

Manual 30-Ton Heated Laboratory Press With Water Cooling And 250X350Mm Rectangular Platens For Material Compaction

Item Number: XP11



Introduction

Heavy-duty 30-ton manual hydraulic hot press featuring 4800W rapid heating, water cooling, 250×350mm rectangular platen, and 7-inch touchscreen controller for advanced material research, polymer molding, and solid-state compaction with precise closed-loop thermal control.

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Application	Description	Key Benefit
Advanced Polymer Molding	Compression molding of thermoplastics, thermosets, and elastomers into rectangular sheets or test specimens.	Uniform heating and high pressure ensure void-free, dimensionally stable parts.
Composite Material Fabrication	Lay-up and consolidation of fiber-reinforced composites, prepregs, and laminates.	Large platen area and controlled thermal cure cycles improve interfacial bonding and mechanical properties.
Solid-State Battery Electrode Pressing	Compaction of powder-based electrodes and solid electrolytes for next-generation batteries.	High tonnage achieves desired density, while precise temperature control prevents degradation of sensitive materials.
Thermoplastic Thermoforming	Press-forming of heated thermoplastic sheets into 3D shapes.	Rapid heat-up and programmable cooling enable efficient cycle times and accurate replication.
Ceramic Lamination	Layer stacking and densification of ceramic green tapes or substrates.	Uniform pressure distribution and micron-level parallelism ensure crack-free lamination.
Thin Film Lamination	Hot pressing of multilayer polymer films or membranes.	Water cooling quickly stabilizes layers, preventing thermal distortion.
Research & Prototyping	General materials science studies requiring variable pressure, temperature profiles, and sample sizes.	Flexible touchscreen programming and robust construction accommodate diverse experimental protocols.
Battery Research Assembly	Pressing of coin cells, pouch cells, and component stacks under controlled heat.	High precision and repeatability support development of energy storage technologies.

Parameter	Value
Model Number	XP11
Compression Tonnage Range	0.0 - 30.0 Metric Tons (0 - 300 KN)
Hydraulic Actuation	Dual-Stage High-Efficiency Manual Pump (low stage: large displacement; high stage: fine pressure control)
Maximum Platen Opening	50 mm
Platen Active Area	250 × 350 mm (Precision-ground rectangular alloy platens)
Frame Structure	Reinforced Dual-Post Gantry; 230 kg mass for extreme rigidity

Parameter	Value
Temperature Control Range	0.0 °C to 300.0 °C (Programmable multi-segment ramps)
Total Heating Power	4800 W (Dual embedded high-density heaters in upper & lower platens)

Parameter	Value
Controller Interface	7-Inch Color Capacitive Touchscreen (Temperature & Pressure HMI)
Cooling System	Built-in platen water cooling loops with quick-release ports
Electrical Supply	AC 220V - 230V / 50Hz, Single-Phase
Required Current	Dedicated 32A line (CEE 32A blue plug or hardwired; standard 10A/16A sockets prohibited)

Parameter	Value
Net Weight	230 Kg
External Dimensions (WxDxH)	458 × 473 × 466 mm
Mounting Requirement	Heavy-duty reinforced steel workbench or concrete pedestal; not suitable for standard desks
Platen Centering Rule	Sample must be positioned at the geometric center to prevent off-center loading damage
Certifications	CE Certified
Warranty	12 months