PEEK, and other thermoplastics for mechanical testing or prototype development by compressing heated polymer pellets or preforms.	The 400×400 mm platens and uniform temperature ensure void-free, dimensionally stable sheets with excellent surface finish, reducing post-processing.
Composite Panel Lamination	Cures carbon-fiber or glass-fiber reinforced epoxy prepregs under controlled heat and pressure to form stiff, lightweight panels for aerospace and automotive lightweighting research.	Precise temperature control and even pressure prevent delamination and resin pooling, yielding high-quality laminates with consistent mechanical properties.
Battery Electrode Calendering	Presses lithium-ion battery electrode films to desired density and thickness, densifying the active material layer on metal foil current collectors.	Accurate pressure control and smooth platens maintain electrode integrity without damaging active material coatings, enhancing electrical performance and cycle life.
Solid-State Electrolyte Pelletizing	Compacts ceramic or sulfide powders into dense electrolyte pellets for solid-state battery development, applying simultaneous heat and pressure to achieve high ionic conductivity.	High force capacity and programmable heating enable consistent pellet density, critical for reproducible ionic conductivity measurements.
LTCC Green Tape Lamination	Laminates multiple layers of Low-Temperature Co-fired Ceramic tapes for electronic packaging and RF devices, requiring precise pressure and temperature to fuse layers without trapping air.	Uniform pressure and temperature across the large platen area ensures reliable layer adhesion without warping or air entrapment, vital for high-frequency circuit integrity.
PTFE and Fluoropolymer Processing	Molds PTFE films and seals at controlled temperatures, typically requiring slow ramps and high pressures to achieve desired crystallinity and mechanical properties.	Precise temperature ramp-and-hold profiles with PID control prevent decomposition and ensure optimal material performance, meeting strict tolerance requirements.
Rubber Vulcanization	Cures rubber compounds into gaskets, diaphragms, or test plaques by applying heat and pressure to initiate cross-linking.	Adjustable temperature and force allow tailoring vulcanization cycles for different rubber formulations, improving tensile strength and elasticity.

Parameter	Specification
Model	XP45
Pressure Control	Manual hydraulic, dual-stage pump
Max Force	≤ 40 tons (touchscreen digital readout)
Platen Size	400 × 400 mm (two heated platens)
Daylight Opening	150 mm
Piston Stroke	50 mm
Temperature Range	0 – 300 °C, ±1 °C accuracy
Heating Power	6000 W total (2 × 3000 W, independently controlled)

Parameter	Specification
Controller	7-inch color touchscreen with PID programmable profiles, curve display, and data logging
Cooling Method	Internal water cooling channels (requires external water supply or chiller)
Power Supply	Single-phase AC 220 V, 50 Hz; ~28 A operating current, requires ≥32 A dedicated breaker
Certification	CE certified
Dimensions (approx.)	680 × 550 × 950 mm
Weight (approx.)	~200 kg